A Stereo Review Forum: sixteen industry experts discuss
WHAT MAKES A GOOD PHONO CARTRIDGE

The Buyer's Shorter Guide to
PHONO-CARTRIDGE SHOPPING

CBS' NEW "CX" ENCODED DISC
An end run around digital?

EQUIPMENT TEST REPORTS
- Benjamin Model 4100 Automatic Turntable
- Harman Kardon hk300XM Cassette Deck
- KEF Model 103.2 Speaker System
- Pioneer A-8 Integrated Amplifier and F-7 AM/FM Stereo Tuner
- Yamaha R-700 AM/FM Stereo Receiver

DISC SPECIALS
Phoebe Snow ⋆ Ellen Foley
Clarke/Duke Project ⋆ V.S.O.P.
Dave Edmunds ⋆ Sophisticated Ladies

ROSSINI: L’Italiana in Algeri
BARTÓK: Piano Concertos Nos. 2 and 3
DELİUS: The Magic Fountain
MAHLER: Two New Tenths
THIS YEAR, PIONEER DISCOVERED A NEW ART.
Pioneer goes beyond state of the art electronics to make a major new contribution in human engineering.

In the past 40 years Pioneer has made countless contributions to the state of the art in High Fidelity. Now Pioneer is introducing new components that actually restate the art. We call it High Fidelity for Humans.

This year to a list of audible innovations and incredible specifications we have added human engineering features that give the owner of our equipment a new ability to control it and the quality of the sound it produces.

For example, Pioneer's P10 CT-9R, three direct drive motor Cassette Deck has a Time Remaining Counter with a digital readout that shows you how much recording time is left on a tape. So you won't run out of tape before running out of music. There's also an Index Scan feature that previews a tape by playing the first five seconds of each piece of music. And to give the CT-9R an incredible signal-to-noise ratio with extended high frequency response, Pioneer's engineers developed RIB-BON SENDUST tape heads with laminations 4 to 5 times thinner than conventional Sendust heads. And only Pioneer has them.

Our new Quartz Synthesized F-9 Tuner has a Multipath Indicator that goes so far as to tell you when a signal is being reflected off nearby objects or buildings. So you can adjust your antenna for the best reception. It can also memorize six of your favorite FM and six AM stations and retrieve them instantly. And to make sure every one always sounds its best, our engineers combined two of our exclusive ID MOSFET transistors in a Push-Pull Front End circuit. When you tune in a weak station there's no worry about stronger stations causing distortion.

Pioneer's new components bring tangible as well as audible advances to high fidelity.

Due to front end overload. And Quartz-PLL Synthesized tuning makes drift impossible.

Unique features on the new Pioneer A-9 Integrated Amp include a Subsonic Indicator. It lights up only when you need to use the Subsonic Filter to get rid of very low frequency interference caused by record warps and such. Inside, a new DC Servo circuit eliminates all capacitors from the signal path so they can't muddy up the signal.

That gives you a purer signal with superb definition.

Pioneer's SX-7 Receiver brings you precise electronic control of most functions including volume. The Auto Station Scan control pre-views the entire band and eight FM and eight AM Memory Presets recall the stations you prefer instantly. What's more, Pioneer's patented Non-Switching amp does away with one of the most troublesome forms of distortion—the noise generated when output transistors switch on and off thousands of times a second.

Our new top-of-the-line turntable, the Linear Tracking PL-L800 is another feat of human engineering. It features a linear motor that drives the tonearm across the track by electromagnetic repulsion—an amazing material that dampens resonance. And there's a coaxial suspension system that isolates the platter and tonearm assembly. These features combine to keep what's going on in the room around the turntable from becoming part of the music.

And all this is just the beginning. While the Pioneer concept of human engineering makes our components a pleasure to live with, Pioneer's innovative electronics and technology make them a pleasure to listen to. If you'd like to hear more, visit your nearby Pioneer dealer. You'll see and hear why Pioneer components are #1 with humans who care about music.
EVERY YEAR, HI-FI COMPANIES MAKE MINOR IMPROVEMENTS IN THE STATE OF THE ART.
“May your father borrow your vehicle tonight sir...seeing as it has the Jensen?”

The Jensen R406 AM/FM stereo cassette receiver. Jensen receivers have brought an exceptional level of high fidelity to car stereo. Not just with advanced features, but with truly fine specs and, of course, terrific sound.

The R406 AM/FM Stereocassette receiver has the convenience of 5 station, push button tuning. And it has an auto reverse tape system that lets you instantly play the other side of a cassette, or after rewinding, it will automatically play the same side again.

But it’s those features that affect sound performance that make the R406, along with all the other fine Jensen receivers, impressive. Features like Auto High Blend circuitry. It’s a special IC that automatically adjusts the high frequency separation when FM stereo reception conditions are poor. So even in low intensity areas you’re able to get clearer, sharper music with less interference.

And the R406 has a host of other sophisticated refinements such as loudness compensation to improve bass at low volumes. FM interstation muting. And separate controls to fine tune treble and bass.

Jensen has a wide selection of car stereo receivers that offer you many of the advantages of home hi-fi component systems. You can select engineering advances like electronic switching, bi-amplification and Dolby® noise reduction.

So listen to the full line of Jensen receivers. There’s one with just the right features and, more importantly, just the right sound to move you.


CIRCLE NO. 47 ON READER SERVICE CARD
NEW PRODUCTS
Roundup of the latest audio equipment and accessories

AUDIO/VIDEO NEWS
CBS' New "CX" Encoded Disc

AUDIO QUESTIONS AND ANSWERS
Rock Tracking Force, MM and MC Cartridges, External TV Speaker

TAKE TALK
Digital Cassettes, Metal Playback, Transport Controls

TECHNICAL TALK
Phono-cartridge Loading

EQUIPMENT TEST REPORTS
Hirsch-Houck Laboratories test results on the Benjamin Model 4100 automatic turntable.
Pioneer A-8 integrated amplifier and F-7 AM/FM stereo tuner, Harman Kardon hk300XM cassette deck, KEF Model 103.2 speaker system, and Yamaha R-700 AM/FM stereo receiver

THE SHORTER GUIDE TO CARTRIDGE SHOPPING
Suitability for your audio system should be the first criterion

WHAT MAKES A GOOD PHONO CARTRIDGE
Sixteen industry experts have at a dozen hard questions

BEST RECORDINGS OF THE MONTH
Rossini: L'Italiana in Algeri
Phoebe Snow: "Rock Away"
Ellen Foley: "Spirit of St. Louis"

CLASSICAL MUSIC
Bartók: Concerto for Orchestra
Delius: The Magic Fountain

POPULAR MUSIC
Duke Ellington: Sophisticated Ladies
Champaign: "How 'Bout Us"
Lisa Gayleson: "Love from the Heart"
Davy Edmunds: "Twangin"

BULLETIN
WILLIAM LIVINGSTONE

SPEAKING OF MUSIC
WILLIAM ANDERSON

LETTERS TO THE EDITOR

GOING ON RECORD

INSTALLATION OF THE MONTH
ROBERT GREENE

ADVERTISERS' INDEX

COVER: Design by Borys Patchowsky, photo by Bruce Pendleton. (Wild M5A Stereomicroscope courtesy E. Leitz, Inc., Rockleigh, N.J.)
The First Discwasher Tape Accessory

**The Perfect Path Difference:**

- "Cleaning contact" is made along the total tape path including guides and heads, normally untouched by wiper cleaners.
- Perfect Path cleans without alcohol or freon. It will not extract and age pinch rollers.
- Perfect Path simultaneously cleans tape heads while removing debris from along the tape path.
- Perfect Path's cleaning fiber grid is non-abrasive. Even after hundreds of passes, it will not scratch heads.
- Perfect Path restores high frequency "air" and transient response of cassette recordings.

**Special non-abrasive cleaning fibers are backed with an exclusive "capture surface" designed to trap tiny particles of tape residue, preventing them from contaminating tape mechanisms.**

Discwasher, Inc., 1407 N. Providence Rd., Columbia, MO 65201

CIRCLE NO. 16 ON READER SERVICE CARD
MICRO CASSETTE DECKS with Dolby HX systems and metal-tape capability are in the works in Japan and may reach the United States market as early as this fall. Many major manufacturers of audio equipment are considering the format very seriously. Good as some of the specs for these new units may be, they do not yet reach the standard set by full-size cassettes. Scoffers should remember, however, that few people thought the standard cassette could ever attain hi-fi quality.

NPR's ACCLAIMED JAZZ ALIVE! SERIES has received the 1980 Peabody Award for Entertainment in recognition of "most distinguished and meritorious public service." The winning show was "The Jazzmobile Sunday Festival," a four-hour live special featuring the N.Y. Jazzmobile founded by Dr. Billy Taylor. First aired last fall, this winning program will be rebroadcast by NPR member stations in July. Dates will vary, so check local stations. Dr. Taylor, best known as a composer and pianist, has received NPR's Edward Elson Distinguished Service Award for his contributions to the growth and development of National Public Radio.

THE CANADIAN MUSIC COUNCIL's AWARD for outstanding contributions to the cultural life of Canada went to Glenn Gould this year. His CBS Masterworks recording of Bach's Preludes, Fugues, and Fughettas (M 35891), released in the U.S. last fall, won the Council's award for the best recording by a Canadian artist for a non-Canadian record company. For other awards see Classical Music Briefs, page 76.

THE NEWPORT JAZZ FESTIVAL, founded in Newport, R.I., in 1953, became the world's most famous festival of its kind, and in 1972, when it was moved to New York City, the old name was retained. Scheduled to run this year from June 25 to July 5 and featuring such artists as Ella Fitzgerald, Mel Tormé, Sarah Vaughan, Weather Report, Chick Corea, and Dizzy Gillespie, the festival is changing its name to the Kool Jazz Festival--New York.

COUNTERFEITERS of Jensen car-stereo speakers and importers and sellers of Jensen "look-alike" speakers are being sued by Jensen Sound Laboratories, of Schiller Park, Illinois. The company is also seeking the aid of the United States Department of Commerce and the Taiwanese government to protect its name and the rights of the legitimate dealers in Jensen products. Most of the defendants in the first of these suits filed in U.S. Federal Court are companies on the West Coast, but there is one in Texas, one in Pennsylvania.

THE AMADEUS QUARTET honored Mozart by taking his middle name when the group was formed thirty-odd years ago. We have just learned that members of the quartet, which has sold more than two million records on the Deutsche Grammophon label, refer to themselves privately as the Wolf Gang.

"LIVE AT THE RITZ," the first album by the Rockats, a new-wave rockabilly group, was produced with a speed that Island Records claims is a first for the industry. By designing the jacket in advance and mixing the master tape in the sound truck during the concert, Island aimed to have a limited edition of 5,000 on the street forty-eight hours later. The regular edition was scheduled for the end of June. Speed seemed appropriate to the boys in the band. "We perform best under the pressure of a live concert," said one member. "Besides, our music is fast."

GIAN-CARLO MENOTTI'S 70TH BIRTHDAY celebrations at the Spoleto Festival in Charleston, S.C., are the subject of a telecast to be seen on PBS July 22. The show is one of a series of ten on the festival, founded by Menotti, that air on most PBS stations Wednesday nights from June 3 to August 5. Also on PBS this month in Exxon's Great Performances series are Mahler's Ninth Symphony with the Vienna Philharmonic conducted by Leonard Bernstein (July 6) and Puccini's Tosca with Raina Kabaivanska, Placido Domingo, and Sherrill Milnes (July 27). Check local listings for time.
Some few years ago, when former President Nixon parted the Bamboo Curtain behind which the Chinese retired after World War II, among the first trade goods to reach this shore was a recording of a comically eclectic, thoroughly occidental piano concerto (see "Way Down upon the Yellow River" in April 1974 Stereo Review or pick up a copy of RCA ARL 1-0415 if you can) which offered convincing evidence that China was not as completely closed to Western influences as we had been led to believe. Unfairly roasted by a few critics for having profaned Red Seal with "cargo-ship music," RCA evidently decided not to return to the same well, and I don't know what we've sent them, but they have sent us "Phases of the Moon" (CBS M 36705, inaccurately subtitled "Traditional Chinese Music"), a collection that considerably broadens our perspective on the Chinese recording industry. The sound is (largely) in perfectly adequate stereo, and since the music is played by a cross section of well-connected forces (the Traditional Instruments Orchestra of the Central Conservatory, the Shanghai Philharmonic Society, Peking Opera Theatre of Shanghai, etc.), it permits us to assess the performance level—impressively high—of some of China's more important ensembles.

The unifying theme of the sampler is "moonlight," but to my ears the contents break down into two mutually exclusive categories: the music of metropolitan, Western-influenced China (the Peking/Shanghai axis) and the music of some of the country's many ethnic minorities. The metropolitan music (The Moon Mirrored in the Pool, The Moon on High, Spring on a Moonlit River) is largely contemporary and of the plucked-string kind we take to be "typically" Chinese—probably because the plaintive whine of its melodic style was for years successfully imitated in the background music for any number of Hollywood's Shanghai gestures. There is also the martial Days of Emancipation, a piece of Socialist Realism to remind us subtly that China is one of those countries where the clever become trimmers and the principled dead or silent, where prize-winning concert pianists have their arms broken for entertaining Bad Thoughts.

The ethnic music, however, is quite another bowl of rice. Like all good folk music, it reminds us of other folk, and I take that to be a measure of its authenticity, tarted up though it may be. Dance of the Vao People, which sounds like a balalaika orchestra, and Spring on the Pamir Plateau, featuring a fabulous flute solo, are highly recommended. Tashwayi sounds like a Middle Eastern belly dance, Purple Bamboo like a fiddle-led hoedown, and Axi Jump Moon is surely an unknown Copland ballet score. If there are more sounds like these available, CBS should grab them fast before such minority expressions go the way of Tibet.

The jacket notes innocently include a poem written in 816 (yes) by Bo Juyi, one of China's greatest poets. It contains this astonishing passage: "I came, a year ago, away from the capital/And am now a sick exile here in Kiu-kiang/And so remote is the turn or safety of art work, photography, or manuscripts. However, publisher assumes no responsibility for the return postage and will be handled with reasonable care; return postage and will be handled with reasonable care; return postage and will be handled with reasonable care; neither string nor bamboo, for a whole year." That might have been written by some rusticated Chinese intellectual only yesterday. China is still China.
BASF Chrome. The world's quietest tape is like no tape at all.

Today, only one high bias tape is able to combine outstanding sensitivity in the critical high-frequency range with the lowest background noise of any oxide tape in the world. That tape is BASF's Professional II. Professional II is like no other tape because it's made like no other tape. While ordinary high bias tapes are made from modified particles of ferric oxide, Professional II is made of pure chromium dioxide. These perfectly shaped and uniformly sized particles provide a magnetic medium that not only delivers an absolute minimum of background noise, but outstanding high frequencies as well.

Like all BASF tapes, Professional II comes encased in the new ultra-precision cassette shell for perfect alignment, smooth, even movement and consistent high fidelity reproduction. With Professional II, you'll hear all of the music and none of the tape. And isn't that what you want in a tape?

All BASF tape cassettes come with a lifetime guarantee. Should any BASF cassette ever fail—except for abuse or mistreatment—simply return it to BASF for a free replacement.

Mobile Fidelity Sound Lab. BASF Professional II is so superior it was chosen by Mobile Fidelity Sound Lab for their Original Master Recording 'High Fidelity' Cassettes. These state-of-the-art pre-recording cassettes are duplicated in real time (1:1) from the original recording studio master tape of some of the most prominent recording artists of our time.

For the best recordings you'll ever make.
Le Cube.

The ALLISON:SIX™ is our smallest loudspeaker system. It is an 11-inch cube incorporating the Allison' Room-Matched' design principle. While compact, the model Six is not a "mini" system in any sense. Its low-frequency output is flat to below 50 Hz with reasonable system efficiency. The highest audible frequencies are reproduced smoothly and dispersed uniformly by the same convex-diaphragm tweeter used in the most expensive Allison models. Allison Sixes are accurate, full-range loudspeaker systems, without allowance for size or price.

Revue du Son, in a feature review said "La 'petite' Allison Six est une grande enceinte [loudspeaker]." Full-range performance is possible from loudspeakers that can be used as bookends on an open shelf. The Allison Six costs $160 with walnut grained vinyl cabinet and $172 in black or white lacquer. Descriptive literature, including complete specifications, is available on request.

For literature and information call (800) 225-4791 [in MA (617) 237-2670] or send coupon.

*Revue du Son, No. 32 (November, 1979)

ALLISON
ACOUSTICS
Seven Tech Circle/Natick, MA 01760, U.S.A.

LETTERS TO THE EDITOR

Christopher Cross

- I find it most amusing that Steve Simels can hold himself out as a record reviewer after his comments in May on Christopher Cross, especially since the album has gone platinum and Cross won five Grammy awards with his "bantamweight" talent. It is obvious that a lot of people do not agree with Mr. Simels or the album would not have achieved the success it has.

BILL WENDLANDT
Austin, Tex.

Steve Simels replies: Mammoth sales have nothing to do with musical quality. Proof? How about Three Little Fishes, The Hut-Sut Song, Mairzy Doats, and A-Tisket A-Tasket of unforgettable memory?

I am very sure that someone has asked these questions before, but who is Christopher Cross? Where did he come from (what prior group, if any)? And how long has he been performing?

VINCENT R. BOWLES

Christopher Cross sang and played guitar with the Flash, a San Antonio-based band, in the early Seventies, leaving in 1973 to work on his own material. He pulled together the core members of his current group in Austin, Texas, and after countless local gigs doing covers of current hits and golden oldies, they recorded a demo tape of original material by Cross. The band then showcased the songs at the Alamo Roadhouse in Austin on Halloween night 1978. Representatives of Warner Bros. Records were in the audience, and three months later Christopher Cross and Co. had a contract with the label. In other words, just your average overnight-success story.

The Clash

- Ha! I got Simels! It’s "Sandinista!" with an i, not "Sandanista!" But despite that, the review in the May issue was good. The Clash is one of the few bands left that challenge themselves and their listeners; any band this exciting has earned the right to dispense with editors. They, like (Mis)Spel-lin' Steve, are usually on the mark.

ED JANUSZ
Brick Township, N.J.

SIARE Postscript

- We do not disagree with Julian Hirsch's findings in his test of the SIARE Delta 400 speaker system (May 1981 STEREO REVIEW), but by now all the Deltas in dealers' stocks will have had their woofers replaced with improved, low-distortion drivers, and all future production will incorporate this revision. Anyone who has previously purchased Delta 400s need only write to us with proof of purchase, and we will arrange to have the improved woofers installed at no charge. The new drivers will provide distortion measurements of the caliber printed in our new literature rather than at the level Mr. Hirsch measured in his early samples.

ED MAIDEL, Vice President
SIARE Corp.
80 13th Avenue
Ronkonkoma, N.Y. 11779

P. D. Q. Bach

- I read Eric Salzman's critique of Schickele's new Bachish endeavor. I thought it was truly unique and furthermore downright clever.

One question remains on my mind, though, and I hope that the editor will still it. It's whether Herr Salzman was fer it, or whether the good gent was agin it.

HAL GRANHOLM
Pownal, Maine

Japanese Broadcasting

- I have spent quite a bit of time in Japan since 1958, and I have read with great interest (Continued on page 10)
ALL YOU HAVE TO DO IS LISTEN.

THE SANSUI 900 SUPER SYSTEM.

Just listen.

Your ears will tell you immediately. Here is sound that's just about as good as it gets. And your eyes will tell you here's styling that's a cut above the rest.

But best of all, here is a sensibly priced complete system of high performance separates that is as easy to use as it is to buy.

All you have to do is plug it in and enjoy.

C-77 Control Center/ Preamplifier with Automatic Fader and Moving Coil Preamp Unique in offering full stereo mixing with the convenience of an automatic and manual fader for smooth, professional sounding transitions from any connected source to any other, plus a built in pre-preamp for moving-coil cartridges. Variable loudness control.

B-77 LINEAR-A DC Servo Power Amplifier with Spectrum Analyzer and Peak Power Meter. Sensibly rated at 60 watts/channel, min. RMS, both channels into 8 ohms from 20-20,000Hz, with no more than 0.03% THD. Direct-coupled throughout, it features Sansui's exclusive new "Linear A" circuitry for low distortion with high efficiency, along with separate 10-band spectrum analyzer and peak power displays that show just what your system is doing.

T-77 Quartz-PLL Digital Synthesizer FM/AM Tuner with 8 Preset FM/AM Stations and Auto Search Digital Quartz-PLL Synthesizer design, which guarantees the most accurate tuning possible, is the highlight of this extraordinary tuner. Stores up to 8 stations in memory circuits for instant recall.

This system also has a direct/ drive automatic-return FR-D45 turntable with its low 0.025% wow/ flutter and 72dB S/N ratio.

The attractive audio rack that contains the 900's components has additional space for an optional Sansui metal-tape compatible cassette deck.

Also included are two S-57 12", 3-way loudspeakers specially designed to perfectly match the system's components and fill your listening room with an uncanny amount and quality of music.

If you love great high fidelity, but don't have the patience for a lot of shopping and technical talk, you'll want to see and hear the Sansui 900 Super System. Visit your Sansui dealer and find out how easy it is to own a top-of-the-line high fidelity system.

The Sansui 900 Super System. All you have to do is listen.
New RKO Ultrachrome is a true chrome tape!

When you're looking for chrome-cassette performance, don't settle for a substitute.

Did you know that most so-called "chrome" recording tapes aren't really chrome at all? They're made of ferric particles, treated with cobalt to make them perform at a chrome bias setting. Their proper name is "chrome-equivalent" tape.

New RKO Ultrachrome is a brand-new, second-generation, true chrome tape, made of genuine chromium dioxide particles. It's specifically formulated to give high output, low distortion, and low noise on quality home cassette decks.

Why settle for a "chrome-equivalent" when you can have the real thing?

Insist on RKO Ultrachrome.
You owe it to yourself. And to your music.
Beyond quartz, the world's most precise tuning system, lies a new ability to expand sound.

Imagine you're in a room with Technics SA-828 receiver. What you hear is beautiful stereo. Then you activate Technics variable Dimension Control. Incredibly, the sound begins to move. The stereo image widens to the point where the music begins to surround you. You're intrigued by its richness and depth. You're enveloped by a new experience in sound. That's the wonder of the patented technology in Technics Dimension Control.

Just as wondrous is quartz synthesis, the world's most precise tuning system. That's how the SA-828 quartz synthesizer eliminates FM drift as well as the hassle of tuning. You can even preset and instantly retrieve 7 FM and 7 AM stations, all perfectly in tune.

Another perfect example of Technics technology is our synchro-bias circuitry. What it does is constantly send minute amounts of power to the amplifier transistors. And since they can't switch on or off, switching distortion is eliminated.

And when it comes to power, the SA-828 has plenty: 100 watts per channel minimum 3MS into 8 ohms from 20Hz to 20kHz with no more than 0.005% total harmonic distortion.

The SA-828 goes on to show its sophistication with a super-quiet phono equalizer, soft touch program selectors, fully electronic volume control, and a Dimension Control display that doubles as a power level meter.

Technics SA-828 is part of a full line of quartz synthesized receivers. Hear it for yourself. Beyond its quartz synthesizer lies a new dimension in sound.
Quasi-class-A power amplifier is rated at 222 watts continuous into 8 ohms (200 watts into 4 ohms). On a dynamic basis the amplifier will deliver 400 watts per channel into 4-ohm loads. Dynamic headroom is given as 2.7 dB. Optimal power delivery into various speaker-load impedances is aided by a rear-panel switch selecting one of two transformer taps; one is for 2- to 4-ohm loads, the other for 8- to 16-ohm loads. The amplifier also has a two-speed, thermally controlled fan for heat dissipation. Other circuit features are dual high-speed relays for speaker protection and a soft-clip circuit. Specifications include a total harmonic distortion of less than 0.05 per cent, intermodulation distortion of 0.1 per cent (SMPTE), a slew rate of 80 volts per microsecond, and a frequency response of 10 to 100,000 Hz ±3 dB at a 50-watt output level. The rack-mounting unit is 19 inches wide and 4 1/2 inches high; weight is about 31 pounds. Price: $699. Questar Electronic Design, Dept. SR, 2210 Cemo Circle, Suite A, Rancho Cordova, Calif. 95670. Circle 120 on reader service card

The Straight Line Two preamplifier from Crown has several unusual features, including a yellow rumble-indicator LED that lights up in the presence of low-level infrasonic signals, alerting the user to activate the unit's low-frequency filter (which rolls off at 18 dB per octave below 33 Hz). Other LEDs show the presence of a normal-level signal and indicate overload. In addition to the usual tape-to-tape dubbing facilities, the Straight Line Two allows taping of discs while listening to any other input. A mode control has stereo, mono, reversed-stereo, and mute positions. The tone controls are defeatable. Specifications include an RIAA equalization accuracy of ± 0.5 dB and a phono signal-to-noise ratio of 85 dB (inputs shorted). High-level frequency response is ±0.1 dB from 20 to 20,000 Hz, total harmonic distortion less than 0.005 per cent over the same range. The rack-mountable unit is 1 3/4 inches high (without the optional wooden cabinet shown). Price: $479. Circle 123 on reader service card

The auto-calibration microprocessor in the Nakamichi 700ZXL cassette deck automatically adjusts azimuth alignment, bias, reference recording level, and equalization to fit the requirements of each cassette. The same processor controls the unit's Random Access Music Memory (RAMM), which provides random access to each of fifteen programs per tape side. The playback sequence can be composed of up to thirty commands to allow for program selection and repetition in any desired order. Each programmed tape is tagged with a subsonic code that carries playback-equalization and noise-reduction instructions for automatic setting of those functions.

The 0.6-micrometer gap in the Crystal-loy-core playback head is said to be able to resolve the 2-micrometer wavelengths of 24-kHz recordings. New geometry in the playback head is claimed to virtually eliminate "head bumps" in the low frequencies. Other features include a dual-capstan transport, a four-digit LED tape counter, peak-holding LED level meters, and switching for an external noise-reduction system in addition to self-contained Dolby-B circuits. The unit also includes three microphone inputs, a subsonic filter, pitch control, and a high-output headphone jack.

Frequency response is given as 18 to 24,000 Hz ± 3 dB at a -20-dB recording level. Signal-to-noise ratio at the 3 per cent distortion level is greater than 66 dB. A 0-dB recording level total harmonic distortion is less than 0.8 per cent (metal tape). Dimensions are approximately 19 3/4 x 10 5/8 x 9 5/8 inches; weight is about 31 pounds. Price: $3,000. Circle 122 on reader service card

The Geo-Disc from Mobile Fidelity is intended to aid in aligning a phono cartridge for proper offset, tracking angle, and overhang. Using the device a cartridge can (Continued on page 14)
Raising sound standards is nothing new to TDK. For years, TDK cassettes have set reference standards in metal and high bias. Now TDK announces two breakthroughs in open reel — GX and LX. Both are formulated to be fully compatible with your present system. You don’t have to rebias to appreciate them.

TDK GX Studio Mastering tape handles the most critical demands of live music mastering beautifully. TDK’s new ultra refined ferric oxide particle gives GX superior MOL, low distortion and a wide dynamic range. Equally impressive is TDK LX. Its super refined particle gives it high performance with low noise and low distortion throughout an extended frequency range. LX is ideal for both professional and audiophile use.

The refinements don’t stop with the formulations. A unique calendering and binding process rivets the particles to the tape surface, making dropouts practically a thing of the past. A special graphite and carbon backcoating, found on all GX and most LX tapes, reduces friction for the smoothest possible winding. At the same time, it prevents static discharge and reduces wow and flutter.

These high standards are carried through to the newly designed 10” metal and 7” plastic reels. Each has a separately molded hub and flange to ensure circularity and high strength. If you think open reel has gone as far as it can go, listen to the finest. TDK GX and LX. They could open up a whole new standard of recording excellence.
From Speakerlab comes the new SI 1, SI 5 and SI 7. Housed in slender, elegant enclosures, these speakers are designed to reduce edge diffraction for better "imaging". Componentry includes: amazing Samarium Cobalt leaf tweeters for limitless high-end, efficient, ultra-low distortion polypropylene/Polyiam woofers; and passive radiators to extend the low end both powerfully and accurately. The combined effects are awesome — bringing you music that’s so fresh on your ears it’s really like being there. Send for a free catalog and read about these and a dozen more new designs from Speakerlab.

New Products
latest audio equipment and accessories

be aligned to within 0.003 inch of optimum. The 12-inch black-plastic disc fits over a turntable's spindle. The user sights along the raised ridge, aligning it with the tone arm's lateral pivot point. The cartridge is then aligned in its headshell to a grid pattern on the Geo-Disc. Price: $25.

Circle 124 on reader service card

Videocassette Eraser from Robins Industries

Robins Industries' hand-held videocassette eraser is claimed to erase virtually all recorded signals from all videocassette formats. The UL-listed unit's powerful magnetic field reduces noise below normal erase-head levels in seconds without touching the tape. This avoids wear of the VCR's mechanisms while restoring the tape's magnetic qualities to nearly blank-tape level. The device will also erase all audio tapes. It measures 5 x 3½ inches and weighs 4 pounds. Price: $53.

Circle 125 on reader service card

Loran Cassettes With Precise, Rugged Housings

Loranger Manufacturing's ferric and chrome-type Loran cassettes have shells made of Lexan plastic instead of the commonly used polystyrene. As a result, the shells maintain stable dimensions within a temperature range of —60 to +200 degrees Fahrenheit, which means that a Loran cassette left on a car dashboard in summer heat will not warp. The shells also have sixteen times the impact resistance of most other cassettes. The five screws holding each shell together are designed to make possible repeated opening and reclosing without stripping the threads; they can take either regular or Phillips-head screwdrivers. The cassettes' pressure pads are made of "natural fur," and the built-in record-interlock tabs are rotating and resettable. The ferric-oxide tape formulation used in Loran cassettes is said to give from 2 to 12 dB improved performance at a 0-dB recording level at 15,500 Hz. The chrome-type tape is double-coated, with a ferric-oxide inner layer and a chromium-dioxide outer one; the dynamic range is said to be at least 2 to 3 dB greater than that of comparable tapes. All Loran tapes have headcleaning leaders and run slightly long in order to compensate for slightly off-speed decks. Prices: ferric C-90, $7.65; chrome C-90, $7.95. Loranger Manufacturing Corp., Dept. SR, P.O. Box 948, Warren, Pa. 16365.

Circle 126 on reader service card

(Continued on page 16)
Bob Carver explains (briefly) how the Magnetic Field Amplifier works. (Others tell how it sounds.)

Q. How is it possible for an amplifier as small and as light as the M-400 to deliver so much power and to cost so little?

A. The M-400's size (less than 7 inches) and weight (less than 10 pounds) reflect the advanced technology and the new patented designs used in both its power supply and amplifying stages—and the innovative relationship between them. (Not to mention the incredibly low price that resulted: $399.)

Q. What is different about the M-400's power supply and amplifying stages?

A. In any amplifier, the power supply produces and stores energy for use by the amplifying circuits. Conventional amplifier power supplies are very inefficient because they produce a constant high voltage level at all times—irrespective of the demands of the ever-changing audio signal—and even when there's no audio in the circuit at all!

This inefficient approach demands large and expensive power transformers and electrolytic capacitors. Large heat sinks are also needed to get rid of the heat associated with the constant high voltage of conventional power supplies.

In sharp contrast, the M-400's "smart" power supply produces only the power that the amplifier section needs from moment to moment to handle the signal accurately. In effect, the M-400's power supply is signal-responsive. As a result, overall efficiency is extraordinarily high.

Q. Do I really need 200 watts per channel?

A. Yes! If you want to hear music reproduced with full realistic impact and dynamic range, the musical peaks must be handled without compression, clipping or overload.

You'll be amazed at the improvement in openness and clarity when your system is able to deliver the power that music really requires.

When full digital audio arrives, dynamic-range capability will be even more significant. And the M-400's power will be even more necessary—with its ability to deliver 500 watts in mono, 900 watts for brief time periods, and more than 1200 watts on peaks!

Q. Now I understand why the M-400's power capability will improve my system, but can my speakers take it?

A. Speakers with a power rating of 50 watts or so will have no problem with the M-400. That's because speakers are not generally blown out by high, clean power, but rather by low-powered amplifiers pushed beyond their overload points.

These low-powered amplifiers "clip", generating speaker-damaging transients.

In addition to providing better sound and sufficient power, the M-400 has special protective circuits that guard both itself and your loudspeakers from almost any conceivable damaging circumstance. These include long and short-term overload, sudden overdrive signals (such as from dropped stylus), shorted speaker leads, etc.

All this protection operates via the signal-controlled power supply circuits, not the amplifier stages, so there's absolutely no chance of the typical distortions caused by conventional protection circuits.

Q. Is the M-400 limited to systems with separate amplifiers?

A. No. The M-400 can be used in many different types of systems, including those with receivers and integrated amplifiers. With our new Z-coupler device, you can upgrade your existing low-power system into a superb 200 watts-per-channel system. What's more, the M-400 is easily connected without accessories to put out 500 watts mono!

Q. How can I get more information?

A. Easily. For literature, test reports and the address of your nearest Carver dealer, circle the number below. For faster response, write to us directly.

M-400 Magnetic Field Amplifier
201 watts minimum continuous power per channel (500 watts mono) into 8 ohms, 20 Hz to 20 kHz, with no more than 0.05% total harmonic distortion.
You can now own every record or tape that you may ever want at tremendous savings and with no continuing purchase obligations. You can get valuable free dividend certificates, you can get quick service and all the 100% iron-clad guarantees you want. Now you can stop price increases that leave you with less music for your record and tape budget. You can guarantee yourself more music for less money through membership in Discount Music Club.

Look at these benefits:

**TREMENDOUS SAVINGS**
on every record and tape in print—no "agree to purchase" obligations of any kind

**DISCOUNTS OF 43% TO 73%**
on mfg suggested list. special catalog features hundreds of titles and artists.

**ALL LABELS AVAILABLE**
including most imports through special custom ordering service. If we don't stock it we'll get it for you.

**SCHWANN CATALOG**
lists thousands of titles: classical, pop, jazz, ballet, opera, musical shows, folk, rock, vocal, instrumental, country, etc.

**DISCOUNT DIVIDEND CERTIFICATES**
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happenings in the world of music; concerts, critiques, new releases ... special super-sale listings at discounts of up to 73%.

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Diamond needles, cloths, tape cleaners, etc. Discount Music Club is your complete one stop music and accessory buying service.

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on all products and services. Everything is guaranteed factory fresh and free of defects or damages of any sort. Your total satisfaction is unconditionally guaranteed.

Discount Music Club is a no-obligation membership club that guarantees tremendous discounts on all stereo records and tapes and lets you buy what you want .... when you want ... or not at all if you choose.

These are just a few of the money-saving reasons to write for free details. You can't lose so why not fill out and mail the coupon below for immediate information.

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**New Products**
latest audio equipment and accessories

**"LAST" Liquid Record Preservative**
- The Liquid Archival Sound Treatment (LAST) record-care kit contains a bottle of record cleaner, a bottle of LAST preservative, special applicators, record markers, and instructions. The product is said to reduce record wear, distortion, and static electricity and to increase stylus life. The preservative chemically and physically alters the record surface to a depth of about ten molecular layers. No buffing or rubbing is required in application, and a single treatment is effective for at least two hundred plays. Used according to instructions, a single kit will treat a minimum of fifty records.
- Price: $19.95. The Last Factory, Dept. SR, P.O. Box 41, Livermore, Calif. 94550.

**Pioneer Turntable With Low-noise Linear Tracking**
- Unlike other straight-line-tracking tone arms, which may suffer from vibrations from a complex drive mechanism, the tone arm in Pioneer's PL-1800 turntable is said to achieve improved performance by being directly driven by a linear motor. Other benefits claimed for this arrangement include lower tracking error, lower crosstalk and distortion, and less resonance due to the shortness and rigidity of the polymer-graphite arm. The turntable comes with a PC-4MC high-output moving-coil cartridge that not only does not require a pre-preamp but has a user-replaceable elliptical stylus.
- Specifications for the quartz-locked direct-drive turntable include a wow-and-flutter rating of 0.012 per cent and a signal-to-noise ratio of 78 dB (DIN B). Front-panel controls include speed and disc-size selection, tone-arm lift, and cueing.
- Price: $450.

**Cramolin Audio Kit**
- The Cramolin Audio Kit from Caig Laboratories contains lubricants and preservatives for application to all metal-to-metal electrical connections. Use of the Cramolin fluids is said to dissolve oxide films and prevent new oxidation, thus reducing contact resistance and cases of radio-frequency interference that arise from contact rectification. The product is recommended for use on phono-cartridge connections, audio jacks and plugs, switch contacts, potentiometers, etc. The kit contains one bottle each of CR-10 protection and cleaning fluid and of CR-20 contact preservative. Price: $11.95. Caig Laboratories, Inc., Dept. SR, 1175-0 Industrial Avenue, Escondido, Calif. 92025.

**Lubricant Cleans Audio Connections**
- Price: $11.95. Caig Laboratories, Inc., Dept. SR, 1175-0 Industrial Avenue, Escondido, Calif. 92025.

**NOTE:** All product descriptions and specifications quoted in these columns are based on materials supplied by the manufacturers, who will respond directly to reader requests for further information.

Domestic inflation and fluctuations in the value of the dollar overseas affect the price of merchandise imported into this country. Please be aware that prices quoted in this issue are therefore subject to change.
The Polk Principle: High Technology Delivers...

Incredible Sound Affordable Price

“Polks are vastly superior to the competition.”
Musician Magazine

Lab and listening tests prove Polks measure and sound better. Experts agree Polk speakers will give you the highest quality sound and the most listening pleasure for your money. They will deliver amazingly life-like, boxless, three dimensional sound with breathtaking clarity and detail in your listening room from your hi-fi system.

“Polk speakers are so vastly superior to the competition...a remarkably well integrated and coherent sound that adapts itself ideally to all kinds of music...the kind of open, uncolored, perfectly imaged sound we thought began at twice the price..."

Sound quite magnificent with a good mid-powered popular brand receiver...They make the popular speakers in their price range seem dim, colored, boxy and just plain insufficient. 
Our advice is not to buy speakers until you've heard the Polks.”
Musician Magazine

“Exceptionally pleasing sonic balance...transient response is absolutely first rate...hemispherical dispersion is superb...frequency response covers the entire audible range with commendable flatness...Open, boxless, three dimensional quality...sensitivity is adequate for use with a 10 watt amplifier, yet it could absorb the full output of a 200 watt amplifier without damage...certainly a very fine speaker.
Polk's key design goals have definitely been realized.”
Stereo Review

Better sound in your home Polk Audio loudspeakers will give you more listening pleasure and greater long term satisfaction from your music, your records and your hi-fi system. They offer you the best sound for your money and are affordably priced from less than $125 each to less than $400 each.

Simply use the free reader service card to receive detailed information, copies of the expert's rave reviews and the location nearest you for auditioning the Incredible Affordable Polks.
Polk Audio, Inc. 1205 S. Carey St., Baltimore, Md. 21230

CIRCLE NO. 32 ON READER SERVICE CARD
In mid-May, and with surprisingly little fanfare, CBS demonstrated for the press its "CX" (Compatible eXpansion) noise-reduction system for discs (as announced in Stereo Review’s "Bulletin" in January). CX is the only encode-decode disc noise-reduction system claimed to be audibly acceptable in non-decoded playback—in other words, compatible with ordinary playback systems. At first hearing it seems that CBS has done all the necessary psychosonic homework needed to perfect such a system, for CX lives up to everything claimed for it, at least with the musical selections and pressings used at the demonstration, a sampling of broad-dynamic-range jazz and classics.

The claims for CX are impressive. When played through an insensitive CX decoder (expander), a CX-encoded record will offer a dynamic range 20 dB greater than that of a normal pressing. This gives a total disc dynamic range of up to 85 dB, depending on the pressing quality, comparing favorably with the dynamic range offered by a stereo mixdown from a multitrack sixteen-bit digital-audio master tape. Noise from a CX-encoded disc played without a decoder is said to be no worse than that from a conventional pressing. In addition, there is no alteration of frequency response in non-decoded playback and a minimum of "pumping" of music or noise. (It is this last point that will undoubtedly be the crux of the audiophile debate that is sure to be started over the CX system.)

Eventually all CBS discs will be released in CX-encoded format, and licensing agreements with other major labels are expected. CBS is not asking for royalties on CX-encoded records and expects the prices of encoded records to be no higher than those for normal discs. Their stated goal is to make CX ultimately "the industry standard for disc manufacturing" since the compatible nature of the encoding eliminates the need for double inventories. The first CX-encoded pop record has already been released (New Music’s "Sacramento," Epic NFE 37314). On the hardware side, the circuit looks quite simple. It requires only common, off-the-shelf parts with no special selection or matching required. By the time you read this there may be at least one custom-made integrated circuit (IC) available that will contain almost all the necessary circuitry for a CX decoder. Add-on CX boxes are promised from Phase Linear, MXR, Audionics, Sound Concepts, and others, and they are expected to cost between $50 and $100. That cost is dominated by the cost of the cabinet, chassis, and power supply, not by the CX circuitry, which means that CX decoders could be built into preamplifiers, amplifiers, and receivers at very little additional cost.

It should be noted that CX is incompatible with other tape and disc noise-reduction systems (Dolby B and C, dbx) and in its present form is optimized for disc noise reduction only, not for tape or the audio channels of videodiscs. Like the Dolby tape systems, however, the CX decoder is sensitive to absolute signal level; unlike the Dolby circuits, a level mismatch of up to 6 dB in the CX system is said to be "almost unnoticeable." (Level matching at home need be done only once using a reference-level calibration disc and a decoder control.)

The CX system is also similar to the dbx tape and disc systems in that it uses a 1:2 expansion ratio in playback. The CBS system, however, does not use this expansion over the entire dynamic range as does dbx. Signals more than 40 dB below the reference level are not processed, and this is one of the three main reasons that a CX-encoded record does not sound unnatural in non-decoded playback.

Another reason for CX’s acceptable non-decoded performance is that, unlike Dolby and dbx, the system does not use pre-emphasis in encoding. Non-decoded CX records thus have the same overall frequency balance as normal pressings. The last major factor in CX compatibility is that the encode-decode process has been carefully designed to take advantage of the ear’s limited ability to follow rapidly changing loudness levels. The internal circuit timings and levels have been chosen so that perceived noise pumping is minimized in both decoded and non-decoded playback. Amazingly, you should be able to check this out for yourself by early fall.
When you’re ready to “face” the music we have a tip for reduced distortion

Whether you are seeking to reproduce the full dynamic range in the grooves of today’s new superdiscs, or simply to obtain maximum listening pleasure from treasured “oldies” in your record collection, you need a phono cartridge that will deliver optimum trackability with minimum distortion.

Because the phono cartridge is the only point of direct contact between the record and your entire stereo system, its role is critical to faithful sound re-creation. That’s why upgrading your phono cartridge is the single most significant (and generally least costly) improvement you can make to your stereo system.

To that end Shure now offers the Hyperelliptical Stylus Tip configuration—first introduced on the critically acclaimed V15 Type IV—in a full line of cartridges with a broad range of prices.

The Hyperelliptical Stylus Tip has been called the most significant advance in decades in tip geometry. It has a narrower and more uniform elongated contact area that results in significantly reduced intermodulation and harmonic distortion.

Look over the list at left to see which Shure HE cartridge best matches your tracking force requirements.

Shure has been the top-selling cartridge manufacturer for the past 23 years. For full details on this remarkable line of cartridges write for AL667.

Go with the leader—Shure.

Shure Brothers Inc., 222 Hartrey Ave., Evanston, IL 60204
In Canada: A. C. Simmons & Sons Limited
Manufacturers of high fidelity components, microphones, sound systems and related circuitry.
The Interface A was designed to answer the high-efficiency challenge. Highly efficient, truly accurate, yet capable of handling a lot of power when necessary, without the sonic coloration found in so many loudspeakers. The Interface A was designed to reproduce the sharp transients and increased dynamic range typical of today's source material. The Interface A was designed to answer the high-efficiency challenge. Highly efficient, truly accurate, yet capable of handling a lot of power when necessary, without the sonic coloration found in so many loudspeakers.

Listen to your music the way it was intended. Audition the Interface A at your nearest Interface dealer.

There is no true accuracy without high efficiency.

The 'power war' is over. High-powered receivers and amplifiers are going the way of the 'gas guzzler' in this era of energy consciousness and inflation. Yet technological advancements in source material such as direct-to-disc and digitally-mastered recordings demand far more from your system than ever before.

To accurately reproduce this state-of-the-art material you need efficient loudspeakers that literally allow your amplifier to idle during normal listening levels and respond with its rated capabilities only to reproduce the sharp transients and increased dynamic range typical of today's source material. The Interface A was designed to answer the high-efficiency challenge. Highly efficient, truly accurate, yet capable of handling a lot of power when necessary, without the sonic coloration found in so many loudspeakers.

Listen to your music the way it was intended. Audition the Interface A at your nearest Interface dealer.

Rock Tracking Force

Q: I'm a hard-rock fan, and I was wondering if there should be a different tracking force for rock discs than for "normal" or easy-listening discs. I've noticed some distortion in the louder parts of my hard-rock discs, while quieter music seems to come through distortion-free.

ROBERT BAKER
Rahway, N.J.

A: The tracking force required in a given record player is that which is necessary for the stylus to track the record groove accurately. This is determined, in turn, by the forces in the playing process that tend to drive the stylus out of the groove. To put it another way, the applied vertical tracking force must at all times be greater than the various forces that operate to cause the stylus to lose contact with (mistrack) the groove walls. It's the mistracking that produces the distortion you hear.

The forces contributing to mistracking can be divided into those that affect tracking at low frequencies and those that affect it at high frequencies. The low-frequency problems are usually the unsubtle ones; the stylus "sticks" or jumps grooves, or it reproduces a variety of low-frequency thumps, bobbles, and quavers. These problems are almost always caused by record warps, too low a tracking force, improperly set anti-skating force, a bad mismatch between tone-arm mass and stylus compliance, or a combination of these factors.

The high-frequency tracking problems appear as overly sibilant "sss" sounds and a sort of "break-up" or rasp quality on loud high-frequency passages. High frequencies are embodied on a disc in the form of very rapid undulations in the record-groove walls. If the moving part of the phono stylus has too much mass—and hence too much inertia—to follow these rapid twists and turns, it will momentarily lose contact or bounce from peak to peak when things get really rough, and this results in exaggerated sibilants and raspiness. Applying more vertical tracking force may produce more reliable contact during such stress conditions. But keep in mind that any vertical-force increase must be kept within the range of the cartridge's rated tracking force. If the manufacturer rates the cartridge for 1 to 2 grams of tracking force and the distortion is still heard at 2 grams, it may mean that your ear is better than your cartridge (and one or the other should be replaced), your tone arm needs help, or the record has been so overcut that no cartridge will play it cleanly. In any case, may the tracking force be with you.

MM and MC Cartridges

Q: I don't understand one aspect of the switch labeling on some of the new equipment. On some of the expensive components the phono-input characteristics can be switched to accommodate moving-coil (MC) or moving-magnet (MM) cartridges. But aren't there other types of cartridges on the market besides those two?

A. TOBIN
Denmark, S.C.

A. There certainly are, but the term MM is used pseudo-generically to indicate a phono cartridge, usually magnetic, whose load-impedance requirements and signal-output voltage fall within certain values. These vary in respect to signal output (say, 0.5 to 5 millivolts) and are generally fixed in regard to the required input impedance (47,000 ohms). Moving-coil cartridges have output voltages ranging from a tenth to a hundredth that of the MM type of cartridge, and additional boost must therefore be supplied by a step-up transformer or pre-amplifier "head amp." Cartridges other than MM or MC types, if they are to work into inputs designed for MM or MC cartridges, usually need internal circuits to adjust their outputs for the appropriate electrical characteristics.

Unnatural Digital Discs?

Q: Several months ago, I bought some digitally mastered discs because of the favorable comments your magazine has made about such digital processing. These records sound unnatural—which is because they are made by an unnatural proc.
Good music never dies. Unfortunately, a lot of cassette tapes do.

At Maxell, we've designed our cassettes to be as enduring as your music. Unlike ordinary cassettes, they're made with special anti-jamming ribs that help prevent tape from sticking, stretching and tearing.

And our cassette shells are built to standards that are as much as 60% higher than the industry calls for.

So, if you'd like to preserve your old favorites for the years to come, keep them in a safe place. On one of our cassettes.

IT'S WORTH IT.
NEW HIGHS. The 500ID defines hard-to-get high frequencies because it comes with a cantilever that doesn’t easily distort them. It’s boron-vapor hardened to track under “G” forces that would buckle ordinary cantilevers.

NEW FIDELITY. In addition to hearing more highs, you’re going to hear less noise from a 500ID. There’s nothing complex about the benefits of Samarium-Cobalt magnets. They are simply less massive and higher in output than conventional ones. So, if we had to give a reason for our signal-to-noise ratio being better than most, it’s because the materials we use are better than most.

NEW TECHNOLOGY. Because the 500ID features Empire’s inertially damped tuned stylus system, its performance is consistent—even when the capacitance varies from one system to the next. Which means, the performance we monitor in our lab is the performance you’re likely to hear at home.

NEW SECURITY. Empire’s two-year limited warranty is 365 days longer than the one-year limited warranty offered by many other manufacturers. An extra year in no uncertain terms.

NEW SOUND. The Empire 500ID. You’re an arm’s length away from a new listening experience.

EVERYONE WHO WANTS THEIR OLD SYSTEM TO SOUND LIKE NEW, RAISE YOUR ARM.

External TV Speaker

Q Would it be possible to upgrade my TV sound by substituting a good external speaker for the one in the TV?

A Sometimes yes, sometimes no. It depends on whether the major faults you hear arise from inadequacies in the speaker itself or from the TV audio section feeding it. In the past I have found that using an external speaker with a set often simply revealed buzz, hum, and hiss that the internal speaker didn’t reproduce. On other occasions, with other sets, the improvement was worthwhile. In any case, unless you have some experience with electronics (or have a usable earphone-output jack), leave the external-speaker wiring connections to a competent technician.

Which means, the performance we monitor in our lab is the performance you’re likely to hear at home.

NEW SECURITY. Empire’s two-year limited warranty is 365 days longer than the one-year limited warranty offered by many other manufacturers. An extra year in no uncertain terms.

NEW SOUND. The Empire 500ID. You’re an arm’s length away from a new listening experience.

Everyone who wants their old system to sound like new, raise your arm.
**Look what we've brought back from Europe.**

Hello, we're back again. This last trip to Europe added so many new titles to our list of imported Classical Music that we'll have to strain your eyes a little with itty-bitty typeface. You know that prices for imported Classical Music can be outrageous. But this can be changed. We're doing it. We buy large quantities with an even stronger Dollar. We handle our own shipping. We cut overhead and sell directly by mail. And so our imports often cost far less than you'd expect. All recordings are pressed, printed and sturdily boxed in Europe. All are stereo unless otherwise noted. All are factory fresh European namelabels. Many of these are sets for the first time. For the U.S.A. ... prices are for comparison only, based on the suggested list price for comparable LP sets.

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**JULY 1981**

**Fabulous Textbook in**

**Outrageous. But this can be changed. Here's how we're doing it: We buy large quantities with an ever stronger Dollar. We handle our own shipping. We cut overhead and sell directly by mail. And so our imports often cost far less than you'd expect. All recordings are pressed, printed and sturdily boxed in Europe. All are stereo unless otherwise noted. All are factory fresh European namelabels. Many of these are sets for the first time. For the U.S.A. ... prices are for comparison only, based on the suggested list price for comparable LP sets.**
SIMPLY INCREDIBLE
Sophistication without complication. Performance without bulk. It's not a dream. It's the incredible Aiwa M-501 mini-component system. An audio system whose technology is so advanced, size is immaterial. Only efficiency counts.

Instead of trying to impress you with oversized, overcomplicated components, the Aiwa M-501 system leaves you with just one impression: awesome performance.

All the Aiwa M-501 components together measure less than many single components, but their specifications measure up to and often beyond conventional hi-fi systems.

And with Aiwa, technology doesn't quit with performance. It just begins.

Nearly every function in the Aiwa M-501 mini-component system can be activated by Aiwa's unique infrared remote control. In fact, the M-501 system shown here is so advanced it can be programmed to turn on by itself, record by itself, even change up to 6 preset tuner channels by itself. Just about all you have to do, is buy it.

The incredible Aiwa M-501 mini-component system—preamplifier, quartz synthesizer tuner, metal-capable cassette deck, digital quartz timer, infrared remote control and DC stereo power amplifier with 50 watts minimum RMS, both channels driven, into 8 ohms from 20–20000 Hz. With no more than 0.02% total harmonic distortion.

For more information, write: Aiwa America Inc., 35 Oxford Drive, Moonachie, New Jersey 07074. In Canada, Shiro (Canada) Ltd.

CIRCLE NO. 1 ON READER SERVICE CARD
Tape Talk

By Craig Stark

Digital Cassette

Q I wonder why no one has come out with digitally recorded cassettes? These would be more versatile than discs and more accurate than the best of today's analog recordings.

David A. Wilson
Arlington, Mass.

The idea of the digitally recorded cassette is attractive, but there are several problems that have to be solved first. Information-packing density is one. To put enough "bits" on the tape to equal or improve on conventional analog recording demands a bandwidth (frequency response) adequate to that of a video recorder—which, incidentally, is why PCM (digital) adaptors for home use have all required a video recorder.

One way around the bandwidth problem is to record each bit within a digital "word" on a physically separate track, or at least to split up the fourteen- or sixteen-bit digital words among several different tracks on the tape. The 3M and Mitsubishi open-reel digital machines (designed to use 1/4-inch tape) are another possible option for two audio channels and runs at 30 ips. Compare that to a less than 1/4-inch tape running at 1 1/2 ips and you can start to appreciate the problem of a digital-cassette format.

There is a further difficulty with the standard cassette as a digital-recording medium. The mechanical stability of cassette shells and guidance mechanisms is inherently more complex and therefore harder to design well than one based on electrical solenoids. And since higher prices can be charged for solenoid-controlled decks, the probability favors good design (with some exceptions) in them. Solenoids also provide the option of remote control. Solenoids are not free of problems, however. For one thing, they tend to clank, sometimes rather loudly, when they operate. This noise reflects a shock to the parts being moved by the solenoid, one of which is the tape-head/pinch-roller assembly, and it has been alleged that these repeated shocks may, in time, put the heads out of alignment. So as to combine the convenience of light-touch pushbutton control with a more gentle mechanical action, therefore, a few rather expensive decks use a small motor that activates a series of gently operating cam to bring the heads up to the tape, control the brake mechanism, etc. In the abstract, this is probably the "best" way of controlling the transport, but the cost is sufficiently high to make it justifiable only in a few machines.

The phrase "TTL" stands for "transistor-transistor logic," a type of integrated-circuit technology. With a purely mechanical transport it's possible to arrange the levers so that potentially destructive operations—such as going directly from high-speed rewind into play before the tape stops—can be precluded. With electrically controlled transports the safety interlock must be electrical, which is what the TTL circuitry is for. It senses the machine's transport status at any moment and delays the execution of a "dangerous" command until the proper intervening steps have taken place.

Metal Playback

Q My cassette deck does not have a switch position for metal tape, but I was told that I could still play, though not record, such tapes. However, when I play a metal tape recorded on a friend's deck the right channel occasionally "drops out" or becomes muffled. What's the problem?

D. Scott Ferguson
Kent, Ohio

A You were told correctly: if your deck lacks a "metal" switch position you cannot successfully record such tapes, but you should be able to play them back using the CrO2 switch position.

Your problem in playing back the tapes recorded by your friend has nothing to do with their being metal. The likelihood is that there is some very slight incompatibility in head adjustments and/or cassette hold-down arrangements between the two decks. Despite every attempt to make cassettes interchangeable from one deck to another, there can be occasional problems when one unit is toward the high side of the allowable tolerance while the other is toward the low side. The variations within tolerances in the cassette shells themselves are another possible factor in decreasing compatibility.

Transport Controls

Q Is there any difference in quality between mechanically operated, solenoid-operated, and motorized-cam-operated cassette transports? Also, what is TTL control?

Nick Stassio
New York, N.Y.

A A well-designed mechanically operated transport-control mechanism will outperform a badly engineered solenoid system, and several recent decks have incorporated mechanical pushbuttons that are far easier to use than the traditional "piano keys." A mechanical system, however, is inherently more complex and therefore harder to design well than one based on electrical solenoids. And since higher prices can be charged for solenoid-controlled decks, the probability favors good design (with some exceptions) in them. Solenoids also provide the option of remote control.

C-120 Cassettes

Q I understand that at one time many recorder manufacturers warned that C-120 (two-hour) cassettes should not be used on their decks. Why isn't there a problem in all cases? What causes the problem? Is the warning still valid?

Peter Markoff
St. Louis, Mo.

A The warning is still appropriate. The longer the tape enclosed within a cassette shell, the thinner it must be, and the only way to reduce tape thickness is by using thinner plastic base material or a thinner magnetic coating. Experience indicates that C-60 and C-90 cassette tape can last the same coating thickness if there is a tolerable reduction in the base-film thickness of the latter. For a C-120 tape to fit into a standard shell, however, requires both a thinner magnetic coating and a still further thinning of the plastic base. Such superthin tape provides inferior sonic performance, and there is a serious increase in the likelihood of its slipping or jamming in many decks.

Improvements in both cassette-deck transports and cassette housings have certainly reduced the purely mechanical drawbacks of C-120s, but they are still risky at best, and the sonic loss remains. You may get away with using them, but you're courting trouble.
WHY ONLY SONY WINDS UP WITH FULL COLOR SOUND.

Strange enough, some of the things that make Sony Full Color Sound sound so terrific are things you can't hear. Such as Sony's unique experience and technical achievement. Sony makes both tape and the equipment that plays it. So Sony's experience with tape recording is unique among major tape manufacturers. After all, you'd better know all there is to know about tape decks before you make a tape. Sony does. Then there's unique Sony balance. The fine-tuning of all the elements that go into making a tape, so that each synergistically complements the other and delivers the finest recording humanly and technically possible to achieve.

You also can't hear Sony's unique SP mechanism, one of the carefully balanced elements in every Sony tape. It's a perfect example of Sony technical achievement. The SP mechanism is what makes the tape run so smoothly inside the cassette. And smoothly running tape is critical for total, perfect tape performance.

Smooth running means less friction. So some of the most popular tape makers give the tape as much clearance inside the cassette as possible. (We used to do the same thing.) But this method results in uneven or too tight winding and actually increases friction as you wind and rewind the tape. Jamming and even a stopping of the tape in its tracks can result.

It was clear to Sony that even, uniform winding was the key. So Sony reversed the basic thinking about friction completely and invented the SP mechanism, the first positive guidance system on the market. Instead of giving the tape lots of room, it gently guides the tape smoothly and precisely through the cassette, and onto the reels, with a maximum of positive precision support, yet with an absolute minimum of friction. This is a perfect example of Sony pioneering and how the Sony balance system works.

Some of the unique patented Sony innovations are the stepped hub wheel, which suppresses wobble, parallel "rails" of the liner which guide the tape and hub and keep the tape winding flat and even. Even the surface which touches the tape is special graphite-coated polyester, for the least possible friction.

Our Sony SP mechanism is actually 10 times more trouble-free in lab tests than our old conventional mechanism. And the increase of friction after 200 "torture-test" windings and rewindings has been reduced by nearly 2/3.

The fact is, the more sophisticated your equipment, the more you'll appreciate Full Color Sound. Listen to Sony SHF (our best normal bias tape), EHF (high bias), FeCr or Metallic tape. Listen to the perfect balance of its perfect components. It's the secret of Full Color Sound. SONY.
A reader writes to ask about the significance of capacitance in cartridge-loading specifications. He wonders just how important it is and what can be done to modify his turntable or receiver to take it into account for the best results with any particular cartridge.

It is not practical, in this limited space, to go back to the fundamentals of electrical theory to define capacitance and show in detail how it affects the compatibility of phono cartridge and preamplifier. I will therefore assume that the reader has at least a rough understanding of the term "capacitance" (or is willing to look it up) and limit myself to discussing its practical implications for record playing.

The frequency response of a magnetic phono cartridge is largely determined by two factors: its physical response to the record-groove modulation and its electrical frequency response. Both of these involve the phenomenon of resonance. This resonance can be placed (by the cartridge designer) within a wide range of frequencies, depending on the effective values of the cartridge's electrical characteristics of inductance and capacitance and its physical characteristics of mass and compliance. Taking the sources of the mechanical resonance first, if a mass is suspended on a spring (compliance) and excited by an external vibration at various frequencies, the physical movement of the system will be maximum at the resonance frequency of the combination. The moving mass of a phono cartridge consists of the stylus-tip jewel, the cantilever that supports it, and any generating elements attached to or contacting the cantilever (such as coils, magnets, or iron armatures). Since the mass is distributed over the length of the assembly and each part has an effect proportional to its distance from the stylus tip, it is customary to refer to an equivalent or effective tip mass, this is the single value of mass that, if located at the stylus-tip position, would produce the same resonance frequency as occurs in the actual cartridge-moving system. In most modern cartridges, the effective mass is less than 1 milligram.

The compliance or "springiness" of the cartridge's moving system is usually supplied by the elastomeric cantilever pivot. There is also another compliance involved, one that is not within the direct control of the cartridge designer: the compliance of the disc material itself. This can differ between makes of records according to the composition of their vinyl compounds.

The combined effect of these elements on the mechanical resonance of the cartridge can be quite complex, but for most good cartridges the high-frequency stylus resonance is above the main part of the audible-frequency range. Typical frequencies are 15,000 to 25,000 Hz, and in some cartridges with very light moving systems the resonance can be as high as 35,000 Hz or above.

The result of this resonance is an increase in cartridge output at that frequency, and to some degree over a range of frequencies surrounding it. There is not likely to be much recorded program content near the resonance frequency, but random noise is always present, and, if it is unduly accentuated by an increase in resonance, it is possible for the cartridge output to overload the input stages of some preamplifiers (this is particularly true of some moving-coil designs which may have large undamped resonances at very high frequencies). Therefore, it is common for the cartridge designer to use mechanical damping (analogous to resistance in an electrical circuit), generally in the pivot material, to reduce the amplitude of the mechanical resonance.

Excessive mechanical damping can impair the tracking abilities of a cartridge as well as degrade its transient response, so with most non-moving-coil cartridges the remaining resonance peak is compensated for (equalized) by the electrical resonance between their coil inductances and the external load capacitance. The midrange response of a cartridge can be determined by a proper choice of internal mechanical and electrical characteristics. Often there remains a fairly well-damped mechanical resonance in the vicinity of 15,000 Hz which could raise the cartridge output by several decibels, with the output dropping off rapidly above that frequency. Tuning the electrical resonance to a somewhat higher frequency can compensate for that drop, resulting in a virtually flat response.

As with the mechanical resonance, the amplitude (and bandwidth) of the electrical resonance can be controlled by the proper amount of resistive damping (loading) in the external circuit. Since most cartridges are designed to be terminated in the stand-

(Continued on page 32)
First there was mono. Then there was stereo.

Now Yamaha brings you a new dimension in sound.
favorite station. You're never without sound.

The Record Out function.

With Yamaha's independent Record Out, you can record from any source (tuner, tape, phono) while listening to any other. You can also feed a separate, different signal to a second amplifier and speakers in another part of your home. So you can have two complete home music systems for just the price of an extra amplifier and speakers.

Station-locking tuning.

Quartz-locked tuning is accurate. But quartz tuning circuits have an internal frequency oscillator which generates RF signals. These signals can be picked up by the tuner and be mixed with the regular audio signal to cause distortion. To solve this problem, Yamaha engineers developed a unique microprocessor chip with a memory. It stores the exact tuning location of every AM and FM station. When you tune a Yamaha receiver, the microprocessor produces exactly the frequency you're looking for instantly...from its memory. Tuning is 100% accurate. All you get is clean music.

Pushbutton tuning.

The Yamaha R-2000 virtually tunes itself. At the push of a button, the tuning circuitry quickly sweeps the band in the direction you desire. The receiver locks automatically onto the next station—perfectly. You can also pre-select seven FM and seven AM frequencies for instant access to your 14 favorite stations.

We could go on. But hearing is believing. There are six completely new R-Series receivers. Each step up brings more power, convenience and versatility. All feature the accurate, musical sound quality for which Yamaha has become world-renowned. And naturally, every Yamaha product is backed by a nationwide network of Preferred Customer Service Centers. The new R-Series receivers will make a dramatic improvement in the enjoyment and realism you get from your home music system. Truly the next step in sound from Yamaha.

For more information, write to: Yamaha Audio, P.O. Box 6600, Buena Park, CA 90622.
Now Yamaha takes you a giant step closer to the excitement of live music. The new R-2000 receiver goes beyond ordinary stereo to re-create the full depth, presence and excitement of actually being at a live performance. It's the top of the line of our new R-Series receivers; each designed to bring you pure, accurate musical reproduction. Sound to please the most discriminating audiophile — and features to please the most sophisticated music lover.

The Spatial Expander recreates the feel of a live performance.

Normal stereo is limited to the space between two speakers. Yamaha's Spatial Expander extends the sound field out beyond the speakers. This wider sound stage recreates the ambience and spaciousness of a live performance. There is more space between musicians, more depth and richness to the overall sound. You get the feeling of live sound without the expense of adding extra speakers or amplifiers. The Spatial Expander works with any good stereo source material.

Phono, FM or tape. For the first time you can enjoy the feeling of sitting front row center at your favorite concert.

X-Amplifier for more power and cleaner sound.

The R-2000 with our new X-Amplifier is more efficient and more faithful to music than any receiver we've ever built. The circuit design evolved from the nature of music itself. We discovered that true musical crescendos, which require full amplifier power, occur only about 2% of the time. Conventional amplifier designs operate at full power all of the time in anticipation of those loud musical passages. The remaining 98% of the time, full power isn't required. That means conventional designs waste electricity and produce huge amounts of heat — which shortens component life.

The new Yamaha X-Amplifier works at low power most of the time. A unique (patent pending) comparator circuit switches the amplifier to high power when a loud passage is detected, and back to low power when the peak has passed. As a result, the amp runs significantly cooler than conventional designs, which measurably increases component life.

And the X-Amplifier of the new R-2000 is the most powerful we've ever built into a receiver. It delivers 150 watts RMS per channel with 0.015% THD, at 8 ohms from 20 to 20,000 Hz. So the new X-Amplifier will easily handle the wide dynamic range of the newest digital and direct-to-disc recordings.

Yamaha's R- Receivers bring you sophisticated features and unparalleled convenience.

Continuously variable loudness control.

At low levels, music sounds like it's missing something. That's because at low volume your ear loses its ability to hear high and low frequencies. Most "loudness" controls compensate for this by boosting the high and low frequencies. This can lead to increased distortion. Yamaha found a smoother way. By suppressing the mid-range. And unlike everybody else, we let you adjust the amount of loudness compensation to suit your taste. So at low listening levels you get full, balanced sound without distortion.

Auto phono.

Now you can have continuous music without getting up to switch sound sources. For example, you can set the R-2000 to a favorite FM station. Then, you can put on a record and the receiver will automatically switch to the phono mode. Once the record is over, the receiver automatically switches back to your
and 47,000-ohm preamplifier input resistance, only the capacitance can be varied by the user to control the cartridge response. Usually, a slightly high capacitance value will increase the cartridge's output in the frequency range up to its mechanical resonance but will cause it to fall off more rapidly at higher frequencies.

Each cartridge manufacturer specifies (or should specify) the value—or range of values—of load capacitance with which his product will deliver its rated frequency response. This is usually in the range of 100 to 300 picofarads, with a few cartridges being designed for operation with 400 to 500 picofarads. In most cases, a moderate departure from the recommended value (say, ± 50 percent) will have only a minor effect on the frequency response. This is fortunate, for it is frequently impossible for the consumer to know the actual capacitance in his phono-input circuit since it consists of the turntable's total wiring capacitance plus the input capacitance of the phono preamp.

Our test reports state the load capacitance we find gives the flattest frequency response with each cartridge, and we usually indicate the effect of variations about that value. We also report on the measured cable capacitance of the record player and the phono-input capacitance of amplifiers, which is about all we can do to provide guidance in a difficult area.

A number of amplifiers are now equipped with switchable phono-input capacitance (and sometimes resistance as well). This makes it easy to determine the audible effects of capacitance changes without worrying about the characteristics of the system's components. I might add that the response flatness of some cartridges can be improved by departing from the recommendations of the manufacturers.

Several accessory manufacturers make "add-on" capacitors that can be plugged into the phono inputs to adjust the total cartridge load. Or you can try adding capacitance experimentally across the cable terminals beneath the record player or even in the preamplifier. I do not recommend soldering capacitors into the preamplifier (even if you can find the correct locations in the circuit), since this will probably invalidate the warranty. Another way to avoid the question of cartridge loading completely is to use a non-inductive cartridge such as an electret or moving-coil type.

Equipment Test Reports
By Hirsch-Houck Laboratories

Benjamin Model 4100 Automatic Turntable

The Benjamin 4100 linear-tracking turntable, manufactured in Spain and imported by Benjamin Electroproducts, is a fully automatic record player with a two-speed, belt-driven platter (weighing about 3 pounds with its rubber mat) and a short radial-tracking tone arm that maintains tangency to the record groove as it moves across the record.

The tone arm, which is about 5 inches long, is mounted on a carriage that is moved along rails by a servomotor. The arm tube plugs into a socket on the carriage, where it is retained by a knurled locking ring. Any cartridge having standard 1/2-inch mounting centers can be installed in the arm. Tracking adjustment is made with the aid of a cardboard jig which is also used to set the correct vertical-tracking angle. Additional plug-in arms can be purchased for use with other cartridges.

Attached to the rear of the arm is a small vane that interrupts the optical path between a LED and a photoelectric sensor when the arm pivots on the horizontal axis of its gimbal bearings (the pivots give it a few degrees of freedom). This allows for normal record eccentricity as well as the usual variations of groove pitch among records. The optical sensor supplies error signals to the servomotor which drives the arm carriage so as to continually reduce the
If you think “pads and rollers” are just a California craze, you’re not ready for New Memorex.

Pads and rollers are key components of a cassette’s tape transport system. This system guides the tape past your deck’s tape head. It must do so with unerring accuracy. And no cassette does it more accurately than totally new Memorex.

The new Memorex tape transport system is precision engineered to exacting tolerances. Flanged, seamless rollers guide the tape effortlessly and exactly. An oversize pad hugs the tape to the tape head with critical pressure: firm enough for precise alignment, gentle enough to dramatically reduce wear.

Our unique ultra-low-friction polyolefin wafers help precision-molded hubs dispense and gather tape silently and uniformly, play after play. Even after 1,000 plays.

In fact, our new Memorex cassette will always deliver true sound reproduction, or we’ll replace it. Free.

Of course, reproduction that true and that enduring owes a lot to Permapass 
*, our extraordinary new binding process. It even owes a little to our unique new fumble-free storage album.

But when you record on new Memorex, whether it’s HIGH BIAS II, normal bias MRX I or METAL IV, don’t forget the importance of those pads and rollers. Enjoy the music as the tape glides unerringly across the head.

And remember: getting it there is half the fun.

NOW MORE THAN EVER WE ASK: IS IT LIVE, OR IS IT MEMOREX
tracking error toward zero. Benjamin claims a maximum error of ±0.05 degree while playing a record.

The 12-inch platter, which is belt-driven by a small motor whose speed is electronically controlled through a phase-locked loop (PLL), has two rows of stroboscope marks cast into its rim, where they are illuminated by a neon lamp through a window in the motorboard. The Benjamin 4100 can be operated from 60-Hz power sources between 125 and 220 volts. To the right of the platter is a soft brush over which the stylus passes every time the cartridge moves on or off the record. This automatically removes dust from the stylus, but the brush can be removed if desired.

All the operating controls of the Benjamin 4100 are on or below the slightly tilted front panel of its grey molded-plastic base. Its power is turned on by a lever under the left front of the panel (its location, like those of the other hidden controls, is clearly marked on the panel). This turns on the stroboscope light and a red LED on the front edge of the motorboard above the "33" speed marking. The other controls are flat, rectangular, flush-mounted pushbuttons at the right of the panel.

The SPEED button changes the operating speed to 45 rpm, as indicated by the red LED above the "45" marking. Below the speed LEDs are SPEED CONTROL markings whose arrows point down to show that the speed adjustment wheels are below the front edge of the panel. They provide a nominal ±3 per cent variation around each speed.

To play a record, the START/STOP button at the right of the panel is pressed momentarily. This starts the platter turning, and the arm moves from its rest position to the index diameter of the record (12 inches for 33 1/3 rpm, 7 inches for 45 rpm). When it reaches the correct diameter, it stops and descends smoothly to the playing surface. The 4100 has a protective system that prevents the pickup from descending to a recordless platter. At any time, a touch on the "up/down" button (whose functions are indicated by arrows) raises the arm instantly, and a second touch lowers it rapidly but smoothly to the record.

The tone arm of the Benjamin 4100 cannot be moved by hand. Therefore, two fast-slew buttons marked with arrows to indicate the direction of movement are located to the left and right of the up/down button. Pressing either one first raises the arm, then slews it in the selected direction until the button is released. A touch of the up/down button then lowers the pickup and playing is resumed. At the end of the record the arm lifts and returns to its rest position, shutting off the motor.

The features described are similar to those found on several other servo-driven linear-arm record players. However, the Benjamin 4100 is unique in that it is a front-loading design which can be installed in places where the plastic cover cannot be lifted. It can also be operated in the conventional manner where there is room to lift the cover. About three-quarters of the front of the plastic cover is absent, leaving only a slightly curved "lip" along its upper-front edge. The front panel is marked FRONTAL LOADING in the platter area, with an arrow pointing downward. The underside of the front panel serves as a drawer pull, and with it the entire turntable platter and drive-motor assembly can be pulled out of its normal position so that the center spindle is just forward of the front of the cover. In this position, a record can easily be placed on the platter. The curved upper front edge of the cover eliminates any possibility of scratching the record against it since it can contact the disc only on its edges.

When the turntable is in its extended loading position, its operating controls do not function, and when it is pushed fully inward and is in operation, the platter drawer is mechanically locked and cannot be shifted. The entire Benjamin 4100 is supported on four soft rubber feet. It is 18 1/4 inches wide, 16 inches deep, and 5 3/4 inches high with the cover lowered. The 4100 weighs 20 pounds. Its suggested retail price is $600.

**Laboratory Measurements.** Installation of a cartridge in the tone arm of the Benjamin 4100 is relatively straightforward, although setting the correct vertical position may require some experimentation with spacers and screws of different lengths. Balancing is non-critical, and the free-floating action of the arm in a balanced condition indicates the very low friction of its bearings pivots.

[The output cable on the early sample submitted to us had two problems. The capacitance was too high (500 picofarads per channel) and it lacked a hum-suppressing ground lead. Both cable problems have been corrected in subsequent production units. If you have one of the earlier models (which can be easily identified by the lack of a separate ground lead), write to Benjamin Electroproducts and they will arrange for a no-charge replacement of the cable.]

We chose an Ortofon M15E Super cartridge for our tests on the turntable. The actual tracking force was within 0.1 gram of the scale readings at all settings. When the START button was pressed, the platter reached its correct speed in a second or two, but the tone arm traveled at a more leisurely pace, producing soft but audible whirring sounds until it reached the lead-in diameter and descended rapidly but gently to the record. The arm lift was essentially instantaneous, and the descent time was only about 1 second. Since the linear arm has no offset angle, it has no skating force and always descends to the same point from which it was raised. The audio outputs are muted at all times when the pickup is off the record.

When a 12-inch, 33 1/3 rpm record was played there was an elapsed time of 5.5 seconds between the pressing of the START button and the beginning of play. This is relatively fast for an automatic record player, but the shut-down cycle was much slower, depending on the part of the record from which it was initiated. Except from the outer grooves of the record, the shut-down requires the arm to move in to the record center before returning to its rest position. This required some 27 seconds when the operation was commenced from the outer parts of a 12-inch record and a still rather lengthy 15.5 seconds from its inner grooves. Manual slewing, between radii of 3 and 6 inches, required some 12.5 seconds.

The turntable speeds were exact with stationary stroboscope patterns and could be

(Continued on page 36)
You've driven to the end of the world. Alone.
The engine is still warm.
Amid the roar of the waves and the cries of the gulls, you fire up your mobile high-fidelity system for a morning concert.
Whatever you choose, your system is equal to the task because you've chosen ADS.
The ADS Power Plate 100 Automotive Amplifier and the ADS 300i Automotive Loudspeaker System deliver the kind of power it takes to be heard above road noise, engine noise, and ocean waves. And it's not just brute power, but power with performance, subtlety and nuance — qualities collectively known as musical accuracy.

Easily the most sophisticated automotive audio components available today, the Power Plate 100 amplifier and 300i speakers are exactly what you'd expect from ADS, the company that literally invented mobile high-fidelity.

To find out more about putting an ADS system in your automobile, write ADS, Department SR24, or call 1-800-824-7888 (California 1-800-852-7777) toll free and ask for Operator 483.
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varied from +5.6 to -2.9 per cent at 33\(\frac{1}{3}\) rpm and from +7 to -6.7 per cent at 45 rpm. The speeds were not affected by line-voltage changes.

The flutter readings agreed closely with the manufacturer's ratings, measuring 0.07 per cent weighted rms and ±0.08 per cent weighted peak. The major flutter component was at about 3 Hz, with a much smaller one at 20 Hz. The rumble was low, -38 dB unweighted and -61 dB with ARLL weighting, and its spectrum showed a broad peak between 15 and 20 Hz and another around 30 Hz.

The effective arm mass was about 10 grams, a relatively low value which resonated with the highly compliant Ortofon stylus at about 10 Hz (a nearly ideal frequency in terms of overall tracking considerations). The radial arm, like others we have tested, was very good at tracking warped records. The soft mounting feet of the Benjamin 4100 provided effective isolation from base-conducted vibration, and the 4100 ranked among the better units we have tested in this respect. Its principal transmission mode was at 35 Hz, and higher-frequency responses were at a far lower amplitude.

Unlike some servo arms, which respond only to an arm's departure from tangency, the Benjamin unit is constantly driven inward at a rate that is being continually modified by the short-term arm movements in the horizontal plane. Benjamin states that the maximum tracking error is ±0.05 degree, but this would correspond to a position error of only 0.005 inch at the stylus, a figure beyond our ability to verify. We did note that when the arm-tangency error reached about 0.7 degree (corresponding to a stylus offset of about \(\frac{1}{16}\) inch), the sensing system interpreted this as the effect of the eccentric groove at the end of the record and immediately lifted the arm and returned it to its rest.

**Comment.** Operationally, the Benjamin 4100 behaved very well. The front-loading feature was convenient and easy to use (definitely not a gimmick), and we can see how it could be one of the strongest advantages of this product over its competition. We installed it on a shelf barely high enough for the closed record player, yet were able to operate it with ease (although one cannot see the position of the tone arm unless the record player is at eye level and well lit). The 4100 was stable, and even fairly vigorous jarring or bouncing usually did not displace the pickup during play.

The plug-in arm was easy enough to insert, being tightly drawn into its socket as the locking ring was turned. Considerably more effort was required to remove it, and care is necessary to avoid damaging either the cartridge or the arm pivots. Benjamin indicates that this is normal and prevents any side play in the arm. We suggest practicing inserting and withdrawing the arm before a cartridge is installed to master the technique of safe withdrawal.

The automatic protection system for the stylus consists of an electrical contact in the rear of the arm carriage, positioned so that if the stylus descends closer to the platter than would be possible if a record were in place, the rear of the arm will touch it and immediately cause the arm to lift and the record player to shut off.

In its normal operation, we found that the Benjamin 4100 worked flawlessly as a record player, and there was little one could criticize in its actual performance. Though its external appearance and finish are not quite up to the aesthetic standard set by some other radial or servo-driven tone-arm record players we have tested, it must be remembered that most of them are considerably more expensive than the 4100, which will match any of them in actual record-playing performance and probably surpass any of them in versatility of operation and installation.

*Circle 140 on reader service card*

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**Pioneer A-8 Integrated Amplifier and F-7 AM/FM Stereo Tuner**

**Pioneer's new line of integrated amplifiers and FM/AM tuners is distinctively styled, the components compatible with each other both visually and electrically. The amplifiers feature Pioneer's "non-switching" output circuit, a design that reduces distortion to insignificant (and often unmeasurable) values. Model A-8, in the middle of the amplifier line, is rated to deliver 90 watts per channel to 8-ohm loads from 20 to 20,000 Hz with no more than 0.005 per cent total harmonic distortion.**

**A-8 Integrated Amplifier**

The signal path of the A-8 is direct-coupled from its high-level inputs to the speaker outputs, and the "non-switching" output (Continued on page 38)
Environmental Design: Moisture-Resistant Bose® Car Speakers.

The Bose Car Stereo System is fundamentally different from conventional car stereo components. It is designed as an integrated system. It is tested to withstand changing temperatures, road contamination and vibration in your car. And it is engineered to include innovations like Active Electronic Equalization and Moisture-Resistant Speakers.

This is the third in a series examining each of the fundamental differences more closely.

Everyday moisture is hostile to car stereo speakers. Conventional cone materials and suspension systems can literally disintegrate under the continuous assault of humidity, condensation and leakage in your car. So Bose developed an exceptionally rugged car speaker to survive the effects of moisture in the automotive environment.

The Bose 1401™ Car Stereo

Speakers in the photograph are actually operating under water. Yet even after complete submersion, Bose’s moisture-resistant suspension system does not lose its structural integrity or support the growth of fungus and mold. This exclusive Bose design lets you enjoy years of clear, high fidelity sound reproduction without deterioration.

Ask your authorized Bose dealer for a live demonstration of the Bose Direct/Reflecting® Car Stereo System. Compare it to any other car stereo. The difference is fundamental.

For more information and the name of your local dealer, dial toll-free 1-800-528-6050, Ext. 1401. In Arizona, 1-800-352-0458, Ext. 1401.

BOSE
Better sound through research.
stage is specifically designed to be free of crossover distortion, giving the distortion-free performance of a class-A amplifier with the higher efficiency of a class-AB design. It is actually a variable-bias system, controlled by the signal level, that adapts the amplifier's output-stage operating conditions so as to suit the requirements of the signal.

The front panel of the Pioneer A-8 has been visually simplified by locating most of the little-used controls behind a hinged door (the left third of the panel). Protruding slightly through the closed door are the two tone-control knobs. The right third of the panel contains only a large volume-control knob, a muting pushbutton (it reduces the amplifier's gain by 20 dB), and the headphone jack.

The center third of the panel is largely devoted to a pictographic display that shows the signal path and operating mode of the amplifier at all times. It is dark brown, with white lines to show the signal paths and colored lights that identify the various inputs, outputs, and modes of operation. At the right of the panel is a vertical row of square, flush-mounted buttons that select the program source (PHONO, TUNER, AUX, TAPE 1, TAPE 2). A green symbol next to each button lights when it is engaged. Also next to the PHONO button are lights indicating the MM (moving-magnet) and MC (moving-coil) operating modes. To the left of the selectors is a twin vertical LED power-output display covering a range of 0.01 to 100 watts into 8-ohm loads.

When the top of the left panel section is pulled outward, it hinges down and can be slid under the amplifier to permit full access to the normally concealed operating controls. There is a balance control and a REC OUT SELECTOR that determines the signal source feeding the tape-recording output jacks. In its SOURCE position, the tape recorders receive the same program being heard through the amplifier. Other positions (PHONO, TUNER, AUX) supply those sources to the recorder outputs regardless of which program is being heard. Two COPY settings connect a pair of tape decks for dubbing from one machine to the other (the playback from either can be monitored by pressing the appropriate TAPE button in the playback-selector group).

The other concealed controls are small buttons, many of which perform their indicated switching functions through relays. In its out position, LINE STRAIGHT bypasses the tone-control circuits, as shown by an orange arrow on the display panel. Pressing it in lights the indicators for BALANCE, MODE, and TONE, showing that those functions are usable.

Three phono buttons select the MM or MC preamplifier gains (lighting the corresponding letters next to the phono-input selector button) as well as the cartridge load terminations. The MC LOAD (R) button changes the MC-input resistance from 100 to 33 ohms, while the MM LOAD (C) button sets the input capacitance at either 200 or 400 picofarads when a moving-magnet cartridge is used.

Other lights show the operation of the amplifier's protective circuits and when the muting switch is engaged. Thus, when the controls are hidden behind the hinged door, the pictographs on the panel show the complete operating status of the amplifier. The small brown pushbutton power switch, barely visible on the dark-brown strip to the left of the panel, is not illuminated. However, at least some of the lights on the display will be lit whenever the amplifier is on. The two sets of speaker outputs are activated by individual buttons, and the loudness and infrasonic-filter buttons complete the control lineup.

The rear of the Pioneer A-8 contains the various signal-input and output jacks, two sets of insulated binding posts for the speakers, and three a.c. outlets, one of which is switched. The A-8 amplifier is about 16 1/2 inches wide, 16 3/4 inches deep, and 5 1/4 inches high. It weighs about 30 1/2 pounds. Price: $550.

 Laboratory Measurements. The top of the Pioneer A-8 became only moderately warm during the preconditioning period and subsequent testing; elsewhere the exterior of the amplifier remained cool. Pioneer's claims for extremely low distortion were completely confirmed by our measurements. At 1,000 Hz, with both channels driving 8-ohm loads, the distortion decreased linearly from 0.002 per cent at 1 watt to 0.0005 per cent in the 50- to 90-watt range, and the waveform clipped at just 0.1 per cent.

With their masking sub-panel covers folded under, the less frequently used controls of the Pioneer F-7 tuner (top) and A-8 amplifier (below) are revealed. The A-8's tone-control knobs remain accessible through cutouts even when the panel cover is closed (see lead photo, page 36).
CAMEL
Where a man belongs.

Camel Lights.
Low tar. Camel taste.

Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to *our Health.
over 100 watts (the IHF clipping headroom was 0.52 dB). Although the A-8 is apparently not rated for driving loads of less than 6 ohms, we tested it with loads of 4 and 2 ohms. At 4 ohms, the A-8 performed much as it did with 8-ohm loads, with the distortion dropping from about 0.003 per cent at 1 watt to 0.001 per cent between 20 and 100 watts, and with clipping occurring at a 148-watt output. The amplifier was even able to drive 2-ohm loads to 130 watts per channel at the clipping point, but the distortion was somewhat higher, between 0.01 and 0.045 per cent over the full power range. This level of distortion can hardly be considered serious except in comparison to the amplifier's normal performance.

Driving 8-ohm loads, the distortion was typically 0.005 to 0.001 per cent from 40 to 2,500 Hz, reaching 0.002 per cent at 20 Hz and a maximum of roughly 0.005 per cent at 15,000 Hz. When we drove the amplifier with the tone-burst signal of the IHF dynamic-power test, the outputs clipped at about 130 watts with 2-ohm or 8-ohm loads and 198 watts with 4 ohms. The 8-ohm dynamic-headroom rating, therefore, was 1.56 dB.

The input sensitivity for a reference output of 1 watt was 16 millivolts (mV) for the AUX input and 0.23 mV for the PHONO (MM) input. The respective A-weighted noise levels were 49 dB and 69 dB, both very good figures. The phono preamplifier overloaded at 260 mV at 1,000 Hz. At 20 Hz the equivalent overload input was even higher (350 mV), but it fell to 92 mV at 20,000 Hz. The phono-input impedance (MM) was 50,000 ohms in parallel with either 200 or 400 picoFarads, as rated. No measurements were made in the MC mode.

The IHF overload-recovery time (from a 10-dB overload) was about 20 microseconds. The amplifier was stable with simulated complex reactive speaker loads and had a rise time of 2.5 microseconds, both very good figures. The phono preamplifier overloaded at 260 mV at 1,000 Hz. At 20 Hz the equivalent overload input was even higher (350 mV), but it fell to 92 mV at 20,000 Hz. The IHF slew-factor measurement. We estimate that the slew factor is probably greater than 10.

The high-frequency linearity of the Pioneer A-8 was demonstrated by the IHF intermodulation-distortion measurement using equal-amplitude inputs at 19 and 20 kHz. Their combined peak value was equivalent to that of a 90-watt sine wave. For the first time since we began reviewing amplifiers more than a year ago, we were unable to detect any distortion on our spectrum analyzer (down to the instrument's residual level at about -96 dB, or 0.0016 per cent).

The tone controls had conventional response characti-eristic, with a single-band turnover frequency and the high-frequency curves hinged at about 3,000 Hz. The loudness compensation boosted the low frequencies as the volume-control setting was reduced, with no change in the high-frequency response until the control was at least 30 dB below the setting. Even there, the high-frequency boost was very slight. The infrasonic filter began to roll off the response below 100 Hz; it reached -3 dB at 35 Hz. The RIAA phono equalization was flat within ±0.6 dB from 20 to 20,000 Hz. It interacted very slightly with the inductance of moving-magnet phono cartridges, increasing the output slightly at high frequencies to a maximum of +0.5 dB in the octave from 7,000 to 14,000 Hz and rolling it off slightly above that frequency. With relatively low-inductance cartridges the overall response was within ±1 dB up to 20,000 Hz, but with some others the output dropped more sharply at the highest frequencies to -2 or -3 dB at 20,000 Hz.

F-7 FM/AM Tuner

The Pioneer F-7 FM/AM stereo tuner is a companion to the Model A-8 integrated amplifier. Its external styling and width match those of the A-8, although the tuner is only 2½ inches high and 14½ inches deep. The F-7 is a digital-synthesis tuner covering the FM band in steps of 0.1 MHz and the AM band at intervals of 10 kHz (this can be changed to 9 kHz by a switch in the rear of the tuner to match European frequency assignments).

Like the A-8 amplifier, the F-7 tuner has most of its controls behind a hinged door that forms the left third of its front panel. Behind the door are narrow pushbuttons marked TUNING (up or down) that step the frequency in the indicated direction when pressed. A smaller TUNING MODE button has AUTO and MANUAL settings; in MANUAL, each touch of one of the tuning buttons moves the frequency by one increment, and holding the button in produces a rapid scan that covers the FM band in less than 15 seconds. In the AUTO mode (which also activates the interstation-noise muting) the tuner scans rapidly and silently until a signal is acquired, at which point it stops and unmutes. This is normally the most convenient way to search the FM (or AM) band for listenable signals.

The Pioneer F-7 has digital memories in which the frequencies of six FM and six AM stations can be stored and recalled in memory by a switch in the rear of the tuner to match European frequency assignments.

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At last there's a cassette transport that fully exploits the precision of quartz.

You expect precision from quartz-locked direct-drive. But with a wow and flutter specification of 0.019% WRMS, the JVC DD-9 goes beyond your wildest expectations.

Audibly, this means complete freedom from pitch wavering. Plus uncanny clarity in the high frequencies thanks to almost total absence of flutter.

What else can you expect from a deck that's this accurate? Dolby C for one thing. It reduces noise by 20 dB (versus 10 dB with the previous Dolby system). And it operates much farther down into the midrange, giving 15 dB noise reduction even at 500 Hz.

Against this newfound background of silence you'll hear a greater resolution of musical details, especially with wide-range source material.

There's other JVC magic in the DD-9, too. Like our computer B.E.S.T. system that automatically measures every tape you use. Then sets bias, EQ and noise-reduction values to achieve ruler-flat response with lowest possible distortion. While JVC's heralded Sen-Alloy (SA) Heads give you supremely low distortion plus rugged durability, all in a three-head configuration.

There's also an electronic-digital tape/time counter Peak/VU fluorescent level meters. Memory and Auto Rewind. And full-logic transport controls.

Is there a place in your system for a deck as accurate as the DD-9? Or the DD-7 or DD-5, both with wow and flutter at 0.021% WRMS? Why not visit a JVC dealer and find out.

Quartz-locked direct-drive transport.
STEREO REVIEW

Thus far, Dolby HX is an addition to—rather than a substitute for—normal Dolby-B noise-reduction circuitry. While Dolby-B reduces low-level high-frequency hiss, the HX system is designed to use the Dolby-B’s internal control signals to increase the high-level, high-frequency capabilities of the recorder by simultaneously varying the bias and record equalization to meet the momentary demands of the signal being recorded. Any HX-recorded tape is completely compatible in playback with all Dolby-B-equipped decks.

Cassettes are inserted, tape openings downward, into slides behind the smoked-plastic front cover of the hk300XM. Rear

(Continued on page 44)
dbx has been silent too long.

Simply this. When you push the Dolby C button, tape noise decreases. When you push the dbx button, tape noise disappears. (You can perform this test yourself using any blank cassette tape.)

The dbx system reduces tape noise so effectively, that it's beneath the noise floor of even the quietest living rooms. Unlike Dolby C, dbx is effective in more than just the mid-range. It operates across the entire frequency spectrum. There's no low-frequency noise. No high-frequency noise. No noise, period.

There's more to this story, too. With the dbx tape noise reduction system, you're also equipped to play the widely acclaimed dbx Discs, the world's only Full Dynamic Range Records — and the first discs that eliminate record surface noise.

In addition, when digital playback technology finally arrives, dbx is the only system that will faithfully reproduce that sound on tape. You'll even be able to hear the sound of digital in your car, because we've developed a dbx decoding system for car stereo.

So before you rush out to buy a tape deck with Dolby C, we have a suggestion. 

Listen to the new tape decks with dbx. Or hear what a dbx Model 222 or 224 can do for your existing system.

At dbx, we've been silent too long.

The fact is, Dolby just reduces noise. dbx eliminates it.

For years Dolby* has been trying to reduce tape noise.

First came Dolby B. Then Dolby HX. Now there's Dolby C.

At dbx, we think it's time to set the record straight. You see, we've never tried to reduce tape noise. We've never had to.

Because from the beginning, dbx has done what Dolby keeps trying to do: eliminate tape noise. Just compare Dolby's latest attempt with dbx.

Where Dolby C reaches a maximum noise reduction of 20 dB, dbx reaches 50 dB. In a CCIR-weighted noise measurement analysis, Dolby C manages only 18 dB, while dbx achieves 55 dB.

What do these numbers actually mean?

dbx* is a registered trademark of dbx, Inc.

* Dolby is a registered trademark of Dolby Laboratories, Inc.

dbx, Incorporated, 71 Chapel Street, Newton, Mass. 02195 U.S.A.
Tel. (617) 964-3210. Telex 92-2522. Distributed throughout Canada by BSR (Canada) Ltd., Rexdale, Ontario.

CIRCLE NO. 13 ON READER SERVICE CARD
illumination is provided to gauge how much tape is left on a side, and the cover is removable for routine head cleaning and demagnetization. Directly beneath the cassette well are light-touch pushbuttons, with LED indicators, that control tape motion. Four pushbuttons activate the EJECT, RECORD MUTE, POWER on-off, and ELECTRONIC AUTO SEARCH functions, the last of which puts the deck in fast-forward operation, stopping and playing about eight seconds of each recorded selection before going on to the next. Individual pushbuttons set the bias/equalization for metal, CrO₂, ferrichrome, and ferric-oxide formulations, and a BIAS FINE TRIM control, together with a pushbutton-controlled BIAS TONE generator, permits the user to compensate for the bias differences between different brands of the same tape type. To adjust for different tape sensitivities, a 400-Hz RECORD CAL tone is provided, together with small openings for left- and right-channel screwdriver-adjusted controls. Separate controls are provided for microphone and line levels, as well as an output-level control that also affects the level fed through the headphone jack. Additional pushbuttons activate the Dolby-B and HX circuitry, a multiplex filter for taping from stereo FM, and a memory rewind and reset, as well as selecting either a slow or a normal stereo FM, and a remote-control accessory. Overall, the deck measures approximately 4¾ x 17¾ x 13½ inches; it weighs 19 pounds. Suggested retail price: $449.

- Laboratory Measurements. Our sample of the hK300XM was factory-adjusted for TDK AD (ferric), Sony FeCr (ferrichrome), TDK SA (CrO₂-type), and 3M Metafine (metal) formulations, so we used these as our primary basis for evaluation. Checking other tapes, however, we found that the newly introduced JVC MEp metal tape gave marginally better results, so we substituted it instead. The Metafine had a slight (0.8 dB) advantage in signal-to-noise ratio, but it had less high-frequency response, sensitivity, and ability to handle overloads.

Playback equalization, as shown in the accompanying graph, was checked using Teac MTT-216 (ferric) and MTT-316 (CrO₂-type) test tapes. Both showed a somewhat elevated bass response that was just audible in our listening tests of prerecorded material, but both extended out smoothly to the 14-kHz limit of the test tapes.

Record/playback frequency response was excellent with all but the ferrichrome tape, which fell off slightly at the highest frequencies. The TDK AD (ferric) and JVC MEp (metal) were within +0.5, −1.5 dB from 20 to 20,000 Hz, and TDK SA reached the −3-dB point at 18,600 Hz. This is exceptional performance in a two-head deck. The responses of the tapes below 1,000 Hz differed by less than 2 dB and were averaged for clarity.

With a 1,000-Hz, 0-dB input, the third-harmonic distortion measured 1.2 per cent for TDK AD, 1.8 per cent for TDK SA, 0.8 per cent for JVC MEp, and 2.15 per cent for Sony FeCr. To produce 3 per cent third-harmonic distortion required an input level of +3, +2, +5, and +2 dB, respectively, for the four tapes, and their unweighted signal-to-noise ratios at this output measured 48.2, 51.4, 54.3, and 50.7 dB. Adding Dolby-B noise reduction and using CCIR/ARM weighting increased these figures to the very good values of 64.6, 67, 68.2, and 68.2 dB, respectively.

Wow and flutter, measured by recording and replaying a 3,150-Hz tone, measured 0.04 per cent according to the customary weighted-rms rating and 0.05 per cent when using the stricter DIN standard. To produce a 0-dB indication required a 0.17-volt input at the high-level jacks and 0.4 millivolt at the microphone inputs. Microphone overload occurred at a reasonably generous 85 mV. Accuracy of the Dolby-circuit calibration was exact, and tracking at a −30-dB level was within 2 dB. With a C-60 case (Continued on page 46)
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<thead>
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<th>Reprint #</th>
<th>Title</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>40896</td>
<td>ROOM ACOUSTICS (How to Correct Your Room Acoustics)</td>
<td>10/66</td>
</tr>
<tr>
<td>40897</td>
<td>GUIDELINES TO SPEAKER SHOPPING</td>
<td>8/69</td>
</tr>
<tr>
<td>40898</td>
<td>RECORD DEFECTS (Their Causes &amp; Cures)</td>
<td>6/71</td>
</tr>
<tr>
<td>40900</td>
<td>HOW IMPORTANT IS AUDIO-COMPONENT COMPATIBILITY?</td>
<td>1/74</td>
</tr>
<tr>
<td>40901</td>
<td>GUIDE TO UPGRADING YOUR COMPONENTS</td>
<td>6/76</td>
</tr>
<tr>
<td>40902</td>
<td>HOW TO SELECT A MICROPHONE</td>
<td>3/75</td>
</tr>
<tr>
<td>40904</td>
<td>HI-FI TROUBLESHOOTING CHARTS</td>
<td>7/75</td>
</tr>
<tr>
<td>40905</td>
<td>SPEAKER MYTHS (How to Avoid Bad Choices)</td>
<td>8/75</td>
</tr>
<tr>
<td>40907</td>
<td>HOW TO SELECT AN FM TUNER</td>
<td>12/75</td>
</tr>
<tr>
<td>40908</td>
<td>HI-FI DEMONSTRATION DISCS</td>
<td>4/76</td>
</tr>
<tr>
<td>40910</td>
<td>CLEAN UP AND TUNE UP YOUR AUDIO SYSTEM</td>
<td>6/76</td>
</tr>
<tr>
<td>40912</td>
<td>USING FM INTERSTATION HISS TO TEST RECORDERS AND SPEAKERS</td>
<td>11/76</td>
</tr>
<tr>
<td>40914</td>
<td>HOW TO BUY A PHONO CARTRIDGE</td>
<td>1/77</td>
</tr>
<tr>
<td>40915</td>
<td>THE PROFESSIONAL APPROACH TO TAPE RECORDING</td>
<td>3/77</td>
</tr>
<tr>
<td>40916</td>
<td>HOW TO ELIMINATE RADIO-FREQUENCY INTERFERENCE</td>
<td>5/77</td>
</tr>
<tr>
<td>40926</td>
<td>ALL ABOUT NOISE REDUCERS</td>
<td>10/77</td>
</tr>
<tr>
<td>40961</td>
<td>HOW TO BUY HI-FI (A Beginners Guide To Hi-Fi)</td>
<td>12/77</td>
</tr>
<tr>
<td>41066</td>
<td>HOW TO MAKE YOUR OWN DEMO TAPES (Semi-pro Recording)</td>
<td>3/78</td>
</tr>
<tr>
<td>41088</td>
<td>HOW TO BUY A RECEIVER</td>
<td>5/78</td>
</tr>
<tr>
<td>41091</td>
<td>DIRECT-TO-DISC RECORDINGS</td>
<td>7/78</td>
</tr>
<tr>
<td>41092</td>
<td>LOUDSPEAKER FORUM—(Answering Questions On: Electronic Crossovers, Biamplified Systems, Wide vs. Limited Dispersion, Power Ratings )</td>
<td>8/78</td>
</tr>
<tr>
<td>41365</td>
<td>ANTENNAS</td>
<td>9/78</td>
</tr>
<tr>
<td>41366</td>
<td>TIME-DELAY SYSTEMS</td>
<td>10/78</td>
</tr>
<tr>
<td>41367</td>
<td>HI-FI EQUIPMENT RACKS</td>
<td>12/78</td>
</tr>
<tr>
<td>41368</td>
<td>HOW TO UNPACK, HOOK UP TEST AND INSTALL YOUR NEW EQUIPMENT</td>
<td>12/78</td>
</tr>
<tr>
<td>41369</td>
<td>UNDERSTANDING PHONO CARTRIDGES</td>
<td>2/79</td>
</tr>
<tr>
<td>41370</td>
<td>UNDERSTANDING RECORD PLAYERS</td>
<td>6/79</td>
</tr>
<tr>
<td>50040</td>
<td>SUBWOOFERS</td>
<td>10/79</td>
</tr>
<tr>
<td>50041</td>
<td>A DOZEN RECOMMENDED DIGITAL DEMO DISCS</td>
<td>1/80</td>
</tr>
<tr>
<td>50042</td>
<td>A BUYER’S GUIDE TO AMPLIFIERS</td>
<td>2/80</td>
</tr>
<tr>
<td>50043</td>
<td>A BASIC VOCABULARY OF TAPE RECORDING</td>
<td>3/80</td>
</tr>
<tr>
<td>50044</td>
<td>A BUYER’S GUIDE TO CASSETTE DECKS</td>
<td>3/80</td>
</tr>
<tr>
<td>50151</td>
<td>AUDIO EQUALIZERS (Understanding and Choosing Equalizers)</td>
<td>4/80</td>
</tr>
<tr>
<td>50152</td>
<td>BUYING GUIDE TO AUTO SOUND EQUIPMENT</td>
<td>6/80</td>
</tr>
<tr>
<td>50153</td>
<td>LOUDSPEAKER POWER REQUIREMENTS</td>
<td>8/80</td>
</tr>
<tr>
<td>50162</td>
<td>LOUDSPEAKER PLACEMENT</td>
<td>8/80</td>
</tr>
</tbody>
</table>

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sette, fast-forward time measured 68 seconds, 72 seconds for rewind.

**Comment.** The extended high-frequency response and high signal-to-noise ratio of the hk300XM practically guarantees that the deck is able to make virtually impeccable copies of existing program material. The Dolby HX system does, indeed, make ferric tapes sound very much like metal tapes in terms of high-frequency potential, but some distortion of strong mid-frequencies is occasionally audible in the presence of equally strong high-frequency tones. Such a situation is extremely rare, however, and we had to search to find recordings with which the HX system did not work perfectly. We have no hesitation in recommending the hk300XM for both performance and value.

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**KEF Model 103.2 Speaker System**

THE KEF 103.2 is part of that company’s Reference Series of speaker systems, which is headed by the refined and highly regarded Model 105.2. Externally, the 103.2 appears to be a rather small “bookshelf” speaker with a handsomely finished wood-veneer cabinet and a black grille cloth. Behind the grille, on a surface finished like the rest of the enclosure, are mounted its two drivers: an 8-inch Bextrene-cone woofer and a 1-inch soft-dome tweeter. The crossover is at 3,000 Hz. The sealed enclosure has no user-adjustable controls, and the spring-loaded input connectors are recessed into the rear of the cabinet.

In the 103.2, KEF engineers sought to achieve the well-recognized spatial (imaging) qualities of their 105.2, as well as its smoothness and overall sonic balance, in a much smaller and less expensive system that would be suitable for rooms where larger speakers would be unacceptable. Like the other Reference Series speakers, it has the “S-Stop” electronic protection system that prevents damage to the drivers even under severe overload conditions.

One of the basic factors behind the performance (and price) of the KEF Reference Series speakers is the extraordinary quality control (plus special driver and component measurement and matching) that goes into their manufacture. The 103.2 (and its still smaller relative, the 101) undergoes the same rigorous process as the 105.2, which includes a computerized response measurement of each driver and the subsequent matching of drivers within each speaker and between pairs (they are sold only in matched pairs). The crossover-network components are also matched to the individual drivers in each system, assuring the amplitude and phase-response characteristics that KEF has designed into the speakers.

The anechoic frequency response of the KEF 103.2 is specified as 60 to 20,000 Hz ± 3 dB on axis, with the output down 10 dB at 37 and 30,000 Hz. The off-axis response is also specified: within 1 dB of the axial output over a ±5-degree vertical-angle change up to 20,000 Hz and over a ±20-degree horizontal-angle change up to 10,000 Hz. This ensures that the full performance of these speakers will be heard throughout a typical home listening area.

The rated sensitivity of the KEF 103.2 is 86 dB sound-pressure level (SPL) measured at a 1-meter distance for a pink-noise input of 1 watt under anechoic conditions. Its maximum output under typical listening conditions is 106 dB SPL on program peaks. The KEF 103.2 is rated to handle up to 150 watts of program power or a continuous sine-wave input of 20 volts between 100 and 2,500 Hz, falling to 8 volts maximum between 4,000 and 20,000 Hz. The nominal impedance of the system is 8 ohms.

The S-Stop protective system (the acronym stands for “Steady State and Transient”) (Continued on page 48)

Marlboro Red or Longhorn 100's—
you get a lot to like.
Laboratory Measurements. The KEF teak, rosewood, and black ash. Price: $900 available cabinet veneers include walnut, 20 inches deep. It weighs about 19 pounds. The 20 inches high, 101/2 inches wide, and 91/2 inches deep. It has been restored, the speaker automatically re-synchronized against any continuous or intermittent fault. When safe levels have been restored, the speaker automatically returns to normal operation. The level reduction is designed to protect the drivers against any continuous or intermittent fault signals up to 60 volts peak, from d.c. to 50,000 Hz, without affecting the speaker's normal operation. The KEF 103.2 measures 20 inches high, 101/2 inches wide, and 91/2 inches deep. It weighs about 19 pounds. The available cabinet veneers include walnut, teak, rosewood, and black ash. Price: $900 per pair.

● Laboratory Measurements. The KEF 103.2 is designed for upright (vertical) mounting, preferably at least 20 inches from a wall and about 3 feet high, which places the tweeter close to ear level for a seated listener. It can also be installed against a wall, in the conventional "bookshelf" placement, as we did for our measurements, and much of our listening.

Although our live-room measurement method cannot be expected to correlate with the anechoic measurements used by KEF to derive their specifications, it did show the averaged energy response in the reverberant field of the room to be very smooth, with no sign of any drop in output up to our 20,000-Hz measurement limit. In fact, the output rose steadily from 4,000 to its maximum at 20,000 Hz. The close-miked woofer response was maximum at 100 Hz, falling off at both lower and higher frequencies. When we spliced the close and distant mixed curves, the composite response curve was within ±3 dB from 57 to 20,000 Hz, closely matching the KEF specifications. At a 1-watt input the bass distortion was well under 1 per cent down to 70 Hz, reaching 2.2 per cent at 50 Hz and only 8 per cent at 30 Hz. At a 10-watt drive level the distortion was higher, but still quite low for a system of this size. It rose from about 1 per cent at 100 Hz to 2.3 per cent at 70 Hz and 7.5 per cent at 40 Hz.

The system sensitivity was very close to the rated value, measuring 87 dB at 1 meter with 1 watt of random-noise input in an octave centered at 1,000 Hz. The system impedance reached its minimum value of 8 ohms at about 40, 175, and 4,000 Hz. Its maximum values were 20 ohms at 75 Hz (the bass-resonance frequency) and 50 ohms at 1,200 Hz.

● Comment. Our first reaction on hearing the 103.2 speakers (in a wall-mounted position) was that we had forgotten to switch the comparator to them and were therefore listening to the 103.2 just in front of them. A check confirmed that we were hearing the 103.2s, however. Repeated comparisons with careful level matching showed that the tonal quality and general sound of the KEF 103.2 were so similar to those of the KEF 105.2 that we could never be sure which of the two pairs of speakers we were listening to without checking the setting of the comparator switch!

They did not sound identical, of course. Still, they were so similar that non-comparative listening could not disclose which was which. The differences were principally in the mid-bass. To our surprise, the 103.2 seemed to have a heavier and slightly warmer quality than the larger 105.2. Later, when we had made our measurements, the reason was apparent: a slightly emphasis-sized output from the 103.2 in the 80- to 150-Hz range. The 105.2 was flatter in that octave as well as going down another octave into the deep bass. With most program material, the bass extension of the 105.2 was not obvious, but the mid-bass emphasis of the 103.2 was.

To anyone not familiar with the sound of the KEF 105.2, this comparison may convey little information. We can say about the 103.2 that its sound is unusually smooth, balanced, and utterly easy and unstrained. You can pick almost any favorable adjective that would apply to the sound of this speaker. The imaging was certainly excellent, although this quality can be appreciated only with suitably recorded program material, and we prefer to judge a speaker with all kinds of programs including ordinary "multi-miked" records and FM broadcasts.

Like its big brother, the KEF 103.2 can handle large power inputs without damage or distortion. Although we tend to be cautious when driving small speakers with large amplifiers, previous experience with S-Stop led us to cast caution to the winds and see what it took to activate the circuit in the 103.2. Well, it took everything a 200-watt-per-channel amplifier could deliver, and more. The amplifier was clipping before the S-Stop lights came on. Just short of that point the sound was clean, completely listenable, and not nearly as loud as one might expect.

Even when the S-Stop lights came on, we heard no obvious change in volume level or any other speaker characteristic. The action of the S-Stop is apparently subtle to the point of being undetectable under most conditions, but it does save the speakers. This is a very important consideration with speakers as costly as these.

There are many good $200 speakers, none of which is clearly superior to its competition. At higher prices, speakers may be able to handle a bit more power, go a little deeper into the bass, or deliver some other special quality, but they do not necessarily sound "better" than a number of good $200 to $250 speakers we can think of. The KEF 103.2 is a notable exception to this rule. We think it is well worth its extra cost (if sound is what you are interested in) compared with most of the other good speakers we have heard that sell for less. If one were to consider only its size and appearance, it might be hard to justify the price of the KEF 103.2. However, judged (as it ought to be) by its sound, it appears to be a very good buy.

Circle 143 on reader service card

(Continued on page 50)
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The Yamaha R-700 stereo receiver combines excellent basic performance with above-average operating convenience and has one feature—a "Spatial Expander"—not previously encountered in any receiver. It has a power rating of 50 watts per channel into 8-ohm loads from 20 to 20,000 Hz with no more than 0.015 percent total harmonic distortion. Despite this modest power rating, the R-700 is capable of sustaining high undistorted listening levels because of its high dynamic-headroom rating.

The tuner section of the R-700 is controlled by what Yamaha calls a "station-locked synthesizer." This appears to be not a frequency synthesizer, but rather a voltage-controlled local oscillator that scans up or down in frequency with a momentary touch on one end of a center-pivoted tuning bar on the panel. The tuning continues to scan until a station stronger than the receiver's muting threshold is captured. At that point the scan stops and the receiver locks onto the station frequency. The frequency is displayed continuously by a four-digit readout operating from a digital frequency counter.

Yamaha claims that their station-locked synthesizer is superior to the commonly used PLL synthesizer because it introduces less noise into the tuner circuits. The same tuning system is used on the AM band (either FM or AM can be selected by means of momentary-contact buttons). While scanning is taking place on either band, the receiver's output is muted. It has a digital memory system in which the control-voltage analogs of five AM and five FM stations can be stored. At any later time, a touch of one of the numbered buttons will recall that station instantly. The receiver has a "back-up" for its memory circuits, and if power is lost or interrupted the memorized frequencies will be retained for at least two days.

To the left of the digital frequency readout is a display window containing a "signal-quality" indicator consisting of a number of green LEDs which form a horizontal line proportional to signal strength. The display is designed to flicker in the presence of multipath reception, hence its designation as a signal-quality rather than a signal-strength indicator. A green LED shows when the tuning synthesizer has captured a station (station lock), and a red light is the FM stereo indicator.

The R-700 has signal-controlled switching between its normal and DX modes. A signal whose strength is above about 40 dBf will switch the receiver to normal, as indicated by one of two green LEDs in the display window. In this condition it has its full channel separation and lowest distortion, but only moderate selectivity. If the signal level is below about 35 dBf, the receiver goes into its DX mode. This inserts a high-selectivity i.f. amplifier into the signal path, greatly increasing the selectivity, and also produces some stereo channel blending, which reduces noise while retaining some audible stereo effect. The DX light shows that the receiver is in this mode.

A bright red bar lights up above the pushbutton power switch when the receiver is on. The other operating controls form a row across the bottom of the panel. They include conventional bass and treble tone controls, each with eleven detented settings, and a center-detented balance control. Two of the most useful features of previous Yamaha receivers have been retained in the R-700. There are separate volume and loudness knobs, the former being a large knob to the right of the tuner frequency readout. With the loudness knob set to its maximum (flatt) position, the volume control is set for the loudest listening level one expects to use. The loudness knob can then be rotated counterclockwise to reduce volume and simultaneously boost both low and high frequencies. Very few receivers and amplifiers have such an arrangement, and few can match the subjective effect of Yamaha's compensation curves.

The separate recording and listening program selectors are another early Yamaha innovation. On the R-700 they are slender bar knobs. The input knob has positions marked AUX, PHONO, TUNER, TAPE 1, and TAPE 2. The record out knob is marked for AUX, PHONO, TUNER, TAPE COPY 1-2, and OFF. The off setting disconnects the tape outputs from the program sources to prevent any loading effects from the tape recorders or connecting cables. The tape copy positions connect two tape decks for dubbing from either one to the other (the playback from either can be monitored with the input switch, or one can listen to another program from the tuner or record player while dubbing a tape).

Small, square pushbuttons connect the two sets of speaker outputs and the high filter. Another converts the stereo output of the receiver to mono by paralleling the two channels. A separate FM muting button, when depressed, turns off the muting, simultaneously disabling the multiplex decoder to give a mono output from the FM-tuner section. There is also a stereo headphone jack on the front panel.

The remaining knob on the panel of the R-700 is associated with one of its unique features. The spatial expander, which is an ambiance-enhancement circuit that expands the stereo sound field beyond the limits set by the placement of the two speakers. It is accomplished by blending an adjustable amount of each channel, reversed in phase, with the opposite channel signal. As the spatial expander knob is rotated clockwise from its straight-out position, it injects more of the out-of-phase signals and the left and right limits of the sound stage appear to move outside the line joining the two speakers. Like other, similar enhancement systems, this gives best results when the listener is on the center line of the listening area, equidistant from the two speakers. The spatial expander has no effect on mono signals, and its only effect on headphone signals is a sometimes beneficial reduction of apparent channel separation.

In the rear of the Yamaha R-700, in addition to the jacks for the signal inputs and outputs already described, there are binding-post terminals for a 300-ohm FM dipole antenna and for an AM loop antenna (supplied with the receiver) as well as a coaxial connector for a 75-ohm FM-antenna system. The AM antenna is not the usual ferriiite rod, but a true loop antenna in a molded-plastic housing that can either be mounted on the rear of the receiver or located up to several feet from it. The speaker outputs are insulated spring-loaded connectors. There are three A.C. convenience...
Lab measurements. Operating the amplifiers of the R-700 at one-third rated power for 1 hour left its top (over the output-transistor heat sinks) only moderately warm. However, subsequent operation at higher power levels made the grille area uncomfortably to the touch.

When we drove 8-ohm loads with a 1,000-Hz signal, the output waveform clipped at 67 watts per channel. Into 4 and 2 ohms, the respective clipping power levels were 77 and 30 watts. We noted that the R-700 is rated only for 8-ohm loads. Our tests indicate that it should have no difficulty handling 4-ohm loads (or two sets of 8-ohm speakers) but that lower load impedances will probably result in limited output and increased distortion as well as possible overheating of the amplifier, though only when it is operated continually at very high power levels.

In a dynamic-power pulsed test signal, we measured a maximum unclipped output of 103 watts into 8 ohms, 132 watts into 4 ohms, and 41 watts into 2 ohms. The IHF clipping headroom for 8-ohm operation was 1.3 dB, and the dynamic headroom was a very good 3.2 dB (surpassing the rated 2.5 dB by a comfortable margin). The amplifier recovered in about 4 microseconds from a 10-db overload.

With 8-ohm loads, the harmonic distortion of a 1,000-Hz test signal was about 0.0025 per cent at most power outputs and only 0.0028 per cent at 65 watts, just short of clipping. With 4-ohm loads, the distortion was still quite low, about 0.004 to 0.0045 per cent at most power outputs up to 60 watts and increasing to 0.04 per cent at 70 watts and 0.18 per cent at 75 watts. With 2-ohm loads it was obvious that the amplifier was "over its head." With the distortion measuring between 0.21 and 0.69 per cent for power outputs between 0.1 and 30 watts.

Our intermodulation-distortion measurements with 19,000- and 20,000-Hz inputs at an equivalent sine-wave output of 50 watts into 8 ohms showed a third-order product at 18,000 Hz of -69 dB and a second-order product at 1,000 Hz of -90 dB. The IHF slew factor was 6.5. These are very good figures.

The input sensitivity for a reference output of 1 watt was 18 millivolts (mV) for the AUX input and 0.38 mV for PHONO. The respective A-weighted signal-to-noise ratios were 85.5 and 80.7 dB, both excellent figures. The phono preamplifier overloaded at 360 mV at 1,000 Hz (considerably better than the rated 250 mV). At 20 and 20,000 Hz the overload input, converted to equivalent 1,000-Hz values, was 185 and 173 mV, respectively. The phono-input impedance measured 55,000 ohms in parallel with 230 picofarads.

The tone controls had fixed turnover frequencies of 500 and 4,000 Hz, with a very adequate control range. As the LOUDNESS knob is turned down from maximum (no compensation) the overall level drops in small steps of 1 or 2 dB, and there is virtually no frequency contouring until the control is about halfway through its range. At the bottom of its range, the loudness compensator has dropped the midrange level by 25 dB, with an effective low-bass boost of 13 dB and about 7 dB at the high frequencies. The subjective effect, if the initial volume setting is correctly done, should be quite pleasing to most ears.

The phono equalization was very accurate, deviating by less than 0.5 dB from the RIAA characteristic between 100 and 20,000 Hz and with an overall variation of ±0.75 dB from 20 to 20,000 Hz. Measured through the inductance of a typical moving-magnet phono cartridge, the high-frequency equalization rose slightly, increasing by about 1 dB from 2,000 to 15,000 Hz and dropping slightly above that frequency. The "worst-case" overall change in equalization was ±1 dB.

The Spatial Expander uses phase reversal and mixing, but no time delay. With only the left channel driven and the Spatial Expander off, the left-channel frequency response was flat and there was no output from the right channel. As the expander control was rotated clockwise, an out-of-phase signal began to appear in the undriven channel output, with a falling frequency response at the extremes. The driven channel had a similar response, and its total level increased as well. With maximum expansion the output of the driven channel had gone up some 8.5 dB; the output of the other channel was only 3 or 4 dB less, but opposite in phase. In both channels, the highs rolled (Continued overleaf).
The FM capture ratio of 0.7 dB was one of the best we have measured (although we cannot be sure how this was affected by the AFC action and therefore cannot vouch for the accuracy of the figure). The AM rejection was an excellent 67 dB at 45 dB (100 µV) input. The image rejection of 57 dB was adequate if not particularly high.

The FM frequency response was flat within +0.4 dB from 30 to 15,000 Hz, and the 19-kHz pilot-carrier leakage was at –54 dB. The tuner hum level was –61.5 dB. Stereo channel separation in the NORMAL mode (wide i.f. bandwidth) was close to 50 dB in the midrange, falling to 45.5 dB at 30 Hz and 30 dB at 15,000 Hz. In the dx (narrow) mode the separation was radically lower, varying from 5 dB at low frequencies to 10 dB at 15,000 Hz.

The "signal-quality" indications covered only a rather limited range of signal levels, with the lights coming on at inputs from 6 to 31.5 dB (1.1 to 20 µV). We also noted that when a station was selected with the tuner’s MEMORY buttons, it would frequently come on in the reduced-separation dx mode in spite of having more than enough strength to switch the tuner to NORMAL. A momentary touch of the TUNING button and then the MEMORY button for that station would cause the lights to come on. The AM frequency response was down 6 dB at 60 and 2,800 Hz.

Comment. The Yamaha R-700 proved to be, in most respects, an outstanding performer. The FM tuner section (in its DX mode) had exceptional selectivity, plus notably good AM rejection, capture ratio, distortion, and signal-to-noise characteristics. The stereo channel separation for strong signals was also excellent, but it was only minimal for weaker signals because of the automatic DX/NORMAL mode switching.

Many stations with more than adequate strength for quiet reception would not readily switch the tuner to its NORMAL mode. The result was a distinct loss of separation, resulting in close to mono reproduction. Sometimes we were able to "force" the tuner to switch by repeatedly tuning on and off a signal, but it appeared that the DX/NORMAL threshold was set too high in our sample, and it is likely that it will be modified in future production.

Like those of many recent receivers and amplifiers, the audio section of the R-700 had extremely low distortion—it was, in fact, close to the limits of measurability with standard laboratory instruments.

Operation of the R-700 is simplified by its clearly identified and functional controls, including Yamaha’s familiar (and highly desirable) separate program selectors for recording and listening and the separate volume and loudness controls. The preset station memories are not only in vogue these days but are genuinely useful. The Spatial Expander provides the same sort of expanded sonic image achieved by some other add-on "imaging" accessories. Although it cannot match the effects obtained from some of the more expensive separate and combined products that employ inter-aural time-delay compensation, it does work and is a worthwhile feature.

Although, as mentioned, the automatic control and switching circuits of the Yamaha R-700 prevented us from making some FM-tuner performance measurements, those we did make were generally excellent, and we have no hesitation in accepting Yamaha’s ratings for those specs we could not measure. Aside from the difficulties a test lab might have with it, the Yamaha R-700 is a very easy receiver to use from the consumer’s point of view. It is also compact and attractive, and its listening quality is without question first-rate.

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CIRCLE NO. 30 ON READER SERVICE CARD
I don't occur to just one person. Not more than a few weeks ago I was telling almost anybody who would listen that the real problem with writing music today is that it has all been written already. More recently, conductor Klaus Tennstedt was quoted to the effect that, at least so far as music for conventional instruments is concerned, it has all already been composed. I wonder how many others have been espousing the same thought.

Such ideas are brought on by a combination of experience, intuition, and disillusionment. There are more composers today than at any time in the history of the world, an insannonady situation when one realizes that there is probably less public demand for their services than at any previous time.

Composers, having learned to write music, want to write music, and many of them write a good deal of it. To music-loving people who are (I never want to hear it again). The disillusionment sets in, then, because most of the music composed on any other basis is doomed to failure. But there is no question that this tonal language (or "dialect") had potentialities for the expression of different moods, feelings, and personalities unmatched by any prior or any subsequent musical dialect. No one makes Haydn for Grieg and no one denies the necessity of the Beethoven Fifth because we have the Beethoven Third. But most composers today would agree that their musical dialect is used up; anything written in it now would be not only anachronistic and derivative but superfusious (in spite of this, some composers try). Other musical dialects—dodecaphonies, modalities, the "poly-"s, free atonality, dissonant counterpart, et al.—have not proved to have that degree of richness. Which means that pieces written in these dialects are even more likely to sound second-hand than the last-gasp tonal pieces. There still are pieces to be written in these dialects—one comes along every once in a while—but composers are filling up vacant lots here, not staking out new territory.

Of course, one can find new territory, create a new dialect, turn one's back on the vocabulary of the past, and that is where all this "I haven't heard it before but I don't want to hear it again" music comes in. For, although there are occasional pieces of power and interest, the new vocabularies are based largely on what great composers chose to leave out of the old. All possibilities are not equally valid (and certainly not equally beautiful) to our ears. One can also combine vocabularies, mixing the old and the new. Again, certain good pieces come out of this, but isn't the very attempt a confession that all is not equally beautiful? Perhaps the worst of this situation is that the pressure on composers to write what they do is largely self-applied. The public expresses little desire or need for new music. I wonder sometimes just where composers today get the confidence to compose; for most of them it's not even a good living.
THE SHORTER GUIDE TO CARTRIDGE SHOPPING

By Peter Mitchell

Because your stereo system can be no better than its weakest link, and because the phono cartridge is usually the first link, the selection of a cartridge is critically important. If the stereo signal leaving the cartridge is distorted, nothing in your amplifier or in your loudspeakers can restore the lost fidelity. Moreover, the task of the cartridge is extraordinarily difficult: its stylus must be able to resolve groove wiggles that are microscopically small, and it must be agile enough to accurately trace a groove that may change direction 40,000 times per second, all without damaging the fragile groove walls it is moving along.

Phono-cartridge performance has greatly improved during the past decade, in both obvious and subtle ways, and the pressure of competition has induced every major manufacturer to incorporate these improvements in his products. So you can hardly go wrong: virtually any pickup you buy from a reputable manufacturer will prove to be very good in absolute terms and probably audibly better than the cartridge you bought five or six years ago.

As cartridges have gotten better, they sound more nearly alike than formerly—they are, in other words, more closely competitive in performance. But significant, audible differences still remain, and as you shop for a cartridge you should consider not only the inherent virtues of various models but also their suitability for your audio system. For instance, there is the delicate question of... Price

It may seem obvious, but it’s worth repeating: if you have a $100 record changer, it would be a mistake to install an exotic $300 imported cartridge in it. You won’t hear the special virtues claimed for the pickup because your tone arm can’t provide the delicate guidance the cartridge requires, assuming it would play at all. Conversely, if you have a $400 turntable with a fine low-mass arm, a $30 pickup would likely under-utilize the investment you have made. A rough but generally reliable rule of thumb suggests that a suitable phono cartridge will usually cost one-third to one-half the price of your turntable (although ratios from 20 to 100 per cent have yielded fine results in some cases).

Tracking Force

The recommended vertical tracking force (VTF) of a phono pickup is a good index of its compatibility with your record player’s tone arm and also a pretty good guide to the relative quality of the various models in a manufacturer’s line. Inexpensive record changers typically are designed to function best with a cartridge tracking at 2 to 3 grams; cartridges designed to operate with a VTF below 1½ grams should be used only in high-quality tone arms with low-friction bearings.

Some pickup manufacturers specify a single optimum VTF while others specify a range of suggested settings. In the latter case the optimum VTF (yielding the least record wear as well as the cleanest sound) nearly always turns out to be in the upper half of the suggested range. In other words, if the manufacturer’s rated VTF range is from, say, 1 to 2 grams, don’t expect satisfactory performance at 1 gram unless you have an exceptionally fine tone arm and, perhaps, play unwarped recordings of flute solos. In most arms you’ll need a VTF setting between 1.5 and 2 grams in order to track the loudest, most heavily modulated grooves without distortion.

Using a very low tracking force in an attempt to minimize record wear is a mistake. A VTF that is too low cannot maintain the stylus in secure contact with the undulating groove wall during loud passages. When a mistracking stylus bounces off the groove wall (with a burst of harsh, shattering distortion) it produces permanent groove damage. With a VTF setting near the upper end of the recommended range, the stylus sinks into the groove wall a few millionths of an inch as it passes, but the elastic vinyl quickly springs back to its original shape.

Stylus Shape

The simplest and least costly styli have spherical (also called “conical”) tips. (All styli are actually cone-shaped overall; what matters is the contour at the tip of the cone.) Spherical styli have another advantage besides low cost: they make contact with the groove wall over a relatively large area (called the “contact patch” or “footprint”), thus spreading out the tracking pressure and allowing VTFs as high as 3 or 4 grams to be safely employed without excessive groove wear.

When records are made, the grooves are cut with a sharp-edged stylus, but because of its rounded shape the spherical stylus tip cannot follow exactly the groove contour made by the sharp cutting stylus (see Figure 1), especially in the congested inner grooves near the label. So, in order to provide more accurate tracing of the groove, the majority of cartridges today employ an “ellipti-
transducer improvement. Still, many of the improvements to the transducer in the cartridge sound in recent years have been in the cantilever (which transmits the vibration to the stylus) mounted on a thin bar or tube (called the jewel which is cemented or otherwise held the stylus in contact with the undulating groove). The groove wall does not change direction when the groove wall does. In recent years tip masses have been halved in many designs, yielding much better high-frequency tracking ability.

**Effective tip mass**—A measure of the inertia of the vibrating parts of the stylus assembly and thus of the tendency of the stylus to continue in a previous direction rather than changing direction when the groove wall does. In recent years tip masses have been halved in many designs, yielding much better high-frequency tracking ability.

**Electret**—A permanently charged capacitor used as a sensitive transducer in microphones and some phono cartridges. Varying pressure on the electret surface produces a varying voltage output.

**Magnetic flux**—The energy in a magnetic field. Magnetic flux is conducted efficiently through metals such as iron but comparatively inefficiently through the air.

**Mechanical impedance**—A measure of the tendency of the stylus to resist being moved back and forth by the groove walls. Essentially determined at low frequencies by the compliance (low compliance equals high mechanical impedance) and at high frequencies by the effective tip mass plus the resistance of whatever damping is included to suppress ultrasonic resonances. The higher the mechanical impedance, the greater the vertical tracking force required to hold the stylus in contact with the undulating groove walls. (See this month's "Technical Talk" column, page 28.)

**Modulation velocity**—The strength of the recorded signal is described by the speed (velocity) of the back-and-forth vibration of the stylus (which is not re-
compatibility: impedance

although it is less true today than previously, most moving-magnet cartridges tend to have a mechanically determined frequency response that rises at high frequencies toward an under-damped ultrasonic resonance. however, the many turns of wire on the cartridge's coils have a fairly high inductance which, coupled with the capacitance of the turntable's signal cables and the input impedance of the preamp, becomes a filter rolling off the pickup's high-frequency output.

if everything has been designed correctly, the rising mechanical response and the falling electrical output neatly nullify each other, producing a flat system response. but if you use significantly different values of cable capacitance and preamp input impedance than the cartridge designer intended, you may alter the effective frequency response by several decibels at high frequencies. some pickups work best with around 400 picofarads of total capacitance (including both the signal cable and any capacitance in the preamp input), while other cartridges require considerably less with less than 200 pF. still others don't seem to care at all. if your amplifier has adjustments for phono-input resistance and capacitance, you can experiment to find the combination of settings that sounds best with your cartridge.

low-inductance cartridges, a category that includes some moving-magnet designs, all moving coils, and electret (which have no inductance), are unaffected by cable capacitance and preamp impedance. since a low-inductance pickup doesn't filter its own output, its frequency response is essentially that of the stylus assembly, which must be well controlled if the cartridge is to be accurate. (in fact, the perceived brilliance and "clarity" of some low-inductance designs probably result from a rising high-frequency response produced by an under-damped ultrasonic mechanical resonance.)

compatibility: sensitivity

exact matching of cartridge-output and preamp-input sensitivities is not necessary. modern amplifiers generally have enough headroom to accommodate cartridges with higher-than-average output and enough extra sensitivity for pickups with lower-than-average output. but if the cartridge output is substantially lower than 2 millivolts (mV) at the standard test level of 3.54 cm/sec, be prepared to use a relatively high volume-control setting, and expect to encounter audible hum and hiss unless your preamp has a better-than-average signal-to-noise ratio.

test reports are your best guide to phono signal-to-noise (S/N) figures; manufacturers' specs are often misleading, usually having been measured with a short-circuit input instead of a cartridge. of course, if you plan to use a low-output moving-coil cartridge, you will need an amplifier that has an MC input (as many do these days) or an outboard step-up device.

compatibility: mass and compliance

the stylus system in a phono cartridge has a springy resilience which is measured as its "compliance." the tone arm has an "effective mass" consisting mostly of the net weight of the headshell assembly, plus the weight of the cartridge itself. the mass and compliance jointly form a resonant system which tends to vibrate at some very low (infrasonic) frequency. the higher the mass and/or compliance, the lower the resonant frequency; if it is too low (below about 8 Hz) it will tend to be stimulated by motor rumble, disc warps, footfalls, and acoustic feedback. too high a resonant frequency can peak the low-end frequency response. try to avoid the troublesome combination of a high-compliance cartridge in a high-mass arm. (generally speaking, a high-compliance cartridge is one whose optimum VTF is 1/2 gram or less.) many recently designed tone arms have relatively low mass and are fine for use with high-compliance cartridges, but if you have an older tone arm (or even a new one) with medium-to-high effective mass, stick to cartridges with medium compliance—which is to say those with an optimum VTF above 1/2 grams. □
Although he’s now in the restaurant business, Florida resident Sheldon Delsack had training in design and mechanical drawing that was an asset in making his hi-fi installation not only attractive but practical. Weighing a staggering 800 pounds (including the equipment and stored records), the 9-foot-long cabinet is made of 3/4-inch plywood (veneered with wood-grain Formica) on a framework of welded 1-inch-square steel tubing.

The lower section is accessible for servicing from underneath, but the upper section presented something of a problem. This was solved by building a special dolly (again, out of 1-inch-square steel tubing) and mounting it on 500-pound-capacity swivel rollers. Asked how he manages to get his unit onto the dolly, Mr. Delsack replied, “Carefully—with four strong men.” Fortunately, the necessity for this arises only infrequently.

Starting at top left in the picture above and moving across, the cabinet contains a Technics RS-676US cassette deck, a B&K Model 1474 dual-trace oscilloscope (which can be connected to any of the units for test purposes), a B.I.C. Beam Box antenna, and accessory remote-control units for both tape decks. The second tier is made up of a Teac AN180 Dolby noise-reduction unit, an SAE 5000 impulse-noise-reduction unit, a Marantz Model 125 tuner, and a storage drawer. The small item to the right of the tuner is a record brush. The two units at the bottom of the upper section are a dbx Model 2bx dynamic-range expander and an Audio Pulse Model Two time-delay system.

At the left end of the horizontal section is a Teac 2300S open-reel tape deck, behind which are speaker-selector switches and controls for the four small fans used to keep everything cool. In the center, back-to-front, are located an SAE 2200 power amplifier, a Soundcraftsmen RP2212 equalizer, and an SAE 1M preamplifier. The Harman Kardon ST-7 Rabco-arm turntable at the right is equipped with a Promethian (custom-reworked Grado) cartridge. At the far right is record-storage space.

Each of the open-backed speaker enclosures is made of the same veneered plywood as the equipment cabinets and houses a stacked pair of ESS AMT-1A speaker systems. The time-delay system employs a pair of Realistic Minimus speakers. To complete the picture, small lamps are built into the equipment cabinets, and the planter at the top right is really “growing space” for new equipment.

The entire system took a month to design and about eight months, on and off, to build. Quite obviously, Mr. Delsack’s hobbies include cabinetmaking and metal and foundry work. He also dabbles in photography and spends a good deal of time designing and building motorcycles.

Have you installed your system in some special or interesting manner that might contain ideas other readers could use for their setups? For us to judge whether your system qualifies as an “Installation of the Month,” send a clear snapshot and a brief description of the components to Stereo Review, Dept. IOTM, One Park Avenue, New York, N.Y. 10016. Please include return postage.
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A Stereo Review Forum on
WHAT MAKES A GOOD PHONO CARTRIDGE
Sixteen industry experts discuss the engineering aspects of performance for one of audio's most highly developed technologies
Moderated by Robert Greene

It has been said that the wonder of modern record-playing equipment is not that it works so well, but rather that it works at all. This is really a tribute to that marvelous device, the phonograph. Given the hypothetical problem of designing—from scratch—a mechanism to play today's highly refined and complex records (assuming that they somehow existed in a cartridgeless world), engineers might say it couldn't be done. Elsewhere in these pages you'll get some idea of the Herculean tasks (on a minuscule scale, to be sure) these units must perform. They require the highest level of the watchmaker's and lapidary's art exquisite-ly combined with the sciences of metallurgy, physics, magnets, and electronics.

Fortunately, however, the cartridge evolved along with the phonograph record. Perhaps the present level of performance could have been reached only through such a process; without the incentive of constantly improving records, cartridge improvement would have been unnecessary, and without cartridges to realize their virtues, improved records would be useless. As a perhaps inescapable by-product of this complex process, the audiophile finds himself inundated with cartridge information and misinformation.

To help our readers see what these problems are, how they are being solved, and how the designers feel about them, STEREO REVIEW conducted a survey among the chief technical personnel of a number of cartridge manufacturers. As in previous symposia of this kind, our questions were designed to draw out fact, opinion, and even emotion. What follows was extracted from nearly fifty pages of technical (and some not-so-technical) comments from our respondents. For the sake of brevity and clarity, we have distilled and at times paraphrased the original remarks. We have, of course, done our best to present accurately the content and intent of our forum contributors' responses. If we have at any point gone astray, we tender our apologies to the parties involved; insofar as we have succeeded, some light should be shed on a much misunderstood subject.

From the standpoint of audible performance, what cartridge measurements are most meaningful?
The great variety of opinion elicited by this seemingly simple question was explained succinctly by Denon: there are no agreed-upon standards for the cartridge specifications quoted by manufacturers. Sonus concurred, adding that "unfortunately, with today's high-quality cartridges, measurements and specifications are often of little help in defining the subtleties of audible performance." Despite a somewhat pessimistic opening, Denon did note that effective tip mass and stereo separation are the two key specifications from a listening point of view. The tip-mass specification implies a veritable flood of data on how well the cartridge will couple with the record groove, its ability to provide high-frequency detail, the quality of stereo imaging, etc. Nagatronics' position on specifications was that a good frequency response is important and reflects the overall quality of the cartridge, but distortion figures, not frequently published, would be far more revealing and provide considerable insight into the performance potential of the cartridge.

Astatic was explicit, listing the measurements in descending order of importance: trackability (see the Glossary on page 60), frequency response, separation, output level, and inductance. The thread of "track-ability" ran through most of the replies. Since Shure has been concentrating on just this factor for some time, their reply was not surprising: "Trackability is generally the least understood, the most taken for granted, and the single most important cartridge characteristic. It is the result of a judicious balance of design factors. Insufficient trackability will result in gross distortion. It is analogous in a more complicated way to a low clipping level in an amplifier. Of course, once good tracking is achieved, other factors such as uniform frequency response and reduction of geometric distortion must be dealt with." The regard for tracking is implicit in B&O's comment as well: "The obvious fact that, to reproduce a record correctly, the stylus must remain in constant contact with the groove and deform it as little as possible is often forgotten in today's world of fashionable, exotic phonocartridges. In spite of many suggestions, no single measurement adequately specifies this ability. Assuming stylus/groove contact, the next most important specification is stillprobably frequency response." Stanton did not disagree, but their emphasis was different: "A cartridge may track flawlessly, but internal resonances of the moving system and the electrical resonance may change the shape of the pickup. Tracking ability is a basic condition which should be met. From the standpoint of audible performance, frequency response and ability to respond to transients are key specifications once the condition of positive tracking is achieved." ADC detailed different points, but central to them was good tracking: "Assuming no mistracking, a cartridge, in order to be free of the common audible problems, would have no significant amplitude or phase errors in either its mechanical and..."
enough mass that it can track at relatively high forces. Although tracking ability is seldom a problem per se in modern cartridges, mistracking of a more subtle kind may still be encountered, particularly with some of the new audiophile discs. Empire's terse comment was that, whatever its origin, any form of mistracking generates considerable distortion.

What influence does cantilever material and construction have on cartridge performance?

Audio-Technica's response to this question provided considerable insight into the problem: "The cantilever transmits to the generating element the vibrations which the stylus tip picks up from the record. In order to do this with accuracy, it is necessary for the cantilever to be at once as light as possible and as rigid as possible. The less tendency a cantilever has to flex, the greater its ability to transmit the information in the record groove accurately. However, increasing cantilever stiffness without a corresponding mass reduction may not result in improved performance. Likewise, reduction in mass taken to an extreme may result in a cantilever of insufficient stiffness."

Pickering's view was that exotic cantilever materials should be evaluated on the basis not only of their cost, but on their mechanical performance: "The cantilever should be light, strong, non-resonating, electrically conductive, reasonably easy to manufacture, dimensionally precise, and durable. Cantilever materials like diamonds and sapphires do not meet these requirements in several areas. Most of the exotic materials being used in a relatively small number of very expensive cartridges exhibit fairly high dynamic tip mass. Such a cantilever assembly has sharp resonances at ultrasonic frequencies, and the vibration can damage the groove walls. Solid diamond and sapphire cantilevers are non-conductive, extremely difficult to manufacture, and excessively expensive. The strongest and lightest cantilever is a hollow tube. No matter how much lighter than aluminum the basic material is, it is heavier when the cantilever is made of solid diamond or sapphire rod. Other exotic metals may offer better alternatives than diamond or sapphire, but their stiffness-to-weight ratio is not much better than aluminum and their cost is extremely high."

Adcom agreed, adding that "sapphire, ruby, and diamond materials offer great promise for future designs, but they offer maximum advantage only when formed into thin-walled tubes (laser drilling is one method)." Astatic agreed, and Shure pointed out that the mechanical characteristics of the cantilever become increasingly significant in respect to a cartridge's tracking ability as the frequency of the recorded signal goes higher. Ortofon indicated that the desirable combination of low mass and extreme rigidity can be achieved by combining different cantilever shapes (stepped designs, tapered designs, etc.) with various construction materials.

Looking at another physical aspect, Empire cautioned that using some exotic space-
age material may actually degrade performance unless the material can be fabricated to a design that takes advantage of its special properties.

Denon takes a pragmatic approach, stating that their present use of a vapor-condensed boron cantilever just happens to be their way of arriving at the desired result: "The choice of cantilever material should depend on the overall cartridge design. If it works well, then the material is good. We don't believe there is any magic cantilever material."

How important do you find stylus-tip shape in respect to (1) the ability to trace high frequencies, (2) distortion, and (3) the tendency to accumulate dust and groove debris?

Ortofon, ADC, and Empire all mentioned that the best performance can be obtained through the use of styli that have a large contact area and small scanning radii, ADC explaining that the former distributes tracking force over enough groove-wall area to prevent excessive groove indentation and the latter extracts high-frequency information from the innermost grooves. But within this general agreement the thinking differed somewhat. Denon and Nagatronics felt that no single tip shape is best for all purposes, and reactions from users of Denon cartridges (which have five different tip shapes available) seem to indicate that preference for the sound and type of distortion produced by each tip shape is essentially a matter of taste. For example, conical tips track worn surfaces with less noise and distortion, but they do so with some loss of musical information.

Astatic and Audio-Technica held that playback-stylus shape resembling that of the cutting stylus is desirable, the latter adding that unfortunately "the greater the conformity, the greater the difficulty in aligning the cartridge precisely." On this point, Sonus indicated that the more exotic tip shapes are very critical with regard to form, polish, and accuracy of mounting: "If great care is not taken with these criteria, one is better off with simple spherical or bi-radial tips." Shure pointed out that one important result of the better tracking ability of such shapes is that it minimizes the very high-frequency distortion that could be shifted down into a more audible part of the audio spectrum through intermodulation.

The only respondent differing somewhat on this issue was B&O, who observed that though shape was vital in the heyday of CD-4 and though it remains a factor in the highest-quality applications of today, other design parameters are more important: basic performance. In regard to the dust problem, B&O said, "Dust accumulation is a function of the polish on the entire stylus surface, not just of the very tip or of the shape of the tip." Shure stated that if the stylus' projection from the cantilever is too short it will tend to retain dust and debris and so necessitate frequent cleaning; if it is too long, torsional (twisting) effects may occur. Stanton commented that accumulation of debris at the stylus tip may be due to electrostatic attraction of the cantilever or to the kind of liquid cleaner used on records or styli, but that the shape of the stylus tip has little to do with this unless it starts scraping the bottom of the groove. In any case, all panelists agreed that records should be kept scrupulously clean.

Do you believe that any one type of cartridge transducer design (moving magnet, moving coil, etc.) is inherently superior?

As expected, a number of companies extolled the virtues of their proprietary designs in terms not much different from those found in their ads. What was a surprise was the number of respondents who, like ADC, felt that state-of-the-art cartridge design is possible with any type of generating system, and that the quality of a phono cartridge resides in the execution of the design.

Shure put their emphasis on "the design of the cantilever, tips, and suspensions, major parts of the cartridge's performance. All designs share these elements, which are not associated with any particular transducer principle." B&O agreed, stating that the means used to transfer stylus movement to the armature is much more important than the type of transducer. Denon makes both moving-coil and moving-magnet types, so they conduct continuing research on both, they assume that the question will remain unresolved indefinitely—except in the mind of the end purchaser.

Stanton felt that the moving-coil designation is frequently a misnomer. In their view, most moving-coil cartridges are actually moving-iron types due to the bobbins (small spools) on which the coils are wound. If the soft metal bobbins were removed there would be almost no signal produced.

How does tracking force affect record and stylus wear, and what other factors are involved?

ADC pointed out that either too high or too low a tracking force can cause groove-wall damage; for minimum wear and proper tracking, a figure at the center of the manufacturer's specified range should usually be used. Micro-Acoustics commented that tests have shown that records on the records played can cut record and stylus life in half. They mentioned that other factors such as arm mass, arm friction, unbalanced skating force, and warped records can all demand increased tracking force for good performance. And Denon cautioned that too low a tracking force is detrimental to records and styli. After all, a diamond flailing through the groove at massive G forces is all the vinyl needs as an excuse to deteriorate. The simplest and most effective way to preserve both stylus and record is to keep them both immaculate.

Ortofon started by pointing out that there is an inverse relationship between record wear and stylus wear that has to be taken into account. They feel, however, that a more important factor is the amount of actual stylus-contact area over which the tracking force can be distributed. In other words, the stylus-tip contact area, the lower the record wear. Astatic was generally in agreement with this and with the slightly-heavier-is-better thinking mentioned earlier, and Audio-Technica commented that stylus pressure is the more important consideration: a line-contact stylus permits an increased tracking force with decreased stylus pressure compared to other stylus configurations. Stanton noted that pressure per unit area applied over the correct part of the groove is the key factor in low record wear. High compliance is a must for large, low-frequency excursions, and low dynamic tip mass is essential for high frequencies; record and stylus wear are in direct proportion to both of these properties.

Sonus played down tracking force per se as a factor in record wear, stating that as long as it doesn't exceed 1 1/2 to 2 grams and the stylus is well polished, then groove contamination, a damaged stylus, and mistracking are much greater wear factors. Empire held that the shape and polish of the diamond tip are just as important as tracking force.
Do you have objections to or preferences for any of the currently available test discs? In general, how valid is the respect to revealing cartridge quality are they?

While there was a certain division of opinion among the panelists, the consensus seemed to be that test records can be useful provided one is familiar with their limitations. Audio-Technica felt that their own test discs as well as those from JVC and Shure are "reliable" and those from B & K "useful," but that those from CBS aren't "state-of-the-art." Ortofon was rather neutral, stating that they don't find any of the present test records to be either deficient or superior. Micro-Acoustics provided a "laundry list" of test records (mostly CBS) they like, but each for a specific purpose. Stanton felt that too much doctoring of test records takes place—and that the most accurate test records commercially available are those from JVC.

Adcom liked at least two of the CBS test records but found that many other test records can give unreliable results. Nagatronics commented: "Most currently available test discs involve a great many compromises, but they do serve as comparison standards within the laboratory." The limitation they find, however, is that because the consumer is unfamiliar with the discs' defects, the required lengthy explanations make the presentation of test results difficult. Shure continued along somewhat the same lines when they said that all test records can give usable results if their calibration is known, but that the consumer is too ignorant to know. For example, there are significant differences in crosstalk with the same pickup measured on CBS STR-100, B & K QR 2009, and JVC TRS 1003, and it is difficult to know which is closest to the 45-degree standard. Test records, they concluded, are useful, but they do serve as comparison standards. Audio-Technica pointed out that there is no specific magic resonant frequency but only an approximate range (8 to 12 Hz), since tone-arm and cartridge weights and stylus compliance vary considerably. A number of the panelists mentioned figures around 10 Hz. Audio-Technica felt that while there are optimum tone arms for specific cartridges, there is no optimum arm for all cartridges. They also stated that the stylus tip should be vertical to the record surface and that the cartridge must remain stable relative to the stylus. Shure held that while installation is important, but not a matter of life and death. Shure held that while installation should be done as carefully as possible, minor misalignments do not seem to produce audible disasters. Stanton pointed out that though cartridge installation is important for maximum separation and lowest distortion, even the most careful lateral alignment can be negated by incorrect antiskating compensation, physically biasing the cantilever off its centered position.

Adcom, however, stated that proper installation is vital, and Ortofon held that it is extremely critical in order for the cartridge to perform at its design parameters. Audio-Technica put it, "conventional phonograph recordings will be around for many years to come." Shure's reasoning was that the LP will be with us for a considerable time because it affords good value for the money and has many practical conveniences. ADC pointed out that the vast amount of existing software (records) in the present form will continue to require high-quality devices to play them. Stanton, Astatic, Nagatronics, Micro-Acoustics, Pickering, and Ortofon all held pretty much the same opinion. B&O felt that the digital disc will ultimately replace the present analog type (they didn't say when), and Denon's respondent, despite being very high on digital, says he wouldn't stop buying records in the near future. Empire felt that a practical digital-disc system will provide little performance advantage over a good analog LP system. They added, however, that "since many technocrats in large organizations believe that a complex state-of-the-art design is always better, we will have to accept the inevitable compromises."
itability of considerable lobbying for video-
disc-derived technologies” but that accep-
tance of a final system may take longer than
presently anticipated because of the inevit-
able major confrontations between different
digital systems.

Sonus envisioned somewhat the same
kind of future and elaborated: “To be eco-
nomically viable, industry standards must
be adopted, and that will probably not hap-
pen without a considerable struggle be-
tween the giants of the industry. Furthermore,
there is a great danger that when
such standards are agreed upon, they will
be such as to limit the highest attainable fi-
delity due to considerations of cost. Mean-
while, the analog disc is still capable of
enormous improvement and may render the
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Do you have any suggestions to pass on to record-player and preamplifier manufacturers that would make your job as a cartridge designer easier?

Aside from the single simple request (from Astatic) for a permanent mark on the turntable to indicate optimum tip position, the items our engineers wanted to find in their technological Christmas stockings were complex but fairly uniform. As Ortofon put it, standardization of such parameters as cartridge/headshell overhang and tracking angle, and a standard mounting socket for the headshell, would yield better cartridge and tone-arm interfacing and performance. Concurring with this point of view to one degree or another were Audio-Technica, Shure, and ADC.

Standardized load capacitance in turntable cables and in preamplifiers was called for by Ortofon as well as Audio-Technica and ADC. Pickering would be happy if preamp manufacturers would publish (or even be aware of) the input capacitance of their preamplifier circuits. Also in the preamp area, B&O requested that manufacturers stick to standards established for input impedance and not make "improvements" with oddball values.

Stanton suggested that record-player manufacturers should specify the dynamic mass of their tone arms correctly and without exaggeration. This would permit the cartridge maker to suggest proper cartridge/tone-arm combinations with specific tracking-force recommendations.

Denon and ADC were somewhat pessimistic, Denon stating that suggesting standards that will not be met is useless and that it is up to the cartridge manufacturer to make his product workable in as many situations as possible. ADC's comment was "Standardization obviously would be helpful, but given the biases of competing manufacturers and differing technologies this is highly unlikely."

Are there any other matters you think should be commented on in this subject area?

Audio-Technica brought up quality control: "Intensive quality control is a vital part of manufacturing uniform consumer products. The real measure of quality is whether the same performance attained in a lab report is consistently available to consumers who purchase the product in retail stores."

Astatic pointed out that phono-cartridge specifications must be carefully considered in relation to the total system and particularly to the tone-arm/turntable combination in which a cartridge is mounted. They felt that it's their job to give the consumer reasonable choices and recommendations, but that it's also up to the consumer not to misuse equipment for which he has such information available if he expects reasonably good performance.

ADC, Denon, and Empire saw transducer design and execution as an evolutionary process that can only get better. Many of the problems, said ADC, are extremely complicated, and all are interrelated, but they are solvable. Empire closed with an old but still valid truism: the most cost-effective improvement you can make in your hi-fi system is to upgrade your cartridge.

**THE FORUM PANEL**

Duane E. Punkar, The Astatic Corp.
John Kuehn, James O'Neill, and Eric Park, Audio Dynamics Corp. (ADC)
S.K. Pramanik, Bang & Olufsen a/s (B&O)
Robert Heiblim, Denon America, Inc.
Roland Wittenberg, Empire Scientific Corp.
Newton A. Chanin, Adecom
Norman H. Dieter, Micro-Acoustics Corp.
David B. Monoson, Nagatronics Corp.
George Alexandrovich, Pickering & Co., Inc.
Bernhard W. Jakobs, Shure Brothers, Inc.
Peter E. Pritchard, Sonic Research, Inc (Sonus)

**Note:** Space limitations precluded our canvassing all existing cartridge manufacturers for this forum. Those selected, we feel, present a representative sampling of viewpoints.
THE NEW FRONTIER IN 4x4'S THE 18-MPG FORD.

BEST GAS MILEAGE
Efficient '81 Fords set a new mileage record: 24 est. hwy., 18 est. EPA est. MPG.* No other American-built 4x4 can touch that. Neither can lots of 2WD pickups.

4-SPEED OVERDRIVE
Only Ford offers this new option in a 4WD vehicle. It's one reason for Ford's dramatic 20% boost in fuel economy for '81.

HIGHEST TORQUE SIX
The same husky 300 Six that leads in MPG also turns out more torque than any competitive Six.

LOW-DRAG TRANSFER CASE
Ford's 2-speed chain-driven case minimizes power loss, increases 2WD efficiency.

INTEGRAL SKID PLATE
Cover plate of the front differential wraps underneath for extra off-road protection against ruts and debris.

THE ONLY INDEPENDENT FRONT SUSPENSION
Tough Twin-Traction Beam is the only IFS in a standard-size 4x4. Each wheel works independently for a stable ride plus off-road control.

SLEET GAS MILEAGE
Efficient '81 Fords set a new mileage record: 24 est. hwy., 18 est. EPA est. MPG.* No other American-built 4x4 can touch that. Neither can lots of 2WD pickups.

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Only Ford offers this new option in a 4WD vehicle. It's one reason for Ford's dramatic 20% boost in fuel economy for '81.

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The same husky 300 Six that leads in MPG also turns out more torque than any competitive Six.

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Ford's 2-speed chain-driven case minimizes power loss, increases 2WD efficiency.

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Cover plate of the front differential wraps underneath for extra off-road protection against ruts and debris.

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Tough Twin-Traction Beam is the only IFS in a standard-size 4x4. Each wheel works independently for a stable ride plus off-road control.

FORD DIVISION
Marilyn Horne as Isabella, L'Italiana in Algeri
(Photo by James Heffernan/Metropolitan Opera Assn.)
**STereo Review’s Selection of Recordings of Special Merit**

**Best of the Month**

- **Rossini’s Sparkling L’Italiana in Algeri**

Giocchino Rossini’s productivity was legendary, but what he managed to accomplish in a span of two years (1812-1813) seems unbelievable even by his remarkable standards. The magic of Venice might have had something to do with it: it was there that his L’Inganno Felice was introduced on January 8, 1812, with startling success. Before the year was out, two more Rossini operas had had their Venetian premières and another two had been introduced in Ferrara and Milan. Not one of them was a failure, and they seem to have set the stage for the even more remarkable harvest of 1813, which yielded apace Il Signor Bruschino (January), Tancredi (February), L’Italiana in Algeri (May), and Aureliano in Palmira (December). All except the last were introduced in Venice. Tancredi had one great tune that all Italy hummed and whistled (“Di tanti palpiti”), but it was L’Italiana in Algeri that was instantly embraced in toto. Its music, said Rossini biographer Stendhal, could not have been better suited to the pleasure-loving characteristics of Venetians, the most light-hearted public in the world.

Italian opera buffa was never a parade ground for male chauvinism: the outwitting of credulous males by clever females is a recurrent theme in these works, and it is enlivened in L’Italiana in Algeri by a somewhat exotic conflict of cultures. The opera’s story is an old one. Shipwrecked on the shore of Algiers, where her lover Lindoro is held captive, Isabella, an Italian lady, proceeds to rescue him by captivating and outwitting Mustafà, the Bey of Algiers. The exoticism is merely a flavoring, of course, for the plot is too farcical to take geography and ethnicity into any but the most frivolous account. But the combination of a frequently hilarious libretto and Rossini’s sparkling music results in a delightful comic totality that springs to triumphant life in a new RCA recording, the opera’s third.

Isabella is one of Marilyn Horne’s internationally admired characterizations. The role combines humor and fiery temperament, and Horne communicates both with zestful vivacity, tonal richness, and an all-around bel canto mastery that is unfazed by the music’s technical challenges. Her admirable foil Samuel Ramey (Mustafà) meets her on an equally high level. Not a true buffo, yet anything but a stiff vocalist, he wisely stresses the ominous side of the character’s personality, singing firmly, resonantly, and with admirably clear articulation.

Operagoers familiar with the often documented excellence of these two artists will not be startled to find them in such marvelous form here. They will be surprised, however, by Ernesto Palacio, a true tenore di grazia to the Rossinian manner born, who modulates his voice with extraordinary skill and executes the florid passages with rare finesse. In the highest reaches of the scale his otherwise pleasing tone takes on a slight “pinched” quality, but this happens in a range many others are unable to negotiate at all. Mr. Palacio is a find. So, of course, is Kathleen Battle, a soprano clearly destined for bigger things; even in the modest role of Elvira she is a joy to hear, her limpid notes ringing out clearly above the ensembles.

Nicola Zaccaria’s bass is a bit dry, but he delivers Haly’s aria “Le Femine d’Italia” skillfully, and though Domenico Trimarchi’s vocal resources are unspectacular, his expert comic timing supports them very well. Claudio Scimone’s leadership is distinguished more for clarity and precision than any special Rossinian verve, but with these splendid principals to work with he could hardly lose.

This is the most complete edition of the opera’s three recorded versions. It also offers (on side six) four alternate arias Rossini composed after the 1813 première. One of these (“Sullo stil de’
STEREO REVIEW

Launched in 1950, Stereo Review is a monthly magazine about music, film, and technology.
Poetry Man will feel themselves left high and dry by this album, but roughing it a little ought to be good for that bunch. They'll come around anyway, like the rest of us; this album is a real charmer.

—Noel Coppage

PHOEBE SNOW: Rock Away. Phoebe Snow (vocals, guitar); David Landau (guitar); Craig Doerge (piano); Doug Stegmeier (bass); Richie Cannata (saxophone); Liberty DeVitto (drums); others. Cheap Thrills; Baby Please; Gasoline Alley; Rock Away; Mercy, Mercy, Mercy; Games; Down in the Basement; Shoo-Rah Shoo-Rah; Something Good; I Believe in You. MIRAGE WTG 19297 $7.98, ©CS 19297 $7.98.

TREVOR PINNOCK is without a doubt one of the finest of today’s young harpsichordists. He espouses authentic performance practice, and his special gift is an ability to translate the mannerisms of early performance style into a contemporary mode that respects the past but is at the same time musically valid for a modern audience. Virtuoso technique, fine musicianship, and a sense of projection are all characteristics of his playing.

Pinnock has lived with J. S. Bach’s famed Goldberg Variations for some years now and has performed them in public frequently; his reading for Deutsche Grammophon Archiv is therefore thoroughly seasoned and mature. His scaling of the work brings out Bach’s intricate design of exploring the intellectual, the virtuosic, and the emotional aspects of the original aria. At first there is little contrast among these three aspects, but as the work progresses the design becomes more and more clear until it is almost painfully explicit in the last pages, where pathos, carefulely controlled the better to define the character’s inner agony. It is a beautiful piece of work, and to realize that it comes from the very same singer who gave us the volcanic What’s the Matter Baby? on “Nightout” is to be astonished.

In short, Foley has a dramatic range possessed by few other singers of her generation. This album may make her a star, but I hope not too soon. Stardom is almost a prerequisite these days if a musician is going to earn a decent living, but it might foreclose on the development of a remarkably gifted singer into a real dramatic artist.

—Joel Vance

ELLEN FOLEY: Spirit of St. Louis. Ellen Foley (vocals); instrumental accompaniment. The Shuttered Palace; Torchlight; Beautiful Waste of Time; My Legionnaire; Theatre of Cruelty; How Glad I Am; Phases of Travel; The Death of the Psychoanalyst of Salvador Dali; M. P. H.; Game of a Man; Indestructible; In the Kiling Hour. EPIC/CLEVELAND INTERNATIONAL NJE 36984 $7.98, ©JET 36984 $7.98.

Ellen Foley Delivers A Most Impressive Album in the Difficult Cabaret Genre

Ellen Foley had one of the best rock albums of 1980 with her “Nightout,” but the new “Spirit of St. Louis” is a significant stylistic departure from it. The risk was great, but she took on the cabaret/art-song genre and came up with a most impressive album—repeat: most impressive.

Just as impressive is the production by Mick Jones, who also (with Tymon Dogg and Jones’ fellow Clash members Topper Headon and Joe Strummer) wrote most of the material. The songs are European rather than British or American in attitude, content, and outlook. The most arresting of them is The Death of the Psychoanalyst of Salvador Dali. It has appropriately surreal lyrics, and though like Dali himself it skirts the artsy-craftsy rather than the artistic at times, I admire Strummer and Jones’ ambitious choice of subject matter. Foley’s vocal is part melody and part a kind of recitative, and I admire her ambition too.

Beautiful Waste of Time, by Tymon Dogg, and How Glad I Am (listed as by Williams-Harrison with no further information given) are as close as the album comes to standard pop. Foley herself wrote Phases of Travel, an interior monologue set to music. But the knockout performance is My Legionnaire, the English-language version of a song made famous many years ago by Edith Piaf. Avoiding Piaf’s bravura style, Foley gives the song a subtle reading in which outward emotional clues are
STANLEY CLARKE AND GEORGE DUKE: no mere dabblers

intellect, and technical brilliance are juxtaposed in all their extremes. Pinnock underlines this growth, masterfully sums it up in his solid reading of the *quodlibet*, and returns us to the serenity of the opening aria that precipitated these awesome musical events.

An additional point of interest in this new recording is the harpsichord Pinnock uses: it is a 1646 Andreas Ruckers (the younger) enlarged by Taskin in 1770-1780 and restored by Hubert Bédard in 1968. The tone is superb and the registrational possibilities are great. Pinnock takes fullest advantage of them, but only to enhance the structure of the music.

No matter how many *Goldbergs* you may already have, add this one to your Bachshelf immediately; it has something for everybody. Even though I recognize the dangers of the word, using it rarely and with the greatest caution, I will apply it here: this is a *definitive* performance. —Stoddard Lincoln


Over the past few years, the individual recordings of bassist Stanley Clarke and pianist George Duke have not always pleased me aesthetically, but I never doubted that the two had musical talent. In fact, if I was hard on them—and I have been at times—it was because it bothered me to see that talent stroll down Fusion Alley (not all treks down that path are without some merit, of course).

I must confess that when I learned Clarke and Duke had teamed up for an album, I expected a fusion effort of the monstrous kind, but that is not at all what Epic's new "The Clarke/Duke Project" has to offer. Aided only by John Robinson, a suitably versatile drummer, Clarke and Duke have left the fashionable poolside of jazz behind them and plunged headlong into some pretty deep pop waters. The result is a wonderful musical splash that should establish them as leading figures in a field with which they have previously only flirted. No mere dabblers here, the new team serves up a healthy round of music, proving—as both performers and writers—that when players of their experience and sophistication cross over with the proper enthusiasm they can play rings around many an inept pop striver. Clarke and Duke are a perfect team, and they are obviously having a ball working together.

*Louie Louie*—the only tune not written by either of the two—is a cleverly executed parody of white rock that has the erstwhile jazz fusioneers stepping so completely out of character that they risk having their clever disguise detract from the subtler merits of the perform
Stanley Clarke and George Duke: The Clarke/Duke Project. George Duke (keyboards, vocals); Stanley Clarke (bass, guitar, sitar, cello, vocals); John Robinson (drums). "I Just Want To Love You; Louie Louie; Never Judge a Cover by Its Spine; Want to Love You; Touch and Go; Sweet Baby; Let's Get It On; Book; Finding My Way; Winners; Wild Honey; Louie Louie; Never Judge a Cover by Its Spine; Start It Over; Chris Albertson. The Clarke/Duke Project. George Duke (bass, guitar, sitar, cello, vocals); John Robinson (drums). Hound Dog; Touch and Go; Sweet Baby; Let's Get It On; Book; Finding My Way; Winners; Wild Honey; Louie Louie; Never Judge a Cover by Its Spine; Start It Over; Chris Albertson. The Clarke/Duke Project. George Duke (bass, guitar, sitar, cello, vocals); John Robinson (drums). Hound Dog; Touch and Go; Sweet Baby; Let's Get It On; Book; Finding My Way; Winners; Wild Honey; Louie Louie; Never Judge a Cover by Its Spine; Start It Over; Chris Albertson. The Clarke/Duke Project. George Duke (bass, guitar, sitar, cello, vocals); John Robinson (drums)."
Classical Music Briefs

At a ceremony in Paris, newly decorated Lorin Maazel is flanked by CBS vice presidents Peter de Rougemont (left) and Ervin Veg.

Prizes and awards abound during late spring and early summer. American conductor Lorin Maazel was awarded the French Légion d'Honneur, and Dutch soprano Elly Ameling was given an honorary doctorate by the University of British Columbia. This year in Munich the annual Ernst von Siemens Musik Preis—a whopping $78,500—was awarded to Elliott Carter. The first American composer to receive the prize, Carter said, "My cello sonata was excellently played at the ceremony and seemed to be liked by the large audience." Freeman said, "I don't really think the prize means very much except perhaps in terms of promoting a career. My Second Piano Concerto was submitted this year but without expectations because no composer who likes to write tunes or feels a commitment to memorable melody as an essential component of music will ever get anything but the most grudging recognition from the musical establishment." Eric Salzman, who with Michael Sahl won the Prix Italie for the opera buffa Civilization and Its Discontents (just released on Nonesuch), said, "Interesting new music is not being heard in places where members of the Pulitzer jury are likely to be listening, and I think the spirit of the mandate, not the letter, should be observed. A composition shouldn't have to be an opera or a piano concerto to win the Pulitzer Prize." Joan Peyser, author, critic, and editor of The Musical Quarterly, said, "I think it's an outrage. There are already enough people out there attacking the state of music today without having our own judges in the field state publicly and officially that in a whole year nothing was played that was worthy of the prize. This is a stingy response. What are they trying to tell us? That music has declined in quality since the great ages of the past? Surely, this is not the best time for high art, but there are still composers working as effectively as the journalists and authors who did receive prizes. I can think of several pieces premiered in 1980 that I could have voted for with no embarrassment at all." —W.L.

The young American operatic bass Samuel Ramey has built his repertoire and his reputation at the New York City Opera Company, performing in such works as Donizetti's Anna Bolena and Boito's Mefistofele, and he is now doing the Chaliapin roles on both sides of the Atlantic. Last fall, after switching from the title role to that of Leporello in Mozart's Don Giovanni at the NYC Opera, Ramey flew off to Europe to sing the lead in Massenet's Don Quichotte in France, Banquo in Verdi's Macbeth in Germany, and the title role in Mozart's The Marriage of Figaro in Holland.

At the ceremony in Paris, newly decorated Lorin Maazel is flanked by CBS vice presidents Peter de Rougemont (left) and Ervin Veg.

"The Don Quichotte went especially well," Ramey says, "and I've been trying to persuade Beverly Sills to put it on at the New York City Opera." This spring Ramey returned to home base long enough to score a triumph in Verdi's Attila (see photo) and then flew back to Europe. After making his debut at Milan's La Scala as Mozart's Figaro (the conductor was Riccardo Muti) in May, he is scheduled to record that role for London Records with Kiri Te Kanawa, Lucia Popp, and Thomas Allen under conductor Georg Solti. Then he goes on to Vienna for a Staatsoper debut as Escamillo in Carmen.

All that travel does not bother Ramey. "I haven't yet gotten to the point of thinking that if today is Tuesday, this must be Brussels. My wife and I are enjoying the freedom to be in different places, and, when I go somewhere to sing, we are usually there for a few weeks. For the Scala Marriage of Figaro four whole weeks were set aside for rehearsals!"

Ramey can be heard on a variety of record labels at present. He is well represented on Philips with Bach's Mass in B Minor, Donizetti's Lucia di Lammermoor, Handel's Ariadante, Rossini's Otello, and Verdi's I Due Foscari, and he can be heard in Verdi's Rigoletto on Angel and Rossini's L'Italiana in Alger on RCA (reviewed on page 70). There are others yet to come. "I've recorded the Bruckner Te Deum for Deutsche Grammophon and Bach's Cantatas Nos. 80 and 140 for Philips. I expect to record II Turco in Italia for an Italian company, and it will probably come out here on CBS."
This impressive list of accomplishments has not taken Ramey's breath away, and he speaks of his engagements almost matter of factly. Although he remains a member of the New York City Opera, he explained that he will not be able to sing there in the fall because he will be tied up at the Paris Opera with Carmen and Rossini's Semiramide. Asked if the Metropolitan is in his future, he answered simply, "Well, I don't have repertoire details to release yet, but I have just signed a contract with the Met to sing there in the centenary season of 1983-1984." —W.L.

For the first time in its fifteen-year history, Lincoln Center's Mostly Mozart Festival is taking its act on the road. From July 7 to 11, the Mostly Mozart Orchestra will give guest performances at the Kennedy Center in Washington under conductors Leonard Slatkin and Alexander Schneider. Soloists include such Festival stars as pianists Emanuel Ax, Alicia de Larrocha, Richard Goode, and Lee Lulwisi, clarinetist Richard Stoltzman, cellist Yo-Yo Ma, and the Kalichstein-Laredo-Robinson Trio. The Tokyo String Quartet will also give a concert as part of the Washington visit.

Alicia de Larrocha, the unofficial Queen of the Mostly Mozart Festival, was absent in 1980, but she is compensating with extra performances this year. She will be the soloist at the opening concert on July 13 with conductor Slatkin, she will perform again the following week when Michael Tilson Thomas conducts, and she will give her traditional Mostly Mozart recital on July 28. This year Miss De Larrocha is not adding to her Festival series on London Records, which now consists of "Mostly Mozart, Vols. I. IV," but her recent concerto album with David Zinman conducting the London Sinfonietta includes (in addition to works by Bach and Haydn) Mozart's Piano Concerto No. 12, in A Major (K. 414).

Among artists appearing at the Festival for the first time this year is the Swiss oboist Heinz Holliger. Another name new to Mostly Mozart programs is that of Mozart's most successful rival, composer Antonio Salieri (1750-1825). Peter Shaffer's current hit play Amadeus is about the rumor that Salieri poisoned Mozart. Today Mozart is the most frequently recorded composer (112 new listings in Schwann in 1980), and Salieri is limited to one recording of his Sinfonia in D and four listings of his Concerto in C for Flute, Oboe, and Orchestra. One of those four recordings is Holliger's (Deutsche Grammophon 139152), and he is scheduled to perform the work with flutist Carol Wincenc at the Festival this summer.

Disc and Tape Reviews

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

J. S. BACH: Goldberg Variations (see Best of the Month, page 73)
BARTÓK: Piano Concertos Nos. 2 and 3 (see Best of the Month, page 75)

RECORDING OF SPECIAL MERIT
BARTÓK: String Quartets, Nos. 1-6. Tokyo Quartet. DEUTSCHE GRAMMOPHON 2740 233 three discs $29.94.

Performance: Superb
Recording: Excellent

The Bartók string quartets have certainly never lacked for recorded representation. The Juilliard Quartet recorded them at least twice, Vox has had at least two complete sets over the years, Deutsche Grammophon has done it before (with the Hungarian Quartet), and there are fairly recent versions from Telefunken (the Vegh Quartet) and RCA (the Guarneri). Even Brahms has hardly done as well.

Nevertheless, 1981 is the Bartók centenary year, and, despite the usual ups and downs of reputation, interest in Bartók's music has not waned. Indeed, these latest performances have a youthful beauty and freshness of approach that kicks up the spirit of the music more than a bit. The string quartet was not a stuffy contrapuntal/Classical medium for Bartók, and from the very First—supposedly the most traditional of the six—the Tokyo Quartet takes a lively view of these works. In fact, the performance of the First Quartet is in some ways the most impressive in the set, putting that work, not always regarded as a prime one, in a new perspective. Even the difficult Second Quartet—Bartók's musical journey upriver from Budapest to Vienna—is almost enjoyable here.

The Third, Fourth, and Fifth Quartets, from the heartland of Bartók quartet country, are very impressive. These are not the fastest or the most dissonant or the most rough-skinned quartets, just the most dynamic and expressively beautiful. There is no need for ultrafast tempos or rough tone or harsh accents unless you're afraid of being thought too polite, too well mannered, not sufficiently intense or expressive. That's no problem for the Tokyo Quartet. Intensity and vigor in these performances come from inside, from phrase and accent and rhythmic vitality. They are strong and effective.

JULY 1981
Dazzling Bartók

Combining Bartók's 1910 Two Pictures, Op. 10 (In Full Flower, Village Dance), with his 1944 Concerto for Orchestra makes for an unusually interesting listening experience, and in a new recording conductor Lorin Maazel, the Berlin Philharmonic players, and the Deutsche Grammophon production team all cover themselves with glory in their realization of both scores. This is quite the fullest sound I have heard from the Berlin Philharmonic on disc in many a moon, with the midrange in proper balance and a genuinely full bass, a nice clean high end, and magnificent presence for both the ensemble as a whole and the solo instruments and groups that are successively highlighted in the concerto.

Like some other analog-mastered discs I have heard over the past year, this one needs defer in no way to digital technology, which suggests to me that the remarkable results achieved on the best digital and direct-cut discs have put analog recording teams on such fundamentals as proper room acoustics, simplified microphone setups, and other ways of achieving the best possible sound at the recording session itself rather than leaving everything to the post-mix.

Interprettively, Maazel's reading of the Concerto for Orchestra is one of the three or four most satisfying I have encountered on LP. He preserves Bartók's rhythmic and harmonic edge, goes for the big line all the way, and clearly takes a keen delight in the music's coloristic aspects; the Berlin players stay with him, responding with just the right combination of zest and refinement. The recording team has provided not only an appropriately warm and full-bodied sound but wonderful stereo imaging as well in terms of both depth and localization. The "couples" dancing across the sonic stage in the second movement are a delight, and the overtones of the drum strokes that propel them are all but palpable. I would criticize only a slight over-loudness in the brass chorale episode.

The great slow movement of the concerto makes a shattering impact from its mighty opening cry onward, and the finale is dazzlingly brilliant, with Maazel more effective than most conductors in the molto ritenuto . . . accelerando passage just before the mad rush to the end. In short, this is a wonderfully satisfying record all around, displaying all concerned—composer, conductor, orchestra, and producers—at their very best.

—David Hall


but also beautiful and musical. Even the strange, reflective Sixth Quartet (it always seems to fail a little flat after the dynamism of its predecessors) here reveals itself as subtle, ironic, full of rough humor and inward depth—one of the composer's cleverest and most original works.

These recordings of Nos. 2 and 6 were first released in 1977; the others appear to have been made more recently for this set. They are all models of clarity.


Bartók composed these duos in 1931 (about the time he was completing his Second Piano Concerto) as his contribution to the same pedagogical project for which Hindemith wrote his Fourteen Easy Pieces the following year. The duos brilliantly transcend their occasion and are among the most intriguing products of Bartók's fascination with folk music; all but two of them are based on actual folk tunes (drawn from Arabic sources as well as from throughout East-Central Europe). The pieces are enjoyable in five-minute segments, but no less so heard complete in a single sitting. The variety and subtly increasing difficulty from the Teasing Song that begins the sequence to the Transylvanian Dance that ends it assure the listener of more than simply a jumble of bright miniatures; we might call the whole a Mikrokosmos for strings. The old Supraphon recording by Josef Suk and Andre Gertler, which circulated here on the short-lived Crossroads label, had, I think, a somewhat more idiomatic, folk-flavored approach, yielding qualities that are obscured in the very polished playing on the new Angel. But Perlman and Zukerman, as they could hardly fail to be, are highly ingratiating as well as highly polished, and their commitment is beyond question. The sound is close-up, very warm, and perhaps a little larger than life, but this enjoyable release is well timed to refill what had been a major gap in the Bartók discography. R.F.


Performance Outstanding Recording Excellent

Since the very first release to bear the rather cumbersome name of the fine ensemble skited off the tape and orchestra was an outstanding account of the Schubert Octet (Philips 9500 400, reviewed here in November 1978), it is fitting that we now have this companion—and eminently companionable—version of the early Beethoven work that served as Schubert's model. The performance is extremely sympathetic, and at the same time so polished, that there is little to be said except to congratulate the players and thank Philips for recording it so handsomely. Some listeners may feel that the amiable pace of the final movement is not quite a true presto, but I'm quite comfortable with the tempo throughout, and most especially with the steadiness of tempo within each movement; how good it is to hear the cellist take the trio in the scherzo without the conspicuous down-shift affected in so many performances. It is curious that 'Schwan' lists no other recordings of this work at present, both of them on budget labels. The 1959 version by the Vienna Octet (London STS 15361) still more than holds its own, both musically and sonically, though without quite the rhythmic steadiness or beautiful detail of this new one, which strikes me as the most winning account of the work yet recorded. R.F.

RECORDING OF SPECIAL MERIT

GRAMOPHON 2531 201 $9.98, ORION ORS 80387 $8.98.

Performance: Impassioned, brilliant
Recording: First-rate

GRIEG: Cello Sonata in A Minor, Op. 36.
Roger Drinkall (cello); René Lozano (piano). ORION ORS 80387 $8.98.

Performance: Conscientious
Recording: First-rate

For cello buffs the legendary Feuermann performance (issued originally on 78s and once available in LP format on Camden 292) has always been the touchstone for Chopin's Op. 3. But Mstislav Rostropovich need take no back seat to his illustrious predecessor, even though he adopts a more expansive and free way with the polonaise section. The collaboration of Martha Argerich, whose nimble fingers toss off the glittering passagework with the greatest of ease and rhythmic élan, adds something special to the performance. The same goes double for the far more musically demanding Cello Sonata, whose rondo-sonata last movement points, harmonically and formally, toward the new creative horizons Chopin might have explored had he lived another few years. The elegant Jacqueline Du Pré/Daniel Barenboim reading on Angel has heretofore held the top position among available recorded versions, but in terms of keeping one's attention at highest pitch from start of finish, I find that Rostropovich and Argerich run all competition off the boards. There is terrific sweep and passion here, but not at the expense of musical structure. In short, I never realized before what a really fine work this is. The Schumann piece, with its wistful song-without-words opening section and energetic allegro, also gets a splendid workout. The recording job is outstandingly fine, particularly in the cello-piano balance and the fine room tone. Don't pass this one up.

Messrs. Drinkall and Lozano on Orion are no match for either Rostropovich and Argerich or Du Pré and Barenboim in the Chopin. Theirs is an honest and conscientious reading, but also one that is at times a bit labored. The rather infrequently recorded Grieg sonata fares better. The folk-flavored finale outstays its welcome by dint of excessive repetition of its main motive, but there is strong music in the opening movement, and the slow movement, which recalls the Hommage March from Sigurd Jorsalfar, is a decided improvement on that rather banal piece. Drinkall and Lozano come through with a virile and warm-hued reading that is helped by very effective pacing in the finale. The Orion sonics are tops.

D.H.


Performance: Simple is best
Recording: Not brilliant


Performance: Fast and brilliant
Recording: Brilliant

Well, sometimes simple is best, and certainly Claudio Arrau's light, delicate, gentle

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performed by the Chopin waltzes are winning. The earlier ones are played in quite a steady manner, as if they were actually meant for dancing (which they probably were). The faster, more virtuosic ones tend to be more dancey (usually the reverse is the case). I like the steadiness, but the trick is to hold the line on tempo and, if anything, lay the right hand a little back of the beat. The slow waltzes—the A Minor, the C-sharp Minor, two or three of the posthumous ones—are steady and, curiously, much more dancey (usually the reverse is the case). I like the steadiness, but the trick is to hold the line on tempo and, if anything, lay the right hand a little back of the beat. The slow waltzes—the A Minor, the C-sharp Minor, two or three of the posthumous ones—are steady and, curiously, much more dancey (usually the reverse is the case).

Leonard Pennario's performances, in contrast, are brilliant and virtuosic. The fast waltzes are dance steady, but any potential waltzers had better be ready to move. Waltz time here is a real swirl; everything goes fast and then a bit faster. Paradoxically, I much prefer Pennario's slow waltzes to all his flying-finger fandangos. Whereas in the fast waltzes he is constantly pushing ahead past the front edge of the beat, the slow waltzes—the A Minor, the C-sharp Minor, two or three of the posthumous ones—are steady and, curiously, much more dancey (usually the reverse is the case). I like the steadiness, but the trick is to hold the line on tempo and, if anything, lay the right hand a little back of the beat. The slow waltzes—the A Minor, the C-sharp Minor, two or three of the posthumous ones—are steady and, curiously, much more dancey (usually the reverse is the case). I like the steadiness, but the trick is to hold the line on tempo and, if anything, lay the right hand a little back of the beat.

Considering the many performing editions in which Orfeo may be heard, it is important to establish that this recording is based on the Barereizzare release, which represents the original Gluck/Calzabigi version as performed in Vienna's Burgtheater in 1762. In this respect it resembles the Angel set (S-3717); all other current versions incorporate, to varying degrees, the additional material Gluck prepared for the opera's revised Paris production in 1774. From the historical point of view, going back to the first version is a very commendable undertaking, for it allows us to evaluate Gluck's concept of "azione teatrale per musica" in its original concise and dignified simplicity. On many listeners familiar with the 1774 ballet sequence which the recitatives lack dramatic fire, and the triumphant return to life seems to alter the prevailing stately mood. Even the Furies at the opening of Act II are affected: they are quite a steady manner, as if they were actually meant for dancing (which they probably were). The Furies at the opening of Act II are affected: they are quite a steady manner, as if they were actually meant for dancing (which they probably were).

Although Aaron Copland and his longtime keyboard associate Leo Smit have, between them, recently rerecorded about half the material on this record in up-to-date stereo for CBS, the restoration of these recordings made between 1947 and 1951 is of interest historically and fills in some actual gaps in the composer's current discography. Both Copland himself and Leonard Bernstein, who happened to be the pianists in the 1942 conducted the orchestral version of that work to present to modern audiences. In that opera's revised Paris production in 1774. Considering the many performing editions in which Orfeo may be heard, it is important to establish that this recording is based on the Barereizzare release, which represents the original Gluck/Calzabigi version as performed in Vienna's Burgtheater in 1762. In this respect it resembles the Angel set (S-3717); all other current versions incorporate, to varying degrees, the additional material Gluck prepared for the opera's revised Paris production in 1774. From the historical point of view, going back to the first version is a very commendable undertaking, for it allows us to evaluate Gluck's concept of "azione teatrale per musica" in its original concise and dignified simplicity. On many listeners familiar with the 1774 ballet sequence which the recitatives lack dramatic fire, and the triumphant return to life seems to alter the prevailing stately mood. Even the Furies at the opening of Act II are affected: they are quite a steady manner, as if they were actually meant for dancing (which they probably were).
GRIEG: Cello Sonata in A Minor, Op. 36 (see CHOPIN)

RECORDING OF SPECIAL MERIT

HAYDN: Il Ritorno di Tobia. Barbara Hendricks (soprano), Raffaella; Linda Zoghby (soprano), Sara; Della Jones (mezzo-soprano), Anna; Philip Langridge (tenor), Tobia; Benjamin Luxon (baritone), Tobit; Brighton Festival Chorus and Royal Philharmonic Orchestra, Antal Dorati cond. LONDON OSA 1445 four discs $39.92. © 1981 1445 $39.92.

Performance: Very good

Recording: Excellent

Il Ritorno di Tobia (The Return of Tobias) was written in 1774 for the Musicians' Aid Society in Vienna. It was a great success and was revived in 1784, when it was again very successful, and in 1808, by which time it was considered too old-fashioned even though the score had been "updated" by one of Haydn's pupils. (Revivals in those days, as in pop and show music today, were always brought up to date.) It is the 1784 version that we have on this new recording. Even "fixed up," Il Ritorno di Tobia belongs to the genre of Italian oratorio. Such works were designed to be performed during Lent when the opera houses were closed, and they tended to be discursive, undramatic, and their actions set in ensembles. Haydn, like Handel, was able to break away from the traditional forms and subjects, but here he was still bound by the lyric-architecture of Alessandro Scarlatti, Jommelli, Hasse, and the other great Italian masters of a previous generation. Don't expect to be carried off anywhere by this music, but you won't be able to break away from the familiar style of the score.

The work has been recorded before — even more brilliantly in recordings under other conductors of Hungarian birth (Ormandy's latest version, RCA ARL1-1325, is probably the most fetching of the current listings), but a rash of deletions has eliminated several Kodaly titles, among them the Con certo for Orchestra, from Schumann's catalog. The new Hungaroton disc is especially welcome for making the concerto available again. Ferencsik's approach in the concerto is geared more toward breadth than brilliance, but it does not lack vitality. If this coupling is appealing, you won't be disappointed in these performances or the fine sound.

R. F.

RECORDING OF SPECIAL MERIT

KORNGold: Violanta. Walter Berry (baritone), Simone Trovai; Eva Morton (soprano), Violanta; Siegfried Jerusalem (tenor), Alfonso; Horst R. Laubenthal (tenor), Giovanni Bracca; Ruth Hesse (mezzo-soprano), Barbara; Manfred Schmidt (tenor), Matteo; others. Bavarian Radio Chorus; Munich Radio Orchestra, Marek Janowski cond. CBS M2 35909 two discs $19.96.

Performance: Very good

Recording: Artificial sounding

Even allowing for the familiar case histories of Mozart, Mendelssohn, and Schubert, the prodigious exploits of a latter-day Wunderkind named Erich Wolfgang KornGold (1897-1950) for opera is something of a surprise. As a student of Alexander von Zemlinsky, KornGold, who was also a prodigious composer of a second career, lived under the leadership of Bruno Walter. One of the Violanta has now been recorded in a first-class performance.

Considering the era (1916) and the composer's age, there is a predictable eclecticism about the score. Wagner and Richard Strauss are the main influences, but echoes of D'Albert's Tiefland (1903) are detectable, and even more so to a lesser extent of D'Albert's Tiefland (1903). The story is verismo, if not quite unadulterated. Violanta, married to a Venetian officer at the time of the Renaissance, is determined to avenge the seduction and suicide of her younger sister. She locates the savior, a man of power as well as irresistible charm, and persuades her devoted husband to kill him at a given signal. But Violanta herself strikes, she interposes herself and persuades her devoted husband to kill her husband strikes, she interposes herself and persuades her devoted husband to kill him at a given signal. But Violanta herself strikes, she interposes herself and persuades her devoted husband to kill him at a given signal. But Violanta herself strikes, she interposes herself and persuades her devoted husband to kill him at a given signal. But Violanta herself strikes, she interposes herself and persuades her devoted husband to kill him at a given signal. But Violanta herself strikes, she interposes herself and persuades her devoted husband to kill him at a given signal.

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STOP
Delius' Tristanesque "Magic Fountain"

NORMAN DEL MAR: a sympathetic baton

FREDERICK DELIUS composed The Magic Fountain, his second opera, in 1893, the year after he completed Irmelin. He never heard either of those works performed (nor the fifth of his six operas, Margot-la-Rouge, composed in 1902). Irmelin was finally staged at Oxford in 1953; the première of The Magic Fountain did not take place until July 30, 1977, when the BBC, in London, produced and recorded the concert performance that has now been issued in the U.S. by Arabesque.

The libretto, by Delius himself, has rather stilted language ("Ay! 'tis even as thou sayest," etc.) but is nonetheless touching in its treatment of a tale based on American Indian legends he picked up during his productive sojourn at Solana Grove, Florida. Indeed, we are reminded of the locale in the very name of the work's hero, Solano, a Spaniard shipwrecked on the Florida coast in the sixteenth century in search of a Magic Fountain whose waters confer not immortality, but the prepared to discover the Magic Fountain. As is demonstrated by the better-known, later opera Die Toten Stadt, Korngold was a late Romantic who sustained the Straussian ideals at a time when his contemporaries—Berg, Weill, and Hindemith—were pursuing radically opposed operatic paths. Korngold's essentially melodic writing, spiced with mild dissonances, and his enthusiastic explorations of the erotic in music may antagonize those for whom every kind of Romanticism is a dead issue. For me, Violanta—closer in spirit and aesthetics to Monte-mezzi and Zandonai than to Berg and Weill—is an eminently stageworthy opera.

In any event, The Magic Fountain, which Delius said he wanted to be "essentially Indian," is so well constructed, and flows so smoothly, that it seems shorter than the 101 minutes indicated as the timing of this performance. For this the major credit must go to Norman Del Mar's extremely sympathetic conducting. The principal singers are rather less distinguished. As Watawa, Katherine Pring (a mezzo, not a soprano as listed on the box) perhaps can't help sounding more like a matriarch than a young princess, simply because the part is written so low. As Solano, John Mitchinson, very Heldentenorish, is never less than stentorian, even in tender passages, and both he and Norman Welsby, as the noble Chief Wapanacki, tend to wobble a bit. While these faults can hardly escape notice, the work itself is such a delight and Del Mar's conducting is so apt that they are easily dismissed as minor flaws. The last of the principals, Richard Angas, is glorifying firm and Sarastro-like as the seer, and the well-drilled chorus is especially effective in the Act III episode involving invisible spirits and the God of Wisdom, actually a ballet that takes place while the lovers sleep prior to their discovery of the Magic Fountain.

Some tasteful sound effects have been added for the sake of atmosphere, and the sound is first-rate. I would think a staged production of The Magic Fountain would find an enthusiastic audience by no means limited to dyed-in-the-wool Delians; in the meantime, those same Delians, whose ranks may well be increased by this most welcome recording, can only rejoice over it—and look forward to the similar realization of Margot-la-Rouge that the same producers have promised for this year.

—Richard Freed

DELIUS: The Magic Fountain. Katherine Pring (mezzo-soprano), Watawa; John Mitchinson (tenor), Solano; Norman Welsby (bass), Wapanacki; Richard Angas (bass), Talum Hadjo; Francis Thomas (bass), a Spanish sailor. BBC Singers; BBC Concert Orchestra, Norman Del Mar cond. ARABESQUE 8121-2L two discs $14.96, © 9121-2L $16.96.

This Tristanesque tale brought forth some mildly but recognizably Wagnerian touches in Delius' music (Robert Threftall, in his annotations, reminds us that Delius visited Bayreuth and Munich while at work on this score), but the dominant, unmistakable voice is Delius' own. If the music seems to have a familiar ring, it is not simply because it conforms to his characteristically nostalgic, slightly sweet style; portions of it actually come from some of his other works. Some of the music of the Indians and the Everglades was adapted from the orchestral suite Florida of 1886, and the Prelude to Act II was subsequently reuses to introduce the third act of his next opera, Koanga.

It is a bit of a shock to put on a record conspicuously titled "Mostly Miaskovsky" and hear on the first band a magisterial performance of the Rachmaninoff Prelude in C-sharp Minor. If you look closely, the cover also says "Some Rachmaninoff and Scriabin too." So this record is really a précis of the late-Romantic side of Russian pianist music before the Revolution: Rachmaninoff with his crowd-pleasing bravura, Scriabin with his elliptical, mystical modernism, Miaskovsky with his dark, powerful, personal expression.

Miaskovsky? Some older music lovers may remember rumors coming out of Russia and even occasional performances of Miaskovsky symphonies numbered in the upper twenties. Unlike Prokofiev, Stravinsky, Rachmaninoff, or Scriabin, Nikolai Miaskovsky (1881-1950) never left Russia, and his reputation didn't either. His early period, represented here by a sonata written in 1912 and another from 1920, is in the full-blown post-Romantic tradition, not very distant (as Richard Taruskin points out in his excellent notes) from the early work of Schoenberg—or, one should add, Berg.

Later in his life, Miaskovsky had cause to regret and apologize for the dark pessimism of these works; along with Shostakovich, Prokofiev, and Khachaturian, he was honored by the infamous Stalinist attacks of 1948. That alone might serve to compel our interest in these works; they are personal, inward-looking, strong, and well written. They are also smashingly played by Idil Biret. This Turkish pianist has perhaps not had the impact here that her playing deserves, but her Finnadar records have been frivulous Bracca, and Manfred Schmidt, who does a nice bit clearly modeled on Nara both in Salome. The role of Violanta needs a Salome voice too, and Eva Marton has the range and power for it, if not all the tonal sensuousness. Walter Berry is solid as the husband, and conductor Marek Janow ski gives us all the tension and tonal richness the music demands. That very orchestral richness may, however, have caused some engineering problems—I find the recorded sound compressed, lacking in warmth, and unduly to the singers.

RECORDING OF SPECIAL MERIT


Performance: The best
Recording: Very good

Weill—is an eminently stageworthy opera.
Sir Colin Davis eschews the merely spectacular in his traversal of the Mussorgsky/ Ravel Pictures, with the result that episodes such as "Tuileries" gain a fresh and special realism. Note Davis' subtle hesitation at phrase ends to suggest the occasionally unsteady gait of small children, for example, and the care he gives to wind-string contrast and the care he gives to wind-string contrast. But on the whole the Philips digital tape mastering offers sound rich, tending to hugeness.

Sir Colin Davis cond.

MUSORGSKY/RIMSKY-KORSAKOV: Night on Bald Mountain. (Continued on page 87)

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(Continued on page 87)
Both Angel and RCA recently released digitally mastered recordings of the late Deryck Cooke's second complete performing version of Mahler's Tenth Symphony, the former with Simon Rattle conducting the Bournemouth Symphony Orchestra, the latter with James Levine conducting the Philadelphia Orchestra. The two releases differ profoundly in interpretation and sonic approach, but both are remarkable realizations that in their different ways take pre-eminent positions among recorded versions of this music. Personally, I would not part with either.

At his death in 1911, Mahler left a full sketch of the Tenth Symphony but had finshed scoring only the opening adagio—a unique masterpiece that is often performed and recorded on its own—and the oddly disquieting little Purgatorio third movement. I find the music as completed by Cooke completely enthralling. With Cooke's versions of the two scherzos and the magnificent finale in place alongside the two movements Mahler finished, the symphony not only makes sense as a whole but throws a revealing light on the last two years of the composer's life, racked as they were with anxiety engendered by the heart disease that finally killed him as well as by the torment of his young wife Alma's involvement with the architect Walter Gropius. In the music of the Tenth Symphony, as in the often terrifying marginal inscriptions on the manuscript score, we can trace Mahler's path toward eventual resolution and acceptance, a transcendence of self that at last left him "free within."

But aside from such programmatic implications—which are touched on by Jack Dieter in his notes for the RCA set and dealt with in lengthly and fascinating detail by Michael Steinberg for Angel—the music stands superbly on its own, with all kinds of motivic interrelationships and metamorphoses threading their way through the five movements. In terms of sonic impact, two features stand out above all others. First is the astonishing "primal scream" heard two-thirds of the way through the first movement and again toward the end of the finale—a nine-note dissonant chord for full orchestra culminating with the trumpet's high A. Second is the deathly thud of the bass drum that ends the second scherzo and recurs periodically in the finale like the crack of doom—a sound that Mahler remembered from a stay in New York when from his hotel window he witnessed a funeral procession for a fireman killed in line of duty. Less obvious but perhaps even more crucial is a third event in the score, just before the end: an upward-leaping sigh (C, A-flat) in the strings leading to the exquisite final measures.

As conductor Simon Rattle observes, with the Mahler Tenth "one is presented with a unique challenge: a masterpiece of seventy years' standing for which there is no established performing tradition." Certainly this factor helps explain the enormous range of timings among the dozen or more recordings of the initial adagio, with Wyndham Lewis's, for instance, requiring only about twenty-two minutes and Klaus Tennstedt taking nearly twenty-eight.

The differences between Rattle's and James Levine's interpretations pertain less to matters of tempo—save in the finale, where Levine is a full four minutes slower—than to their views of the work as a whole and the effect of these contrasting views on the agogic elements in the score. As I hear it, Rattle's view of the work is intensely dramatic and extroverted, whereas Levine's is equally intensely lyrical and inner-directed. Some confirmation of this characterization is supplied by three instances in which Rattle has second-guessed Deryck Cooke: (1) restoring the cymbal crash at the end of the second movement, which was in Cooke's first performing version but omitted in the second; (2) adding additional percussion to the serioso middle section of the finale; and (3) letting the bass-drum death knell heard at the very end of the second scherzo serve as the connecting link to the finale. (Rattle lets the finale begin with the tuba solo, whereas in Levine's recording one hears the crack of the bass drum both at the end of the fourth movement and at the beginning of the fifth.)

Both performances are of the highest standard, but there is no question that Levine has the finer ensemble. While Rattle carries the field in terms of dramatic impact, Levine elicits playing of uncannily intense and beauty from the Philadelphia. Even allowing for the greater brightness and coloration of the Bournemouth recording locale as compared with the rather neutral acoustics of the Scottish Rite Cathedral in Philadelphia, it is clear that Rattle cannot possibly command comparable pp and pp pp playing from his group. The finest moments in Levine's recording are, for me, in the last pages of the finale. I scarcely dared to breathe—and thank goodness RCA's German-pressed surfaces are noiseless.

In sonics the two recordings again differ sharply in basic ways. Angel's sound is bright, assertive, recorded at peak level. The microphone pickup is fairly close, but the spacious ambiance of the hall is amply evident. RCA's recording is at a decidedly lower basic level—I would guess some 6 dB less, presumably to allow more head room for climaxes. The mixing seems more distant than Angel's, but the neutrality of the hall makes it difficult to judge. In any case, the sound is certainly less spectacular than Angel's, but it may wear better over repeated listenings.

It is interesting to note that Levine's recording of the first movement derives from an analog tape of a 1978 session; it was previously released on RCA ARL2-2905 along with the Mahler Fifth Symphony. I could detect no meaningful difference in sound quality between this part of the set and those that were digitally mastered originally (the analog tape of the adagio was remastered digitally for this release). Both Angel and RCA have done first-rate jobs with these recordings in terms of their respective approaches. As usual, in my view, the digital technology makes the choice of recording ambience and microphone setup even more critical.

In sum, for those who want a Mahler Tenth with maximum dramatic impact, there can be no choice at present other than Simon Rattle's Angel set. But for those who prefer to assimilate the spiritual essence of Mahler's final musical testament through repeated listenings over an extended period of time, I feel that James Levine on RCA is the only choice.

David Hall

MAHLER: Symphony No. 10 (Second Performing Version by Deryck Cooke). Bournemouth Symphony Orchestra, Simon Rattle cond. ANGEL ™ DSB-3909 two discs $25.98.

MAHLER: Symphony No. 10 (Second Performing Version by Deryck Cooke). Philadelphia Orchestra, James Levine cond. RCA ℗ CTK2-3726 two discs $27.98, ℗ CTK2-3726 $27.98.
ing by Teldec in Hamburg—for the recording debut of nineteen-year-old Dylana Jenson, and the special attention is by no means unwarranted. Her name is by now far from unknown: she has been performing as soloist with major American orchestras for more than a half-dozen years, has had opportunities to study with Heifetz, David Oistrakh, and Josef Gingold, and was the youngest member of Nathan Milstein's master class in Zurich—where, on his recommendation, she gave a recital in the Tonhalle at the age of fourteen. In the same year (1975) she gave a private recital for Irving Kolodin, who recalls that event in his annotation for the new RCA disc and who wrote about her in Saturday Review some sixteen months ago, by which time she had added to her credits a silver medal in the 1978 Tchaikovsky Competition in Moscow.

A subsequent audition for Eugene Ormandy led to last December's concerts and this recording.

Jenson is a splendid musician. Like the still younger Anne-Sophie Mutter, she need ask no allowances on account of her youth, for she shows unquestionable maturity as well as a formidable command of her instrument. Her tone is big and warm, her technique sure, and her identification with the Sibelius concerto convincing in every bar. (Kolodin refers to a live recording of her 1978 Moscow performance of the concerto, which she played in Saint Louis as early as April 1975 and no doubt on several occasions later.) Since Ormandy and his orchestra have proprietary authority in this music, this is an altogether satisfying, highly competitive version. In the Saint-Saëns filler the playing is every bit as beautiful as in the Sibelius, but here I felt a lack of the spontaneity and dash that give life to the piece, and I was more aware, too, of the hugeness of the sonic frame RCA contrived for this presentation.

Whether the same settings were used for the Sibelius and the Saint-Saëns, whether the concerto simply wears the hugeness more comfortably, or whether some other factor is operative is hard to tell, but I enjoyed the richness of the sound in the concerto and found it swollen in the Saint-Saëns. In any event, this is a most impressive debut, one that will surely inspire eagerness for a follow-up.

**SUSSMAYR:** *Das Namensfest. Children’s Chorus and Orchestra of the Hungarian Radio/Television, Laszlo Csányi cond.*

**PAISIELLO:** *Il Maestro ed i Suoi Due Scoi.*

Jenson is a splendid musician. Like the still younger Anne-Sophie Mutter, she need ask no allowances on account of her youth, for she shows unquestionable maturity as well as a formidable command of her instrument. Her tone is big and warm, her technique sure, and her identification with the Sibelius concerto convincing in every bar. (Kolodin refers to a live recording of her 1978 Moscow performance of the concerto, which she played in Saint Louis as early as April 1975 and no doubt on several occasions later.) Since Ormandy and his orchestra have proprietary authority in this music, this is an altogether satisfying, highly competitive version. In the Saint-Saëns filler the playing is every bit as beautiful as in the Sibelius, but here I felt a lack of the spontaneity and dash that give life to the piece, and I was more aware, too, of the hugeness of the sonic frame RCA contrived for this presentation. Whether the same settings were used for the Sibelius and the Saint-Saëns, whether the concerto simply wears the hugeness more comfortably, or whether some other factor is operative is hard to tell, but I enjoyed the richness of the sound in the concerto and found it swollen in the Saint-Saëns. In any event, this is a most impressive debut, one that will surely inspire eagerness for a follow-up.

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**SUSSMAYR:** *Das Namensfest. Children’s Chorus and Orchestra of the Hungarian Radio/Television, Laszlo Csányi cond.*

**PAISIELLO:** *Il Maestro ed i Suoi Due Scoi.*
have been composed to celebrate the name day of a certain Baron Lang, with various grandchildren singing Grandpa's praises individually and in ensemble. (I recall having heard this cantata in its original release on a Quilon import a number of years ago, and if I find it more attractive now that is probably because I too have become a grandfather in the interim.) The Paisiello work follows the popular eighteenth-century formula of a music master spoiling his own profession (Cimarosa's Il Maestro di Cappella is probably the best of the genre). It goes on a bit too long, in my opinion (so does Das Namensfest), but it is modestly entertaining.

The children's chorus is quite remarkable (testifying to the high level of Hungarian musical education based on Kodály's methods), the soloists are all competent, and both works receive polished performances. There are a couple of noisy spots on the Süssmayr side, but overall the recorded sound is clean and well balanced.

G.J.

TELEMANN: Trumpet Sonata in B-flat Major; Trumpet Sonata in C Minor; Heldenmusik (excerpts). Roy Smedvig (trumpet); Sherman Walt (bassoon); Joyce Lindorff (harpischord). DIGITECH @ DIGI 106 $14.98, © DIGI C 106 $9.98.

Performance: Clean-cut
Recording: Good

Roy Smedvig is a familiar name to Boston Symphony concertgoers and fans of the England Brass Ensemble. With the collaboration of his BSO colleague Sherman Walt in the B-flat Major Sonata and of harpsichordist Joyce Lindorff throughout, he gives us here a most agreeable forty minutes or so of Telemann's pleasant and sometimes entertaining. The major contribution here, but the acoustic ambiance of the Corpus Christi Church in Houstoan, Massachusetts, does fall very nicely on the ear. The jacket notes, I must say, are grossly inadequate, and some of the label copy is downright laughable. D.H.


Performance: Good
Recording: Good

Leonarda is a record company largely run by women and with a policy emphasizing contemporary music and music by women. This collection of song cycles includes the early Women's Dance (or Dance of Women) by Kurt Weill and two attractive works by important U.S. women composers. Ruth Schonthal was actually born in Hamburg and studied in Berlin, Mexico City (with Manuel Ponce), and Yale (with Hindemith). These Songs of Death, written in 1963 on her own German texts, are very much in the Central European tradition and must have seemed awfully old-fashioned when they came out. Yet their neo-Romanticism no longer seems like anything to hold against them. Or rather, in spite of and perhaps even through their very traditionalism, they make a personal statement. The music is skillful and inventive and has profile. Judith Lang Zaimont belongs to a younger generation, but she is also a lyric traditionalist; her settings of Adrienne Rich and Thomas Hardy are engaging.

Weill's Frauentanz, written in the early Twenties and part of the composer's modernist period, is the driest and most cutting, dissonant music on the album. Obviously, it is the work that will carry the widest interest, but it is not necessarily the most grateful or immediately engaging. The poems are all from the Middle Ages, and the setting is very close to that dry, Hindemithian chamber style of the Twenties that one could call neo-medieval.

Both singers—Edith Gordon Ainsberg in the Weill and Berenice Bramson in the others—make a good impression, but it is Ms. Bramson and the Schonthal that make the best match. The Weill and the Zaimont are particularly well recorded.

E.S.

ZAIMONT: Two Songs for Soprano and Harp (see WEILL)

COLLECTIONS

RECORDING OF SPECIAL MERIT


Performance: Very good
Recording: Excellent

The Boston Pops here presents a program of marches that are by no means all military in spirit. To be sure, the proceedings open with J. F. Wagner's bristling Under the Double Eagle. After that, though, things take a distinctly peaceful turn, with glittering coronation music from Tchaikovsky and William Walton, a rousing arrangement of
character and the difficulty of playing it managing to convey its rather exotic folk does a splendid job with the unwieldy thing, who plays the instrument in Havel's piece, it is kept when not in action. Věčlav Hozá, hay from the stable in which, one presumes, growing hair, but perhaps that is merely nine feet straight out; it also seems to be bumb's back cover, and it of the instrument being played on the al-

RECORDING OF SPECIAL MERIT
CZECH PASTORAL PARTITAS. Mašek: Partita in D Major. Havel: Allegro and Pastorella in B-flat Major. Fiala: Diverti-

gamo Pastorella in B-flat Major. Anon.: Partita Pastoralis in G Major. Pichl: Con-
certino con Pastorella in F Major. Collec-
gium Musicum Pragense. SUPRAPHON 1 11 1

Partita in D Major. Havel: Allegro and Pastorella in B-flat Major. Anon.: Partita Pastoralis in G Major. Pichl: Con-
certino con Pastorella in F Major. Collec-
gium Musicum Pragense. SUPRAPHON 1 11 1

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certino con Pastorella in F Major. Collec-
gium Musicum Pragense. SUPRAPHON 1 11 1

Stella; Per Tropo Fede. Esther Lamandier

ESTHER LAMANDIER: Decameron-
Monodic Ballads of the Florentine Ars Nova. Massi: Non So 'Qual I' Mi Voglia; Sento d'Amor la Fiamma, Non Dedi Tu, Amor, Non Perch'i i' Speri. Gherardellus: I' Yo' Bene, Donna, l'Altrui Mirar. Dè, Poni Amor, Per Non Far Lieto. Landini: Angelica Belta, Io Son un Pellegrin. Anon.: Che Ti Covà; Amor Mi Fa Cantor; Lucente Stella; Per Tramme Fede. Esther Lamandier (soprano, portative organ, harp, vielle, lute). ASTRÉE AS 56 $13.98.

In surveying music history, it has always been a relief to me to move from the spas-
mic isorhythms and jarring harmonies of the French Ars Nova to its sweet, flowing counterpart in Italy. Unfortunately, satisfy-

Nothing else terribly odd occurs on the record (although the Pichl piece has a tam-
bourine in its last movement), nor is the music of any special importance. I am struck, though, by just how well made it is and how pleasant it is to listen to simply as entertainment (which is what it was written for). The anonymous piece in particular is a real delight.

It is, however, the performance quality that is the heart of this record. The players are uniformly superb, and their efforts prove once again that lesser music—pro-

vided only that it is competently crafted—
can give real pleasure if presented with the kind of spit-and-polish perfectionism often reserved for great masterpieces. Ephemeral this music may be, but it goes a long way in explaining how they got along without tele-

vision in those days. Fine recording.

—James Goodfriend

RECORDING OF SPECIAL MERIT
ESTHER LAMANDIER: Decameron-
Monodic Ballads of the Florentine Ars Nova. Massi: Non So 'Qual I' Mi Voglia; Sento d'Amor la Fiamma, Non Dedi Tu, Amor, Non Perch'i i' Speri. Gherardellus: I' Yo' Bene, Donna, l'Altrui Mirar. Dè, Poni Amor, Per Non Far Lieto. Landini: Angelica Belta, Io Son un Pellegrin. Anon.: Che Ti Covà; Amor Mi Fa Cantor; Lucente Stella; Per Tramme Fede. Esther Lamandier (soprano, portative organ, harp, vielle, lute). ASTRÉE AS 56 $13.98.

In surveying music history, it has always been a relief to me to move from the spas-
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Performance: Exquisite
Recording: Lovely

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RECORDING OF SPECIAL MERIT
ESTHER LAMANDIER: Decameron-
Monodic Ballads of the Florentine Ars
Nova. Massi: Non So 'Qual 'I Mi Voglia;
Sento d'Amor la Fiamma, Non Dedi Tu,
Amor, Non Perch'i i' Speri. Gherardellus:
I' Yo' Bene, Donna, l'Altrui Mirar. Dè,
Poni Amor, Per Non Far Lieto. Landini:
Angelica Belta, Io Son un Pellegrin. Anon.:
Che Ti Covà; Amor Mi Fa Cantor; Lucente
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(soprano, portative organ, harp, vielle,
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—James Goodfriend
On a superb new Telefunken recording, conductor Nikolaus Harnoncourt turns his back on the Baroque era (only briefly, I suspect) in order to address the question of authentic performance practice in the case of Mozart's opera Idomeneo. The results are splendid. The hero of this performance is the orchestra, which is perhaps as it should be, since Mozart was writing for nothing less than the fabled Mannheim Orchestra. As he wrote in a letter to his father, the orchestra was "very good and large; on each side 10 to 11 violins, 4 violas, 2 oboes, 2 flutes, 2 clarinets, 2 horns, 4 violoncellos, 4 bassoons and 4 doublebasses and trumpets and timpani.... You may well imagine that I am looking forward just like a child to the splendid orchestra." His delight is obvious from the score, on which he lavished an unusual degree of detail regarding dynamics and articulation, part and parcel of the Mannheim style.

Using modern instruments, Harnoncourt has duplicated the size and composition of the Mannheim Orchestra, furnished gut strings and wooden rather than metal or plastic mutes for all the stringed instruments, and supplied wooden beaters to the timpanist. All of Mozart's dynamic markings are scrupulously observed and the articulation played with full clarity. The sonority is heavily weighted toward the winds, which only highlights Mozart's genius in writing for them, and the crescendos, diminuendos, and accents are more pronounced than they would be in a modern-style performance. The effect is stunning; one revels in the marches, accompanied recitatives, and especially, the ballet music.

Of course, the very first question to be faced with Idomeneo is the question of which version to use. Mozart's original score prior to the Munich première in 1781, the last Munich version, or the revision made for Vienna in 1786? Harnoncourt's decision to use the last Munich version, with cuts made by Mozart himself, is historically justifiable, but opera verismo accentuates earlier recitatives and the various versions 'that hold the boards today may feel that the final scene is thereby rendered anticlimactic. Omitting the arias for Idamante, Idomeneo, and Elettra ("D'Oreste, d'Aiace") leaves nothing but a large dose of accompanied recitative until the final chorus. The absence of Elettra's aria is particularly frustrating; audiences have come to regard it as the showpiece of the entire opera and look forward to it eagerly. But Harnoncourt makes up for these cuts by including the wonderful ballet music.

In the earlier arias, laurels go to Felicity Palmer as Elettra. She makes light of Mozart's technical demands in "Tutte nel cor vi sento," where her outrage is icy and fierce, and in "Idol mio, se ritorno" her tenderness for Idamante is conveyed in singing full of warmth and grace. (All the more pity, then, to be denied her exit aria!) As Ilia, Rachel Yakar opens on the shaky side with some sliding on her high notes, but by the time she reaches "Zeffretti lusin-ghierti" she is thoroughly at home in the style and turns in an excellent account. Idamante is cleanly sung by Trudeliese Schmidt, though she unfortunately lacks the trill so necessary to the cadences of the period. But her characterization is noble, as is Werner Hollweg's of Idomeneo. The best feature of his singing is his constant propiation of the character's feelings of horror and fatigue. Kurt Equiluz is forceful-sounding as Arbace, and his vibrato renders his coloratura fuzzy. As the High Priest, however, Robert Tear turns in some excellent singing in the choral episode "Oh voto tremendo," and Simon Estes is appropriately sonorous as the Oracle.

In any event, the singing is not the main point of this recording. While it is basically good, the soloists do not always seem quite at ease with Harnoncourt's stylistic requirements. Nevertheless, they put on a fine show — and they'll probably never sing Mozart like Bellini again. But what really makes the album worth its weight in gold is Harnoncourt's achievement in re-creating the eighteenth-century style of orchestral playing.

Mozart: Idomeneo. Werner Hollweg (tenor), Idomeneo; Trudeliese Schmidt (alto), Idamante; Rachel Yakar (soprano), Ilia; Felicity Palmer (soprano), Elettra; Kurt Equiluz (tenor), Arbace; Robert Tear (tenor), High Priest; Simon Estes (bass), the Oracle. Chorus and Mozart Orchestra of the Zurich Opera House, Nikolaus Harnoncourt cond. TELEFUNKEN 6.35547 four discs $43.92, @ 4.35547 $32.94.

Performance: Excellent Recording: Very good

Since the Scott Joplin revival started one New Year's Eve in the late Sixties with Bill Bolcom playing the piano in my living room, I think my admiration for Bolcom's playing and for his role in reviving this very American music and bringing it up to the stature of the classics is no secret. Perhaps it will not be considered a crime if I repeat it here in reference to his playing of the very beautiful and lyrical collaborations that Joplin published with Arthur Marshall and Scott Hayden.

The other side of this album is hardly of less interest. William Albright, like his good friend Bolcom an excellent composer, pianist, ragtime aficionado, and American popular-music revivalist, plays the stride-piano compositions of James P. Johnson with authority and panache. Johnson, more than a quarter-century younger than Joplin (he died only in 1955), was born in New Brunswick, New Jersey, and made his reputation in New York City shortly before World War I; Carolina Shout, his most famous piece, was written at that time. Its energy, bitternesst feeling, and showy virtuosity were followed by a whole series of pieces—stomps, waltzes, and blues—that have hardly been bettered as jazz solos. By the time of the stock-market crash, Johnson's reputation was fading. (You've Got To Be Modernistic is acerbic commentary—half making fun, half showing how he could do it himself—on the younger generation's new jazz that was fast making his style obsolete. The music is not only historically important, it is delightful.

E.S.

Recording of Special Merit

III. Roberto Devereux: Tutto è silenzio (Act I). Katia Ricciarelli (soprano); José Carreras (tenor); Ambrosian Opera Chorus; London Symphony Orchestra, Lamberto Gardelli cond. PHILIPS 9500 750 $9.98, © 7300 835 $9.98.

Performance Very good
Recording Very good

This is an interesting collection of partly unfamiliar music in committed and authoritative performances. Katia Ricciarelli displays some particularly ravishing tones; it is gratifying to note her steady artistic development through the years. Both Ricciarelli and José Carreras are in excellent form in the Puccini duet, and their voices and temperaments are well blended, though the overall effect is somewhat handicapped by Lamberto Gardelli's uncharacteristically languid pacing. Except for the exciting Poliuto scene (which must have haunted Verdi when he wrote the Love Duet of Un Ballo in Maschera) with its exposed high tenor writing, Carreras also excels here in material congenial to his gifts. Both artists appear deeply involved, with excellent results, in the other two duets, though the Lombardi scene is far from Verdi's best. In any case, the combination of two of the most beautiful voices before the public today is hard to resist, and why should we?

G.J.

JAMES TYLER: Music of the Renaissance

Performance Excellent
Recording Fine

Divided about equally between solo lute performances and ensemble pieces, this fascinating disc offers a rich sampling of Italian, French, German, and English music of the period (circa 1530-1650). James Tyler's playing is marked by technical excellence, a fine tone, and a pervading sense of seriousness. All I would have liked in addition is greater rhythmic flexibility so as to make the improvisatory pieces more rhapsodic. One of the most arresting elements of the disc is the sonority produced by multiple plucked instruments accompanied by bass viol when Tyler is joined by his assisting artists. Perhaps the most ravishing sounds here are the deep tones of the theorbo and bass viol when heard together with the highly embellished lines of the Baroque guitar or mandora. The upper voice, deftly performed by Tyler, creates a tracery of figurations over the sober low-vowel melodies. The combination of lute, cittern, bandora, and bass viol is striking indeed, and how close it is to the sound of "country" music today! Would there were more of it! Let us hope for yet another collection from these artists with some of Thomas Morley's consort music.

S.L.
Popular Music Briefs

As insomniacs are doubtless aware, NBC's newly revamped Tomorrow show has become something of a showcase for rock-and-roll acts lately. English sensations Adam and the Ants made their network TV debut there courtesy of noted rock fan Tom Snyder. Two questions immediately spring to mind: first, did the Ant on the far right once sit in front of me in Drivers Ed? And second, who looks weirder, Adam (center, in pirate drag) or Tom? Just asking — S.S.

D o you know that there's a bootleg album (on Melvin Records, no less) called "The International Battle of the Century—the Beatles vs. Don Ho"? Did you know that it's "electronically reprocessed to simulate mono"? Do you care? Well, if you do, you'll just have to have You Can't Do That!, a 440-page hardcover tome just published by the Pierian Press.

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When Armstrong's Circle Theatre returned to TV with the recent two-hour special Live from Studio H—100 Years of America's Popular Music, the narrator was Henry Mancini. Since he was taking time off from a busy schedule of conducting concerts and composing for films to talk about music, we asked him to talk to Stereo Review about anything that was on his mind as long as it was music.

"Whether popular music has gotten better lately, as is claimed, is not the point," Mancini said. "It's gotten different. It's more homogenized, for one thing. Jazz has become less pure, and country has become less pure as well—which is not to say they are any less good. But you can find whatever you are looking for in popular music today, and there's still some un-.hate to speak of classical music as something extra.

"There are still people who are too snobbish to be caught at a John Cage or Stockhausen concert, but they will get a record of it and listen at home. "He thinks it's good that this closet classical audience helps balance symphony-orchestra budgets through buying records if not concert tickets.

New Mancini compositions include the twenty-five-minute Piece for Jazz Bassoon and Orchestra, written for Ray Pizzi, bassoonist with the New American Orchestra, which has premiered the work and will record it in the fall. "The orchestra is unique," Mancini says. "It has more than eighty players—they all do studio work—and they play this piece better than most major symphony orchestras could. Pizzi himself is outrageously virtuosic."

For a number of years Mancini has endowed a scholarship for Edward Barnes' opera FeatherTop written while he was on a Mancini fellowship at Juilliard. "It's especially rewarding to know that you've helped a young composer during a key year in his development. I'm glad to be able to reinvest something in music I've gotten a lot out of it." — W.L.
**Disc and Tape Reviews**

**By** CHRIS ALBERTSON • IRV COHN • NOEL COPPAGE • PHYL GARLAND

MICHAEL BLOOMFIELD: *Cruisin' for a Brusin'*  
Michael Bloomfield (vocals, guitar, piano, organ); instrumental accompaniment.  
*It'll Be Me; Junker's Blues; Mathilda; Linda Lu; Papa-Mama-Rompah-Stompah;* and five others.  
TAKOMA TAK 7091  $7.98.

Performance: Lost  
Recording: Good

Michael Bloomfield died last February at the age of thirty-eight, two months after this album was recorded. Unless there are some tapes still in the vaults, this will have to stand as his last statement. I wish I could say that it is a worthy valedictory to his distinguished career; unfortunately, it's not.

Like Presley's last session, this one has good ideas and smooth execution, but no punch. To compensate for their fatigue, both men indulged in stylistic bravado: Presley sang *at* songs with his dignified baritone; Bloomfield could still play guitar and keyboards, but his vocal solos were boilerplate. The vocals here, imitating black Delta blues singers Bloomfield admired, are so thickly smeared with an assumed Southern accent that many of the lyrics are unintelligible. Only on *Mathilda* does he enunciate carefully. *It'll Be Me* (the flip side of Jerry Lee Lewis' first hit, *Whole Lotta Shakin' Goin' On*) slips in and out of coherence: I know the lyrics and still had trouble recognizing them. The most successful cut is the instrumental *Papa-Mama-Rompah-Stompah*, on which Bloomfield sounds assured and excited. The rest, as Hamlet said, is silence, or should have been.  

**PEABO BRYSON: *Turn the Hands of Time.*** Peabo Bryson (vocals); instrumental accompaniment.  
*I've Been Down; My Life; Piece of My Heart; Dwellers of the City; Friction;* and five others.  
CAPITOL ST-12138 $7.98, © 4XT-12138 $7.98, © 8XT-12138 $7.98.

Performance: Nice  
Recording: Good

Peabo Bryson wrote all but one of the ten songs he sings on this album of previously unissued recordings made "several years ago" but recently remixed and "sweet-
(Continued on page 95)
Ellington: "Sophisticated Ladies"

When Duke Ellington died in 1974, he left behind a legacy of hundreds of recordings and compositions, the latter including both standards known throughout the world and tunes that linger in obscurity but stubbornly refuse to vanish entirely. Nearly three dozen Ellington compositions have been woven together for Sophisticated Ladies, a dazzling revue now on Broadway that will undoubtedly stimulate new interest in the work of this prolific music maker. The show's success is the fulfillment of a dream for Ellington's son Mercer, who is its music director, and RCA's new two-disc original-cast recording allows an even wider audience to share it.

If Sophisticated Ladies fails fully to capture the shades and strokes that gave Duke Ellington's music such a distinctive character, that is nobody's fault. Ellington used his orchestra both as a source of inspiration and as the brush to paint his extraordinary sound canvases; each musician in the band provided a unique shade to his palette. Everyone who has tried to reproduce the Ellington sound has failed, as no one knows better than Mercer Ellington.

On discs, without the glitter of the stage production, Sophisticated Ladies seems to invite comparison with Ellington's own recordings. But while the show, having shed an apparently disastrous story line and script, owes its survival largely to the power of Ellington's music, it deserves to be judged on its own merits—as a tribute, not a mirror.

Nonetheless, the occasional attempts to recreate the sound of a vintage number such as Jubilee Stomp or The Mooche come additionally disastrous story line and script, owes its survival largely to the power of Ellington's music, it deserves to be judged on its own merits—as a tribute, not a mirror.

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Sophisticated Ladies stars dancer/singer Gregory Hines, who tapped his way into the limelight in Eubie, a Broadway production based on the music of Eubie Blake, and Judith Jamison, the statuesque star of the Alvin Ailey Dance Company, for whom this show is a decided departure. Hines is a remarkable tap dancer (you can get an idea of his ability in that field from Kinda Dukish), but the album does greater justice to his vocal talent, which is considerable; an all-singing Gregory Hines album is undoubtedly somewhere in the works. Unfortunately, the album is not as good a showcase for Miss Jamison. Her dancing is strictly of the visual variety, and her singing is a painful experience. Listen to both stars on I'm Beginning to See the Light and you will know the pleasure and the pain of which I speak.

Clearly aware of Jamison's limitations, the show's producers wisely gave her vocal cords a lot of rest, but if there is ever a videodisc release of this production she will undoubtedly shine.

Two ladies who do shine in the vocal department are Priscilla Baskerville, whose Solitude evokes memories of Kay Davis, and Phyllis Hyman, who shines on her own. Arista recordings and here is heard to good advantage throughout. I was especially impressed by Miss Hyman on such slow numbers as I've Got It Bad and That Ain't Good and In a Sentimental Mood. The former is part of an effective medley that begins with Hyman's spirited rendition of I'm Checking Out, Goodbye and includes Mood Indigo, which is sung with considerable silkiness by Terri Klausner. The vocal arrangements by Lloyd Maysers and Malcolm Dodds are complemented by Al Cohn's generally sensitive and tasteful orchestrations. The band includes some Ellington alumni and adopts that tired Broadway pit sound only with blessed infrequency; the score preserves just enough of the flavor of the periods when Ellington's creativity flourished and adds just the right amount of au courant sounds to give the production a wide appeal.

I am puzzled by the inclusion of Fat and Forty (You're My Meat), an awkward novelty number (by Skeets Tolbert) through which P. J. Benjamin (understandably) stumbles, since it is the only tune in the show neither written nor co-written by Duke Ellington.

Dozens of shows could be put together from Ellington material without running the well dry, so why go elsewhere? Aside from Miss Jamison's singing, Fat and Forty is one of two sore thumbs that stick out here. The other is Imagine My Frustration, for which Ellington shares responsibility (with Billy Strayhorn and Gerald Wilson) but which gets an oddly dated rock-and-roll treatment that serves neither Ellington nor vocalist Terri Klausner well in 1981.

Such errors in judgment are swiftly forgotten, however, for even without the graceful movements, palm skirts, two-tone shoes, checked suit, and neon lights of the stage production, the disc version of Sophisticated Ladies is a fine tribute to a man whose music (and sartorial elegance) remains forever imprinted on the minds of all who had the good fortune to hear him play it in person. The irony is that Duke Ellington himself several times turned his music into stage shows; but where circumstances denied such productions as My People, Jump for Joy, and Beggar's Holiday a proper hearing, Sophisticated Ladies thrives. Somewhere he must be nodding, "I told you so."—Chris Alberison

enored.” There’s nothing very unusual about Bryson’s voice or about his writing, but even if the melody is familiar, you enjoy the trip. The arrangements use simple rhythm patterns with an occasional horn accent, and I will be very surprised if any of these tracks makes it as a single. Bryson has done better work since he wrote them, and while I don’t think this release will have an adverse effect on his career, I doubt it will boost it either.

C.A.

CHANGE: Miracles. Change (vocals and instruments). Paradise; Your Move; Stop for Love. On Top; and three others. RFC/ATLANTIC SD 19301 $7.98, © CS 19301 $7.98, © TP 19301 $7.98.

Performance Disappointing Recording: Superb

There are no miracles in this collection of contemporary ballads and dance-tempo material. Ray F. Caviano, whose RFC label sporadically released a number of fine albums during the short-lived disco era, has apparently neither rethought his way to a post-disco sound nor inventively used disco conventions to create something fresh. The result in this case is uninspired. The beat is definitely there, especially on side two, but there is little else. The songs are melodically and lyrically hack, and the arrangements are so spare that the breaks sound as though a few tracks got left out of the final mixes. Lead vocalist Diva Gray almost makes the ballad Hold Tight work, but the bland orchestration, featuring some senseless noodling on guitar, gives her no help. The drummer for this outfit, Mark Hansard, Heaven of My Life, which has the album’s best melody, and Miracles are both good examples of today’s laid-back dance music, but there’s nothing really distinctive even about them. Everything here sounds very polished and is superbly engineered, but I expect a lot more imagination and excitement from an RFC release.

J.C.

ERIC CLAPTON: Another Ticket. Eric Clapton (vocals, guitar); Albert Lee (guitar); Gary Brooker (keyboards), Chris Stainton (keyboards), Henry Spinetti (drums); Dave Markee (bass). Something Special, Black Rose; Blow dy, and Miracles are both good examples of chestration, featuring some senseless nooconventions to create something fresh. The and I will be very surprised if any of these if the scenery is familiar, you may enjoy this ened.” There’s nothing very unusual about

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The instrumentals bridge and almost drowned). And there are more or less away from the RSO cute—hit tracks makes it as a single. Bryson has done better work since he wrote them, and while he tends toward a kind of jazz-balladeer style. His material, almost exclusively concerned with losing a loved one, has that quirky kind of British rationality that makes sadness seem so much more . . . reasonable. In the Air Tonight was the British single release; the one being plugged in this country is I Missed Again, with the horn section from Earth, Wind, and Fire punchning out the riffs. Collins’ solo version of Behind the Lines, which Genesis did on their “Duke” album, is more interesting than the group’s effort, and his inclusion of Tomorrow Never Knows; I Missed Again; and seven others. ATLANTIC SD 16029 $7.98, © CS 16029 $7.98, © TP 16029 $7.98.

Performance: Good Recording: Good

Phil Collins is the drummer for Genesis, a pompous group I can do without, but on his own he is more than palatable. As a singer he tends toward a kind of jazz-ballad style. His material, almost exclusively concerned with losing a loved one, has that quirky kind of British rationality that makes sadness seem so much more . . . reasonable. In the Air Tonight was the British single release; the one being plugged in this country is I Missed Again, with the horn section from Earth, Wind, and Fire punchning out the riffs. Collins’ solo version of Behind the Lines, which Genesis did on their “Duke” album, is more interesting than the group’s effort, and his inclusion of Tomorrow Never Knows; I Missed Again; and seven others. ATLANTIC SD 16029 $7.98, © CS 16029 $7.98, © TP 16029 $7.98.

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Performance: Good Recording: Good

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How 'Bout Champaign?

T

ough some would have us believe that the world of American popular music consists of an oasis in Los Angeles and another in New York with a vast wasteland in between, it just isn't so. Fresh evidence recently arrived in the form of a splendid album by a new group that takes its name from—of all places—Champaign, Illinois, which is where most of its members met. The town has previously been known only as the main seat of the University of Illinois, but from now on it should be known as the home of the most exciting new progressive-soul band to emerge since Earth, Wind & Fire threw off inherited formulas and began doing its own highly individual thing. "How 'Bout Us" is simply the best debut album I've heard in more years than I care to count, and Champaign even stacks up pretty well compared with those venerable soul ensembles that measure their success in gold and platinum.

RECORDING OF SPECIAL MERIT

THE CRETONES: Snap! Snap! The Cretones (vocals and instrumentals), Love Is Turning: One Kiss; Swinging Divorcee; Lonely Street; Hanging On To No One, and five others. PLANET P-15 $7.98, © PC-15 $7.98, © PT-15 $7.98.

Performance: Very good

Recording: Very good

Once in a while the accepted rule of sequencing an album, which dictates that all the hot material be on the first side, is flouted and the really good stuff is put on the second. Such is the case with "Snap! Snap!" The Cretones' first album was bathed in reflected glory when La Ronstadt took three songs from it for her "Mad Love" album. If she doesn't grab Love Is Turning from this one, their second LP, then she's missing a sure bet.

The title track here is an impish instrumental. The other goodies on side two include Girls! Girls! Girls!, about the last man on earth watching a movie; Swinging Divorcee, a funny, nasty description of romance in Tinsel Town; and the ballad Lonely Street, which has a fetching chord structure. Mark Goldenberg, a Chicagoan turned Angelino, wrote the songs, sings, and plays guitar and synthesizer. He's a talent due to watch and a pleasure to hear.

DELEGATION: Delegation (vocals and instrumentals), instrumental accompaniment. Feels So Good; Dance, Prance, Boogie; Turn On to City Life; I Wantcha Back; Gonna Keep My Eyes on You, and five others. MERCURY SRM-1-3821 $7.98, © MCR4-1-3821 $7.98.

Performance: Fitfully interesting

Recording: Tubby

The instrumental emphasis on this second American release by Delegation, a trio of Jamaican men who live and record in Britain, is on midtempo rhythm-and-blues with a contemporary beat. The voices, however, suggest another style entirely; the group does best with slower material in which their honest, basically pop vocal harmonies have a chance to be heard. The ballad In Love's Time, for example, is a rhythmic gem set in an austere arrangement. Free to Be Me is even better; its simple production makes Champaign's music sound so fresh, it's hard to pinpoint what exactly makes Champaign's music sound so invigorating. The vocals and instrumentals are firmly rooted in traditional r-&-b, but with fine touches of invention. The songs are instantly appealing yet more complex melodically than most of what catches on today. The melodies are springboards for intricate vocal performances marked by the clever inflections of lead singers Paulie Carmen and Rena Jones. The ensemble textures demand response from the listener, as is especially apparent on the title track, a sweet but rocking ballad. I defy anyone to hear it twice without trying to sing along.

Champaign's leader is guitarist/keyboardist/songwriter Michael Day. Howard Reeder (guitar), Dana Walden (keyboards), and Michael Reed (bass) were Day's partners in a recording studio in Champaign, and their experience in the business shows. Yet their album has the freshness of a first time out, when a group is able to do just what it wants without worrying about duplicating the success of a previous effort. Champaign has taken familiar formats and stretched them just enough to let some air in. "How 'Bout Us" is a very bracing breeze from the heartland.

—Phyl Garland

CHAMPAGN: How 'Bout Us, Champaign (vocals and instrumentals). Can You Find the Time? Party People; Whiplash; I'm on Fire; How 'Bout Us, Spinnin'; Dancin' Together Again; Lighten Up; If One More Morning. COLUMBIA JC 37008 $8.98, © JCT 37008 $8.98.

Recording: Very good

Performance: Anxious

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from a new group on their first album, especially a Boston group that moved to New York to gain (now, don't snicker) "life experience". The subjects are also what you'd expect—identity crises, drugs, a hostile world, blah blah. The band has been quoted as saying that they haven't experienced any of these things but have observed them. Perhaps as time goes by they'll learn a few things firsthand, such as that they needn't try quite so hard.

J.V.

SHEENA EASTON. Sheena Easton (vocals); vocal and instrumental accompaniment. Morning Train; Don't Send Flowers; One Man Woman; Calm Before the Storm; and six others. EMI/AMERICA ST -17049 $7.98, @ 4ST-17049 $7.98. Performance: Jumbled. Recording: Good.

Sheena Easton is a young British singer with the same kind of drop-dead beauty as Jackie Bisset or Vivien Leigh. But that's it, folks! In this album she comes across as a performer in search of a style, and her voice is strictly wallflower. It was someone's not-too-clever idea (possibly producer Christopher Neil's) to mix ballad, disco, and New Wave all in one unlovely haggis. The result is a godawful jumble with Ms. Easton never quite on firm ground anywhere. Recording, and six others. EMI/AMERICA ST -17049 $7.98, @ 4ST-17049 $7.98. Performance: Imperishable. Recording: Crackly.

The first side of this record, a transcription of an old Kraft Music Hall radio show from September of 1948 that finds Nelson Eddy and Jeanette MacDonald singing at, around, and occasionally to each other, is the gem here. The other side is a random pick-up of Eddy's other radio appearances. By 1948 the team, idolized by some and dubbed "the Singing Capon and the Iron Butterfly" by others, had their last screen appearance several years behind them. MacDonald still maintained her haughtily whimsical attitude toward Eddy, who—her voice implied each time she spoke at him—had forgotten to wipe the mud from his shoes. After a few moments of badinage at Eddy's expense, MacDonald launches into an ear-shattering rendition of Romance. Later she performs Lover, the song she introduced, in the bravura style that used to give L. B. Mayer goose bumps and music critics headaches during her reign as the prima donna assoluta of Hollywood. Heard today she sounds like every other small-town voice teacher with operatic aspirations that you've ever known. Next Nelson sings When Day Is Done "just for Jeanette." By the time they perform the duet most closely associated with them, Indian Love Call, MacDonald's voice is showing noticeable signs of cadenza fatigue and Eddy takes that opportunity to bellow over her in the last half. Nelson's finish is a solo performance of The Blind Ploughboy. MacDonald spends a couple of minutes bowing off and another Kraft Music Hall has gone down in radio history. A wonderful example of old Hollywood being "gracious."

P.R.


"Could I have a little more echo in my voice?" went a parody of Elvis a number of years ago, and I kept expecting to hear that very interjection throughout this album. Joe Ely comes on as a rockabilly stuck in a Jer-ry Lee Lewis tempo as well as in an echo chamber. It's all about as monotonous as listening to someone drive a ten-penny nail, only louder. Some rock critics—who may or may not know beans about country music—have touted Ely as some sort of emerging country-music avant-garde figure. So far, I can't see it. His vocals are not very distinguished or even very interesting, and in this release there's not a dram of imagination in either the songwriting or the instruments.

(Continued overleaf)
Lisa Gilkyson

Lisa Gilkyson, whose father Terry wrote All Day, All Night, Mary Ann, Greenfields, and the score for Walt Disney's Jungle Book, lives in New Mexico and is apparently a statewide favorite, but the major record labels have so far ignored her. They should give a listen. She has enough of a voice to play in the big leagues now, and her songwriting occasionally flashes a sign of something special. Her new Helios album, "Love from the Heart," is uneven, mostly because her songwriting also seems amaturish at times—particularly in Delia, which is told from the point of view of the child of a single parent (Lisa is a single parent), and Tennessee Road (For Elvis), which seems to have the opposite problem, too much distance, too much secondhand information. But the best ones—Where Did I Go Wrong, Don't Go to Strangers, Song of the Sea—have lovely, almost haunting melodies and come close to meeting her apparently high standards for lyrics as well. Song of the Sea was written for the documentary film Ghosts of Cape Horn (title song by Gordon Lightfoot, narration by Jason Robards), and it is far and away the best thing here, truly a beautiful song. It seems obvious that Lisa Gilkyson is still learning her craft, but she has a tougher definition of craftsmanship than do some of the Big Stars who come my way.

—Noel Coppage

Lisa Gilkyson:

LISA GILKYSON: Love from the Heart. Lisa Gilkyson (vocals, piano); instrumental accompaniment. Scorpio Rising; Delia; Where Did I Go Wrong; Tennessee Road (For Elvis); Song of the Sea; Love from the Heart; Woman in Love; Having a Good Time; Don't Go to Strangers; Esta Salida del Sol. HELIOS HR-440-4 $7.98, © CHR-440-4 $7.98.

If you missed the first two Fab 'Birds albums, by all means don't let this one get by you.

ELLEN FOLEY:

ELLEN FOLEY: Spirit of St. Louis (see Best of the Month, page 73)

IAN GOMM:

IAN GOMM: What a Blow. Ian Gomm (vocals, guitar); instrumental accompaniment. Man on a Mountain; It Don't Help; Slow Dancin'; Jealousy; What a Blow; and seven others. STIFF/Epic JE 36433 $7.98, © JET 36433 $7.98, © JEA 36433 $7.98.

Even though there's a lot of satisfying, real rock-'n'-roll guitar playing here by Ian Gomm and his colleague Taffy Williams, and even though the vocals and arrangements are highly professional, I don't find Ian Gomm's second solo outing as interesting as his first. True, the album moves—so few rock albums have any real thrust to them these days—but the songs are on a journeyman level. They are meant to service the instrumental backing instead of the other way around. The title tune and It Don't Help are about the rigors of a musical career, and it's a sure sign that inspiration is on a low flame when rock musicians write songs about their profession. The function of any musician is to make people dream, not to submit emotional tax deductions. Show biz is the medium, not the message.

JORMA KAUKONEN AND VITAL PARTS:

JORMA KAUKONEN AND VITAL PARTS: Barbecue King. Jorma Kaukonen (vocals, guitar); Vital Parts (instrumental); other musicians: Runnin' with the Fast Crowd; Milkcow Blues Boogie To Hate Is to Stay Young; Rockabilly Shuffle; Snout Psalm; Love Is Strange; and four others. RCA AFLI-3725 $8.98, © AFK-3725 $8.98, © AFPSI-3725 $8.98.

No doubt Jorma Kaukonen's a good guitarist, and it's not his fault that he can't sing since he wasn't blessed with much of a voice, but there's a prankster air about this album that keeps me from either taking it seriously or enjoying it as much as I might. As I listened, I couldn't help but recall the R. Crumb cartoons of the late Sixties, and I think that is the emotional period in which Kaukonen is stuck. Perhaps it's his residence in San Francisco that makes him sound like a ICONOCLAST —iconoclast. San Francisco, like Chicago for Twenties jazz or Fifties blues, has a his-
tory but not, it would seem, a future. It’s easy to revel in former glory even if the leaves are long off the vine. Kaukonen’s versions of certified oldies such as Love Is Strange and Milkcow Blues Boogie are diminished by his don’t-give-a-damn vocals (hell, I know he can’t sing, but I wish he’d try), and his own material is post-fad cynicism. It hardly seems to fill any real need.

J. V.

B. B. KING: There Must Be a Better World Somewhere. B. B. King (vocals, guitar); Hank Crawford, David “Fathead” Newman (saxophone); Dr. John (keyboards); other musicians. You’re Going with Me, The Victim; More, More, More, and three others. MCA MCA-5162 $8.98, © MCAT-5162 $8.98.

Performance: Above the material
Recording: Good

If you like your blues slicked up and calculated, you are bound to go for “There Must Be a Better World Somewhere.” But there are better B. B. King albums somewhere, probably on your own record shelves. Not that this one is a bad album, but King deserves better material than the stuff he rises above here; most of it is basic blues laced with lyrics. It would be generous to dismiss it as trite. Aided by saxophone soloists Hank Crawford and David “Fathead” Newman, King jumps the hurdles well, stumbling over the lyrics only on The Victim. He is a victim—of unimaginative production and writing.

C. A.

WILLIE NELSON: Somewhere over the Rainbow. Willie Nelson (vocals, guitar); vocal and instrumental accompaniment. Mona Lisa; Exactly Like You; Who’s Sorry Now; I’m Confessin’; Won’t You Ride in My Little Red Wagon; Over the Rainbow, and four others. Columbia FC 36883 $8.98, © FCT 36883 $8.98, © FCA 36883 $8.98.

Performance: Good, actually
Recording: Squeaky clean

Every time I play this, I start out with the spell broken. Mona Lisa is the first cut, and it calls to mind Homer and Jethro’s Mona Lisa No. 2, many years ago, which ended, “Are you blue number two Mona Lisa? Or just a dadburned picture hangin’ there on the wall?” You might think of this album as “Stardust No. 2,” but Willie Nelson is really aiming for something slightly different. In “Stardust,” ancient pop standards were rendered by his road band playing more or less the way it plays on country-rock stuff. For this one he has assembled a five-piece country-swing ensemble, featuring Johnny Gimble on fiddle, and the trick was to play another batch of ancient standards without multitudes of strings and horns and the other garbage the record-biz moguls hung on them before. And it’s fairly successful. As on “Stardust,” Willie does the little vocal things that shock one into actually listening to stuff one normally takes for granted. Actually, he’s getting back to part of his roots here; the country-swing bands in the Southwest during his youth played many of these same pieces. The picking is quite agile and fetching too, in that ultracool way of country swing. But this particu-
Is the current trend toward revivals of earlier pop forms—ska, rockabilly, the blues, power pop, whatever—a holding action? A brand of nostalgia? A search for roots in a confused time? The last desperate tion? A brand of nostalgia? A search for blues, power pop, whatever—a holding ac-
course of his career: cult figure, guitar hero, at least parts of it. With soul so dead that he couldn't get off on hard to believe that there breathes anyone doxically) so fresh-sounding that so invigorating, so intelligent, and (para-
described as ground-breaking, overall it's there's not a note on it that could be remote-
roll-doomed to extinction in the near fu-
Is the current trend toward revivals of ear-
derstands that the basis for all good rock, the archives in search of a doctorate. He un-
he's never come off solely as an academic, but because his pop instincts are so strong American music of the last three decades, man repository of all that's good in rooted
Lowe. He's become, in fact, a sort of one-
Flame, both on his own and as a member of producer (Phil Spector called him the best
enjoyed back when Top-40 success was not enjoyable, and, on the most basic of levels, everything else is spunky, melodically mem-
of that day would have thought of it). But everything else is spunky, melodically memo-
no denying that Willie makes you pay
All time a reissue of singles and previous album cuts (Ray's been look-
ing high notes he doesn't often try for any
The Niceness of It All, but they both seem more like adolescent pulse-takings than ma-
ly assortment of ancient standards has a few too many chestnuts for my taste; we've never been able to get away from these songs, so how can we welcome them back?

GILBERT O'SULLIVAN: Off Centre. Gilbert O'Sullivan (vocals, piano); instrumental accompaniment. I Love It But; What's in a Kiss; Help Is on the Way; Why Pre-
tend; The Niceness of It All; Hello, It's Goodbye; and six others. EPIC JE 37013 $7.98. Performance: Sprightly. Recording: Good
After a three-year forced hiatus (he's had legal problems), Gilbert O'Sullivan is back with a collection of new songs. The album is sprightly and engaging enough, although I don’t hear another Alone Again (Naturally) or Claire anywhere. But, then again, those hits were more than a decade ago; if they came along today they would cause hardly a ripple. O'Sullivan tries hard to be introspec-
tive in I'm Not Getting Any Younger and The Niceness of It All, but they both seem more like adolescent pulse-takings than ma-
ture self-appraisals. His main talent re-
mains his ability to write and perform catchy little truffles, such as "Things That Go Bump in the Night" and Help Is on the Way, for his own and his listeners' amusement. Well, there's a place for that too. P.R.

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RAY PRICE: A Tribute to Willie & Kris. Ray Price (vocals); instrumental accompaniment. Night Life: The Healing Hands of Time; Crazy, For the Good Times and five others. COLUMBIA JC 37061 $7.98, ® JCT 37061 $7.98. Performance: Good. Recording: Pretty good
Let's see now. Willie Nelson did an album of Kris Kristofferson songs, Willie and Ray Price did an album together, and Ray's done an album of Nelson and Kristofferson songs. Maybe Ray & Willie & Kris should form a trio and get it out of their systems. Actually, this album is a reissue of singles and previous album cuts (Ray's been look-
ing to Willie and Kris for songs for years). They're all good, of course, and the first one, Willie's Night Life, gives you Price hitting high notes he doesn't often try for any more. He does—and did, when these cuts were recorded—have one of the larger voices, and if you don't have a Ray Price collection and want a sampler with no weak songs in it, this is it.

RAINBOW: Difficult to Cure: Rainbow (vocals and instrumentals). F Surrender, Spotlight Kid; No Release: Magic; Can't Happen Here, Freedom Fighter; and three others. POLYDOR PD-1-6316 $8.98, ® CT-1-6316 $8.98. Recording: Good
Guitarist Ritchie Blackmore is you might say, the Vanilla Fudge factor in this group,
and the album sounds definitely influenced by that era. The instrumentals are somewhere between Led Zeppelin and Bad Company, which Java says to date from 1970, all this revivalist heavy-metal thundering about. And, indeed, a couple of the songs, Magic especially, seem mainly designed to get on the radio and stay there until they've thoroughly annoyed everyone and made a lot of money in the best Eighties tradition. But there's a Sixties approach to subject matter—many of the songs hold loosely to the suggested theme that it's our society that's difficult to cure—and there's an old-fashioned tension, in rock terms, running through it. Of course, the ending, Difficult to Cure, blending the best-known theme from Beethoven's Ninth Symphony into an otherwise tuneless hard-rock mishmash, is as cheap as Emerson, Lake, and Palmer with a good head of steam up, and I frankly don't think even the album's most straightforward "protest song," Can't Happen Here, gets to the heart of anything. But at least it is free of "mah baby" songs. N.C.

**PHOEBE SNOW: Rock Away (see Best of the Month, page 72)**

**RECORDING OF SPECIAL MERIT**

T-CONNECTION: Everything Is Cool. T-Connection (vocals and instrumentals); vocal and instrumental accompaniment. Groove City; Spinning; Paradise; Everything Is Cool; and four others. CAPITOL ST-12128 $7.98, © 4XT-12128 $7.98.

Performance: Good stuff
Recording: Fine

Percolating percussive rhythms dominate these tracks and are, in fact, the part of many of them. What raises T-Connection above the ordinary is the fine musiciansian in the busy, funky arrangements. The-ophiulus Coakley (the "T" of the group) both writes and sings in a pop idiom; his attractive melodies contrast with the funkiness and create a distinctive combination. Spend the Night with Me, for instance, has a vocal arrangement that moves smoothly into and out of a pleasant and (for once) perfectly natural-sounding falsetto. The percussion really takes off in the direction of reggae in another good Coakley song, Give Me Your Love, which is rhythmically complex, melodic, and danceable all at the same time. Nor is Coakley afraid of sentiment. Heaven in Your Eyes is an old-fashioned love song complete with violins and a crooned vocal.

The five men of T-Connection are really good, and their new album proves that it's possible for a contemporary group to work within a commercial mode and still make distinctive music. J.C.

**CONWAY TWITTY AND LORETTA LYN: Two's a Party.** Conway Twitty, Loretta Lynn (vocals); instrumental accompaniment. Two's a Party, The State of Our Union; Lovin' What Your Lovin' Does to Me, I'd Rather Have What We Had; and six others. MCA. MCA-5178 $8.98, © MCAC-5178 $8.98, © MCAT-5178 $8.98.

Performance: Southern-fried fun
Recording: Excellent

Those supers of country music, Conway Twitty and Loretta Lynn, are so down-home and open, so unabashedly Nashville, and so well matched that they are hard to resist as they team up here for a program of ballads totally drenched in corn oil. "I still believe in love songs/And the good in the good old days" they assure each other in one waltzy item, while in another they proclaim "the state of our union" to be in healthy shape. Health—a robust joy in living—is what this music is about. Their singing goes down easy, sure, but they know exactly what they're doing, and they do it admirably well. A wholesome disc. P.K.
Rex Harrison, Teacher of Singing

If there isn’t a statue of Rex Harrison erected somewhere by the ASG (Aging Star Guild), then there ought to be. If it hadn’t been for his breakthrough work all those years ago in My Fair Lady, in which he was the first star to “talk” his musical numbers, where would the scores of over-the-hill, tone-deaf film stars who seem to have appeared in every second Broadway show since be today? No, the blame and/or credit must rest on the exquisitely tailored shoulders of Mr. Harrison. Of course, what none of the others have going for them is the Harrison charm, the superb Harrison diction and timing, the Harrison acting ability, or the Harrison wit—but they have not tried anyway. Harrison doesn’t have to try at all, as his new DRG album, “Accustomed to Her Face,” demonstrates. He is a lithe and elegant vocal wonder, deftly creating roles for himself in each song. His technique and self-assurance are so overpowering that by the time he finished that old music-hall relic One of Those Songs, at the end of side one, without actually singing a note of it, I began to wonder what a Harrison version of Boris Godunov or Siegfried might be like. Smashing, probably. —Peter Keilly

REX HARRISON: Accustomed to Her Face. Rex Harrison (vocals); orchestra. As Time Goes By; These Foolish Things; One of Those Songs; Gigi; The Second Time Around; I’ve Grown Accustomed to Her Face; A House Is Not a Home; Try a Little Tenderness/How to Handle a Woman; Everybody’s Out of Town; Have You Met Miss Jones?/Wait Till You See Her; The Best Thing for You/Change Partners; I Thought I Had Time. DRG SL 5193 $7.98. © SLC 5193 $7.98.

THERE’S a strange thing about Bolling’s music—if you listen closely there isn’t much to hear, but if you just let it wash over you, the experience is not at all unpleasant. Throughout, Hubert Laws’ expert handling of the flamboyant flute passages, Chuck Damanico’s crisp, clear bass, Shelly Manne’s drums, and Bolling’s own glittering pianism put an impressively high sheen on the material.

THE NEW MOON (Sigmund Romberg–Oscar Hammerstein II–Herbert Stothart). Excerpts from the original-soundtrack recording. Lawrence Tibbett (baritone); Grace Moore (soprano); others; orchestra. PELICAN © LP 2020 $7.98. Performance: Wonderful kitsch Recording: Decrepit

The decision by Pelican Records to release excerpts from the original 1930 MGM soundtrack was nothing less than inspired, however, and the record has to be heard to be believed. Not to take anything away from Mr. Tibbett or Miss Moore, who could sing rings around the Jeanette MacDonals and Nelson Eddys of this world with stoppers in their mouths, but there has never been anything more wonderfully silly than that movie of New Moon. The scene was shifted from a New Orleans plantation and a ship on the Caribbean to the Caspian Sea, where Mr. Tibbett, in the role of Lt. Michael Petroff, pants after Miss Moore as the pouting Princess Tanya. Most of the story line hinges on whether the princess will forgive the lieutenant for singing a “vulgar song” about a farmer’s daughter, which had to be written into the score by Hollywood composer Herbert Stothart. In the end, after putting down a mutiny, the lieutenant finally wins the princess. The dialogue left on the record is treasurable, and we get to hear two of the best warblers who ever took leave of the opera stage for the soundstage making the most of Lover Come Back to Play, Kids. Me, Ode to Joy, You, and all those other songs my mother loved (along with the rest of her generation) when movies like New Moon offered escape from the grey winds of the Depression blowing outside the local Loew’s. Little has been done to improve the sound of the 1930 recording, which is rather noisy at first but quiets down as it goes along.

P.K.
BOB BROOKMEYER: And Friends. Bob Brookmeyer (trombone), Stan Getz (tenor saxophone); Gary Burton (vibraphone); Herbie Hancock (piano); Ron Carter (bass); Elvin Jones (drums). Jive Hoot; Skylark; Wrinkle Time; Who Cares; and four others. COLUMBIA PC 36804 $5.98.

Performance: Excellent
Recording: Very good

This album first appeared in 1965, and Bob Brookmeyer and his "friends" were considered an all-star group even then, but Ron Carter, Herbie Hancock, and Gary Burton were relative newcomers. As members of the Miles Davis Quintet, Carter and Hancock were not exactly unknown, and Burton's visibility was also increasing as a Stan Getz sideman. Brookmeyer had himself been a Getz sideman in 1953, and at the time of this recording drummer Elvin Jones was propelling John Coltrane's group. Even with so many luminaries in one group things could have gone wrong, but all went well and the music does not sound the least bit dated to my 1981 ears.

I only wish Columbia had reissued the whole package intact. Bob Cato's cover art for the original release showed more imaginatively and originality than Ken Robbins's grainy photo of people on a beach, and Dan Morgensen's original liner notes were more informative and pertinent than Mort Goode's updated replacement. Well, at least the fine music hasn't been tampered with.

C.A.

RECORDING OF SPECIAL MERIT

DON BYAS: Master Balladeer. Don Byas (tenor saxophone); Mary Lou Williams, Beryl Booker (piano); other musicians. Lullaby of the Leaves; O.W.; Lover Come Back to Me; Why; Moon Glow; I Should Care; and six others. INNER CITY © IC 7018 $7.98 © TIC 7018 $8.98.

Performance: Vintage
Recording: Good mono

Tenor saxophonist Don Byas came from Oklahoma, spent the early part of his career in a swing environment on the West Coast, then moved east, graced New York's 52nd Street, fed the early flames of bop, and finally, touring Europe with the Don Redman band in 1946, simply got off the circuit and settled down in Holland. This album from the French Vogue label's Jazz Legacy series contains twelve performances Byas recorded with three different groups between 1953 and 1955. Half of them (all of side one) are with a trio led by Mary Lou Williams. Rich in texture, these performances seem to reflect an old friendship warmed (Continued on page 105)
Making Real Music: Trapezoid and Figgy Duff

Trapezoid is what happens when four musical dropouts from different parts of the country meet in West Virginia. I wouldn't want you to get the wrong feeling about that word "dropout." These are obviously productive people, and, for all I know, they may espouse the same values as the average middle-American nuclear family (though I doubt it). But West Virginia is not a place you go to to join the great American business-of-music machine; it's a place you go to to get said machine off your back and do something different, a place you drop out to.

On their new Flying Fish album, "Now & Then," Trapezoid (which was put together about five years ago by four other people) is doing something different, something interesting, and, to my mind, something marvelous. Their sound includes, at various times, voices, violin and viola, mandolin and mandola, guitar, cello and bass, bowed psaltery, and hammered dulcimer. The "country" basis of this is obvious, but the four members of Trapezoid also share a classical training, a taste and a feel for older jazz, and, as Michael Kline (who wrote the notes) puts it, "a passion for Irish music" (one might say Scottish and English as well). What they also share is intense musicality and imagination; there are so many different and interesting (and beautiful and peculiar and funny) things on this record that you just want to go down to West Virginia and hug the four of them.

It takes a certain turn of mind to write and perform a piece called Silverplume Waltz that is a waltz only in its bridge section and otherwise meanders right back into 4/4. It takes a certain rhythmical force of character to put an asymmetrical rhythm onto a traditional tune (Do You Love an Apple) and make it over wholly while seeming perfectly natural. It takes both guts and a sense of humor to echo the Boswell Sisters on Down Home Rag and do it well enough to be taken seriously. I don't know what it takes to come up with The Lakes of Pontchartrain, but it is just beautiful.

What you really have to respond to is the sound of this group: the plinking and plunking, buzzing, sweeping, ringing, droning, and wailing acoustic construction that changes from song to song to give you every facet of the geometry involved here. There's very little of this sort of thing generally heard today. God bless those dropouts.

Figgy Duff is three males and a female native to Newfoundland, which, if you didn't know, has an ethnic basis of English and Irish with "a sprinkling of Scottish, Welsh, French, and Basque" (!). Figgy Duff, which has an aural basis of female vocals, accordion, guitar, bass, and drums, with a sprinkling of tin whistle, piano, mandolin, and vocal harmony, sings and plays songs, jigs, and reels they learned from some of the older inhabitants of Newfoundland. They're bloody good.

That accordion takes you back right away to the "country" music of the British Isles and Ireland, but the drums would never have been present but for rock-and-roll. The combination is devastating, and the lyrics, dealing with love in some of its coarser, earthier manifestations, keep the music ringing true. Again, it is the overall sound—the predominantly minor keys and modes, the accordion, the drums, the almost seventeenth-century vocal technique of Pamela Morgan—that makes the record. Morgan, by the way, is also a virtuoso of the tin whistle, and her solo on The Fisher Who Died in His Bed shows the incredible communicative power of that venerable folk instrument.

If Figgy Duff has a weakness (given self-imposed repertoire and style limitations), it is one of too much reliance on Morgan's voice; too often she sings the verses and the choruses, and the ears cry for the timbre of a couple of male voices to alternate with hers. But she does sing well. The recording was mastered at half speed, is a self-declared "audiophile recording," and is really quite a knockout.

Both these groups, from different directions, adjoin and impinge upon territory currently held by Steeleye Span. In spite of this, their distance from the Top-40 commercial gristmill is at least as great as the distance from West Virginia and Newfoundland to New York and Los Angeles. Both groups are a reassurance that if we can just get beyond the self-serving palaver that characterizes the communications industry and the music business today, there is still real music on this continent.

—James Goodfriend
 anew. As annotator Herb Wong points out, Williams' ballad Why is exceptionally beautiful and ought to find its way into more jazz repertories.

There are also three cuts Byas did with an all-woman trio led by the late Beryl Bookner on a 1954 European tour. One of these, I Should Care, has the pianist—who accompanied both Dinah Washington and Billie Holiday—singing in a pleasantly intimate style. And there are three selections with a European quartet that includes Belgian vibist Fats Sadi. Byas sails through it all, again and again reminding us of what a great loss his migration from the American scene was. There is no plethora of Don Byas albums, so I strongly advise you to get this one while you can.

RICHIE COLE: Side by Side. Richie Cole, Phil Woods (alto saxophones); Eddie "Lockjaw" Davis (tenor saxophone); John Hicks (piano); Walter Booker (bass); Jimmy Cobb (drums); Donna Lee. Scrapple from the Apple: Naugahyde Reality, and three others. MUR 5237 $7.98.

Performance: Spirited
Recording: Fair remote

This album was recorded at a concert in Denver, Colorado, last summer, and while it does not show Richie Cole's alto playing to as great advantage as did some of his previous studio releases, it does find him in more interesting company than usual. Most interesting is the presence and participation of fellow saxophonists Eddie "Lockjaw" Davis and Phil Woods, the former is heard only on the opening number, Save Your Love for Me, but he more than makes his mark with that one statement. Nevertheless, it is one of the weaker tracks overall, for the combination of Cole and Woods is what really makes this release shine, from their breakneck improvisations on the bebop standards Scrapple from the Apple and Donna Lee to a laid-back blues, Eddie's Mood, dedicated to the late Eddie Jefferson (with whom Cole was closely associated).

I would be unforgivably remiss if I did not mention the rhythm section that cooks through the set, with a special note for pianist John Hicks' burning solo on Donna Lee. Try this album; you'll love it if bop or just plain good jazz is your thing.

RECORDING OF SPECIAL MERIT

ROY ELDREDGE: I Remember Harlem. Roy Eldridge (trumpet, piano, vocals); Don Byas (tenor saxophone); Claude Bolling (piano); other musicians. Baby, Don't Do Me Like That; I Remember Harlem; Black and Blue; Just Fooling; I'd Love Him So; Little Man; Fireworks; Hollywood Pastic; and eight others. INNER CITY & IC 7012 $7.98.

Performance: Excellent
Recording: Good mono

If you can recall a Roy Eldridge performance, and there was even less than interesting, I'd be very much surprised. Even when Eldridge sings in fractured French, there's so much musicality in his delivery that it is almost impossible not to become absorbed. And he virtually explodes on the playing end of a trumpet, a position he holds through most of this Inner City set.

"I Remember Harlem" is another release in the French Vogue label's Jazz Legacy series, the second to be devoted to Eldridge. Recorded in 1950 and 1951, the album presents various sides of Eldridge as vocalist and soloist extraordinaire with two different groups, in a couple of duets with the then twenty-year-old pianist Claude Bolling, and as piano soloist. Eldridge is, of course, a strong individualist, but the infection of the great master, Louis Armstrong, is unmistakable. The two duets here, Wild Man Blues (wrongly credited to Lil Armstrong) and Fireworks, are virtual mirrors of the early Armstrong performances with the Hot Seven and Hot Five, and Bolling's work on the latter cut clearly emulates the original Earl Hines interpretation. A far more original approach to the instrument is found in Eldridge's three piano solos, although they appear to be what is commonly referred to as "throwaway" tracks and may in fact never have been intended for release. Three of the sixteen tracks in this album have never been issued, including two wonderful quintet selections featuring tenor saxophonist Don Byas that are alone worth the price of admission.

CA

RECORDING OF SPECIAL MERIT

JAN GARBAREK: Folk Songs. Jan Garbarek (soprano and tenor saxophones); Egberto Gismonti (guitars, piano); Charlie Haden (bass). Veien; For Turia; Cego Adesaro; and three others. ECM ECM-1170 $8.98. © M5E-1170 $8.98.

Performance: Haunting
Recording: Extraordinary

If you have ever heard Norwegian tenor saxophonist Jan Garbarek cast his sounds across a studio, you probably imagined a Viking's mournful horn dancing across the quiet waters of a misty fjord. If you have ever heard Egberto Gismonti's expressive guitar and piano amplify his Brazilian soul, you probably formed some equally romantic mental picture. Now imagine the two, not only combined, but cemented together by the masterful and sensitive bass playing of Charlie Haden—shrewd delight, right? Now stop this time-wasting imagining and do whatever you have to to get hold of "Folk Songs." CA

CA

HARRY JAMES AND DICK HAYMES: James and Haymes. Harry James (trumpet); Dick Haymes (vocals); Harry James Orchestra. Flying Home; All or Nothing at All; Sonata Moderne; Carnival of Venice; Cherry; Music Makers; The Things I Love; Here Comes The Night; and eight others. CIRCLE © CLP-5 $6.98.

Performance: Interesting
Recording: Good

These tracks were recorded in 1941 when Harry James and his orchestra were approaching the peak of their popularity. James' trumpet work was often exciting, but unfortunately it was just as often bombastic and gimmicky, as in such chestnuts as Flight of the Bumble Bee and Carnival of Venice. The less said about his own composition, Sonata Moderne, the better. He and his orchestra provide a fine setting, however, for the young (and now late) Dick
Haymes, who sounds just fine in such standards as All Or Nothing At All and Bringin'. Still, the album will be of interest mainly to serious collectors of big-band recordings.

**JAMES P. JOHNSON: Stride Pieces (see "Ragtime Back to Back," Classical Reviews, page 90)**

**SCOTT JOPLIN: Collaborative Rags (see "Ragtime Back to Back," Classical Reviews, page 90)**

**SUSANNAH MCCORKLE: The Songs of Johnny Mercer. Susannah McCorkle (vocals); Keith Ingham Trio (instrumentalists); other musicians. Harlem Butterfly. Talk to Me Baby; Fools Rush In; My New Celebrity Is You; How Little We Know; and nine others. INNER CITY IC 1101 $7.98.**

Performance: Jazznik's delight

Recording: Good

Susannah McCorkle, an American singer who made it big in Britain, is partially back on her home turf with this recording; the songs are by the very American Johnny Mercer, but the album was recorded in London with English musicians. McCorkle's singing and her accompanists' playing are all very elegant, and technically the album is a jazznik's delight. But there is a decidedly retro feel to it; every line, every phrase, every intonation has a weighty and studied sound. This is not to say that it isn't often very satisfying when McCorkle and Co are examining such lovely songs as How Little We Know or Fools Rush In, because it is. But is the kind of satisfaction I get from watching Masterpiece Theatre. I know that every bit of period decor is correct and that the costumes are right and that there will be no jarring anachronisms in the dialogue or accents. I like and admire this sort of thing, but somehow it doesn't seem quite real. Surely classic jazz doesn't have to be museum jazz. Is it possible that the locale is at fault? Jazz rarely sounds completely idiomatic off the American turf.

**ANITA O'DAY: In Berlin. Anita O'Day (vocals), George Arvanitas (piano), Jacky Samson (bass); Charles Saudrais (drums). Your Wings; Honeyuckle Rose; I Can't Get Started; On a Clear Day; Sunny; and four others. PAUSA 7092 $7.98.**

Performance: Involved

Recording: Good

This isn't one of my favorite Anita O'Day albums. Recorded at the Berlin Jazz Festival in 1970, it sounds too academic, too much the "pure," jazz artist singing to "nehr" jazzophiles and casual listeners be damned. Lyric sense and logic take an awful beating here as O'Day "instrumentalizes" every last comma or semicolon, se- renely above such pedestrian obligations as telling a story. I don't particularly mind when it's something like her own Your Wings, but it's annoying when she clouds up a song as straightforward as On a Clear Day.

**DARYLE RICE: I Walk with Music. Daryle Rice (vocals); Loomis McGlothlin Quartet. My Shining Hour; Once I Loved; The Rainbow Connection; Blackberry Winter; Stormy Weather; It Never Entered My Mind; Summertime; and seven others. AUDIOPHILE AP-141 $7.98.**

Performance: Promising

Recording: Good

Daryle Rice has a big, warm, powerful voice, and she's not at all shy about getting down with it emotionally. The problem is that her lyric technique is still rather ragged and she sometimes allows the feeling she expresses to obscure the sense. This is fine in such things as The Rainbow Connection and Once I Loved, but not so fine in more cerebral songs such as It Never Entered My Mind and Alec Wilder's Blackberry Winter. Still, Rice shows a lot of promise, and we'll probably be hearing from her in the future.

**DAVE SCHNITTER: Glowing. Dave Schnitter (tenor saxophone, vocal); Claudio Roditi (trumpet); Albert Dailey (piano); Mark Helias (bass); other musicians. Where or When; I'll Remember April; If I Loved You; and three others. MUSE MR 5222 $7.98.**

Performance: Glowing indeed

Recording: Very good

Dave Schnitter's latest Muse album, "Glowing," is his finest; the thirty-two-year-old tenor saxophonist here surpasses even the brilliant performances on his three previous releases on the label. Of course, credit for the album's success is not due to Schnitter alone, for he has excellent collaborators in trumpeter Claudio Roditi, pianist Albert Dailey, and bassist Mark Helias, among others. Roditi's name is new to me, but his expert bop playing should soon make it familiar; his performance here on I'll Remember April is as impressive as anything I've heard lately in this genre.

One track here, If I Loved You, has different personnel and probably stems from the session that produced Schnitter's earlier album "Thundering." Billy Hart, Ted Dunbar, Kenny Barron, Cecil McBee, et al. take a back seat on it, however, for its two and a half minutes are devoted mostly to the album's only Schnitter vocal. It provides a touch of soul, but Schnitter sings too cautiously, clearly testing the water before plunging in. If he decides that singing is not his bag, he will have all the more time to play where he is obviously comfortable. If this is not a man at ease with a tenor saxophone, Art Tatum had pianophobia. C.A.
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RECORDING OF SPECIAL MERIT
ZOOT SIMS: The Swinger. Zoot Sims (tenor saxophone); Ray Sims (vocals, trombone); Jimmy Rowles (piano); Michael Moore, John Heard (bass); Shelly Manne, John Clay (drums). "The Moon Is Low; Jeep Is Jumping; Mr. J. R. Blues; On the Alamo; John Clay (drums); Ray Sims (vocals, trombone); Jimmy Rowles (piano); Michael Moore, John Heard (bass); Shelly Manne, John Clay (drums). The Moon Is Low; Jeep Is Jumping; Mr. J. R. Blues; On the Alamo; and four others. PABLO 2310 861 $8.98, K10-861 $8.98.

Performance: Superb
Recording: Very good

No one who has kept an ear on jazz for the last three decades (or, for that matter, the last three months) will be surprised to hear that Zoot Sims' "The Swinger" lives up to its title. Even without the participation of
### ADVERTISERS' INDEX

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<thead>
<tr>
<th>Reader Service No</th>
<th>Advertiser</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ADS</td>
<td>35</td>
</tr>
<tr>
<td>2</td>
<td>Aiwa</td>
<td>24, 25</td>
</tr>
<tr>
<td>3</td>
<td>Allenpro</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>Alpine</td>
<td>91</td>
</tr>
<tr>
<td>5</td>
<td>Angel EMW Records</td>
<td>79</td>
</tr>
<tr>
<td>6</td>
<td>Audio-Technica U.S., Inc.</td>
<td>86</td>
</tr>
<tr>
<td>7</td>
<td>Audio-Technica U.S., Inc.</td>
<td>88</td>
</tr>
<tr>
<td>8</td>
<td>Bang &amp; Olufsen</td>
<td>87</td>
</tr>
<tr>
<td>9</td>
<td>BASF</td>
<td>7</td>
</tr>
<tr>
<td>10</td>
<td>Blue Angel, Inc.</td>
<td>23</td>
</tr>
<tr>
<td>11</td>
<td>Bose Corporation</td>
<td>Cover 3</td>
</tr>
<tr>
<td>12</td>
<td>Bose Corporation</td>
<td>37</td>
</tr>
<tr>
<td>13</td>
<td>Carver Corporation</td>
<td>15</td>
</tr>
<tr>
<td>14</td>
<td>Consumers Company</td>
<td>83</td>
</tr>
<tr>
<td>15</td>
<td>dbx, Inc.</td>
<td>43</td>
</tr>
<tr>
<td>16</td>
<td>dbx, Inc.</td>
<td>97</td>
</tr>
<tr>
<td>17</td>
<td>Empire Scientific Corp</td>
<td>22</td>
</tr>
<tr>
<td>18</td>
<td>47th St. Photo</td>
<td>106</td>
</tr>
<tr>
<td>19</td>
<td>Ford Motor Co.</td>
<td>66</td>
</tr>
<tr>
<td>20</td>
<td>Hi-Fi Buys</td>
<td>105</td>
</tr>
<tr>
<td>21</td>
<td>Illinois Audio</td>
<td>85</td>
</tr>
<tr>
<td>22</td>
<td>International Hi-Fi Dist.</td>
<td>105</td>
</tr>
<tr>
<td>23</td>
<td>International Record &amp; Tape Club</td>
<td>90</td>
</tr>
<tr>
<td>24</td>
<td>International Wholesalers</td>
<td>95</td>
</tr>
<tr>
<td>25</td>
<td>J. R. Music World</td>
<td>18</td>
</tr>
<tr>
<td>26</td>
<td>Jensen / Automotive Div.</td>
<td>2</td>
</tr>
<tr>
<td>27</td>
<td>Kodak</td>
<td>49</td>
</tr>
<tr>
<td>28</td>
<td>Kosco Corporation</td>
<td>Cover 4</td>
</tr>
<tr>
<td>29</td>
<td>Manfrotto</td>
<td>47</td>
</tr>
<tr>
<td>30</td>
<td>McIntosh Laboratory, Inc.</td>
<td>21</td>
</tr>
<tr>
<td>31</td>
<td>Memorex Corp.</td>
<td>33</td>
</tr>
<tr>
<td>32</td>
<td>Micro-Acoustics Corp.</td>
<td>76</td>
</tr>
<tr>
<td>33</td>
<td>Polk Audio</td>
<td>17</td>
</tr>
<tr>
<td>34</td>
<td>P.R.I.C.E.</td>
<td>87</td>
</tr>
<tr>
<td>35</td>
<td>RealTime Records</td>
<td>56, 57</td>
</tr>
<tr>
<td>36</td>
<td>Reissue Corp.</td>
<td>39</td>
</tr>
<tr>
<td>37</td>
<td>R.J. Reynolds / Vantage</td>
<td>54, 55</td>
</tr>
<tr>
<td>38</td>
<td>Rotel Corporation</td>
<td>10</td>
</tr>
<tr>
<td>39</td>
<td>Sansui Electronics Corp.</td>
<td>9</td>
</tr>
<tr>
<td>40</td>
<td>Shure Brothers</td>
<td>19</td>
</tr>
<tr>
<td>41</td>
<td>Sony Corp.</td>
<td>27</td>
</tr>
<tr>
<td>42</td>
<td>Sound Reproduction, Inc.</td>
<td>30</td>
</tr>
<tr>
<td>43</td>
<td>Speakerlab</td>
<td>14</td>
</tr>
<tr>
<td>44</td>
<td>Stereophonic Systems Corp.</td>
<td>121</td>
</tr>
<tr>
<td>45</td>
<td>Stereo Discouner</td>
<td>103</td>
</tr>
<tr>
<td>46</td>
<td>Technics by Panasonic</td>
<td>11</td>
</tr>
<tr>
<td>47</td>
<td>TDK Electronics</td>
<td>13</td>
</tr>
<tr>
<td>48</td>
<td>Techie's Schott</td>
<td>53</td>
</tr>
<tr>
<td>49</td>
<td>Top Discount Audio</td>
<td>106</td>
</tr>
<tr>
<td>50</td>
<td>U.S. JVC Corp.</td>
<td>41</td>
</tr>
<tr>
<td>51</td>
<td>U.S. Pioneer</td>
<td>Cover 2, 1</td>
</tr>
<tr>
<td>52</td>
<td>Wisconsin Discount Stereo</td>
<td>99</td>
</tr>
<tr>
<td>53</td>
<td>Yamaha International Corp.</td>
<td>29, 31</td>
</tr>
</tbody>
</table>

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**V.S.O.P. Live**

Some of the best music produced in recent years by jazz and fusion stars Wayne Shorter, Herbie Hancock, Ron Carter, Freddie Hubbard, and Tony Williams has been not with the groups they respectively lead but as equal parts of the quintet V.S.O.P. This group of five men with their acoustic instruments recaptures the grace of pre-fusion jazz, music whose solid structure underpins a bold and freewheeling musical conversation. All but Hubbard are graduates of the University of Miles Davis, indeed, they formed four-fifths of the quintet he led in the late Sixties when he was on the brink of creating fusion. Davis has been silent of late, but these disciples—particularly Shorter, Hancock, and Williams—have carried the electronic gospel to fame and prosperity, which makes their occasional returns to their roots in V.S.O.P. concerts seem like reunions for the virtuoso.

The latest V.S.O.P. album, "Live Under the Sky," is a two-disc set recorded live in summer 1979 at the Denen Coliseum in Tokyo. The spontaneity of live performance is enhanced by the response of an exceptionally appreciative audience. If any of the five instrumentalists shows to particular advantage here, it is Tony Williams, whose ability to coax a wide range of aural textures from a set of drums is most impressive. His impetus stimulates Herbie Hancock to display his own remarkable fluidity as a pianist, while Ron Carter is both subtle and powerful on bass. As always in V.S.O.P. sets, Wayne Shorter's solos are exquisite, and Freddie Hubbard's contributions exhibit a taste and restraint that are not apparent in some of his other work.

The recording is a marvel in itself, the digital process providing a startlingly true-to-life sound quality. The patterning of rain accompaniments parts of the concert, making it seem even more real, and the instruments seem to have a more than usually keen edge to their sound. But it's the wonderful music that makes all the expensive technology worthwhile.

—Phyl Garland

**V.S.O.P.: Live Under the Sky.** Herbie Hancock (piano); Wayne Shorter (soprano and tenor saxophones); Freddie Hubbard (trumpet, flugelhorn); Ron Carter (bass); Tony Williams (drums). One of Another Kind; Teardrop; Pee Wee; Para Oriente; Frailge; Domna; Stella by Starlight; On Green Dolphin Street. CBS MASTERSOUND 12C 36770 two discs $29.96.

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**MIKE WOFFORD QUARTET: Plays Jerome Kern, Vol. 2.** Mike Wofford (piano); Anthony Ortega (alto and tenor saxophones, flute, clarinet); Tom Azarello (tuba); Jim Plank (drums, percussion, vibes). Dearlly Beloved; You Are Love; Sure Thing; Smoke Gets in Your Eyes; and three others. DISCOVERY DS-816 $8.98.

Performance: Good
Recording: Good

To me, transposing Jerome Kern's songs into the jazz idiom is like trying to "swing" Johann Strauss. Why? Who needs anything but the gorgeous, Viennese-inflected melodies with soaring lyric lines that Kern wrote? No slight intended to Mike Wofford and his colleagues, all of whom are excellent musicians, but they've picked the wrong composer this time.

—P.R.
"For the first time, critics all over the world are unanimous in their verdict on a loudspeaker."

Oberösterreichische
Austria, 1968

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The '70's.

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The '80's.

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Japan. "This Bose loudspeaker displayed the best performance, not only in the purity of its sound and realistic presence, but also in its powerful reproduction of high volume sources."—Swing

Germany. "In comparison with the 901, a conventional loudspeaker of the same size sounds thin and insubstantial."—Stereo Play

United States. "In terms of sheer musicality, this speaker ranks with the finest, and in spaciousness of sound it is unsurpassed..."—Hi-Fi Stereo Buyer's Guide

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Better sound through research.

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The result is an exciting 4-driver speaker system that won't make you choose between the high road and the low road. And that's a promise!

But then, the Kossfire/210 loudspeaker has a lot of very promising things going for it. There's a linear phase constant voltage crossover network for seamless transition between drivers. There's a built-in circuit breaker that automatically resets so no fuses are necessary. There's a vertical alignment of woofers, midrange and tweeter array for perfect stereo imaging. And there are separate continuous level controls for midrange and treble response ranges. Not to mention, the Kossfire's beautiful pecan-veneer cabinet.

All in all, these 4-driver Kossfire speakers were created to fill the void between loudspeakers that cost too much and those that promise too much and deliver too little. The superb performance of Kossfire speakers will amaze you. But then, so will their price. And that's a promise!