New Audio Products at CES-78: Annual Preview for Buyers
The N.Y. Philharmonic's ZUBIN MEHTA • The New South's CRYSTAL GAYLE

EQUIPMENT TEST REPORTS: Accuphase C-220 Stereo Disc Equalizer • Advent/1 Speaker System
Aiwa AD-6800 Stereo Cassette Deck • Luxman R-1120 AM/FM Stereo Receiver

THE ANTENNA: BEST MEDICINE FOR YOUR AILING TUNER?

LAST YEAR'S REVIEWS PRESENTED US WITH A TOUGH ACT TO FOLLOW.

"IT CANNOT BE FAULTED."
SA9500 — Stereo Review

"AS NEAR TO PERFECT AS WE'VE ENCOUNTERED."
TX9500 — Popular Electronics

"CERTAINLY ONE OF THE BEST... AT ANY PRICE."
TX9500 — Modern Hi Fi
Last year, the experts paid Pioneer's integrated
amps and tuners some of the highest compliments
ever.
The challenge was obvious: to build even better
amps and tuners. Amps and tuners that would not
only surpass anything we'd ever built before, but
anything anyone ever built before.

Here's how we did it.

**THE NEW PIONEER TX9500II TUNER: EVEN CLOSER TO PERFECT.**

When Popular Electronics said our TX9500
 tuner was as "near to perfect" as they'd en-
countered, they obviously hadn't encountered
our TX9500II. It features Led u iology so ad-
vanced, some of it wasn't even perfected until
this year.

The result is the new SA9500II. An 80°
wait integrated amp that was designed
to let you get everything out of your tuner. Perfectly.

Our output stage, for example, features a new
parallel push-pull circuit that reduces total harmonic
distortion to less than 0.01%. Again, well below any-
thing you can possibly hear.

To all but eliminate cross-talk, the SA9500II
comes with a separate power transformer for each
channel, Instead of the usual single transformer
for both.

And where some amps give you two, or three
tone controls, the SA9500II gives you four. Two for
regular treble and bass, and two for extended treble
and bass. They're calibrated in 2 decibel click stops,
which means you have a virtually endless variety of
ways to get the most out of your music.

With a separate power transformer for each
channel, instead of the usual single transformer
for both.

As you simply have to have a tuner that lets you
“tune” the amplifier to the cartridge manufac-
turer's optimum capacitance. And to get the most
out of your records, our three-stage phono equalizer
features includes in infinite high phonostage overloads
of 300 millivolts. With more than 0.2 dB variation
from the RIAA curve. So even the most complicated
passage on one of today's highly engineered records
will sound exactly the way it was recorded in the
studio.

We bring it back alive.

**THE NEW PIONEER TYPE II AMPS AND TUNERS.**

Obviously, both the SA9500II and the
TX9500II are very sophisticated pieces of
equipment. But all of the engineering skill that
went into making them has also gone into every
other tuner and amplifier in our new series II.
No matter what the price, no matter what the
specifications.

And that's something you don't have to be
an expert to appreciate.
**Empire's Blueprint for Better Listening**

No matter what system you own, a new Empire phono cartridge is certain to improve its performance.

The advantages of Empire are threefold:

1. **One**... your records will last longer. Unlike other magnetic cartridges, Empire's moving iron design allows our diamond stylus to float free of its magnets and coils. This improves much less weight on the record surface and insures longer record life.

2. **Two**... you get better separation. The small, hollow iron armature we use allows for a tighter fit in as positioning among the poles.

3. **Three**... even the most minute movement is accurately reproduced to give you the space and depth of the original recording.

Three. Empire uses 4 poles, 4 coils, and 3 magnets (more than any other cartridge) for better balance and hum rejection.

The end result is great listening. Audition one for yourself or write for our free brochure. How To Get The Most Out Of Your Records. After you compare our performance specifications we think you'll agree that, for the money, you can't do better than Empire.

**Empire Scientific Corp., Garden City, New York 11530**

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### Frequency Response

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<tr>
<td>FREQUENCY RESPONSE</td>
<td>1kHz-2kHz</td>
<td>2kHz-20kHz</td>
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<td>2kHz-20kHz</td>
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<tr>
<td>COMPLIANCE</td>
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<td>0.1 mV/turn</td>
<td>0.1 mV/turn</td>
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<td>0.1 mV/turn</td>
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<tr>
<td>TIP MASS</td>
<td>0.9 milligram</td>
<td>0.9 milligram</td>
<td>0.9 milligram</td>
<td>0.9 milligram</td>
<td>0.9 milligram</td>
<td>0.9 milligram</td>
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</tr>
<tr>
<td>TRACKING ABILITY</td>
<td>30 kHz</td>
<td>30 kHz</td>
<td>30 kHz</td>
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<td>30 kHz</td>
<td>30 kHz</td>
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<tr>
<td>INPUT LOAD</td>
<td>10 kΩ</td>
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<td>10 kΩ</td>
<td>10 kΩ</td>
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<tr>
<td>T.T.A.</td>
<td>1000 pf</td>
<td>1000 pf</td>
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<td>0.5 mV</td>
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<td>0.5 mV</td>
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**Circle No. 21 on Reader Service Card**
NEW PRODUCTS
Roundup of the latest audio equipment and accessories

TAPE TALK
First Tests: Metal-particle Tape and the Machine to Handle It

AUDIO NEWS
RFI Update: Legislative Hearings

TECHNICAL TALK
Speaker Testing—Part 2

EQUIPMENT TEST REPORTS
Hirsch-Houck Laboratory test results on the Luxman R-1120 AM/FM stereo receiver, Rotel RB-5000 power amplifier, Advent/1 speaker system, Accuphase C-220 stereo disc equalizer, and Aiwa AD-6800 stereo cassette deck

ANTENNAS
Are you sure you’re getting the best out of your tuner?

CES 1978
A preview of the new audio products at the Chicago show

ZUBIN MEHTA
The New York Philharmonic has a new conductor—but what kind?

CRYSTAL GAYLE
She makes it very hard to draw the line between country and pop

BEST RECORDINGS OF THE MONTH
Vocal: Nina Simone’s “Baltimore,” Peter Schreier’s Beethoven songs, Townes Van Zandt’s “Flyin’ Shoes”... Instrumental: Schubert’s C Major String Quintet

CLASICAL DISCS AND TAPES
Mozart’s Pianist Saint of Blecker Street
Haydn’s Piano Sonatas
Avian Arias from Audubon

POPULAR DISCS AND TAPES
Crystal Gayle: The New Record
The Buddy Holly Story
The Moody’s: Nostalgia Time
Four Singing Ladies
Irving Berlin Is Ninety
David Amram’s Peripatetic “Havana/New York”

We Regulars

COVER: A front-panel oscilloscope (such as on the Sequerra Model 1 tuner) and an antenna rotator (Cornell-Dubilier’s BT-1 control box shown) are great helps in orienting your antenna for best signal reception. Design by Borys Patchowsky; photo by Bruce Pendleton.
Record Ecology in DiscKit Form
—you’ll save more than money

DiscKit is a milled walnut tray and dust cover that saves you 15% with the Discwasher products in the kit ($46 versus $54 separately)

DiscKit includes: 1) The Discwasher System Record Cleaner with D3 Fluid, 2) the Zerostat anti-static pistol and test light, and 3) the SC-1 Stylus Cleaner.

But you’ll save more than money. You’ll save your records from imbedded micro-dust, your cartridge stylus from abrasion and your ears from a lot of static.

Record Ecology from Discwasher—a substantial bargain.

(Walnut tray and dust cover are available separately as the Discorganizer, $12.50.)

All from Discwasher, Inc., 1407 N. Providence Rd., Columbia, Missouri 65201.
FOUR-CHANNEL FM BROADCASTS: An analysis of the responses to the FCC's inquiry on FM quadruphonic broadcasting has been completed, and it reveals that both FM broadcasters and the public endorse standardization of quadruphonic broadcasting and favor CBS's SQ matrix system over all others, including discrete. The responses, which were analyzed by CBS Technology Center, included 374 from broadcasters and 2,195 from listeners. Of those responding, 96.8 per cent favored FCC adoption of standards for the transmission of FM quadruphonic broadcasts. Three out of five of those who indicated a preference for a particular system chose SQ. According to CBS, more than 1,000 SQ classical, pop, and rock records have been issued by major labels; some 500 FM stations already have SQ record libraries; and any FM station could broadcast quadruphonically at once simply by playing an SQ disc on the station turntable.

THE BEE GEES, whose Saturday Night Fever album on RSO is still high on the charts, have donated one of their latest compositions to UNICEF. So that all the income from this music will benefit the United Nations Children's Fund, the composition will be administered free by Chappell Music Co. The Bee Gees, originally from Manchester, England, moved to Florida in 1977, and they record at Criteria Studios in Miami. For drawing attention to the technical facilities and musical talent available in the state, they were awarded honorary Florida citizenship this year. Criteria Studios, which boasts of recording 76 gold and platinum albums and singles, has just established its own label, Good Sounds Records.

YAMAHA'S NS-1000 MONITOR SPEAKER has been adopted by two Scandinavian broadcasting systems. Last year Radio Sweden ordered one thousand (!) of the speakers for their network studios, and this year the state-run Finnish Broadcasting Company endorsed the same model by ordering two hundred of them.

LEONARD BERNSTEIN'S SIXTIETH BIRTHDAY (August 25) has brought him many honors. They include a birthday celebration by the National Symphony Orchestra conducted by Mstislav Rostropovich at Wolf Trap (telecast live on PBS) and a biography and catalog of his works published by Boosey and Hawkes. May was "Bernstein Month" for Columbia Masterworks, which issued seven new recordings he conducted. CBS also sent a special recording of Bernstein's voice and music to radio stations around the country to be played on his birthday. Deutsche Grammophon is honoring Bernstein as both conductor and composer, issuing a special, boxed three-record set of new performances of his symphonies played by the Israel Philharmonic (2709 077). The discs will also be available separately.

FIFTY MILLION MIKES: Matsushita Communications recently manufactured their fifty-millionth electret condenser microphone at the end of their eighth year of production. Despite their high sensitivity, microphones of this type are resistant to vibration noise, which makes it possible to build them into tape recorders, intercoms, hearing aids, and portable TV cameras. In other words, one of those fifty million may very well be yours.

JAZZ PIANIST KEITH JARRETT'S next release on ECM will be a ten-disc set—that's right, ten discs—recorded during his recent series of concerts in Japan. The album is scheduled for release on October 1. ECM records are now distributed by Warner Brothers.
THE METROPOLITAN OPERA will telecast four productions this season on the Public Broadcasting Service. Funding has been provided by Texaco, which has sponsored the Met's Saturday radio broadcasts for 38 consecutive years. The series begins on September 25 with Verdi's Otello with Renata Scotto, Jon Vickers, and Cornell MacNeil. On November 21, Smetana's The Bartered Bride will be sung in English by Teresa Stratas, Nicolai Gedda, Jon Vickers, and Martti Talvela. Puccini's Tosca follows on December 19 with Shirley Verrett, Luciano Pavarotti, and Cornell MacNeil. Verdi's Luisa Miller will be telecast in January (date to be announced) with Renata Scotto, Placido Domingo, and Sherrill Milnes. The Met's music director, James Levine, will conduct all but Tosca, which will be conducted by James Conlon. According to Texaco, stereo simulcasts will be arranged in the largest listening areas. Video tape hobbyists to the alert!

THE 1978 AUDIO EXCELLENCE RECORD AWARDS, based on the votes of a nation-wide panel of audio critics, have been announced by Audio-Technica, organizer of the awards program. Instructed to choose the best-sounding disc records released during the past year, the critics selected an imported set of the six Tchaikovsky symphonies plus the Manfred overture (London Philharmonic, Mstislav Rostropovich conducting; EMI SLS 5099) for first place in the classical division, and Steely Dan's "Aja" (ABC AA 1006) for top honors in the rock division.

BRUCE SPRINGSTEEN has been keeping his E Street Band on their collective toes of late. Apparently bored with his standard set as he has been performing it for the last two months of his national tour, he took to the stage in California recently and, without warning his co-workers, substituted Them's venerable 1965 hit Gloria for his own Badlands, the usual opener. At a later show, the Boss pulled a similar switch with a vintage Buddy Holly tune, and then startled the audience with his first-ever public rendition of Because the Night, the Top Ten smash he "gave away" to fellow Jerseyite Patti Smith.

YOUR HOME MOVIES AND SLIDES can now be transferred to videotape cassettes. The nation-wide Fotomat chain will transfer 8-mm or Super 8-mm (sound or silent) film and 35-mm or 126-mm color slides to either half-inch Beta or VHS-format videotape. The cost of transferring a 400-foot roll of Super 8-mm movie film is $8.75 plus the cost of a one-hour cassette ($14.95). Slides are transferred with a cross-fade technique which makes one slide fade softly as the next one appears. Besides giving you the pleasure of seeing your own photography on your TV set, the system eliminates the inconvenience of setting up projection equipment and screen. A pamphlet, All About Transferring Your Film and Slides to Videotape Cassette, is available free at Fotomat's 3,400 stores.

ROSALYN TURECK, pianist and harpsichordist, has completed her first recording for Columbia Masterworks, a two-record set that includes Bach's "Goldberg" Variations played on the harpsichord. Having previously recorded the work on piano, Miss Tureck is the first musician to record it on both instruments. The Columbia album is scheduled for late fall release.

THE NEW YORK HI-FI/STEREO MUSIC SHOW will be held at the Statler Hilton Hotel October 5-8. Sixty major manufacturers of audio equipment will exhibit their products. October 5 is dealer day, and the show is open to the public thereafter. Admission $3.
There's logic to our front panel. Most sophisticated receivers keep you guessing when it comes to operating the controls. Not the Fisher RS2000 series. We've engineered a unique "Panel Logic" system with an illuminated, computer-like display that tells you at a glance what the receiver is set up to do.

The RS2010, below, has great performance specs like superb 1.7 dB (9.8 dB) FM sensitivity, and plenty of power (100 watts min. RMS per channel, into 8 ohms, 20-20,000 Hz, with no more than 0.09% total harmonic distortion). Other models are available from 45 to 150 watts per channel.

Sound the way you like it. With the RS2000 series, you're not limited to only simple bass and treble controls like other receivers. Instead, you tell the receiver exactly how you want the sound tailored by setting its built-in graphic equalizer's slide controls. By boosting or cutting each of the five equalizer controls, you can transform ho-hum sound into the most exciting you've ever heard. You get sound that exactly matches your taste, your moods, and your environment.

Say you want to really feel the drums on a disco record. Just push up the 50 Hz (low bass) slider, and you get just the effect you want — without disturbing the tonal color of voices and other instruments. Want to really bring a vocalist "up front"? Add a little 1 kHz (midrange) boost. And so on. In a few seconds, you can make such a dramatic improvement in the sound of all your records, tapes, and FM broadcasts that you won't want a receiver without this fabulous built-in feature.

Listen to the Fisher RS2000 series receivers. Once you do, you'll never be satisfied with the sound of a receiver without an equalizer.

Available at selected audio dealers or the audio department of your favorite department store. For the name of your nearest dealer, call toll-free in the continental U.S.: 1-800-528-6050, ext. 871 (in Arizona, 1-955-9710, ext 871). For a copy of the new Fisher guide to high fidelity, send your name and address and $2 to: Fisher Corporation, 21314 Lassen St., Chatsworth, CA 91311.

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FISHER
The first name in high fidelity.
**THE FUTURE: IS IT HERE?**

Any Sunday newspaper worth a brag these days has to have a little something included with it called the Magazine Section, a chaste cloister for the political, psychosocial, philosophical think pieces that advance its claim to "intellectual" standing and therefore won't fit in particularly well anywhere else in its pages. Before the days when professional punditry became a recognized journalistic speciality, these sections were called Sunday Supplements and were filled with much more interesting stuff—tales of various Blueboards and ax murderers, the Curse of the Pyramids (or the Incas, or whatever), and the crystal-ball of the Futurists (the visionary rather than the painting kind). It must have been one of these latter augurs who composed the All-Time-Great Sunday-supplement headline "The Future: Is It Here?"

If someone were to ask me that provocative question right now, I would have to answer "Just about"—as far as the home-entertainment future goes, at least. I am speaking, of course, of the (truly) prominent arrival in our TV-viewing rooms of the Amazing Video Disc discussed here in July. Since that writing I have been privileged to see demonstrations of RCA's Selectavision video disc. Matsushita showed its system to attendees at the Chicago Consumer Electronics Show, and MCA/Philips may be readying an announcement about its candidate for a scheduled press conference in New York this month. Roughly, the story is this: all the units work, and work well; target retail prices are under $500 (RCA says $400); they are designed so that the video will play (in color!) through your TV set, the audio either through the TV (wretched mono) or the hi-fi (stereo as good as your components can deliver); they are incompatible (sort of—Matsushita's machine is said to be able to play RCA discs, and RCA's machine could play Matsushita discs if they were pressed on RCA's conductive plastic; the MCA/Philips unit can play none but its own recordings); and they are all, technologically speaking, market-ready.

What really makes the manufacturers hesitate, however, is the fact that nobody has any idea just what the public will buy in this format, and a row of bad programming guesses at what's going to knock a careless team right out of the game. But it strikes me that it should be possible to test the waters and get a preliminary reading by marketing this new format principally as an audio concept at first, letting the video part expand as it will. The recording and playback techniques used in these machines are PCM (pulse-code modulation) rather than the about-to-be-old-fashioned analog system of LP records, and it is easily capable of furnishing dynamic and frequency ranges, signal-to-noise ratios, and stereo separation that most current reproduction chains would be hard pressed to keep up with. Better still, it is the final, conclusive answer to the pesky problems of record warps, scratches, snaps, crackles, and pops, all of which are spoken in the analog language PCM is all but deaf to. Let's hear it for the A/V disc!
To understand why the Bose® Model 601 sounds so great you have to start at the top.

The Model 601 employs tweeters and woofers, as do conventional speaker systems. But there is where the similarity ends.

Notice how the high-performance Bose drivers are arranged. Each one of the four tweeters and two woofers is precisely positioned within the enclosure to radiate sound in a particular direction. Forward. Sideways. Upward and forward. To give you the proper balance of reflected and direct sound. Much like you hear during a live performance.

Only a Bose Direct/Reflecting® speaker gives you the spatial realism of live-performance sound. No matter where you sit or stand in your listening room, you hear accurate stereo balance. Accurate location of each instrument, each note. With a clarity and precision that tells you you're listening to one of the finest speaker systems ever designed.

The Bose Model 601. Hear it at your Bose dealer.

Better sound through research.
The Pile Driver: It's just no

Since the turn of the century, "Pile Driver" speakers have laboriously "pushed" the sound out. This can result in a blurring and clipping of notes.

The revolutionary new Heil Driver in Lafayette's Criterion Series 3000 loudspeakers "shoots" the sound out. There's no blurring or clipping. Every note is crisp and clearly defined.

Heil air-motion transformers is a registered trademark of ESS INC.
match for the Heil Driver.

Ever since "talking machines" first started talking, speakers have produced sound by pushing the sound waves out of the speaker with a diaphragm. Sometimes referred to as a "driver." Or "pile driver." This system has definite disadvantages. To reproduce sound faithfully, the driver has to have very rapid rise time (acceleration) and decay time (deceleration). But the mass of the driver is so great, it fights against its own immense inertia. The pile driver is still going one way when the transients (musical signals) are telling it to stop. So sound gets blurred. Parts of some notes literally get clipped short. Your high fidelity system is guilty of infidelity.

The only solution is to reduce the mass of the driver so it can react more quickly. And that's exactly what Dr. Oskar Heil has done. The Heil Driver is the heart of Lafayette's new Criterion Series 3000. The Heil Driver is simplicity itself. It has just one moving part: A lightweight pleated driver made of soft Teflon. Rather than "push" the air out, it "shoots" it out.

The faster a driver can react, the higher the fidelity. The Heil Driver, because it has almost no inertia, reacts incredibly swiftly. It actually transfers sound energy to the air more than 5 times the speed of its own motion! (That's what we mean by "shooting" the sound out.) There is no blurring or clipping of notes. No ragged top ends. No rounding off of the initial "attack" that distinguishes each instrument. Every note is clear.

We could go on and on about the merits of the Heil Driver and the Criterion Series 3000 loudspeakers. But there's only one way to truly appreciate them: Visit a Lafayette showroom and let the speakers speak for themselves.

The Criterion 3001 incorporates a 10 in. heavy duty woofer in a ported book shelf cabinet. It delivers a deep, solid bass and high efficiency.

The Criterion 3002 is a tower design which couples the 10 in. woofer acoustically to a 10 in. passive radiator. It delivers a deeper, tighter bass.

The Criterion 3003 is a taller tower design featuring a 12 in. heavy duty woofer coupled acoustically to a 12 in. passive radiator. It has an even fuller, deeper bass and greater power capacity.

All 3 are equipped with a variable high frequency Brilliance Control to tailor treble response to the acoustics of any room. If you're looking for higher fidelity in your high fidelity, your reaction to the Criterion Series 3000 speakers featuring the remarkable Heil Driver will be the same as ours. In a word: "Heil-lelujah!"

FREE 1979 CATALOG.

Lafayette's catalog is all new for 1979! 172 illustrated pages—half in full color. Features our complete line... everything Lafayette makes or sells. Write Lafayette Dept. No. 11099, 111 Jericho Turnpike, Syosset, N.Y. 11791. Allow several weeks for delivery.

Lafayette will put a lot of pleasure in your ears—without a lot of worry on your mind.
Start playing with a full deck.

The AIWA AD-6800. It has everything you should expect in a top-flight cassette deck. And that includes our Flat Response Tuning System (FRTS) that adjusts to the optimum bias level for any tape on the market, precisely and effortlessly.

The AIWA AD-6800 uses its own circuitry to measure the precise bias figure of not just one or two, but every brand of cassette tape, whether it’s LH, FeCr or Cr02. The result: a flatter-than-ever frequency response with any tape on the market.

And the new AIWA 3-head Flat Response Tuning System is a snap to use.
First, slip in a cassette and the AD-6800 will load it automatically.
Next, set the Input Selector to “test” and push the “record” key to automatically activate the 400Hz and 8kHz built-in oscillators. You’re all set for test recording.

Slide the Azimuth Adjust control for optimum head alignment and adjust the Bias Fine Adjust knob that corresponds to the type of tape you’re using. The AD-6800 will let you know the exact bias necessary for the flattest possible response when the right (8kHz) and left (400Hz) VU meters are in corresponding positions. Now you’re ready to record. It’s that simple.

AIWA’s new 3-head Flat Response Tuning System (FRTS) lets you monitor a tape simply by observing characteristics of the frequency response. You can actually “see” the sound so you can record at optimum levels.

The AD-6800 provides another exclusive feature—Double Needle Meters. AIWA has combined VU and Peak readout on each meter so you can monitor both functions at a glance. A convenience feature you won’t find on any other cassette deck. The AD-6800 includes a Peak Hold function, too.

And with the AD-6800 you get an incredibly low wow and flutter of 0.05% (WRMS), and with Dolby on and FeCr tape, an S/N ratio of 65dB, and a frequency response of 20 to 19,000 Hz.

With all this in one great cassette deck and AIWA’s exclusive new Synchronized Recording Operation (when used with the AIWA AP-2200 Turntable) you’ll begin to understand what precision recording is all about.

AIWA

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Moonachie, New Jersey 07074
Distributed in Canada by: SHRIRO (CANADA) LTD.

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LETTERS TO THE EDITOR

Nyiregyházi

- I wish to commend Stereophonic Review and Michael Walsh on the fine article about Ervin Nyiregyházi in the July 1978 issue. It was most interesting and fascinating; keep more of the same coming.
  
  WILLIAM B. WEISS
  Ocean, N.J.

- The superb article on Ervin Nyiregyházi in the July issue is one of the finest I've read in Stereophonic Review. I have a number of Nyiregyházi's Ampico piano rolls and the Desmar disc, and I have heard most of his local recitals (San Francisco and Novato, California); now I am longing to have the new Columbia recordings. To see this great artist appreciated after many years of indifference is one of the most wonderful revelations a music lover can experience.

  By the way, I played some of the Ampico rolls for Mr. Nyiregyházi on a properly restored grand, and he enjoyed the roll he made of The Maiden and the Nightingale from Granados' Goyescas—which happens to be a rare and sought-after roll. Also, I recently heard him play his transcription of Liszt's Faust Symphony: it was magnificent and unforgettable. Congratulations on publishing such a well-written and informative article on one of the greatest geniuses in music history.
  
  WILLIAM KNORP
  Sausalito, Calif.

- The July cover story on Ervin Nyiregyházi gave me quite a start, since Ervin was married to my late second cousin, Ethel Gray. I have not seen him for more than twenty years, and I wondered what had become of him. I enjoyed the excellent article, but I disagree with the statement that "Nyiregyházi's movie career included one on-camera appearance." Ervin doubled for actors at the piano in several films, probably most of all in A Song to Remember, a 1945 fictional (very fictional) biography of Chopin. I remember that Ervin was rather bitter that Jose Iturbi was chosen over him to record the piano score for that film. In other pictures, Ervin doubled for the actor Henry Daniell in non-musical scenes. Daniell had health problems, and when he couldn't show up at the studio, Ervin would receive a call to replace him in long shots. They looked very much alike, and make-up increased the resemblance. If Ervin had to speak any lines, they were dubbed in later by Daniell.
  
  CHARLES L. ANDERSON
  Sacramento, Calif.

Home Video

- I found Robert N. Greene's article on home-video tape recorders in the July issue very enlightening: finally, an informative review written in layman's language, something we can all understand. Although I am interested in purchasing a home unit, I hesitate to do so at this time since there is no assurance that any particular format will become standard in the near future. The various manufacturers should get together on this point (as with audio cassette recorders), for it would certainly benefit the many prospective buyers in selecting a particular brand.
  
  LEO J. DESROSIERS
  Acushnet, Mass.

Barbra Who?

- If, as a reader suggested ("The Pop Beat," July 1978), Barbra Streisand married David Seville, her real name would not be Barbra Seville but Barbra Bagdasarian.
  
  RUSSELL SANJEK
  New York, N.Y.

Direct-to-disc

- After reading the articles on direct-to-disc recordings in the July issue, I decided that it was time to try a couple. I bought the Charlie Byrd album on Crystal Clear and the Wagner/Leinsdorf on Sheffield Labs, and they both lived up to my expectations. On a scale of 0 to 100, with my clearest Archiv and Deutsche Grammophon discs pegged at 75, the D-D's were a solid 95.

  Owners of these and other fine records should be reminded that, although it is exciting to listen to them over and over or to go back immediately to a particularly fine passage, a record should be given a substantial rest between playings, preferably overnight. A hasty replaying will not only sound disappointing, it will also cause unnecessary wear, a fact that is nowhere more evident than with an ultrasonic record.
  
  DONALD M. CHAFFEE
  Wellesley, Mass.

Technical Director Larry Klein replies: Recent tests indicate that excessive wear from replays is rapid succession is not much of a problem with today's best cartridges.

- A footnote to the July feature on direct-to-disc recordings: years before the current fad, HiFi/Stereophonic Review put out a direct-cut record ("Stereo Test Record," Model 211), and I still have a beat-up copy of it.
  
  ADRIAN HOPE
  New Scientist
  London, England

Hold on to that copy, "beat-up" or not. It is now a collector's item.

RF "Littering"

- As an Arizonan and admirer of AuH2O, I pay special attention to comments by and about the senator, such as those in the July "Audio News" concerning his proposed law authorizing the FCC to prescribe filters for radio-frequency interference to be built into consumer hi-fi equipment. My realization of the place Senator Goldwater is coming from and crystallized so clearly as seeing that his goal is not to achieve what is just for all people but to placate the most "vocal" group—the CB'ers and hams. His SB 864 is like passing a law to tax garbage collectors for the littering done by motorists. The government should stop the CB'ers and hams from "littering" the airwaves, not charge the "opposition." It's discouraging how many politicians base their decisions on the "support our team" concept instead of considering the needs and values of all the people.
  
  NED WHEELER
  Casa Grande, Ariz.

See this month's "Audio News" on page 36 for late developments on the RFI front.

Autosound Specs

- In a note accompanying the June article on autosound equipment, Larry Klein comments on the lack of performance specifications made available to buyers of such equipment. Perhaps I can explain one reason why manufacturers may wish to underemphasize specs. Much of the autosound equipment produced is aimed at the mass market, the "average consumer," just as television sets are, and the fact is that most such buyers cannot interpret specifications meaningfully. If a manufacturer published specs on his products, customers might be lost to his competitors simply because to the layman the specs might seem inadequate in some way. I'm sure that this has been realized by many marketers in the area of speaker-magnet weights. Many a customer has been lost to the guy down the road because his speaker magnet weighs five ounces more (whether or not it sounds better). There
is a lack of precise specifications in many other consumer markets besides audiosound equipment. For instance, do you know the percentage of carbon black in the last set of tires you bought?

JAMES W. STILLE
TUCSON, ARIZ.

Or in the last LP?

Time and Music

• I have just listened to and timed an album highly acclaimed by one of Stereo Review's critics (it was featured in the “Best of the Month” section), and both sides together totaled 31 minutes and 12 seconds of music. I therefore suggest that you either start including the total program time on a record (excluding lead-in and -out and all the wasted time between cuts) or else don't send me any renewal notices.

JON BLATT
HENDERSONVILLE, N. C.

Anybody else out there buy music by the yard? Seriously, our reviewers do point out those discs that, in their opinion, shortchange the buyer, but of course that is a relative thing; there are some 30-minute discs that are worth twice their cost, and more than a few 50-minute items that are not worth the vinyl they are pressed on.

Introducing the no-argument warranty card.

Every Crown audio component now comes with a card-sized warranty certificate that you can carry in your wallet. You can take it out once in a while and look at it, just to make yourself feel good. You may never need it for anything else.

Crown components don't often need warranty service. They are renowned for sonic excellence, power and long-term reliability, even under the most punishing conditions. But if your Crown unit should need service, you want it without a hassle.

That's why we created the Crown Care Card, the warranty card that ends the arguments. You'll get yours soon after you buy a new Crown component. It's wallet-size, plastic, and will have your name and address, the catalog and serial number of your Crown component, and the expiration date of the warranty. It's your proof of ownership. It's your admittance card for warranty service. It's your certificate for what we believe is the best warranty in the audio business. For three years after purchase, a Crown product must meet or exceed its original specifications. If it doesn't, Crown will repair or replace it, free of charge.

Crown will also pay all U.S. shipping charges—round trip—for warranty service. We'll even supply a new shipping container if the original has been lost. That's Crown care.

It should be obvious that we can only offer such a warranty because we know from long experience how reliable and rugged Crown units are. You can buy a Crown component with no reservations. It's built to work whenever you need it. If it doesn't, we'll fix it, without argument.

Visit a Crown dealer soon for a complete demonstration. Drop us a postcard if you need help in finding the nearest dealer.

Snuff Rock

• Hey—Snuff Rock is already dead! The April 27, 1974, concert by Genesis at the Centenary Theatre in Buffalo, New York, advertised a finale in which the lead singer blows himself up! I was there, and Peter Gabriel did blow up—sound and all! If Snuff Rock is, as Peter Reilly said in his July “Best of the Month” review of Helen Schneider, “the last shock tactic,” then I guess the final, convulsive ratchets of rock have been and are gone. Just listen to your local FM album-rock station and catch that sly new breed of hip, groovin', in-tune people, ... the cool sounds of those Mindless Seventies. ... I think the air is ripe for another “biggest”—a real one. I'll bet it's not far away. Hey! Maybe it'll be Snuff Disco?

JEFF WURSTNER
SENECA FALLS, N.Y.

Snuff Rock: The Real One

Popular Music Editor Paulette Weiss replies: According to our sources, the only thing that blew up at that concert was a magnesium flash bomb set off in front of Peter Gabriel as he sang Supper's Ready. The band didn't even smash its equipment, so it looks like "snuff rock," let alone "snuff disco," is still an unrealized nightmare.

Sakura

• Methinks Paul Kresh could profit from a refresher course in Japanese. In his July feature “The Year of the Flute,” he says that sakura—which appears in the title of the Jean-Pierre Rampal record he reviews—means spring. It means, in fact, cherry—blossom or tree. Spring is haru, as in Miyagi's Haru No Umi (The Sea in Spring) on the Rampal record.

ALVIN R. WOLFSON
NEW YORK, N.Y.

Tape Dubbing Service

• John McCallum's suggestion, in the July letters, of an open-reel tape dubbing service has been adopted by one record manufacturer that I know of: Doric Records of Monterey, California, offers all of its own recordings dubbed in both open-reel and cassette formats. The tapes are made from what Doric's literature describes as "dubbing masters." Open-reel copies are made in real time and are priced at $15 each. While the Doric catalog is of limited interest, consisting mainly of theater-organ music and similar material, the company's dubbing policy at least shows that someone is still interested in the open-reel market. There may be other small record companies willing to offer this service. Perhaps Mr. McCallum should try writing to some of them directly and inquiring about tape dubbing.

BRIAN JONATHAN GER
MILWAUKEE, WIS.

Genesis Revisited

• In his June letter attacking Joel Vance's review of "Seconds Out" by Genesis, R. Miller says that a good critic should be objective and argues that Mr. Vance "can't even (Continued on page 16)
For about $15 you can buy the only total record care system or something less.

You have a choice. You can buy a fancy handled record cleaner. Or, for about the same money, you can have the only total record care system there is.

That is, our new Sound Guard record cleaner and our famous Sound Guard record preservative. Both in one package.

The Sound Guard Total Record Care System.

With it, you do more than clean everything off your favorite records from dust particles to oily fingerprints. You actually protect your record's life with a microscopically thin, dust-resistant patented lubricant.

If you want the most for your $15* (and the best for your records), you have to have the only total record care system there is.

Like all Sound Guard products, the Sound Guard Total Record Care System is sold in audio and record outlets. Suggested retail price.

Sound Guard* keeps your good sounds sounding good.

Sound Guard preservative—Sound Guard cleaner—Sound Guard Total Record Care System

Sound Guard is Ball Corporation's registered trademark. Copyright © Ball Corporation, 1978. Muncie, IN 47302

CIRCLE NO. 9 ON READER SERVICE CARD
objective in nature. Think how sterile musical
aesthetic abstractions as "fantastic" and "superb". Critical reviews are bound to be subjective in nature. Think how sterile musical criticism would be if it had to be an exact science.

Blame it on my sadistic inclinations, but I found Joel Vance's sardonic puncturing of this crudely pretentious (among other things) Genesis album to be reflective of a very refined musical perception.

**Paul Walters**
Kansas City, Mo.

Simels Pro and Con

- After reading Steve Simels' critiques in the June issue of Stereo Review, I have come to the conclusion that he is a fossil of the Sixties and thoroughly abhors anything that reminds him of anything else. He seems to be saying that few people listen to "rock and roll" because it doesn't any more. He comes close to saying that we listeners do not know what he is talking about. His opinions may be of interest to readers who like to have their beliefs shaken up from time to time. Let him reminisce on his own time. I want to know what he likes, whom he listens to, and when he lays his money down. If he would only state his preferences in music more positively readers could judge his critiques more objectively. It is difficult enough to get your money's worth today; Simels should help to clear up instead of confuse the music-consumer's mind. Come on, Steve, take a stand.

**Der Henderson**
Iowa City, Iowa

- After many years of reading Stereo Review and other magazines with record reviews, I think that Steve Simels is tops. He captures the essence of popular music (past and present) as one who knows, and his style is unique and invigorating. I am tired of reviews that reveal factual and technical data and not much more.

**H. Palmeter**
Lewisburg, Pa.

Dan Hill

- Seeing Noel Coppage's review of Dan Hill's album "Longer Fuse" in the June issue was almost as big a thrill for me as hearing the single from it, Sometimes When We Touch, hit the U.S. airwaves. I have followed and enjoyed Dan Hill's music and lyrics since hearing him perform at Toronto's Riverboat Coffee House several years ago, and my fingers are crossed that this first U.S. single will edge him as far into our musical consciousness as If You Could Read My Mind did for fellow Torontonian Gordon Lightfoot.

But it is unfortunate that Mr. Coppage chooses to view Dan Hill's music as a nostalgic throwback to an earlier time. It would be more appropriate to say that he has managed to retain certain values, not that he has dug them up after a premature burial. Hold On, for example, is a more thought-provoking look at the way our values have changed in the past decade than, say, Jackson Browne's The Pretender. Dan Hill is relevant, contemporary, and valuable.

**Bob McCann**
Long Beach, Calif.

Syndrum

- After hearing them on countless new albums and reading about them in liner notes, I have yet to see one word about "syndrums" in Stereo Review. Just what are they?

**Mike Blakesley**
Forsyth, Mont.

Flutist/Flautist

- Paul Kresh, in his June review of "Jean-Pierre Rampal's Greatest Hits," wonders (Continued on page 18)

A GREAT AMP. 
UPGREATED.

Five years ago, Phase Linear introduced an out-of-this world amplifier at a down to earth price. The Phase Linear 400. It made history. And while the rest of the world played catch-up, we improved it.

The Phase Linear 400 Series Two Power Amplifier has inherited the original Phase 400's quality, Craftsmanship. And value. Everything that made its predecessor one of the greatest selling amplifiers in the world.

From the FET inputs with low noise/low distortion circuitry, to the individual sensitivity controls, the increased performance and efficiency enables the Phase 400 Series Two to deliver a sonic clarity second to none in medium power applications.

Outside, the smooth, professional styling of the gold anodized front panel includes an exclusive 32-segment LED display that's capable of instantaneous indication of output activity. It incorporates a special 4-segment LED clipping indicator that warns of hazardous overloads.

Even under the most demanding conditions, a large extruded aluminum heat sink assembly maintains adequate cooling for the 400 Series Two.

Other built-in protection systems include electronic energy limiters that prevent the possibility of damage to the speakers or amplifier from overloads. And independent fusing of the power supply for the prevention of any potentially damaging effects caused by short circuits.

There's only so much we can tell you in this ad. To fully appreciate the 400 Series Two, we recommend a visit to your authorized Phase Linear dealer.

**Phase Linear**
THE POWERFUL DIFFERENCE
Phase Linear Corporation
20121 - 46th Avenue West
Lynnwood, Washington 98036

Made in U.S.A. Distributed in Canada by H. Roy Gray Ltd. and in Australia by Megasound Pty. Ltd.
Presenting Yamaha's new NS-ICM Mini-Monitor. With wide, even dispersion, high sensitivity and accuracy, the sound is distinctively Yamaha; a tight, solid sound with a tight, firm bass that respects every nuance of tonal shading.

What you're going to wonder is where it's all coming from. Because for the sound, the Mini-Monitor is amazingly small. Weighing in at 13 lbs., the speaker measures only 15.4" high, 8.5" wide inside, a 7" cone woofer and a 1.5" dome tweeter produce 90 dB SPL with 1 watt at 1 meter.

The Mini-Monitor was made in the image of the NE-1000. It has an identical finish, and like its bigger brother, is so close in mirror-image matched pairs. At low volume levels the sound is virtually the same. It's a primary monitor with the NE-1000 look and sound, for places the NS-1000 won't fit.

Our new Mini-Monitor with the powerhouse sound is currently contending with the heavyweights at your Yamaha Audio Specialty Dealer. And holding its own, thank you.

YAMAHA Audio Division, P.O. Box 6600, Buena Park, CA 90622

If you can't find your nearest Yamaha Audio Specialty Dealer in the Yellow Pages, just drop us a line.
Free Maxell 60-Minute Cassette.

Buy any of these four Akai Decks — GXC-706D, GXC-709D, GXC-725D, or GXC-750D — and the Maxell C-60 is free.

Think of it as an introduction to two of the best recording names in the world.

And think of it as an introduction to the best heads, as well. The exclusive AKAI glass and crystal ferrite (GX), which remains unsurpassed for optimum sound and wearability. It’s guaranteed, in fact, for 150,000 hours, the equivalent of playing 24 hours a day for 17½ years.

You’ll find the GX heads on the four models shown as well as a number of other Akai cassette and reel-to-reel decks.

So drop by your nearest Akai dealer and see what happens when two of the best names in the industry put their heads together for one great offer.

Akai and Maxell. They were really made for each other.

Akai America, Ltd., 2139 E. Del Amo Blvd., P.O. Box 6010, Compton, CA 90224.

Convenient Layout

- As an audio engineer and part-time instructor, I appreciate Stereo Review’s laying out feature articles on consecutive, ad-free pages. This makes it very easy to cut out and save them for future reference. It’s a lot more sensible—at least for the reader—than dragging the articles out all over the magazine just to carry the reader past a lot of ads. Advertisers need not worry: we serious readers peruse the ads closely for their up-to-date information on the latest product refinements. Thanks for the little things!

STAN BROWN
Calgary, Alberta

Music Societies

- Some Stereo Review readers may be interested to know that the second edition of my "Musician and Composer Societies: A World Directory" appeared in the September 1977 issue of Notes, the quarterly journal of the Music Library Association. Copies can be perused in many libraries, and one can be obtained for $5 from the Association at 343 South Main Street, Room 205, Ann Arbor, Michigan 48108.

JOHN R. DOUGLAS
New College, San Jose State University
San Jose, Calif.

Videocassette Software

- Because of internal problems, the distribution contract between Entertainment Video Releasing, Inc. and Video Warehouse, Inc. has been canceled by EVR. EVR is now distributing its own library of motion pictures on video cassettes for consumer markets nationally and internationally. Anyone interested in these products should write directly to EVR at the address given in the listing on page 70 of July Stereo Review.

MARK SLADE
President, EVR
New York, N.Y.

Corrections

- In the July review of the New World Records release (NW 228) containing John Alden Carpenter’s Krazy Kat, the performance of that ballet score is called ‘slightly abridged.’ It is, rather, the performance of Henry F. Gilbert’s The Dance in Place Congo, on the same record, that is abridged; the New World version of Krazy Kat is complete.

- The Lafayette AM/FM stereo receiver tested for the Hirsch-Houck Labs report in the August issue was the current, updated model, the LR-5555A. It appeared in the report as the Model LR-5555.

STERO REVIEW

The message?
Play tracks 7, 2 and 4 in that order on the first record. Then, track 1, 1 again and 3 on the next record. And so on.

The Accutrac+ 6 is the only turntable in the world that offers you computerized, customized listening. So you can hear the tracks on each of the six records in any order you like, as often as you like, even skip the tracks you don't like.

And you never have to touch the tonearm to do it, because the Accutrac+ 6 is engineered with a computerized "hands-off" tonearm.

In fact, once you close the dust cover you never have to touch the records or tonearm again to hear your programmed selections.

But the brain in the Accutrac+ 6 is smart enough to do even more: it doesn't drop your records!

No more "plop." The Accutrac+ 6 is engineered to protect your records. It lowers each record v-e-r-y g-e-n-t-l-y onto the platter. Like an elevator.

And since elevators go up and down, so does the Accuglide™ Spindle. Just touch the "raise record" key, and it lifts all six records back up to the starting position.

If you think you've had enough miracles for one day, here's another one:
With Accutrac+ 6 model 3500R you can control everything from across the room with a full-system remote control transmitter and receiver. There's even remote volume control on model 3500RVC.

No other 6 record system gives you the record safety, convenience and control of the new Accutrac+ 6. But the truly incredible feature of the new Accutrac+ 6 is its low price. From under $300* for model 3500.

So forget everything you know about 6 record systems. And remember to see the new Accutrac+ 6. It's as easy to operate as 1, 2, 3.

*Price shown in this ad is approximate. Selling price is determined by the individual dealer. ©Accutrac is a registered trademark of Accutrac Ltd. ADC Professional Products. A Division of BSR Consumer Products Group. Rte. 303, Blauvelt, N.Y. 10913.
Microcassette with Tuner Modules From Olympus

The Olympus Pearlcorder SD2 is a pocket-size, capstan-drive unit that will record or play back for up to two hours from one Olympus microcassette. Small, detachable AM and FM tuner modules are available to turn the SD2 into a radio, and a voice-actuating module permits recording without manual switching. The recorder incorporates an auto shutoff mechanism, cassette eject, and LED battery-check indicator. It will drive an external speaker on its own power, or it can be connected to an audio system. An electret condenser microphone and monitor speaker are built in. Accessories such as a tie-clip microphone, external speaker with amplifier, and various adapters are available. The SD2 measures approximately 1 x 2 1/2 x 5 1/2 inches, and it weighs 12 ounces. It sells for $279.95 including the voice-actuator module.

Circle 115 on reader service card

New Materials in Audio-Technica Phono Cartridges

New materials and stylus refinements mark the recently released AT15SS and AT20SS stereo phono cartridges from Audio-Technica U.S. Made of rigid beryllium, the stylus cantilever is said to be less likely to flex under playing conditions, thereby insuring smooth high-frequency response. The diamond stylus is a refined Shibata, called the “Shibata Plus,” that is 36 per cent smaller than its predecessor. Both units are moving-magnet cartridges employing dual magnets and are identical except that the higher-price AT20SS must pass additional high-performance tests.

The AT15SS has a frequency response of 5 to 45,000 Hz ± 2 dB from 20 to 20,000 Hz. Channel separation is 33 dB at 1,000 Hz and 23 dB at 10,000 Hz. Frequency response for the AT20SS is 5 to 50,000 Hz ± 1 dB from 20 to 20,000 Hz. Channel separation is 35 dB at 1,000 and 25 dB at 10,000 Hz. Tracking force for both units is 3/4 to 1 3/4 grams, and channel balance is 0.75 dB. The AT15SS is priced at $150 and the AT20SS at $195.

Circle 116 on reader service card

New Realistic Sound-level Meter

Realistic’s hand-size sound-level meter can be used for sound-intensity measurement in a variety of applications including testing the acoustics of studios, auditoriums, and home hi-fi installations. It permits selection of either wide-band sound level (C weighting) or the 500- to 10,000-Hz range (A weighting which compensates for the response of the ear).

Six 16-dB sound-level ranges are available, for an overall range of 60 to 126 dB, and there is a switch position for battery check. There is also a slow/fast response switch for checking average or peak noise levels. The unit can be used as a wide-response microphone or can be connected to a variety of test equipment. Distortion is said to be less than 2 per cent at 1 kHz; 0.5 volt. An accuracy of ± 2 dB at a 114-dB sound level is claimed, and measurements are referenced to a 0.0002-μbar standard. The meter measures 6 1/4 x 2 1/2 x 1 3/4 inches and weighs 7 1/2 ounces. It operates on a self-contained, standard 9-volt battery. Price, at Radio Shack outlets exclusively, is $39.95.

Circle 117 on reader service card

Soundcraftsmen’s Signal-processor Preamplifier

The SP4002 rack-mounting preamplifier from Soundcraftsmen features front-panel pushbutton switching facilities for outboard processing loops and for internal circuits providing octave-band equalization, infrasonic filtering, and full tape-recorder dubbing and monitoring for two machines. The unit’s two stereo phone preamplifiers are equipped with variable cartridge loading of 0 to 750 picofarads and variable impedance of 100 to 47,000 ohms, and they will accept any type of cartridge (including moving-coil) with an output (Continued on page 22)
You know us best for our reputation in audio. In fact, it's audiophiles like you who have made TDK SA the best-selling Hi-Fi bias cassette in America today. But here's something you may not know: the same Super Avilyn engineering principle that revolutionized audio cassettes is in TDK's equally revolutionary new Super Avilyn video cassettes.

No wonder that TDK Super Avilyn is the first 4-hour capability video cassette to be quality approved by the people who know: video cassette recorder engineers. And even less wonder that Super Avilyn makes possible an image so stunning, you will feel as though you are sitting in the broadcast studio.

What's more, TDK's strict quality control works to give you low wear on delicate video heads, virtually non-existent oxide shedding, and no problems with tape stretching, even with repeated playback.

That's because TDK Super Avilyn video cassettes are an actual component of the system, not just an accessory. Our tape is housed in a precision, jam-resistant mechanism, for years of consistent high quality video reproduction. And TDK Super Avilyn VHS video cassettes are compatible with all VHS machines, both those with short-play (2-hour) capability and those with short and long-play (4-hour) options.

TDK Super Avilyn VHS video cassettes: model VA-T60, for one and two-hour recording; model VA-T120, for two and four hour recording.

If you like things to look as good as you like them to sound, take a look.

TDK Electronics Corp., Garden City, NY 11530. In Canada: Superior Electronics Ltd.
of 0.28 to 300 millivolts. The two internal phono preamps are completely independent, with signal-to-noise ratios of 97 dB and 300 millivolts overload capability.

Pushbutton controls permit feeding any one of six input sources through an infrasonic filter, two external processing loops, an equalizer, and a mono mixer to either of the two tape or two line outputs. Complete tape-dubbing and monitoring facilities are included; one program can be listened to while another is being dubbed, with all the processing facilities being available for the dubbing. As has come to be expected of Soundcraftsmen, graphic equalization is the first thing that meets the eye; ten octave-band slide controls span a range of ±15 dB with detented center positions. Signal-to-noise ratio is better than 114 dB at full output. Amplifiers are included to drive headphones from 8 to 2,000 ohms. The unit measures 7 x 12 x 19 inches and weighs 97 pounds. The electronics section measures 11 1/4 x 18 1/4 x 9 3/4 inches and weighs 64 pounds. Total price: $2,795.

Circle 119 on reader service card

Otari's Two-section, Four-channel Recorder

Taking its place in an extensive line of new professional and semiprofessional tape decks from Otari is the MX-5050-QX, a compact, four-channel unit intended for use in small studios or broadcast stations, educational or audio/video facilities, or by the serious home recordist. Using 1/4-inch tape at either 7 1/2 or 15 ips (±0.15 percent), the unit has front-panel adjustable biasing and record-equalization controls. Also on the front panel are four true VU meters that meet ANSI specifications for response and ballistics characteristics. Among the rear-panel controls are adjustments for playback equalization, recording level and calibration, test-oscillator calibration, and a noise-reduction system (dbx or Dolby) interface jack. Input and output connectors are available by professional-type XLR's. The MX-5050-QX takes reels up to 10 1/2 inches and employs three motors, the one on the capstan being variable-speed (±7 percent) and d.c. servo-controlled. Wow and flutter (NAB weighted) is less than 0.05 percent at 15 ips and less than 0.06 percent at 7 1/2 ips. Signal-to-noise ratio (overall record-playback), NAB weighted, is −63 dB at 15 ips and −62 dB at 7 1/2 ips. Frequency response at 15 ips (at 0 VU) is 50 to 20,000 Hz ±2 dB; distortion is less than 1 percent at 1,000 Hz.

The MX-5050-QX is in two sections, and comes in vinyl-covered portable wood cases. A rack-mounting kit and a floor console are optional accessories. A transport section measures 16 3/4 x 18 7/8 x 9 1/4 inches and weighs 97 pounds. The electronics section measures 11 1/4 x 18 1/4 x 9 3/4 inches and weighs 64 pounds. Total price: $2,795.

Circle 120 on reader service card

Superscope Digital Device Plays the Piano

A combination of evolving digital technology and the vast player-piano-roll collection of Superscope chairman Joseph Tushinsky has resulted in a unique product: a player piano that employs digitally encoded cassette tapes together with an electromechanical mechanism that can be installed internally or externally on virtually any piano, enabling the purchaser to hear historically important performances of the past and present or to record his own piano performances for subsequent automatic replay. The Superscope Pianocorder comes in three versions: a kit that can be installed directly within an upright or grand piano with virtually no visible external alteration; a Vorsetzer unit (shown) that is rolled up to the keyboard of any piano for use; and a complete upright piano, available under the Marantz brand name, with the entire mechanism built in. All three versions play stereo or mono of one hundred prerecorded cassettes transcribed from the Mr. Tushinsky's piano-roll collection, including performances by Paderewski, Rachmaninoff, Lhevinne, Kreisler, Fauré, Grieg, Gershwin, Stravinsky, and numerous other classical, jazz, and popular artists. Playing times average 45 minutes each. Suggested retail prices for the various Pianocorder systems, including the tapes: installation kit, $1,895; Vorsetzer, $1,995; Marantz upright piano with mechanism installed, $2,995. Initial plans are to market the systems through piano dealers.

Circle 121 on reader service card

Jensen Automobile Receivers Include Tape Decks

Jensen has released three different automotive "receivers," each available in either eight-track or cassette format. The largest of these is a 30-watt-per-channel unit called the R430 in cassette form and the R330 in eight-track. It features bi-amplified outputs as well as Dolby-B noise reduction, an FM/local/distant switch, and balance and fader controls. Frequency response is 30 to 18,000 Hz ±3 dB, and usable FM sensitivity is 1 microvolt with a 50-dB quieting sensitivity of 2.5 microvolts. Harmonic distortion is 0.4 percent at 1,000 Hz near the rated output. Tuner capture ratio is 1.5 dB, FM separation 32 dB. Tape-speed tolerance is ±0.2 percent. The unit measures approximately 7 x 2 3/4 x 6 inches. The separate power amplifier (included), which can be mounted anywhere in the car, is 6 1/4 x 2 1/4 x 8 1/8 inches. Price: $469.95. A line of matching speakers is also being made available.

Circle 122 on reader service card

(Continued on page 26)
TASTE WINSTON LIGHTS

The low tar cigarette that's all Winston.
All taste.

The perfect pair.

The new Koss CM/530 bookshelf speakers with the perfect mirror-image sound.

Here is truly a remarkable achievement in loudspeaker design and performance. The Koss CM/530 bookshelf loudspeaker sets an entirely new standard in extended bandwidth response, high efficiency, low distortion and perfect mirror-image for speakers in its size and price range and within today's technological capabilities.

By designing a left and a right channel configuration for the passive radiator, the woofer and the tweeter, Koss engineers created a perfectly matched set of bookshelf speakers that can be placed horizontally or vertically without losing perfect right to left or left to right imaging, an incredible degree of dispersion and the beautiful Sound of Koss.

No matter how you place them on your bookshelves, you get perfect mirror-image sound.

Once you've heard the CM/530, you'll be amazed at its breathtaking depth and clarity and incredible low distortion properties. By utilizing an 8-inch passive radiator to radiate the sound energy over the lower two octaves, Koss engineers were able to use an 8-inch woofer to reproduce the critical sounds in the midrange up to 3,000 Hz. Thus the CM/530 is able to reproduce a maximal flat frequency response from an fs (3 dB down point) of 36 Hz on upward. In addition, the CM/530's 1-inch dome tweeter produces an exceptionally flat energy output and unusually low distortion.
that gives your music a liveliness and transparency not found in competitive speakers.

But what really puts the CM/530 speakers in a class by themselves is their perfect mirror-image sound. By creating a right and left channel configuration, the sound from the left and right speakers comes to the listener with the same musical balance. So, no matter whether you're sitting in your favorite easy chair or walking around your room, you'll always hear a perfectly balanced, full-bandwidth sound.

The Koss CM/530's also offer an unmatched increase in dynamic range over competitive bookshelf speakers. Due to the CM/530's higher efficiency and lower distortion, you can hear the higher sound pressure levels without clipping and also hear the lowest bass with a dramatic clarity as well. And to help you shape the extra sound you'll hear, there's a 3-position Tweeter Level Control switch on each speaker that allows you to alter the tweeter frequency spectrum from a flat response to ± 3 dB.

Ask your Audio Dealer to give you a live demonstration of a matched pair of CM/530 bookshelf speakers. You'll be amazed at their perfect mirror-image sound. And while you're at it, try the perfect answer to private listening: Koss Stereophones. But by all means write, c/o Virginia Lamm for our full-color speaker and stereo-phone catalogs. The Sound of Koss will do great things for your records and tapes...and your image.

KOSS® CM/530 BOOKSHELF SPEAKERS

hearing is believing™


CIRCLE NO. 29 ON READER SERVICE CARD
Le-Bo has created a storage unit for video cassettes. The plastic rack will hold up to twelve cassettes in VHS, Beta, or V-Cord format. It incorporates an ejection system that will slide the cassette out far enough for it to be grasped easily. The rack can be purchased alone as the VCM 1000, in a walnut-finish wooden cabinet as the VCM 1002 (shown), or knocked down separately as the VCM 1001. The VCM 1000 measures 14½ x 6 x 8 inches and weighs 3 pounds. The VCM 1001 cabinet measures 14½ x 6½ x 10½ inches and weighs 5¾ pounds. Prices: VCM-1000, $29.95; VCM-1001, $15.95; VCM-1002, $46.95.

Russound's QT-1 Switching/Patching Rack-mounting Panel

The QT-1 by Russound is an entirely passive switching/mixing complex and patch panel for up to four two- and/or four-channel tape machines, plus external Dolby and/or dbx noise-reduction processors, equalizers, etc. The basic tape-recorder connections are arranged in three groups serving, respectively, the tape-out jacks, dubbing jacks, and tape-playback jacks. The main inputs precede the tape-output jacks and the main outputs follow the playback connectors and tape-monitor switching. These are intended for connection to the tape-monitor loop of a stereo or four-channel system, enabling any of the program sources or processors plugged into the QT-1 to be inserted into the system signal path in any combination or order.

At each internal stage of the QT-1 there are front-panel jacks for miniature phone plugs. With the jumper cables provided, these permit the insertion of noise-reduction devices and equalizers at any point in the signal path, and they also permit main stages of the QT-1 to be conveniently bypassed. Mixing facilities are also provided for combining front and rear or left and right channels. To handle two- and four-channel sources, the QT-1 employs thirteen slide switches, forty-eight patching jacks, and seventy-two rear-panel phono jacks. No electronics are used except in the mixing stage, where resistors are switched in to maintain proper load impedances. Insertion loss is a negligible 0.5 dB except for mixing, which typically introduces a loss of approximately 6 dB. Built for rack-mounting, the QT-1 measures 19 x 5½ x 5 inches. Price: $249.50. A vinyl-clad wood-cabinet model measuring 14 x 4½ x 5 inches is available at the same price.

AcoustaTrac Equalizer/Booster For Auto Audio

For the audiophile on wheels, Sparkomatic Corporation has the AcoustaTrac, a graphic equalizer/power booster for use with car radios or tape players. It features slide controls for five different audio bands (centered at 60, 250, 1,000, 3,500, and 10,000 Hz) with readout on an illuminated screen, a front-to-rear fader control, and a bypass switch. The unit can be used with all 4- and 8-ohm mobile systems with speakers having power-handling capacities of 15 watts or more. The AcoustaTrac measures 2 x 6½ x 6½ inches and comes with mounting hardware. Price: $90.
New Scott amps are loaded with extras.

DC Amplification
Improves reliability, expands frequency response, and reduces THD and IM distortion.

Twin logarithmic Op Amp meters. Normally monitor the peak average power amplifier output of each channel in both watts and dB.

Attenuated volume control calibrated in dB. Makes precise volume level selection and exact duplication of previous volume settings.

Bi-modal electron-sensor relay protection. Protects amplifier as well as speakers from all conceivable malfunctions.

Complete tape monitoring and on-the-way copy capability. Listen, record monitor or copy from tape 1, tape 2, tuner, aux, or two mono inputs in any combination.

Capacitance and Impedance adjustments. Maintain accurate frequency response by adjusting for various phono cartridge requirements.

Two independent phono equalizer preamps. Use both phono inputs at the same time, listen to one while recording the other, or vice versa. Impossible with other comparably priced amps.

Front Panel Accessory Switch. Control accessory equipment with the flick of a switch.

Mid-range control. In addition to the treble and bass controls, you can adjust the mid-frequencies to add extra presence and richness.

New Scott 350A Integrated Amplifier
40 watts per channel min. RMS, at 8 ohms from 20-20,000 Hz with no more than 0.08% THD.

New Scott 440A Integrated Amplifier
55 watts per channel min. RMS, at 8 ohms from 20-20,000 Hz with no more than 0.05% THD.

New Scott 480A Integrated Amplifier
70 watts per channel min. RMS, at 8 ohms from 20-20,000 Hz with no more than 0.03% THD.

Improves. Expands frequency once, and reduces THD and IM distortion.

At no extra cost.

When you consider separates, you want all the extras you can get for your money. And no one gives you more than Scott.

Just take our new 480A integrated amplifier. 85 watts per channel min. RMS, at 8 ohms from 20-20,000 Hz with no more than 0.03% THD.

It's the only-amplifier in its price class that gives you two independent phono preamps. Now you can record one phono while listening to the other. Or vice versa.

All our amps boast dozens of other advantages you simply can't find in comparably priced units. Our state-of-the-art circuitry gives you plenty of power with very low distortion. And our features and functions give you full flexibility in producing the sound you like best.

When you move up to separates, move up to Scott. Where all the extras don't cost extra.

When you consider separates, you want all the extras you can get for your money. And no one gives you more than Scott.

Just take our new 480A integrated amplifier. 85 watts per channel min. RMS, at 8 ohms from 20-20,000 Hz with no more than 0.03% THD.

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When you move up to separates, move up to Scott. Where all the extras don't cost extra.
Three Turntables From Technics

- The Technics SL-3300 (shown) is an automatic direct-drive turntable employing a low-speed, d.c. brushless motor. It features automatic cueing of its S-shaped tone arm, including automatic return and stop, "memo-repeat" control for up to six repeat plays of a record or continuous play, viscous-damped manual tone-arm cueing in both directions, antiskating control, and individual pitch controls for 53%- and 45-rpm speeds. There is a built-in stroboscope for checking speed. Its front-panel controls are for start, stop, cueing, memo-repeat, and speed adjustment. It has a detachable tone-arm headshell and a hinged, removable dust cover. Wow and flutter are 0.03 per cent rms, and rumble is -75 dB DIN B. The unit measures 5 x 17 x 14½ inches and weighs 20 pounds. Price: $180.

- The SL-3200 is essentially the same unit as the SL-3300 but without the automatic features. Its price is $150. The SL-3350 is also similar in appearance and features to the single-play units, with the addition of a record-changing mechanism able to handle up to six discs. Wow and flutter of the SL-3350 are 0.03 per cent, and rumble is -70 dB. Weight is 21 pounds and dimensions are approximately 6½ x 17 x 14½ inches. Price: $200.

Four New Speakers From Epicure

- The Model 3.0 Trilogy (shown) at $575 and the Model 120B at $149 are the upper and lower ends of a new series of four EPI loudspeaker systems introduced by Epicure Products. The Trilogy is rather unusual in appearance—a tall, truncated pyramid covered with two grille sections on one side and another on top. The design is said to reduce time-delay distortion effects and increase power-handling ability while reducing distortion, especially at low frequencies. The three-way system incorporates a 1-inch tweeter, a 6-inch mid-range, and a 10-inch woofer with crossover points at 400 and 2,600 Hz. On-axis frequency response 3 meters from the measuring microphone is 32 to 20,000 Hz ±3 dB. Minimum power requirement is 15 dBw (30 watts rms). Maximum power-handling ability is 20 dBw (100 watts) average with peaks to 27 dBw (500 watts). Nominal impedance is 8 ohms. The Trilogy stands 4½ inches high. Its weight is 75 lbs.

- The 120B is a two-way acoustic-suspension system of conventional appearance incorporating a 10-inch woofer and a 1-inch "air-spring" tweeter. The woofer is newly designed for lightness, rigidity, and increased efficiency. The 120B’s frequency response is 38 to 20,000 Hz with a crossover frequency of 1,800 Hz, and tweeter volume is adjustable. Nominal impedance is 8 ohms, and the recommended power range is 25 to 80 watts rms. The unit is finished in wood-grain vinyl with bronze trim around the matte-black grille. It weighs 42 pounds and measures 25 x 15 x 11 inches.

Cassette/Receiver Combination From Aiwa

- Aiwa has announced three new cassette decks, one of which, the AF-3090U (shown), is incorporated into a receiver. The deck section has a frequency response of 20 to 15,000 Hz with normal tape, and it extends to 17,000 Hz with CrO₂ and FeCr tapes. The signal-to-noise ratio is -65 dB (Dolby system on, FeCr tape), and wow and flutter is 0.05 per cent (wms). The tuner section has a sensitivity of 1.8 microvolts, a S/N of -78 dB, and stereo separation of 45 dB at 1,000 Hz. Distortion is 0.15 per cent in mono and 0.25 per cent in stereo. The amplifier output is 50 watts per channel with no more than 0.1 per cent total harmonic distortion. The unit weighs about 41 pounds, and it measures 22 ⅝ x 6 ½ x 17 ⅛ inches. Price: $750.

- The AD-6350U cassette deck has specifications similar to the deck section of the AF-3090U except that wow and flutter is rated at 0.08 per cent. It weighs 17 pounds and measures 17 ⅝ x 6 x 13 inches. Price: $320.

Three-band Parametric Equalizer by Sontec

- The Sontec HF-230 is a three-band parametric equalizer with no more than 0.002 per cent total harmonic distortion from 20 to 20,000 Hz at any level from -30 to +24 dB. Intermodulation distortion does not exceed 0.002 per cent. Noise is 84 dB below a 1-volt output level, and 26 dB of headroom below clipping provides 110 dB of usable dynamic range. Frequency response is from d.c. (0 Hz) to beyond 1 MHz but is intentionally rolled off beyond 200 kHz at 6 dB per octave. The unit contains no transformers, capacitors, or integrated circuits in the signal path. Also, the upper- and lower-frequency sections can be converted into shelving equalizers.

- The HF-230 contains three separate sections tunable to frequencies over the ranges 10 to 800 Hz, 100 to 8,000 Hz, and 400 to 25,600 Hz. Slope equalization is continuously variable from 4 to 14 dB per octave, and amplitude of the equalization peak is variable from -12 to +12 dB. It is possible to use the HF-230 for room tuning and compensation of loudspeaker faults as well as equalizing disc and tape playback and live performances. The unit weighs 6 pounds and measures 13 x 19 x 6 inches. Price: $990.

NOTICE: All product descriptions and specifications quoted in these columns are based on materials supplied by the manufacturer. Recent fluctuations in the value of the dollar will have an effect on the price of merchandise imported into this country. Please be aware that the prices quoted in this issue may be subject to change.
Time and a bit of genius make the difference.

It wasn’t easy to create the world’s finest DC receiver. It took time. A great deal of it. For research. For development. For testing. And it also took a bit of genius — the kind of genius that Sansui engineers are world famous for. But we at Sansui were determined. And we succeeded. So now there is a patent pending on Sansui’s unique new DC amplifier circuitry.

The Sansui G-6000 DC receiver, like Sansui’s entire G-line of DC receivers, incorporates this unique technology. It delivers music reproduction so superb you will actually hear the difference.

With Sansui’s DC amplifier circuitry you get better low frequency response. It extends all the way down to zero Hz (DC), from main-in. That’s one reason it’s called a DC receiver.

With Sansui’s DC amplifier circuitry you get better high frequency response. It goes all the way up to 200,000Hz, from main-in. Just try to find another receiver with frequency response this wide.

With Sansui’s DC amplifier circuitry you also get fuller and faster response to musical transients. This is measured in slew rate and rise time. And the slew rate and rise time figures of the Sansui G-6000 are far better than those of any competitive models.

And with Sansui’s DC amplifier circuitry there is virtually no distortion. While eliminating the capacitors, we’ve solved the time delay problem that causes transient intermodulation distortion (TIM). And total harmonic distortion is a mere 0.03% at full rated power: 65 watts/channel, min RMS, both channels driven into 8 ohms from 20-20,000Hz.

The Sansui G-6000 DC receiver is much more than its extraordinary amplifier circuitry. It is also a superb FM section, with excellent sensitivity, selectivity and signal-to-noise ratio, virtually without distortion.

The G-6000 also gives you high-technology protection circuitry that keeps both your speakers and receiver safe, always. It offers perfectly positioned and highly accurate power, tuning and signal meters. And human engineering, for greatest ease of operation. The G-6000 is also elegantly styled with a beautiful simulated walnut grain finish.

Listen to the G-6000 or any of Sansui’s full line of DC receivers at your franchised Sansui dealer today. You’ll easily hear the difference that Sansui DC makes.
### Specifications:

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### Features:
- Graphic Equalizer with LED Readout
- Relay Protection
- 32 Detent Volume Attenuator
- Wattage Meters
- Two-Step High and Low Filters
- Deviation Meter
- Multipath Meter
- LED Signal Strength Indicator
- AF Mute
- A JCPenney Warranty unsurpassed by any Hi-Fi manufacturer*

### Price: $599.95

*Within 5 years of purchase of speakers or 3 years of purchase of single or multiple play turntable, receiver, tuner, amplifier or tape deck of this Modular Component System, we will, at our option, repair or replace these items if defective in material or workmanship. Just return it to the nearest JCPenney facility.

CIRCLE NO. 39 ON READER SERVICE CARD.
The incredible MCS Series 75 watt receiver.

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Sensitive tuners, plus DC amplifiers that help eliminate sonic backlash.

If you've ever listened to a JVC music system with a separate tuner and amplifier, and thought, "One of these days..."

Well that day is here. The new JA-S44 DC integrated stereo amplifier, with its exclusive built-in SEA graphic equalizer and dual power meters, provides clean, uncannily accurate music reproduction, with all the power you're ever likely to need.*

Our "Tri-DC" design in the JVC JA-S55 and JA-S77 further eliminates distortion-causing capacitors within the DC phono equalizer, DC tone control and DC power amplifier sections, providing frequency response from 5Hz to 100kHz (+0, -1.0dB). And they have dual power supplies—not one for each channel, as in conventional designs—but one for the Class A-operated preamp/tone control section, and a second which performs even heavier duty for the Class B-operated DC power amplifier section. This unique design practically eliminates both inter- and intra-channel crosstalk and distortion, or what we call "sonic backlash." The results: increased tonal definition and brilliance, especially with high-level transient signals.

The new JVC JT-V22 AM/FM stereo tuner is a standout in its class. With an FM front end that uses an FET RF amplifier, combined with a 3-gang tuning capacitor, the JT-V22 brings in the most timid FM stations and makes them sound as though they're just around the corner. Or, if you're in an area where FM stations are a hairline away from each other on the dial, it delivers clear, interference-free reception. Then, to help you make sure you're on target, it has both signal strength and center-channel tuning meters.

Probably the most significant advance in recent FM tuner technology is JVC's Phase Tracking Loop circuitry in our new top model—JT-V77. This advanced circuit provides high signal-to-noise ratio as well as excellent interference rejection and freedom from multipath effects and adjacent channel interference. It's still another example of JVC's innovative engineering. But sounds speak louder than words. See and hear these magnificently-designed separates at your JVC dealer soon.

JVC High Fidelity Division, US
JVC Corp., 58-75 Queens Midtown Expressway, Maspeth, N.Y. 11378.
Canada: JVC Electronics of Canada, Ltd., Ont.

CIRCLE NO. 28 ON READER SERVICE CARD
Tape Talk

By Craig Stark

The new Tandberg cassette deck, one of the few capable of recording on metal tape, is forerunner of a new breed.

FIRST TESTS: METAL-PARTICLE TAPE AND THE MACHINE TO HANDLE IT

After more than a dozen years of intensive research and a highly confidential development program involving approximately one hundred recorder manufacturers, the first fine-metal-particle tape and the first consumer cassette deck capable of recording and erasing it have emerged from their respective laboratories.

The test results reported here are based on early pre-production samples of 3M's revolutionary new Metafine tape and the Tandberg Model TCD 340 AM cassette deck designed to handle it. The test figures should not be construed as defining the ultimate performance of either product, but they provide a fascinating preliminary look at tomorrow's state-of-the-art tape performance. Note that these are the first tests of this extraordinary new tape development ever conducted outside a manufacturer's own facilities. The Tandberg TCD 340 AM recorder is expected to be available about the time 3M's metal-alloy tape appears—perhaps before the end of this year.

Before getting involved with measurements, let's look at the special properties and requirements of the new tape. To the naked eye, the jet-black Metafine cassette tape looks very much like a chromium-dioxide formulation, and under an electron microscope its particles are said to appear roughly the same size and shape as those of a high-grade ferric oxide. Chemically, however, the new Metafine magnetic material (and the presumably similar substances used in the "metal alloy" tapes of Fuji, Philips, TDK, Maxell, BASF, and others) is not an oxide, as all other tapes have been until now. Rather, the magnetic heart of the tape consists of fine, acicular (needle-shaped) iron particles that have been treated by a highly secret proprietary process to prevent their turning into an oxide when made into tape.

Whatever the mystery of their chemistry, the resulting particles have extraordinarily high coercivity and retentivity, the key characteristics engineers look at when assessing the magnetic potential of a material. Coercivity (abbreviated $H_c$), measured in oersteds, constitutes an index of high-frequency performance at slow tape speeds and is an indicator of the bias and erase fields the tape will require. Technically, coercivity is a measure of the field necessary to demagnetize a tape fully, so its connection with high-frequency response may not at first be evident. The key to understanding the importance of coercivity is the realization that at slow speeds the treble frequencies tend to get erased as fast as they are recorded, because of the effects of the ultrasonic bias current and because their extremely close proximity to each other tends to cause mutual cancellation. This is why a large amount of treble boost is needed in the recording process, and the equivalent of a treble boost is used in the playback process as well. (The low frequencies are relatively immune to self-erasure.) Since a high-coercivity tape is more resistant to erase—and therefore treble self-erasure—high-coercivity tapes have a better treble performance.

The other key parameter, retentivity, is more obvious. Abbreviated $B_r$ and measured in gauss, retentivity is simply a measure of how much magnetism a tape retains after being exposed to a very strong magnetic signal—such as it receives from a record head. (In my experience, high retentivity has also been associated with low distortion.) In any event, the more signal you can get to play back from the tape, the better your signal-to-noise ratio will be. While retentivity affects high frequencies, it is primarily associated with the low-frequency potential of a tape.

To put some numbers to it, the new 3M tape has a coercivity of 1,000 oersteds (compared with about 550 for a CrO$_2$ type) with a retentivity of 3,400 gauss (compared with about 1,300 for top CrO$_2$-type tapes).

When chromium dioxide was first introduced, it did wonders for high-frequency performance over the then-current ferrics, but at low frequencies its output was, if anything, slightly lower—and its distortion was somewhat higher. The new metal-particle tape, by contrast, vastly exceeds both the high-end potential of chrome and the low-frequency retentivity of the top cobalt-treated ferrics of today.

The fact that the new metal-particle tape requires approximately double the bias and erase currents of chrome (which itself requires about 1.5 times the bias of conventional ferrics) means that a whole new generation of recorders is needed to record and erase it. (You'll get some idea of the erasing difficulties when I say that I could not erase a sample of Metafine with a regular bulk eraser! It took a much heftier unit to do the job. The powerful erase circuitry of the new Tandberg deck was equal to the task, however.) New circuits are needed to supply the greater bias and erase current, and new tape heads must be used that can tolerate such large bias currents without going into magnetic saturation. Once a Metafine tape has been recorded, however, it can be played back on all conventional decks that have a chromium-dioxide (meaning 70-microsecond) playback-equalization switch position.

I did some preliminary tests of the new tape using the first consumer cassette deck capable of handling it: the Tandberg TCD 340 AM, a

(Continued overleaf)
close cousin of the Model 330, which was reported on by Hirsch-Honuk Labs in the June 1977 issue of Stereo Review. A three-motor, dual-capstan, three-head deck with full-logic controls and a host of other features [including an "Actilinear" recording amplifier (patent pending) designed to extend the signal-handling capacity of the recording system by about 20 dB and to reduce intermodulation distortion], the TCD 340 AM deserves far fuller description and comment than I can give it here. While the production models will be able to handle regular ferrics, extended-response types, and the new metal tapes, the pre-production sample I had was set up only for Metafine. Time permitted only a few quick cross-checks with some top-rated ferrics on a Tandberg TCD 340 A, the near twin of the TCD 340 AM save for metal-tape capacity.

In brief, it works—and then some! The accompanying graph shows both the new Metafine and a premium cobalt-treated 70-microsecond ferric tape recorded to produce a 315-Hz output at the international reference level of 250 nanowebers per meter (2 dB above Dolby level) and at a level 20 dB below the reference. The difference between the two upper traces shows the enormously improved high-frequency headroom provided by the new 3M tape. Around 12,000 Hz, the output from Metafine is about 12.5 dB higher, and even at the -20-dB-level frequency response extends farther out. Despite its using a much thinner oxide coating than current premium tapes, low-frequency maximum-output level for 3 per cent third-harmonic distortion was 2 to 3 dB higher with the metal-particle tape. And as for signal-to-noise ratio (S/N), the figures for the Metafine/Tandberg combination speak for themselves. With the Dolby system operating, I measured an unweighted S/N of 59 dB, increasing to 68.8 and 69.5 dB with A and CCIR weighting, respectively. Tandberg's method of measurement, which compares the 315-Hz, 3 per cent distortion point against virgin (bulk-erased) tape noise, improved these ratios to 60.5, 72, and 73.4 dB, respectively.

Even in prototype measurements such as these, where the final optimizing and “tweaking” has not been done, the figures give some idea of what lies ahead in the very near future. 3M and Tandberg are the first with the new metal breed, but you can be sure they will not be the last.
Superb Deutsche Grammophon and Philips recordings... pressed in Europe, “silent surfaced” for unsurpassed, glorious listening.

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71. HANDEL Messiah (3 LPs)
Harper, Watts, Wakefield, Sir Peter Quirk, Colin Davis: London Symphony Orchestra and Choir
• List price $26.94

68. ROSSINI The Barber of Seville (3 LPs)
Prey, Berganza, Alva, Dara, Montarsolo, Claudio Abbado: London Symphony Orchestra
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72. BEETHOVEN The 5 Piano Concertos (4 LPs)
Stephen Bishop, Colin Davis: London Symphony Orchestra
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60. TCHAIKOVSKY Symphonies 4, 5 and 6 (4 LPs)
Yevgeny Mravinsky: Leningrad Philharmonic
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Arroyo, Freni, Te Kanawa, Gazzani, Ward, Colin Davis: Chorus and Orchestra of the Royal Opera House, Covent Garden
• List price $35.92

67. BEETHOVEN The Middle Quartets, Op. 59
Nos. 1, 2 and 3, Op. 74
No. 10 and Op. 95
No. 11 (3 LPs)
Quartetto Italiano
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Offer limited to connecting 48 states; applications subject to review. Only new members eligible; limit one per household.
S\o\ntate Bill 864, which deals with the problem of radio-frequency interference (RFI) in consumer electronic equipment, was the subject of a hearing before the Senate Subcommittee on Communications on June 14. The principal witnesses were Representative Charles A. Vanik (D-Ohio), who is sponsoring a somewhat different RFI bill in the House; Charles D. Ferris, chairman of the FCC; Dr. John W. Lyons, director of the National Engineering Laboratory at the National Bureau of Standards; and Harry J. Dannals, president of the American Radio Relay League, the nation’s largest amateur-radio organization.

Six additional witnesses took part in a panel presentation. The audiophile point of view was put forth by Len Feldman, who appeared in his capacity as technical director of the Institute of High Fidelity, by Ed Foster, chairman of the IHF Amplifier Standards Committee, and by this writer on behalf of Stereophile magazine. Rounding out the panel were an amateur-radio enthusiast from Virginia; counsel for a television broadcasters’ trade group; and J. Edward Day, special counsel for the Consumer Electronics Group, Electronic Industries Association (CEG/EIA), representing TV-set manufacturers and others in the home-entertainment field. If Mr. Day’s name sounds familiar, it should. He was Postmaster General in the Kennedy Administration. Senator Barry Goldwater (R-Ariz.), the sponsor of S. 864, served as chairman.

Senator Goldwater opened the hearing by announcing that he was still a firm believer in the free-enterprise system. Although he was sponsoring a bill that would give the FCC broad regulatory authority over the entire consumer-electronics industry, he said he hoped there would be no need to pass such a sweeping measure, that the mere prospect of government regulation would inspire the industry to work harder to find its own solutions to the RFI problem. He said that government regulation should be employed only as a last resort. This was at least mildly reassuring to opponents of the bill.

The first witness to testify was Charles Ferris of the Federal Communications Commission, who reported that the FCC staff was divided on the question of RFI legislation. Although the commissioners themselves unanimously supported the bill’s objective of minimizing RFI in consumer-electronics equipment, they elected not to endorse passage of S. 864 at present for a number of reasons. In order to establish reasonable standards for RFI rejection, the FCC feels it needs more reliable data on the electromagnetic environment in which consumer devices typically operate. New measuring methods and new kinds of test equipment will be necessary for testing immunity to interference. FCC staff estimates of the cost of a suitable testing installation range from $10,000 to $50,000.

Another area of concern involves the expense to manufacturers of duplicating such a facility for the purpose of testing products under development. Mr. Ferris pointed out that the costs would be so high that small manufacturers might not enter the market would be at a substantial competitive disadvantage.

Mr. Ferris suggested that a voluntary product-labeling program such as one proposed in Canada might be feasible here. He also suggested that the FCC might start a consumer-education program stressing the importance of good installation practices. He concluded by recommending that the costs and benefits of alternative approaches be fully examined before any action is taken by Congress.

The second witness was Dr. John Lyons of the National Bureau of Standards. His testimony was interesting to engineers, but mystifying to everyone else. Dr. Lyons explained the difference between the near field and far field of a radiating device, and noted that it is extremely difficult to make accurate measurements of field strengths in the near field of an antenna. He reported that the NBS is planning to develop new instrumentation for this purpose. It is precisely this kind of equipment which would be needed if the FCC were to implement a thorough testing program to determine the RFI susceptibility of consumer-electronics devices.

Dr. Lyons was followed by Harry Dannals of the ARRL. The drive for RFI legislation has always been spearheaded by ARRL members, so there were no surprises in Mr. Dannals’ statement in terms of content. There were, however, a few interesting touches in

### Audio News Views and Comment

- **RFI UPDATE: LEGISLATIVE HEARINGS**

  **SENATE BILL 864**

  **Charles A. Vanik (D-Ohio)**

  **Charles D. Ferris, chairman of the FCC**

  **Dr. John W. Lyons, director of the National Engineering Laboratory**

  **Harry J. Dannals, president of the American Radio Relay League**

  **Len Feldman**

  **J. Edward Day**

  **Senator Barry Goldwater**

  **Dr. John Lyons**

  **Harry Dannals**

  **Charles Ferris**

  **FCC staff estimates**

  **Near field vs. Far field**

  **Electromagnetic environment**

  **Testing installation costs**

  **Consumer-electronics devices**

  **Voluntary product-labeling program**

  **Consumer-education program**

  **NBS instrumentation development**

  **RFI susceptibility determination**

  **ARRL members**
ARRL people seem to be of the opinion that the kind of response-affecting filtering that may have been acceptable in audio devices of 1951 would be equally acceptable today. It is particularly ironic that they chose a TVI manual published in 1951, because it was in that very year that the then-small high-fidelity industry began to blossom.

Regular readers of these pages are, no doubt, already familiar with the case against mandatory filtering in audio equipment. Mr. Foster, Mr. Feldman, and I all argued against S. 864. Our arguments were concerned as much with the quality compromises entailed in conventional RFI "cures" as with the cost increases that would result from extensive filtering. And Mr. Day, representing the EIA, stated that "studies by the television manufacturing industry indicate that less than 20 percent of TVI cases could be cured by an additional filter on the TV receiver."

In the middle of the panel discussion, Congressman Vanik arrived to give his testimony on the RFI situation. He stressed the growing magnitude of the RFI problem, noting that his office has received more mail on the RFI bill he is sponsoring in the House than it received on his work on the Ways and Means Committee. He also mentioned the possibility that regulatory authority of the kind envisioned in his bill might be incorporated in the new Communications Act now under consideration by the House Subcommittee on Communications. (The new act, when passed, would supersede the much-amended Communications Act of 1934, which forms the basis of our present system of radio regulation.)

When Mr. Vanik finished his testimony, I took advantage of the opportunity to point out a fundamental difference between his House bill (H.R. 8496) and Senator Goldwater's Senate bill. While S. 864 would allow the FCC to prescribe the use of specified "protective components" in various kinds of consumer-electronics products, H.R. 8496 would merely allow that agency to "establish minimum standards." I stressed that this was no mere semantic difference, but rather a fundamental difference in approach. The language of the Vanik bill implicitly recognizes the fact that there are no panaceas for RFI, no simple cure-all measure that could prevent most or all kinds of interference.

Feldman, Foster, and I all commented on the importance of proper installation of component systems in avoiding RFI. We also noted the unpredictable nature of problems resulting from the interconnecting of certain combinations of components and the difficulties simplistic filtering measures could create in terms of both sonic quality and stability of operation. As we expected, our position was challenged by the ARRL's Dannals.

The last speaker was the ham-radio operator. He related his personal experiences with RFI from his ham station afflicting the audio equipment of his neighbors. He attributed the problem to the allegedly shoddy engineering practices of some of the most respected companies in the high-fidelity field.

The hearing adjourned at 12:50 p.m. No important decisions were made during the proceeding, but at least a wide variety of views on the RFI question were aired. It is obvious that there are no easy answers to the interference problem.

—Jack Hannold

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Judged on the basis of flatness of response, freedom from distortion, transient response, sensitivity, and independence from room acoustics, these new dynamic and electret condenser models are perceptibly better sounding than speaker systems costing hundreds of dollars more.

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**Technical Talk**

By Julian D. Hirsch

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**Speaker Testing—Part 2**

Last month I discussed some of my basic philosophy of speaker testing and described in some detail how we measure the low-frequency response of a speaker system.

At higher frequencies, we try to obtain an overall contour of the speaker's power-output response rather than measure any of the "fine-grain" structure of its output, which in any case would not be possible in a live room. We use a "warble-tone" measurement to "break up" the standing-wave patterns as the General Radio response plotter slowly scans from 100 to 20,000 Hz. The frequency is smoothly shifted up and down over a ±50-Hz range as it is swept, and heavy damping is used on the writing pen of the chart recorder in order to smooth out the inevitable narrow-band output fluctuations of the speaker system operating in the room.

Actually, this is in lieu of a swept-filter analysis using 1/10-octave filters and a pink-noise test signal. Our sine-wave frequency-response plot has been adapted to make a close approximation of the same test. The close correlation of our test data with other tests run by manufacturers on the same speakers, using reverberant chambers with random-noise signals or outdoor measurements with computer processing of hundreds of response readings taken at different microphone positions, has convinced us of the validity of our approach.

In our test, we locate the two speaker systems in a normal stereo configuration at the front of the room, with the microphone on axis about 12 feet from one speaker and about 30 degrees off axis about 15 feet from the other. The response measurement is made separately for the two speakers, but on the same chart. At most frequencies at which the response from one speaker rises (because of room resonances), it falls when measured from the other speaker. This is a strong indication that the response change is a function of room dimensions and is not inherent in the speaker. A smooth line averaging the two curves forms our mid- and high-frequency plot, which is then corrected for the microphone and room characteristics (previously obtained from our measurements of calibrated speaker systems).

Figure 1 shows the mid- and high-frequency response curves obtained from the speaker whose bass response curve was shown last month. The speaker's level-balance controls were set to their "flattest" position (at maximum in this case, as in most others we have seen). Note that the two curves, measured from the left and right speakers, are markedly different at high frequencies, indicating a certain amount of directional "beaming" above 7,000 Hz. The averaged curve shows the 12,000-Hz peak in frequency response of our previous calibrated test microphone.

Potentially the most ambiguous part of the process is splicing the bass curve to the upper-frequency curve. Each has been plotted for more than an octave beyond its theoretical limits in an attempt to reduce this ambiguity. Sometimes the slope of the bass curve makes it very difficult to be certain where they should be joined. In this case, we rely on listening impressions of the "bassiness" of the sound to guide us. On the other hand, with some speakers the two curves overlap for about a decade of frequency (three octaves), which leaves no doubt about where to make the splice. We consider the resulting curve to be nearly a "true frequency response" of the speaker as it is possible to obtain in terms of describing the frequency balance of its sound in a real listening room. In Figure 2, we have spliced the bass curve to the curve of Figure 1. The overall response of ±2.5 dB from 37 to 15,000 Hz indicates that this is a very good speaker, and the overlap of the two curves from 100 to 700 Hz was virtually perfect. Not surprisingly, it sounds as good as its curve suggests, in spite of its undistinguished high-frequency dispersion.

As a rule, we do not publish these curves in our speaker test reports. After considerable discussion, we decided that the interpretation of a basically non-standard measurement could be more confusing to the average reader than beneficial. One reason this is so is evident in Figure 3, a composite curve from a speaker whose sound is much better than the curve shape suggests. Its frequency-balance adjustments could be used to flatten out the curve significantly. However, we usually make our response measurements with the controls set as suggested by the manufacturer, which in this case did not yield the best sound. Since we had a complete family of curves on this speaker (whose high-frequency dispersion was outstanding) and had measured the range of the tweeter-balance control, we could judge the potential sound quality—and set the controls for it—more accurately than someone seeing only the composite frequency-response curve.

So far, we have dealt with only one speaker measurement: frequency response. However, there is much, much more to the speaker-evaluation process, the question of distortion being particularly important. Distortion specifications are rarely applied to loudspeakers except at the low-bass frequencies. One reason for this is that conventional harmonic and intermodulation-distortion measurements are difficult to make—and even more difficult to evaluate—over most of the frequency range of a speaker system. IM tests are particularly problematical because the two test tones used are likely to be fed to at least two drivers simultaneously.

Most speaker systems use two or more drivers to cover the audio range. The output of each driver is more or less attenuated at frequencies outside its intended operating range. For example, a mid-range driver might cover from 800 to 3,000 Hz. Distortion components from an input signal near the low end of that range could be radiated by that driver, at least up to the third harmonic. However, a fundamental near the high-frequency end of the speaker's range could give a misleading impression of its distortion, since the harmon—

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**Tested This Month**

- **Luxman R-1120 AM/FM Receiver**
- **Rotel RB-5000 Power Amplifier**
- **Advent/1 Speaker System**
- **Accuphase C-220 Disc Equalizer**
- **Aiwa AD-6800 Cassette Deck**
ics would be attenuated by the speaker's natural rolloff (not by the crossover network, which comes ahead of the driver).

A further complication is the fact that the irregular frequency response of any speaker above the bass range requires that any such measurement be made on a sweep basis in an anechoic environment. The instrumentation required for a swept distortion measurement, either harmonic or IM, is costly. For purposes of comparative evaluation of speakers (as distinct from the problem facing the speaker designer, for whom such tools are invaluable), its cost is hardly warranted. This is especially true because of the considerable controversy over the relative audibility of the different kinds of loudspeaker distortion.

We do measure distortion in the bass range, however. It can be measured with fair accuracy in a normal listening environment and with conventional laboratory equipment. And it does tell us something useful about the performance of a speaker system. Paradoxically, the actual distortion one measures in the bass region is of secondary importance. The real value of the measurement, as we make and use it, is to show how well the speaker maintains its acoustic coupling to its surroundings at low frequencies.

Most speakers fed a constant drive level will show a nearly constant harmonic-distortion reading as the frequency is reduced from 100 Hz (our upper limit for this test). At some frequency, such as 50 or 40 Hz, the distortion will begin to rise sharply, analogous to the clipping of an amplifier at its overload point. This frequency is not necessarily the useful lower limit of the speaker. Our measurement is made with a close microphone spacing like that used for the bass frequency-response measurement and for the same reason—to avoid interaction with room resonances. The result is approximately the anechoic response of the woofer, and in a real room one can expect to get better low-frequency response due to reinforcement from the room boundaries. The frequency at which the curve "breaks," however, does give us a good indication of the loudspeaker system's inherent low-frequency performance limitations.

We make this measurement by driving the speaker at a number of discrete frequencies, from 100 down to 20 Hz, with a constant 2.8-volt signal—which corresponds to a 1-watt input for a nominal 8-ohm system. The microphone output is connected directly to our spectrum analyzer, which displays the levels of the second and third harmonics. These are combined to obtain a THD figure (higher-order harmonics are almost never significant). The test is repeated at a drive level 10 dB higher, corresponding to a 10-watt input. The difference between the two curves is indicative of the power-handling ability of the woofer: if the distortion is much greater with the higher drive level, one can assume that the speaker will sound best with fairly low input levels. The bass distortion at 1- and 10-watt levels is measured in most systems. Of particular interest is the "break point" in the curve—the frequency below which the distortion suddenly rises. It is not feasible to extend a speaker's bass range below this point through the use of equalization since the distortion would then become excessive. We have also made this measurement with the drive level adjusted at each frequency to produce a constant output level equivalent to 90 dB measured at a distance of 1 meter. Such a curve does not convey any more information than the constant-input curves, except that the low-frequency "break" is usually much more abrupt. This measurement is not as convenient to make as the constant-drive measurement, and since it conveys no additional information that would be of help to the consumer, we do not use it in most cases.

When measuring the bass distortion of a ported system, we make separate measurements close to the woofer and close to the port opening, as we do with the frequency-response measurement. Using the combined bass frequency-response curve as a guide, we plot the distortion from the woofer cone at frequencies where it is the dominant factor in the total output, and from the port at the lower frequencies where its output is greater than that of the cone. If the two curves do not match up well, we make a smooth transition in the interest of clarity.

Next month, I will deal with some of the less basic tests and measurements, such as those involving tone-burst, sensitivity, and impedance characteristics.

This month's Test Reports begin overleaf.

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**Figure 1.** Mid- and high-frequency response curves of a speaker. The differences—particularly at 6,000 Hz and above—usually indicate some directional beaming.

**Figure 2.** The averaged response curve from Figure 1 spiked to the bass-response curve. The measured overall response variation is ±2.5 dB from 37 to 15,000 Hz.

**Figure 3.** The composite response of a speaker whose sound is much better than the curve suggests. Controls were adjusted to manufacturer's suggested settings.
The Luxman R-1120 is that company's finest and most powerful receiver, rated to deliver up to 120 watts per channel to 8-ohm loads between 20 and 20,000 Hz with no more than 0.03 per cent total harmonic distortion. The front panel of the R-1120, satin finished in pale bronze, is mostly devoted to a large glass-covered dial area in which are the FM and AM scales, two illuminated tuning meters, and a number of LED's. Two rows of LED's, one for each channel, are peak-power indicators, lighting up at power levels of -18, -15, -12, -9, -6, and 0 dB (where 0 dB is the rated 120 watts into 8 ohms). A pushbutton switch increases their sensitivity by 12 dB, so that the 0-dB light comes on at 7.5 watts and the -18-dB light glows at a mere 120 milliwatts output. Two additional LED's indicate stereo-FM reception and operation of an optional Dolby-FM decoder, which can be internally installed when the decoder is installed, turning it on also changes the receiver's FM de-emphasis time constant to the required 25 microseconds. A large tuning knob dominates the center of the panel. Across the top of the front panel, above the dial area, are a number of very small, unobtrusive controls. Three tiny pushbuttons turn on the Dolby system (when installed), turn off the FM muting, and set up the receiver to monitor the playback from a three-head tape deck (or simply to play back from any tape deck connected to its rear terminals). A fourth button selects the deck to be monitored from either of the two decks that the receiver can accommodate. A small, knob-operated switch controls the recording inputs of the two recorders. It can select the receiver's normal program source or interconnect the two decks for dubbing from either one to the other. A similar switch selects normal or reversed stereo or the mono mode. To the right of these controls are five small pushbuttons for loudness compensation, the infrasonic, low-cut, and high-cut filters, and the LED power-display sensitivity increase. A larger button is the main a.c. power switch. Next to it is a tiny red LED signal light that blinks on and off at a 1-Hz rate for several seconds when the receiver is first turned on; when the operating voltages have stabilized, the outputs are connected to the speakers by a relay and the light goes out. If a d.c. voltage appears across the speaker outputs, whether due to a malfunction or to the amplifier's being overdriven, the speakers are instantly disconnected and the warning light comes on. On the lower left of the panel is an input-selector switch with positions for AM, FM, and AUX input, plus two small tone-control knobs. These last are unusually convenient to use, since pulling out either knob changes the turnover frequency (at which its action becomes effective) by an octave. The bass turnover frequencies are 200 and 400 Hz, and the treble frequencies are 2,000 and 4,000 Hz. Each of the controls is detented at its center (flat) setting.

On the lower right of the panel are the volume control, with a concentric balance ring (both are continuous adjustments, but the balance control has a center detent), and the speaker-selector switch, with positions for controlling up to three pairs of speakers. Two pairs can be driven either singly or together, or they can be shut off for headphone listening via the front-panel jacks. The third speaker position is for use with electrostatic speakers; with this setting, the R-1120 drives the speakers through a resistance-capacitance network that is apparently intended to stabilize the amplifier when driving highly capacitive loads (there is no clarification of this feature in the instruction manual).

The speaker outputs, in the rear of the receiver, are through insulated spring-loaded terminals that grip the end of the connecting wire securely. Near them is a small slide switch that turns off the front-panel LED power display. There are two a.c. outlets, one of them switched. The power transistors and their heat-sink fins extend from the rear of the receiver, but they are protected by a perforated metal cage. Near the FM antenna terminals (for 75- and 300-ohm antennas) are a hinged, territe-rod AM antenna and a switch that attenuates the antenna input to the FM tuner; the latter is for use when one is close to a powerful FM station that could overload the front end. A DIN socket duplicates the functions of one of the two sets of tape-recorder connections. (Continued on page 47)
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by the DENON DP-6700 (above) and the DP-2500 (below). Both have quartz synchronization, DENON's ultra-sensitive magnetic tape head speed control system, plus fast starting and braking.

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<th>MODEL</th>
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<td>Armless base; dir dr AC servo motor; detent on speed control</td>
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<td>Economical direct drive AC turntable w/tonearm</td>
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<td>DP-1200</td>
<td>Auto-lift/shutoff in simulated ash or mahogany base</td>
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<td>High performance quartz-locked DP-6000 motor w/DA-307 tonearm</td>
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<td>Dynamically damped static balance tonearm; magnetic anti-skate</td>
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<td>Economical version of DA-307 with improved damping</td>
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<td>DL-103D</td>
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<td>AU-320</td>
<td>Moving coil transformer; 3 ohm &amp; 40 ohm impedance</td>
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<td>HA-1000</td>
<td>Head-amp for MC type cartridge</td>
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<td>PCC-1000</td>
<td>Phono creasstalk cancellor</td>
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<td>TU-501</td>
<td>AM/FM tuner to match PMA-501</td>
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<td>PMA-501</td>
<td>50 + 50W integrated amp w/PCC</td>
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<td>TU-850</td>
<td>Low distortion, high selectivity, 5 gang var. cap. tuner</td>
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<td>PMA-850</td>
<td>85 + 85W integrated amp w/PCC; matches TU-850</td>
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<td>PMA-830</td>
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*Prices and model number subject to change without notice.
The Luxman R-1120 is housed in a handsome rosewood-veneer wooden cabinet. Its overall dimensions are approximately 19½ inches wide, 16½ inches deep, and 7½ inches high, and the weight is about 37½ pounds. The suggested retail price is $995. The Dolby decoder module is $55.

**Laboratory Measurements.** The preconditioning period of operation at one-third rated power caused heating of the metal grille on top of the receiver's cabinet, but elsewhere the unit remained cool. The output into 8 ohms, with both channels driven at 1,000 Hz, clipped at 144 watts per channel (IHF clipping headroom was 0.8 dB), and the power at clipping into 4- and 16-ohm loads was 159 and 97.5 watts per channel, respectively.

At 1,000 Hz, the total harmonic distortion (THD) was 0.01 per cent or less up to more than 100 watts output. It was only 0.011 per cent at 120 watts and 0.02 per cent at 140 watts. The IM distortion dropped from about 0.03 per cent at 0.1 watt output to 0.017 per cent in the 120-watt range before rising to 0.04 per cent at 150 watts.

At rated output, the THD was less than 0.02 per cent from 40 to 6,000 Hz, reaching its maximum points of 0.036 and 0.04 per cent at 20 and 20,000 Hz. At half and one-tenth power the distortion characteristics were similar, with slightly lower numerical readings. Although the full-power distortion measurements at the frequency extremes were marginally higher than the rated 0.03 per cent, the difference at the low end can be accounted for by the 0.02 per cent residual distortion of our signal generator at that frequency. It should be noted that our amplifier gain settings (which can affect some test results) were in accordance with the new IHF standard A-202, and the ratings of the R-1120 were established long before the issuance of that standard.

The sensitivity of the R-1120 amplifier for a 1-watt output was 15.5 millivolts (mV) through the AUX input and 0.22 mV through a phono input. The signal-to-noise ratio (S/N) was identical for both inputs, measuring 61 dB (with A weighting) referred to 1 watt. The phono-input stage overloaded at 162 mV, approximately as rated (this was a "worst-case" measurement, made at 20,000 Hz and converted to the equivalent level at 1,000 Hz). The IHF slew factor was 2.21 (when the amplifier was driven to its rated power at 1,000 Hz, the frequency had to be increased to 44,200 Hz before amplifier distortion increased to 1 per cent). The IHF dynamic headroom was 2.13 dB, indicating that unclipped peak outputs of as much as 196 watts could be obtained during a tone burst of 20 milliseconds duration. The amplifier was stable with any capacitive load up to 2 microfarads in parallel with an 8-ohm resistive load (we did not, however, make any measurements through the electrostatic-speaker output terminals).

The power-output LED calibrations were sufficiently accurate for their purpose. The indications for both channels were identical, and the instantaneous response of the LED's (as compared with meters) made them an effective indication of the actual peak-power output used in music listening.

The tone-control response curves provided the maximum degree of frequency compensation desirable from a conventional bass-treble tone-control configuration. When the 200- and 4,000-Hz turnover frequencies were used, the frequency response at the ends of the audio band could be modified considerably without affecting the mid-range or the overall sound balance. With the 400- and 2,000-Hz turnovers, the tone controls had a more conventional effect.

The low- and high-cut filters were excellent, with 12-dB-per-octave slopes and -3-dB response frequencies of 45 and 6,000 Hz. The main effect of the infrasonic filter was in a range too low for it to be measured; in the audio range it was about 1 dB down at 20 Hz. The loudness compensation boosted both low and high frequencies, and we found the effect excessive. The RIAA phono equalization was accurate within +0.1 dB from 50 to 20,000 Hz and was down 3 dB at 20 Hz. There was a very slight interaction of the phono equalization with phono-cartridge inductance, which boosted the output by about 0.6 dB between 5,000 and 20,000 Hz.

The FM tuner section of the R-1120 had a usable sensitivity of 11 dBf in mono and 15.7 dBf in stereo. The steep limiting curve gave a 50-dB quieting sensitivity of 12.8 dBf in mono and 35 dBf in stereo, with respective distortion readings of 1 and 0.35 per cent. At a 65-dBf input, the mono THD + Noise was about 0.09 per cent, with a S/N of 73 dB. In stereo, the distortion was 0.19 per cent and the S/N was 69.5 dB.

The stereo frequency response of the tuner section was within ±0.6, –0.9 dB from 30 to 15,000 Hz. Channel separation was very uniform with frequency, about 42 dB from 30 to 500 Hz, slowly decreasing to 35 dB at 10,000 Hz and 32 dB at 15,000 Hz. At a 45-dBf input, the capture ratio was about 1.6 dB and the AM rejection was a good 66 dB. The image rejection was 86 dB, alternate-channel selectivity was 69 dB, and adjacent-channel selectivity was 6 dB. The muting and stereo thresholds were both at 14.8 dBf. In spite of the very flat audio-frequency response of the tuner section, the 19-kHz pilot carrier in its outputs was suppressed to a very low –78 dB. The hum level of the FM tuner section was also low at –72 dB.

The only measurement made of the AM tuner section was of its frequency response, which was very restricted. Although it had a better than average high-frequency response (down 6 dB at 5,500 Hz), the lows were inexplicably rolled off to –6 dB at 250 Hz.

**NEW TEST METHODS**

- **Hirsch-Houck Laboratories** is now using the Institute of High Fidelity's new Standard Methods of Measurement for Audio Amplifiers (IHF-A-202 1978). For convenience in making comparisons with previously tested products, we will correlate the new measurement results, when appropriate, with measurements made using our previous techniques. Copies of the new standard are available for $7 from the Institute of High Fidelity, Dept. AS, 489 Fifth Avenue, New York, N.Y. 10017.

**Comment.** The instruction manual does not specifically say so anywhere, but the R-1120 has a non-defeatable AFC system as an aid to its FM tuning. Only in the functional block diagram is this alluded to (as "FM tuning lock"), with no hint of its function. At any rate, although we usually take a dim view of non-defeatable AFC, this one is so subtle in its action that one must actively look for it to detect its presence. Only when a station has been tuned so closely that the channel-center meter pointer begins to enter the "tuned" center segment of the scale does the AFC come into action, pulling the tuning accurately in to the center.

Also, when we first placed the receiver into...
service, the power-level LED's did not operate. We assumed that they were defective until an examination of the receiver turned up a barely visible switch in the rear, marked "PEAK IND.," which had been accidentally moved to its off position during unpacking of the unit. Although this switch is shown on the control identification picture in the manual, its purpose is barely mentioned in the text, with no hint provided as to why one might wish to blank the display.

The only significant functional omission that we could find in the design of the R-1120 was the absence of separate preamplifier outputs and power-amplifier inputs, which we would have expected in a receiver of this quality and price.

We were impressed by the simplicity and functional beauty of the front-panel control layout, whose styling makes the little-used controls almost invisible except under close examination. Except for the power switch, the operation of the receiver will normally be restricted to the few knob controls along the lower edge of the panel. However, we would have appreciated greater visibility for the markings that show the settings of the input and speaker-selector switches.

Overall, we had a strongly favorable reaction to the appearance, "feel," and sound of the Luxman R-1120. It shares with all the other Luxman products we have used the smoothness, elegance, and basic good taste that distinguish this brand from most of its competition. From the silky feel of the tuning control to the rich rosewood grain of the cabinet finish, this is a receiver meant to be seen, heard, and enjoyed. It is expensive, to be sure, but one is buying really first-rate performance plus some less tangible properties.

We have limited tolerance for products that behave in unexpected or undesirable ways (such as noises when switching, noise bursts when tuning across the FM band, vague or downright inaccurate FM-dial calibrations, and so forth). We are happy to report that the Luxman R-1120 was completely free of such anomalies. In spite of its occasional concessions to styling (the dial is calibrated only at 1-MHz intervals, for example), function has not really been sacrificed. The FM tuning was so accurate that we had no difficulty reading the station frequencies to the nearest 200 kHz directly from the dial. The sound of the R-1120, from both FM and phono sources, was impeccable—essentially determined by the quality of the program source rather than by any property of the receiver itself.

Circle 105 on reader service card

![Rotel RB-5000 Power Amplifier](image)

Not long ago, power amplifiers capable of delivering more than 200 watts per channel were a rarity; today, they are almost commonplace. However, the ranks of the superpower amplifiers thin out rapidly above 300 watts or so, and there are only a few in the 500-watt class. One of the most impressive of these giants is the new Rotel RB-5000, rated to deliver 500 watts per channel to 8-ohm loads from 20 to 20,000 Hz with no more than 0.009 per cent total harmonic distortion.

The RB-5000 is as imposing physically as it is electrically. The 8 3/4 x 19-inch satin-gold-finish front panel, styled to match other Rotel audio components, is slotted for rack mounting and fitted with a pair of appropriately robust handles. On the panel are two large meters calibrated in watts from 0.5 to 1,000. Behind a "blackout" window between the meters are two vertical rows of LED peak-power indicators (the meters respond to average power levels). The lights are calibrated at 3-dB intervals from -18 to +3 dB (0 dB is the amplifier's rated output). Between these rows are other LED's indicating STANDBY (the interval after power is first applied, during which the outputs are muted to protect the speakers), PROTECTION (which lights when the amplifier's protective circuits are activated), and OVERLOAD (which indicates that the amplifier is being overdriven).

Across the bottom of the panel are a number of operating controls. Pushbuttons switch the power and connect the three pairs of speaker outputs (individually) through heavy-duty relays. Any two of the speaker buttons can be engaged simultaneously, but they are electrically interlocked so that pressing a third button will have no effect (a red LED above each button indicates that its speaker output is being driven). Under the center indicator panel are two level-control knobs and a lever switch that completely removes the input signal when it is operated. The level knobs, which are lightly detented, provide up to 21 dB of attenuation in 1-dB steps.

At the lower right of the panel are three knob controls. The FILTER switch has positions MARKED LAB TEST, NORMAL, and LOW FILTER. These provide three degrees of low-frequency rolloff for different applications. The METER SENSITIVITY switch increases the sensitivity of the meter (and LED) displays by ten or one hundred times (10 and 20 dB); in the latter position, the lowest reading on the meters is only 5 milliwatts and a full-scale reading corresponds to 10 watts. The last switch is the LIMITER, which reduces the maximum output capability of the amplifier to either 25 or 50 per cent of the normal 300 watts.

The active circuits of the RB-500 are completely symmetrical (push-pull) from input to output and are direct-coupled, with the exception of a single blocking capacitor. The internal negative-feedback loops are completely direct-coupled as well. The only exception to the DC design is in the special balanced-input stage used with the Cannon connectors in the rear of the amplifier for interface with professional equipment having balanced signal lines. The balanced input of the RB-500 is electronic, employing FET's, instead of being transformer coupled. When the standard phono-jack inputs are used (as in any home system), a switch in the rear of the amplifier removes the balanced-input stages from the circuit. (It is interesting to note that the phono jacks on the RB-5000 are gold plated for reliable, corrosion-free contacts.)

The output stages operate in class AB. At power outputs up to 3 watts, they are biased for class-A operation, giving the lowest distortion. As the power increases beyond 3 watts, the operating conditions make a smooth transition to class AB.

The Rotel RB-5000 is really a "dual-monophonic" amplifier in that each channel has its own power supply, including a large toroidal transformer (about 6 1/2 inches in diameter) and extensive regulator circuits. In addition, there is a third completely separate power supply for the amplifier's elaborate protective and display circuits. The RB-5000 is cooled by a slow-running, silent fan that operates at all times, automatically speeding up to provide the necessary extra cooling if the output-transistor temperature should rise excessively.

As might be expected, the Rotel RB-5000 is a very large, heavy amplifier (most of its weight, as well as its bulk, is associated with..."
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Because Maxell gives you the widest frequency response, the highest signal-to-noise ratio and the lowest distortion of any tape you can buy. In fact, people who own the finest high-performance tape equipment use our tape more than any other brand.

So why buy one of the world's finest tape decks and get less than the world's best sound.

When you can use Maxell and get everything you paid for.
the huge power supply). It extends some 17½ inches behind the front panel (including four large rubber feet on the rear apron that make it possible to stand the amplifier on its back without damaging the speaker terminals). The speaker connectors are large, heavy-duty binding posts able to grip any gauge of speaker wire securely. The heavy-duty power cable has a molded three-wire plug. It should be noted that this amplifier cannot be switched from any preamplifier since it draws a maximum of 3,200 watts (!) from a 120-volt power line. In addition, it cannot even be powered from a standard home-lighting circuit (rated at 15 or 20 amperes) if one expects to use its full power capability.

Rotel has cleverly included a pair of small caster wheels under the rear of the amplifier, next to the bottom rubber feet. By lifting up slightly on the front-panel handles, one can roll the amplifier easily on the casters—a feature we greeted with hearty approval in view of the unit’s 117-pound weight. Suggested retail price of the Rotel RB-5000 is $2,650.

**Laboratory Measurements.** Since the Rotel RB-5000 draws too much power from the a.c. line to be operated with both channels running simultaneously at full power, we made all of our measurements with only one channel driven. Because of the use of separate power supplies for the two channels, this is a perfectly valid test procedure. However, the unit was given the required FTC preconditioning time was 1.5 microseconds, and its slew rate 30 volts per microsecond. It was completely stable with capacitive loads as large as 2,000 to 20,000 Hz. The difference-tone distortion was -76 dB relative to a 500-watt equivalent single-tone output at the highest frequency and -81 dB at 7,500 Hz and lower frequencies. The third-order distortion components were -67 dB at 20,000 Hz and -86 dB at 2,500 Hz, also referred to 500 watts of equivalent sine-wave power.

The frequency response of the RB-5000 was flat over the audio range and considerably beyond it. With the filter switch at its Lab setting, the response was down 0.4 dB at 10 Hz and 1 dB at 5 Hz. With the Normal setting, the lows were down 0.6 dB at 20 Hz, 2.5 dB at 10 Hz, and 6.5 dB at 5 Hz. The Low Filter setting gave only slightly less output: -1.2 dB at 20 Hz and -9.7 dB at 5 Hz. In all the filter conditions, the high-frequency response was the same, down 0.2 dB at 50,000 Hz and 1 dB at 135,000 Hz. The amplifier rise time was 1.5 microseconds, and its slew rate was 30 volts per microsecond. It was completely stable with capacitive loads as large as 2,000 to 20,000 Hz.

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A tape deck that thinks, a turntable steady as a rock, a receiver that protects itself, and more.

In your dream you hear beautiful music coming from a high fidelity system. All the components have the same name on them.

Impossible? Only if you believe there's one "best" maker for each type of component. Once, perhaps. But today no one has a monopoly on technological excellence. You'll find the Optonica name on entire systems of the world's most advanced components, with innovations—our own new circuits and features—you might expect to find only in a dream.

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You might furnish your dream with a new Optonica receiver or separates, the only ones in the world built with aircheck calibration, Opto-lock tuning, triple power supply designs, and three protection circuits.

Now the same source also produces some of the most accurate speaker systems in history. Optonica CP-5151's incorporate a unique new tweeter. It weighs just about 1/50th as much as a comparable "dome"-type tweeter, and its sound is incomparable.

Listen to a system with one name: a dream system, only at an Optonica dealer.

CIRCLE NO. 47 ON READER SERVICE CARD
2 microfarads in parallel with the 8-ohm resistor load. When we drove the amplifier into overload with square waves, its protective circuits shut it down. It was necessary to turn the power off and on again to restore the amplifier to operation when this occurred.

When we investigated the operation of the power limiter, we found that it caused the amplifier to clip at the indicated levels (125 or 250 watts). In effect, it reduced the amplifier power rating to those values, since it did not allow short signal bursts to pass through at higher levels.

The power-meter calibration was quite accurate—within a few per cent except at the lowest readings. The LED peak indicators were almost as accurate. Their relationship was fixed in relation to the meter readings, so that they were also controlled by the meter-range switch.

Comment. Our first reaction to the Rotel RB-5000 was, "Who would use an amplifier like this in a home music system?" Clearly, its major application must be in very high-quality sound reinforcement and discotheque service. Nevertheless, there will surely be some people who will use it in a home music system, and we can assure this limited group that they will be using one of the most refined amplifiers we have seen.

Little need be said about its electrical performance, which is well beyond the ability of available test equipment to measure with any accuracy. We were always aware that we were dealing with a device that could easily destroy any home speaker system if not treated with respect. In our use tests, in fact, it demolished some supposedly "burnout proof" speakers, solely through our own foolhardiness in trying to see how loud 500 watts "sounded."

Considering the power of this amplifier, which can deliver close to 1,000 watts per channel to 4-ohm speakers for an indefinite period (certain to be set by the speakers rather than the amplifier), it runs amazingly cool. It has one of the most effective cooling systems we have seen, and it never became more than mildly warm in our tests—and not even that in normal operation. Best of all (for those who will insist on using it at home), the fan cannot be heard under any conditions. We could not believe that it had a fan until we placed a hand over the output-transistor heat sinks and felt a gentle, warm breeze. Since the fan never went into its high-speed mode, we cannot comment on its ultimate loudness, but it is a safe assumption that the sound of the program would mask it effectively in that unlikely event.

Although it is obvious that the Rotel RB-5000 is meant for heavy-duty commercial service, it is just as obviously styled for home use, despite the fact that its size, weight, cost, and power consumption rule it out for almost all home installations. If its power limiter had been designed to pass full power for some short period, such as a few milliseconds, before clamping the power output to a safe value, we would have a different view of this feature. As it is, the limiter is merely a means of converting the RB-5000 into the world's largest, heaviest, and most expensive 125- or 250-watt amplifier!

Nevertheless, Rotel has demonstrated very dramatically how a state-of-the-art superpower amplifier can be designed to be attractive, reasonably compact, and apparently utterly immune to damage or destruction. (A number of amplifiers in the past have not fared so well under the conditions to which we exposed the RB-5000.) It is too bad that it still takes two men to lift it, but that, too, should be no problem in a fixed, commercial installation. At one time the word "heavy" was used among rock fans to indicate that someone or something had special desirable, significant, or awesome properties. If the expression has faded from use, we think it is worth reviving if only for the RB-5000, a product that is "heavy" in every sense of the word!

Circle 106 on reader service card

Advent/1 Speaker System

The Advent/1 is roughly the size of the Smaller Advent Loudspeaker that preceded it, with overall dimensions of 22 x 13¼ x 9⅛ inches and a weight of 29 pounds, and it is also a two-way acoustic-suspension system. Beyond that, it is completely different from the Smaller Advent. Its bass driver (which is identical to that used in the larger Advent speakers) has a 10-inch cone treated and stiffened to minimize "breakup" effects in the upper part of its operating frequency range. The in-box resonance is 52 Hz in the Advent/1, as compared with 43 Hz in the New Advent and Powered Advent speakers, and hence its frequency response is down slightly at the lowest bass frequencies (about 2.5 dB at 25 Hz) compared with these larger Advent speakers.

At 1,500 Hz there is a crossover to a newly designed tweeter. Its center dome, about ¾ inch in diameter, radiates at the highest frequencies, but the doughnut-shaped surround increases the effective diameter to 1½ inches at the lower end of its frequency range. The new tweeter (which is also identical to that used in the larger Advent speakers) has been designed for high efficiency, low distortion, and increased power-handling ability. To this end, its magnetic gap is filled with magnetic fluid (ferrofluid) that helps to conduct heat away from the voice coil, which is wound on an anodized-aluminum bobbin for better heat conduction. The ferrofluid also helps damp the tweeter resonance. The new tweeter has more than twice the power-handling ability of its predecessor, as well as being twice as efficient. As a result, it can deliver about 6 dB more output (a four-fold increase) than the tweeter that was used in the original Advent speakers.

The Advent/1's woofer response is allowed to roll off naturally at the higher frequencies, although there is a small inductor (0.3 millihenry) in series with it to shape its response in the crossover region. The low-frequency tweeter output is rolled off at 6 dB per octave by a single series capacitor to minimize phase shift and make a smoother blend of sound through the crossover region. The levels of the tweeter and woofer are internally matched, and there are no external user-adjustable controls. (Continued on page 54)
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**TDK Cassettes**—despite all we put into them, we don't ask you to put out a lot for them. Visit your TDK dealer and discover how inexpensive it is to fight dropouts, level variation, channel loss, jamming, and other problems that interfere with musical enjoyment. Our full lifetime warranty* is your assurance that our machine is the machine for your machine. TDK Electronics Corp., Garden City, N.Y. 11530. Canada: Superior Electronics Ind., Ltd.

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CIRCLE NO. 59 ON READER SERVICE CARD
The published specifications of the Advent/1 are limited to the most basic ratings. Its crossover frequency is 1,500 Hz, the nominal impedance rating is 8 ohms, and the suggested minimum amplifier-power rating is 15 watts. It is available in either a walnut-grain vinyl finish or genuine walnut veneer. Price: vinyl finish, $99.55; wood finish, $120.

- Laboratory Measurements. The composite frequency response of the Advent/1 was smooth and wide. In our measurements, it varied only 3.5 dB from its mid-range level between the limits of 40 and 20,000 Hz. The bass output, in a close-miked measurement, fell at the expected rate of 12 dB per octave below about 60 Hz (the maximum woofer output occurred at 65 Hz).

There was no sign of any crossover irregularities in our semi-reverberant room measurement, but the average tweeter output was about 2.5 dB higher than the 1,000-Hz response we used as a reference level. The tweeter output began to roll off above 13,000 Hz but remained fully effective up to our 20,000-Hz measurement limit. The dispersion of the new tweeter was excellent, with nearly the same response being measured on and off about 30 degrees off the speaker axis.

The bass distortion at a 1-watt nominal input was very low—only about 0.3 per cent from 100 down to 60 Hz and 0.9 per cent at 50 Hz. It rose at lower frequencies—to 3 per cent at 40 Hz and 10 per cent at 30 Hz. When we increased the drive level to 10 watts the distortion increased substantially, measuring 3 per cent at 90 Hz and from 6 to 14 per cent at most lower frequencies.

Our measurement of the speaker impedance indicates that it should be rated at either 4 or 5 rather than 8 ohms. The impedance was 5 ohms at 20 Hz, rising to about 10 ohms at 55 Hz and falling to 5 ohms in the 100- to 200-Hz range. After rising to about 12 ohms in the 1,000-Hz region, it fell to a minimum of 4 ohms at all frequencies above 5,000 Hz. The sensitivity of the Advent/1 was fairly high for an acoustic-suspension system, so that it delivered an 89-dB sound-pressure level at a distance of 1 meter when driven by 2.8 volts of random noise in the octave centered at 1,000 Hz. This is 1 watt based on the 8-ohm rated impedance, but it would correspond to about 2 watts if the speaker carried the more accurate 4-ohm rating.

The tone-burst response appeared to be good at all frequencies. Although the intervals between bursts were partly filled in by room reflections at many frequencies, the actual starts and stops of the bursts were distinct and without signs of sustained ringing or other unwanted effects.

- Comment. The design goal of the Advent loudspeakers has always been to provide a smooth octave-to-octave sound balance by careful matching of driver and crossover characteristics so as to produce an accurate response with the widest range of music and recordings. In other words, Advent speakers are not designed to sound flashy or impressive nor to cater to any of the current fads in sound reproduction.

Although we had a fairly good idea of the quality of sound to expect from an Advent speaker, we were nevertheless pleasantly surprised by what we heard from the Advent/1. Compared with some other excellent acoustic-suspension speakers, it had a slightly crisper top end, and there was a striking absence of the kind of heaviness in the lower mid-range or upper bass that causes many older-design acoustic-suspension systems to sound muddy or muffled compared with more recent ones. There was certainly no obvious loss of deep-bass output; a slight attenuation could be heard only with program material having a considerable output below 40 Hz, and then only in direct A-B comparison with speakers having a strong output in that range. Overall, the sound of the Advent/1 could be described as clean, tight, and smooth, definitely in accord with the company’s expressed aims.

The bass distortion of the Advent/1 at 10 watts suggests that this is not a speaker one would use with the expectation of lease-breaking or to obtain facsimile reproduction of bass-drum or pipe-organ sounds (although it is only fair to point out that the bass distortion, even at that rather high level, was not particularly audible on sine-wave signals, and therefore would be even less so with music).

Advent suggests fusing the Advent/1 when it is driven from large amplifiers. With that precaution, it should be compatible with almost every good-quality amplifier or receiver on the market. When one considers the total impact of inflation in the years since the introduction of the original Smaller Advent Loudspeaker, it is clear that, in terms of what today’s dollar will buy, the Advent/1 is a lot more speaker for less money. Without question, it is a fine speaker at an excellent price.

Circle 107 on reader service card

The respectable tone-burst response of the Advent/1 at (top to bottom) 100, 1,000 and 7,000 Hz. The upper traces in each photo are the inputs.

Accuphase C-220
Stereo Disc Equalizer

The search for perfection in sound reproduction can take many forms, most of them involving some compromise with convenience as well as a high cost. Nevertheless, there are a number of dedicated enthusiasts who will spare no effort or expense in their search for the ultimate in high fidelity. In that regard, there is a recent trend toward using "outboard" phono preamplifiers. These devices are based on the assumption that the phono stages built into one's present amplifier or receiver are inferior in some important respects, so that an audible improvement can be obtained by employing an external phono preamplifier section. These preamplifiers usually deliver an output level (Continued on page 58)
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on the order of 1 volt, which is suitable for driving the high-level input of any amplifier. They should not be confused with the pre-preamplifiers or "head amplifiers" meant for use with low-output, moving-coil cartridges—these are unequalized gain stages that drive the normal phono inputs of an amplifier. However, some outboard phono preamplifiers also include a pre-preamplifier circuit.

Most phono preamplifiers are priced between $100 and $200, but we recently had the opportunity to test what is probably the most costly and extravagantly designed special-purpose preamplifier on the market. The Accuphase C-220, a product of Kenkonic Laboratories (distributed in this country by Texas), is a rather remarkable product, not only for what it does and how well it does it, but also for its extreme circuit complexity.

The Accuphase C-220 Stereo Disc Equalizer (to give it its full name) is meant for use with an existing preamplifier (or integrated amplifier or receiver) whose phono performance is felt to be in some way in need of improvement. The regular preamplifier's normal output connects to the C-220, which contains its own phono preamplifiers and switching circuits and whose output goes to the power amplifier. When the C-220 is switched off, the regular preamplifier is connected to the power amplifier in the normal manner. For listening tests, a push on the front-panel power switch on the C-220 turns it on and also disconnects the regular preamplifier, replacing it with the phono circuits of the C-220. Alternatively, the C-220 output can be connected to the AUX inputs of the regular preamplifier, so that the existing tone controls and filters can be used. In both modes of operation, the recorded player is of course connected directly to the C-220.

The Accuphase C-220 has inputs for two phono cartridges. Behind a hinged door on its front panel are pushbutton switches (in duplicate for the two inputs) that select terminating resistances of 100, 30,000, 47,000, or 100,000 ohms. Another button selects either of the disc inputs, and a button connects the head amp in the selected phono circuit for use with a low-output, moving-coil cartridge. When the head amp is selected, the input resistance is automatically set at 100 ohms. There is a stepped balance control with a range of 7 dB in either direction and a completely "off" setting at each limit. When the hinged door is closed, the only visible front-panel controls are the power switch and a large volume-control knob.

In the rear, in addition to the two sets of cartridge inputs and the external-preamplifier inputs, there are professional-type Cannon jacks paralleling the main outputs, which are conventional phono jacks. A separate pair of phono jacks carries the audio outputs at a fixed (and lower) level.

All switching in the C-220 is done by reed relays, with electronic time-delay circuits. A logic system mutes the amplifier outputs the moment any button is touched. After the switching operations have been completed, there is a delay of about 3 seconds before the outputs are restored, to prevent any switching transients from reaching the power amplifier.

The design goals for the Accuphase C-220 included a reduction of noise to near-theoretical limits and the reduction of all forms of distortion (including transient types) to an absolute minimum. These aims have been shared by many other amplifier designers, but it is interesting to examine the "no-holds-barred" approach taken by the Kenkonic engineers. For example, all the amplification is by symmetrical push-pull, direct-coupled, class-A circuits. Coupling capacitors are used between functionally separate parts of the circuit, but not between individual stages or in any of the negative-feedback loops. Only discrete circuits (no ICs) are used, and some idea of the circuit complexity is conveyed by the fact that the C-220 has 109 transistors, 16 FET's, and 34 diodes! Precision, high-quality, low-noise components are used extensively, and a newly developed ring-emitter transistor is used in the input stage of the head amp. The RET is claimed to have unusually low noise compared with any conventional or field-effect transistor (FET).

The key specifications of the C-220 include:
- frequency response, 20 to 20,000 Hz ±0.2 dB;
- total harmonic distortion (THD), 0.01 per cent at the rated output of 20 to 20,000 Hz (the rated fixed output is 150 millivolts); and a maximum output level of 10 volts from 20 to 20,000 Hz with no more than 0.01 per cent THD. The rated noise and hum (A-weighted) is -85 dB without the head amp and -72 dB with the head amp (both referred to 1 volt). The maximum input level at 1,000 Hz for 0.01 per cent THD is 400 millivolts (mV) without the head amp and 20 mV with it.
- The C-220 is large and heavy. It is 19 inches wide, 13/2 inches deep, and 3 1/4 inches high in the rack-mounting version (a cabinet-mounting model is available that is 17 1/2 inches wide).
- The noise figure of the C-220 is 23.5 pounds, and its suggested retail price is $900.

Laboratory Measurements. The phono equalization of the Accuphase C-220 was within ±0.5 dB of the RIAA characteristic from 50 to 20,000 Hz and was down 1 dB at 20 Hz. It was not affected fatally by the inductance of a phono cartridge.

With the preamplifier driving a standard IHF load of 10,000 ohms in parallel with 1,000 picofarads, the 1,000-Hz output clipped at about 15 volts. The distortion was a constant 0.006 per cent from 0.1 to 14 volts output. When the variable output was 10 volts, the fixed output was 0.64 volt. The gain of the C-220 was almost exactly as rated: 59.6 dB through the regular input and 85.2 dB through the head amp. For the manufacturer's rated output of 2 volts, respective inputs of 0.11 and 2.1 mV were required with and without the head amp in use. For the new IHF standard output level of 0.5 volt, the required inputs were 0.026 and 0.52 mV. The overload level for the regular input was 460 mV at 1,000 Hz. The "worst-case" overload condition was at 20,000 Hz; corrected to the 1,000-Hz equivalent level it was 419 mV! Through the head amp, the 1,000-Hz overload input was 24 mV. It was difficult to determine the 20,000-Hz overload point, since the waveform distorted gradually rather than clipping suddenly. If overload is assumed to correspond with a distortion of 0.1 per cent, it occurred at an equivalent 1,000-Hz input level of only 4 mV.

(Continued on page 62)
Power-hungry speakers have finally met their match.

If you’re enthusiastic about today’s less efficient, super-accurate speaker systems, you know you need a very efficient, super-power receiver to drive them. And if your ears are good enough, you know the value of lots of power to handle critical musical passages with any speaker system.

That’s why we created the new KR-8010. With 125 watts per channel, minimum RMS both channels driven at 8 ohms, from 20 to 20,000 Hz with no more than 0.03% total harmonic distortion, you’ve got all the power you really need.

But more important, the KR-8010 gives you an extremely clean, low-distortion signal at the same time. For example, the signal-to-noise ratio through the phono input is the best you’ll find on any receiver (90 dB). Its overall frequency response is matched precisely to the RIAA curve ± 0.2 dB. And the tuner delivers sensitivity and selectivity that you’ll really appreciate in signal-crowded cities.

To shape that signal into music, the KR-8010 offers a full range of front-panel controls usually found only in esoteric separates and recording studios. Like tape dubbing while listening to another source. And dual FM muting levels. MIC input and fade control. Bass, treble and midrange tone controls. And more.

The point is simply this: At $675.00, the KR-8010 is made for the listener who demands as much from his receiver as he does from his speakers.

Next time you’re at your Kenwood dealer listen to your favorite speaker with the KR-8010. We think that your ears will finally meet their match.

* Nationally advertised value. Actual prices are established by Kenwood dealers.

For the dealer nearest you, see your Yellow Pages, or write Kenwood, P.O. Box 6213, Carson, CA 90749. In Canada: Magnasonic Canada, Ltd.
You're at a concert. The sound surrounds you. There's a guitar. A piano. Some horns. You hear all of it.

But more than that, you hear each part of it. Each sound. Every sound. All the sound.

Most loudspeakers can't do that. They only meet you half way. Only left and right, all or nothing. JBL's new L110 goes all the way. It looks at music the way you do. Left. Right. Front. Back.

The L110 has almost perfect stereo imaging — a result of precise, uniform dispersion at every frequency.

Inside the L110, there's a brand new, super-sophisticated crossover network designed specifically to match the brand new components.

There's a new 10" woofer which utilizes a massive 3" voice coil and 7½ pound magnetic assembly—normally found in 12" woofers. The result is smooth, accurate bass, plus an amazing level of efficiency and power handling capability throughout the entire system. (One more nice: You get more headroom for your amplifier. Less clipping.)
Now look at the L110. The most acoustically transparent grille JBL has ever created is visually transparent, too. You can see right through to the satin black components inside.

If you'd like a lot more technical information on the L110, write us and we'll send you an engineering staff report. Nothing fancy. Except the specifications.

But you really should come listen to the L110. And ask for it by its first name: JBL. You'll be getting the same craftsmanship, the same components, the same sound heard in the very top recording studios in the world.
The A-weighted noise in the output, under
IHF standard test conditions, was -71 dB rel
ative to 0.5 volt output (-83 dB referred to
rated output) through the head amp. It was
somewhat lower than that (and below the
measurement range of our instruments)
through the regular moving-magnet cartridge
input. The measured input resistance of the
C-220 was exactly as rated, and its input capa-
citance was 155 picofarads.

Comment. Although the measured perfor-
ance of the Accuphase C-220 was impres-
sive and easily met the manufacturer's claims
(within the limits set by our test conditions),
we had expected no less from a company
whose dedication to excellence is well known
in the industry. We looked forward to use
tests of the C-220, not in the expectation that
it would sound markedly different from any
other fine preamplifier, but because we were
interested in hearing for ourselves how the
low noise and refined switching of the C-220
translated into benefits to the user.

The subjective noise level of the C-220 was
every bit as low as one would expect from its
measurements. When the head amp was not
used, even at very high gain settings there was
no audible hiss or hum from the speakers
when the pickup was lifted from the record.
This is not unique to the C-220, of course, but
it is nevertheless the exception rather than the
rule in phono systems. There was audible hiss
at high gain settings through the head amp,
but this has been true of every such device we
have used. In general, we concluded that,
at any usable gain setting, any hum or hiss heard
through the C-220 originated in the record-
player or external wiring rather than within
the C-220 itself.

The delay logic in the switching circuit was
very effective, though a trifle disconcerting,
as one had to wait a few seconds after press-
ing any of the control buttons for the end re-
sult to be heard. In view of the rather excep-
tional flexibility of the C-220, we were sur-
prised that it lacked provision for adjusting
the input capacitance to meet the needs of a
particular cartridge/record-player combina-
tion. We also would have expected to find a
sophisticated infrasonic filter in the C-220,
since few amplifier "rumble filters" are really
suitable, in respect to cutoff slope and fre-
frequency, for this purpose.

The final question, and the most difficult to
answer, is whether the device is a reasonable
value, even for the dedicated audiophile. It is
built with impressive attention to detail, and it
fairly radiates a sense of quality. It also ap-
pears to be greatly overdesigned, and the use
of more than one hundred active semiconduc-
tors to perform only phono equalization and
amplification functions seems difficult to justi-
fy. On the other hand, there are probably a
number of audiophiles who already have what
they consider to be the ultimate in all these
component categories and for whom the price
of the C-220 is not a deterrent. For them, it
can be considered a very attractive bit of icing
on an already rich hi-fi cake.

Circle 108 on reader service card
A significant new generation of high fidelity components from Quadraflex. Reference — the alternative for people who are serious about sound, and tired of never-ending competitive performance claims.

Reference™ components are the sensible choice for people with a keen eye for value. Instead of costly expendable wattage and superfluous gadgetry, we offer clean sound that is comparable to any electronic mammoth — but in the price range of every music lover.

Reference provides as much power as most people would ever need, plus models with unique features that assure maximum performance within actual listening environments. What we include is there solely to control and improve the appreciable quality of recorded music. To give you exactly what you need in a high quality music system. Not what you’ve been told you need.

Reference components. They’re beautiful because they’re functional. And because what really matters is the sound.

Proof that superlative sound doesn’t need to come in an overwhelming package — the Reference: E5OFETR. The world’s first receiver with MOSFET output devices. THE under 0.01% at most listening levels, yet priced under $500.

The Sound Answer.

© 1978 CBS Inc.
gages the drive capstan, and it can be used to set the machine up for unattended recording or playback with the aid of an external clock timer. Like other Aiwa recorders, the AD-6800 has a tape-motion indicator whose sections glow in sequence when the tape is in motion. The index counter has a memory-rewind system that stops the tape in rewind when the counter reaches 000.

The three-position wax lever switch is used in conjunction with a similar wax switch, which is marked to show either a 70- or 120-microsecond equalization time constant. Normally, the two switches are set to the appropriate corresponding positions for one of the three basic tapes. A third lever switch turns on the Dolby system, and in its third position it sets a low-pass MPX filter to prevent the FM-tuner pilot-carrier leakage from interfering with the system's operation. The fourth lever switch selects either LINE or MIC/DIN inputs (they cannot be mixed) or the test mode. A DIN connector (covered) is on the front panel next to this switch.

There is one more characteristic of the AD-6800 that is distinctively different, freshing, in the midst of so much "sameness" and "sameness" features to good use and checked the frequency response with a large number of different tapes. All gave very good results, which was in itself a novel experience for us. We selected three of those that gave the flattest overall response and the same recording level on the AD-6800's Dolby-calibration marks. The 120-microsecond playback equalization was measured with a TDK AC-337 test tape, and it was within ±1 dB over the tape's range of 40 to 15,500 Hz. The 70-microsecond response was measured with a Teac 116SF test tape, and it was within ±1 dB over the tape's range of 40 to 10,000 Hz. The record-playback curves were remarkably flat. For example, the Maxell UD-XL I response was within ±0.5 dB from 40 to 15,500 Hz and down less than 0.5 dB at 26 and 16,000 Hz. Sony CrO₂ was within ±1.5 dB from 23 to 19,500 Hz, and Sony FeCr was within ±1.5 dB from 24 to 18,500 Hz. The widest overall response (albeit not necessarily the flattest) was measured with BASF Chromdioxid Super (now Professional II) and TDK SA, both of which were within ±1.5 dB from 23 to 20,000 Hz.

These frequency-response measurements were made at a -20 dB recording level. The response curve at 0 dB intersects the -20 dB curve between 12,500 and 16,000 Hz, decreasing by 9 dB through the microphone input. The quietest recording levels were, respectively, 64, 55.5, and 60.8 dB. The noise increased by 9 dB through the microphone inputs at maximum gain. The Dolby circuits tracked very closely, so that the overall frequency response changed by no more than 1 dB at frequencies up to 14,000 Hz when Dolby was used (at levels of -20 and -40 dB). A standard Dolby-level tape (200 nV/m) gave meter readings within 1 dB of the AD-6800's Dolby-calibration marks.

The Dolby system extends the playback frequency response by 120 psEc. In conjunction with an external microphone, this yields a usable frequency range of 40 to 12,500 Hz. The 70-microsecond equalization was based on Aiwa's indication that their own brand of cassette tapes is manufactured for Sony tape, the Mellin-Manticore distortion in the playback was a very low -50 dB (0.3 per cent) for frequencies up to 400 Hz, increasing to a maximum of -31 dB (2.2 per cent) at 3,000 Hz. With FeCr tape, the curve shape was similar, but the distortion levels were higher: -40 dB (1 per cent) at 400 Hz and -27 dB (4.5 per cent) at 3,000 Hz. The highest distortion was measured with CrO₂ tape, but it was nearly constant with frequency from -28 to -25 dB (4 to 5.6 per cent). Of course, these distortion readings would be lower at lower recording levels. Because the reference mark on the meters was at +3 dB.

The reference-distortion level of 3 per cent at 1,000 Hz was reached at a recording input of +7 dB with UD-XL I, -3 dB with CrO₂, and +2 dB with FeCr. The unweighted signal-to-noise ratios (S/N) referred to those levels were, respectively, 47, 35.5, and 39.5 dB. With IEC A weighting, these became 58.5, 49.5, and 54.5 dB. Finally, with CCIR/ARM weighting and using the Dolby system, they were 64, 55.5, and 60.8 dB. The noise increased by 9 dB through the microphone inputs at maximum gain. The Dolby circuits tracked very closely, so that the overall frequency response changed by no more than 1 dB at frequencies up to 14,000 Hz when Dolby was used (at levels of -20 and -40 dB). A standard Dolby-level tape (200 nV/m) gave meter readings within 1 dB of the AD-6800's Dolby-calibration marks.

The A-6800 is an expensive machine, its performance is consistent with its price, and its special features are not only genuinely useful, they are generally unobtainable in other machines at any price. It is refreshing, in the midst of so much "sameness" in competitive hi-fi products (albeit at a usually high level of performance), to find a cassette recorder that is distinctively different, and superior as well.

See this month's "Tape Talk," page 33, for Craig Stark's report on 3M's revolutionary new Metalone metal-particle tape and the cassette deck that is specifically designed to handle it.
An inside look at
Jensen's Total Energy Response.

You're looking at the heart of one of the most uniformly accurate sound reproducers made today. A Jensen Lifestyle Speaker.

Unlike many speakers that require special on-axis listening positions—or others that bounce the sound all over your room—Lifestyle is engineered to deliver a wide spectrum of musical information throughout the listening area. In proper perspective. With all the depth and imaging your source material is capable of. And at real-life volume levels. That's what Total Energy Response is all about.

In fact, for perfectly integrated speaker systems and total quality control, we make every element that goes into the manufacture of our Lifestyle speakers. From the heavy duty magnets to our handwound, high power voice coils. Even the computer-designed crossover network. And of course, all of our precision woofers, midrange drivers and 170° dispersion dome tweeters.

But please, give a critical listen to these speakers in person. We think you'll agree, a notably superior design concept has resulted in audibly superior sound reproduction.

CIRCLE NO. 27 ON READER SERVICE CARD
Power. With distortion so low it's more than inaudible, it's barely measurable. That isn't news. It's Technics.

<table>
<thead>
<tr>
<th>Stereos Receivers</th>
<th>Min RMS Power Per Channel at 6 Ohms</th>
<th>Total Harmonic Distortion at Rated Power (Max)</th>
<th>FM Sensitivity (Stereo/50dB)</th>
<th>Pictos/S/N (1mV-FM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA-1000</td>
<td>330 watts</td>
<td>0.03%</td>
<td>36.2dBI</td>
<td>92dB</td>
</tr>
<tr>
<td>SA-900</td>
<td>125 watts</td>
<td>0.04%</td>
<td>36.2dBI</td>
<td>96dB</td>
</tr>
<tr>
<td>SA-700</td>
<td>100 watts</td>
<td>0.04%</td>
<td>36.2dBI</td>
<td>96dB</td>
</tr>
<tr>
<td>SA-500</td>
<td>75 watts</td>
<td>0.04%</td>
<td>37.2dBI</td>
<td>96 dB</td>
</tr>
<tr>
<td>SA-660</td>
<td>55 watts</td>
<td>0.04%</td>
<td>37.2dBI</td>
<td>96 dB</td>
</tr>
</tbody>
</table>

Look at the chart. That's Technics, too. Surprisingly good performance that comes as no surprise.

Still, you expect the unexpected from Technics and with Acoustic Control that's just what you get. With the low-boost switch and the bass control, you can accentuate drums and bass instruments with a minimum of boominess. Or use the treble high-boost switch to bring out the brilliance in both vocals and instrumentals by boosting the frequencies starting at 2 kHz, all the way up to 30 kHz.

You can also decrease the bass response starting at 100 Hz, or attenuate high-frequency response, thereby suppressing hiss and other noise. And with the SA-100C shown below, there's a midrange control with a variable center frequency adjustment. So you can isolate any frequency between 250 Hz and 5 kHz. Then boost or attenuate it, according to your needs.

Still, you don't have to buy our most powerful receiver to get our most sophisticated circuitry. Because every Technics receiver has direct coupling, conservatively rated power supply capacitors, current mirror loading

Big power with little distortion from Technics isn't news. Acoustic Control is.
and single-packaged matched-pair dual transistors. They all add up to one thing: An amplifier that’s clean and stable even under the most demanding dynamic conditions.

All your records will love the phono equalizer section in every Technics receiver. Because they all boast super-quiet S/N ratios, an extremely wide frequency response and an overload-resistant phono pre-amp.

For outstanding performance on FM, even from an overcrowded band or a marginal signal, every Technics receiver has Phase Locked Loop IC’s, flat-group delay filters and a frequency response that’s both flat and wide. And with LED power level indicators, your eyes can see what your ears will hear. Because Technics separated each channel’s indicators into individual power levels—from as low as 0.3 watt to as high as 700 watts. And what’s more, at the flick of a range switch, the indicators will read up to 100 times the actual power generated. With far greater accuracy than conventional mechanical meters.

Technics new receivers. Big power with little distortion as well as outstanding performance isn’t news from Technics. Giving you more ways to control it, is.
**THE WHERE OF MUSIC**

Even forgetting about what sort of music it is, I dare say I am not alone in disliking music in elevators. Unlike many, though, I don't consider such usage of music to be a criminal abuse of an art form. I have a pretty open mind about where music can be played. Anyway, music is—like children—a lot tougher than most of us give it credit for, and it stands up successfully to many a hostile environment. It is the manhandling of music that I object to much more than where it is played.

I mention the matter largely because a letter I read recently reminded me of the screams of outrage I have heard over the years about people's ears being assaulted by music—99 per cent of it recorded music—everywhere. Well, hearing something when you really don't want to hear it is irritating, no doubt. But I am much more alarmed by the prospect of that irritation's practical opposite: hearing music only when one specially wills to hear it and, by extension, hearing it only in a specific place—a concert hall or an opera house. Music to me is a part of life, and that sort of compartmentalization of life bothers me.

Let me expand upon this a bit. There are a lot of people who listen to music only passively. It washes over them like some sort of warm bath, and either they feel a little better for the experience or they don't notice it at all. This grates a lot of musicians, composers (especially), and music lovers, who want people to listen actively, focusing their intelligence on the musical discourse. There is something to that, of course. Anyway, the passive listeners get it in the neck in print from just about everybody interested enough in the subject to want to write about it.

Now, there are a lot of other people, many of them musicians, who only listen to music actively. They bring their full intelligence to bear on whatever music they hear, and they are the ones who feel most cut up by unexpected encounters with music they did not choose at that moment to hear. I feel a certain sympathy for them, but, frankly, I am not among them.

The fact is, I like to listen to music actively—as when I'm in a concert hall—and I also like to hear it passively. I like, at times, to overhear it. I like, sometimes, to hear it fragmentarily or in juxtaposition. I like to hear palm-court music in palm courts. (I went to one the other week and became very irritated when the violinist, by playing classical sonatas, tried to con me into active listening when what I wanted was to overhear passively.) I like to hear dinner music at dinner. I like to hear movie music at the movies. And I like to hear all sorts of music at home on my stereo set, some when I am actively listening (and doing nothing else), some when I am following the score, some when I am reading the newspaper, some when I am writing a letter or even a review, and some when I am in the next room doing eleven other things. I can take music very seriously indeed, but I don't feel that it is injurious to me or to anybody else that I don't do so all the time.

In this, I am obviously a product of my age, the Age of Information Overload, the same age that has produced music in elevators. Perhaps I should feel ashamed of this, but somehow I don't. As a matter of fact, I think there has always been an information overload of music, just as I think that there have always been people who hear music only passively and others who only listen to it actively.

Lord, the complaints one can read about the hubbub in the streets of London in the eighteenth century! Or the sixteenth century, for that matter. You would think that all the fruit peddlers were in league to rob those of cultivated musical tastes of their sanity. And yet today the transcribed, half-forgotten memories of those street cries are as treasured as the madrigals that were sometimes made of them. Both the art and the writing of other ages testify to the fact that there was much music going on, in town and country, of the sort that didn't get written down for posterity and that could be met with at the most unexpected times and places. The sensitive and serious few, I suppose, covered their ears and complained to the local authorities and to whomever else would listen. The peasants, I expect, drank their beer and wallowed in the bath of what the late Michael Flanders once referred to as "jolly pleasing noise."

Many musicians, I think, are afraid that the current situation will lead to only passive hearing on the part of everybody, that all distinctions between "background music" (such as Muzak) and "listening music" will break down. I don't see much real probability there. People ultimately do what they want to do, and those who are interested in music will listen to it actively (at times) while those who are not really interested in it won't. The sheer quantity of it and the ubiquitousness of it, I think, will have little effect other than making us all long for a little silence at times.

Most of us don't get much silence these days, music or no. The city street and the subway are certainly not places for quiet contemplation or reading, and the sounds they offer are hardly attractive to the ear. Those music lovers who wander through one and the other lugging their blaring, thirty-pound radio/cassette status symbols therefore cannot be said to be damaging an otherwise pleasurable ambiance. No, it is not the fact that they play music in the subways that is damnable, but what music they play (I would hate it anywhere) and at what loudness level (it only adds to the noise). Even there, it is not music itself that is being abused, but only my nerves. A Mozart divertimento at a moderate volume would probably find me smiling in appreciation.

So, even as I find myself growing more conservative in other areas, I retain a policy of liberalism in regard to the where of music. The variety of pleasures is, to me, worth the occasional annoyance. Mind you, I still do not condone music in elevators, but most elevator riders are mercifully brief. And, anyway, I can always put my umbrella point through the speaker cone when there's nobody around to see me.
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ONE EXAMPLE,
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More comfort. The comfort of a car comes standard in every SR-5 Sport Truck. Plush carpeting, bucket seats, AM/FM radio and tinted glass all add up to more comfort than you expect of a truck.

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More fuel economy. The Toyota SR-5 Sport Trucks come standard with 5-speed overdrive transmission to deliver more miles per gallon than you probably thought possible of a truck. In 1978 EPA tests the SR-5 Sport Trucks were rated at 31 mpg highway, 23 mpg city. These 1978 EPA ratings are estimates. Your mileage will vary depending on your driving habits and your truck's condition and equipment. California ratings will be lower.

More confidence. That's what we build every day. For more people discover why we can say, "If you can find a better built truck than a Toyota...buy it." And more and more people are buying Toyotas, finding out that Toyotas are built better than they thought possible.

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Feel refreshing coolness in a low 'tar' cigarette.

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Now you can hear the music you’re missing.

You can’t hear everything that’s in the grooves unless you have an extremely sensitive cartridge. A cartridge that can pick up all the subtle harmonics you are probably now missing. A cartridge like the ZLM by ADC.

The ZLM has the unique ALIPTIC™ stylus. Which combines better stereo reproduction with less wear to your records.

What’s more, the frequency response is always ruler flat ±1dB to 20kHz and ±1½dB to 26kHz. It tracks at 1/2 to 1V4 grams.

So listen to the ZLM cartridge. It’s like listening to a whole new record collection.

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ONE of the liveliest of the many ghosts Broadway has conjured up for us recently (Elvis and the Beatles among them) is the rogue spirit of Fats Waller. Conceived with affection by Richard Maltby Jr., the award-winning musical ‘Ain’t Misbehavin’ is a series of lightly dramatized songs associated with Waller, the great stride pianist of the Twenties and Thirties.

The show features five performers supported by an on-stage orchestra. RCA’s two-disc, original-cast album has just now been released, and, judging from what I heard of it during a recording session back in June, it’s a winner. The album contains all of ‘Ain’t Misbehavin’’s thirty songs, and except for some minor resequencing, it mirrors the show faithfully. The tremendous energy and sass of the cast—Nell Carter, Ken Page (whose dancing eyebrows and “yas, yas, yaaas” make Fats live again), Armelia McQueen, Andre de Shields, and Charlaine Woodard—have been well captured by producer Tom Shepard.

It was not an easy show to record, but Shepard succeeded by coaxing and suggesting where others might have ranted and demanded. At one point in the session I watched as he and Maltby firmly mother-henned the three women into producing just the right inflection on the phrase “at the Waldorf!” for ‘Lounging at the Waldorf,’ one of the album’s happier irreverencies.

“This cast is unlike others in my experience,” Shepard said. “Usually, when I ask a performer to repeat something there’s an eventual improvement. This group seems to get restless with each repetition.” That’s not really surprising, considering the circumstances. The cast was doing eight shows a week, each a two-hour marathon of nonstop singing and dancing. The material to be taped was the equivalent of two full-length musicals, so to avoid winding up with five limp, exhausted bodies on the studio floor, the usual schedule of three sessions in one day for an original-cast recording was expanded into eight tapings spread over three days.

‘Ain’t Misbehavin’ was director Maltby’s baby, although Murray Horwitz shared in the initial idea. Originally produced as a cabaret-size entertainment at the Manhattan Theater Club in New York, the show moved to Broadway late May, picking up the orchestra led by Luther Henderson, whose stride piano does Waller proud (in the studio, when Shepard asked, “Could you make those eight bars a little dirtier, Luther?” the results were positively filthy). ‘Ain’t Misbehavin’ won three Tony Awards (Year’s Best Musical, Best Director for Maltby, Best Featured Actress for Nell Carter) and Best Musical of the Year from the Drama Critics Circle.

“The show is accurate,” Maltby said at the second set of recording sessions. “There is no detail that is not accurate to the period, yet it is also contemporary, so it conjures up the period better than mere authenticity would. The musical arrangements are totally reworked. Nothing is done as Fats Waller actually did it. For instance, I added lyrics to his piano music. To me, his music is the source of the show. The spoken comedy is in there too, but what really struck me was the wit of the music, its incredible energy and vitality.”

In addition to his genius at the keyboard, Waller’s mugging and his unpredictable, hilarious asides helped to make him popular during a very brief career. He was famous for ad lib comments, such as his “Your pedal extremities really are obnoxious. One never knows, do one?” on a 1939 recording of ‘Your Feet’s Too Big,’ and for alterations of lyrics, such as “If you break my heart/I’ll break your

FATS WALLER: very, very classy
jaw and then I'll die” on Billy Mayhew’s It’s a Sin to Tell a Lie.

During Waller’s lifetime his engaging clowning around detracted somewhat from his reputation as an artist, and for years after his death in 1943 some jazz critics still would not take him seriously. Maltby says that some blacks rejected him because their struggle for respect made them nervous about their clowns.

“But not any more. What they see now,” he explains, “is the tremendous life-force behind his work. Humor was his way, curiously, of preserving dignity. He was very, very classy at all times.”

The classy gentleman’s renaissance has begun, and his legend now looms properly large. Last year not one, but two biographies appeared almost simultaneously: Fats Waller (Schirmer Books) by his son Maurice and Fats Waller, His Life and Times (Contemporary Books) by Stereo Review critic Joel Vance. The success of Ain’t Misbehavin’ and RCA’s recording of the show are certain to step up demand for the label’s previously reissued Bluebird reissues, and the tribute albums, vault scrapings, and bootlegs will probably follow.

Unlike many jazz musicians of his time, Thomas “Fats” Waller was a formally trained pianist. He started with hymns on the harmonium at age five and was later exposed to jazz through youthful explorations into Harlem night life. In 1920, when he was sixteen, he first met James P. Johnson, who taught him the stride style that was to make him famous. Johnson, Willie “The Lion” Smith, and Waller were the acknowledged kings of the style through the Twenties and Thirties. Stride is a piano style in which the left hand is rhythmically supportive, but not confined to chords, while the right, taking its cue from blues or ragtime, can be as free as the practicing jazzman’s imagination and ability permit.

Waller’s imagination and ability were prodigious, as were his appetites for food and drink (they didn’t call him Fats for nothing—he weighed just under three hundred pounds for most of his adult life). Fats was nonetheless the darling of his day. He was a beloved radio personality, a comic film actor, a night-club favorite, a successful composer, and, backed by his band the Rhythm, a jazz innovator of impressive stature. His accomplishments with the organ as a jazz instrument have never been approached. Toward the end of his life his compositions took a classical turn. In 1942 he became the first jazz musician to give a solo recital at Carnegie Hall.

His recorded legacy is extensive—about five hundred records in twenty years. Although estimated to be about three hundred and sixty, the number of his compositions can’t be confirmed. He was a prolific songwriter, but thoughtlessly sold the rights to his early songs for piddling sums. Ain’t Misbehavin’ and Honeysuckle Rose are perhaps his two best-known compositions, but his treatment of some songs by other composers, such as Ada Benson and Fred Fisher’s Your Feet’s Too Big, made them his forever.

If the combination of the recent biographies, the hit show Ain’t Misbehavin’, its vital original-cast album, and the reissue of Waller’s own recordings doesn’t produce a mighty swelling of Wallermania, I will be very much surprised. But then again, one never knows, do one?
Irving Kolodin ventures a few questions about what is in store for us all when a new conductor steps up to the podium of the New York Philharmonic Orchestra.

If a musician is talented and lucky, he may eventually get the job he deserves in the commercial firmament of his profession and be happy there ever after. If he is talented and unlucky, he may eventually get the same job, though not deserving it, and be so unhappy ever after that he must wonder why he took it in the first place. Zubin Mehta, born in Bombay, India, in 1936, is so sensitively situated that, on the eve of becoming the music director of the New York Philharmonic Orchestra, he must sometimes awaken of a night and ask himself if he is in the first or the second of those categories.

The nature of the job is such that, in a period of seventy-odd years, it has been held by only a handful of men, beginning with Gustav Mahler (the most recent three have been Dimitri Mitropoulos, Leonard Bernstein, and Pierre Boulez). Now, after a twenty-year period in which the Philharmonic has been supervised by a conductor who aspired to be a composer (Bernstein) and a composer who aspired to be a conductor (Boulez), it becomes the artistic concern of a conductor who aspires to be nothing more than the best conductor he can be. That is certainly the kind of singlemindedness for which the Philharmonic personnel, in particular, should be grateful.

The legal language of the contract specifies that the title of Music Director becomes Mehta's at the beginning of the 1978-1979 season, which in-house specialists interpret as starting with his undertaking a share of the Central Park concert series in August of this year. I visited with him at an important point along the way to that official taking of office—after the concert that marked his first exposure to the revised and amended Avery Fisher Hall which will shortly become his musical home. To a question about how he found things, Mehta responded: “For us on the stage it is comfortable, much better than before. But it favors the brass. At yesterday’s rehearsal I kept asking them to play less loud. They said they were playing only half the usual, but it was still too loud. The woodwinds have the best place of all: they’re right in the middle.”

At the previous evening’s concert I had noticed—something one could hardly fail to notice—that Orin O’Brien, the Philharmonic’s excellent female double-bass player, was at the principal’s desk. “Is this something new?” I asked. “No,” said Mehta, “they rotate—and anyway, the leader was out sick.” As an afterthought, he added, “Interesting you should notice. In Los Angeles nobody would.”
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Expanding on the point, he explained the present system and how it works. “The first five desks in the strings are set. Other players change around. I don’t like it as a practice, but some places it’s worse. In Berlin, aside from the concertmaster, whoever comes in first sits where he wants to. Not in my orchestra. There are such things as divisi” (passages in which the composer writes different lines for each of the two players at a desk). “And,” he went on, “it’s bad for touring, where you may pick up a piece you played earlier in the season and find that the players for each line are not the ones you rehearsed with.” In general, the present practice of switching about in the ranks doesn’t have an enthuasiast in Mehta; in this respect (as in many others pertaining to his craft), he is a traditionalist. He takes repeats almost every place they are indicated by the composer. He abides by the scoring as it is written. He tends toward chronology as a determining factor in program making.

This, of course, is part of the paradox about Mehta, who is widely associated with flamboyance, with the kind of behavior that made him a “sweeper” when that word was in fashion, who is identified with such wily-eyed projects as combining two orchestras (both, in the term Mehta would use, “his”—the Los Angeles and Israel Philharmonics) in a performance of Berlioz’s Symphonie Fantastique, with ventures into rock, if not roll, and with that flossy TV horror last New Year’s Eve from London’s Covent Garden, in which Johann Strauss’ Die Fledermaus was batted about in German and English by a male Orlovsky singing falseto. Under it all, though, is a broad base of traditionalism derived from his Persian extraction and Zoroastrian beliefs) father, Mehli Mehta, a fine violinist and conductor of the Bombay Symphony until he left to follow his son to Southern California. Zubin Mehta owes his training as a violinist to his father, who also gave his son opportunities to conduct the Bombay orchestra as a teenager. When Zubin’s career aspirations began to take shape, Mehli encouraged him to seek out the soundest kind of indoctrination under Hans Swarowsky in Vienna.

These schizoid tendencies in Mehta may not be of clinical proportions, but are they amenable to alteration and consolidation in the changed circum-

stances of New York and maturity (Mehta is now in his forties)? Or are they so deeply rooted that they will continue to divide him and preclude the complete fulfillment of his talent? More than a little of his past publicity has been adverse, and, what is worse, much of it has been out of his own

Zubin Mehta began winning prizes as early as 1958 (Liverpool International Conductor’s Competition) and almost immediately found a career as a replacement for ailing colleagues. Things began to look particularly good when he took over for Igor Markevitch in Montreal (in 1960) and for Fritz Reiner in Los Angeles (in 1962). In each instance he became music director only months afterwards. He inherited the Los Angeles Philharmonic through the “kindness” of Georg Solti, who resigned a position he really didn’t want any longer—even before he conducted a single concert as music director—in “protest” against Mehta’s engagement as his assistant.

Among the dozen or so programs I have heard Mehta conduct here and there in the last decade and a half, one stands out as combining the best of his background with what might be described as most of his foreground. It was a three-part concert with the Philadelphia Orchestra in Lincoln Center. The evening began with Beethoven’s Leonore Overture No. 3, followed by the Mendelssohn Octet in E-flat with a reduced body of strings (but more than an octet), and ended with Strauss’ Also Sprach Zarathustra. Recalling the effect of this repertoire grouping, I said to him (in the conversation previously mentioned): “What I remember most is how well the strings played in Zarathustra, after the Octet—like every man was a soloist.”

Mehta responded slyly: “You must remember that I have been almost all my public life a music director. Very little guest conducting. As a result I always think like a music director. Some time ago I did an Otello at Covent Garden. After one rehearsal I could tell you what every man was doing, who was good, who was not so good, who had to be reminded to do better. Later I checked out my impressions with the concertmaster. He agreed with me, almost to a man. The same way with the Philadelphia Orchestra. Letting them play something they really wanted to play, like the Octet, made them go all out to show what they could do in Strauss.”

A good ploy. It recalled Joseph Szigeti’s observation in his autobiographical reminiscences (With Strings Attached) that during his long career as a soloist, whenever he played a concerto in the first half of the program, the orchestral strings almost always played with greater verve in the second half of the concert. They outdied themselves to match the standard of the soloist.

How much of a conductor’s mind should be devoted to showing, through such ploys, who is master in the lion’s

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den, and how much to producing the best music of which he is capable strikes me as a not yet resolved dilemma for Mehta. I have to think that he fancies himself as a whip snapper and chair wielder in the orchestral ring, determined to be in control of the situation whatever the circumstances. And one might conclude from that that his principal study is the orchestra rather than the music.

A run-through of a respectable cross section of his growing library of recordings turns up a number of interesting, and sometimes conflicting, inclinations and impulses. Depending on where you start and how you proceed, Mehta is either a model of musical rectitude or a corsair on the high seas, heading into the waves and bucking current notions of how well-known works should be performed.

At the outset, it is clear that Mehta is in the forefront of today's small coterie of dedicated Straussians, taking in not only the early tone poems—which everybody conducts—and such middle-period works as Don Quixote (recorded on London CS 6849), Ein Heldenleben (London CS 6608), and the Symphonia Domestica (London CS 6663), but also the later Alpine Symphony (London CS 6981). By far the best of them, and the best of all the recorded performances by Mehta I have ever heard, is Also Sprach Zarathustra (London CS 6609). I wouldn't venture such terms as "noble" or "transcendental," but the performance is forthright and on target all the way. In comparison with his immediate predecessors at the Philharmonic, whose temporal center of musical sympathy could, in the case of Leonard Bernstein, be assessed as about 1937, or, in the case of Pierre Boulez, as about 1948, Mehta's strikes me as about 1896. That was not only the year of Zarathustra but also the year of Mahler's Symphony No. 3—a combination that might form a tidy program, given an inexhaustible orchestra and an insatiable audience.

My memory of a Mahler Symphony No. 3 by Mehta runs back to March 1977 in Carnegie Hall. It was a performance of much beautiful playing by the Los Angeles Philharmonic if not so much beauty of feeling from the conductor. In other words, it was—as many of Mehta's performances tend to be—a physical thing rather than a spiritual one. His recording of the Mahler Symphony No. 5 (London CSA 2248) strikes me as decidedly more successful in its projection of a musical essence. However, the adagio from the Symphony No. 10 is already a little far into the future (1910) for Mehta's sympathies. I hear the performance as superficial, lacking the sense of involvement that captures listeners.

Setting out such details about Mehta and his "center of musical sympathy" is in no way to suggest that he is any different from any other conductor who ever lived. Whether his name be about which rings of sympathy developed, like those that mark the annual growth of trees.

This might in itself be the subject for an essay, of which more than a few paragraphs could be devoted to the symptoms that betray a lack of sympathy on the part of the interpreter. Tos-
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"... either a model of musical rectitude or a corsair on the high seas."

work because. . . . The sentence was unfinished, but eloquent. Boulez, in another example, could never comprehend the function of the ritard in German music (it becomes tempo fluctuations in Mahler), and Bernstein, though much more adroit, much more extensive in his sympathies, inclines to over-emphasize, in composers such as Tchaikovsky and Mahler, what cries out for restraint, not self-indulgence.

Mehta's worst failings are readily identifiable. In such a work as Elgar's Enigma Variations (London CS 6816) he tends to seek out and emphasize secondary voices, perhaps because the meaning of the primary voices leaves him unsatisfied, In the Seventh Symphony of Beethoven (London CS 6870), everything is up-beat and press- ing forward because he cannot content himself with the spaciousness and grandeur of the music as the composer conceived it. And he sometimes makes a swagger and a show of knowing the score "cold"—as in Ravel's La Valse on London CS 6698 (to know the score perfectly is, as a matter of course, a worthy objective for any conductor, but this is no guarantee that he will then know the music equally well). The productive approach to adding new musical terrain to one's area of specialization is not through domination but through comprehension, not by imposing, on the strange and provocative, the musical culture to which one was born, but through understanding each composer's individuality and learning how to live with it. All the great conductors of the past named above came to terms with the music of which they were masters, and that is why they also became leaders of the musical communities in which they functioned.

To be the leader of such a community means, in the first place, that a conductor has to be a leader of the smaller community in which he lives and works: the orchestra itself. This can be done by pressure, by intimidation, or by camaraderie, being "one of the boys." The best and the most lasting way is for a conductor to command respect through knowledge of his craft. This may lead to admiration, but real affection is far, far down the road.

When the question was put to Mehta about the Philharmonic's famed ability to play as well as any orchestra in the world when it wants to (once capsulized by a member who said of a disconsolate conductor, "We gave him a Bruno Walter performance; what more does he want?") he observed: "They're lambs compared to the Israelis. In Tel Aviv they're always fighting among themselves, giving me problems with rivalries and personal preferences. But they play concerts like angels." When I pushed the question of orchestral response, he commented: "It's like that in a lot of places. You should hear the Vienna Philharmonic with someone it doesn't like!" Well, I have heard the late George Szell with the Cleveland Orchestra (which didn't like him), and the results were often fabulous.

No doubt there is some connection between an orchestra's liking a conductor and their really producing for him, but it is, to say the least, inconsistent. Members of the Philharmonic of the Fifties liked Dimitri Mitropoulos almost inordinately because he was a "father" to them, a man who was always sympathetic to their problems even if he could not invariably resolve them. Despite this, they often gave him sloppy performances, which led to his replacement by Bernstein. Bernstein was "Lenny" to many members of the Philharmonic of the Sixties, of whom one once said to me: "We love that guy. Look at all the extra work (recordings, TV, etc.) he gets us." And they rarely let him down. When Boulez first came to the Philharmonic, the comment was, "What a fantastic ear!" But after a while, and after some Ventures into repertoire of which he was less than master, positive feelings waned, and when Erich Leinsdorf came in as a guest conductor, he brought forth the reaction, "Now, there's a real pro."

Actually, Mehta could be described as the first "real pro" music director the Philharmonic has had in a decade. But the question is, of course, is that enough? Is an orchestra capable of changing its spots, or will it, leopards-like, inherit the character and disposition of its forebears, with whom, in many key instances, the present first-desk players were reared? Or, since we are talking in animal analogies, is the situation more akin to the lion's den, a place not exactly hospitable to outsiders? Mehta's disposition to be a gentleman has already been noted. Will he pursue it on a "first among equals" basis (the prescription of many famous and successful conductors) or more in the spirit of "my orchestra"?

Which aspect of Mehta will prevail? The one capable of a splendid performance of Zarathustra (among other things) or the head engineer of the Cornball Express, highballing the Los Angeles Philharmonic down the line to deliver, on time, a couple of John Williams soundtracks for Star Wars and Close Encounters of the Third Kind? (This, believe it or not, is identified in the London catalog as "ZM 1001," suggesting the possibility that there may be more "ZM" records of the kind to follow.)

Is the conductor both the Philharmonic and its audiences will have to live with into the 1980's (at least) the one of whom Isaac Stern said, when I asked him several years ago if a conductor really makes a difference in the performance of a concerto, "Yes, he can—with Danny [Barenboim], now and then, or with Zubin when he is really on." Or is he the one who informally signaled his advent to Philharmonic leadership by programming one of his predecessor's specialties? (Unfortunately, Stravinsky's Sacre was the wrong work to choose for this piece of bravado, and it is now perpetuated for posterity [Columbia XM 34557] in one of the weaker performances of the twenty-five or so presently available.)

The Philharmonic administration has had its share of experience with difficult conductors (some might say, "Which one isn't?") and is doubtless prepared to humor Mehta—up to a point. In the cases of Bernstein and Boulez at least, each, when the time came, had other occupations to turn to: the conductor-composer to guest conducting and composing; the composer-conductor to, among other things, his musical research center in Paris. Mehta might perhaps bear in mind an observation made to me by Mitropoulos when rumors of his replacement began to circulate: "I feel like I'm on the edge of a cliff. It's a long way from the top to the bottom." Yes—the same distance as it is from bottom to top, and quite enough to keep a man awake at night.
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JOHN McVEIGH TELLS YOU JUST ABOUT EVERYTHING YOU'LL EVER NEED TO KNOW ABOUT ANTENNAS

Are you thinking of trading up to a better FM receiver or tuner? Would you like to get a higher level of FM performance from your present one? If your answer to either question is yes, you should put some thought into the matter of FM antennas. No matter how sophisticated your tuner or tuner section, it will not live up to its full potential unless it is fed by a properly chosen and installed antenna. The cost of a suitable antenna system is usually a fraction of the average audiophile's investment in his tuner, yet this small expenditure can provide improved signal-to-noise and capture ratios, greater dynamic range, and immunity to multipath interference, as well as lower distortion and a larger selection of listenable stations.

If you own a top-of-the-line tuner, a good antenna will allow you to obtain all the performance such a component offers. On the other hand, if you own a middle- or low-cost tuner, you might find that the right antenna will so dramatically improve the quality of its reception that you'll hesitate to trade up. How can you secure all these wonderful benefits for your sound system? Read on and see.

Why an Antenna?

Simply described, an antenna is an electrical conductor or group of conductors which extracts energy from passing radio waves and passes it on—via a transmission line—to a tuner's input terminals. The tuner amplifies these flea-power radio-frequency signals and demodulates them (extracts the audio for subsequent amplification).

Today's FM tuners (or tuner sections) are quite sensitive, providing a listenable audio output from very low input levels. But just how "listenable" a tuner's output is with respect to noise and distortion depends, to a great extent, on how much input signal it has to work with. (A glance at the quieting and distortion curves in any Hirsch-Houck lab test of an FM tuner illustrates the point.) If you live in a high-signal-strength area, a relatively simple antenna will provide adequate signal levels. You might, however, need a more elaborate directional antenna to reduce the effects of multipath. And if you live in a weak-signal area, you might need help in the signal-strength department.

In situations between these two extremes there are many factors to be considered. Each receiving location is unique, with its own special characteristics (including those of the tuner employed) that determine which combination of antenna type, physical mounting, and auxiliary components (transmission line, possibly an antenna preamp, etc.) will be most effective.

The Basic Antenna

The half-wave dipole can rightly be considered the fundamental antenna because most other types are derived from it. As its name implies, the conventional dipole comprises two conductors, each a quarter-wavelength at the frequency of interest. In free space, the dipole has a feedpoint impedance of 72 ohms at its resonance frequency (that is, at the frequency at which the dipole is a half-wavelength long). For example, a dipole 5.3 feet long resonates at 88 MHz (megahertz), the lower end of the FM broadcast band. A dipole 4.8 feet long resonates at 98 MHz, the center of the band, and one that is 4.3 feet long is tuned to 108 MHz, the top of the FM band.

Any dipole has a certain bandwidth—centered at its resonance frequency—over which it functions most efficiently. As it is operated at frequencies farther and farther away from resonance, it not only becomes less and less efficient, but a problem similar to multipath (see below) may occur.

However, there are ways to broaden the dipole's response. One is to use a folded dipole such as shown in Figure 1. Here, a total of one wavelength of wire is used to construct the antenna. This dipole has increased surface area and therefore greater bandwidth. It also has a feedpoint impedance of about 300 ohms, offering a direct match to 300-ohm twinlead transmission line, and is widely used for FM reception.

Another means of broadening the dipole's frequency response is to increase the surface area of the conductors. It is for that reason, aside from structural strength, that metallic tubing is usually used in the construction of outdoor FM and TV antennas.

The dipole, be it conventional or folded, displays two fundamental antenna characteristics—directivity and gain—that are intimately related. Directivity refers to the fact that an antenna is more sensitive to signals from certain directions than from others. The characteristic response of a half-wave dipole is shown in Figure 2. Viewed in three dimensions, the pattern would be doughnut-
shaped for both the single-wire and folded dipoles. It is obvious that the dipole is most sensitive to signals striking it broadside, and least sensitive to signals striking it on edge. It must therefore be oriented to favor those directions the signals you want to listen to are coming from. If mounted at least 5 feet (a half-wavelength at FM frequencies) above ground or any structure containing appreciable amounts of metal, a dipole’s response becomes similar to the pattern of Figure 2.

This directivity can be a nuisance if you want to receive signals from several different directions, but more often it is an effective weapon in the fight against multipath distortion. This phenomenon, called “multipath” for short, results when two or more signals arrive at the antenna from the same transmitter (see Figure 3). One portion of the signal radiated by the transmitting antenna travels directly to the receiving antenna; another portion strikes a large building which reflects it toward the receiving antenna. And a third portion may be reflected toward the receiving antenna from another direction. Each signal follows a different path and takes a different amount of time to make the trip. Although this difference is only a matter of microseconds, it causes the signals to be out of phase with each other at the receiving antenna. When the signals combine randomly, they produce fading, “flutter,” or distortion in the signal. If a tuner has good AM suppression and a good (low) capture ratio, it will resist the effects of multipath. However, the fading produced by multipath is often too much for the tuner to handle. That’s when antenna directivity becomes important.

A dipole can be physically oriented to favor the direct signal and reject the reflections. But more directivity is needed in severe multipath situations, and a more complex antenna is required to achieve it.

Gain, the other basic characteristic of the dipole, is a measure of how much signal a particular antenna will deliver compared to the output of a reference antenna. Unfortunately, some manufacturers publish gain figures based on a theoretical “isotropic” (dBi) reference level, and others rate their products’ gains using a half-wave dipole (dBi) reference. The dBi gain figure, if not the performance, will always be 2.1 dB “better” when equivalent antennas are being compared.

Omnidirectional Antennas

If you want to listen to stations at various points on the compass, are not bothered with serious multipath problems, and don’t need a lot of gain, an omnidirectional antenna is suitable. Two types are commonly used in FM applications—the “S” dipole and the “turnstile” antenna. The “S” dipole is a folded dipole composed of metallic tubing bent in the shape of the letter S (see Figure 1). This antenna has a polar response in the horizontal plane that is fairly circular or omnidirectional. However, the “S” dipole, like a straight one, is directional in the vertical plane. Its gain is about 1 dB referenced to a “straight” dipole, or 1.1 dB over isotropic.

The turnstile antenna consists of two folded dipoles at right angles to each other. The turnstile and its horizontal polar response, shown in Figure 5, is roughly omnidirectional. At right angles to each dipole the turnstile has a 0-dB gain referenced to a single dipole. At intermediate angles, the polar responses of both dipoles comprising the turnstile combine to provide more received signal than either one alone would provide, but not as much as would be obtained from a single dipole oriented for optimum reception.

Several manufacturers offer antennas formed by stacking one turnstile on top of another. The two, spaced a few feet from each other, are connected together by a phasing harness to provide about 3 dB of gain over a dipole. Although these stacked turnstiles remain omnidirectional in the horizontal plane, they do discriminate in the vertical plane and may afford some relief from multipath.

Directional Antennas

For really substantial amounts of gain and/or multipath suppression, a highly directional antenna must be used. Two types are commonly employed for FM reception—the yagi beam and the log periodic. Let’s examine each in turn.

The yagi beam is composed of a dipole “driven” element and one or more “parasitic” elements coupled by electromagnetic fields. If a parasitic element slightly longer than the driven dipole is placed behind it, the element acts as a reflector, reinforcing the dipole’s response to signals striking the dipole first. If a shorter parasitic element is placed in front of the dipole, it acts as a director, further focusing the dipole on signal sources in its front.

A three-element yagi and its horizontal polar pattern are shown in Figure 6. This antenna has about 7 dB of gain over a half-wave dipole and is much more directional. Adding more elements will enhance the antenna’s directivity and increase its gain. Note that the polar pattern of the yagi beam contains one major lobe and several minor ones. As more elements are added, the major lobe gets larger at the expense of the minor lobes.

Besides a yagi’s gain, there are several other important specifications. Two are apparent from an examination of the antenna’s polar pattern. The first is the front-to-back ratio, which describes in decibels how well the beam can discriminate between equal-strength signals coming from its front and back. Typical figures range from 10 to 30 dB. The higher the number, the more directional the antenna.

The second specification, the half-power beamwidth, is measured in degrees. It describes the width of the major lobe and is determined by locating the points where the antenna’s response has fallen 3 dB (the “X” points in Figure 6). Lines are drawn from these points to the origin of the graph, and the angle thus formed is measured. The half-power beamwidths of typical yagis designed...
for FM service range from 50 to 70 degrees. This half-power or \(-3\)-dB beamwidth is analogous to the field of view of a telescope or binoculars. To obtain a higher degree of magnification, the field of view must usually be reduced. Accordingly, to obtain more gain, an antenna's "area of focus" or half-power beamwidth must be reduced.

The practical consequences of these three specifications are apparent. If the antenna has high front-to-back and front-to-side ratios, it will greatly favor signals from stations situated in the direction of its major lobe. This makes the yagi very effective against multipath.

An antenna with a narrow \(-3\)-dB beamwidth will have to be accurately aimed for best results. If all the stations you want to listen to have transmitting antennas at one common site, the antenna can be oriented so that the major lobe points towards that site. However, if the stations you want to receive have scattered broadcast-antenna locations, you'll need to aim the yagi in different directions at different times. This is best accomplished by using an antenna rotator on the yagi's supporting mast (more on this later).

The yagi might appear to be exceptionally well suited for FM broadcast reception, but it does have some drawbacks. The most serious is that it is inherently a relatively narrow-band device. Of course, some of its elements can be folded to broaden its frequency coverage. There is much more than this involved, however, and special design techniques must be employed to produce a yagi that offers a good performance across the entire FM band. A directional beam antenna that enjoys many of the advantages of the yagi but does not have bandwidth limitations is the log-periodic dipole array, or simply the log periodic. As shown in Figure 7, the log periodic is made up, in effect, of a series of dipoles. At the upper end of the FM band those dipoles that serve as "driven" (active) elements for the lower frequencies become reflectors and some of the directors behave like driven elements. At the lower end of the FM band the roles change, and what were driven elements become directors, what were reflectors become driven elements. This smooth transition is a basic characteristic of the log periodic and accounts for its extremely wide bandwidth. In fact, log-periodic arrays can function over as much as a 4:1 frequency range (say, from 50 to 200 MHz) with relatively constant gain, feed-point impedance, front-to-back ratio, \(-3\)-dB beamwidth, etc. A well-designed log periodic can exhibit \(8\) dB or more of gain over a dipole and a front-to-back ratio comparable to that of a yagi. The log periodic is usually connected directly to 300-ohm twinlead.

The directionality that is a boon in some situations can be a liability in others, requiring the use of a rotator. Also, yagis and log periodics designed for high gain and directivity tend to be physically large. The boom (the horizontal beam that supports the active elements) can approach \(12\) feet in length and the elements \(6\) feet. Besides being unwieldy, large directional arrays require secure mounts and heavy-duty rotators, and they are vulnerable to damage by gusty winds because of their large surface areas.

How large an antenna you need depends on many factors. And, as is the case with other audio components, the specifications provided by suppliers or electronics catalogs, can usually be obtained by writing to the manufacturer or consulting his local distributors. (A list of companies manufacturing and/or retailing FM antennas and accessories appears in the box at the end of this article.)

Television Antennas

Because the FM band lies between TV channels 6 and 7, it might be supposed that a wideband TV antenna, such as a log periodic, could be used for FM as well. In some cases this is true, in others it is not.

To provide consistent performance on television channels 2 through 13, many manufacturers produce antennas that have two separate active sections. One covers channels 2 through 6; the other channels 7 through 13. These vhf antennas are frequently not good performers on the FM band—the "low-vhf" section's performance falls off abruptly above \(88\) MHz, the lower end of the FM broadcast band. As a matter of fact, some TV antennas are deliberately made to perform poorly on FM because strong FM signals can interfere with TV reception. In some instances, however, manufacturers give the purchaser a choice by installing FM trap or control elements that are left on if FM rejection is desired or snapped off if the antenna is to be used to receive FM signals.

Finally, there are some "all-band" TV antennas that give a good account of themselves on the FM band as is. If you have a TV antenna that does not have the FM-reject feature permanently built in, try connecting its lead-in to the antenna terminals of your FM tuner. You might find it performs suitably, in which case all you'll need is a simple two-set coupler or "signal splitter" to feed the television set and FM receiver simultaneously.

Indoor Antennas

For best performance, an antenna should be mounted as high as possible and have a clear line of sight to the transmitting antenna. These conditions are hardly ever met indoors. However, there are many reasons for not mounting an antenna outdoors, ranging from inconvenience to absolute impossibility (for example, when a landlord prohibits them). What can an apartment-dwelling FM listener do when his lease prohibits outdoor antennas—or he simply doesn't want the bother or expense?

There are a few options open to him. If the apartment building has a master TV antenna system, it can frequently be used to drive the FM tuner. An inexpensive accessory (the signal splitter mentioned above) can be installed to provide signals to both the TV and FM tuner. If you subscribe to cable TV, try connecting your tuner to the cable system. Consult the cable company for how-to-do-it details, costs, and exactly what channels in the FM band are available. (The full 88- to 108-MHz band may not be.) More and more cable systems are offering high-quality FM service, either as part of the package or as an option. Sometimes the only possibility open to the apartment-dwelling listener is an indoor antenna—which is certainly worth a try if there is no alternative.
Most manufacturers pack a simple 300-ohm flatline folded dipole with their tuners. The dipole can be taped or tucked to a wall—or, better yet, to a simple wooden "T"-frame that can be rotated to position the antenna for best reception. You may find that the folded dipole provides adequate results. On the other hand, the dipole may not be able to provide enough signal to quiet the tuner (eliminate hiss) adequately or to prevent multipath-interference distortion. Or you might find that the signal fluctuates as you move around the room.

If the folded dipole proves unsatisfactory, try an indoor TV/FM or FM-only antenna. Many such antennas are being marketed, ranging from relatively simple "rabbit ears" to rather elaborate models with built-in phasing switches to attenuate multipath or TV ghosting (they are related phenomena). Some even have internal preamps to boost received signal levels.

Some years ago (June 1973), Stereo Review featured a comprehensive article on FM indoor antennas. Tests were conducted on a number of models. Interestingly, few of them, except those with built-in preamplifiers, performed appreciably better than the reference folded dipole (some performed much worse), though adjusting the physical orientation of these antennas could, to varying degrees, result in the rejection of unwanted signal reflections. The key findings of the tests were:

- If you have a choice between a good, directional outdoor antenna and an indoor antenna, use the outdoor one.
- If you are limited to an indoor antenna and don't mind orienting it carefully and adjusting element lengths, choose the least expensive, least elaborate, rabbit-ears type.
- Indoor antennas are quite sensitive to positioning. Keep them away from metal surfaces. The presence of a human body can affect an indoor antenna and make adjustments tricky.

Since that article appeared, two relatively sophisticated "Beam Box" indoor antenna models have been introduced by B.L.C. A Beam Box has inside it a cross-braced pair of quarter-wavelength dipoles, with switching to choose among the elements. In addition, there are 75- and 300-ohm outputs and a tunable signal filter that operates in switchable wide- and narrow-band modes. In the narrow-band mode it can attenuate by 12 dB unwanted signals 4 MHz above or below the frequency to which it is tuned. This antenna is theoretically as directional as a dipole (and much more convenient) and hence can attenuate multipath. However, the gain of the Beam Box is rated at -12 dB (in the wide-band mode) or -5 dB (narrow-band) referenced to a dipole. Hence it may not be suitable if you live in a relatively high-signal-strength area. But if an outdoor antenna is an impossibility, it's worthwhile to consider a Beam Box or some other, less elaborate indoor antenna.

Transmission Line

The technical name for the cable that carries the received signals from the antenna to the input of the tuner is the transmission line. A good one will have low loss and a constant impedance. It will also be easy to handle and resist the destructive effects of weather and pollution. Three basic types of transmission line are commonly used in FM reception: coaxial cable (also called "coax"), twinlead, and shielded twinlead, which is a hybrid of the first two.

Twinlead, with a characteristic impedance of 300 ohms, is available in several varieties. What might be called standard twinlead is composed of two parallel, stranded copper wires spaced about 1/8-inch apart and embedded in an insulating plastic. This is the least-expensive transmission line available for FM reception. Although standard twinlead has very low losses (only about 1.25 dB per 100 feet at 100 MHz), it is not really intended for outdoor use. Signal loss increases dramatically when the cable is wet, dirty, or aged by sunlight.

Twinlead is a balanced transmission line, providing a good match for a balanced (physically symmetrical) antenna such as the folded dipole. Like the balanced microphone lines used in recording studios, twinlead resists noise pickup, but only if its electrical balance is maintained. If one conductor is closer to, say, a metal antenna mast or window frame than the other, the twinlead will become unbalanced and susceptible to electrical noise and interfering signals. This tendency of twinlead to become unbalanced can be countered by twisting the transmission line during installation so that it has about one turn per foot. This will also help prevent the flat twinlead from whipping about in the wind.

The next step up in quality is flat, foam-filled twinlead—a polyethylene outer layer and an inner layer of plastic foam surrounding the two conductors. Compared to standard flat twinlead, foam twinlead is less affected by moisture and aging and has lower losses—but costs about one-and-one-half times to twice as much. In any case, even foam-filled twinlead should be replaced after a few years of outdoor service, especially in urban and coastal areas.

In tubular twinlead, the two conductors are bonded to a round or oval plastic tube whose center is filled with either air or polyethylene foam. Besides having low losses (about 0.75 dB per 100 feet dry) and being less prone to wind flutter, tubular twinlead is also more resistant to the effects of moisture, dirt, and pollutants. Foam-filled tubular twinlead is best in this respect, but even this type of line should be replaced after a few years’ exposure to the elements. twist- ing the line, securing it with standoffs, and keeping it away from metal objects is also recommended.

Unlike twinlead, coaxial cable, because of its physical construction, is not affected by proximity to metal surfaces. An inner solid copper-wire conductor is insulated by either a solid or foam polyethylene insulating layer. A copper braid is woven over the insulation (or aluminum foil is wrapped around it), and the entire assembly is protected from the environment by an outer insulating jacket of vinyl. Besides serving as one of the signal conductors, the braid or foil behaves like a shield. Properly designed coax can provide almost complete isolation from noise and other extraneous signals. It can be run close to or inside metal masts, pipes, drain spouts, etc., without disturbing its electrical characteristics. Coax is also highly weather-resistant (assuming the cable is of good quality) and can even be buried in the ground. It has a normal outdoor lifetime of about ten years.

Coaxial cable is an unbalanced type of transmission line, and the type used in FM installations, RG-59/U, has a characteristic impedance of 75 ohms. These two properties necessitate the use of a balun (an abbreviation for "balanced-to-unbalanced" transformer) between the 300-ohm antenna and the 75-ohm coaxial transmission line. At 100 MHz, the RG-59/U has a signal loss of about 3.5 dB per 100 feet. Although coax has greater loss than dry twinlead, it is certainly more efficient than wet twinlead. Coax is also physically easier to handle and is not prone to whipping about in the wind. Good-quality coax, however, is more expensive than twinlead—it runs about 13 cents per foot.

The shielding properties of coaxial cable have been highly touted and are beneficial in many installations. However, the outer coaxial conductor, be it braid or foil or both, can act as an efficient shield only if it covers all of the surface area of the insulating dielectric. For that reason, do not use coax that has a loosely woven braid. (If you can see an appreciable amount of the foam insulation through "holes" in the weave after carefully removing a portion of the outer vinyl jacket, the braid will be an ineffective shield.) It would be wiser to buy a high-quality, tightly woven braid-shielded cable intended for transmitting use by hams, or a high-quality foil-shielded cable produced by a reputable manufacturer such as Belden or Alpha Wire.

Shielded twinlead enjoys many of the advantages of both coax and twinlead. Its feedpoint impedance and balance allow it to be connected to 300-ohm antennas and FM receivers without a balun. If it is grounded, the shield acts as a barrier to noise and other undesired signals and also prevents the inner conductors from being disturbed by nearby metal masses. Like coax, shielded twinlead can be run close to or even inside metal masts and pipes. Its electrical characteristics, including signal loss (which is comparable to that of RG-59/U), do not vary with weather conditions, and its price and lifetime are about the same as for coax.

(Continued overleaf)
Rotators

If you want to listen to stations coming from more than one direction and you have a good directional antenna, you will need an antenna rotator so that you can aim the antenna by remote control. A rotator installation typically consists of a weatherproof, high-torque, slow-speed electric motor that is mast-mounted, a suitable length of multi-conductor cable to carry the required control voltages, and a control box through which you can activate the rotator from the comfort of your living room.

A number of rotator systems for use with an FM or TV antenna are available to the consumer. Prices range from about $35 to $100. Some control boxes have dials laid out like a compass. Twist the main dial to the desired heading and the rotator will swing the antenna to that direction and then shut itself off. On other control boxes there is simply a bar that is depressed at one end for clockwise rotation or at the other for counterclockwise rotation. This type of control box may or may not have some means of indicating the antenna heading, either a meter calibrated in degrees or a series of LED’s spread out like points on a compass.

If you are going to the trouble of installing a rotator system, it makes sense to invest in a good one. The additional cost above that of a bare-bones system will yield a longer operating life, greater resistance to wind and the elements, smooth, quiet operation, and greater accuracy in aiming the antenna. Shown in Figure 8 is Cornell-Dubilier’s Model BT-1 “Big Talk” rotator system. Its control box has a compass-type control knob that allows quick and accurate setting of the antenna heading and four memory positions that can be recalled at the push of a button. The rotor itself has high torque, a disc brake to prevent “weather-vaning” in high winds, and enough muscle to handle the largest stacked TV and/or FM arrays.

Other Accessories

There are several other items that you might want to include in your antenna system. Foremost in importance is a lightning arrestor. Direct or even nearby surge-producing strikes are relatively infrequent, but a good lightning arrestor is inexpensive insurance against damage to your equipment. Lightning arrestors are produced by most antenna manufacturers and are available for all types of transmission and rotator-control lines. In order to function, these devices must be connected to a good earth ground (a deep ground rod or cold-water pipe), and are required by most city building codes and the National Electrical Code.

If more than one tuner or tuner and TV receiver are to be fed by the same antenna, either a directional coupler or a signal splitter (also known as a two-set coupler) is required. Directional couplers are used mostly in larger installations and offer greater interstage isolation. But they introduce more signal loss and are also more expensive than signal splitters. Splitters are frequently supplied with “all-band” vhf/uhf TV/FM antennas, but they are inexpensive and easy to install when bought separately.

If a balanced, 300-ohm antenna is to be used with 75-ohm coax, or if a 75-ohm transmission line is to be connected to a tuner with a 300-ohm antenna input, an impedance-matching balun transformer must be used. Baluns are available in outdoor or indoor models, and some are indoor/outdoor types that can be used outside if a protective rubber boot is slipped over the coax attached to the balun. Typical signal loss due to the insertion of a balun is only 0.5 to 1 dB, far less than the loss that would result from mismatched impedances.

TV viewers and FM listeners who live in fringe areas where FM and TV reception is marginal often install signal preamplifiers either at the antenna or near the tuner. In some situations preamplifiers are highly desirable, even necessary; but in others a preamp is simply not called for. If you live in an area where the signal strength is very low, a preamp might mean the difference between receiving your favorite station or not. However, there are several potential problems to be aware of. All antenna preamplifiers, even high-quality units, introduce some noise. Mast-mounted preamplifiers generally provide better noise performance than indoor models. Preamps are subject to overload by strong, local FM signals and/or by signals outside the FM band—police, fire, amateur, or CB transmissions. Finally, an antenna-mounted preamp must be completely weatherproof. Overall, it’s safe to say that some preamplifiers are good performers; others are notoriously deficient in one or more of the above-mentioned areas.

If you need a preamp, choose one produced by a manufacturer with an established reputation. (Note that if you have a good antenna and a tuner that is close to state-of-the-art, it is unlikely that a preamp will provide much improvement.) A non-electronic alternative to using a preamp is stacking two or more antennas. Most manufacturers offer kits that permit the user to stack and phase two or more antennas on the same mast. Stacking one antenna on top of another results in greater di-
Choosing and Installing an FM Antenna

Among the factors you must consider when choosing an antenna are: the distance to the transmitting antenna, the power it radiates, and the terrain between it and your antenna. On the tuner side, you need to know its sensitivity, capture ratio, and overload characteristics. The further you are from a transmitter, the more antenna gain you will need. In multipath-affected areas, high directivity will be required. First evaluate your listening location and habits, and then compare your needs with the features of each antenna type we have discussed.

If you are physically able, you can install the chosen antenna yourself. All that’s required is some mechanical ability and a standard assortment of tools. Otherwise, plan on paying your local TV service technician or antenna retailer $35 to $100 for an installation, depending on the complexity of the job.

It should be clear that it’s best to use either coax or shielded twinlead transmission line. They are not only electrically superior but also more economical in the long run. The choice between shielded twinlead and coax is largely a matter of personal preference and the type of antenna connector on the rear apron of your tuner. Whatever type of line is chosen should be supported at frequent intervals with standoff insulators to minimize strain on the connections.

The antenna should be mounted as high and as much in the clear as possible. At a minimum, the antenna should be mounted at least 5 feet above ground or any large structure. Television and FM receiving antennas are usually installed on 5- or 10-foot masts, but in some installations telescoping masts or towers are used. If the terrain is relatively flat and there are no large intervening objects, a roof-mounted 10-foot mast is a good antenna support in an urban or near-suburban installation. For greater height, a 5-foot mast can be placed over a 10-foot mast if proper hardware is used. Two antennas (one, say, for FM and one for television reception, or two for FM) can be mounted on the same mast provided they are spaced at least 5 feet from each other.

In some locations greater antenna height is required, and this can be provided by a telescoping mast. Radio Shack, Lafayette, and Jerrold all offer galvanized-steel masts which telescope to 20, 30, 40, or 50 feet, depending on the model. These masts should be guyed with either nylon rope or aluminum- or plastic-clad, galvanized-steel wire. Collars with holes drilled for the guys are mounted on the masts at the factory.

There are several types of mounts for antenna masts available, including chimney, vent pipe, wall, eave, and roof mounts. Chimney mounts employ two straps that are wrapped around the chimney and tightened temporarily to reduce the risk of damage to both tower and antenna if high winds or an ice storm are expected. A sectional tower, on the other hand, is simply a collection of (usually) 8- or 10-foot sections bolted together to form one rigid unit. Sectional towers are less expensive than the other types, and guyed towers less expensive than free-standing ones. Of course, before purchasing any tower you should investigate local zoning ordinances to make sure they are permitted where you live!

Lightning protection for your home will be afforded by connecting the tower to a good earth ground. Grounding the tower or large antenna mast should be done in addition to and not instead of installing lightning arrestors on the transmission and rotator control lines. And, for safety’s sake, NEVER attempt to install an antenna and mast in a location where it can in any conceivable way come in contact with overhead power lines. Hundreds of people are killed or severely injured every year because they fail to observe this simple precaution.

As you can see, the “antenna question” is one that is not simply answered. But once you understand the ground (or grounding) rules, the task of selecting a “sky hook” suitable for your particular circumstances is not really all that difficult—and the payoff is cleaner, clearer, and altogether more satisfying FM reception.

John McVeigh is an electrical engineer, an audiophile, and assistant technical editor of our sister publication Popular Electronics.
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CRYSTAL GAYLE

"I want to have songs out there on the market that are really me, that are what I'm really like, because it's my name on the record."

Crystal Gayle always knew she would be a professional singer. She knew it when she began entering grade-school talent shows, and she knew it when she accompanied her older sister Loretta Lynn on the road for a couple of weeks each summer. She knew it when she got her first recording contract with Decca (now MCA), Loretta's own label. Even though that relationship didn't work out, Crystal had only a brief period of self-doubt before hooking up with United Artists Records and ace producer Allen Reynolds. The fact is, Crystal Gayle never gave serious thought to pursuing anything but a singing career.

What she didn't know was that in a year when female country-pop singers began to dominate the charts, she would become one of the biggest and most consistent successes of them all. Yet that is precisely the position in which she found herself early last spring when she came to New York to play the Bottom Line, one of the city's major rock showcases. She was still riding the success of the seductive Don't It Make My Brown Eyes Blue, a bluesy country-pop single that was nearing sales of two million after a long reign at the top of both the country and pop charts, and her latest album, "We Must Believe In Magic." had gone platinum. Thanks in part to that song and that album, she had recently been voted best female singer by both the Academy of Country Music and the Country Music Association, won the Grammy in the same category, and picked up a Record of the Year award from Stereo Review. What's more, she was being talked about with the kind of reverence heretofore reserved for the likes of Linda Ronstadt, Emmylou Harris, and Dolly Parton, the three female singers who were doing the most to erase the boundaries between country and pop musics, between regional and national success.

"You know," she speculates, "I think Brown Eyes would not have crossed over if it had been released a couple of years ago. The times weren't ready. A couple of years ago it would probably have been produced differently and would never have moved over from country to pop. It happened to be one of those lucky songs that don't come around that often. It was a case of being in the right place at the right time."

If that was the case, it couldn't have happened more appropriately than to Crystal Gayle, who has been moving steadily toward that "right place" for about five years now. She enjoys success on both the country and pop charts for the simple reason that her style does fall naturally somewhere between the two categories. Unlike her older sister, Crystal was not raised in the mountains of Kentucky but in the small city of Wabash, Indiana. While Loretta knew nothing except country music when she began singing, Crystal had other influences right from the beginning: by the time she was born, her family had partially escaped the grinding poverty that had been Loretta's early way of life, and the differences show in the respective attitudes of the two sisters.

But if Crystal Gayle seems most at home with cabaret-type material along the lines of Brown Eyes, she still has enough unabashed hillbilly in her to encore with Rocky Top, that Appalachian ode to the moonshiner, simply because she likes the song. Conversely, though she is not reluctant to acknowledge her country roots, her eight-piece band, Peace and Quiet, rocks politely along behind her without benefit of either fiddles or pedal steel. Perhaps the breadth of her appeal is best illustrated by the fact that immediately before wowing the Bottom Line crowd she had been playing in Mississippi to an equally responsive audience. Crystal Gayle doesn't just aim to please; she aims to please everyone, and her approach to music is indicative of many of the newly developed styles in country (and pop) music today.

"It's because of my background that I sing the way I do," she says. "Wabash was a small city, so there wasn't just country music there. Even though country music was a big part of my life, there was so much else going on." It was late afternoon when we talked at her hotel before her Bottom Line gig, and though she had been up and doing interviews with press and radio since 5:30 a.m., she remained calm, patient, and attentive. She is not very talkative, answering questions directly and briefly without offering additional thoughts, and she giggles so often that, after a while, it begins to seem more a personality trait than mere nervousness. Her straight brown hair hangs down almost to the back of her knees; her green chiffon dress is striking without being flashy, and so is her make-up.

Born Brenda Gail Webb in Kentucky in 1951, Crystal was the last of eight children. Loretta (who years later thought up the Crystal Gayle stage name) was already married and out of the house before Crystal was born. When she was four, her mother left home, bringing along the rest of the family. Crystal has almost no memories of
Crystal Gayle...  

"I thought that you just went in and recorded and did what they said. I never thought you could have input!"

Kentucky, but she remembers singing on stage when she was in the first or second grade in Wabash. Later, there was a school variety show and competition in which she sang the Marion Worth hit Shake Me, I Rattle but didn't win. By the time she reached her teens, Crystal was singing country music on weekends and church music on Sundays. She also liked to sing along with the current pop hits on the radio, and she lists Leslie Gore, Brenda Lee, Patsy Cline, and Peter, Paul and Mary as some of her early favorites.

"I grew up singing, I think, because of Loretta," she says. "I grew up with her recordings. That's how I knew I was going to be a singer. During high school vacations—and junior high too—I'd go out on the road with her for about a week, and sometimes she'd get me up there to sing a song or two. It was like a little kid act, but people really liked it.

"Seeing my sister, like on the awards shows . . . I'd sit there and think, wow! And she really believed in me. She really thought I had a good voice and she'd say, 'You will record.' I did demos for her, songs that she wrote. I'm not sure how to give you the feel—" I cut it off. "It's a different situation when it's like that. I was just growing up in it, in show business. People ask me, 'Did it hurt you or help you being Loretta's sister?' It did both.

"I learned a lot just watching her. Entertainment is much more difficult than it looks. A lot of what I learned with Loretta was business; I learned from her mistakes. She would tell me, 'Don't do this, because this will only bring you trouble.' Because it did her. Because of Loretta, with all her problems. I'm very leery of contracts, for example."

I was through Loretta that Crystal Gayle did finally get a recording contract. She was signed to Decca (along with her brother Jay Lee and sister Peggy Sue) shortly after graduating from high school. Though she had several minor hits (recently reissued on an LP called "I've Cried the Blue Right Out of My Eyes" that capitalizes on her Brown Eyes hit), it was not an alto-

gether happy deal. The records from that era are rather perfunctory, the sound of a voice in search of a style. And she also had problems with the company.

"I think the all the people that worked for the company—and I mean like field people—I think they're good people, but I think they looked at me as being on the label only because of Loretta. I mean, that's just the way the business is. I was fortunate just to have the shorter contract, because I could see what it was doing to my sister Peggy Sue and my brother Jay Lee, and I was able to get out early.

"I'm different from Loretta; I had different ideas musically all along. But I had her producer, and I felt afraid of voicing my opinion then. I thought that you just went in and recorded and did what they said. I never thought you could have input! I was just singing what they told me, so I'm not really ashamed of those MCA records. But it's not me, and it wasn't me when I recorded them."

She was in limbo for a while after leaving the label, living in Indiana while her husband Bill Gatzimos, went to school. (The couple has since moved to Nashville, where Gatzimos studies law at Vanderbilt University and comes home in the afternoon to sing Randy Newman's Short People to his five-foot-one wife.) Then, in 1973, on the advice of country singer Del Reeves, Crystal swung a deal with United Artists. As soon as producer Allen Reynolds entered the picture, her fortunes began to change.

Reynolds is one of the new breed of Nashville writers and producers—he is as likely to use a legitimate harp on a record as he is a pedal steel—and he favors records with soft, intimate arrangements that have very little to do with the so-called Nashville Sound. He is expert at "setting off" a voice like Crystal's. It was also Reynolds who helped to evolve the relaxed sound that has since brought country crooner Don Williams to the edge of pop stardom.

"I wasn't familiar with him at all," Crystal now recalls. "I didn't even know he'd done Amanda, that Don Williams song, which I think is really beautiful. Allen is one of the best things that has happened to me. He made me realize that I had a voice I could use as a tool; until then, I was just getting out there and belting. I thought that was how you were supposed to sing."

Reynolds works with his artists, rather than making them work for him,

Crystal Gayle: The New Album

Talk about an album that's pretty as a speckled pup. In "When I Dream," Crystal Gayle takes some likely and some unlikely elements—the latter includes out-Gogi-ing Gogi Grant on Wayward Wind (I)—and turns them into a piece of work that could give the most adorable little six-week-old Dalmation a (pardon) bone-a fido ego problem. I write this fresh from one of those ultra-fixed-up suburban mall places called the Pup-Py Palace, so I know how pretty a speckled pup can be. There are a lot of Crystal Gayle albums out there in those spiffy suburban malls too, nowadays, and in my book when a "country" singer whose roots go back to Butcher Holler, Kentucky, can make it in the suburbs, that's something. Butcher Holler is so far back in the sticks they don't even spell it the city way—hollow, that is. There are all kinds of hollers in the speech of the South and near South, but danged near all of them are always written down hollow. Except old Butcher. Now Crystal's big sister, Loretta Lynn, still sounds like she came from Butcher Holler, and the farther you get from there and/or Nashville, the less fuss you'll hear them making over Loretta Lynn in the suburbs. Loretta's reach (and it is considerable) is into the blue-collar districts. Crystal is accepted there (for a while yet, anyway), but she and Loretta have a sophistication gap between them; unlike her sister's, Crystal's voice is right at home in pricey places. Crystal's style is also blithely ignorant
which immediately distinguishes him from the more traditional Nashville producers. Crystal felt the difference the first time she went into the studio with him, but she feels the real turning point came when they cut Wrong Road Again (one of the three hit singles from her first UA album, "Crystal Gayle").

"That one just felt good," she says, "and it was the first time everything about a session felt right. Since then I've been growing steadily, and I've had more and more personal input on my own records. I want to have songs out there on the market that are really me, that are what I'm really like, because it's my name on the record.

"It's always hard to find fresh melodies, which is what I look for first. Sometimes a melody will grab me, but then if the lyric isn't there I won't sing it. I love to sing Ready for the Times to Get Better. It's a song you can take so many different ways. You can take the love part of it, or you can take it as being about how things aren't going right. But you can also take it as just about life in general. Brown Eyes I love for the way it sings, the lilting melody. I like that style a lot."

If there is one recurring criticism of Crystal Gayle, it has been about her choice of songs and arrangements. There's no doubt that her sultry voice is a remarkable instrument, or that she is more than capable of putting across the right song in a highly personal way. But her albums do still tend to be erratic, burdened by songs that have either pedestrian lyrics or stiff and formal arrangements, music that lacks both the soul of the best country and the energy of the best pop. Since so much of what she and Reynolds do falls into that undefinable area between genres, the issue is connected in her mind with the question of what is really country and what is really pop. Probably as a result of her older sister's role as the leading lady of "hard" country, the question is one that's been forced on Crystal even though she considers it to be an irrelevant one.

"I just love singing," she explains. "So why does a song have to be labeled country or pop? Why can't it just be a good song? You can take a song and produce it any way you wish. There've been pop songs that were just one word repeated over and over and over, and they were smashed. Do the same song a country way and it may even be a country smash. I'd be lying if I said I didn't want that crossover record, because I think every singer wants it. You're in front of more people, you have better sales, just better everything.

"At the same time, there are 'hard' country songs going to number one on the charts, so it's not like country's getting away from itself. There are always fans there for that. Loretta's last song was number one. Conway Twitty's 'hard' country, and everywhere he plays it's to big audiences. So crossing over isn't helping to destroy country music, like some people say."

As for future recording projects, Crystal would like to do an album of folk songs. "That era has come and gone, but I really like a lot of those songs." Meanwhile, she enjoys her new-found fame and fortune enough not to question it.

"I don't know. It's just that times change, and this is the Year of the Woman," she says, switching to a facetious tone as she puts the capital letters on that last phrase. "I'm glad I'm in on it. It's like they had a time for the Beatles . . . but peoples' tastes change. Now everything's centered on the female singer. Maybe next year it'll be something else."

And what would become of Crystal Gayle if that should happen?

"Nothing. Because I'll still be in there singing!"

"A voice that is pure country in the mountain springwater sense . . . can be, when backlit, so beautiful it hurts."

four identified rather strongly with some pretty strong personalities: Cry Me a River, Wayward Wind, Someday Soon, and I Still Miss Someone. I'd have kicked Wayward Wind out on merit, but she does sing it her own way, and she makes the other three hum with the kind of contentment that suggests they won't miss Julie London, Judy Collins, and Johnny Cash at all.

And it is hard to miss other voices when you have this one engulfing you, especially in the even better moments stretched back to back across Paintin' This Old Town Blue and When I Dream. It's a voice raised on country sunshine but not at the expense of being isolated from the outside world. The culture one hears in this voice is not exclusively the kind that forms around yeast and corn. This is a voice that is going places with damaged near all the labels torn out of its clothes, but everyone will say it knows how to dress. Of course, in places like Butcher Holler, they'll say dress up. For a while yet. One half expects Crystal Gayle to interrupt an album like this to say, "Look, Ma, no corn," but the message gets across in a subtler way, neighbors, and as long as Gayle continues to show the feel for a song's vitalis she is showing nowadays, they're going to be looking for her stuff in the general stores as well as the chic shopping malls.

—Noel Coppage

CRYSTAL GAYLE: When I Dream. Crystal Gayle (vocals); Pig Robbins (piano); Dave Kirby, Reggie Young (guitars); Gene Chrisman (drums); Lloyd Green (steel and dobro); other musicians. Why Have You Left the One You Left Me For; Heart Mender; Hello I Love You; Talking in Your Sleep; Paintin' This Old Town Blue; Don't Treat Me Like a Stranger; Too Good to Throw Away; Cry Me a River; Wayward Wind; Someday Soon; I Still Miss Someone. UNITED ARTISTS UA-LA858-H $7.98, © UA-CA858-H $7.98.
CONSidering that several important high-fidelity manufacturers (Dynaco, Marantz, Sherwood) are celebrating their twenty-fifth anniversaries this year, it is a little startling to realize that a scant few decades ago hi-fi was generally considered to be the socially dubious preoccupation of a few wild-eyed eccentrics. Today, however, a meeting/exhibition of the nation's hi-fi manufacturers, representatives, dealers, and press affiliates can all but tie up a major metropolis for a solid week, overwhelming its service and recreational facilities. Attendance at the early-June Summer Consumer Electronics Show in Chicago, for example, was over 55,000 (up some 5,000 from last year), and there were an imposing 10,867 registrants at the Institute of High Fidelity's own show in Atlanta in May (the latter is, of course, limited to audio only, while the Chicago show covers the whole spectrum of electronic entertainment products, but with major emphasis on audio).

Audio electronics has, in sum, become an enormous industry in a comparatively short time, and a growing number of manufacturers marketing a growing number of products each year puts heavier and heavier pressure on industry journalists who must cover the field comprehensively. StereO REVIEW's technical editors had their hands full (literally—all that product literature!), with the result that our report on the flood of new products that will shortly begin cresting on dealers' shelves across the country will, for the first time, have to be spread over two issues rather than wrapped up in the usual one. This month's installment will deal with those components that can be considered as being purely electronic: receivers, amplifiers, tuners, and whatever accessories fall into the same category. The transducers—loudspeakers, phono cartridges, and tape decks, along with other devices that are at least partially mechanical in nature, will follow next month. And so, without further ado, let us head down the aisles.

 Receivers

The latest of the truly big receivers, at 300 watts per channel into 8 ohms, is the Marantz 2600 ($1,495), and its appeal is considerably enhanced by the presence of a front-panel oscilloscope equipped to function as a tuning display. The similarly rated Sansui G-33000 has a detachable power-amplifier section, plus internal circuitry designated as the Takahashi DC "Diamond Differential" configuration (after the talented Japanese electrical engineer who was in large part responsible for the QS Vario-Matrix four-channel system). Both of these receivers carry supplementary power ratings at lower
impedances, reflecting the interest manufacturers are now showing in the problem of low, complex, and varying loudspeaker loads.

Marantz has augmented its inexpensive receivers with Model 2213 (18 watts per channel) as well as three other models (the 1550, 1530, and 1515) put together with a minimum of control features to realize maximum value for price. Sansui, on the other hand, has deliberately invested extra design effort and expense in the AM section of the G-33000 (and previously introduced G-22000) receiver to make it capable of high-fidelity AM performance.

Other receiver offerings from Marantz include the S500 Model 2130, again with a front-panel oscilloscope—and a built-in 400-Hz oscillator to calibrate the recording levels of a tape recorder for off-the-air dubbing. The new Marantz 4025 "recording receiver" has an appropriate tape recorder (cassette) built in.

If high-quality AM reception can be said to have already arrived, high-quality TV sound is definitely on the way. A pair of receivers from Winegar, the $600 R1006 and the $900 R1120 (see Stereo Review's August "Bulletin"), have tuners for VHF and UHF television audio plus dual power supplies, phase-locked-loop multiplex sections, bass, mid-range, and treble tone controls, and a host of front-panel features. Power outputs are 60 and 120 watts per channel respectively. The purely electronic receiver, with no mechanical operations whatsoever, is also becoming a reality. A Swedish organization called Intersearch has just introduced the 70-watt-per-channel Audio Pro TA-150, in which a single control knob (and a microprocessor) performs all front-panel functions such as volume, balance, tone-control adjustment, and tuning. Among the few mechanical parts remaining in the receiver are the switches that assign the master knob to its different functions. This provides numerous FM and AM presets and other functions such as loudness compensation and tape monitoring. The knob operation itself is nonmechanical, involving optical scanning through a slotted rotor attached to the control shaft.

Fisher has presented a host of new receivers, most prominent among them being the RS2000 series, all with five-band (two-octave-band) graphic equalizers. Model numbers are RS2004, RS2007, RS2010, and RS2015. Prices start at $450 and go up to $850, with commensurate power increases from 45 to 150 watts per channel. The Fisher ICS series, a range of compact systems, is led by the ICS409 ($550), the receiver for which (the MC4035) contains a cassette deck with wireless remote control. The new ICS series offerings range in power from 20 to 60 watts per channel and in price from $225 to $425. Model numbers are 580, 680, 780, and 880. All of Sherwood's receivers are now rated at a uniform 0.2 per cent harmonic distortion. Latest additions to the line are the S-7250 (20 watts per channel), the S-7450 (30 watts and $300), and the S-7650 (45 watts, $380). All are part of the Sherwood CP (Certified Performance) series.

The most recent additions to the Hitachi receiver line are headed by the Model SR-1204 ($800); it has a class-G output stage that boosts its continuous power rating of 120 watts per channel to higher levels on signal peaks. Four other new Hitachi receivers include one more class-G design (SR-904, $600), and three other models starting at $230. Onkyo is now represented by five recently introduced units, with particularly emphasis being placed on the digital/readout Model 4500 Mark II whose seven station presets are programmed by a unique minichip filename. JVC's newest receiver introduces number six, four of which have the manufacturer's five-band graphic equalizer built in along with some attractive styling refinements. Top of the line is the JR-S501 at 120 watts per channel and $700. A company new to the U.S. market, NAD (New Acoustic Dimension), introduced its Series 7000 receivers, which pay special attention to bandwidth considerations and the phono-input interface. Four models are offered ranging in price from $280 (30 watts) to $535 (90 watts). And an older company, SAE, has just introduced its first receiver, the R3C (30 watts per channel, $325), which is the spearhead of the new SAE TWO line manufactured overseas. Also, in a move that took us somewhat by surprise, Thorens introduced a pair of receivers at the IHF show. The AT-403 is rated at 30 watts per channel and the AT-410 at 50 watts.

Major introductions from Harman Kardon were the hk670, hk560, hk450, and hk440 receivers. Power ratings are from 60 to 20 watts per channel. Kenwood's newest high-end receiver, the KR-8010, offers 125 watts per channel at a price of $675. Tandberg has made significant additions to its receiver line with a new "flagship" model, the TR 2080 ($1,200), and three smaller units, the TR 2060 ($685), TR 2045 ($585), and TR 2030 ($485). Per-channel power ratings are given by the last two digits.

Toshiba's receiver line is led by the attractively styled SA-7150 (digtal-readout tuning with six station presets and a flip-down cover concealing equalization controls and speaker switching) and supported by the SA-7100 and SA-750, bringing the total line up to six models. The SA-7150, it should be noted, contains a quartz-crystal-referenced synthesizing tuner and is rated at 150 watts per channel. Optonica's SA-5405 is a black-panel 65-watt unit ($450) with a novel two-color LED indicator to show the activity of its output-protection circuit. Sansui has expanded its line to five receivers, the top model being the 120-watt JCX2900K.

You can now buy a 120-watt-per-channel receiver, the 320R, from H.H. Scott for $700, or any of five other models ranging down in power to 15 watts and in price to $220. You can also buy (for the first time, to my knowledge) a receiver from England providing as much as 140 watts per channel: the Amstrad EX.333, which is backed up by a smaller relative, the EX.222 at 25 watts per channel. Both are capable of picking up medium- and long-wave broadcasts as well as FM.

The Technics receiver line, which includes—for the moment—the industry's most powerful model (the SA-1000) at 330 watts per channel, now includes eight units,
priced from $230 to $1,500. The larger models have up to a dozen fast-responding LED indicators for power output. Aiwa has a new 50-watt receiver, the AF-3090U, with a cassette deck built in. And Philips, presently with eight receiver models (four with aluminum front panels and four equivalents with black front panels), has found cause to upgrade their specifications. For the aluminum-front-panel versions, prices range from $200 to $430. Black panels cost $10 more. Finally, a company called Yorx offers a "receiver," the CES M2600, that incorporates eight-track and Dolbyized cassette facilities, as well as digital readout for tuning (it also serves as a digital clock). It is called the "Studio Center," and you can't really argue with that.

Amplifiers

The year's most interesting amplifier may well turn out to be the Threshold Stasis 1. The somewhat complex operating theory behind this 175-watt mono leviathan includes a technique known as "feed-forwards." Two channels of Stasis 1 will cost at least $5,000; projected availability of the units, which are rated at less than 0.002 percent total harmonic distortion, is early 1979. Pair this with the intriguing Theta stereo preamplifier (available from Polk Audio) employing vacuum tubes from the USSR and you will have a system that should prove positively "revolutionary."

Otherwise, most of the limelight in this category belongs to the season's new integrated amplifiers, which include the 190-watt Model 1300DC from Marantz, priced at $950 and bearing prominent adjustments for phono-input resistance and capacitance on the front panel, and five new integrated units from JVC, ranging from the budget-price ($160) JA-S11G to the 65-watt $400 JA-S77 (called a "Tri-DC," design because of its use of DC phono circuits, DC high-level section, and DC power-output stage). One of the new JVC units, the JA-644 ($290), includes the company's S.E.A. five-band equalizer.

Harman Kardon has presented two new integrated amplifiers, the 40-watt-per-channel hk505 and the 60-watt hk505. The hk505 has a front-panel switch that adds 200 picofarads of capacitance to the phono inputs to suit those cartridges that benefit from extra capacitive loading. Philips offers three new integrated units, all with front-panel output meters. The AH844 (under $250) starts things off at 40 watts, and the AH388 (under $430) marks the top of the line with 80 watts per channel. Prominent in the SAE series labeled SAE TWO is a 50-watt integrated amplifier, the C3A, distinguished by sleek black-panel styling and a price of $325. SAE's Esoteric line has also been enhanced with the 2300 power amplifier ($700). It is rated at 150 watts per channel and has power-output-indicating LED's. A standout among this year's CES exhibits was the new Mitsubishi line of "microcomponents" (tentative name), especially the M-P01 preamplifier and M-A01 70-watt-per-channel power amplifier. Jewel-box construction is the term that comes first to mind when viewing these components, which are exquisite both in their (small) proportions and in their styling. The preamplifier has only one knob, the rest of its functions—including tone-control adjustment—being accomplished through pushbutton mini-switches. Both it and the power amplifier have colorful LED displays to indicate various operational modes. Prices were not absolutely firm at press time.

As part of its "non-kit" series, Dynaco has introduced a 100-watt-per-channel integrated amplifier, the Model 2530, with impressive specifications, and also a power amplifier (Model 2521) with similar ratings and a preamplifier (Model 2510) with FET inputs. Hitachi is bringing out the first class-G integrated amplifier, the HA-3300 ($600), and a low-silhouette preamplifier intended to sell for about $200 (Model HCA-6500).

Rotel's newest introductions, innovative as always, include three integrated amplifiers led by the 120-watt $830 RA-2040, the RC-2000 preamplifier ($500), and the RB-2000 power amplifier ($920 at 40 watts, $500). Some feature inputs for moving-coil phono cartridges as well as power-output stages that automatically switch from class-B to class-A operation. Yamaha has created a very simply styled integrated amplifier, the 70-watt A-1 ($595), with a special bypass mode that, at the push of a button, connects the phono section to the output stage with an absolute minimum of intervening circuitry. And Marantz, in addition to its integrated amplifiers, has introduced a pair of preamplifiers, the top model being the $580 3650 with inputs for conventional and moving-coil phono cartridges and controls for adjustment of cartridge loading.

Pioneer's most esoteric components have now been organized under an entirely new company named Series 10. In addition to the M-22 class-A power amplifier and the C-21 preamplifier, they now include a new class-AB integrated amplifier, the A-27 ($1,250), at 120 watts per channel and with moving-coil phono inputs, and the similarly rated M-25 power amplifier ($1,200). Both units switch automatically to class-A operation for power outputs of 3 watts or less.

The Lux "Laboratory Reference Series" has now been filled out to encompass seven models, and recent additions to the "Studio Standard Series" include integrated amplifiers—the L-3, L-5, and L-11—35, 60, and 100 watts per channel. Toshiba's latest separates are the SY-335 preamplifier and the 40-watt-per-channel SC-335 power amplifier. Soundcraftsmen's newest preamplifier, the $700 SP4002, has the company's excellent octave-band equalizer built in; it offers 15 dB of boost or cut per band. The unit will also accept a moving-coil cartridge and has extremely flexible switching to accommodate outboard accessories. And Crown has a new low-profile power amplifier, the D75, featuring the unique IOC (Input-Output Comparator) distortion-detecting system, which is rated at 35 watts per channel for stereo applications.

Great American Sound (GAS) continues with its novel product names and its built-in capability for driving low-impedance speaker loads (down to 2 ohms). The Godzilla power amplifier is among the more recent introductions (300 watts per channel), and even newer are the Grandson power amplifier (40 watts into 8 ohms, 120 watts into 2 ohms) and the Thalia preamplifier. The Grandson is another amplifier with bias control to provide class-A operation at low output levels. BGW's latest is the Model 103 preamplifier with totally discrete circuitry and a price of $400. Also now is a moving-coil-cartridge preamplifier designed to operate off the power supplies of associated BGW components.

Nikko's amplifier line, growing vigorously every year, now includes the Alpha III power amplifier (80 watts, $480) with MOSTFET output transistors, the Alpha VI 300-watt power amplifier (price as yet undetermined), and the Beta III low-profile preamplifier (again, price unavailable). NAD's product
line includes five integrated amplifiers with power outputs ranging from 20 to 90 watts per channel and prices from $140 to $415. H.H. Scott's integrated amplifiers are almost as numerous: four models from $240 to $400, power outputs from 40 to 85 watts. All model numbers carry an "A" suffix to indicate improved specifications. And there is one more integrated amplifier from Optonica, the SM-3201 ($250), with 40 watts per channel of power.

Audio Research is introducing five new products: two power amplifiers, an electronic crossover, a moving-coil-cartridge preamplifier, and an all new vacuum-tube preamplifier, the SP-6 ($1,075). The power amplifiers adopt the businesslike styling scheme of the D-350 design, with large front-panel meters to monitor internal circuit conditions. They are rated at 50 and 100 watts per channel and cost $995 and $1,995. Cerwin-Vega's Metron division retains the styling - -....,..... -----.....-....-

Tuners

The Yamaha CT-7000, one of the most glamorous and potent performers amongst the new breed of 'super tuners,' is to be replaced by the T-2, which is said to offer appreciably better performance for considerably less money ($700). Yamaha also has another new tuner, the T-1 ($355).

Marantz, one of the most respected manufacturers to offer oscilloscope displays in its tuners (Sequerra is the other), has been pursuing this policy vigorously. The new top-of-the-line unit for this year is the Model 2130 ($500), which has a host of other features in addition, including a 400-Hz oscillator to set recording levels for taping off the air. The Model 2110, with fewer features, retains the oscilloscope at a price of $340.

From Technics comes a lovely low-silhouette tuner with quartz-crystal oscillator, eight station presets, and various modes of automatic scanning, plus a separate microprocessor control unit that can be programmed to operate an entire audio system— including activation of tape-recording functions—on virtually any schedule one chooses, and over a week's time. The control unit has access to any of the eight preset stations the tuner provides. Model numbers are ST-9038 for the tuner and SH-9038 for the controller.

Nikko's Gamma V synthesizing FM tuner with digital frequency indication is now ready. It features a six-station memory and costs $650 (somewhat more for a black front panel). Rotel's latest FM-only tuner, the RT-2100, has digital readout plus a conventional tuning dial, an internal audio oscillator for setting tape-recording levels, and superb specifications. Like the Nikko, it employs a row of LED's in place of conventional tuning meters. The LED circuits can be switched to indicate multipath interference in the received signal.

Mitsubishi has a new tuner, the M-F01, as part of its "microcomponent" series; it is an FM-only quartz-oscillator synthesizer with exquisite styling and extensive use of LED's. Harman Kardon's new tuner, the AM/FM hk900, is a conventional-appearing design, but with internal concentration on what the manufacturer considers the key performance specifications. The three new tuners from JVC are led by the JT-V77 ($290) and followed by the JT-V22 ($170) and the JT-V11G ($1,500). The JT-V77 has a phase-tracking detector stage that provides a high degree of selectivity and interference rejection.

The Hitachi FT-8000 is another FM frequency-synthesizing tuner with a quartz-controlled local oscillator, digital frequency readout, and six station presets. Price is under $500. The Series 20 line has acquired two new tuners, the $690 F-28 and the top-model, $1,000 F-26. Both are quartz-crystal synthesizing designs, with the latter having exceptionally clean low-profile styling. (Incidentally, like many of the tuners discussed here, the Series 20 units lock onto the center frequency of any station they're approximately tuned to, and the locking circuits are very often brought into play by the simple act of releasing the tuning knob— when there is a tuning knob. These automatic tuning functions are rapidly spelling the demise of the channel-center tuning meter, which is just no longer needed.)

The SAE TWO line offers the T3U AM/FM tuner ($275) with an exceptionally wide tuning dial at the bottom of the front panel. In its standard SAE line the company has added a digital-readout FM tuner, the Model 3200 ($400), with LED displays in place of tuning meters. Dynaco's new digital-readout 2901 FM tuner becomes a digital clock when the tuning knob is released. It also has an LED display to indicate signal strength; with the exclusive "Dynatune" signal-tracking circuitry built in, it does not require a channel-center meter.

From GAS comes "Charlie," a digital-readout FM tuner whose name derives from the TV advertisements for a well-known brand of "tuner" fish (ouch!). This one also has clock functions built in. Scott's present tuners number three, at prices from $200 to $300. The top-of-the-line S901T has a meter
that can be switched into a multipath-indicating mode. There are also three tuners in the NAD line, with prices from $140 to $270 and models numbered 4020, 4030, and 4040 in order of ascending price. A new $200 tuner, the ST-4201, has been introduced by Optronica; it has a built-in oscillator to calibrate tape machines. Lenco also has a tuner, the Model T-30, that is essentially a separate packaging of the tuner section from its receiver line. And there is another single tuner from Sanyo, the FM7611K.

Amstrad's two tuners, the EX.202 and EX.303, offer the same multiband reception as this manufacturer's receivers. And another English manufacturer, Monogram, offers the 3600 digital-readout FM tuner with a rated usable sensitivity of 0.8 microvolt in stereo! (It seems safe to assume they are not using the new IHF standard.)

**Accessories**

We come at last to a category of product that is arbitrarily defined as anything fundamentally electronic in nature that can be used in an audio system, mobile or home, without necessarily being part of the basic system—in short, electronic accessories. And for lack of a better place to put them, I'll also include here the so-called "PCM processors" that are intended to be used with the various video-cassette recorders for recording and reproduction of digitally encoded audio.

The PCM processors are analog-to-digital/digital-to-analog converters that, when used with a record-reproduce device of a bandwidth approaching that of a video tape recorder, can bring the performance of a true digital reproduction system to the home user. We have recently seen such products from Sony and Mitsubishi, and now we have them from Technics (the SH-P1) and Hitachi. Both are very much in prototype form with prices pending. However, both work; both are thirteen-bit systems with sampling rates of just over 44,000 Hz; and both provide a usable dynamic range of 85 to 90 dB with negligible levels of distortion.

Four-channel equipment is still available this year, but it isn't new—except for the excellent Scheiber 360-degree spatial decoder/synthesizer ($3,000). What is happening at the moment is that time-delay reverberation devices are becoming a lively product category. ADS' Model 10 Acoustic Dimension Synthesizer includes built-in power amplifiers and a pair of "rear" speakers. Bozak has introduced the 902 time-delay system, also with an integrated amplifier (35 watts per channel) and rear speakers included. Advent's new digital "SoundSpace Control" has digital display to indicate the initial delay (adjustable) in milliseconds. Price is $959. Audio Pulse has launched itself into a second generation of digital delay systems with the Model Two. And Sound Concepts has developed the "Concert Machine" for mobile use at $300, plus $40 for a remote control.

Speaking of automobiles, there is probably no faster-growing category of high-fidelity equipment than that intended for mobile applications. Among other products, Marantz has brought out a 60-watt underdash amplifier with a seven-band equalizer, together with a similar 40-watt unit with conventional tone controls. Sparkomatic's latest 40-watt unit has a illuminated flexible rod on its front panel that serves to display the settings of its five-band equalizer graphically. Clarion also has a five-band equalizer in its new 300-EQB, rated at 30 watts per channel, as well as LED power-output indicators. Pioneer of America's 15- and 25-watt-per-channel units, the AD-30 ($120) and AD-50 ($180), premiering with a number of other new Pioneer products, have five-band equalizers as well. Visonik's A-300 mobile power amplifier comes with a pair of D-302 MO speakers ($320), or by itself for $136. Fosgate has a new 20-watt amplifier, the PR-220, as does Rotel. (There are also an astonishing number of new amplifier/tuner/tape-player combinations which will be surveyed next month.)

If equalizers are suddenly becoming popular in mobile situations, they also continue to be well received at home. Nikko's EQ3 is an octave-band device with ten slider controls per channel; price, $280. JVC's SEA-20G ($170) has seven controls affecting both channels simultaneously, while the SEA-50 ($260) from the same manufacturer has ten controls, the uppermost of which is switchable between center frequencies of 12,000, 16,000, and 20,000 Hz. Soundcraftsmen have introduced several new equalizers, including the one-third-octave-band (twenty-two sliders per channel) TG3044-R ($550), the octave-band SE450 ($250), and the company's first unit with op-amp substitutes for inductors, the RP2201-R ($300) with octave-band controls. The ADC Sound Shaper Two Mk I ($280) has twelve controls per channel and is recommended for use with the ADC M-2 Dual Band Level Meter and a test record, both of which can be purchased for about $70. And MXR's latest equalizers cover alternate third-octave bands (fifteen controls per channel, $325) or, in a mono format, thirty-one controls covering third-octave points throughout the audio spectrum ($350).

The Allison "Electronic Subwoofer" is an equalizer designed specifically to extend low-frequency response down to 20 Hz with suitable loudspeaker systems and to curtail response below 20 and above 20,000 Hz abruptly, thus relieving the amplifier and speaker system of the task—and trouble—of handling signals beyond the range of human hearing. The bass boost provided by the Allison device is adjustable to suit the loudspeaker involved, and the projected price is $250. A similar product is Cerwin-Vega's DB-10 "Low-Bass Excavator," which also boosts bass above 20 Hz and rolls it off rapidly below that frequency. Lower bass than is in the program material is available from dbx's "Boom Box," a unit that synthesizes subharmonics from existing recorded material; it is now available in a professional version as the Model 500. Other professional versions of dbx consumer products have been introduced as well. There are also recently introduced professional versions of the RG dynamic-range expanders, available as the PRO-20 series, which have LED indicators to display the operational modes.

Test equipment is becoming popular with advanced audiophiles, and (fortunately) such equipment is becoming more accessible every year. Crown now offers the RTA-2 spectrum/real-time analyzer, with a 5-inch picture-tube (CRT) display and a built-in pink-noise generator ($2,595 if you act quickly). The Scott 830Z Audio Analyzer has ten oscillators constantly sweeping the center frequencies of the ten octaves from 20 to 20,000 Hz. A direct feed (or the unit's built-in microphone) will pass through the device under test and display them on an LED real-time-analyzer panel.

Superex has a headphone control center that will process the signals going to your stereo headphones in just about any way you could wish or imagine, and it is entirely passive.

The Janis Companion-1, containing a 120-watt power amplifier, includes a circuit that applies an adjustable amount of offsetting direct current to the woofer. The idea is to center the woofer cone mechanically, and the results are directly measurable with a harmonic-distortion analyzer. The company's Interphase-1 "crossover amplifier" has the same feature.

Cables and other connectors have been much in the news of late. Audio-Technica's new line of cables goes under the name "Vital Link," and includes litz-wire connections from the phone cartridge to the tone arm, as does the line of Fulton Audio Leads, which also offers loudspeaker cables. Speaker cables designated "high efficiency" are available from Sansui. Sparco's new cables just introduced the "Goldplated," which are gold-plated inserts that will add selected amounts of capacitance to the loading of a phono cartridge to smooth its frequency response when necessary. And Pioneer of America has brought out a special cable to connect automobile audio control complexes with an amplifier that may be located elsewhere in the car.

This survey of new audio equipment will be concluded next month with an examination of the loudspeakers, turntables, tape machines, video-disc systems, and accessories that will be on the market late this year or early next.
The XSV/3000 is the source of perfection in stereo sound!

Four big features ... all Pickering innovations over the past 20 years ... have made it happen.

1976: Stereohedron® This patented Stylus tip assures super traceAbility™, and its larger bearing radius offers the least record wear and longest stylus life so far achievable.

1975: High Energy Rare Earth Magnet
Another Pickering innovation, enabling complete miniaturization of the stylus assembly and tip mass through utilization of this type of magnet.

1968: Dustamatic® Brush
This Pickering patented invention dynamically stabilizes the cartridge-arm system by damping low frequency resonance. It improves low frequency tracking while playing irregular or warped records. Best of all, it provides record protection by cleaning in front of the stylus.

1959: Record Static Neutralizer
The patented V-Guard Record Static Neutralizer has been a feature of all Pickering cartridges since 1959. It eliminates electrostatic dust attraction at the stylus and discharges record static harmlessly into the grounded playback system.

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CIRCLE NO. 41 ON READER SERVICE CARD

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Not all decks give you the same deal.

The deck: The Sony TC-K5 cassette deck.
The deal: A high-performance deck that also lets your money perform. And the reason Sony gives you more for your money is that Sony is more of a company. After all, we’ve been making tape recorders for over 30 years. Other manufacturers have to charge you for their learning experiences; Sony’s experience saves you money.

A new motor solves an old problem.
The K5’s DC motor is known as FG servo-controlled. What separates it is that the commutator is separately housed, to reduce vibration. You’ll also find a built-in frequency generator servo system. Infrequently found at this price, it monitors and corrects speed variations, which reduce wow and flutter.

Go to the head of the class.
That’s where you’ll find our ferrite and ferrite record/playback head. Ferrite improves high frequency performance, and allows for a wider frequency response. Ferrite is more expensive, but it lasts 200 times longer than conventional heads. And the body of the TC-K5 is built to last as long as its head.

Measure a cassette deck by its meters.
The TC-K5 has two professionally calibrated VU meters. And there’s also three LED peak-level indicators. Controls include an automatic shut-off in all modes, tape counter and memory, a rec-mute switch, and an automatic tape-repeat mechanism.

And since we’re not biased about standard, chromium dioxide, and ferrichrome tapes, our bias and equalization switches let you play all three. In fact, with nine possible combinations, any tape of the future can be handled. The TC-K5, with built-in Dolby noise reduction system, is priced like a basic cassette. But you’d never know it from the elegant electronics and controls. It has features above and beyond the call of duty—but not the call of Sony. It’s for those on a budget. But who, when it comes to quality, refuse to budge.

SONY AUDIO

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CIRCLE NO. 54 ON READER SERVICE CARD
It comes as a surprise to realize that four years have passed since Nina Simone, one of the most versatile and forceful artists of our time, has been represented on disc with fresh material. A new listing did appear in the catalog in 1976, an album devoted to songs of such popular poet-composers as Bob Dylan and George Harrison ("Poets," RCA APL.1-1788), but it was, disappointingly, a mere compilation of previously released items. What had happened to this woman who, during the turbulent Sixties, gave musical utterance to the pressing social issues confronting an America in a state of near revolt?

After first capturing public attention in 1958 with the release of I Loves You Porgy, which cast her in the role of a supper-club chanteuse, she underwent a series of aesthetic transformations to emerge, within a decade, as the "High Priestess of Soul," a clarion voice of the black revolution. I, for one, can never forget the abrasive insistence of her compositions Mississippi Goddam and Four Women, or the poignant entreaties couched in her renditions of Billy Taylor's I Wish I Knew How It Would Feel to Be Free and of Young, Gifted and Black, which she co-wrote with Weldon Irvine, at one time her musical director. While many others may have voiced the same thoughts, none but Nina seemed capable of endowing them with the requisite searing intensity and highly skilled musicianship. Perhaps it was because she was a true eclectic, drawing with equal facility from the deep, communicative wells of jazz, blues, gospel, folk, popular song, and even European classical music (in which she was trained as a pianist). An examination of her thirty or so albums—most of them now out of print—reveals an artistic range that is exceptional in the way it dips freely into all these forms and styles while maintaining a sturdy individuality. But the bottom line of her appeal was, and is, a rare combination of passionate indignation tempered by an almost painful sensitivity.

Where has Nina Simone been during those four years of silence? Why, performing for enthusiastic audiences in Europe and Israel! Her new CTI album, "Baltimore," was recorded during a concert in December 1977 at the Drury Lane Theatre in London, and oh...
Schubert's C Major String Quintet: The Composer Is the Only Superstar

One tends to distrust superstars in chamber music. It's not that they have no feeling for it, God knows, or that they haven't given us some memorable performances and recordings of chamber works over the years, but simply because, as a rule, they haven't enough opportunity to perform with the same associates month after month, year after year. Surely it is the experience of developing a unified style and outlook — of breathing with each other — that, as much as any other single factor, makes for the most probing and communicative performances in this area. Moreover, this seems more essential in respect to string players than to the pianists or wind players who may join the basic string quartet for such works as call for their services. That much acknowledged, it must be said that Deutsche Grammophon's new recording of the Schubert Cello Quintet in which the Melos Quartet of Stuttgart is augmented by no less a cellist than Mstislav Rostropovich is not only a success in terms of unified concept but one of the most beautiful and convincing performances of this grand work any of us is ever likely to hear.

The Melos Quartet's Schubertian credentials have been presented brilliantly in a seven-disc set of all the string quartets (DG 2740 123), and we must assume that this group has played the quintet frequently. Rostropovich recorded the quintet with the Taneyev Quartet fifteen years ago (Westminster WGS-8299), and he, too, must have played it often — but could he and the Melos possibly have been able to work together frequently enough to produce so thoroughly integrated a realization of so vast a work? Perhaps sheer intensity was the compensating factor in this case. In any event, another factor that helped make this venture so successful was surely the willingness of the colorful and often provocative Rostropovich to allow himself to be inconspicuous. Not that one fails to notice the unusually beautiful cello playing, but there is no question here of solo prominence or "primum inter pares." In his chamber-music performances, as he does when he accompanies his wife, soprano Galina Vishnevskaya, at the piano, Rostropovich seems to take on a different musical character from the one he shows as soloist or conductor; the emphasis is on integration and intimacy, and the only superstar is the composer.

This performance of the Schubert quintet is a thoroughly idiomatic one, in keeping with what the Melos Quartet has given us on its own. The playing is highly polished, yet it gives off a sense of real Schubertian spontaneity. It is by turns taut and expansive, dramatic and lyrical, with phrasing as eloquently enforced as the great themes themselves; pacing is close to ideal; and the balance between the instruments is sheer perfection. The full exposition repeat is taken in the first movement, and with playing as beautiful as this I don't think I'd become impatient if it were repeated yet again. The adagio is played very broadly, but always kept moving, even at the very end where time really seems to stand still. The rhythmic alertness in the fiercely energetic statement of the scherzo is quite remarkable, but no more so than the unanimously dead-on intonation in the scurrying final bars of the last movement, or, for that matter, the excellent recording which so vividly projects the whole, unflawed by a single out-of-place gesture, and draws us deeper into Schubert's world for a really enchanted hour.

There have been other great recordings of this great work. The somewhat leaner approach of the Albanini Quartet with the late Thomas Igol on CRD 1018 is still strongly appealing among those available now, and I hope that Capitol will someday get around to reissuing the unforgettable version by the Hollywood String Quartet with Kurt Reher (along with several other HSQ recordings!), but the overall richness and conviction of this newest one
Joseph Haydn’s Mass in D Minor is a late, great work and one of the handful of chorus-and-orchestra settings that must be rated as sublime—right up there with the Bach B Minor Mass and the Beethoven Missa Solemnis. Its most recent recording—by Leonard Bernstein and the New York Philharmonic for Columbia—brings us a very special and thrilling performance, one that actually breaks new musical ground even as it delivers spinal chills!

The circumstances of the so-called “Lord Nelson” Mass are fascinating. Nothing could have been further from old man Haydn’s mind when he wrote it than the English admirality. The date was 1798, and the Napoleonic wars were threatening all of Europe—the Austro-Hungarian Empire in particular. Haydn called his new composition a “Mass in a Time of Anguish,” and it is one of his stormiest and most dramatic compositions. And on the very day of its first performance news arrived in Vienna that Admiral Horatio Nelson and the English fleet had annihilated Napoleon’s fleet in the Mediterranean near Egypt. A year later, Nelson himself, with Lord and Lady Hamilton in tow, was accorded a hero’s welcome in Vienna and the Mass was performed in his presence. Haydn gave Nelson his pen, while Nelson gave the composer the gold watch he had carried during the battle. (Haydn also wrote music for Emma Hamilton, who sang several of his works—but that is another story.)

Leonard Bernstein’s view of this magnificent late work has nothing in common with the conventional musical-folklore image of Papa Haydn. This is a tremendously dynamic performance with a level of excitement and drama one rarely finds these days even in Romantic music, let alone Classical. The feeling of emotional intensity, of irresistible involvement and spiritual uplift, surges irrepressibly out of these grooves, and it never lets up.

Not that this is an old-fashioned Romantic performance; far from it. I, think, well within the meaning and sensibility of late Classicism and late Haydn: the utmost intensity, drama, and lyricism contained within the strongest architectural form. The work may have its incipient Romantic elements, but it also grandly incorporates many traditional elements from the Baroque. This largeness of vision is, of course, right up Bernstein’s alley.

A special feature of this recording is the reconstructed organ part—originally performed by Haydn himself and very effectively realized here by Leonard Raver. The recording also features some of Columbia’s finest sound, and the silvery glint of the organ riding over the golden orchestral sonorities or threading through the voices is certainly one of its delights.

I should not neglect to add a word of praise for the excellent singing and playing of the Westminster Choir, the New York Philharmonic, and the solo quartet. But this is eminently Bernstein’s—and Haydn’s—show. With this recording Bernstein not only helps restore Haydn to a properly lofty plane among the old masters but also adds a long-missing dimension to the contemporary interpretation of the Classical repertoire.

—Eric Salzman

Haydn’s D Minor Mass: One of a Handful of Works That Must Be Rated as Sublime

BERNSTEIN: intensity, involvement, uplift

Haydn’s Mass No. 9, in D Minor (“Lord Nelson Mass”), Judith Blegen (soprano); Gwendolyn Killebrew (alto); Kenneth Riegel (tenor); Simon Estes (baritone); Westminster Choir; New York Philharmonic Orchestra, Leonard Bernstein cond. COLUMBIA M 35200 $7.98.


Schieder: malteable tone, liquid legato

Songwriter Beethoven: Three Albums Ably Document an Impressive Stylistic Range

BEETHOVEN’S song output may be dwarfed by his gigantic achievements in orchestral, chamber, and piano music, but it is far from insignificant. We recognize Schubert as the first master of the Romantic song, but how can we forget that Beethoven wrote his first songs before Schubert was even born? True, the emotional range of his songs is not as broad as that of Schubert, but if a subject engaged him, it usually inspired him to a worthy effort.

Beethoven’s songs include Italian ariettas (written under Salieri’s influence, perhaps, or Mozart’s) and German songs clearly modeled on Italian examples. There are also folksy strophic songs, comic ditties, slight occasional inspirations, and others that seem too ambitious for the modest confines of a mere song. He experimented with the form and, as a result, created the first song cycle (An die Ferne Geliebte, Adelaide (1797), the greatest of his early songs, anticipates the music of Fidelio’s Florestan in its ecstatic conclusion, but it calls for bel canto lyricism. And those who cite the uncompromisingly taxing lines of the Ninth Symphony or the Missa Solemnis as proof of Beethoven’s “lack of understanding” of the voice need only study his songs to see their theory go up in smoke.

Telefunken has recorded three volumes of Beethoven songs with tenor Peter Schreier and pianist Walter Ol bertz. Volumes II and III have now...
Townes Van Zandt's Country/Folk Mixture

Honoringly Treated
On Tomato Records

Townes Van Zandt has been around for a while, making some strange music, continually seeming to know more than he was letting on, and becoming something of an obscurantist, a cult hero—maybe by accident, maybe by design. Recently, his name has gotten around a bit as the writer of that strange (and good) song Pancho and Lefty, which was treated well by Emmylou Harris. And now he's done an album on the Tomato label, "Flyin' Shoes," which should get his name kicked around even more, for it's down to earth and yet it's good and solid and punchy and tuneful.

What happened is that Van Zandt teamed up with Chips Moman, who just may be the one producer in Nashville right now who has The Touch. Granted, it's an amorphous, would-be-commercial sound he gets, but it may be the most honorable way to up-date the sound of someone who's truly both country and folk, which is what Van Zandt is. Doc Watson, who also is, has recorded Van Zandt's songs off and on for years, and this album is mostly loaded with the kind of song Doc would do; the saner side of Townes Van Zandt, some call it—he has at least one album out that's truly bent and weird.

Moman plays up the acoustic guitar and plays down the electric guitar, getting the seamless wails from harmonica and pedal steel instead, and again that suits this side of Van Zandt to a tee. When the electric guitar finally does tear off on a solo in Dollar Bill Blues, it seems fresh and the heart is therefore fonder of it. The last time I heard Van Zandt sing he sounded like someone was holding him by the ankles and dangling him out the window, but he's smoothed it out quite a bit, and he has something valuable: an otherwise ordinary voice that's easy to recognize.

The songs aren't spectacular or wildly original, but they're subtly original and they grow on you. Spooner Oldham plays some very tasty piano, and there's not really a clinker anywhere. Look out, cult—outsiders may be on the way! —Noel Coppage

TOWNES VAN ZANDT: Flyin' Shoes.

Townes Van Zandt (vocals, guitar); Randy Scruggs, Chips Moman (guitars); Tommy Cogbill (bass); Eddy Anderson (drums); Jimmy Day (steel guitar); other musicians.

Loretta: No Place to Fall; Flyin' Shoes;
Ry Cooder, Earl Hines, And Others Have Some Shameless Fun with Feel-good Jazz

I've always admired Ry Cooder's catholic taste and the sense of humor expressed in his choice of material: double-entendre blues, spirituals, Fifties and Sixties American and British rock songs, country-pop, and joshing tunes like A Married Man's a Fool. His rule has always seemed to be "Never mind the era or the style; does the song feel good?"

Cooder has long been a first-rate, versatile guitarist, and since 1970 he has grown as a singer, becoming more comfortable both to himself and to his listeners. His new Warner Bros. album "Jazz" is by all odds his best so far in the syncopated style of Joseph Spence, a guitarist and singer from the Bahamas. Although the performances are commendable, Spence's adaptions are interesting rather than arresting, and one example would have sufficed.

The Dream, written around 1880 by Bill Challis and transcribed Bix's cornet playing from the disc of Davenport Blues and adapted it for piano. Face to Face That I Shall Meet Him, Happy Meeting in Glory, and We Shall Be Happy are spirituals arranged in the symmetry. Cooder's playing is delicate, then—radical (1929-1930) experiments in harmony. Cooder's solo is on Morton's The Pearls and Beiderbecke's Flashes, both originally piano pieces here transcribed for guitar. Both compositions are complex, especially Beiderbecke's with its then-radical (1929-1930) experiments in harmony. Cooder's playing is delicate, elegant, and quietly moving.

A sprightly and transparent-sounding quintet is used for the two other Beiderbecke compositions, In a Mist and Davenport Blues. The former is Bix's famous piano work, which he recorded in 1927. The latter he never wrote down, but after his death in 1931 his friend Bill Challis transcribed Bix's cornet playing from the disc of Davenport Blues and adapted it for piano. Face to Face That I Shall Meet Him, Happy Meeting in Glory, and We Shall Be Happy are spirituals arranged in the syncopated style of Joseph Spence, a guitarist and singer from the Bahamas. Although the performances are commendable, Spence's adaptions are interesting rather than arresting, and one example would have sufficed.

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**CLASSICAL DISCS AND TAPES**

Reviewed by RICHARD FREED • DAVID HALL • GEORGE JELLINEK • PAUL KRESH
STODDARD LINCOLN • ERIC SALZMAN

**BARBER: Songs** (see BERG)

**RECORDING OF SPECIAL MERIT**

**BARTÓK:** String Quartet No. 2, Op. 17; String Quartet No. 6, Tokyo String Quartet. DEUTSCHE GRAMMOPHON 2530 658 $8.98, © 3300 658 $8.98.

**Performance:** Intense

**Recording:** Excellent

The Second String Quartet is the most Central European of Bartók's works; that is, it shows the influence of Viennese expressionism (after all, the Austrian capital was only a few miles up the river from Hungary). It is a singularly intense composition, long and not easy to take. But it is also a strong and beautiful work, and it is realized by these Japanese musicians with magnificent clarity of style and full intensity of feeling. Bartók's Sixth Quartet, his last, written just before his emigration to the U.S., is a much tighter, more modernistic sounding work, but like his other late works it is highly eclectic, employing traditional elements—tonality, consonance, folk modality—in a new context. This somewhat enigmatic piece springs to life in the gifted hands of these young players. Theirs is some

**BAX:**

The Garden of Fand; Tintagel; Mediterranean; Northern Ballad No. 1. London Philharmonic Orchestra, Sir Adrian Boult cond. HNH 4034 $7.98.

**Performance:** Top-drawer

**Recording:** First-rate

I find Arnold Bax's Northern Ballad, with its forthright evocation of the Scottish folk idiom, more appealing than the somewhat diffuse though gorgeously orchestrated sea pieces The Garden of Fand (Ireland) and Tintagel (Cornwall). The brief Mediterranean is a kind of Baxian bow in the general direction of "pop" stylization (Spanish in this instance) of the type cultivated by the younger Paris-based composers of the day. The recorded performances here date from 1972 and were available initially on the Musical Heritage Society label. If the repertoire interests you, this disc is a winner, for the HNH remastering and pressing are superb, the recorded sound as such as is of the very best, and the Boult readings and the orchestral performance could hardly be bettered.

**BEETHOVEN:**

**RECORDING OF SPECIAL MERIT**

**BEETHOVEN: Trio in B-flat Major for Piano, Clarinet, and Cello, Op. 11; Quintet in E-flat Major for Piano and Winds, Op. 16.**

Peter Serkin (piano); Richard Stoltzman (clarinet); Fred Sherry (cello); Alan Vogel (oboe); Robert Rouch (horn); Bill Douglas (bassoon). RCA ARK1-2217 $7.98, © ARK1-2217 $7.98.

**Performance:** Beautiful

**Recording:** Sumptuous

This program is headed "Tashi Plays Beethoven": three of the four members of that ensemble perform the trio and two of them return, with "guest artists," for the quintet. The B-flat Trio receives what is surely its most persuasive presentation since the old Decca mono disc, of blessed memory, on which it was played by Mieczyslaw Horszowski, Reginald Kell, and Frank Miller. The Tashi approach is rather leisurely—each musician molding his sound lovingly and responding to his respective associates with an unhurried sort of spontaneity—and some listeners may find it a bit underanimated or, as one mentioned to me, short on humor. I can only say that I did not feel this myself; the word "beautiful" kept forming itself in my mind again and again as one lovely passage led to the next. The quintet, distinguished by similarly beautiful playing, is also a bit more relaxed than in most other versions, but again—especially in the slow movement—one is simply enthralled by the sound, the aura of intimacy, and the transparent charm. I would not think of doing without the London disc of the Beethoven and Mozart piano-and-wind quintets played by Vladimir Ashkenazy and the London Wind Soloists (CS-6494) or the aforementioned old Decca version of the trio (DL-9543), which I shall continue to cherish as I have the last twenty-five years or more; but among currently available recordings of the latter there is none so beautiful as this sumptuously recorded new one, which seems to me to justify whatever duplications acquiring it may involve.

**RECORDINGS OF SPECIAL MERIT**

**BEETHOVEN: Variations on a Waltz by Diabelli, Op. 120.**

Charles Rosen (piano). PETERS INTERNATIONAL PLE 042 $7.98, © PCE 042 $7.98.

**Performance:** Extraordinary

**Recording:** Very good

**BEETHOVEN: Variations on a Waltz by Diabelli, Op. 120.**

Alfred Brendel (piano). PHILIPS 9500 381 $8.98.

**Performance:** Brilliant

**Recording:** Excellent concert take

For me, Beethoven's Diabelli Variations are a kind of comédie humaine, a glorious excursion from the ridiculous to the sublime. Listening through these two new recordings, together with the legendary 1937 Artur Schnabel realization (now on Seraphim), proved to be both instructive and highly entertaining. Schnabel is warm and earthy, Brendel is brilliant and witty, and Charles Rosen, to my

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**Explanation of symbols:**

- © = reel-to-reel stereo tape
- ® = eight-track stereo cartridge
- © = stereo cassette
- □ = quadraphonic disc
- □ = reel-to-reel quadraphonic tape
- ★ = eight-track quadraphonic tape

Monophonic recordings are indicated by the symbol ©

The first listing is the one reviewed; other formats, if available, follow it.
mind, seems to have the best of both worlds. There is marvelous suavity and bravura in Bredell’s performance; he really does take one’s breath away in the brilliant variations Nos. 10, 23, and 27. But Rosen’s performance is in its totality a truly extraordinary achievement. There is all the virtuosity needed for the “brilliant,” variations, and there are the grittiness, fierceness, and humor that these pieces need as well. While both Rosen and Bredell make the most of the dissonant elements in No. 9, Rosen makes a much fiercer affair of No. 13, and his control is just astonishing in the nastily difficult No. 17. Both artists excel in the harmonically suspenseful No. 20, but Rosen probes more deeply into the three great C Minor variations (Nos. 29-31), which constitute one of Beethoven’s most sublime and fascinating “slow movements” complexes. Rosen similarly gets considerably more in the way of nuance and phrasing from the final variation and coda.

Bredell’s performance, recorded at a London Royal Festival Hall concert on February 5, 1976, emerges from the disc with crystal clarity of sound and a lack of audience noise rather amazing for London in February. Rosen’s recording is a beautiful studio job, also originating in England and with a piano appropriately voiced for the task at hand. D.H.

**RECORDING OF SPECIAL MERIT**

Berg: Seven Early Songs. Barber: Nocturne; With Rue My Heart Is Laden; Sure on This Shining Night. A Nun Takes the Veil; The Secrets of the Old; Solitary Hotel; Rain Has Fallen; Sleep Now; I Hear an Army. Joan Pattenau (soprano); Mikael Eliazen (piano). **MUSICAL HERITAGE SOCIETY MHS 3770 $4.95 (plus 95c postage and handling from Musical Heritage Society, 14 Park Road, Tinton Falls, N.J. 07724).**

Performance: **Very good**

Recording: **Very good**

This second volume of “Songs of the Great Opera Composers” from the Musical Heritage Society (Volume One was devoted to Bizet, Massenet, and Saint-Saëns) includes some exquisite examples of the art song in the twentieth century. Both the Berg and the Barber songs are highly romantic. Berg’s Seven Early Songs are settings of German verses about misty twilights, forest walks, autumn sunshine, and the bliss of lovers in a song cycle that is like a haunting nocturne for the human voice. His setting of Rilke’s Traumgekrönt (Crown of Dreams) is particularly tender and evocative. Barber, at his best matched by few of his contemporaries in writing for the voice, is represented in top form with a wistful treatment of A. E. Housman’s “With Rue My Heart Is Laden” and an ode to the beauties of a summer night by James Agee (who supplied the text for the same composer’s remarkable **Knobs: Summer of 1915**). Most absorbing of all are Barber’s moving miniatures inspired by lines from the works of James Joyce, of which he has set quite a few. Included in this program are a brief passage from Ulysses, the tender Rain Has Fallen and Sleep Now, and I Hear an Army, a poem of such surging power that it is remarkable how well the composer has matched its flashing imagery with his music.

Joan Pattenau’s voice is not a particularly supple or sensuous instrument, but she makes up for what it lacks in sweetness with an abil-
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ty to interpret her material in a most penetrating way. Mikael Elfsen is an excellent accompanist for her, and he has plenty of challenging work here. There are no notes, alas, but texts are supplied.

P.K.

BLOCH: Quintet No. 1 for Piano and Strings, New London Piano Quintet. HNH 4063 $7.98.

Performance: Very good
Recording: Very good

Bloch's marvelously fierce 1923 First Quintet (be produced a second one in his final year), so filled with both primordial energy and tenderness, has been almost as neglected as its string quartets. It's hard to imagine why, for I've never seen an audience fail to respond to the work. In any event, it is heartening to have two fine recordings of it available now, and this is a very good one indeed, with plenty of passion and commitment and no lack of technical assurance on anyone's part. It is, in fact, quite similar in approach and in many details to the performance by Frank Glazer and the Fine Arts Quartet on Concert-Disc CS-252, and it is more clearly recorded. The handsome sound, however, does not offset the rich string tone of the Fine Arts Quartet (the New London strings tend to sound thin) or the overall intensity that so consistently and effectively vivifies the American team's performance.

R.F.


Performance: Spacious
Recording: Better in Rhapsody

This Third Symphony performance comes from Karl Böhm's 1976 Deutsche Grammophon package of all four Brahms symphonies. The first movement is spacious to the point of being almost loose. Brasses and woodwinds are a bit overprominent, but a slight cut in mid-range eases this situation. The reading seems to cohere better as it goes along, and there is a beautiful musing of the windwood interplay in the middle section of the first movement. The finale is splendidly taut and rugged. In all, a good performance, but nothing exceptionally.

The Alto Rhapsody is the real prize here, with an extraordinarily intense and very broadly paced interpretation by Christa Ludwig, who sounds in superb voice. The male contingent of the Wiener Singverein is heard splendidly as well as being, and Böhm's knowing collaboration makes this an unusually distinguished performance.

D.H.

BRITTEN: Prelude and Fugue for String Orchestra, Op. 29. English Chamber Orchestra, Benjamin Britten cond. PIAEFRA, Op. 93. Janet Baker (mezzo-soprano); English Chamber Orchestra, Steuart Bedford cond. SACRED AND PROFANE, Op. 91; A Wealden Trio; Sweet Was the Song; The Sycamore Tree; A Shepherd's Carol. Wilbye Consort, Peter Pears cond. LONDON OS 25527 $7.98.

Performance: Very good
Recording: Very good

This record combines some very early Britten with two major works composed toward the end of his life (1957-1976). The earliest pieces are three lovely and fresh-sounding carols (A Wealden Trio, Sweet Was the Song, and Sycamore Tree) dating from the composer's student years of 1929-1931. A 1944 setting of the W. H. Auden poem A Shepherd's Carol rounds out the carols on the disc; the text is rather weird and problematic because of its brusque juxtapositions, and I find the musical treatment unconvincing. I am entirely taken, on the other hand, by the Prelude and Fugue (1943), an inventive and richly scored piece that comes off with a virtuoso effect here.

Sacred and Profane was written for Sir Peter Pears' five-voice Wilbye Consort in 1975. It is a group of eight unaccompanied choral settings of medieval texts. Unpredictability is a key element here, for the songs range from sincere devotion to tongue-in-cheek parody, and the musical treatments from mellow liturgical modes to bold harmonic adventures. Though not without traces of self-conscious artiness, the sequence is refreshing and effective. Phaedra, a monodrama written for Janet Baker, is modeled on the Handelian cantatas of which Dame Janet is such a remarkable interpreter. She projects the text (Racine via Robert Lowell's poetic translation) with telling dramatic effect, but I don't find it memorable musically. All the performances are on a high level, and so is the recorded sound.

G.J.


Performance: Blunt
Recording: Excellent

It is a convenience to have all of Chopin's cello music collected on a single disc, and it is especially good to see the two adorablen short pieces, neither of which has been available at all for some time, but this release raises more than meets the eye. Nathaniel Rosen has a nice, warm tone and plays with great assurance and smoothness; what is missing is the personality, the flair, that makes one really want to hear these pieces. As for the polonaise, I suppose I am irrevocably spoiled by familiarity with the old Feuermann recording, which had freedom and lightness, yet an aristocratic mien. I don't intend to condemn Rosen for not being Feuermann, but his approach here strikes me as too bland to bring the music to life. The most pleasurable contributions to the record are those of Doris Stevenson, who enlivens the piano part of each work with a true Chopinesque vitality, and of the recording engineers, whose well-balanced, realistic achievement is presented handsomely on the clean German pressings.

I am sorry I cannot be more enthusiastic about Rosen's performance, for he wins the gold medal in this year's Tchaikovsky Competition in Moscow a few months after this disc was released. But now he will surely be making more recordings, and we'll have the opportunity to enjoy his artistry in other, possibly more sympathetic repertoire.

R.F.

DVOŘÁK: String Quartet No. 12, in F Major, Op. 96 (see SMETANA)

HANDEL: Theatre and Outdoor Musick. Transcriptions for Harpsichord of Pieces from (Continued on page 112)
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*Dolby is a trademark of Dolby Laboratories, Inc.
Now that all of Haydn’s symphonies and string quartets are safely on disc, it’s more than time we had an opportunity to become better acquainted with his almost as copious production of piano sonatas. A full three-quarters of the series is included in the five releases under consideration here, and it is marvelously varied and rewarding listening I have had from them over the past weeks. (For convenience, by the way, I have converted the Hoboken numbering of the works on the Vanguard, Nonesuch, and HNH albums to their equivalents in the comprehensive Christa Landon edition, and it is the latter’s numbering system that I have used exclusively in both this review and the listings at the end.)

Spanning a period of three decades, from the early 1760’s to 1794, when the sixty-second (and last) sonata was written, Haydn’s piano music embraces an expectably wide range of the composer’s styles. The first sonatas inhabit that curious middle ground between the Baroque and Classical styles, a territory Nos. 21-28—and because he is still beginning to comprehend. Haydn’s piano music embraces an expectably wide range of the composer’s styles. The first sonatas inhabit that curious middle ground between the Baroque and Classical styles, a territory

Joseph Haydn: gouache by Johann Zitterer, c. 1790

Haydn’s Piano Sonatas

is fully asserted. There are depths in these late works that vividly foreshadow some of the greatest of the later Viennese classics—Schubert, for instance, in the plangent octaves of the first movement of No. 49, and even the Beethoven of the Appassionata in the suspenseful rhetoric of No. 59, which yields nothing in subtlety and scope to the more celebrated No. 62. Such pre-echoes are to be enjoyed not merely as history lessons before the event, but as magical expressions of a genius whose full range we are even now only just beginning to comprehend.

The A-flat Major Sonata, No. 31, offers the best starting point for a comparison of the five pianists before us, since it is essayed by three of them. On the second release in his London series, John McCabe, who is a composer as well as a performer, sets forth an easygoing reading that lets the music speak for itself. This it does very well in all but the middle movement, which is a superb blend of passacaglia and sonata styles marked adagio but here played at a slightly facile andante. (In general stylistic terms, McCabe is right not to pace his slow movements too slowly; but in this particular case it is impossible to imagine anywhere for the tempo to have gone had the marking actually been andante.) Charles Rosen (on Vanguard) and Rudolf Buchbinder (Telefunken), in contrast, give powerfully characterful performances. The difference between them is that with Rosen the character is rivetingly musical, whereas with Buchbinder it is, I regret to say, simply bad. All three of Rosen’s performances (Nos. 32 and 33 as well as 31) are, indeed, full of the stylistic insight and expressive richness that we have come to expect from this scholar-pianist, and the disc—recorded by Columbia nine years ago and now at long last released in the U.S. under license—is the finest single achievement of all those under review.

I find Buchbinder’s performances really quite strongly dislikeable, which is sad both because of the scope of his project—it is the first in a presumably to-be-completed series, and the first set includes besides sonatas Nos. 1-20 and 29-34 an extended-play 7-inch disc with all the available material from the fragmentary sonatas Nos. 21-28—and because he is clearly a pianist of some stature with the ability, when he is not banging, to produce admirably singing treble tones. The trouble is with the woodenness of his left hand, which so drearily churns out accompanying chords that 4/4 movements almost always emerge at a pedestrian eight to the measure, and, more seriously still, with what I can only describe as a total lack of sympathy for Haydn’s style(s). Hardly a phrase is allowed to pass without either an aggressive crescendo or a hushed, expectant diminuendo. Buchbinder might respond splendidly to such playing, but for Haydn the whole approach, complete with jabbing accents and often absurdly hasty tempos, is wrong.

McCabe, fortunately, is a far more perceptive and sympathetic interpreter. More generous with repeats than any of the others in these releases and often beautifully inventive in his discreet ornamentation the second time around, he offers an attractive and usually convincing view of the music. Occasionally a fast movement loses impetus through too modest a tempo, but otherwise his set—and series as a whole—can be warmly recommended. Gilbert Kalish, too, on Nonesuch, is a distinguished Haydn player; if his series (this is his third disc of Haydn piano music) continues it may well provide some formidable competition for McCabe. And on HNH, the youngish British pianist Hamish Milne offers a strong performance of the great last sonata, together with a fascinating fantasia and, on the reverse, some impressive Mozart.

HATE to end on a carping note—but what is happening to pianos these days? All these recordings are good in audio terms, but it is a depressing sign of the times that one or another is blemished by imperfectly regulated instruments: McCabe’s piano, in some works, has a defective second G above middle C, and Kalish’s, in addition to a very heavy action, has no less disturbing second E-flat. Producers, not to say pianists themselves, really ought to catch such things.—Bernard Jacobson

STEREO REVIEW
It's a special kind of day. Just you and your friends. No pressures. No boss. Just a good feeling, lay back kind of line. And you like it.

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Performance: Vigorous  
Recording: Excellent

Recognizing the validity and long history of transcriptions, Kenneth Cooper has come up with a wonderful "new" Handel repertoire for the harpsichord. Handel's music is effective in its keyboard guise, and the disc is a joyous affair. Cooper plays vigorously and shows himself to be a master of detache. The results are often stunning: "The Entrance of the Queen of Sheba" from Solomon is breathtaking. In more lyrical pieces, however, such as the adagio from Il Pastor Fido, too much detached playing shatters Handel's long sinuous lines. All of Cooper's ornaments emphasize brilliance; perhaps an expressive approach, and playing them as part of a melody, would be more appropriate for the slow sections. On the other hand, the artist's improvised ornamentation of such movements as the Siciliana from the F Major Flute Sonata is imaginative and tasteful. Let us hope for more of these transcriptions—and also that Cooper will give us some proper French overtures rather than more of the bonbons Handel put into the music to come after the overtures themselves.

S.L.


Performance: Both fine  
Recording: Good

This appears to be the first recording of Howard Hanson's most popular symphony under a conductor other than Hanson himself, and Charles Gerhardt's way with the work is admirable. He maintains a good balance between expressiveness and color, avoids rhetorical excess, and is abetted by a fine and apparently enthusiastic orchestra. Hanson's own third and current recording of the symphony, though, has just that much more in the way of natural thrust and dignity (especially in the slow movement at the very end of the work), and his Eastman-Rochester strings sound richer than the probably more numerous ones of the National Philharmonic. The twenty-year-old Mercury recording (SRI-75007), in fact, has a more opulent character than this newer one, which is a bit less risque-sounding than most of the Quintessence sides from this general source (recordings produced for the Reader's Digest by RCA in the mid-1960's). The MacDowell side is a bit stronger in respect to both performance and sonics; unsurprisingly, Earl Wild is stunning in the solo part, and Massimo Freccia is with him almost every step of the way. All in all, the Quintessence release is an attractive and economical way to add two big American works to one's collection.

R.F.

HAYDN: Mass No. 9, in D Minor (see Best of the Month, page 101)


(Continued on page 114)
If the bass isn’t as clean as you’d like...

The problem may be your tonearm. Not your amplifier or speakers.

If you’ve been wondering why your high-powered amplifier and great speaker system don’t deliver deep bass as cleanly as you’d like—especially at high listening levels—the problem may well be the effects of resonance on the stylus.

Ideally, the stylus should move only in response to the contours of the record groove. But in reality, the stylus tip also responds to various resonances: its own (with the stylus shank) and the combined resonance of the tonearm/cartridge system.

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The startling effectiveness of these filters in lowering the resonant amplitude of three cartridges having different compliances can be seen in the graph. Whether the improvement in the bass is subtle or obvious to you depends on the other components and your listening environment.

We’ve prepared a technical paper on this subject which we’ll send to you if you write us directly. You may discover that you don’t have to replace your amplifier or speakers after all.
Avian Arias from Audubon

Fifty of the world’s most talented and beautiful singers on one gorgeous double album! You didn’t think that all of the world’s greatest singers were human, did you? Even whales sing, and the beauty of bird song has been recognized since very early times. Bird songs have influenced composers, too, from anonymous medieval bards to Jannequin, Rameau, Beethoven, Wagner, Respighi, Messiaen, and me. But it is only in the modern era of culture at least—are mostly European: such songs have influenced composers, too, from anonymous medieval bards to Jannequin, Rameau, Beethoven, Wagner, Respighi, Messiaen, and me. But it is only in the modern era of natural-sound recording into its own. The collection of tapes that went into “Beautiful Bird Songs”—from highly qualified amateurs as well as top professionals—is first-class, evoking the essence as well as the musical qualities of these singers.

I was already quite familiar with Olivier Messiaen’s Oiseaux Exotiques when I saw the score for the first time and discovered that he had carefully indicated the names of all his bird sources. Most of them turned out to be our common North American songsters (exotic to him, perhaps), and I didn’t recognize a one! Of course, a composer may take his inspiration wherever he finds it, but to find and appreciate the great bird singers, I suggest—short of some extensive globe-trotting—this beautifully produced set. The album includes illustrations of all the birds by Arthur Singer, one of the very best of living bird painters, as well as helpful notes and explanations by James L. Gullende of the Cornell University Laboratory of Ornithology. And when you take this audio trip to far-out places, set your mode switch to mono; it’s more natural way.

—Eric Salzman

BEAUTIFUL BIRD SONGS OF THE WORLD. Europe: Woodlark; Skylark; Nightingale; Thrush Nightingale; Bluetit; Rock Thrush; Blue Rock Thrush; Song Thrush; Blackbird; Icterine Warbler; Orphean Warbler; Garden Warbler; Blackcap; Africa: Fasciated Lark; Rüppell’s Robin-Chat; Snowy-headed Robin-Chat; Orange Ground-Thrush; Oberlaender’s Ground-Thrush; Mountain Yellow Warbler; Bearded Scrub-Robin; Brown Robin; White-browed Robin-Chat; Charister Robin-Chat; White-throated Robin-Chat. The Americas: Curve-billed Thrasher; Mistle Thrush; White-eye; Western Meadowlark; Cardinal; Bachman’s Sparrow; Rufous-and-white Wren; Brown-backed Solitaire; Slate-colored Solitaire; Spotted Nightingale-Thrush; Muscian Wren; Cocoa Thrush. Asia, Australia, and New Zealand: Brown Thrush. Japan: Robin; White-eye; Shima Japanese Bush Thrush; Narcissus Flycatcher; Superb Lyrebird; Pied Butcherbird; Brown-breasted Shrike-Thrush; Crested Bellbird; Gray Warbler; New Zealand Robin; Bellbird. Tui. AUDUBON/CORNEILL NAS 1000 two discs $19.95 (plus $1.75 postage and handling from the National Audubon Society, 950 Third Avenue, New York, N.Y. 10022).

7, 8, 10, 12, 16; Rondo in A Minor, Op. 59. Ozan Marsh (piano); Royal Philharmonic Orchestra, Paul Freeman cond. COLUMBIA SPECIAL PRODUCTS P 14254 $7.98.

Performance: Expert Recording: Good

I well remember the first American performance (in 1942, with Leo Smit as soloist and Frank Black conducting the NBC Symphony) of Kabalevsky’s Second Piano Concerto. I found the solo piano writing highly effective, the orchestral part somewhat opaque in places, and the music as a whole lacking the verve and character of the veteran Soviet composer’s works in a lighter vein, such as the Violin Concerto. This excellent first recording (it is also Columbia Special Products’ first newly recorded release) by Ozan Marsh, with Paul Freeman’s fine conducting, gives me no reason to change my mind, though in the course of reviewing the recent Kabalevsky has brightened up and more firmly pointed the orchestral texture. Much the best music on this disc is to be found in the eight pieces from the Op. 38 preludes and the brilliant rondo that Kabalevsky wrote for the 1958 Internation Tchaikovsky Competition (which, of course, he won by his rondo). The preludes range from the virtuosic-dramatic (Nos. 10 and 16) to the simplistic “song without words” type (Nos. 1 and 8). They are all beautifully written for the instrument, as might be expected of one who was trained by teachers of Alexander Scriabin’s generation. Ozan Marsh’s performances are expert and committed, and the recording is wholly satisfactory throughout.

—D.H.

LEHAR: The Merry Widow. Beverly Sills (soprano), Anna Glawari; Alan Titus (baritone), Count Danilo Damilovich; David Rhee Smith (tenor), Baron Mirko Zeta; Glenys Fowles (soprano), Valentienne; Henry Price (tenor), Camille de Rosillion; James Billings (baritone), Njegus, Pritchitch; Thomas Jamerson (baritone), Vicente Casada; Alan Kay (tenor), Raoul St. Bricio; Vincent Angelil (tenor), David Romoloni; Walrus Foss (baritone), Kromov. New York City Opera Orchestra and Chorus, Julius Rudel cond. ANGEL □ S-37500 $7.98.

Performance: Agreeable Recording: Superior

When Franz Lehár’s Die Lustige Witwe opened at the Theater an der Wien in 1905, the management was so nervous about its chances that the curtain went up on one of the oldest sets and the most worn-out costumes they had been able to borrow. Well, we all know what happened: Hanna (here, for some reason, Anna Glawari), the Merry Widow from Petrovenia who has to marry a countryman to keep her money in her homeland, has been trolling her way into the world’s heart ever since. The Merry Widow was considered daring in its day, what with its flirtatious heroine, its sensuous women, and its flamboyant fashions (when it was finally fitted out with new costumes). It has been translated into twenty-five languages and made into a ballet, several movies, and an ice show; millions of records of it have been sold. (The only piece of Kabalevsky’s performances are expert and committed, and the recording is wholly satisfactory throughout.

—D.H.

(Continued on page 116)
EasyLee. The feeling's as good as the look. Lee Rider jeans and jackets are 100% cotton with Lee Set® the SanforSet® process that starts denims softer, keeps 'em fitting smoother. The blue fades true, the size range is terrific. Check it now. The Lee Company, 640 5th Ave., New York 10019. (212) 765-5215.
whole thing as the sheerest shlock. Heard again now performed with much brio and a
minimum of schmaltz by the New York City Opera Orchestra and Chorus led by Julius Rudel, the work makes a better impression.

This Angel abridgment is a version prepared by Tito Capobianco for a San Diego Opera production, with new lyrics by Sheldon Harnick (Fiddler on the Roof, The Rothschilds, Fiorello). Those lyrics, while deferential to the period, are crisp and singable and manage to dodge the absurdities indulged in by earlier translators. Harnick is occasionally a bit racy for his subject matter ("They give you a run for your money/And then take your money and run") but by and large gives a good account of himself. In Rudel's hands, the score is far easier to take than it once seemed in certain heart-on-the-sleeve treatments under Continental auspices. There is no paucity of dashing numbers— I Find It at Max'in, See the Horsemen Come, the gypsy dances in Act One. The song about Villia, the "spirit maid" who leads the huntsman on into the woods, lets him make love to her, and then vanishes to leave him love-lorn, is still haunting, and the famous waltz itself proves to have plenty of life left in its lift. The cast is a star-studded one, with a first-rate cadre of supporting singers, most of whom are associated with the New York City Opera (where The Merry Widow has recently been on the boards). As for Beverly Sills, she has been performing the title role since she was seventeen, for a total of more than two hundred times, and she still makes a glamorous Anna/Hanna even though her voice is deteriorating and betrays an occasional harshness along with its worsening quaver. The abridgment works just fine; The Merry Widow is not one of those operettas where it is really necessary to sit through all the dialogue in order to enjoy the music, and most of that fits into the one-disc format. A text is provided. P.K.

MACDOWELL: Piano Concerto No. 2, in D Minor, Op. 23 (see HANSON)

RECORDING OF SPECIAL MERIT


Performance: Provocative Recording: Outstanding

Another Mahler First may not have seemed our most urgent need at the moment, but this new one by Ozawa is of the sort that would command the warmest welcome no matter how crowded the field is. When you have the finest performance in this conductor's discography to date, and it is surely the richest, most realistic recording Deutsche Grammophon has made in Boston, with the kind of sound that will make you feel very satisfied with yourself if you have recently invested in upgrading your audio system. I would have characterized Ozawa's exceptionally expressive and expansive approach as "Bruno Walterish," except that Walter was both brisker and steadier in the opening movement, and even he did not reveal so many intriguing details of the score as Ozawa does. In the latter respect, of course, the recording itself is quite a help. Ozawa's more leisurely pacing of the first movement points up the music's wistful nature without lessening its punch or vitality, but there is a bit of gear-shifting in preparation for the big climax at the end that was not necessary (or simply not noticeable) in Walter's reading. In the famous Funeral March, one might feel that Ozawa's caressing way divests the music of some of its sarcastic bite, but this is a matter of personal response, really, the sort of thing that makes it interesting to hear more than a single version of such a work.

In the two even-numbered movements, again quite unhurried but less conspicuously so than the odd-numbered ones, Ozawa seems at times to be taking advantage of the hindsight afforded by knowledge of the Second Symphony. The tender middle section of the robust second movement is especially evocative, and in the vast finale there is a real sense of Innigkeit, which makes the huge climaxes as well as the slowest sections unusually convincing. In his intensity and expressiveness Ozawa at times approaches excess, but he is never in any real danger of crossing the line. His feeling for the music is profound, his handling of the score masterly, and if the Boston Symphony Orchestra plays this well week after week it must be the equal of any on earth. Ozawa's provocative version is not superior to either Kubelik's (DG 139 331) or Horenstein's (Nonesuch H-71240), but it belongs in the same exalted class, and sonically it really is all-surpassing. It also carries a literary bonus in the form of Michael Steinberg's superb annotation. R.F.

ROSSINI: Overtures: Guillaume Tell; Le Siege de Corinthe; La Cenerentola; La Gazza Ladra; Semiramide; II Viaggio a Reims. Academy of St. Martin-in-the-Fields. Neville Marriner cond. PHILIPS 9500 349 $8.98, © 7300 595 $8.98.

Performance: Crisp Recording: Emphatic

The Melos Quartet plays Mozart about as elegantly as one will ever hear it. Their respect for the score manifests itself in a clarity of dynamic, articulation and translation that translates Mozart's lucid writing into lucid sound. As Mozart shifts from the serious to the light and toys with graceful turns of phrase and playful evasions, so the Melos Quartet changes its style and mood. This is particularly striking in the finale of the G Major Quartet, a tour de force that pits Classical joyousness against serious Baroque counterpoint. Not only is the obvious contrast brought out here, but there is even a subtle difference in the two fugue subjects: the first is played in a playing a cantilena style and the second enters with aggressive seriousness. What, like characters in an operatic finale, each maintains its own personality and both win. S.L.

ROSSINI: Overtures: La Gazza Ladra; II Sig- nor Briciusco; L'Italiana in Algeri; Il Barbic- di Siviglia; La Scala di Setta; La Cenerentola. English Chamber Orchestra, Enrique García (Continued on page 118)
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- Richard Freed, Stereo Review

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Performance: Amiable

Recording: Bright


Performance: Brilliant

Recording: Excellent

Both collections of overtures, it will be noted, are performed by chamber orchestras, and the Academy had to be beuffed up quite a bit to handle William Tell and Semiramide. Evidently it was felt that, since drums had to be hired for the project, there should be no reluctance to make the most of them: the final timpandi thwack in La Gazza Ladra is particularly realistic on the Marriner disc, as are the drums in Semiramide. Aside from these impressive little displays (the recording throughout is what might best be termed "emphatic," and occasionally in Semiramide there is a bit of blur), the performances are less striking than those in Marriner's earlier Rossini overture collection (Philips 6500 878), whose contents on the whole are more suited to the Academy's style.

García Asensio's Rossini collection was issued two or three years ago by the Musical Heritage Society and is still available from that source (MHS 3176K). I find it a bit more comfortable than the new Marriner; the readings, not at all short on brilliance and bite, are amiable, unselfconscious, and altogether ingratiating, and the sound (recorded by Ensayo) is bright and uncluttered.

The Netherlands Wind Ensemble disc does not, of course, call for direct comparison with any other Rossini collection. A year or two ago Philips released a charming record, by the same group, of wind transcriptions of portions of Mozart's Don Giovanni and Entführung aus dem Serail, the former a concoction of Johann Georg Triebensee. Triebensee's pupil Wenzel Sedlak was one of the most prolific producers of these operatic transcriptions, so popular in the early part of the nineteenth century, and he was responsible for all the arrangements on this Rossini disc. Corradino is a real novelty in any form; "Corradino" is an alternative title for the opera otherwise known as Mathilde de Sablon, and probably the reason we never hear the overture in its original form is that it is just too silly and undistinguished to bother with. It is at least amusing in the transcription, and it is very brilliantly played, as is everything in the collection. The rumbling bassoons in the Barber overture are fine straight-faced humor; the six pieces after the overture are not presented in the order in which they appear in the opera, but that certainly doesn't matter. Semiramide is given a ripping performance, and the pizzicati and other string effects are most ingeniously replaced rather than imitated. The most fun for me, though, proved to be the deliriously burbling clarinets in L'Italiana in Algeri. I suspect this is really a record for true-blue wind aficionados that will not wear too well with most other listeners, but, for one or two times around, it's pretty close to enchanting. The sound is just about ideal in its wide-open naturalness.

R.F.

(Continued on page 124)
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Even after a generation in which to get used to it, I find that Olivier Messiaen’s Turangalîla Symphony can raise my hackles just as it did when I heard Leonard Bernstein conduct the Boston Symphony Orchestra in 1949 (the work was commissioned by the Serge Koussevitzky Foundation). I still have problems deciding what is genius and what is merely overblown Cecil B. DeMille kitsch in this ten-movement, eighty-minute extravaganza—which, besides a full-strength symphony orchestra, calls for an array of gamelan-style percussion and incorporates both a virtuoso solo-piano part and a key role for the Ondes Martinot (a radiophonic instrument comparable to the Theremin). But, given today’s technology, Turangalîla is a record-producer/engineer’s dream, and the two Christophers—Bishop and Parker—who, respectively, filled those roles for Angel/EMI’s new recording of it have made the most of their opportunity. The sonic grandeur and variety that emerge, even with Angel’s less-than-flawless pressings, are simply overwhelming, especially in terms of the “surround” and separation afforded by four-channel playback. Audiophiles should be delighted with the beginning of side four—or, for that matter, the second halves of both side two and side three—for it offers pretty much the ultimate in frequency range, complex tones, and transients.

Musically, Turangalîla is a monumental mixture of Hindu, bird song, and post- (very post-) Wagnerian French elements. The gestural rhythmic aspects seem to me to stem less from Stravinsky than from Messiaen’s study of the classical music of India. Structurally, the work hinges on three contrasting cyclic themes, two of which are clearly manifest in the introduction, with the third reaching full development in the sixth movement. All posers of all persuasions during the Fifties and Sixties—as well as what had been experimented with in the Twenties—is to be found in Turangalîla. On that basis alone it ranks as a twentieth-century score of major significance. Whether its sheer prodigality can stand up to repeated hearings is, perhaps, a matter of personal reaction thresholds.

In terms of sonic realization, this third recording of Turangalîla is light years ahead of the first one (done in a dead-sounding studio and issued on the French Vega label), and it is a definite advance even over the generally excellent recording Seiji Ozawa made in Tokyo a decade ago (still available on RCA). In all three recordings the composer’s sister-in-law, Jeanne Loriod, presides over the Ondes Martinot, giving assurance of fidelity to the immensely complicated score. But the greatest part of the credit for the spectacular results this time belongs to conductor André Previn and the magnificent London Symphony Orchestra players. I have no hesitation in saying that this release is one of their finest collaborations to date.

—David Hall

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SCHUBERT: Der Pilgrim (D. 794); Frühlingssglaube (D. 868b); Der Liebliche Stern (D. 861); An Mein Herz (D. 860); Der Blumenbrief D. 622; An den Mond in einer Herbstnacht (D. 861); An Mein Herz (D. 860); Der Blumenbrief (D. 860); Die Einsamkeit (D. 620); Robert Holl (bass); Konrad Richter (piano). PREISER SPR 3288 $7.98 (from the German News Co., 218 East 86th Street, New York, N.Y. 10028).

Performance: Good
Recording: Very good

At first glance, this is hardly a release to invite much attention. The singer is unknown, and the liner, in German only, says nothing about him. Some of the songs are unknown, too, even if they are by Schubert, and there are no texts, not even in German. And yet, the album is worth investigating. At least three of the songs (Frühlingssglaube, Der Blumenbrief, and Auflösung) are top-drawer Schubert. The others are a mixed lot ranging from the beautiful Abendstern to the cantata-like Die Einsamkeit, which is virtually endless and for all practical purposes unperformable.

Robert Holl is obviously a cultivated and experienced singer. His voice is a warm and resonant bass-baritone, expressive and sensitively used. It is somewhat limited at both extremes, but most of the songs lie within the range his agreeable tones easily encompass, and his intonation falters only in sustained forte passages. Both the accompaniments and the engineering are excellent. This is a disc for specialists only, but it is a thoroughly professional effort.

G.J.

SCHUBERT: String Quintet in C Major, Op. 163 (see Best of the Month, page 100)


Performance: Variable
Recording: Excellent

We have learned to expect both wonderful and exasperating things of Daniel Barenboim as a conductor. Let's take the wonderful ones here first. The Manfred Overture performance is one of the most fiercely passionate and convincing I have ever heard. The same expressive intensity permeates the reading of the C Major Symphony. The tempos are sensible throughout—though I would have liked slightly more momentum in the introduction—and the slow movement is simply marvelous. The Rhenish Symphony is only slightly less convincing. There is a fine impetuosity to the opening movement, and the free treatment of the scherzo, while remaining within appropriate musical bounds, really works to keep up one's interest. The slow movement is a mitre too slow for my taste, and the so-called "Cathedral Scene" that immediately precedes the finale is very solemn and intense. The finale begins rather tamely, but it works its way up to a splendid conclusion.

It is in the Spring and D Minor Symphonies that exasperating things come into the picture, chiefly overly extreme tempo shifts and contrasts. The opening of Barenboim's Spring seems to me more appropriate to Mahler than to Schumann. Leonard Bernstein, who can be equally exasperating in Schumann, offers a superbly exuberant reading of it that I recommend as an alternative, and there are also good American versions of No. 4, most notably George Szell's.

The Chicago Symphony plays with great sweep and brilliance throughout the set, and it is only logical that Barenboim should have picked the Konzertstück for Four Horns as a filler for side two. The piece is not major Schumann, but the great Chicago horn section gets a superb workout, and the whole thing comes off brilliantly as a display of pure virtuosity. The recorded sound is first-rate all the way.

D.H.

RECORDING OF SPECIAL MERIT

SHAPEY: String Quartet VII. Quartet of the Contemporary Chamber Players of the University of Chicago. COMPOSERS RECORDINGS, INC. SD 391 $7.95.

Performance: Most impressive
Recording: Good sound

Ralph Shapey, born in Philadelphia in 1921, belongs to what I have called the abstract-expressionist generation of American music. Shapey's work is the musical equivalent of the New York school of painting in the Fifties and early Sixties, and Shapey himself was close to many art-world figures during his years in New York. Since 1964, he has been the director of the Contemporary Chamber Players of the University of Chicago, where he has devoted himself to conducting. In fact, for a number of years he virtually stopped composing and actually withdrew his works from circulation. Recently, however, he has relented and permitted some of his work to be performed and recorded (I hope he has taken up composition again).

The Quartet VII was written in 1971-1972—just at the beginning of the famous silence. It is a work of intense and tremendous lyricism, expressed—as always in Shapey's music—in a very dissonant, block-like form. This is a bleak, heart-rending musical landscape—especially in the long and difficult final Passacaglia—but the beauty, although stark, is very real. The performance here is excellent, not just in detail, but in sustaining the bigger line of the piece—no easy task!

E.S.


Performance: Powerful symphony
Recording: Symphony fares better


Performance: Provocative symphony
Recording: Symphony better

In this new recording of Sibelius' redoubtable Fourth Symphony, Herbert von Karajan's tempos are decidedly broader than in his Deutsche Grammophon reading of a dozen years ago. This works in the opening movement, whose brass-timpani eruptions achieve a more than usually ferocious impact, but not so well in the scherzo and finale, which I feel could do with more of a sense of urgency. It is
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in the slow movement, which he takes at the same very slow tempo as Colin Davis in his recording with the Boston Symphony, that Karajan and his Berliners are at their very best, leaving me almost convinced—as I was not with Davis—that this treatment can work. By and large, however, I still prefer Davis and the Bostonians.

The new Karajan reading of the Fifth Symphony is only marginally broader in pacing than the 1965 one. The real interest in this performance is in Karajan's ideas about the first movement: from the outset of the allegro proper he treats the music as a gradual but continuous accelerando right up to the exuberant close. Among the more provocative details in the same movement is the prominence given to the famous solo bassoon "lament" as against the supporting string figuration, which here becomes a barely audible wisp (the noisy Angel surfaces were no help at this point). Karajan gives us a finely nuanced slow movement and a finale with plenty of dynamic contrast. I'm not sure, however, that I care to have the final chords spaced quite so closely (this happens in the 1965 recording too). Again, on direct comparison, I'll go with Davis.

The Tapiola and En Saga performances here were recorded earlier than the symphonies and previously issued as part of Angel S-37408, which also included Finlandia and The Swan of Tuonela. The microphone setup seems closer up than for the symphonies, and the recordings profit little from four-channel playback. (There is a certain gain in spatial illusion from four-channel playback of the symphonies.) Tapiola gives a good performance, with especially fine playing in the delicate scherzando episode, but, on the whole, Davis again the winner in my book.

En Saga a trifle perfunctory in spots and the sound absolutely no match for that achieved in the Paavo Berglund recording on Angel S-37104. (The all-important bass-drum coloration is virtually inaudible in Karajan's performance, but spectacularly magical in Berglund's.) Both Berglund's and Okko Kamu's (DG 2530 426) readings have a good bit more of the witchery implied in the music. D.H.

RECORDING OF SPECIAL MERIT


Performance: Supercharged
Recording: Very good

The Amadeus Quartet brings extraordinary power and vitality to these two popular masterpieces of the Czech chamber-music repertoire. The Smetana quartet bursts forth with passion and frenzy in the first two movements, then assumes a truly heartbreaking poignance in the slow movement and in the pages of the finale following the sounding of the chilling high E signaling the onset of the composer's deafness.

Many performers favor an idyllic approach to the Dvořák American Quartet, but first violinist Norbert Brainin and his colleagues take a sinewy and virile view of the music, with the slow movement being the high point of their reading. I found the body and warm room tone of the recorded sound exactly suitable to the music and this style of performance. For those whose tastes run to more refined interpretations of these works, the Guarneri version of the Smetana (RCA) and the Quartetto Italiano of the Dvořák (Philips) are excellent alternatives. D.H.

R. STRAUSS: Salome: Final Scene; Dance of the Seven Veils. Five Songs for Voice and Orchestra. Montserrat Caballé (soprano); Orchestra National de France, Leonard Bernstein cond. DEUTSCHE GRAMMOPHON 2530 963 $8.98; © 3300 963 $8.98.

Performance: Very good
Recording: Very good

Richard Strauss' Salome is a sixteen-year-old adolescent whose music calls for the voice of an Isolda. Through the years, we have associated that music with such singers as Dessinn, Freystad, Lawrence, Wellitsch, Nilsson, and Rysanek. But that is not the only kind of vocal interpretation possible for Salome; Mary Garden in Chicago and Maria Cebotari in pre-war Germany gave memorable proof of the validity of other approaches. As a matter of fact, Strauss, ever a practical composer, once tried to persuade Elisabeth Schumann to undertake the role by promising to lighten the orchestral texture to accommodate her limpid and silvery tones.

Montserrat Caballé's assumption of this role (Continued on page 128)
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is...therefore, certainly not without historical precedent. She has had the role in her repertoire for many years and has already recorded the opera under Leinsdorf (RCA LSC-7053).

On this occasion with Bernstein her top notes ring out less freely, and, of course, she does not ride over the orchestral climaxes with the triumphant ease of a Nilsson, even though Bernstein provides a thoughtfully scaled orchestral background. On the other hand, there are qualities of warmth, youthful sound, and intimacy in Caballe's interpretation that are entirely appropriate, and the line "... und wenn ich ansah, hörte ich geheimnisvolle Musik" is spun out with a breathtaking pianissimo.

The five songs, performed in Strauss' own orchestration, comprise a varied sequence. Wi Eugen and Morgen are near magic in their combination of creamy vocal tone andwitching orchestration, and Zweigung would be very effective if paced less hurriedly, but in Cacilie the vocal line is engulfed by the orchestra, and Ich Liebe Dich—a man's song with an almost Wagnerian heroic declamation—should have been bypassed in favor of more suitable alternatives. Salome's Dance, performed by Bernstein in a broadly lyrical fashion that savors the music's erotic exoticism, rounds out a fascinating, very well recorded album.

G.J.


Performance: Polished
Recording: Good

What, another Sacre? Who needs it? Even from the redoubtable Herbert von Karajan, who here essays the Stravinsky masterpiece for the second time. The Karajan/Berlin Philharmonic virtues of superb attention to inner details of line and color are clearly evident throughout, and there is topnotch Deutsche Grammophon recording to match it. A certain lack of urgency is evident in the first half of Part One, but by the time the final Danse Sacrale is ushered in, Karajan and his players are thoroughly "with it." Taken as a whole, however, I find no particular reason to add this Sacre to those I already have by Solti (London), Abbado (DG), and the composer himself. With twenty-three currently available stereo recordings, I think it's time to call a halt to this conductorial "rite." D.H.

RECORDING OF SPECIAL MERIT


Performance: Thrilling
Recording: Excellent

The overtures and preludes to Wagner's music dramas are like little music dramas all by themselves, and inspired performances of them can lift the dead hand of familiarity and excite us as though we had never heard them before. At one time it was Toscanini, with his crisp, incise, almost impatient attack, who could blow the dust from these scores. Today, I can think of nobody better than Sir Georg Solti at bringing them to life with a fine balance of fervor and nobility of proportion.

Yet his approach is much more leisurely than Toscanini's; the sense of bigness is achieved not so much through the lightning flash of a sudden crescendo as in the course of a slow, inevitable buildup to a grand climax of luxuriant sound. And when it is the Chicago Symphony that is realizing Solti's Wagnerian concepts, the results can be pretty thrilling.

Certainly they are thrilling on this recording, whose familiar contents have been traversed by a long procession of other conductors. Here, however, every note is exactly where it ought to be. The Dutchman wanders over the stormiest of seas while wind whistles in what sounds like real rigging; the grace of his redemption is so poignant that one is almost ready to settle down and hear the rest of the opera right then and there. In the Tannhäuser overture, sensuality is contrasted with spirituality in a way that compellingly sets the stage for the opera to follow. Again, in the prelude to Die Meistersinger, nothing is hurried, nothing forced, yet the progression of themes foreshadowing the action—Walter's wooing of Eva, the Prize Song, the Trial Song, the spring motif—unfolds in an utterly gripping way. Only in the Tristan und Isolde Prelude and Liebesmotiv did I begin to long for something more akin to real passion and less of the mere gloss of brilliant orchestral playing. Yet before it, too, was over, I was swept along by the logic of Solti's strong approach, and finally overwhelmed. London's recorded sound is unexaggerated but typically full and spacious.

P.K.

COLLECTIONS

RECORDING OF SPECIAL MERIT

FROM SOLO TO QUARTET. Schumann: Spanisches Liederbuch, Op. 74; Der Con tinent, Op. 28. Brahms: Four Duets, Op. 74; Schubert: Der Hochzeitsbraten, Op. 104; An die Musik. Mästa Schelc (soprano); Edith Thallaug (mezzo-soprano); Gösta Winbergh (tenor); Erland Hagård (baritone); Lucia Negro (piano). Bis LP-77 $8.98 (from Quali ty Records, Ltd., 65-37 Austin Street, Rego Park, N.Y. 11374).

Performance: Excellent
Recording: Excellent

As its title implies, this imaginatively arranged program combines solo songs and vocal duets, trios, and quartets with piano accompaniment. Schumann's Spanisches Liederbuch, a cycle of nine songs that must have been the model for Brahms' Liebeslieder Waltzes, includes all these variants. These enterprising settings of Geibel's song adaptations may not be great Schumann, but they are engagingly colorful and make effective use of the Spanish bolero rhythm. The Brahms duets, for mezzo and baritone, are in the composer's characteristic folkloric style and are quite lovely (there is another recording of them, with Janet Baker and Dietrich Fischer-Dieskau, on Angel S-36712). Schube rt's Der Hochzeitsbraten is a comic scene for three voices involving a pair of young lovers who decide to have rabbit for their wedding feast; they proceed to steal it but are foiled in the attempt by a resolute hunter. It was composed by Schubert for his intimate circle of friends in a jolly style that, at times, seems to anticipate the spirit of Johann Strauss' operettas.

With the exception of An die Musik (beautifully sung by Edith Thallaug), all the selections are generally unfamiliar but welcome. All four singers are good, and they perform in an outgoing, unpretentious manner, with clear diction and an obvious sense of involvement. Lucia Negro is an excellent accompanist, and the recorded sound and tasteful album presentation are in keeping with this Swedish label's fine reputation.
Nonetheless, Paniagua does get his vision of things to be struck. Unfortunately, most of the performances are more spirited and anvil, assorted whistles, and all manner of exotic items as well as No. 11, etc., etc. But none of the documentation in general might have been more helpful: the notes say that Beethoven’s contemporary Mateo Albéniz composed only one sonata, but the work is listed in the heading and on the label as “No. 13”; Granados’ Spanish Dance No. 2 is given as No. 11, etc., etc. But none of the documentary lapses affect the performances or the pleasure they offer, of course, and that, in its own right, is considerable.

R. F.


Performance: Expert Recording: Sumptuous

Everything on this record is beautifully played, and the performances are set off to their best advantage in sumptuous sound on impeccable surfaces. But the program is aimed at harp fanciers rather than general listeners who might be interested in music written for the harp, for all but two of the items here are transcriptions from keyboard or orchestral works which are readily available in their original form. I would have liked to be told something about the two pieces that were composed for the harp; the notes contain a few sentences on Alphonse Hasselmans (1845-1912), but there is not a word on Wilhelm Posse (1852-1926), who is indeed hard to track down. The documentation in general might have been more helpful: the notes say that Beethoven’s contemporary Mateo Albéniz composed only one sonata, but the work is listed in the heading and on the label as “No. 13”; Granados’ Spanish Dance No. 2 is given as No. 11, etc., etc. But none of the documentary lapses affect the performances or the pleasure they offer, of course, and that, in its own right, is considerable.

R. F.

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ASLEEP AT THE WHEEL: Collision Course. Asleep at the Wheel (vocals and instrumental). Pipe Dreams; Song of the Wanderer; Pine Grove Blues; One O'Clock Jump; Louisiana; Don't Forget; and four others. CAPITOL SW-11726 $7.98.® 8XW-11726 $7.98, ® 4XW-11726 $7.98.

Performance: Mediocre. Recording: Average.

It is getting more and more common for rock groups to release albums in which many of the songs deal with the travails of life on the road, the emotional burdens of stardom, and appeals to the value of rock-and-roll itself as a justification for their own mediocrity. More than any other musical form, rock depends on individual brilliance and personality in its creators, and Bad Boy simply doesn’t have what it takes to make good rock. Constantly singing about rock-and-roll, as Bad Boy does here, doesn’t make a good rock group out of a characterless Saturday night bowling-alley bar act.

J.V.

RECORDING OF SPECIAL MERIT
CARLENE CARTER. Carlene Carter (vocals, guitar); the Rumour (instrumentals). Love Is Gone; Smoke Dreams; Between You and Me; I Once Knew Love; I've Been There Before; Never Together but Close Sometimes; and four others. WARNER BROS. BSK 3204 $7.98, ® M9 3204 $7.98, ® M5 3204 $7.98.

Performance: Excellent. Recording: Very good.

With thousands of people making a living singing, you’d think we’d no longer get excited about a new one who isn’t gravel-voiced like Bonnie Tyler or wobble-throated like Kaye Starr or otherwise outlandish stylistically—whose thing is singing in perfect tune, knowing exactly where the beat is, toying with subtleties in phrasing a line, stuff like that. Of course, a lot of singers make a living in spite of being slightly (or worse) out of tune and off the beat a percentage of the time, the old by-dint-of-personality factor coming into play. A lot of people are going to get excited about Carlene Carter, a rock singer (so far) who happens to be the granddaughter of a legendary country singer. Maybe she’ll have that feel for pitch and timing and so forth is very likely inherited, and the by-dint-of-personality factor, from what I can tell from a first album, promises to develop nicely too.

In this one Carlene’s backed by Graham Parker’s band, the Rumour, who does what it does well but may not have the ideal sound for her. It seems to me she could use something a little warmer-blooded: electric guitars but played more lyrically, fewer of the holes crammed with instrumental fills, and that sort of thing. The simple bass-and-piano backing on the very last song, her own lovely Who Needs Words, gets at what I’m getting at.

Another of her songs, I Once Knew Love, is another highlight of the album, as is her reading, in front of a somewhat simplified arrangement, of Alex Call’s Mr. Moon. But there isn’t a weak song here, nor one in which she fails to do something vocally that makes me say “Yeah!” under my breath. We may have to add one more name to the list of real people.

N.C.

BAD BOY: Back to Back. Bad Boy (vocals and instrumental). Instrumental accompaniment. It's All Right; Always Come Back; Accidental; Girls, Girls, Girls; Keep It Up; and four others. UNITED ARTISTS UA-LA869-H $7.98.® UA-EA869-H $7.98, ® UA-CA869-H $7.98.

Performance: Routine. Recording: Very good.

Well, this isn’t as dull as country swing can be, but then Asleep at the Wheel no longer plays country swing all that much. There’s still a steel guitar around, but nowadays the sound is just plain swing and other stuff for which there are no labels. The trouble with this one is not what style it is, but how little excitement there is about it, as if everyone involved cared enough to do a competent professional job of it but not enough to go beyond that. A particular disappointment, given the band’s talent, is the flat, disinterested reading of Randy Newman’s Louisiana. An exception with some juice in it is the version of Neil Moret’s Song of the Wanderer. “Collision Course” is a competent album, but listening to it is a noncontact sport.

N.C.
but not to hold/But all that glitters is not gold./" Well, if you're a confirmed Coe fan, don't let my inability to stomach the sound of his twangy voice or the mushy sentimentality of his inestimable, all too intimate autobiographical ditties stand in your way.

P.K.

THE COMMODORES: Natural High. The Commodores (vocals and instruments). Fire Girl; X-Rated Movie; Three Times a Lady; Such a Woman; and four others. MOTOWN M7-902R1 $7.98, ® M7-902-HT $7.98, © M7-902-HC $7.98.

Performance: Predictable
Recording: Very good

Now that the Spinners have melted away into mediocrity, the Commodores have swiftly taken over as the nation's top r&b vocal group. Of course, the Spinners followed in the footsteps of the Temptations, who had taken over from the Four Tops . . . and so on, as far back as you might care to trace things. These new kingpins wear their mantle comfortably. Still, I find it difficult to become terribly excited about them. They have followed so many good acts that their material is, at best, rather predictable, though they perform with as much professional spit and polish as any of their predecessors.

Their new album does nothing to alter that opinion. It has a certain spirited appeal, and the tasteful program includes variously paced selections, from up-tempo dance fare to the gentle, folk-flavored Three Times a Lady. The group sings flawlessly against instrumental backgrounds that are several notches above the average, lending a special sass and drive to the whole and particularly to X-Rated Movie. In short, everything about this album is good, but it just Isn't outstanding.

P.G.

MAC DAVIS: Fantasy. Mac Davis (vocals, guitar); orchestra. Music in My Life; Fantasy; You Are; Sad Girl; For No Reason At All; and five others. COLUMBIA JC 35284 $7.98. ® JCA 35284 $7.98. © JCT 35284 $7.98.

Performance: Sell-sell-sell
Recording: Good

Mac Davis has written a fairly good song, Music in My Life, and he performs it well enough. But there are nine other tracks to be gotten through here, and I'm not at all sure it's worth the effort. Davis' grinning, flashy vocal style—his whole performing aura, in fact—is one of sell-sell-sell. This insistent style works just fine on TV, where he seems like an amiable commercial for something or other. On recordings, however, it's as oppressive as an Avon Lady still droming through her spiel as dinertime approaches.

P.R.

DION: Return of the Wanderer. Dion DiMucci (vocals, guitar); instrumental accompaniment. Heart of Saturday Night; Midtown American Main Street Gang; You've Awakened Something in Me; Guitar Queen; and five others. LIBERTONE 35356. $7.98. ® JZA 35356. $7.98. © JCT 35356. $7.98.

Performance: Almost relevant
Recording: Good

Dion DiMucci was one of those innocent rebels the late Fifties used to turn out, and even in his jugheads' Dion-and-the-Belmonts phase he never fooled many of us into believing he was a real hood. "I feared the friends I ran with," he says here in Midtown American Main Street Gang, "but I loved to live the role." That jibes with my impression at the time. Now, there's a punk consciousness around that's vaguely reminiscent of that time, and Dion is back after an absence of several years with a sort of nice/hard-sounding band with a cute name, the Streethearts. Still innocent. In between the hiatus and the Belmonts, you may recall, he was around for a while with some John Sebastian-type soft-rock/folksie albums. He did better songwriting in that period, in my judgment, than he's done for this, and the Streethearts, as captured here, sound a little dry (that could be the doing of producers Terry Cashman and Tommy West, who, in their own performing days, made themselves sound a little dry). But there are three or four nice songs here and some of the best singing Dion's done yet. He still has that pleasant nasality, and now it's augmented with the true veteran's savvy about how to use dynamics and teeny little ornamentation. If you comb your DA straight down over your ears, a lot of it sounds pretty good.

N.C.

THE DRAMATICS: Do What You Wanna Do. The Dramatics (vocals); instrumental accompaniment. Why Do You Want to Do Me Wrong; Do What You Want to Do; Disco Dance Contest; Stop Your Weeping; and four others. ABC AA-1072 $7.98. ® 8020-1072(H) $7.95. © 5020-1072(H) $7.95.

Performance: Gratifying
Recording: Good

It seems like the Dramatics have been around forever. Fortunately, they don't sound like it.

The Buddy Holly Story

I haven't seen The Buddy Holly Story yet, but advance word indicates that actor Gary Busey captures Holly's character magnificently and the film itself plays fast and loose with the facts in an utterly surreal manner—in other words, a standard Hollywood star-bio pic in the grand tradition of American Hot Wax and I'll Cry Tomorrow. I'm sure it's a lot of fun, but the soundtrack album now before me is pretty tepid stuff. Busey and his colleagues occasionally manage to sound like a real Fifties rock trio, if not like Holly and the Crickets, but a lot of the stuff is far too modernized (the drummer is obviously a Seventies session cat) and the studio efforts, particularly Everyday, don't even make it as cover versions. I applaud the decision to cast actual musicians in the film (at least they know what to do with their hands), but this kind of period re-creation is difficult even for such genre specialists as Dave Edmunds.

Fortunately, MCA has seen fit to release yet another one of its compilations of the "real" Buddy Holly at the same time, and they've done quite a good job of it. Everything that should be is in real mono (and notice how imaginatively produced these songs are, which is almost miraculous considering the conditions under which they were done). We get twenty—count 'em—twenty songs on one little album, and almost all of them are flat-out great. It's nice to be able to hear the originals again for the marvelous, vital, visionary things they are.

—Steve Simels
Somehow, they have managed to retain a deep involvement in their music, giving each song here everything it's worth—and even more than some of the material deserves. There is no reliance on slick, tested formulas, but rather a funky honesty that shines through as long solo lines are skillfully balanced against fine ensemble singing without any of it sounding contrived. The music, lyrics, and delivery of Why Do You Want to Do Me Wrong are full of the zest of old-time r-b goodies, and the record is worth getting if only for the soul-satisfying version of the title track, Do What You Want to Do. P.G.

CRYSTAL GAYLE: When I Dream (see page 90)

RECORDING OF SPECIAL MERIT

LARRY GRAHAM AND GRAHAM CENTRAL STATION: My Radio Sure Sounds Good to Me, Graham Central Station (vocals and instrumentals). Pow; Boogie Witcha Baby; It’s the Engine in Me; Turn It Out; and four others. WARNER BROS. BSK 3175 $7.98, © M8 3175 $7.97. © MS 3175 $7.97.

Performance: Rambunctious
Recordings: Good

Ever since Larry Graham separated himself from Sly and the Family Stone, for which he had been the bass player and musical collaborator during the group's peak period, he has been filling the air with rambunctious sounds that are more than vaguely reminiscent of his former association. He has served as a bridge linking the playful, high-energy styles of the late Sixties with the almost woe-fully bland soul settings of the Seventies. Like Sly, he has incorporated a raw-edged rock flavor into his music, though his rhythmic line is pure get-down, gut-bucket r-b & b at its most captivating. And he's never dull.

This record is no exception. The music surges forth with a pulse that is unmistakably Sixtish in character, though there are intermittent statements echoing everything from madrigals to American Indian chants, with more than a touch of space-age technology on the electrifying opener Pow, which does just what it says. But Graham also has a firm footing in the goo-wop styles of the Fifties, as the title track readily attests. Admittedly, there are times when so much seems to be crammed into this album that a lot of loose ends are left hanging, but I'll give Larry Graham and his group, along with producer Benny Golson, full credit for the imagination they display in their concerted effort to be different in a time of stifling conformity.

P.G.

CAROLE KING: Welcome Home, Carole King (piano, vocals); vocal and instrumental accompaniment. Main Street Saturday Night: Sunbird; Changes; Morning Sun; Disco Tech; and four others. CAPITOL SW 11785 $7.98, © SXW 11785 $7.98. © 4XW 11785 $7.98.

Performance: Good
Recordings: Good

The trouble with Carole King is that even when she's good, as she is on "Welcome Home," it isn't enough; she's got to be great to be considered good. That's because of "Tapestry," the phenomenally successful album that has haunted her for seven years now. Maybe this new LP will change all that. "Welcome Home" isn't so much an album as a testament: to the durability of a long career, to some personal changes, and, mostly, to the memory of her late husband Rick Evers, who died earlier this year. She's pieced together lyrics Evers wrote and set them to music; she's written songs about loving him and losing him. Evers' memory emanates from the grooves, making the album seem a bit eerie. But it's also lovely, and some of the songs are superb in any context, especially Sunbird, about staying young, and Morning Sun, a typical King "good to be alive" song. There's some real dress, too, such as a Beatles ripoff (do we really need another one?) called Vensian Diamond and a silly dance song called Disco Tech. But when King chimes out with Ride the Music, one of those rollicking, up-beat, come-along songs that only she can write and sing, all is forgiven. "Welcome Home" is good enough to lift Carole King's seven-year curse.

—Rick Mitc

(Continued on page 134)
The creation of the new V15 Type IV is a tour de force in innovative engineering. The challenge was to design a cartridge that would transcend all existing cartridges in musical transparency, technical excellence, and uniformity. The unprecedented research and design disciplines that were brought to bear on this challenge over a period of several years have resulted in an altogether new pickup system that exceeds previous performance levels by a significant degree—not merely in one parameter, but in totality.

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The Moodies: Nostalgia Time

Dang me, I'll forgive anything—hell, even applaud some of it—if it's done well enough. Even wallowing in nostalgia. Unlike Quicksilver, Country Joe and the Fish, and that balding, pot-bellied crowd Crosby, Stills, Nash, and Young—all people who were important to me once and who've regrouped to make balding and pot-bellied albums (I don't get any older, damn it; why do they?)—unlike these wallowings in nostalgia that merely saddened me, the Moody Blues (the Moody Blues!) have gotten down on all fours and slumped around in the stuff and made me...well, made me do it too. I've been on this bingle of living in the present (and I still recommend it and mean to get back to it), but "Octave," this dense, thick, grandiose album of the regrouped Moody Blues (and isn't "Octave," a properly cryptic and snobbish title, doesn't it just fit the Moodies some of us grew middle-aged with?) has got me thinking. "Ah, the Sixties. The music we had then—and the preoccupation we had with it."

It was a rare time (and actually included the first couple of years of the Seventies), and the Moodies, as Joel Vance said in the pages of the Sixties. The mood of the early Seventies, and the regrouped Moody Blues (vocals and instrumentals). The sound, the whole attitude, was one of the time's benchmarks.

And now they're back. My guess is that they don't need the money but do need the love, the adoration of the multitudes. As scattered singles acts, the various members of the Moody Blues didn't get that—I mean really get it, selling out the kind of gigantic places the Moodies routinely sold out every time they toured as a group. I don't know how they'll fit into the Seventies, even after listening to this album, but I wouldn't be surprised if they drew out a number of us once again. One thing "Octave" does indicate is that they are willing to make some concessions to the present. The style is still grandiose, the production still sounds as if the Moodies are playing on a mountain top and the microphones are on another mountain top half a mile away, the melodies still sweep grandly; but the words are a little more with-it, a little less know-it-all, and, technically, set down in a better order and rhythm. Oh, there's an excursion or two into the likes of "You'll never see the woods...while you're a tree." But there's some felt, honest simplicity, too, such as Justin Hayward's "What mattered to me/Was the right to be free/Like I'll be some day..."

That last is from Had to Fall in Love, in which the featured sounds are acoustic guitars and a spartan harmonica. It still manages to have that Moody Blues curvature of flight, but it's an easy place to see how they've put some concessions to the present into their sound as well as their messages. It's the old Moody Blues sound all right, but with just a touch of nap where there used to be a spit shine. It still takes your mind to the best restaurant in town, but it doesn't leave such an ostentatious tip.

There's a lot of squash playing too, of course; don't forget that. It is the Moody Blues we're talking about—still elegant, and doing some of the most graceful wallowing you ever heard.—Noel Coppage

THE MOODY BLUES: Octave, The Moody Blues (vocals and instrumental). Steppin' in a Slide Zone; Under Moonshine; Had to Fall in Love; I'll Be Level with You; Driftwood; Top Rank Suite; I'm Your Man; Survival; One Step into the Light; The Day We Meet Again. London PS 708 $7.98, @ PS-8-708 $7.98, © PS-6-708 $7.98.

Performance: Professional Recording: Excellent

On the evidence of his latest album, Sergio Mendes has nowhere to go but up. His elegantly charming work of the late Sixties has melted, year by year, into the glutinous mess that's offered up here as entertainment. It's a shame that Mendes seems to think so little of his talent as a musician and as an arranger-producer that he's allowed himself to descend to this level. The nadir here is reached on Bridges, an English adaptation of a song by Milton Nascimento and Fernando Brant. It is a total shambles as sung in an outright Streisand imitation by either Marietta Waters or Carol Rogers (there's no label credit supplied), and it's swamped by Mendes' arrangement, which possesses all the crisp chic of a shopping-bag lady. P.R.

MAX MORATH: Living a Ragtime Life. The Charleston Rag: At the Drugstore Cabaret; The Cubanola Guide; When It's All Goin' Out And Nothin' Comin' In; and six others. Max Morath (vocals, piano, narration). Vanguard VSD 79391 $7.98.

Performance: Ingratiating Recording: Very good

I have long been an admirer of Max Morath, and I am as pleased as punch that another of his one-man shows has been issued by Vanguard. On this latest release he sets out to prove that "our music labels our history more than our wars—more than our politics. He offers a convincing exposition of this theme, illustrated by such songs of the Twenties as Eubie Blake's first hit, The Charleston Rag, a set of anti-Prohibition ballads, Zed Confrey's intricate Dizzy Fingers, The Heliotrope Bouquet by Louis Chauvin and Scott Joplin, and other landmarks of our musical development. There are times when Morath is better as a showman than as a preserver of the musical styles of our American past that he seeks to celebrate, but one can forgive him much since he is never a bore. Hearing him describe how black comedian Bert Williams used to appear in the Ziegfeld Follies in blackface is fascinating, and his description of Mrs. Winston's (Continued on page 136)
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“Soothing Syrup for Teething,” on which many a respectable housewife used to get drunk, is hilarious. On the other hand, his version of The Alcoholic Blues compelled me to dig into my late father’s collection of acoustically recorded 78’s to refresh my memory as to how Billy Murray used to sing that hit of 1920, the year Prohibition was passed. The comparison was devastating: Morath is all too casual in his treatment of this protest song (“I got the blues, I got the blues/Since they amputated my booze...”) and throws away most of the fun. Still, all things considered, "Living a Ragtime Life," with its informative script and ingratiating guide, is a happy trip through the Twenties.

P.K.

JOAN MORRIS: Other Songs by Leiber & Stoller. Joan Morris (mezzo-soprano); William Bolcom (piano). Ready to Begin Again; Is That All There Is?; I Ain’t Here; I Remember; Humphrey Bogart; Tango; and five others. NONESUCH H-71346 $3.96.

Performance: Excellent
Recording: Good

Joan Morris commits murder most foul here, rending into tiny-tiny pieces of nonsense what is perhaps Jerry Leiber and Mike Stoller’s best song so far. Is That All There Is? Her twittering delivery sounds like Beatrice Lillie’s imitation of Mrs. Wentworth-Brewster’s discovery of the true meaning of life In a Bar on the Piccolo Marina. Unforgivable. Except for this moment of outrage, however, Miss Morris acquits herself quite well in careful, musicianly readings of these purplish, deliberately theatrical "art" songs written very much in the style of the Berlin cabaret songs of the Weimar Republic by two men who gained recognition as the composers of such as Hound Dog and Black Denim and Motorcycle Boots (the latter, for some weird reason, is included in this collection). Actually, the Leiber and Stoller songs here are closer to the kind of doomed-glamour set pieces that Friedrich Hollander used to whip up for Marlene Dietrich films (things such as Illusions and Black Market and In the Ruins of Berlin) than they are to the grimy, bitter world of Brecht/Weill. But they are effective and dramatic and certainly stand on their own even in the chaste white-salon atmosphere created by Miss Morris with William Bolcom’s impeccable accompaniment. When they are sung by a great popular artist such as Peggy Lee, as most of them have been on an album titled "Mirrors," they become small jewels of mood, color, and passion—the kind of passion that makes fools of clever men, as Rochefoucauld observed. But it takes a talent like Miss Lee’s to accomplish that.

P.R.

RECORDING OF SPECIAL MERIT

THE NIGHTHAWKS: Jacks and Kings. The ‘Hawks are a slugging quartet based near Washington, D.C., who have put out several hot, tight albums. They are inspired by... (Continued on page 140)
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SCOTCH RECORDING TAPE.
THE TRUTH COMES OUT.
CELEBRITY is the chaiselurement of merit, and the punishment of talent." That is but one of many wise things said by the French aphorist Sébastien Chamfort. (And a fat lot of good the observation did him, since his own celebrity at court, plus his ungovernable tongue, got him denounced during the French Revolution's Reign of Terror: rather than wait for the blade, he took his own life.)

Neither the late Teddi King, whose singular enchantment glows throughout the Inner City album "... This Is New"; nor Barbara Lea, whose quite different, quite special vocal gifts are displayed in "The Devil Is Afraid of Music"; nor the impeccably musical Marlene VerPlanck, whose "You'd Better Love Me," is just out on the Audophile label; nor even Sylvia Syms, whose satin-ribbon voice once earned her a chart hit some years ago and is still flowing gorgeously along in her new album "She Loves to Hear the Music," could ever be called celebrities. They are known, but mostly to small but worldly audiences who cherish merit and celebrate talent, and who are also faithful, perhaps because they are very secure in their tastes and therefore almost totally fad-resistant. The objects of their affections are often kept in a privileged limbo—rather like some rich men's wives—to be appreciated, savored, and even kissed. They are spoiled in a way, but not in the same way they would be if they were the celebrated darlings of the masses—at the cost of their art, that is.

And so it isn't their audiences who are to blame—if blame be the word—for their lack of celebrity. It is the women themselves who have set extraordinarily high standards and have kept them, come hell or fast-talking agents. As a group (and there are many more of them than the four who happen to have albums out now), they have dedicated themselves to singing the best of American popular music in the best way they know how. The results can be dazzling. Serious though they may be about their art, in performance they are blithe enchantresses, spinning their stories, illuminating every hidden cranny, finding new meaning in songs we had flattered ourselves we already knew.

Nowhere is this ability to transmute, to alchemize the over-familiar into purest gold more fully realized than in Teddi King's "... This Is New," a collection of songs with lyrics by Ira Gershwin. Consider her treatment of the title song, This Is New, for instance. I've heard Gertrude Lawrence's recording, made at about the time she was appearing in Lady in the Dark, from which it's derived; and it is among her finest recorded songs: poignant, wistful, and touching. And Lotte Lenya's recording of it in the great Weill/Lenya tradition is fabulous. But Teddi King's interpretation is the one I'll have to go with from now on. She touches all the bases Lawrence and Lenya touched, but she also adds a sense of awakening joy to the lyric. It is the joy of a woman who probably has had many love affairs but has never, until this moment, been really in love. It is thoroughly adult entertainment. (All of these ladies are of a certain age, which of course they would have to be to get as good as they are, to know as much as they do.) When she sings But Not for Me—"They're writing songs of love! But not for me..."—it isn't the self-pitying complaint one singer after another has been telling us it is down through the years. No, Teddi King's version—and I suspect it is the real one—is about a Dorothy Parkersh kind of lady who sees herself all too clearly and knows damned well why everyone else always gets the bimbos and the winces. You have to have lived a while to get a perception like that across. Throughout the album Miss King is accompanied by the wondrous piano playing of Dave McKenna, who also takes

over five bands (she didn't live to complete the recording) as a solo artist. He deserves an album of his own.

Barbara Lea's "The Devil Is Afraid of Music" is a collection of songs by Willard Robison. I wish I shared the apparently high opinion of Mr. Robison's work that Miss Lea seems to hold. She has a striking ability to make lyrics sound immediate, in an almost straight-ahead approach to singing, tender but never maudlin, and a wonderful ear for the right song. Here she revises eight Hugh Martin songs from various Broadway and film musicals, and her version of Have Yourself a Merry Little Christmas in particular is the kind of small-scale delight that will make your toes curl. An Occasional Man, another Martin gem, finds VerPlanck in a slightly less ladylike posture than perhaps she ought to adopt more often.

AFTER listening to all four recordings alone and in succession, I think that what all these women share, along with musical talent, is the ability "to enjoy and to give enjoyment, without subordinating their talent or their material in the pursuit of fame." That is, without distorting their talent or their material in the pursuit of fame; this is true morality," Chamfort said that too. Wise old bird. wasn't he?

TEDDI KING: ... This Is New, Teddi King (vocals); Dave McKenna (piano). Isn't It a Pity?: Fun to Be Fooled: This Is New; How Long Has This Been Going On?: But Not for Me; My Ship: I Can't Be Bothered Now; Long Ago and Far Away; For You, for Me, for Evermore; One Life to Live: I Can't Get Started; Here's What I'm Here For. INNER CITY 1044 $6.98.

BARBARA LEA: The Devil Is Afraid of Music. Barbara Lea (vocals); Loonis McGlohon (piano); Mel Alexander (bass); Tony Cooper (drums); Bob Mitchell (clarinet). The Devil Is Afraid of Music; Guess I'll Go Back Home This Summer: Lonely Acres; Deep Elm, You Tell 'Em I'm Blue; Peaceful Valley: A Woman Alone with the Blues; A Cottage for Sale: 'Tain't So, Honey: 'Tain't So; Old Folks; Little High Chairman; My Egotism; 'Round My Old Deserted Farm. AUDIOPHILE AP-119 $6.98.

SYLVIA SYMS: She Loves to Hear the Music. Sylvia Syms (vocals); orchestra. She Loves to Hear the Music; Guess I'll Go Back Home This Morning: Sweet Georgia Brown; When It Was Done; After the Lovin'; If You Really Love Me; I'm In You; It Had to Be You. A & M SP-4696 $6.98.

MARLENE VERPLANCK: You'd Better Love Me. Marlene VerPlanck (vocals); Loonis McGlohon (piano); Terry Lassiter (bass); James Lackey (drums). You Didn't Know About; Tenderly; An Occasional Man; Have Yourself a Merry Little Christmas; You Go to My Head; The Crickets Are Calling; I Know Your Heart; This Funny World; Gone with the Wind; You Are for Loving; Ev'ry Time; Tiny Room; You'd Better Love Me. AUDIOPHILE AP-121 $6.98.
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**RECORDING OF SPECIAL MERIT**

LAURA NYRO: *Nesting*. Laura Nyro (piano, organ, guitar, vocals); vocal and instrumental accompaniment. *Mr. Blue* (The Song of Communications); *Rhythm and Blues*; *My Innocence*; *Crazy Love*; *American Dreamer*; *Springblown*; and four others. COLUMBIA JCT 35449 $7.98, © JCT 35449 $7.98. Performance: *Delightfully loose*. Recording: *Good*.

I've missed Laura Nyro. Back in the early Seventies, she used to write the most unexpected songs—*Stony End, Time and Love, Flim Flam Man, Eli's Coming*—and you never quite knew where the next chord was coming from. There was a dizzy energy to her songs, a dazzling display of lyrical and musical innovation that gave her music a fresh feeling that set it apart from anyone else's. Then she moved to the country. Retired. Raised babies. Bred bees. Made quilts. Whatever. The music stopped. And then it started again. A couple of years ago her comeback album, "Smile," failed to raise any, and it was followed by a laddish, live double album that sounded as if it had been recorded inside a freeze locker.

But now, as if out of nowhere, comes "Nesting," which suggests that Nyro has flown the coop and built herself a more comfortable nest on a firm foundation of that same musical stuff her early songs were made from. The songs here aren't just memorable; they stick to you like flypaper. The excitement and driving energy of *Rhythm and Blues* fairly leaps off the disc; *My Innocence* is a snappy explanation of how she lost it; and *Light* (or Light Pop's *Principle*, as it's identified on the label) is an uplifting, positive love song that nearly bursts with joy. "Nesting" is a gem, and I'm glad Laura Nyro has decided to open up her jewel box once again and share its contents with us. —Rick Mitz

GRAHAM PARKER AND THE RUMOUR: *The Parkerilla*. Graham Parker and the Rumour (vocals and instrumentals); instrumental accompaniment. *Lady Doctor; Fool's Gold; Tear Your Playhouse Down; Don't Ask Me Questions; Silly Thing; The Heat in Harlem*; and seven others. MERCURY MCT4-2-100 $10.98, © MCT8-2-100 $10.98, © MCT4-2-100 $10.98. Performance: *Highly disappointing*. Recording: *Okay*.

Boring, dispirited two-record live sets by artists who have either run out of things to say or who have yet to make their commercial breakthroughs are becoming something of a rock commonplace these days—take, for example, Bob Seger, the Stones, or Peter Frampton. Nevertheless, I somehow hoped for more from Graham Parker, whose three earlier albums, for all their occasional flaws, were passionate and committed. This one, sadly, is mere hack work, a rush job put out to fulfill contractual obligations. The song selection is weak, the band overplays, and the recording is erratic. Worse, a few of the better selections have already appeared on Mercury's "authorized bootleg," *Live at Marble Arch," in far superior versions. "The Parkerilla" ought to be subtitled "Pure Product for Now People." Save your money, folks; it's sad to see people this gifted prostituting themselves this early in their careers.

(Continued on page 142)
To beat the other turntables, we gave our arm a little extra muscle.

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SANYO
That's Life.
DOLLY PARTON: In the Beginning. Dolly Parton (vocals); instrumental accompaniment. Dumb Blonde; Fuel to the Flame; The Company You Keep; Why, Why, Why; Something Fishy; and five others. MONUMENT MG 7623 $6.98. © MGC-7623 $7.95. © MGC-7623 $7.95.

Performance: Excellent vintage
Recording: Variable

No. Dolly isn’t going back in anticlassic, hard-country directions. This is a reissue of the 1972 “The World of Dolly,” itself a collection, and it all dates back to when Dolly first signed with Monument over a decade ago. It is an unspectacular but solid assortment of her early stuff, certainly substantial enough to have tipped off anyone listening back then that she was more special than your average country girl singer. The engineering on some of the cuts seems to try to exacerbate the piercing aspect of Dolly’s vocals, but what the hell—it’s still a good way to pick up the early Parton and/or replace scratched or overplayed old tracks. Like most of hers, those were good years.

POUSETTE-DART BAND: J. Poussette-Dart Band (vocals and instrumentals). Next to You; Stand by Me; Love Is My Belief; I Stayed Away Too Long; Where Are You Going; and four others. CAPITOL SW-11781 $7.98.

Recording: Variable
Performance: Passionate

The Poussette-Dart Band is a pleasant, low-key, relaxed outfit. Its efforts are marked by the calm, comfortable professionalism you’d expect from producers Hank Medress and Dave Appell—who, as writers, arrangers, music publishers, producers, and performers, have been turning out hits for fifteen years, most notably the early smasheros by Tony Orlando and Dawn. (It was Medress, owner of the copyright to He’s So Fine by the Chiffons, who sued George Harrison for appropriating the melody for My Sweet Lord. He won.) Jon Poussette-Dart sings a bit like David Gates of Bread and on occasion writes like him—Where Are You Going is airy, sentimental, and nicely felt. The band now and then plays in the fresh-air style of the early Pure Prairie League, but all in all they sound like themselves, and that’s just fine.

J.V.

RECORDING OF SPECIAL MERIT

TOM ROBINSON BAND: Power in the Darkness. Tom Robinson (vocals, bass); Danny Kustow (guitar); Mark Ambler (organ); Dolphin Taylor (drums). Long Hot Summer; Grey Cortina; Too Good to Be True; Ain’t Gonna Take It; Up Against the Wall; 2-4-6-8 Motortown; Glad to Be Gay; The Winter of ’79; and seven others. HARVEST STB-11778 two discs $6.98. © XTVV-11778 $8.98. © XTVV-11778 $8.98.

Performance: Passionate
Recording: Fine

Tom Robinson, in case you haven’t heard, is a militant Englishman with a passionate commitment to a whole slew of civil-libertarian causes. An outspoken homosexual who leads an excellent hard-rock band, he writes what he used to be called topical protest songs; yet he is equally likely to produce an apolitical ditty about the joy of the open road or a music-hall/cabaret number in the great English tradition of Ray Davies (his early mentor). All of which is, if nothing else, an indication of just how much has changed since the days when Phil Ochs was grinding out earnest, one-dimensional, musically limited antiwar songs in the back office of Sing Out. Still, it’s refreshing somewhat to hear someone making music this good that actually does address important issues, even if some of the issues addressed are a bit parochial, things that the average American rock fan will have little knowledge or comprehension of. I’m sure that the National Front (England’s neo-Nazis), for instance, is as dangerous as Robinson makes it out to be, but a Yank pontificating about it would probably sound as naïve as Eric Barden with his flower-power pronouncements.

On the other hand, a lot of Robinson’s concerns are of more than merely regional interest—gay rights, for example, or abortion reform—and I’m glad that he’s doing what he’s.

(Continued on page 144)
Real to reel means live performance recording, and that's where the ReVox B77 dramatically demonstrates its superiority over other tape recorders. Only the B77 has the wide dynamic range and generous record headroom you need to capture without compromise the full detail and dimension of live music.

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doing, which is to sugar-coat his messages with infectious rock-and-roll. *Glad to Be Gay*, probably his best song, is really stunningly bitter in a way that suggests Brecht/Weill, but in form it's a sing-along with an ominous but addictive melody. And his nonpolitical songs, such as *Motorway* or *Grey Cortina*, are so good on their own that I don't think Robinson is going to be trapped the way a lot of the Sixties folkies (or the post-Beatles John Lennon) were. In other words, people won't be able to ignore him, to write him off as a tedious, whining kook pushing this week's fashionable Party Line. Successful, political, mainstream rock—it's a remarkable synthesis. Tom Robinson is going to matter.

**DEMIS ROUSSOS.** Demis Roussos (vocals); orchestra. *Loving Arms; Life in the City; I Just Live; This Song; The Other Woman*; and five others. **MERCURY** SRM-1-3724 $7.98, © 8-1-3724 $7.98, © 4-1-3724 $7.98.

**Performance:** Mild

**Recording:** Accommodating

This is a mild recital of equally mild songs. The only quality offering here is the Bacharach/ David *I Just Don't Know What to Do with Myself*, and Demis Roussos doesn't seem to know either, since his reading of the lyric has the baffled quality of, let us say, a pregnant astronaut. The production by Freddie Perren accommodates Roussos' apparent desire for a peaceful atmosphere, so that the whole enterprise just rolls along like a rubber-wheeled subway train passing through a local station on the express track.

**THE EARL SCRUGGS REVUE: Bold and New.** Earl Scruggs (banjo); Randy Scruggs (guitar, steel guitar, vocals); Gary Scruggs (vocals, bass, harmonica); Steve Scruggs (keyboards); Taylor Rhodes (guitar); other musicians. *The Cabin; Our Love Is Home Grown; Two Lovers'll Get You Down; Sea of Love; That's Alright Mama; Games People Play*; and four others. **COLUMBIA JC 35319** (Continued on page 147)
FOR THE PRICE OF A WATCH, OWN THIS GENIUS OF A CHRONOGRAPH.

Now there’s a chronograph whose design dramatically outdistances all others. That’s not big, bulky and mechanical like some. Or costly, finicky and undependable like others. And unlike the red LED’s with their push-to-light displays and quick-to-die batteries—this one uses a power conserving liquid crystal display instead.

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THE SHARPER IMAGE
260 California Street, San Francisco, CA 94111.
Every once in a while the Great American Dream Machine does work, you know. Take Irving Berlin, for instance: immigrant boy, singing waiter, struggling composer strikes it rich, marries socialite, lives happily ever after. And I do mean ever. Mr. Berlin recently celebrated his ninetieth year on Space- ship Earth, and it is hard to think of anyone who has contributed more in his chosen field than he has.

Mornmouth/Evergreen’s new (well, not really new—the two records are culled from a three-record set released in honor of his eightieth birthday ten years ago), “Say It with Music” is a thirty-four-song tribute to a modest genius who is, purely and simply, probably the greatest American songwriter who has ever lived. Others may have developed more style or content or had greater single achievements (although Annie Get Your Gun surely is the only musical in history in which every song was a popular hit), but there is no way of comprehending American popular music in this century without considering the work of Berlin.

The songs included in this new package were all written before 1933; after that date Berlin mostly wrote complete scores for Broadway and for Hollywood. Gives one pause, doesn’t it?—to consider that much of this music has been a part of the national musical consciousness for over forty-five years. Would you believe that Blue Skies, All By Myself, Always, The Song Is Ended, Shakin’ ‘tne Blues Away, Remember, Say It Isn’t So, How Deep Is The Ocean, Puttin’ On the Ritz, Easter Parade, Suppertime, Harlem on My Mind, and Soft Lights and Sweet Music, to name just a few, were all written before Franklin D. Roosevelt became President? Well, they were, and somewhere today you will probably hear at least one of them on the car radio, the phonograph, or TV.

That this album really covers only about half of Berlin’s successful output and that the golden years of White Christmas, so many of the Astaire-Rogers films, Annie Get Your Gun, Call Me Madam, etc., etc., were still ahead of him seems unbelievable. But no more unbelievable perhaps than the myth circulated about him for years: that tucked away in a secret room at Irving Berlin Enterprises was a little black man who actually wrote all the songs and had been doing so ever since the days of Alexander’s Ragtime Band. The story probably gained currency because Berlin himself can play the piano in only one key. He never bothered to learn how to transpose and had a special piano (it’s now in the Smithsonian) built to do the job for him.

Berlin’s genius is a bit tepidly served up here by the Jack Manno Singers, Annette Sanders, Steve Clayton, Gentlemen of Jazz, Jack Manno Singers (vocals); instrumental accompaniment. Say It with Music; Everybody Step; All By Myself; Pack Up Your Sins and Go to the Devil; Lady of the Evening; Medley—All Alone/What’ll I Do; Tell Her in the Springtime; Lazy; Medley—Alwayes/Remember; How Many Times; Blue Skies; Russian Lullaby; Medley—It’s up to the Band/Wind of Girls/Shakin’ the Blues Away; The Song Is Ended; Roses of Yesterday; How About Me; Marie; Coquette; With You; Puttin’ On the Ritz; Waiting at the End of the Road; Medley—Say It Isn’t So/How Deep Is The Ocean; Soft Lights and Sweet Music; Heat Wave; How’s Chances; Harlem on My Mind; Easter Parade; Supper Time; Not for All the Rice in China; Maybe It’s Because I Love You Too Much. MONMOUTH/EVERGREEN MES 7084/5 two discs $11.98.
$7.98, © JCA 35319 $7.98, © JCT 35319 $7.98.

Performance: Tennessee sippin' music
Recording: Very good

The Scruggs bunch has changed producers since its last outing, from Ron Bledsoe to Chips Moman, and this album is more acoustic and airy as a result: good music for a jug-equipped front porch in the lazy, late-summer afternoon. The front porch would have to have an outlet so the electric bass could be plugged in, and it is music of the electric-light era, not strictly old-time—although the new songs have a sort of back-country feel to them. I have a couple of small complaints about how the vocals don’t really fit in a couple of the songs, notably in Phil Phillips’ good old Sea of Love, and about the lack of any really hot cuts—with both Earl and Randy in a band, the band is almost obligated to give them each room for a solo spectacular. This one is more integrated, but Randy sings lead once—first time I’ve heard that—and does it well enough to indicate he should do more of it. As it is, it’s good enough to make you haul the stereo and the jug out to the porch.

NINA SIMONE: Baltimore (see Best of the Month, page 99)

RECORDING OF SPECIAL MERIT
BARBRA STREISAND: Songbird. Barbra Streisand (vocals); orchestra. Tomorrow: A Man I Loved; I Don’t Break Easily; Love Breakdown: You Don’t Bring Me Flowers; Honey Can I Put On Your Clothes; and four others. COLUMBIA JC 35375 $7.98, © JCA 35375 $7.98. © JCT 35375 $7.98.

Performance: Memorable
Recording: Good

Streisand’s newest Columbia release might at first be looked on as one of her throwaway efforts, an album made only because the sales department needed a new one or, perhaps, because she needed to fill up some time or to make even more money. But that, you see, is the kind of conventional entertainment-industry thinking that Streisand has always fought.

BARBRA STREISAND
A theatrical genius, and she knows it

You can be quite sure that she made “Songbird” for no other reason than that she wanted to. She likes to work. And she very much likes to create.

This time out she has created at least three memorable tracks, and considering the level at which Streisand functions you really shouldn’t need any more notice than that to go out and grab the album. First there’s Tomorrow from Annie, a sappy, soppy song that sounded old and worn on the night the show opened; here it’s transformed (in much the same way as Cry Me a River and Happy Days Are Here Again were earlier) into something absolutely personal and unique—pure Streisand. Then there’s Neil Diamond’s really lousy You Don’t Bring Me Flowers, with which she merely breaks your heart, and, finally, Honey Can I Put On Your Clothes, in which she throws off sexual steam to fog up Gloria Steinem’s aviator glasses for good.

But what the hell. Words can neither add to nor detract from what Streisand does. You have to experience her for yourself, as half the world knows already. She is a theatrical genius. And she knows it.

P.R.

RECORDING OF SPECIAL MERIT
TALKING HEADS: More Songs About Buildings and Food. Talking Heads (vocals and instruments). Thank You for Sending Me an Angel; With Our Love; The Good Thing; Warning Sign; The Girls Want to Be with the Girls; Found a Job; and five others. SIRE SRK 6058 $7.98. © M8 6058 $7.98, © M5 6058 $7.98.

Performance: Brilliant
Recording: Crisp

Talking Heads may be the oddest band in America right now (not counting the various as-yet-unrecorded imitators they’ve inspired, such as Teenage Jesus and the Jerks), and a lot of writers have gone off the deep end in rhapsodizing about their particular kinks. But that shouldn’t put you off, as half the world knows already. She is a theatrical genius.

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ocynin lyrics combine to make the Heads sound like a bad surf band run amuck. But at other times (Warning Sign and the really quite exciting Thank You for Sending Me an Angel are my favorites at this point) one simply has to accept this music for what it is: the quirky, charming musings of a bunch of emotionally constipated yet brilliant kids who are breaking all sorts of rules, not because they're incompetent primitives but because they really don't know any other way to vent their particular frustrations. It's not Punk, and it may not even be rock, but if your ears are the slightest bit open, I can't imagine your not liking at least some of it.

TOWNES VAN ZANDT: Flyin' Shoes (see Best of the Month, page 102)

WENDY WALDMAN: Strange Company.
Wendy Waldman (vocals, guitar, keyboards); orchestra. You'll See; Hard Times; Train Runnin'; Love Is The Only Goal; The Man Is Mine; and five others. WARNER BROS. BSK 3178 $7.98, © M5 3178 $7.98, © M5 3178 $7.98.

Performance: Good
Recording: Good

That Carly Simon seems to be Carly Simon so effortlessly may be a large part of her tremendous success. Wendy Waldman often seems to be running out of breath (and ideas) trying to be Wendy Waldman. Both are composer-performers; both speak of and to that same generation of intelligent, unctors committed women who want to put a little thinking space and time between themselves and the old rules and roles. But there's a difference between the two women's albums. Simon has the drop-dead, unselfconscious honesty of the girl in the crowded elevator confiding to a friend about her intimate life—and not caring much who overhears. Waldman, on the other hand, is the carefully prepared member of a therapy group telling you about her hang-ups and about how she's overcome them, rolling in with the cosmic meanderings of Love Is the Only Goal or the supposed daring of Long Hot Summer Nights, about two girls on the prowl ("You take Johnny, I'll take Joe/If we change mid-stream, no one will ever know...").

Perhaps comparisons between creators are always unfair, but I'll make one more: Waldman is probably a better musician than Simon has shown she is so far. Waldman's work here, vocally and on a variety of instruments, is often very fine indeed. Now, if only she'd loosen up her lyric approach to get down to the gut stuff, toss the Emotional Sponge Pillow act out, and let us know who she really is. I'll bet she would prove to be a lot squarer and less with-it than she cares to admit, but she would probably produce some dynamic work.

P.R.

JOE WALSH: But Seriously, Folks.
Joe Walsh (vocals, guitar, synthesizer); instrumental accompaniment. Over and Over; Second Hand Store; Indian Summer; At the Station; and four others. ASYLUM 6E-141 $7.98.

Performance: Good
Recording: Good

This first solo album on Asylum from Eagles guitarist Joe Walsh isn't very exciting, but it is solid and it is at least another sign of healthy mainstream rock activity. Acoustic guitars are judiciously used in the rhythm section, making for some nice contrasts in texture. There's a long, quiet rock instrumental—if you can imagine such a thing—that's quite pleasant. And there are lyrics worth catching here and there, as in Second Hand Store and in the could-this-be-insync effect of Life's Been Good. The superstar in that one says everyone's changed but himself, and in a way he could be right. Walsh seems to sing through a lot of reverber or something most of the time, and he wouldn't win many singing contests anyway, but in general the album has to be called likable.

N.C.

THE WHISPERS: Headlights. The Whispers (vocals); instrumental accompaniment. Headlights; Try and Make It Better; Disco Melody; Children of Tomorrow; and four others. SOLAR BXK-1-2774 $7.98, © BXK-1-2774 $7.98, © BXK-1-2774 $7.98.

Performance: Smooth but not slick
Recording: Good

This album is something of a disappointment in that the previous set by the Whispers was such a whopper, but after several listenings I was able to appreciate anew the fundamental qualities that lift this singing quintet above the pack. Most important, they have one of the smoothest vocal blends of any group on the boards. They toy with the music, though somewhat timidly, and even dabble in a bit of scatting à la Al Jarreau, though on a far more elementary level and not nearly as much as they should. Headlights and The Planets of Life are the fun tracks here, but the best singing occurs on Olivia (Lost and Turned Out), Try to Make It Better, and Disco Melody, which is far sweeter than its name suggests and should have real staying power.

P.G.

RECORDING OF SPECIAL MERIT

NANCY WILSON: Music on My Mind. Nancy Wilson (vocals); orchestra. I'm Gonna Let Ya; Let It Flow; Let Me; I'm in Love; I Really Need Him; and four others. CAPITOL SMAS-11786 $7.98, ® 4XW-11786 $7.98, @ 4XW-11786 $7.98, @ 4XW-11786 $7.98.

Performance: First-class
Recording: Good

Nancy Wilson's "Music on My Mind" is more proof that class will always tell. But just as class has always been a part of Wilson's performances throughout her long career, so has a powerful grasp of elemental sexuality. When these combine with her newly developed acting abilities, as they do here in the really fine title song, the result is champagne with a kick like hundred-proof vodka. She reprises Music on My Mind at the end of the album, as well she might, for it is the kind of material that doesn't come along all that often for anyone. If you've ever seen the film Life at the Top, you'll probably always remember the feeling Simone Signoret's performance gave you, and Nancy Wilson's work in Music on My Mind is on that same superb communicative level. There are some other very nice things on the album, including I'm in Love and Easy—and only one bad choice, I'm Gonna Let Ya, which calls for some unconvincing raunch from the lady—but it's the title song that will fasten itself onto you for a long, long time.

P.R.

(Continued on page 150)
Whether you are about to buy your first high-fidelity component or your fifteenth, you need to have all the facts you can get your hands on if you want to insure your complete satisfaction. Yes, the audio field is a complicated one, but Stereo Review has been running a kind of monthly seminar on the subject for almost two decades now, furnishing the kind of basic buying, installation, and operating guidance you can get nowhere else. Today, over 450,000 readers use it monthly as the first, best textbook in their on-going audio educations. If you have come a little late to class, here's your chance to catch up. Any questions you may have about How to Buy, How to Set Up, How to Use, or How to Understand audio equipment are probably answered in one or more of the reprints listed below.

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THE ANVIL BAND. The Anvil Band (vocals and instrumentals). The Tunnel; Let's Dance; Continental Square Dance; Begin the Beguine; The Man; Nice Vibes; and five others. FREE SPIRIT FA 6700 $7.98.

Performance: Exhausting
Recording: Good

Remember the samba? When you play disco music too fast, that's what you get. And that's my problem with this first album by the Anvil Band. The rushed tempos, especially on side one, are exhausting, with the single exception of a pleasant, danceable rendition of the disco favorite of a few months ago, Charo's Let's Dance (A Little Bit Closer). It's a shame, because two of the cuts—Continental Square Dance and Begin the Beguine (yes, Cole Porter)—evoke ruffled sleeves and banana-hat time and could have worked at a slower pace. Side two is better, though The Man is so syncopated and rhythmically complex that I think even experienced dancers will stand there scratching their heads until I Can't Give You Up takes over. The next number after that is called—guess what? Samba it is! Oh well, maybe I'm just too old to dance that fast. The album ends with I'll Be True, a pleasant little toe-tapper, and Nice Vibes, a lush, violin-laden respite from all the hurry. The Anvil Band's debut is ambitious, but maybe too ambitious. It just isn't consistent enough to hit any one audience squarely.

-Edward Buxbaum

TRINI LOPEZ: Transformed by Time. Trini Lopez (vocals); orchestra. Helplessly; If I Had a Hammer; Lemon Tree; and five others. ROULETTE SR 3020 $6.98.

Performance: Good
Recording: Good

It's nice to have Trini Lopez back again in this disco-slanted album. He was one of the better pop entertainers of the Sixties, Folk-Frenetic Division, and he's mellowed gracefully without losing any of his old infectious energy and enthusiasm. He's best (or perhaps it is only nostalgia surfacing) in Trini's Medley, which includes Candida, Yellow Bird, and Save the Last Dance for Me. Next best would have to be Any Time You Wanna Make Love to Me, which Lopez performs with the darting grace of a picador. The excellent arrangements by Harold Wheeler are somewhat marred by overproduction, but not enough to distract from the overall quality of this disc.

-P.R.

TRINI LOPEZ: Transformed by Time. Trini Lopez (vocals); orchestra. Helplessly; If I Had a Hammer; Lemon Tree; and five others. ROULETTE SR 3020 $6.98.

Performance: Good
Recording: Good

It's nice to have Trini Lopez back again in this disco-slanted album. He was one of the better pop entertainers of the Sixties, Folk-Frenetic Division, and he's mellowed gracefully without losing any of his old infectious energy and enthusiasm. He's best (or perhaps it is only nostalgia surfacing) in Trini's Medley, which includes Candida, Yellow Bird, and Save the Last Dance for Me. Next best would have to be Any Time You Wanna Make Love to Me, which Lopez performs with the darting grace of a picador. The excellent arrangements by Harold Wheeler are somewhat marred by overproduction, but not enough to distract from the overall quality of this disc.

-P.R.

LOVE COMMITTEE: Law and Order. Love Committee (vocals); vocal and instrumental accompaniment. Law and Order; Tired of Being Your Fool; If You Change Your Mind; and five others. GOLD MIND GA 9500 $7.98.

Performance: Sincere
Recording: Good

Love Committee's lead singer, Ron Tyson, is clearly someone special. He not only sings his way through the eight cuts on this rockin'

A TASTE OF HONEY: terrifically talented Janice Johnson (left) and Hazel Payne
dancin’, soul album, but he had a hand in writing all of them. And well written they are, for the focus here is as much on the songs as on the dancing. The title track, for instance, rather daringly preaches the importance of “law and order” to us all, ghetto citizens or not. It’s a heavy message delivered with a solid, upbeat feel. It’s also the first of three Tom Moulton mixes in the album, and that makes it very dancy. Nothing else here comes close to the level of Law and Order, but my other favorites are Tired of Being Your Fool, which rocks along nicely; a second Moulton mix, Just As Long As I Got You; and the driving, soul-based Cheaters Never Win.

Unfortunately, though, Love Committee’s sound doesn’t rise above the ordinary often enough. And there’s a measure of pop cliché about the album—especially in the rock-n-roll homage of If You Change Your Mind and the TV guest-spot predictability of Put It in the Back of Your Mind—that keeps it from being truly memorable.

-Edward Buxbaum

RECORDING OF SPECIAL MERIT
A TASTE OF HONEY. A Taste of Honey (vocals and instrumentals); vocal and instrumental accompaniment. Boogie Oogie Oogie; This Love of Ours; World Spin; Disco Dancin’; and five others. CAPITOL ST-11754 $6.98.

Performance: Mainstream disco
Recording: Rather nice

A Taste of Honey consists of two young women named Janice M. Johnson and Hazel P. Payne, and they are terrific. They sing sweetly and distinctively, play bass and guitar, respectively, and wrote the words and music for several of the songs on this debut LP, which gives fresh impetus to disco’s movement into the mainstream of popular music. Listen especially to the classy close harmony on This Love of Ours and Sky High and you’ll see what I mean. Then catch the gentle, jazz-like instrumental work in the middle of Distant. These girls have talent! Throughout the album, they are miked closely, as excellent singers should be, and the beat therefore has a less dominant role than “pure” disco would have it. But the beat is still there, it’s strong, and—especially in Boogie Oogie Oogie—it’s very danceable.

I have only one quibble. Johnson and Payne deliver every song with so much restrained taste that I found myself wishing that they’d let go and belt one out occasionally. But that complaint is minor in comparison with the joy this disc provides.

-Edward Buxbaum

RECOMMENDED DISCO HITS
• GREG DIAMOND’S STAR CRUISER. MARLIN 2217 $7.98, © 2217 $8.98, © 2217 $8.98.
• LOLEATTA HOLLOWAY: Queen of the Night. GOLDMIND GA 9501 $7.98.
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• BORRIS MIDNEY: Beautiful Bend. MARLIN 2218 $7.98, © 2218 $8.98, © 2218 $8.98.
• MUSIQUE: Keep On Jumpin’. PRELUDE PRL 12158 $7.98.

(List compiled by Marsha Stern, special disco consultant for Stereo Review)

(Continued on page 153)

SEPTEMBER 1978

CIRCLE NO. 13 ON READER SERVICE CARD
David Amram's Peripatetic "Havana/New York"

If there is such a thing as a musical "Renaissance man," David Amram surely fills the bill. A cousin of conductor Otto Klemperer, Amram—now approaching forty-eight—began his musical studies in the classical field, but his scope soon went beyond. He has performed with symphony orchestras, street musicians, and just about everything in between, assimilating each role in the spirit called for and tackling each new challenge with radiant, boyish enthusiasm. To see Amram spark an impromptu street-corner session or add some of his many voices to a musical happening in a Greenwich Village coffee house, one would hardly suspect that he was the New York Philharmonic's first composer in residence; wrote the scores for such films as The Manhattan Candidate, Splendor in the Grass, The Young Savages, and Seven Days in May; has composed two operas and over one hundred orchestral and chamber-music works; and has had his autobiography published; has worked with such major jazz figures as Lionel Hampton, Sonny Rollins, Charles Mingus, and Oscar Pettiford; and has written music for close to fifty Broadway, television, and New York Shakespeare Festival productions.

Amram's recordings include a 1957 session with the Prestige All-Stars, jazz albums under his own name for the French Swing label and American Decca, and, more recently, three RCA releases, the latest of which contains his ambitious Triple Concerto for Woodwind, Brass, Jazz Quintets, and Orchestra and the Elegy for Violin and Orchestra (ARLI-0459). These recordings reflect many facets of his musical talent, but they don't by any means tell the whole story. Not surprisingly, Amram's newest album is, to use the famous Monty Python phrase, something completely different. "Havana/New York" consists of music recorded by Amram and friends in three locations under vastly different circumstances: in a New York studio, on a midtown Manhattan street corner, and at a historic concert in Havana. Chronologically, the Havana concert (the whole of side two) came first; it was the first meeting of American and Cuban musicians on Cuban ground since 1961, when the U.S. government restricted travel to the Caribbean island. To help turn the cruise ship Daphne's thirty-six-hour stopover in Havana into a media event, the ship's owners invited a group of jazz musicians along and arranged for them to give a concert on the night of May 18, 1977. Amram, who brought with him percussionist Ray Mantilla, immediately began work on his En Memoria de Chano Pozo, dedicated—as was the entire concert—to the late Cuban drummer. (Pozo, who has been called the greatest of all Cuban percussionists, came to the U.S. in 1947 to work with Dizzy Gillespie's orchestra, and he became a prime force in what was called Afro-Cuban jazz. A year after his arrival, at the height of his influence, Pozo was fatally shot in a Harlem bar.) Borrowing bassist John Ore and drummer Billy Hart from Stan Getz (who was aboard, along with Gillespie and pianist Earl Hines), Amram rehearsed his piece en route and enlisted the support of several Cuban musicians, who obviously had no problem realizing what the composer had in mind.

The solos by alto saxophonist Paquito de Rivera and trumpeter Arturo Sandoval are fiery and current as anything one might hear at a New York loft session. Amram's piano introduction to En Memoria de Chano Pozo is slow, soulful, and stunningly beautiful, but the piece soon erupts into an orgiastic frenzy of rhythm, with Ray Mantilla and Billy Hart joined by Los Papines, four Cuban brothers whose percussive skills have won them a worldwide reputation. Throughout all this, Amram contributes a characteristic series of personal touches, switching from instrument to instrument. The audience, including both Cubans and Americans, claps hands and responds enthusiastically.

Side one contains two more Amram compositions, Havana/New York and Para los Papines—dedicated to Gillespie and Los Papines, respectively—recorded under studio conditions in New York two months later. Los Papines, then touring the U.S., are on hand again, as are such local figures as Thad Jones, Pepper Adams, Jerry Dodgion, Billy Mitchell, George Barrow, Eddie Gomez, Candido, Nicky Moreno, Ray Mantilla, and four women vocalists. These tracks don't have the historical value of the Cuban recording, but they contain the best music I have heard in the Afro-Cuban genre for many years.

Finally, there is a track titled Broadway Reunion. It was recorded—remarkably well—on a portable cassette machine during an appearance of Billy Taylor's jazzmobile at the corner of Broadway and 44th Street, in New York's Times Square area, in June 1977. David Amram just happened to be there and he just happened to have some instruments in his pocket. Trucks and subways also just happen to rush by and underneath, but their noise and that of the crowd merely lend an appropriate atmosphere to the kind of brief happening that is a typical occurrence in David Amram's life.

FLYING FISH, a small Chicago-based label, plans to release more Amram goodies, including reissuing the three RCA albums, to which they have acquired the rights, and "Summer Nights/Winter Rain," an album so far released only on Canadian RCA. As for En Memoria de Chano Pozo, Amram has since scored it for symphony orchestra as a nine-minute work. Let's hope that version will also eventually be available on disc.

—Chris Albertson

DAVID AMRAM: Havana/New York. David Amram (piano, Spanish guitar, French horn, wooden flutes, penny whistles, pentatonic xylophone, percussion); other musicians, Havana/New York; Para los Papines; Broadway Reunion; En Memoria de Chano Pozo. FLYING FISH FF-057 $7.98.
JAZZ

AURACLE: Glider. Auracle (instruments). Columbian Bubblegum; Sleazy Listening; Sartori; Chez Amis; and four others. CHRYSALIS CHR 1172 $7.98.

Performance: Artful and original.
Recording: Excellent.

This is Auracle’s first commercially released record, but the sextet of former Eastman School of Music students, now in their early to mid-twenties, has been an active unit for close to five years. In 1974 Auracle won an Upstate New York Battle of the Bands sponsored by Columbia Records; the prize was 250 pressed copies of a demo recording made in a Columbia studio. Armed with their demos, the group split into three search parties: two went to Los Angeles, two to Chicago, and two to New York. A month later, they assembled in Chicago to compare notes, finally deciding to go with Chrysalis, a label that has an old-fashioned but sensible policy of signing and developing unproved acts. In a way, Auracle had already proved itself by being voted first in the Small Group category at the 1975 Notre Dame Jazz Festival, but the most persuasive argument for signing the band was probably the sound it generates.

Considering their background, it is no surprise to find that all six members of Auracle play their many instruments with impressive technical skill, and considering the length of time they have played together the group’s well-blended sound is equally predictable. I heard the group perform at Don’t’s in Los Angeles earlier this year, and it is as impressive on the bandstand as on its debut album. I mention this because Auracle’s music is so rich in tonal colors, so precisely executed, and its sound so full that one might easily suspect technological trickery when listening to the album. One reason for the rich and varied textures in Auracle’s music is that most of its members play a variety of instruments and numerous combinations of them are employed within each selection. The compositions—all originals by members of the group—are as interesting and complex as they are diversified, with frequent use of odd meters. Auracle has been called a jazz-rock group, but that is a misnomer; Make no mistake about it, Auracle is all jazz, and if its sound bears any kinship to something you might have heard from a rock group it is only because that rock group has taken a cue or two from jazz.

My only criticism is that Auracle tends to be a bit rigid; the arrangements are very tight, and there are times one wishes these guys would loosen up a bit and extend some of those fine solos. That is not a minor complaint, and others have expressed the same objection, but there is so much genuine talent in this sextet that I am sure they will overcome this one flaw. Auracle is refreshing, and I have a feel-

SEPTEMBER 1978
RY COODER: Jazz (see Best of the Month, page 103)

RECORDING OF SPECIAL MERIT

SOPRANO SUMMIT: Live at Concord '77. Bob Wilber (clarinet, soprano and alto saxophones); Kenny Davern (clarinet, soprano saxophone); Marty Grosz (guitar); Monty Budwig (bass); Jake Hanna (drums). Puggles; Elsa's Dream; Panama Rag; How Can You Face Me? and three others. CONCORD JAZZ CJ-52 $7.98.

Performance: Rompin' and stompin' Recording: Excellent remote

For the second year in a row, Concord Jazz has recorded Soprano Summit in performance at the Concord Summer Festival, and, once again, the resulting album is a joyful, superbly played mixture of old and new material. The style is of another era, to be sure, but the approach is wonderfully fresh and guaranteed to put your body in motion. Co-leaders Bob Wilber and Kenny Davern weave free-flowing patterns in the finest Bechet tradition, and the rhythm section—with Monty Budwig in the spot occupied the previous year by Roy Brown—swings madly on Strike Up the Band, Elsa's Dream, and Fats Waller's The Panic Is On. The last also features guitarist Marty Grosz singing the humorous lyrics with the same wonderful sensitivity he exhibits in his playing. Few contemporary musicians can capture that spirit of old without sounding imitative, and Soprano Summit would not be the same with any other guitarist.

I did not review the previous Soprano Summit album from Concord ("Soprano Summit (Continued on page 157)"
RELIABILITY

in Concert”—Concord Jazz CJ-29), but let me take this opportunity to endorse it as wholehearted as I do this follow-up set. C.A.

JEREMY STEIG/EDDIE GOMEZ: Outlaws. Jeremy Steig (alto flute); Eddie Gomez (bass). Nardis; Autumn Comes/Autumn Leaves; Night More; and two others. INNER CITY IC 3015 $6.98.

Performance: Excellent Recording Good, but...

Jeremy Steig and Eddie Gomez are in their mid-thirties now. Steig became a fixture in Greenwich Village coffee houses in the late Fifties and began working with Paul Bley and Gary Peacock in 1961. During that time Gomez was gaining valuable experience as a member of Marshall Brown’s Newport Youth Band. They began communicating with each other musically about ten years ago, and by the time this album was recorded, in December 1976, both men had firmly established themselves as important artists on their respective instruments: Gomez through his work with Marian McPartland, Paul Bley, Gary McFarland, and lastly, not only Gary, but Bill Evans; Steig through a series of his own albums and as a leader of various groups in the jazz and rock fields.

“Outlaws” was recorded during performance at Die Glocke, a club in Bremen, Germany, on an occasion that found them both in top form and inspired by one another’s company, which makes the album’s poor mastering all the more deplorable. For some strange reason, the twenty-one minutes on side one have been squeezed into a space that leaves a 1/4-inch gap between the last distorted note of Eddie Gomez’s "Arioso" (a beautiful solo on which he uses the bow in such a way as to make the album’s poor mastering all the more deplorable. Side two, which lasts only a fast eighteen minutes, is cut with much wider spacing of the grooves and is free of distortion. One doesn’t have to be an engineer to see that this is, to say the least, unreasonable. I cannot recommend that anyone purchase this album until Inner City remasters it properly. Steig and Gomez should demand a recall.

RECORDING OF SPECIAL MERIT

SLAM STEWART/BUCKY PIZZARELLI: Dialogue. Slam Stewart (bass); Bucky Pizzarelli (guitar). That’s My Kick; Nightwind; Masquerade; B & S Blues; Jersey Bounce; and four others. STASH ST-201 $6.98 (from Stash Records, Inc., P.O. Box 390, Brooklyn, N.Y. 11215).

Performance: Grand Slam Recording: Very good

Bassist Slam Stewart, who will turn sixty-four in September, is a musician without whom no Swing Era anthology would be complete. He became nationally known in 1938 when he and his partner, guitarist (later pianist) Slim Gailhard, wrote and recorded a novelty hit entitled "Flat Foot Floogie." Slam and Slim, as they were called, made numerous recordings for Vocalion and Okeh between 1938 and 1942, including a session with a nineteen-year-old drummer named Forrestorn “Chic” Hamilton. When they split up, Slam went on to become one of the most individual voices in jazz. His highly original sound, achieved by humming in unison with his bowed acoustic (Continued on page 160)

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RECORDING OF SPECIAL MERIT

SLAM STEWART/BUCKY PIZZARELLI: Dialogue. Slam Stewart (bass); Bucky Pizzarelli (guitar). That’s My Kick; Nightwind; Masquerade; B & S Blues; Jersey Bounce; and four others. STASH ST-201 $6.98 (from Stash Records, Inc., P.O. Box 390, Brooklyn, N.Y. 11215).

Performance: Grand Slam Recording: Very good

Bassist Slam Stewart, who will turn sixty-four in September, is a musician without whom no Swing Era anthology would be complete. He became nationally known in 1938 when he and his partner, guitarist (later pianist) Slim Gailhard, wrote and recorded a novelty hit entitled "Flat Foot Floogie." Slam and Slim, as they were called, made numerous recordings for Vocalion and Okeh between 1938 and 1942, including a session with a nineteen-year-old drummer named Forrestorn “Chic” Hamilton. When they split up, Slam went on to become one of the most individual voices in jazz. His highly original sound, achieved by humming in unison with his bowed acoustic (Continued on page 160)

CIRCLE NO. 26 ON READER SERVICE CARD
WHEN Rahsaan Roland Kirk died last year at the age of forty-two, jazz lost one of its unique and most colorful performers. Kirk, blinded in infancy by a careless nurse, first came to the attention of critics in the late Fifties, not so much because he was a great musician (though he was a very good one) as because he played more than one wind instrument at a time, and he did it very effectively. That sort of thing wasn't exactly new—one Wilbur Sweatman had done it in an earlier jazz age, and so had a number of vaudeville performers—but Kirk added a new and significant dimension by being able to play simultaneously more than one melodic line (later, more than two).

Understandably, many critics approached Kirk's music cautiously at first, seeing it as little more than a gimmick. It was that, to be sure—and Rahsaan Roland Kirk loved all kinds of gimmickry—but he was first and foremost a musician, and thus able to turn novelty into art. That is, he frequently reached artistic heights—but not always, and therein lies an enigma. Kirk showed a marvelous command of his various instruments, and he generally used that proficiency to express, in a highly individual manner, the thoughts of a most fertile musical mind. But there were also times when this extraordinary man gave performances that were so ordinary as to be banal. While I have never understood Kirk's lapses into mediocrity, I have found even more perplexing the fact that he recorded so many compositions included to give the correct impression that, for all his other original qualities. Rahsaan Roland Kirk was a most unimaginative composer who tended to assemble the melodic lines of others rather than invent his own. Portrait of Those Beautiful Ladies is a gross example of this, being unashamedly pieced together from bits of Good Morning Heartache, Lover Man, and Early Autumn. Other compositions were often simple, straightforward blues, such as The Black and Crazy Blues, but he could also weave familiar threads into exciting new cloth, as he did in Old Rugged Cross. The reason so much of Kirk's music is laced with familiar strains is probably that innate curiosity he had about the music of his predecessors; he was constantly making references—both musical and verbal—to the great individuals and pioneers of jazz, exploring every old nook and cranny of the music while never hesitating to leap into its present. All of that comes through in this retrospective double album, which contains wonderful examples of his multiple-instrument techniques, bold patches of harmonic textures and colors, demonstrations of his amazing ability to play incredibly long passages without seeming to take a breath, and a few inevitable rough spots.

I cannot as strongly recommend Kirk's very last album, "Boogie-Woogie String Along for Real." But I hasten to point out that some of Kirk's performances here are astounding given the circumstances. In November 1975 he suffered a severe stroke that permanently paralyzed his right hand, a handicap that would probably have dissolved his most adept reed players from taking up their instruments again—but not Rahsaan Roland Kirk. Of course, we don't hear his multiple-instrument technique on this album, but he does separately play both clarinet and tenor saxophone with remarkable fluency and less simplicity than one might expect, that helps this album along is the solid, deep-rooted blues piano of Sammy Price (with guitarist Tiny Grimes and former Armstrong bassist Arvell Shaw) on five selections and Percy Heath's wonderfully buoyant, plucked cello on Hey Babebips and Watergate Blues. Kirk plays harmonica on the latter and also on Summertime, but not very well.

THERE is a certain warmth about "Boogie-Woogie...." but it lacks the excitement Kirk used to be able to generate, for he was a man struggling to express himself with a limited vocabulary. It must have been a painful experience, and one has to admire his spirit. Those of us who met this remarkable man, or experienced him in performance—dressed like a street musician, instruments dangling in front of him and protruding from his pockets—will not soon forget the joyous, swinging sounds he gave us, nor the sense of history he exuded. —Chris Albertson

RAHSAAN ROLAND KIRK: The Vibration Continues. Rahsaan Roland Kirk (English horn, flute, clarinet, tenor saxophone,reed trumpet, manzello, stritch, flexaphone, other instruments); instrumental accompaniment. The Inflated Tear; Introduction and Medley; Water for Robeson and Williams; Volunteered Slavery; I Love You. Yes I Do; Rahsaanica; Do Nothin' Till You Hear from Me; Ain't No Sunshine; A Tribute to John Coltrane; Three for the Festival; Old Rugged Cross; The Black and Crazy Blues; Portrait of Those Beautiful Ladies; If I Loved You; Create Love Call; Seasons. ATLANTIC SD 2-1003 two discs $9.98, © CS 2-1003 $10.98.© TP 2-1003 $10.98.© CS 2-1003 $10.98.

RAHSAAN ROLAND KIRK: Boogie-Woogie String Along for Real. Boogie-Woogie String Along for Real. Rahsaan Roland Kirk (clarinet, tenor saxophone, harmonica, electric kalimba, flute, vocals); Sammy Price (piano); Percy Heath, Arvell Shaw (bass); Tiny Grimes (guitar); other musicians. I Loves You, Pony; Boogie-Woogie String Along for Real; Make Me a Pallet on the Floor; Hey Babebips; In a Mellow Tone; Summertime; Dorthaan's Walk; Watergate Blues. WARNER BROS. BSK 3085 $7.98.
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PETE SEEGER: The Essential Pete Seege. Pete Seege (vocals, banjo, guitar). Coal Creek March; Oh What a Beautiful City; Clean-Oh/Ladies Auxiliary; The Bells of Rhymney; So Long, It's Been Good to Know You; Viva La Quince Brigada; Sulamir; Wimoweh (Mtube); and fourteen others. United VSD 97/8 two discs $8.98, @ $175-97/8(2)$9.98.

Performance: Beautiful Recording: Very good

Pete Seege says he is getting old, but he still sounds as young as ever. His lack of affectation and the seeming artlessness of his art still radiate appeal, even when one grows weary of his attachment to simplistic solutions for our political problems and his almost too dogged devotion to the purity of our water supply. In this two-record, compiled by Vanguard from old recordings, Seege does not sing Waist Deep in the Big Muddy and includes only one song about a union man, but he does do more than justice to songs made famous by Woody Guthrie, Leadbelly, and other colleagues, as well as his own deservedly famous antiwar song Where Have All the Flowers Gone? He also performs songs from Indonesia and the Spanish Civil War. The first record is drawn from a live performance of indeterminate age, with Pete chatting away generally between numbers; the second has been assembled from tapes made in recording studios. It's all vintage Seege and well worth hearing. A text would have been helpful, but the space is given over to "A Conversation with Pete Seege" in which he talks of his imminent retirement. Perish the thought.

THE STARBOARD LIST: Cruising Round Yarmouth The Starboard List (vocals and instrumental). Boarding House Song; Yarmouth Town; Black Nag; Handsome Cabin Boy; Greenland Whale Fisheries; and nine others. Adelphi AD1027 $7.95.

Performance: Cheerful Recording: Very good

The Starboard List is a gang of guys who sing sea shanties with an elation that sometimes belies the lyrics, which are not always all that cheerful. A trip to a brothel in the title song leads to a severe case of the clap, the Newfoundland Bells of Newfoundland describing the hardships of a bitter Northern winter, the pirates in High Barbaree torture the victims they capture on their Mediterranean cruises, and men drown in Greenland Whale Fisheries. Yet, from the opening number (set in a tavern, with background sound effects suggesting a drunken brawl), these fellows transcend the subject matter to put over a rousing program. The album was recorded in a landlocked studio on the island of Manhattan, but it sounds as refreshing as an offshore breeze.

FEEDBACK

A complete selection of cassettes. Authoritative interviews and lectures useful in a variety of therapeutic and instructional situations. Individuals too will find them significant as a means of increasing their knowledge and expanding upon particular interests. FOR FREE: Adp WRITE Psychology Today Cassettes, Box 278, Pratt Station, Blaaln, N.Y. 11205

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TRUE POWER is the capability of a receiver to deliver more power into 4 ohms than into 8 ohms according to FTC regulations on power ratings. An 8 ohm power rating alone tells just half the story of a receiver's true performance. Yet, as our chart shows, our competitors' highest powered receivers are only rated this way. Except Marantz!

Now Marantz makes a major move by providing full disclosure ratings which include distortion and full bandwidth on all Marantz receivers at both 4 ohms and 8 ohms. That's TRUE POWER Rating. It tells your customers Marantz receivers can deliver at least 25% more power into 4 ohms than at 8 ohms — and it's below 8 ohms where loudspeakers need extra power.

Here's why: In the real world of sound, loudspeakers rated at 8 ohms frequently present only 6 ohms impedance. If you connect two pair of speakers the impedance drops in half and the speakers demand more power than the 8 ohm rating can deliver. And because Marantz provides full 4 ohm and 8 ohm disclosures on all models, only Marantz can guarantee the TRUE POWER your speakers need on all Marantz models.

No other competitor offers a full FTC primary 4 ohm disclosure on every model from the least to the most expensive. We can only assume that most other competitors can deliver equal or higher power at 4 ohms with full disclosure, they would do so.

Marantz TRUE POWER Design is engineering know-how that requires more sophisticated, expensive circuitry. That's why Marantz TRUE POWER receivers cost a bit more — but that's why they're worth it.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Power Rating</th>
<th>THD</th>
<th>Frequency Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Ohms</td>
<td>400 Watts RMS</td>
<td>0.05%</td>
<td>Not specified</td>
</tr>
<tr>
<td>8 Ohms</td>
<td>300 Watts RMS</td>
<td>0.03%</td>
<td>20-20,000 Hz</td>
</tr>
</tbody>
</table>

**BRUTE POWER AND COOL OPERATING EQUALS UNMATCHED RELIABILITY.**

"We have never encountered any other audio component that remained as cool in operation." That's what noted reviewer Julian Hirsch said about the Model 2500, and like the Model 2500 the Marantz 2600 incorporates the same exclusive Tunnel Pin Fin Heat Sink system for the most efficient heat dissipation. The result: the entire Model 2600 is literally air-cooled, and its electronics are protected from the ravages of heat... the worst enemy of long receiver life. A receiver with a conventional heat sink dissipation system with equal cooling capacity would be twice as large and far heavier than the Model 2600 and hot enough to burn fingers.

**A QUARTZ-LOCK TUNER WHICH VIRTUALLY ELIMINATES FM DRIFT.**

The Model 2600 includes a touch controlled quartz-lock tuner which monitors the incoming FM signal, compares it to the Model 2600's internal quartz-frequency standard, and precisely adjusts tuning so the 2600 is always tuned to the minimum distortion tuning point... and to peak performance. Complementing quartz-lock is a 5-gang FM tuning capacitor and dual-gate MOS FET FM front end.

**A TEAM OF FILTERS TO KEEP THE SOUND CLEAN.**

The Model 2600 includes an ultra-sophisticated noise-control system for the most thorough noise-filtering available. Where most competitors use 6 dB per octave or 12 dB per octave filters, Marantz has chosen the more expensive and steeper 18 dB per octave 9 kHz Bessel-derived high filter and 15 Hz Butterworth subsonic low filter to remove the noise instead of the music. And a convenient plug-in optional Dolby FM circuitry pocket gives you Dolby...when you want it.

The Marantz model 2600 with TRUE POWER Design looks stunning both inside and out. Its beauty and performance set the standard for the entire line of Marantz TRUE POWER receivers.

**COMPARE THE TRUE POWER COMPARISON CHART AND SEE WHO GIVES YOU FULL DISCLOSURE AT BOTH 4 OHMS AND 8 OHMS.**

<table>
<thead>
<tr>
<th>Model</th>
<th>Suggested Price</th>
<th>3 Ohm Rated Power</th>
<th>4 Ohm Rated Power</th>
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<tbody>
<tr>
<td>SANSUI G22000*</td>
<td>$1,250</td>
<td>220 Watts RMS</td>
<td>0.02</td>
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<tr>
<td>PIONEER SX1980*</td>
<td>$1,250</td>
<td>270 Watts RMS</td>
<td>0.03</td>
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<tr>
<td>MARANTZ 2600</td>
<td>$1,495</td>
<td>400 Watts RMS</td>
<td>0.05</td>
</tr>
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*Based on manufacturer's published specifications and prices available 4-1-78. **Dolby is a registered trademark of Dolby Labs, Inc. True Power™ is a trademark of Marantz Company, Inc. © Copyright 1978 Superscope, Inc., 20525 Nordhoff St., Chatsworth, CA 91311. All Rights Reserved.*
TRUE POWER™ DESIGN
POWER RATINGS.
About the only thing I have that's better than a Koss Pro/4 Triple A are some extremely expensive electrostatics.

David Driskell
Audio Salesman
Los Angeles, California

I think the Pro/4 Triple A sounds really similar to an electrostatic headphone, very crisp, very good in the midrange and the highs, yet very dynamic and full in the bass.

There are few stereophones of any kind that can match the full-bandwidth sound of the new Pro/4 Triple A. That's because the Triple A's oversized voice coil and extra large diaphragm reproduce recorded material with a life-like intensity and minimal distortion never before available with dynamic stereophones.

If there's any clipping, it's in your amp.

With a frequency response from 10Hz to 22KHz, a highly efficient element and a perfect seal for low bass response to below audibility, the new Triple A lets every note blossom to its fullest harmonic growth. You'll hear so much more of your favorite music you'll think you're listening to a whole new record.

The pneumalite ear cushions do three things; they're a lot more comfortable, they eliminate listening fatigue, and they develop a deep, clean bass response.

What more can we say except that the unique dual suspension headband makes the Triple A one of the most perfectly fitting, perfectly comfortable stereophones you'll ever slip on.

I talk a lot about the private listening experience. Especially with couples where she wants to watch a TV program and he wants to listen to Bach. They can be together and still do their own thing.

One of the beautiful things about the Sound of Koss stereophones is that you can listen to your favorite music at any volume without disturbing anyone else. And that's beautiful.

The workmanship of the Triple A is beautiful. Even the inside which most of my customers never see is very machined, very precision made.

Why not stop by your audio dealer and take a good, long look at the new Pro/4 Triple A. And while you're there listen to the Koss CM line of loudspeakers. They're in a class by themselves, too.

Or write c/o Virginia Lamm for our free full-color catalogue. Better yet, listen to a live demonstration of the Sound of Koss with your own favorite record or tape. We think you'll agree with David, that when it comes to the Pro/4 Triple A, and other Koss stereophones and speakers: hearing is believing.

KOSS stereophones/loudspeakers
hearing is believing

KOSS CORPORATION, 4129 N. Port Washington Ave., Milwaukee, Wisconsin 53212

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