THE $100 SPEAKER:
Eight experts rank fifteen of them

LOUDSPEAKER DESIGN:
How the laws of physics get in the way

Julian Hirsch on
COMPUTERIZED SPEAKER TESTING

EQUIPMENT TEST REPORTS
- Aiwa AD-M800U Cassette Deck
- Audio Control "Richter Scale" Equalizer
- Dahlquist DOM-9 Speaker System
- Onkyo CP-1130F Turntable
- Stanton 980LZS Phono Cartridge

DISC SPECIALS
Carole Bayer Sager • Leo Kottke
Gary U.S. Bonds • Fats Waller
Southside Johnny and the Asbury Jukes
Grateful Dead • Eno, Byrne, and Public Image

WAGNER: Parsifal
JANACEK: Glagolitic Mass
Jessye Norman Sings Berlioz
The Orpheus Trio Plays French Music
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 new 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 RIBBON 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 previews 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 and audible 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 — another Pioneer innovation. So it's extraordinarily quiet with no noisy belts, worm gears or pulleys and tracking error is virtually non-existent. The tonearm itself is made of Polymer Graphite—an amazing material that dampens resonance. And there's a coaxial suspension system that isolates the platter and tonearm assembly.

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.
Five Important Reasons Why You Should Own This New Realistic® 10-Band Equalizer.

1. Matches your system to any room.
Some rooms are acoustically "dead" due to thick carpeting and tons of overstuffed furniture. Some are acoustically "live" because of tile floors and hardwood paneling. Either environment will murder your music by altering the sound you hear by 6 decibels or more. Ordinary broadband bass and treble controls can't compensate for these imbalances because they alter far too much of the audio spectrum. But the Realistic wide-range equalizer, with 10 narrow bands and 10 controls for each channel, gives you total command from 31 to 16,000 Hz. You can add to or subtract from the music by up to 12 dB for a complete, creative control range of 24 dB.

2. Improves records, tapes, FM.
Remove annoying record scratches from old LPs and 78s without removing the music. Just reduce the audio level at 8 and 16 kHz. Rumble is eliminated with the 31 and 62 Hz controls but the bass remains intact. Substandard audio from careless radio stations can be cleaned up by a little re-equalization on your part.

3. Improves your speakers.
Moving a speaker 6" out from a wall can degrade bass response by 8 to 10 dB. But sometimes you have to. This equalizer restores the lost performance. And you can enhance the sound of the best speakers even when they're perfectly placed. Electronic equalization is the only way you can extend the response of a speaker.

4. Makes you a recording pro.
Now you can record professional-sounding tapes without professionally priced equipment. Using a 3-head deck, you can monitor off the tape and adjust the equalizer for the results you want.

5. Low priced.
The efficiencies of engineering and manufacturing this equalizer in our own factory help us to price it lower than any 10-band design of comparable features and quality that we know of. Yet it adds value, versatility and enjoyment to your stereo system, no matter what you paid for it! Can you afford not to own this equalizer? Come in and let us demonstrate a little "audio magic."

Our Innovative $179.95* Audio Upgrader Does It All!

Radio Shack
THE NATIONWIDE SUPERMARKET OF SOUND
*Retail price may vary at individual stores and dealers
NEW PRODUCTS
Roundup of the latest audio equipment and accessories

CAR STEREO
Installing It Yourself

AUDIO QUESTIONS AND ANSWERS
Speaker Damage, Power and Performance, Midrange Distortion

TAPE TALK
Print-through, Tape Bootlegging, Noncounting Counters

TECHNICAL TALK
Computerizing Speaker-response Measurements

EQUIPMENT TEST REPORTS
Hirsch-Houck Laboratories test results on the Onkyo CP-1130F turntable, Stanton 980LZS phono cartridge, Dahiquest DQM-9 speaker system, Audio Control "Richter Scale" equalizer, and Aiwa AD-M800U cassette deck

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A panel of eight experts discover their personal preferences

A SYSTEMATIC APPROACH TO LOUDSPEAKER DESIGN
Immutable laws of economics and physics are controlling factors

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Over a decade ago, a medical scientist formulated a fluid for cleaning records that exceeded all past record cleaning technology. Four generations of measurable improvements later, the Discwasher Laboratory continues to re-define the record care industry with the significantly reformulated D4.

The Discwasher D4 Record Care System...the safest and most scientific way to keep your records audibly pure.
Available in finer stereo and record stores.
CBS HAS ABOLISHED LIST PRICES of its products, claiming that ever-rising inflation and thin profit margins make recommended retail prices unrealistic and unnecessary. So far, other U.S. companies have not followed suit, but when PolyGram made a similar move in Great Britain last year, almost all other labels quickly joined in, and there are now no list prices in most European record markets. In reviews this magazine will continue to give prices for companies that supply them; reviews of records on Masterworks, Epic, and the other CBS labels will contain the phrase "no list price."

U.S. PIANIST ANDRÉ-MICHEL SCHUB, winner of the Sixth Van Cliburn Piano Competition, counts among his winnings a recording contract with the Moss Music Group. Schub’s recording debut will be a digitally recorded recital album on MMG's Vox Cum Laude label. Scheduled for fall release, the record will include Brahms’ Handel Variations, Liszt’s Dante Sonata, and the two Liszt-Paganini Etudes Schub performed on national TV when it was announced that he was the grand prize winner.

AWARDS: The Gold Baton Award of the American Symphony Orchestra League for 1981 was given to conductor Maurice Abravanel, music director laureate of the Utah Symphony, for distinguished service to music. The 1981 Naumburg International Violin Competition was won by Nadja Salerno-Sonnenberg, a twenty-year-old Italian-American who studies at the Juilliard School in New York. The Memphis State University Distinguished Achievement Award, set up in memory of Elvis Presley, will be given this year to Charlie Rich on August 16, the fourth anniversary of Presley’s death.

WEA LABELS WILL ADOPT THE CX SYSTEM of noise reduction developed by CBS to reduce surface noise on records and extend their dynamic range. Described in Stereo Review in July, the system requires a CX decoder to realize its full benefits, but CBS claims that encoded discs played on regular hi-fi equipment sound the same as ordinary records. The first CX decoders should be on the market this summer, and CBS has already released two recordings in CX-encoded form: Korngold’s Violanta on CBS Masterworks 35909, reviewed here in July, and "Sanctuary" by New Music on Epic NFE 37314. WEA is the first record company other than CBS to adopt the CX system. Records affected will be those onWARNER Brothers, Elektra, Asylum, Nonesuch, Atlantic, and the labels WEA distributes.

A NEW FM-TUNER DESIGN BY BOB CARVER of the Carver Corporation is claimed to break through the sensitivity limit of conventional FM circuitry and also to suppress multipath interference. According to Stereo Review’s Technical Director Larry Klein, A-B listening tests of the Carver prototype against Julian Hirsch’s best tested tuner (the $2,000 Micro CPU) showed that most stations were brought in equally well by both, but on at least eight distant stations the Carver unit provided a clean full-stereo signal against the CPU’s hissy, raspy mono signal. The tuner has a projected price of $450 and may be available by late fall.

FRENCH JAZZ PIANIST CLAUDE BOLLING, who records for both CBS Masterworks and Angel, is touring summer music festivals across the U.S. in August with flutist Jean-Pierre Rampal and guitarist Alexandre Lagoya, who were his collaborators on the best-selling CBS album "Picnic Suite" (M 35864). Bolling’s latest album is "Toot Suite" (CBS FM 36731), music for piano, bass, drums, and trumpet, released in July. The trumpet tooter on "Toot Suite" is Bolling’s compatriot Maurice André.

EXXON’S GREAT PERFORMANCES TV SERIES, which is on reruns this summer, offers second chances to see two acclaimed musical programs. Airing on August 17 is When Hell Freezes Over, I’ll Skate, a show based on the works of black poets, and Frank Loesser’s Broadway musical The Most Happy Fella with bass Giorgio Tozzi will be shown on August 24. Check PBS stations for time.
Speaking of Music

By William Anderson

GERIATIC ROCK

A
image from a TV drama found a home
in my mind some years back and won't
move out. The story is set in the future in an
underground city beneath greater Los An-
geles. A nuclear holocaust has turned the
earth above into a nightmare of radioactive
gases swirling over a landscape of blasted
concrete. A few survivors have managed to
create a mean existence for themselves deep
in a cramped rabbit warren of air-locked
bunkers interlaced with old communica-
tions tunnels. Not so cramped, however,
that there isn’t room to feed the spirit in a
night club (it is, of course, always night down there). A rock
band, outfitted with electric guitars and full
woodstockery, is playing, and as the cam-
era moves in closer we discover that they
produced themselves that they could not only predict but control the pub-
lic's taste in pop music. But business has
been bad lately, it may be getting worse,
and punk rock has done little to shake the
simplicisms of rock no
longer need rock for non-musical rea-
sons—as a weapon in the generational bat-
tle against their parents and their parents’
music, or as a rude noise calculated to max-
imize the ears of the rest of the Es-

tablishment, for they are themselves (or shortly will be) the Establishment.

Mostly, however, it is a matter of ma-
turing tastes. The simplicisms of rock no
longer satisfy; crudity, ineptitude, and
downright amateurism are no longer seen as
necessarily the only proofs of Honesty,
Sin
of the Rest of the Establishment.

These releases may be of some interest to
precocious nostalgists, a few curious young-
sters for whom the days of the Sixties are as
dear (and as dead) as the Twenties were to
their parents, but the larger target is what it
has been for close to a couple of decades:
that demographic imperative known as the
Population Bulge. The target has shifted
and spread, however; the once predictable
Rock Generation, now over thirty, can’t be
trusted to respond as it used to—has evid-
ently, amazingly, developed a mind of its
own. It has decided, for one thing, that rec-
dords are too expensive (they aren’t, in ac-
tuality: if disc prices had kept up with infla-
tion they’d be $20 to $25 each by now),
which is an indirect way of saying that
people have found other, better things to do
with their money: marriage, home, and
family, other preemptive hobby interests,
even (horror!) other music. Further, they
no longer need rock for non-musical rea-
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tablishment, for they are themselves (or shortly will be) the Establishment.
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 I. 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?

BASF Systems, 610 Crayton Drive, Newton, Massachusetts 01790

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

Guarantee of a Lifetime!

Professional II and ordinary high grade tape are displayed at the left in the original recording. The difference in noise level between PRO II and ordinary high grade tape is greatest where the human ear is most sensitive (2-4 kHz).

For the best recordings you'll ever make.

CIRCLE NO. 4 ON READER SERVICE CARD
LETTERS TO THE EDITOR

Marilyn Horne

- Bravo to William Anderson's "Fame" editorial in June! I had the pleasure recently of seeing Marilyn Horne in concert in Pasadena and enthusiastically agree with Mr. Anderson's praise of her. However, after the concert I heard the woman seated in front of me criticize Miss Horne for not being more lively or ebullient on stage (perhaps she was expecting cartwheels or a comedy monologue between songs?). This woman apparently missed the subtle but intense excitement that Marilyn Horne conveys by her total command of the music she performs and by her obvious concentration on and dedication to her art.

KATHY M. CARR
Pismo Beach, Calif.

Juice Newton

- Noel Coppage's June review of the latest effort by Juice Newton refers to it as her "second album." In fact, "Juice" is only her second (at least) album for Capitol. She had several previous, relatively obscure releases on RCA (named with her back-up band Silver Spur (which included some of her current accompanists, such as Otha Young). Also, regarding Mr. Coppage's statement that "...Newton does some exciting new things with Angel [of the Morning]..." -the original "monster pop hit" by Merilee Rush (on Bell Records) is still my pick, and it never left my house.

AL PETERS
Terre Haute, Ind.

Redpath Sings Burns

- Thank you for the June "Best of the Month" review of "Jean Redpath Sings Robert Burns." I am fully in accord with Paul Kresh's impressions of Jean Redpath. Having had the privilege of meeting her recently, I can assure you that she is a most vital and talented lady.

Readers may be further interested to know that Serge Hovey of Pacific Palisades, California, played a significant role in the research that made Miss Redpath's two Burns albums possible. Mr. Hovey has collected all 323 of Robert Burns' songs and matched them with the original Scottish folk tunes (for which Burns either wrote new lyrics or emended the original versions). He then composed arrangements for each song. The songs are organized in twelve volumes, still in manuscript form, entitled The Robert Burns Song Book.

Hamish Henderson, of Edinburgh's School of Scottish Studies, reviewed the work of Hovey with these words: "Having listened to a number of his arrangements, as interpreted by Jean Redpath, it seems to me...that we have here an out-of-the-ordinary artistic phenomenon, an amalgam of creative flair and scholarly exactitude which makes these settings a really formidable achievement."

LYNN SHEVITZ
Pacific Palisades, Calif.

Small-car Stereo

- I love the illustration for the car-stereo article on page 58 of the June issue, but I can't find the artist's name. Who Dunnit?"\n
CHARLES BEAR
Seattle, Wash.

Contributing Editor Lincoln Perry'snan appears in Lilliputian type at the lower right-hand corner of his drawing.

Bang & Olufsen

- Kudos, twice, for the June STEREO REVIEW. Once is for the test report on the Bang & Olufsen Beogram 8000 record player. Already owning one, I have, of course, arrived at the same very positive conclusions as Julian Hirsch.

Kudos also for Joel Vance's review of Rick Springfield's "Working Class Dog." Springfield is an artist deserving of far more recognition than he has received in the past. Each of the four albums he has released since 1972 has been on a different label; I only hope that RCA will finally give

(Continued on page 10)
Pure engineering logic tells you a straight tonearm has lower effective mass than a curved one. But a straight arm isn’t necessarily a better arm. Nor is a turntable better just because it has one.

When JVC engineers design a turntable like the L-A31 shown here, they design every part with care and imagination. That’s why JVC’s tonearm has the extra advantage of Tracing Hold.

Tracing Hold places the arm’s pivot point above its center of gravity. Now, gravity is an ally. It maintains equilibrium constantly as the stylus tracks your record. This means better tracking and longer stylus life.

Our engineers didn’t stop there. Recognizing that a straight arm needs protection against resonance, they fashioned a rigid, low-mass carbon fiber headshell that’s resistant to vibration. So your stylus responds to signals in the groove and nothing else.

An arm like this needs a great turntable to go with it. And the L-A31 measures up: wow and flutter 0.03% WRMS. Rumble – 75 dB DIN B or better. Plus a non-cogging DC direct-drive motor that applies torque in a smooth, linear transfer of power. There’s also front-panel controls, ±6° pitch control, strobe and tonearm lift-off and return.

So before you jump at just any straight-armed turntable, check out a JVC. Because there’s more to turntable performance than the shape of the arm.
Soundcraftsmen

"Guaranteed to improve and enhance any fine component sound system"

Knowledgeable Audio Critics always specify separate Power Amps, Preamps and EQ’s for the finest sound available... Soundcraftsmen builds, in the finest American Tradition, coordinated separaties for a superbly matched stereo system or, as individual components to upgrade your existing system...

Digital Quartz PLL 5-digit readout, for all present and future station spacing requirements... 14-station pre-set... Exclusive Memory-Retention circuits for years of program storage, no external power required... 3-way Automatic/Manual scanning/tuning selection... Variable output level controls... 19" rack-mount... Walnut side panels

Bar-Graph display is variable from .1 to 10 second intervals

Differential-Comparator circuitry provides .01dB readout accuracy. Automatic-sweep individual octave bands (0.1dB) for demanding professional applications... Our revolutionary Patent-Pending

This is the world's only low-cost PRO Real-Time Analyzer... no other High Fidelity analyzer is accurate enough (0.1dB) for demanding professional applications... Our revolutionary Patent-Pending Differential-Comparator circuitry provides 0.1dB readout accuracy. Automatic-sweep individual octave Bar-Graph display is variable from .1 to 10 second intervals...

Cabinet included

7 amp models, from $549.00

NO CURRENT LIMITING provides high head-room and increased stability... all our amps have this unique and desirable circuitry... the MA5002A shown has the new exclusive Patent-Pending Vari-proportional* Auto-Buffer* system for continuous 2-ohm operation, Class "H" energy-saving circuitry, 250W/20-20KHz/8 ohms, 0.09% THD, 375W/4 ohms, dual 0-1,000 watt peak-reading 20-segment LED displays.

The Best in EQ’s is now affordable... our EQ’s include all 10 of these indispensable features: Real-Time Frequency Analyzer Test Record... Computone Chart Memory system... Accurate 0.1dB Zero-Gain controls... EQ tape record... Tape Monitor... EQ defeat... ±16/12dB octave gain... S/N-105d8... THD 0.01%... Cabinet included

7 amp models, from $549.00

The audio field is made up of dedicated professionals who in many cases are willing to gamble hundreds of thousands of dollars to back a theory. Though for many of us audio is a hobby as well as a profession, we take our work very seriously! I think it's
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.
Infinity's $650 Reference Standard II speaker incorporates much of the basic design technology used in the $20,000 Infinity Reference Standard. The Reference Standard II has two 10-inch woofers, three 5-inch dipole midrange units, and two EMIT flat-diaphragm tweeters. Both woofers and mid-range drivers have polypropylene cones. One woofer has a crossover frequency of 60 Hz and operates only in the sub-bass; the other has a crossover frequency of 125 Hz. Stated frequency response is 38 to 32,000 Hz ±2 dB. The recommended amplifier-power range is from 38 to 250 watts per channel. The main baffle is a precisely curved solid oak wing designed to minimize undesirable diffraction effects. The speaker system is finished in golden-oak veneer; the grille cloth is dark brown. Dimensions are 48 x 223/4 x 18 inches.

Circle 121 on reader service card

Omnidirectional Speakers from BES

□ The BES line of four high-fidelity loudspeakers is said to offer omnidirectional dispersion from molded-polymer diaphragms. Some models use a piezoelectric driver that energizes a corner section of the diaphragm through a parabolically contoured fiber coupling cone. Specifications for the largest model, the four-driver SM 300, include a frequency response of 30 to 22,000 Hz and sensitivity of 93 dB sound-pressure level. Minimum recommended amplifier power is 25 watts, nominal impedance is 8 ohms, and minimum impedance is 6 ohms. Dimensions are 53 1/2 x 22 x 6 3/4 inches; weight is 75 pounds. Price: $640. BES, Inc., Dept. SR, 345 Fischer Street, Costa Mesa, Calif. 92626.

Circle 123 on reader service card

Soundcraftsmen Power Amp with Spectrum Display

□ The octave-band spectrum display in Soundcraftsmen's RA7503 power amplifier (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.

TDK brings two new standards to open reel.
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.

"Le Cube."

 permits continuous monitoring of the amplifier output's frequency content. Additional monitoring facilities are provided by two twenty-LED output-level indicators. A "true clipping" indicator for each channel is triggered by a clipped waveform. The amplifier section is rated at 250 watts per channel into 8 ohms with total harmonic distortion of 0.09 per cent. Class H circuitry enables the unit to put out 375 watts per channel into 4-ohm loads. Transient inter-modulation distortion (TIM) is less than 0.02 per cent, signal-to-noise ratio better than 105 dB. Price: $1,149.

Pioneer's "Syscom" series of component systems includes the Syscom 5000 (shown), which contains a direct-coupled integrated amplifier, an AM/FM stereo tuner, a fully automatic direct-drive turntable, a metal-capable cassette deck, two "oversized" three-way bookshelf speaker systems, and a highboy cabinet with glass doors and easy-rolling casters.

Specifications for the SA-710 amplifier include continuous output power of 65 watts per channel into 8-ohm loads and an RIAA-equalization accuracy of ±0.2 dB. The unit has Fluoroclean output-level meters. The CT-F615 deck also has Fluoroclean meters along with an electronically controlled d.c. servomotor. Wow-and-flutter is rated at 0.05 per cent (wrms), frequency response as 20 to 20,000 Hz (with metal tape), and signal-to-noise ratio as more than 68 dB (Dolby-B circuits on). The PL-260 turntable has a wow-and-flutter rating of 0.025 per cent (wrms), an S-shape static-balanced tone arm, and an induced-magnet-type cartridge. The TX-610 tuner has a mono sensitivity of 1.8 microvolts and an 82-dB stereo signal-to-noise ratio (with an 85-dBF signal at the antenna terminals). Frequency response is 20 to 15,000 Hz +0.2, -0.1 dB. The CS-710 speakers are bass-reflex designs with 12-inch woofers, 4-inch midranges, and 2¾-inch cone tweeters. Frequency range is given as 32 to 20,000 Hz, sensitivity as 91 dB sound-pressure level at 1 meter with a 1-watt input. The cabinet that houses the system includes space for record storage and measures 20⅝ x 51⅛ x 17¼ inches. Price: $1,499.95.
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CIRCLE NO. 9 ON READER SERVICE CARD
New Car Stereo Products
latest automotive audio equipment and accessories

The Mitsubishi CZ-725 is an in-dash AM/FM/cassette player intended for use with an external power amplifier. DIN connectors are used to attach its low-level outputs to the amplifier. Features include auto-reverse, Dolby noise reduction, an EQ switch for metal and chrome tapes, locking fast-forward/rewind, tape-program selector, fader and balance controls for a four-speaker system, separate bass and treble controls, loudness control, powered antenna lead, and different-color dial illumination for AM (amber) and FM (green). The frequency response is specified as 50 to 12,000 Hz, wow-and-flutter is rated at 0.15 per cent wrms, and signal-to-noise ratio (with Dolby) is 57 dB. The CZ-725 is approximately 6 1/4 x 2 x 4 3/4 inches. Price: $269.95. Circle 127 on reader service card

The two-channel ADS CS400 Automotive Subwoofer System consists of a pair of extra-long-throw 7-inch bass drivers using the proprietary ADS “Stifflite” cones and the AX-1 Active Crossover Network, a 12-dB-per-octave unit designed to be powered by 12 volts d.c. The crossover may be set at either 75 or 150 Hz for proper matching of the subwoofers with the main speakers; a separate power amplifier is required. The response of the speakers is — 3 dB at 38 Hz with a resonant frequency of 43 Hz, and a 1-watt input will produce a sound-pressure level of 92 dB at 1 meter (these are lab figures and may vary in use depending on the installation). The drivers will handle a nominal 60 watts of power, are 3 inches deep, and weigh 3 1/4 pounds each. The AX-1’s total harmonic distortion is 0.05 per cent, its signal-to-noise ratio 82 dB. It measures 3 1/4 x 6 1/4 x 1 1/4 inches and weighs 1 pound. The system comes with grilles for both standard and inverted driver mounting, hardware, and cables. Price: $275.

Panasonic’s Overhead-mounted Autosound System

The newest and most elaborate model in Panasonic’s line of “Cockpit” overhead-mounted car-stereo consoles is the RM-710, which incorporates a stereo cassette deck, five-band graphic equalizer, FM/AM tuner, digital clock, and dome light. The tuner features electronic soft-touch tuning with presets for six FM and six AM stations as well as a variety of seek-and-scan functions. The equalizer allows 12 dB of boost or cut at 120, 250, 1,000, 3,500, and 10,000 Hz. The preamplifier section has up and down volume-control buttons with LED level indicators, a muting switch that drops the volume 20 dB, a loudness switch, and a joystick balance/fader control for left/right channels and front/rear speakers. Control settings are shown by ten LED indicators. The total output of the RM-710’s power amplifier is 60 watts (10 watts each for two front speakers, 20 watts each for two rear ones) from 20 to 20,000 Hz with 0.5 per cent total harmonic distortion. The digital clock can also serve as a frequency display for the tuner, and an automatic distant/local selector and engine-noise quieting circuits are built into the system. The cassette deck includes Dolby noise reduction as well as a sensor for automatic program selection. It also has auto-reverse/auto-replay, locking fast-forward and rewind, a bias/EQ selector for metal and chrome tapes, and ignition-key-off soft eject. Price: $1,399.

Hannover’s New “Hole Solution” for Speaker Mounting

The “Hole Solution” from Hannover Products is a 1-inch-deep ring of nonresonant polycarbonate that is intended to make it possible to mount car speakers with large magnets in shallow spaces. The Hole Solution fits between the mounting surface and the rear of the speaker and is claimed not to alter the speaker’s sound. Different sizes are available to accommodate round speakers from 5 1/4 to 6 1/2 inches in diameter (with either three- or four-hole mounting arrangements), and a larger, oval version is available for 6 x 9-inch speakers. Prices: $4.75 to $5.95 per pair for the round units, $8.95 each for the ovals. Hannover Products, Dept. SR, 815 East El Camino Real, Sunnyvale, Calif. 94087.
A Monitor Standard for the Eighties and Beyond

The ADS L2030 is a professional-standard speaker system which literally sets new industry standards for dynamic realism in sonic reproduction.

A "monitor", by simple definition, is a speaker system chosen for use in recording and broadcast studios to enable producers and engineers to evaluate the sound being put on tape, disc or the air waves. A true monitor speaker must thus possess certain basic qualities. These include a useful frequency range spanning the entire audible spectrum, a wide dynamic range, predictable and reliable performance. Although these requirements seem straightforward, modern sound recording is undergoing a technological revolution—better, quieter electronic components, advanced noise reduction systems, digital recording and processing, and highly sophisticated disc cutting/production techniques—which tests the frequency and dynamic range of monitor speakers as never before.

For more information write ADS, Department SR 25 or call 1-800-824-7883 (California 1-800-852-7477) toll free and ask for operator 483.

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It's time you discovered a new generation of speakers called Wave Aperture™ Speakers from Speakerlab—the S100, S300 and S500.

They work on the principle that if the sound source is small compared to the wavelength, the sound field will be broad and uniform. The result: incredibly accurate reproduction anywhere in the room.

Features include polypropylene woofers, samarium cobalt leaf tweeters, and high-efficiency passive radiator low-frequency design.

They're all so good you should know we're not kidding when we say they're the wave of the future.

New Wave Aperture™ Speakers. From Speakerlab.

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INSTALLING IT YOURSELF

Shall you install your car's sound system yourself or have it done for you? Unless you always order your new cars with factory-installed sound systems, that question is bound to arise someday.

If you shudder at the thought of doing it yourself, you're probably quite right; it's a wise man who knows his own limitations. Find yourself a good installer, sit back, and relax. If you're confident that you can do it yourself, you may well be right too—though if you've done no installations before, read on and make sure you understand what's involved. And if you're simply undecided on the subject, perhaps I can help you make up your mind.

I have done it myself—several times. So far, I've installed a Panasonic, a Phileo, and two Clarion systems in two Fiats and a Saab. That's even more experience than it may sound like, since I installed the Phileo twice, transferring it from one car to another. And because of all that experience, I hope I never have to do it again.

One major reason is discomfort. To install a new amplifier in my home system, I can roll my equipment rack into the middle of the floor and kneel on a flat surface in a good light while I work. In the car, I'm ly- ing on my back on a floor that's hardly flat, my legs sticking out the door at a funny angle, my eyes blinking from the falling dust and stinging from the sweat that runs down into them. There's also the problem of finding a day when I have the free time and it's neither raining, freezing, nor burning hot outdoors—since, living in the city, I have to do all this at curbside, which leads to other complications. If I forget a tool, I have to lock everything up while I run upstairs for it. If I have to work outside the car, there's a 50/50 chance I'll have to stand in traffic. The professional installer has the same discomforts, but at least he has a weatherproof garage with room to work, good lighting (also uncommon in home garages), and a permanent place for his tools.

Those tools are quite important too. The one I envy the professional most is the hole saw, a ring-like saw blade attached to an electric drill that makes neat, rapid circular cuts for speaker-mounting holes. I don't do enough installations to justify buying the blades in sizes big enough for speakers. You don't have to have one of these tools— but have you ever tried to cut or file a neat, round 5\(\frac{1}{4}\)-inch hole? I have most of the other tools I need: a wide assortment of screws and screwdrivers, several different pliers and wire cutters, a crimping tool and crimp terminals, a cordless electric drill, a good flash lantern, and even a 12-volt soldering iron. But my tool box may be better stocked than most.

A good installer has more going for him than just tools and a garage, though: he has expertise. I've spent a lot of time watching the installers at Wally's Tape City in New York, and I've picked up a few tricks of the trade. (For example, when wires pass through holes in body sheet metal, those holes should be lined with rubber grommets to make sure the metal edges won't cut through the wires' insulation.) I've also gotten a better idea of the problems that have cropped up on an individual-car basis. When it comes to speaker installations, for example, those smooth door-trim panels provide all kinds of traps for the unwary: solid-steel panels difficult to cut speaker holes in (and gaps in the underlying sheet metal that leave the speaker nothing but flimsy fiberboard trim for support); window-lifter mechanisms that clear the back of the speaker nicely ... until you try to raise or lower the glass; and so on. An installer may not know all the possible booby traps and pitfalls in your car; considering the variety of cars on the road, frequent model changes, and design changes in the middle of production runs, how could he? (I've even seen cars whose left- and right-hand doors were constructed differently!) But he's more likely than you are to be aware of them and far more likely to have encountered—and solved—some similarly tricky installation problem.

That's not to say that you can't do a good job yourself; many people have. The odds are good, however, that a professional installer will do a better job than you will, besides saving you a good deal of effort and a few barked knuckles ... provided, of course, that you get yourself a good installer. But that's another story.
If you think “high bias” is discrimination against tall people, you’re not ready for New Memorex.

High bias tape is specially formulated to deliver remarkably improved sound reproduction, particularly in the higher frequencies.

And no high bias tape does that better than totally new Memorex HIGH BIAS II.

HIGH BIAS II has 4 to 5 dB lower noise. Which means dramatically reduced tape hiss.

And thanks to Permapass™, our extraordinary new binding process, the music you put on the tape stays on the tape. Play after play, even after 1,000 plays.

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Of course, we didn't stop once we made new Memorex sound better. We also made it work better. By improving virtually every aspect of the cassette mechanism.

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So trust your next recording to new Memorex. In HIGH BIAS II, normal bias MRX I or METAL IV.

As a discriminating tape user, you’ll have a high opinion of the results.

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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 when necessary. With its rated capabilities only 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.

Audio Q. and A.

By Larry Klein

Speaker Damage

What are the criteria for determining speaker damage? I suspect problems because there is an audible hiss from my midrange and tweeter when they are adjusted at other than minimum level.

DONALD MCLEOD
Alexandria, Va.

There are various ills, defects, and damages that speakers are prone to, some of which are a little tricky to discover and most of which are impossible to fix.

These days most problems seem to break down into either buzzes and rattles or no sound at all. Interstation FM noise can serve as a good troubleshooting signal to determine if a tweeter or midrange voice coil is rubbing, has loose windings, or is simply open.

Since woofer problems usually appear only during loud, low bass passages, disconnecting the ground lead to your record player can produce a hum signal suitable for testing your woofer. Your input selector should, of course, be set to phono and your bass, treble, and volume controls turned down. Bring the bass and volume controls up slowly until the desired hum level is heard. The warble tones on any of the STEREO REVIEW test records can also serve as low- and high-frequency speaker-defect test signals. (The SRT14-A test record is available for $8.95—$10.95 outside the U.S.—from Test Record, Department 30013, P.O. Box 278, Pratt Station, Brooklyn, N.Y. 11205.)

In regard to the hiss problem, I would first make sure that the fault is really in your speakers rather than in your amplifier. The best way to do that is to substitute for your speakers another one that you know is good. If the hiss disappears when a different amplifier is driving your speakers, your amplifier is the hisser, not your speakers.

If the problem appears to be within the speakers, I still find it unlikely that speaker damage was the cause. For this to happen, the speaker would have to suffer a defect that results in its being peaky or at least oversensitive in the 5,000- to 10,000-Hz hiss region. In short, I suspect that any excessive hiss sensitivity of your speakers is a built-in defect rather than a problem caused by damage. In that case, it might be worthwhile to try some homemade acoustic absorbers. Try stapling a small pad of cloth, toweling, or closed-cell foam on the baffle and around the tweeter and midrange. Alternatively, you could rubber cement the pads to the inside of the grille-cloth frame facing the offending units. The thickness and porosity of the acoustic absorbers should be chosen to achieve the desired result—reducing the offending hiss without excessive attenuation of the adjacent frequencies.

Power and Performance

Can a powerful amplifier—say, 100 or more watts per channel—be damaged by driving a high-efficiency speaker that requires only a few watts? Also, when a speaker's minimum power requirement is, say, 20 watts and its maximum 100, what changes take place audibly and technically as the power level is increased, assuming that the amplifier's distortion remains low?

CHARLES GESSNER
Miami, Fla.

To answer the first part of the question, I cannot conceive of a situation wherein damage to a high-power amplifier could result from using a high-efficiency speaker. Of course, the speaker could be damaged if it is driven harder than it was designed to be. In regard to a speaker's minimum and maximum power ratings, we are confronted with distortion at both extremes: in one case, that of the amplifier; in the other, that of the speaker. If an amplifier does not have enough power to drive a given speaker to the desired volume level, the amplifier will be forced into clipping, producing a raspy distortion on loud program peaks that sounds something like that caused by a mistracking phono stylus.

At the low-frequency end, an overdriven amplifier is likely to produce a "mushy" bass quality because of the intrusion of spurious higher harmonics (see below).

A low-power amplifier overdriven into "hard" clipping is more likely to damage speaker systems than a high-power amplifier.

(Continued on page 22)
Dual Capstans—The answer or the problem?

Nakamichi Spoken Here.

The advantages of two capstans are obvious; the problems are not! Capturing the tape between supply and takeup capstans isolates the “active” portion from the reels. Thus, sticky cassette hubs, grabbing clutches, and surging reel motors have less effect on tape motion.

Great, but let’s not miss the forest for the trees! While dual capstans do help isolate the tape from the reels, they generate problems of their own—problems that often go unrecognized. Bodies that rotate at the same rate are in resonance; thus they magnify vibration which, when it enters the tape path, increases flutter and modulation noise. The overall performance of a dual-capstan transport often is worse than that of a single-capstan drive!

Nakamichi faced this problem years ago and developed an Asymmetrical, Diffused-Resonance Transport that is unique in the industry. When you purchase a Nakamichi—any Nakamichi—you will find supply and takeup capstans of different diameters rotating at different rates. You’ll find flywheels of different moments of inertia—machined from solid stock for perfect balance. This “Asymmetry” eliminates common-mode resonance. And, Nakamichi transports are fabricated from materials that have been especially selected and treated to absorb motor vibration and prevent its transference to the tape.

The piece de resistance is our unique pressure-pad lifter. In a Nakamichi transport, tension is controlled so accurately, and heads are contoured so precisely that pressure pads are not required to maintain head-to-tape contact. Since the pad creates more problems than it solves—scrape flutter, modulation noise, and tape skew—it’s better off out of the way!

The proof of Nakamichi technology is in the listening. Specifications, while important, do not tell the whole story. Scrape flutter occurs at a very rapid rate; it is not included in “weighted” flutter measurements—even those made in accordance with DIN specifications. Modulation noise goes unspecified entirely! But compare the sound of a Nakamichi recorder with any other. You’ll hear clarity of reproduction that is unique—music with detail! Experience Nakamichi sound today—at your Nakamichi dealer.

To learn more about Nakamichi’s unique technology, write directly to:
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How to get 50% more sound without turning up the volume.

There's a whole range of sound in a live performance that you never hear from your stereo system. And it's not a question of turning up the volume.

The problem is in the records you play. When recording engineers master a record, they electronically eliminate up to half the music. They literally compress the sound to make it "fit" on the vinyl record.

Fortunately, there's one solution to the problem: dbx Dynamic Range Expanders.

A dbx Dynamic Range Expander in your system restores most of the lost music. And it reduces annoying record surface noise by as much as 20 dB. So instead of a compressed 50 or 60 dB of dynamic range, you get a full 75 to 90 dB. The loud passages begin to thunder. The softs are truly subtle. All your music comes to life.

And you can use a dbx Dynamic Range Expander not only with your records, but also with tapes and FM broadcasts.

Visit your authorized dbx retailer for a demonstration of the 1BX, 2BX and 3BX Dynamic Range Expanders. Then select the model that's best for your system.

Because there's a lot more to music than has been reaching your ears.


Making good sound better

CIRCLE NO. 8 ON READER SERVICE CARD

Midrange Distortion

Q Just recently I had my ear close to the cone of the midrange driver in my speaker system and heard a very nasal and hollow sound quality. And the tweeter seemed to be putting out hardly any sound at all when I had my ear close to it. What would you say the problem is?

TERRY SHEA
Gardena, Calif.

A There may not be one. The "problem" you are hearing with your ear close to the drivers has to do with frequency balance. Judging from my mail, frequency balance is one of the most conceptually difficult-to-understand areas in hi-fi. Most complaints about coloration, harshness, shrillness, dullness, openness, etc. are traceable to the audible effect of emphasis or de-emphasis of certain parts of the audible frequency range and not to some separate mysterious phenomenon.

When you put your ear close to the midrange driver and heard a distorted, nasal quality, what you were hearing was simply a preponderance of midrange energy centered around 1,000 Hz or so. If you hear only part of a frequency range—or hear part of the range boosted—when familiar full-range material is involved, it will inevitably sound distorted in some way. As for the tweeter, it probably sounded weak because the treble energy in normal program material is at a much lower level than the midrange energy.

Because the number of questions we receive each month is greater than we can reply to individually, only those letters selected for use in this column can be answered. Sorry!
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"Polks are vastly superior to the competition."
Musician Magazine

Superb Square Wave Response of Polk Real-Time Array

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 hifi 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..."
Musician Magazine

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 hifi 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.
**SA-X.**

**HIGH BIAS IS RICHER FOR IT.**

The greatest honor a cassette can receive is to be held in higher esteem than one now setting the high bias standard. SA-X has already gone beyond SA. It was intended to. With its ultra refined dual layer of Super Avilyn, nothing less was possible. For us, high bias was a limit to be surpassed. SA-X has won three international awards to date. But we take awards philosophically. They represent our continuing effort to make music live. In that, we could not be happier with SA-X.

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**Tape Talk**

By Craig Stark

**Print-through**

**Q** I get print-through on high-level passages of classical music (it shows up immediately before a fortissimo passage) even though I keep my record levels at or below 0 VU. Changing cassette brands doesn’t help. Any suggestions?

**Bruce Silberg**

Weehawken, N.J.

**A** For readers unfamiliar with the term “print-through,” I should explain that it describes unwanted transference of a strong recorded signal to the physically adjacent tape layers. It is always present to some degree, though rarely is it loud enough on cassette recordings to be audible. As reader Silberg finds, however, when print-through is heard it is likely to appear as a “pre-echo” just before the actual musical passage. This is because the “post-echo” will usually be masked by the music’s own reverberation.

My first suggestion to minimize print-through difficulties is to avoid storing tapes either near a magnetic field or where they are subject to high temperatures (for example, in a closed automobile in summer) since such conditions encourage print-through. The second suggestion is to use C-60 cassettes whenever possible, since most of them have a thicker backing material and this will reduce print-through. Third, it is possible that the meters on a given deck might have a sufficiently slow response to sudden, loud transients that what seems to be a sufficiently low record level is actually much higher than what the meters indicate. (This last would not be a problem with peak-indicating meters or with electronic peak indicators.) And, finally, one should always check to be sure that the “print-through” heard isn’t in the original program material. Pre- and post-echo are audible in many of today’s mass-market records.

**Tape Bootlegging**

**Q** I tape live concerts and then trade tapes with people around the country. The taping is usually done with portable decks, and the quality varies greatly. Could you give me suggestions for making better-quality dubs from the master tapes? These tapes are for personal enjoyment only, so I hope you’ll take my word for it when I say that they are not sold or bootlegged in any way.

**Paul Frolia**

Bayonne, N.J.

**A** The only answer I can give you is that I cannot aid and abet what is almost certainly a violation of state and/or federal law. I discussed the matter with an attorney for the antipiracy division of the RIAA, and he indicated that taping live performances without the explicit permission of the artist/performer(s) is specifically prohibited by law in about one third of the states; the federal copyright law may also be violated by such behavior.

You say that the tapes “are for personal enjoyment only,” but that does not, as you seem to think, excuse unauthorized taping, duplicating, and swapping. Your ticket to a concert entitles only you—not your nonpaying friends across the country—to enjoy the concert once. Under the current interpretation of the law, you may dub your own discs or tape record FM broadcasts for personal enjoyment, but you may not send the dubs to friends, whether or not any money changes hands.

**Noncounting Counters**

**Q** Why don’t tape “counters” count anything? They all run at different speeds, but if they were standardized you’d be able to know where you were when playing a tape on different machines.

**Evan L. Lehman**

Indianapolis, Ind.

**A** I share your frustration! While a few machines are equipped with electronic counters that read out directly in minutes and seconds, the typical mechanical counters register only some fraction of the rotation of the supply or take-up hubs, which varies with the amount of tape on the hub.

The reason why is painfully simple: it’s cheaper that way. Bear in mind that even a (Continued on page 26)
Panasonic has car stereos that eliminate unnecessary noise.
The Supreme Series.

I'd like to say a few words about unnecessary noise. Unnecessary noise from car stereos. Like static, fuzz and interference. Not to mention stations that fade, drift and overlap. They're all the result of one overriding factor. Cars move.

That's where the Panasonic Supreme Series FM Optimizer (FMO) and other noise-quieting circuitry come in. FMO monitors all incoming radio signals and automatically adjusts to match changing conditions.

If you're driving away from a radio station, its signal strength decreases. The adaptive front end compensates automatically by increasing your radio's sensitivity. That reduces fading, drifting, and overlapping stations.

The automatic treble control constantly monitors the signal-to-noise ratio and turns on a filter when the noise gets too high.

There's Impulse Noise Quieting (INQ) circuitry that tunes out the interference created by your car, passing cars and the surroundings.

Supreme Series AM/FM stereo cassette players. Some come with Doby* auto-reverse, electronic tuning and LED clocks. And to make the Supreme Series really sing, Panasonic has 18 speakers.

From a 1" thin model to speakers that handle 100 watts of power. Take it from Reggie Jackson, when it comes to eliminating unnecessary noise, the Supreme Series has a lot to make noise about.

*Doby is a trademark of Doby Laboratories.

Panasonic.
just slightly ahead of our time.
stereo as well.

give different readings with different tape lengths, as well as different rates of advance as the size of the tape pack varied, but it would still be an improvement on today's chaos. I wouldn't count on seeing that improvement, however.

Stopped-tape Problem?

Q. Frequently when playing an open-reel or cassette tape I don't have time to listen to it to the end. Will the tape be damaged by the magnetic heads if the machine is shut off and the tape left in position for several hours or as much as a day?

Joe E. Covington
Columbia, Mo.

A. You have nothing to worry about here, for several reasons. First, the "magnetic heads" are not magnets (which would erase recorded sections they contacted); they are electromagnets and operate only while the machine is on. A playback head emits no field of its own, but rather picks up the changes in the magnetic pattern already recorded. This way, even if your heads do emit magnetic fields, but only during recording. Second, when a tape is stopped in mid-play, it no longer contacts the heads at all! On a few machines it might still be possible to turn the machine off while the play mechanism remains engaged, but in this case any possible danger would come from the squeezing of the tape between the capstan and the rubber pinch-roller, and there the principal danger is to the pinch-roller. In any case, you can avoid that problem simply by pressing the "stop" button on the machine before you turn it off.

I would not, however, recommend leaving tapes—particularly open-reel ones—exposed for days at a time because they will accumulate dust which might affect subsequent playback.

Fuzzy Mono?

Q. While I was playing a cassette recently, I switched my preamplifier to mono and the sound suddenly became much weaker and distorted. When I tried it on FM and phono this didn't happen. Can you tell me what's wrong?

Tom Bethune
Paoli, Pa.

A. If this happens with more than one prerecorded cassette, the two channels of your deck's playback head are wired out of phase. Thus, when you switch your preamp to mono the combined left and right signals tend to cancel (with a mono cassette the cancellation would be almost total), leaving only the difference between the two signals to be heard. Out-of-phase channels can also occur in prerecorded cassettes, but this is very rare.

Resoldering the wires on a tape head to give different readings with different tape lengths, as well as different rates of advance as the size of the tape pack varied, but it would still be an improvement on today's chaos. I wouldn't count on seeing that improvement, however.
WHY ONLY SONY TAPE HEARS FULL COLOR SOUND.

There are some good and sound reasons Sony audio tape is second to none. Why Sony tape has such a sensitive, full frequency response all along the sound spectrum that it is actually capable of recording sounds that go beyond the range of human hearing. That incredible range, sensitivity and balance is what Full Color Sound is all about.

A history of milestones
When you get a Sony tape you get a lot more than tape. You get the entire history of tape recording.

Sony has been a pioneer in tape manufacturing since it began over 30 years ago. In fact, we made the first audio tape ever in Japan. Sony technology was in the forefront then...and it still is! (Who else could bring you the amazing Walkman?)

Besides a history of spirited determination to be the very first in technology, there's the knowledge that comes from also being pioneers in high fidelity audio equipment. (After all, you'd better know all there is to know about tape decks before you make a tape. Sony does.)

Another reason for Sony's unmatched excellence is our unmatched — almost fanatic — insistence on the highest quality material and manufacturing methods. Sometimes our standards are so high we can't find machinery that meets them, so we have to invent the machinery ourselves!

Then there's Sony's unique balance system. The fine-tuning of all the elements that go into making a tape, so that each complements the other, and together deliver the finest recording that is humanly and technically possible.

The new tape standard: State-of-the-Sony
Fact: Everyone uses magnetic particles for tape. But not everyone insists on buying super-fine grade particles, and then carefully examining and mixing each and every lot to be absolutely positive that the quality is consistently pure and homogenous. Sony does.

Fact: Sony has a unique formula for binding the particles to the tape. Binding determines the life of the tape and the heads. Because of the high standards we demand, Sony had to invent its own binder.

Fact: Another example of Sony high technology is in the coating process. The coating of magnetic particles must be absolutely, uniformly even all along the tape. Any variation at all, and the consistency and quality of the tape are compromised. Not only did Sony perfect the process for its regular tapes, but Sony outdid itself with its dual-coated tapes, where it was necessary to produce a top coating that was super-thin. We actually managed to create a perfect coating that's only 1 micronmeter thick! (Especially impressive when you realize some other tape makers have trouble producing an even coating 4-5 micronmeters thick, much less 1 micronmeter thick!)

Hearing is believing
Sony tape comes by its extraordinary quality honestly. It has a heritage of breakthrough innovation. And a history of being famous throughout the world for leading technology, quality and dependability.

And that is why only Sony tape has Full Color Sound. But you don't have to take our word for it. Listen to Sony tape as fanatically as you wish. As they say, hearing is believing SONY.
Computerizing Speaker-response Measurements

Unlike the case with most other audio components, speaker performance cannot be described meaningfully by means of a few measurements. In fact, I know of no measurement or even combination of measurements capable of defining the sound quality of a speaker in sufficient detail to distinguish it from other, similar speaker systems. Even the frequency-response specification, which is a basic rating for every other audio component, is so difficult to apply to speakers that the proposed IHF Standard on Speaker Measurement (now in preliminary-draft form) relegates it to secondary status, behind the more easily defined primary ratings of sensitivity, bandwidth, impedance, and power handling.

The problem is that a speaker does not have a single "frequency response." Depending on the size and acoustic properties of the room, the locations of the speaker and measurement microphone (or listener), and the specific characteristics of the test signal, it is possible to obtain a variety of "frequency-response" curves from a speaker. And most of them would have little relation to what a person might hear in the same acoustic environment.

Over the years Hirsch-Houck Labs has developed a measurement technique that has at least a rough correlation with the sound quality of a speaker. Our frequency-response curve is a hybrid, a composite of several curves made in different frequency ranges and under different test conditions. Unfortunately, although we are able to interpret these curves fairly well, they have only a coincidental correlation with the speaker-response curves developed by manufacturers or other laboratories. Because of their non-standard nature, we do not publish these curves in our speaker test reports; without extensive explanation they could produce more confusion than light.

Our measurements are based on the assumption that most of the sound one hears has been reflected from one or more room surfaces and that the typical listener is far enough from the speakers that the sound field is largely diffused (semi-reverberant). A distance of 10 to 15 feet in most rooms is sufficient to satisfy this requirement. Under this condition, the apparent volume changes little or not at all over a fairly wide listening area. Closer to the speakers (say, within 3 feet) the volume changes very rapidly with quite small changes in the distance of the listening position.

Our room measurement is an approximation of the total acoustic-power output of the speaker integrated in the forward hemisphere. Ideally, this measurement should be made in a totally reverberant environment. A normally furnished room absorbs high-frequency energy in its boundaries and furnishings, producing some high-frequency rolloff even with a "flat" speaker. We have compensated for this factor by "calibrating" our room with speakers whose power output into a hemisphere has been measured separately in two ways: in a reverberant chamber, and by a large number of measurements made at different angles to the speaker out of doors. Plotting the response of these calibrated speakers in our room gives us a "room curve" from which we derive a correction curve that is added to the measured output of any other speaker to approximate its power response.

In a "live" room, reflections and standing-wave patterns produce a highly irregular response curve from any speaker. Since we are looking for a broad, octave-to-octave response rather than fine detail, we use a "warble-tone" signal that varies over a ±50-Hz range as it sweeps slowly from 100 to 20,000 Hz. This is done with a GenRad response-plotting system whose graphic-level recorder is synchronized with an audio oscillator to plot frequency response on a paper chart automatically.

With the two speakers positioned normally at one end of the room, the microphone (a Brüel & Kjaer 4133 condenser microphone whose response is essentially flat to 40,000 Hz) is placed on the axis of the loudspeaker and about 12 feet from it, making an angle of about 30 degrees with the main axis of the right speaker. We make a response curve for each of the speakers on the same chart, averaging the two curves to further suppress the effects of room resonances. Also, any divergence between the two curves at high frequencies is an indication of the directivity (beam) of the speakers.

Because the wavelength of sound at low frequencies is large compared with the woofer-cone diameter, it is possible to make an "anechoic" measurement of a woofer's response by placing the microphone very close to its cone. The resulting curve is free...
of room-resonance effects and is essentially what one would measure in a very large anechoic chamber. With a vented speaker, another low-frequency response measurement is made at the port opening. This curve is shifted on the amplitude scale in accordance with the relative areas of the cone and port, and the two curves are added to form a bass-response curve. The bass distortion is measured with the same microphone placement.

The bass frequency-response curve from 20 to 1,000 Hz is "spliced" to the mid/high-frequency curve. This is the only part of the process that requires some subjective judgment—because of the possible ambiguity of the correct splice frequency. The resulting composite curve, though "neither fish nor fowl," is a reasonable indication of a speaker's overall frequency response, smoothness, and dispersion. It represents the closest approach we could devise to making speaker-response measurements in a normal listening room with available test equipment.

Most speaker manufacturers' frequency-response ratings are based on measurements unless otherwise specified. These are usually quite revealing of narrowband aberrations in the speaker's response, but they may be less indicative of its sound quality than a total power measurement would be. Ideally, we prefer to make both types of measurement to obtain the maximum amount of information on a speaker's performance (interpreting the additional data, as well as judging the relative importance of each type of information, is likely to complicate a reviewer's life, but I suspect that the benefits far outweigh the problems). Reasonably large anechoic chambers, as well as a number of smaller companies, are expensive, and many smaller companies use inexpensive equipment in their testing.

In recent years, computers have emerged as powerful tools for making acoustic measurements (I referred to previous "Technical Talk" columns on the kind of sophisticated measurements being made in this way by such companies as AR, B&W, Celestion, and KEF). Hirsch-Houck Labs has recently acquired an FFT (Fast Fourier Transform) analysis system created by the INDAC group for use with an Apple II computer, and our future speaker tests will use it as well as the methods we have employed in the past.

An FFT measurement is based on the mathematical relationship between a loudspeaker system's frequency response and its reaction to a very brief electrical pulse (to the ear it sounds like a "click"). Any very brief pulse contains a broad spectrum of frequency components whose amplitude remains nearly constant over a wide range of frequencies. By driving a speaker with a single brief pulse (our system uses a pulse only 18 microseconds long) and picking up its acoustic output with the microphone, it is possible to derive the frequency response of the speaker. This involves a great deal of mathematical computation (namely, the Fast Fourier Transform) which is practicable only with a computer. After processing the signal picked up from the speaker, the computer generates the corresponding frequency-response curve on its video monitor or paper printer. The entire test process can take as little as a few seconds, even with a small personal computer such as the Apple II (in which we have installed special interface cards from INDAC that generate the process and measure the speaker signal picked up by the microphone).

Except for its speed, what is the advantage of this method over the older and slower technique? Perhaps most important is its ability to make what are in effect anechoic measurements in a "live" room. The sample of the speaker output that is processed by the computer can be adjusted both in length and timing relative to the electrical pulse that drives the speaker so as to exclude room reflections (by making a measurement before the reflections reach the microphone). And by driving the speaker with a series of pulses (up to 128 of them), the computer can average the results to practically eliminate the effects of random ambient noise on the measurement.

Other speaker-test operations are possible with this system, but just to list all of them would take more space than is available for this column. They include, for example, the use of the system in a low-frequency analysis mode with extremely sharp resolution down to the lowest audio frequencies. Although its upper frequency limit is 23,000 Hz, a built-in filter (required by the computer's digital processing) restricts the useful measurement range to about 17,000 Hz (this is really not a limitation insofar as human-listening applications are concerned).

It is too early for us to hazard a guess as to the many other ways this powerful measurement tool will be used in the future, but it seems certain that the unique capabilities of the FFT system will be useful in studying the operation of other components also as well as giving us a deeper insight into speaker performance. Beginning with this issue, we will be using both computer-derived anechoic and semi-reverberent measurements as a regular part of our speaker-evaluation process.

**Test Reports start overleaf**
The Onkyo CP-1130F is a direct-drive, fully automatic turntable whose tone-arm position is fully adjustable from the front of the unit even with its clear plastic cover lowered. The black molded base of the CP-1130F, supported on four soft isolating feet, contrasts visually with its silver-colored motorboard.

The full-size (12½-inch) cast-aluminum platter is driven by a direct-drive brushless d.c. servomotor at either 33⅓ or 45 rpm, the speed being selected by a pushbutton on the control panel. The finely finished top surface of the platter can be seen through its soft, transparent ⅛-inch-thick plastic cover sheet or mat. The combined weight of the platter and mat is 2.6 pounds.

The control buttons form a single line across the upper front portion of the motor board: POWER, SPEED, and SIZE (for indexing the arm to either 7- or 12-inch records) are controlled by mechanically latching pushbuttons; the others are momentary-contact buttons. In the center of the panel is a small window behind which a green light appears when the speed is exact. When the speed is changed slightly by the nearby knurled PITCH CONTROL wheel, the green light goes out and is replaced by flanking red lights that show whether the speed is higher or lower than normal.

The rest of the control lineup consists of a REPEAT button that causes a record to be replayed indefinitely (a red light next to the button shows that it is engaged), a PLAY/REJECT button that initiates the automatic record-playing cycle or terminates it (it also has a red signal light), and the two arm-control buttons marked SEARCH and CUING. The CUING button raises and lowers the arm on alternate operations with a smooth and damped action. Pressing SEARCH causes the arm to lift from the record surface and move toward the center; it stops when the button is released. A second touch causes the arm to move toward the outside of the record. By alternately pressing and releasing the SEARCH button, it is possible to place the pickup over any desired part of the record. A touch on the CUING button then lowers it to begin play.

In normal automatic operation, the arm moves from its rest to the selected diameter, plays the record, and returns to its rest, shutting off the motor. In addition to the usual REPEAT mode for playing a record over and over automatically, the CP-1130F has a MEMORY REPEAT feature. By initially cueing the arm to a specific part of a record with the SEARCH control, then pressing REPEAT and START, the record will be played from that point to the end, and it will repeat indefinitely from that same starting point. Full manual operation is also possible, since lifting the arm from its rest automatically starts the monitor.

The tone arm of the Onkyo CP-1130F is a straight black aluminum tube with a lightweight plug-in headshell (not the standard four-pin shell used on many record-player tone arms). The counterweight is designed to balance cartridges weighing between 5 and 9 grams, and its tracking-force scale is calibrated from 0 to 3 grams at 0.1-gram intervals. A sliding antiskating adjustment is located beside the tone arm, firmly attached to its base so that it can be (Continued on page 32)
The anatomy of a breakthrough in sound reproduction. Technics Honeycomb Disc speaker system.

You're looking at the heart of a revolutionary new speaker system—the flat honeycomb drivers of Technics new Honeycomb Disc speakers. A new shape that takes sound beyond the range of traditional cone-shaped speakers to capture the full energy and dynamic range of today's new recording technologies. It's the essence of a true sonic breakthrough.

All conventional cone-shaped drivers have inherent distortion problems due to uneven sound dispersion in the cone cavity. But Technics new axially symmetric Honeycomb drivers are flat. So "cavity effect" is automatically eliminated. And just as important, phase linearity occurs naturally in Honeycomb Disc speakers because the acoustic centers are now perfectly aligned across the flat driver surfaces.

Technics also added a unique nodal drive system designed to vibrate the speakers in more accurate piston-like motion to reduce distortion even further. The result is an incredibly wide, flat frequency response, broad dynamic range, and amazingly low distortion.

To complete the system, Technics Honeycomb Disc tweeter with special front-mounted acoustic equalizer extends frequency response to a remarkable 35 kHz.

Technics offers a complete new line of Honeycomb Disc speakers, all enclosed in a rich rosewood-grain cabinet.

Now that you've seen what a sonic breakthrough looks like, listen to Technics—and hear what one sounds like.
The tone arm's effective mass (less the cartridge) was a low 11 grams, which resonated with the highly compliant cartridge stylus at about 8.5 Hz. The capacitance to ground in the tone-arm and signal-cable wiring was 112 picofarads (pF) per channel, with an interchannel capacitance of 4 pF.

The automatic start time was about 9 seconds, and 5.5 seconds was required for the player to turn off after play. The slew time across the surface of a 12-inch record was about 9 seconds. The cueing mechanism lifted the arm almost instantly, but it took about 5 seconds to descend. With the higher values of antiskating compensation we were using, the arm drifted outward during its descent, repeating several seconds of the record for each up/down cycle.

The turntable speeds could be varied about ±3.8 per cent at 33 1/3 rpm and ±4.6 per cent at 45 rpm. There was a slight ambiguity in the green (exact speed) indication, which remained lit through a speed shift of 0.2 per cent, but this is negligible from a listening standpoint. The turntable rumble was a low —35 dB unweighted and —60 dB with ARLL weighting. It was principally in the 6- to 10-Hz range, with a small peak at 20 Hz. The flutter was 0.06 per cent weighted rms, ± 0.08 per cent weighted peak (CCIR), and was mostly between 5 and 10 Hz.

**Comment.** The "fully automatic" designation of the Onkyo CP-1130F would seem to be completely justified by its operation. There are still relatively few record players that can be operated with their covers in place, and the CP-1130F now joins that select group.

Aside from the error in the cartridge-mounting instructions, we found the setup and operation of the CP-1130F to be easy and trouble free. Its soft feet gave it exceptional isolation from base-conducted vibration (in that respect it was among the best of the direct-drive turntables we have tested, and it was better than most belt-driven models). Since the low-mass arm is compatible with almost any high-quality cartridge one might choose to install, the addition of an appropriate cartridge to the Onkyo CP-1130F will provide you with a first-class record player.

**Circle 140 on reader service card**

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**Test reports**

STANTON calls its new 980LZS phono cartridge "the moving-coil replacement," and we must agree. Using any normal external measurements (frequency response, output, crosstalk, inductance, resistance, etc.) it would be difficult or impossible to distinguish the 980LZS from a good moving-coil cartridge (even its considerable price would fit that product category nicely). Nevertheless, the 980LZS is a moving-magnet cartridge.

In designing the 980LZS, Stanton set out to produce a low-impedance pickup that, like moving-coil types, would be essentially independent of external load conditions and have the very low effective tip mass needed to reproduce frequencies far above the audio range with uniformity and good channel separation. These qualities have generally been associated with the better moving-coil cartridges, and they may be responsible in great measure for the clarity and openness of sound that are widely attributed to that type of transducer. Implicit in these properties is a truly flat "mechanical" frequency response, since the low impedance of a moving-coil cartridge does not permit electrical equalization of its mechanical resonance by use of input capacitance and resistance (the usual practice with moving-iron and moving-magnet cartridges).

Any cartridge that is to be a direct functional replacement for a moving-coil cartridge must have a low output voltage suitable for high-gain preamplifier inputs. Not too long ago this would have called for an expensive step-up transformer or preamplifier in order to use such a cartridge with a conventional preamplifier. Fortunately, an increasing number of integrated amplifiers and even some receivers now include moving-coil preamplifiers.

Beyond the basic Stanton goals, the design offers certain significant advantages over a true moving-coil cartridge. For one thing, the stylus assembly is readily replaceable by the user, a feature found on a few moving-coil cartridges but generally not in the most refined and costly models. Also, most moving-coil cartridges have relatively heavy fixed magnets that contribute appreciably to their total weight and thus to the effective mass of the arm/cartridge system.

(Continued on page 36)
The Onkyo TX-4000 Quartz Synthesized Tuner/Amplifier is one of the most perfect stereo receivers we've ever designed. Nothing else in its price range provides the brilliant purity, dynamic headroom, and full excitement of its sound.

The Onkyo TX-4000 brings tuning accuracy to a new level of precision . . . with an advanced approach to quartz-synthesized digital tuning. And the amplifier section provides all the dynamic headroom demanded by today's audiophile recording techniques. Onkyo's exclusive Dual-Super-Servo system makes it possible, by allowing the power supply to perform as if it were 50-times larger. And there's more . . . LED power metering, memory to pre-set 6 AM and 6 FM stations . . . and elegant styling with a flip-down control panel.

All combine to make The Onkyo TX-4000 a tuner/amplifier you will definitely want to audition . . . and then own. Hear it now at your Onkyo dealer.
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 sound field

Stereo sound field with Spatial Expander.

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 re-creates 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
Yamaha's new Spatial Expander.

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, phon0) 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.

R-1000
R-900
R-700
R-500
R-300

YAMAHA

CIRCLE NO. 40 ON READER SERVICE CARD
In the graph at left, the upper curve represents the frequency response of the cartridge. The distance (measured in decibels) between it and the lower curve represents the separation between the two channels (anything above 15 dB is adequate). The inset oscilloscope photo shows the cartridge's response to a recorded 1,000-Hz square wave, which indicates resonances and overall frequency response (see text). At right is the cartridge's response to the intermodulation-distortion (IM) and 10.8-kHz tone-burst test bands of the TTR-102 and TTR-103 test records. These high velocities provide a severe test of a phono cartridge's performance. The intermodulation-distortion (IM) readings for any given cartridge can vary widely, depending on the particular IM test record used. The actual distortion figure measured is not as important as the maximum recorded-signal groove velocity that the phono cartridge is able to track before a sudden and radical increase in distortion takes place. There are very few commercial phonograph discs that embody musical audio signals whose average recorded groove velocities are much higher than about 15 centimeters per second.

Stanton's cartridge weighs only 5.5 grams, less than many moving-magnet cartridges, to say nothing of the 8 grams or so of a typical moving-coil cartridge.

The Stanton 980LZS is fitted with a Stereohedron stylus tip (Stanton's proprietary extended-contact shape) having radii of 0.3 and 2.8 mils and a dynamic tip mass of 0.2 milligram. It is rated to track at forces from 0.75 to 1.5 grams. Like other Stanton cartridges, the 980LZS has an integral "longhair" brush that removes surface dust from the record and requires an additional gram of downward force to compensate for its presence. Thus the total vertical tracking force should be set between 1.9 and 2.5 grams.

The frequency response is specified as 10 to 50,000 Hz, with channel separation (presumably in the midrange) rated at 35 dB. The output voltage is 0.06 millivolt per cm/sec of recorded velocity, or about 0.21 millivolt from a standard test-record velocity of 3.54 cm/sec. The cartridge load can be any resistance higher than 100 ohms and any capacitance up to 1,000 picofarads. The coil resistance is 3 ohms per channel and the inductance only 1 millihenry.

The price of the Stanton 980LZS is $250. For use with conventional magnetic phone preamplifiers, the Stanton BA-26 preamplifier is available for $189. It is battery-operated and has a voltage gain of 20 (26 dB).

**Laboratory Measurements.** We tested the Stanton 980LZS in the tone arm of a Mitsubishi LT-3V vertical turntable, which required a slightly modified balancing procedure to accommodate the brush of the Stanton cartridge. Although the cartridge's output voltage was measured directly, our other tests were made through Stanton's BA-26 pre-preamplifier to provide a sufficient level for the measurements. Most tests were made at a 1-gram tracking force, which was sufficient for correct tracking of the high-level low- and middle-frequency test records we used for tracking tests, as well as the 80-micrometer level of the German Hi Fi Record #2. This is normally considered very good tracking ability, but increasing the force to the rated maximum of 1.5 grams allowed the cartridge to track this record's maximum level of 100 micrometers (something only a few cartridges are able to do).

The vertical-tracking angle of the stylus measured slightly higher than the 20-degree standard. Cartridge output was about 0.21 millivolt (mV) and the channel levels balanced within 0.33 dB. Output was about 3.7 millivolts through the BA-26, ideal for driving any magnetic phono-preamplifier input. The tracking distortions (at a 1-gram force) were measured at the 10.8-kHz tone bursts of the TTR-103 test record and the 400/4,000-Hz IM bands of the TTR-102 record. Both gave very low distortion readings that increased only slightly at the highest levels on the records, suggesting that most of what we were reading was the residual distortions of the setup and test equipment. The IM distortion at 27 cm/sec was only 2.5 per cent, and the tone-burst distortion at 30 cm/sec was 1.2 cm/sec.

The frequency response of the 980LZS, playing the CBS STR 102 test record, was flat within ±2 dB from 40 to 20,000 Hz. The output decreased slightly from 1,000 to 5,000 Hz and rose above that frequency. The channel separation was more than 25 dB up to 15,000 Hz and about 15 dB at 20,000 Hz. Since there was no sign of a decreasing output at 20,000 Hz, we also measured the response with the JVC 4005 test record, which was one of the widest and most uniform responses we have ever measured from a phono cartridge, with one channel reading ±2 dB over the full range up to 50,000 Hz and the other within ±2 dB over that range. It was equally impressive to find that there was still no sign of a falling output at the record's upper limits, obviously the cartridge's response extended well beyond 50,000 Hz. The channel separation was at least 20 dB over the full frequency range.

The square-wave response from the CBS STR 112 record showed the high-frequency (over 40,000 Hz) ringing that is cut into the record but which is normally visible only in the output of a moving-coil cartridge or a very-low-inductance moving-magnet cartridge. There was a single small overshoot at 27 cm/sec of the square wave, probably due to the high-frequency stylus resonance (which was not evident in the frequency response but could be inferred from a slight peak in the crosstalk response at about 35,000 Hz).

Subjective tracking was judged with the aid of the Shure ERA III and ERA IV "Audio Obstacle Course" records. The older (ERA III) record could be played in its entirety without mistracking. On the ERA IV record, we heard the harshness that indicates the imminence of mistracking on the highest level of several sections, but never the shattering or raspiness that accompanies an actual loss of contact between the stylus tip and the groove wall.

**Comment.** We are satisfied that nothing in the performance or measurements we made on the Stanton 980LZS would enable us (or anyone else) to conclude that this moving-magnet unit was anything but a top-quality moving-coil cartridge. In fact, few moving-coil cartridges we have tested could match the tracking ability of this one, especially at tracking forces under 1.5 grams.

The sound of the 980LZS, as one would expect from the uniformity of its frequency response and crosstalk characteristics, was completely neutral. The lack of response peaks, either in the audio range or for an octave or more above it, means that the 980LZS does not accentuate record hiss. The background silence, which can be impressive, is purely a function of the record quality. (Continued on page 38)
We listened to the cartridge briefly through the BA-26 pre-preamplifier, which worked well (although we made no measurements on it). For the most part, we preferred to use the 980LZS as a “straight” moving-coil-cartridge substitute through the MC input of a Sansui AU-D11 amplifier. The combination was a happy one, and even at maximum gain (which was much too high for comfortable listening) there was no hum and only a faintly audible hiss.

We have long felt that the special qualities attributed to moving-coil cartridges really reflected their insensitivity to external-load conditions, their lack of sufficient inductance to affect preamplifier equalization, and perhaps a slight noise reduction at the preamplifier input produced by their very low coil resistance. The Stanton 980LZS meets these requirements totally. It is no wonder, then, that it really does behave in every way like the finest moving-coil cartridges (and better than most we have tested) but without their high weight and usually limited tracking ability.

If one has to invest in a separate pre-preamplifier, it might be difficult to justify (economically) the purchase of this cartridge over a top-grade conventional moving-magnet cartridge such as Stanton’s very similar 881S. However, if one’s amplifier already has the gain for a MC cartridge, the 980LZS becomes a highly attractive choice, combining as it does the best qualities of both the moving-coil and the moving-magnet designs.

Circle 141 on reader service card

THE Dahlquist DQM-9 is a three-way, vented-enclosure system constructed in a conventional box format (unlike the well-known Dahlquist DQB-10). Since the woofer-compartment ports open to the rear of the cabinet, the speaker should not be placed closer than about 6 inches from the back wall, and the installation instructions also suggest floor placement on low stands.

The DQM-9 uses three matched drivers made by the West German firm of Magnat, by whom Dahlquist is licensed. The drivers are vertically aligned, and all visible metal surfaces are finely finished. The 11-inch woofer has an edge-wound ribbon voice coil and operates up to 450 Hz. The midrange employs a 5-inch cone, also with an edge-wound ribbon voice coil. The tweeter, which takes over above 3,500 Hz, is a 1-inch dome radiator.

The enclosure of the DQM-9 is made of a special particle board (also apparently of German origin) whose several layers of wood particles increase in density toward the outer layers of the board. The side walls are formed of a combination of 1/4- and 1/8-inch boards coated with a damping material on their inner surfaces. The entire exterior of the enclosure is covered with 3M “Nex-tel,” a grey material resembling flocking that is said to damp surface resonances and lower the “Q” of the cabinet. The front baffle is covered with a black flocking material to control diffraction effects. The black, acoustically transparent grille cloth is held in place with magnetic fasteners at the corners of its wooden frame. According to Dahlquist, the special cabinet construction and surface treatment of the DQM-9 are responsible for reducing mid-band resonances which could otherwise impart a “boxy” quality to the sound.

The Dahlquist DQM-9 is nominally an 8-ohm system with a minimum-impedance rating of 6 ohms. It is recommended for use with amplifiers delivering from 25 to 200 watts. The drivers are protected by a 8/10-ampere fuse which is mounted in the rear near the input binding posts (they are spaced on 3/4-inch centers to accept standard dual banana plugs). The DQM-9 is 25 inches high, 14 1/2 inches wide, and 13 inches deep. It weighs approximately 65 pounds. Price: $600.

**Laboratory Measurements**. Our reverberant-field measurements showed the Dahlquist DQM-9 to have a smooth, well-dispersed output with a slightly rising high-

(Continued on page 40)
Puerto Rico is the Rum Island, the world's foremost rum-producing region. And Ronrico is the rum—authentic Puerto Rican rum since 1860. Ronrico's smooth, light taste has been the pride of six generations of Puerto Rican rum masters. One sip will tell you why.

RONRICO: AUTHENTIC RUM OF PUERTO RICO.
Each slider control adjusts the gain in its frequencies of 31.5, 45, 63, 90, and 125 Hz spaced at half-octave intervals, have center frequencies below about 200 Hz. Its filters and wave analyzer that operates only at frequencies of 60 Hz and above, and at the port for lower frequencies, where its radiation is predominant. At 10 watts input, the distortion ranged from 3 to 8 per cent between 100 and 35 Hz.

The distortion characteristic of the DQM-9 was quite different from that of most speakers we have tested. For one thing, the principal component was the second harmonic, and the third-harmonic distortion was very low (a small fraction of 1 per cent above 70 Hz or so). Also, the distortion did not increase suddenly at some low frequency as happens when a speaker's available cone excursion has been reached. Instead, it rose gently and smoothly. Since the DQM-9 is rather more efficient than most speakers we have tested recently, it is delivering a higher acoustic output at the 1- and 10-watt drive levels than an average acoustic-suspension speaker (two to four times as much). These facts, among others, helped reconcile the slightly higher-than-normal measured distortion with the obvious excellence of the speaker's sound quality.

Dahlquist engineers agreed with our findings, stating that the speaker was deliberately designed to have a very low percentage of higher harmonics (especially the third and fifth) since the auditory offensiveness of harmonic distortion rises rapidly with the order of the harmonic (the second harmonic is generally agreed to be the least offensive and the least unmusical in its effects). Since the DQM-9 was designed specifically for minimum odd-order distortion, the trade-off was an inevitable—but certainly acceptable—increase in the second-harmonic level.

Comment. As is our usual practice, we listened to the Dahlquist DQM-9 for some time before making any measurements (our instruments are less likely to be swayed by what we hear than vice versa). Our immediate reaction was that the DQM-9 was an uncommonly smooth and easy-sounding speaker. It was quite comparable to the best we have heard in its balance and overall musicality. If the DQM-9 could be said to have any special characteristic, it is that its sound is soft, almost velvety (by coincidence, an acoustic analog of its exterior finish). This might seem inconsistent with our response measurements, which indicate an unusually strong and extended high-end response, but in our opinion there is no single measurement that can describe the sound of a speaker. From the first, we were impressed by the effortless quality of its sound with any type of program. This is one of those speakers we could listen to indefinitely without the urge to switch to something else.

The appearance (and literature) of the Dahlquist DQM-9 indicates that it was meant for studio monitoring rather than for home use, although its sound certainly would do justice to the finest home system. The DQM-9 may have its aesthetic limitations as a piece of furniture, but as a high-quality reproducer we would say that the Dahlquist (and Magnat) design does very well.
ALL YOU HAVE TO DO
IS LISTEN.

THE SANSUI 900 SUPER SYSTEM.

Just listen.
Your ears will tell you more.
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 sensib-
ly priced complete system of
high performance separates that
is as easy to use as it is to buy.
At you have to do is plug it in
and enjoy.

C-77 Control Center/
Preampifier with Automatic
Fader and Moving Coil Pre-
amp. Unique in offering full
stereo mixing with the conveni-
ence of an automatic and man-
ual fader for smooth, professe-
sional sound trans tions from any
connected source to any other,
plus a built-in preamp or
moving-coil cartridges vari-
bale business control.

T-77 Quartz-PLL Digital
Synthesizer FM/AM Tuner with
8 Preset FM/AM Stations and
Auto Search Digital Quartz-PLL
Synthesizer design, which guaran-
tees 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 TR-D55
turntable with its low C.025% wow/
flutter and 72dB S/N ratio.
The attractive audio rack
that contains the 900's compo-
nents 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
tune your listening room with an
carry 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.

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Lyndhurst, N.J. 07071 - Gardena, Ca. 90247
SANSUI ELECTRIC CO., LTD., Tokyo, Japan
CIRCLE NO. 24 ON READER SERVICE CARD
The dual functions of the Richter Scale: shown at left is the 12-dB maximum boost (top) and cut (bottom) from the four bass controls, at right the electronic crossover's bandsplitting.
Chances are, if you've never received an engineering degree from MIT—or even if you have—you still haven't the vaguest idea which of the over 200 different cassette decks to buy. Well, there's an easy way to find out.

Record absolutely nothing on each one. If you hear something like a snake hissing in the background, that recorder is filled with ten-year-old technology. But if you hear exactly what you recorded—silence—then the recorder reflects the technology of the 80's. And it does, if it's the TC-FX6C from Sony.

Sony designed the FX6C to incorporate the newest, most advanced noise reduction system—Dolby C. Dolby C doubles the noise reduction without producing the unwanted side effects caused by similar systems. So when you record music you hear only the music and not an extraneous hiss.

Other innovations range from Sony's exclusive Sendust and Ferrite head formulation to advanced remote-control capability.

But what's really innovative is the price. A price that, we assure you, will generate a lot of hissing from our competitors.

And, instead of the conventional tape counter, the FX6C features the most useful guide to tape time ever invented—a computerized Linear Counter. Now you no longer have to guess how much time remains on a tape, or if you'll run out of tape in the middle of a selection.

There's no fumbling around to find, play and replay a cut you want to hear either, because the FX6C incorporates an Automatic Music Sensor. This allows you to skip forward or backward to the selection of your choice. You can even preset the deck to repeat any portion of the tape you want to hear up to nine times.

TO FIND OUT HOW FLAWLESS A SONY REALLY IS, TRY RECORDING SILENCE.

FEATURES AND SPECIFICATIONS: 2-motor tape drive/Soleioid-logic feather-touch controls/16-segment LED meters/Optional RM-50 remote control/20-program remote control/RM-500 synchronizer/5/N ratio 70dB (metal, Dolby on), improved up to 20dB with Dolby C/Noise and flutter 0.04 (PRMS)/Frequency response 30Hz - 17kHz ± 3dB (metal). "Dolby is a trademark of Dolby Laboratories. ©1981 Sony Corporation of America.

SONY. We are music.

CIRCLE NO. 27 ON READER SERVICE CARD
age total output when the two channels are summed. To this end, the upper end of the woofer range is rolled off at a 6-dB-per-octave rate, while the lower end of the tweeter range is rolled off at an 18-dB-per-octave rate. Our measurements confirmed this characteristic and in addition showed a broadly raised output (about +3 dB) near the upper end of the woofer's range. When we combined the two outputs resistively, however, the sum was absolutely uniform with frequency. Not a trace of the crossover could be found in the summed signals, which had a response of ±0.25 dB from 20 to 20,000 Hz.

The distortion rating of the RS is 0.015 per cent, with no level stated. Our measurements showed the distortion to be less than 0.003 per cent up to about 0.3 volt output and between 0.04 and 0.1 per cent from 1 to 6 volts output. These values are completely negligible.

- **Comment.** We used the Audio Control "Richter Scale" in a couple of different music systems in different rooms. The equalization adjustment took only a minute or two, and the results were most gratifying.

Unlike the usual room-equalization procedure, which attempts to obtain a "flat" response over the audio range in the search for greater accuracy of reproduction (an ambiguous target at best), the bass equalization of the RS makes little claim to greater "accuracy," whatever that might be. It is, quite frankly, a means of restoring the "feel" of low bass in systems in which that part of the spectrum is missing or severely attenuated, at the same time it removes much of the upper-bass heaviness that normally mars the sound of many speakers. That, at least, is our interpretation of its purpose and the basis for our evaluation here.

The RS did both jobs very well. Together with a more natural overall bass balance, it managed to give some speakers a skin-tingling low-bass output that we had never before experienced from them in the same room. It won't get more from a speaker than it is capable of giving, but it will surely exploit any speaker's capabilities to the utmost. The ULTRA LO BOOST was responsible in good measure for this performance, even without using the half-octave equalizer. It could give a remarkably solid deep bass with no danger of overdriving either the speaker or the amplifier in the infrasonic range.

The Audio Control "Richter Scale" is not inexpensive, but its specialized design makes it more effective as a bass equalizer than any of the full-range octave-band equalizers we have used. It is worth its price for that function alone if, for one reason or another, you are not presently realizing your full share of bass from your speakers. The RS is an equally good value as a very fine electronic-crossover accessory for bi-amplified systems. If both capabilities can be used, the "Richter Scale" will prove itself a worthwhile addition to almost any music system.

**Aiwa AD-M800U Cassette Deck**

The Aiwa AD-M800U is a two-motor, three-head cassette deck with a microprocessor-controlled "DATA" system (Digital Automatic Tape Adaptation) that optimizes the recorder for any tape formulation in about 30 seconds.

The deck's Record and Playback heads have separate gaps but are in a single shielded housing. The heads are faced with Sendust and the playback head is contoured to minimize the low-frequency "head bumps" that show up in the frequency response of most cassette recorders. The AD-M800U contains dual Dolby circuits so that a recording can be monitored with the proper decoding as it is being made.

The capstan is driven by a frequency-generator-controlled servomotor, and the recorder has a very low flutter specification of 0.04 per cent (weighted rms). A separate DC motor drives the tape hub. The transport is controlled by solenoids which are actuated by feather-touch buttons on the panel. The REC and PLAY buttons must be held in simultaneously to engage the recording mode, and there is the customary PAUSE button. The AD-M800U also has a RECORD button that removes the signals from the recording head while it is held down without affecting the level indicators or the signals at the line-out jacks (if they are from the source, rather than the tape). Small pushbuttons connect either the source or the tape playback signal to the line-out jacks, activate the Dolby system and connect the MPX FILTER to remove any 19-kHz pilot carrier from the program when recording stereo FM broadcasts.

The AD-M800U can be turned off by the EJECT button and a POWER button, plus an infrared sensor for the remote-control accessory. Nearby are a phone jack and a small TIMER/REPEAT knob that sets up the machine for unattended timer-controlled operation in either the playback or recording mode or for repeating a cassette playback indefinitely. The index counter and the MEMORY switch can be set either to stop the tape when the counter returns to 000 in rewind mode or to go into its PLAY mode at that point. Other front-panel controls include a pair of concentric RECORD LEVEL knobs and two MIC input jacks for medium-to high-impedance microphones.

The level indicators are meters calibrated from -20 to +6 dB. Between them are LEDs that show instantaneous peak levels. These are marked to show the maximum permissible recording level for each of the basic types of tape for which the machine is designed: +4 dB for CrO₂, +7 dB for FeCr and LH, and +10 dB for metal tape (there are also lights at 0 dB and -6 dB).

Across the center of the panel are the controls and indicators for the DATA system. Although it is basically designed to do the same things other microprocessor-controlled recorder-optimizing systems are intended to do, DATA has some distinctive characteristics. One unique property is its ability to determine the type of tape being used without the need for preprogramming by slots in the cassette housing or by the operator. To do this, it records and plays

*(Continued on page 46)*
The kind of color you get out of your camera depends on the kind of film you put into it.

That’s why more people put Kodacolor II film into their cameras than any other film. It makes colors so bright and so vibrant that they seem to have lives of their own.

So tell your story the way it was meant to be told. In color. On Kodacolor II film.

The more you care about color, the more you need Kodacolor II film.
back a 10-kHz test signal, measuring the playback level as the recording level is increased in steps over a wide range of amplitudes. From the maximum-output level (MOL) indicated by this test, the computer decides whether the tape is LH (or standard metal tape), FeCr (ferrichrome), CrO₂ (chromium dioxide or an equivalent high-bias ferric-oxide tape), or a metal-particle tape.

There are also four TAPE SELECTOR buttons on the panel, and although any of them can be used to preset the recorder adjustments manually, this is not necessary. The first step in the fully automatic DATA process makes this choice and lights a LED on the appropriate button. Next, a 6-kHz signal is recorded and played back while the bias is varied in steps to determine the maximum output level at that frequency. With the bias established, the machine sets its recording sensitivity by recording a 400-Hz signal at a -20-dB level, playing it back and adjusting the recording gain until the input and output are at the same level. Then the midrange equalization is optimized by a similar procedure with an 8-kHz signal recorded in 128 steps and the equalization adjusted to match its playback to the low-frequency reference level. Finally, the same equalization is performed at a high frequency, which is automatically set at 12 kHz for LH tape and 14 kHz for all the others.

While the DATA process is going on, green lights below the meters are flashing, and as each parameter is optimized its light remains steady. At the end of the process, an OK light comes on at the right of the display. If the tape response has not been successfully optimized for any reason, the ERROR indicator lights up, and if every step except the high-frequency equalization has been accomplished the OK light comes on but flashes. When an OK status has been achieved, the tape rewinds to the starting point and stops. It is not necessary to repeat the entire process for every recording, since the machine has memories for all the data covering four tapes. After the DATA cycle has been completed, touching a MEMORY IN button followed by one of the four numbered memory buttons stores the data in that location, from which it can be recalled at any time by pressing the same button.

Another alternative is to use one of the basic tape-selector buttons, which are equivalent to the tape selectors of most conventional recorders. The bias can be trimmed slightly about each nominal setting with a small BIAS FINE ADJUST knob that has a range of about ±10 per cent. By

increase in steps over a wide range of amplitudes. From the maximum-output level (MOL) indicated by this test, the computer decides whether the tape is LH (or standard metal tape), FeCr (ferrichrome), CrO₂ (chromium dioxide or an equivalent high-bias ferric-oxide tape), or a metal-particle tape.

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Marlboro


17 mg tar, 1.1 mg nicotine av. per cigarette. FTC Report Dec. 79

Marlboro Red or Longhorn 100's—you get a lot to like.
The new BSR... Sound thinking has moved us even further ahead.

The BSR mini-component system. For compact impact.

When performance is a priority and space is at a premium, there's only one way to go in stereo components. Go for the most - and the least - at the same time.

That's what BSR's new mini-component system delivers. Years of technological expertise in high fidelity, condensed into 3 high-performance space-saving components.

Our AM-FM stereo receiver with full-function LED display delivers 20 watts RMS per channel, into 8 ohms from 20 Hz to 20,000 Hz with less than 0.3% total harmonic distortion. Other features include a 12-element power level display, signal strength meter, FM muted tuning, detent volume and balance control, speakers A or B, on-off loudness selector/control, high-low filter and tape monitor.

Our mini-cassette deck accepts conventional, chrome oxide and the new metal tape in record and playback. It features full logic solenoid operation with LED display, Dolby™ noise reduction, full auto shut-off, lamped eject, rapid response LED level display, stereo microphone input and headphone jack.

And BSR's perfectly matched acoustic suspension speakers are the small wonders that deliver big sound.

It's a mighty impressive set of components that will overpower you with everything that their size - making them perfect for all kinds of tight-space places. Plus, there's one other small feature that makes the BSR mini-component system such big news: the price. And that's the least we can do when we've given you so much.

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

Circle 41 on reader service card
When the oxide particles on recording tape aren’t of a uniform size and shape, you can end up listening to distortion as well as music. The sounds of different instruments get blurred together, and your music loses its clarity.

At Maxell, every inch of our tape is checked and rechecked to make sure the oxide particles are perfectly uniform. Which means when you listen to music on Maxell tape, every instrument will sound perfectly clear.

So if you can’t tell your brass from your oboe, try using our tape.

IT'S WORTH IT.
ASSOCIATIONS of music and water are legion. Debussy’s La Mer and Vaughan Williams’ Sea Symphony are only two of many works that evoke the ocean (not even to mention that famous phonetic misunderstanding, “Beethoven’s Symphony No. 5, ‘Sea Miner’”). Ives evoked the Housatonic, Smetana the Moldau, Villa-Lobos the Amazon, and Tell Taylor the Old Mill Stream. Liszt and Respighi gave us Roman fountains, Debussy a garden in the rain, and Britten a flurde (flood); Handel’s Water Music was written to be played on the water, and the fabled hydraulis (water organ) and Benjamin Franklin’s harmonica were instruments that depended on water for their performance functions. Truly, water comes into music in a lot of different ways.

But one of those ways not often talked about relates to water’s quality of neutrality, its function as a dilutant. In this sense, Scotch and water is a lot less potent than Scotch, apple sauce and water is a lot less appetizing than apple sauce, and music and water is a lot less flavorful than music alone.

Some of the latest recorded examples of music and water to flow through the market are all these recent interchanges and admixtures of Eastern (far) and Western (near) musical art. No one questions that Isaac Stern and Jean-Pierre Rampal are superb instrumentалиstя no matter what they play. But give them a Japanese melody to play and their art functions—as far as I can see—as a mere dilutant. What their performances sound like to Japanese ears I would not venture to guess, but to Western ears they can sound only more familiar, more Western, less Japanese than performances by those in the Japanese tradition. Is this necessary? There is no reason in the world why one has to like Japanese melodies, but watering them down would seem only to spoil them for those who do.

Equally reprehensible, though perhaps a bit more understandable, is the sort of watering at the source one finds in the recent CBS record of Chinese music made in China (“Phases of the Moon,” M 36705). There is some pure-sounding stuff on the disc, but most of it reveals a careful study of some of the worst Western commercial music and the decision to abandon a tradition in the search for a possibly larger audience. Performances by “The Central Broadcasting Traditional Instruments Orchestra” reek of third-rate Western movie music and cocktail-lounge exotica and are about as re- doleant of the great Chinese cultural herit age as chop suey. Again, I would not presume to say what such performances sound like to educated Chinese ears, but I venture to guess that they would find them even funner than I do.

To produce watery results, water itself need not always be added, nor is it always the exotic substance that gets weakened. Vivaldi’s Seasons is a pretty strong piece of music, and an ensemble of Japanese kotos (koto: a kind of zither and, since the early seventeenth century, the national instrument of Japan) is a formidable performing group. Putting the two together, however (Angel S-37450-Q), is like mixing hydrochloric acid and sodium bicarbonate: after the initial fizz all one is left with is salt, water, and a lot of carbon-dioxide gas.

THE point of these examples is to illustrate one of the damaging aspects (to conclude the aqueous analogy) of the musical mainstream. The mainstream is the history and development of music as we in the West know it (doubtless there are Eastern mainstreams as well) and the carrier of tradition. Virtually everything worthwhile flows into it at one time or another, nurturing it, adding new life and new characteristics. These tributary streams gain extended life and broader exposure by being absorbed, but they also lose their concentration and individuality. Ethnic musics join the mainstream and ethnic musics come out of it again, but the confluence has watered down the original product (witness American country music based on commercial radio and television). Sooner or later everything gets to sound very much alike. And that’s why I wish they’d leave a few walls in place, make “cultural exchange” a little less an everyday matter, demand more of those who explore beyond their own cultural lines. Everyone has been making things so easy. Perhaps there is a need, as Kierkegaard said, to make things more difficult.
"I've had rich Scotch, and I've had poor Scotch. Believe me rich is better."

Teacher's Scotch. Rich is better.
A panel of eight expert listeners discover their personal preferences among **FIFTEEN $100 SPEAKERS**

By David Ranada
CHOOSING a speaker has always been the most time-consuming, exasperating, and ego-stressing part of selecting a high-fidelity system, and it is never more so than when you are shopping for inexpensive speakers or if you are a first-time buyer. As a service to readers, as an experiment in listening, and as a vehicle for advice on how to choose speakers in general, Stereo Review has conducted a listening test of fifteen speakers in the $100 price range. The test was designed to simulate certain aspects of listening in a hi-fi showroom, but in a controlled manner meant to be fair to all the speakers tested.

This article will not choose your speakers for you; that is not our purpose. Only you can solve the complex purchasing equation that includes the variables of speaker price, sound, size, and appearance. What this article will do is describe how we arrived at our results and how our methods can be applied in the "real world." Forewarned with this information, you can walk into any listening comparison aware of what needs to be done in order to reach a fair conclusion. Then you can compare your opinions with our listening panel's. The result should be very instructive.

There are two reasons why the $100 price category was chosen for this speaker-listening test. One is logistical, the other technological. If you've ever wondered why you don't see more such listening tests in major audio publications, it is because they are extremely difficult to do in a scientifically controlled manner. We chose $100 speakers because speakers in this category are generally small enough to be moved by hand. A reasonably large number (fifteen) could then be tested without the aid of a fork lift and without using a listening room the size of an aircraft hangar. As you will see, the ability to move speakers easily was essential to the proper execution of the listening test.

Technologically, the $100 price point is one of the most interesting ones, a level at which the demands of physics and economics meet head on. The laws of physics say that it is physically possible to build an extremely good-sounding speaker these days for $100, and our listening panel agreed. But the panel also agreed that they all sounded different, and this is where economics comes in. At the $100 level, the speaker designer is restricted in making the
FIFTEEN $100 SPEAKERS...

inevitable trade-offs between extended low-frequency response, low distortion, high power-handling capability, and high sensitivity to manipulating the factors of cabinet size, driver comple-

ment and placement, and crossover complexity. On the whole, in fact, it's easier to design a good $300 speaker than a good $100 speaker.

If you are operating on a low budget in your search for a stereo system, you have very little choice as to speaker price. The $100 bracket is possibly the lowest that will give you 90 per cent or more of what high fidelity is all about. If you never play music at ear-splitting levels or demand reproduction of the lowest organ-pedal notes, that percentage approaches 100. By and large, the speakers in this report have much more extended bass response and are able to play at louder levels with less distortion than the minispeakers in Stereo Review's last listening test (see August 1979 issue); they also sometimes cost less than minispeakers.

The speakers in the present test have a less "technological" appearance than most minispeakers: all have "walnut-grain veneer" finishes and removable cloth grilles, not punched-metal screens. Our listeners, however, didn't know that. That's because this listening test was designed to be as controlled as possible to protect the subject speakers from biased listeners and to protect the listeners from their own biases.

MANUFACTURERS' SPECIFICATIONS FOR THE FIFTEEN LOUDSPEAKERS

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Model</th>
<th>Price</th>
<th>Dimensions (inches)</th>
<th>Weight (lbs)</th>
<th>Grill Color</th>
<th>Terminals</th>
<th>Frequency Response (Hz)</th>
<th>Impedance (ohms)</th>
<th>Woofer</th>
<th>Midrange</th>
<th>Tweeter</th>
<th>Crossover (Hz)</th>
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<td>AS18s</td>
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<td>V 12&quot;</td>
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<td>V 4&quot;</td>
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<td>black</td>
<td>screw</td>
<td>V 10&quot;</td>
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<td>3,500</td>
<td>91 5</td>
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<td>3,500</td>
<td>88</td>
<td></td>
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</tbody>
</table>

T he specifications tabulated above from manufacturers' data are largely self-explanatory. Prices listed are those current at the time of publication (speakers sold in pairs have the per-pair price listed). For those on a tight system budget, the most important specification listed, aside from price, is sensitivity (or efficiency). This is a measure of how loud the speaker can play with a given power amplifier, or, conversely, how much amplifier power is needed for the speaker to play at a given loudness level. A speaker with a 3-dB higher sensitivity than another will play just as loud on half the amplifier power; a 2-dB higher rating indicates that only two-thirds the power is required. Selecting a higher-sensitivity speaker means you can make do with a smaller amplifier.
Playing Fair

As in a typical showroom, each listener switched between two pairs of speakers and decided which of the pairs he preferred for whatever reason. Rankings were derived from an extended series of such comparisons. Unlike the case in a dealer showroom, we were able to take certain measures to ensure that the listener's judgments were unbiased and made only on the basis of sonic characteristics.

The primary assurance of unbiased judgments was the “single-blind” nature of the test: all the speakers were at all times hidden behind an acoustically transparent screen (actually several yards of black grille cloth hung from tall microphone stands). This simple step at once eliminated all preferences based, however subliminally, on a speaker’s size, shape, driver complement, finish, grille cloth, and manufacturer’s reputation.

Concealing the speakers also helped make each evaluation an independent act, since one or both pairs of speakers could have been changed from one comparison to the next; the listeners were not told whether they were or not. Thus they could not keep track of which speaker was which even if they wanted to.

Another condition intended to make the listeners’ comparisons fair was that each listened alone except for the person running the test. Group-listening sessions always run the risk that one person’s opinion will dominate the results, sometimes even through such seemingly innocent things as posture and gesture, not to mention grunts, sighs, groans, and other more verbal communications. (You might keep in mind the next time a speaker salesman describes what he likes or doesn’t like about a speaker you may be auditioning.) For this test, the tester (the author) tried to keep visual and verbal contact between himself and the listeners to an absolute minimum and confined himself to positioning the speakers and to matching their levels.

Ideally, of course, the test should have been “double-blind.” This would have meant that neither the listeners nor the person running the test would know what speakers were being used. Lack of man- or computer-power prevented us from doing this.

So far, we’ve covered only those steps taken to eliminate listener bias. Further measures were taken to make sure that the sounds heard were fair representations of the speakers making them. Primary among these measures was the matching of the loudness of each speaker pair to the other within 0.5 dB using a pink-noise generator and a C-weighted sound-pressure-level meter. Unless something is terribly wrong with one pair of speakers, listeners naturally prefer the louder system, regardless of its other characteristics. Unless steps have been taken to compensate for this tendency, judgments derived from listening tests should always be held suspect. (This requirement for matched levels holds for most audio listening tests, including those for headphones, cartridges, analog vs. digital, dbx vs. Dolby, etc.) In a showroom you should always make an attempt to match perceived loudness levels by ear before you start listening to music. Try to use a steady, standardized signal source such as FM interstation hiss.

Speaker placement was also meant to be fair to each unit. The contending pairs were immediately adjacent to each other, left speaker about 6½ feet from the right, vertically oriented, on a wall-mounted shelf 2¾ feet above the floor in STEREO REVIEW’S New York listening room (not where Julian Hirsch conducts his speaker tests). Only two speaker pairs were on the shelf at any time, thus the requirement for small, easily moved units. When the listeners operated the comparator switch, they heard only a very slight horizontal shift of the stereo image, and this could be compensated for with a slight movement of the head. Not only did adjacent speaker placement equalize the effects of the room on each speaker, but it also equalized the distance and the angle to each pair of speakers, all of which could have an effect on the sound. (Beware of showroom comparisons where one pair of bookshelf speakers is, for instance, in the corners near the ceiling and the other is in the middle of the floor.)

The last major feature of the test methodology is probably the most controversial: switching between speakers was instantaneous and each comparison lasted only long enough for a preference to develop with each listener’s program material. Long-term listening tests, as advocated by several underground audiophile publications, do have one major advantage over instantaneous matched comparisons, however. They allow enough time for the playing of a wide selection of program material. On the other hand, a long-term listening test gives a listener just as much time to get used to a speaker’s defects as it gives him to find them. Quick, level-matched comparisons immediately bring sonic differences to the foreground, enabling listeners to concentrate on how those differences color program material. (When switching speakers in a showroom, always throw the switch during a relatively continuous musical passage, not between phrases.) Long-term listening tests are extremely difficult to control scientifically, and they are very difficult to reconstruct, should that be necessary. Besides, a long-term listening test of fifteen loudspeakers would probably last longer than the sales life of the speakers in the marketplace!

Program Material

Our test-panel listeners were asked to bring whatever recordings of their own they thought would be useful in the
evaluation of $100 speakers. As it turned out, the material ranged from audience applause to thunderclaps, from spoken voice to large chorus and orchestra, from bluegrass to jazz to pop to rock to classical. The wide variety and quality of the recordings used in the test has important implications for the interpretation of the test results, but more on this later.

What recommendations can be given for program material to take to a showroom? First of all, don’t think it necessary to take only top-quality “demo” recordings (digital, half-speed mastered, or otherwise). A badly made recording with extensive midrange voice equalization can also tell you much about a speaker. In particular, when an over-equalized pop vocalist is heard through a speaker that also has an elevated presence region (about 1 to 5 kHz), the result is particularly irritating and harsh. On a more “flat”-sounding speaker, however, the same recording will just sound too closely miked and over-equalized.

Vocal recordings, of either solo singers or of choruses, have long been used as test material for smooth mid-frequency response, and they are chosen by every listener in our test. The sound of the female voice is particularly useful for finding peaks and dips in the presence region, while male voices can help stimulate undesirable lower-midrange/upper-bass boominess. For broadband frequency balance, string ensembles and full orchestra should be played since they make a rising high-frequency response sound shrill and steely. And for bass frequencies, there’s still nothing like a well-recorded pipe organ or a bass-drum roll (not a “thwack,” which isn’t very low in frequency).

All this means that for listening tests you should make a good cassette recording of many different, short selections so that you can hear as wide a variety of program material as possible in a rather short period. In addition, a tape won’t wear out or get noisier with the repeated playings necessary to narrow down your choice of speaker. With just a little practice you can become quite proficient in at least picking out the subtle but important differences between speakers, although you still may not be able to tell which you prefer. But finding that out can be—dare we say it?—a lot of fun.

**The Results**

Charted on the facing page are the complete results of the listening test, and there are several important points to remember if you are to avoid misinterpreting the data. The results are rankings that reflect speaker preferences experienced by experienced listeners; they do not necessarily reflect speaker “quality.” The results also give no indication, of course, as to the quality of a given manufacturer’s other speakers. Remember also that the speakers tested are only a small selection from the many models available in this price range. There are, in fact, probably many speakers available in the price range which might be more preferred than the ones tested here, as there are certainly those that would be less preferred, some of them costing considerably more. Finally, the rankings give no indication of the sonic characteristics of each speaker, of how different speakers of similar rank actually sound, or of how well each speaker would do on test instruments.

The accompanying data chart shows a mark for each time a speaker received a given ranking. Also shown is an “uncertainty region” (technically, an area around the arithmetic mean of the rankings that is two standard deviations wide). If the uncertainty regions of any two similarly ranked speakers overlap considerably, there is no statistical way of distinguishing the speakers’ exact ranking with any degree of certainty. The width of the uncertainty region gives some indication as to how varied the opinion on a particular speaker was; the wider the region, the more “controversial” its sound. We’ve arbitrarily broken up the speakers into three groups based on the averages of the rankings: most preferred, sometimes preferred, least preferred.

Of the many generalizations that can be made about the results, the most im-

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**The Associated Equipment**

The equipment used in any speaker-listening test must be of such quality that the reaction of the listeners depends only on the interaction of the speakers with the program material and the listening room. We took steps to ensure that the components we used had a negligible effect, if any, on each listener’s preferences.

As the primary disc signal source we used a Shure V-15 Type IV cartridge mounted in the Biotracer tone arm of a Sony PS-X75 turntable. A half-track Revox A77 Mk III was used for playback of some live-recording master tapes. For those tapes and discs that required dbx-11 decoding, a dbx Model 21 decoder was used. Our preamplifier was an Apf/Holman unit with the tone controls switched out.

Program material chosen by each listener was recorded for reference and convenience on one of two digital-audio recording systems. Only the digital tape was played during the test itself. The first system used a Sony PCM-10 digital-audio adaptor with a Sony SL-5400 Beta-format videocassette recorder. The second digital system was a Technics SH-P1 digital-audio adaptor and a Panasonic NV-8200 VHS-format VCR. Both digital-audio adaptors conformed to the EIAJ standard for such devices (see “Audio News” in the March 1980 issue).

The power amplifier was an SAE 2401 (rated at 250 watts per channel into 8-ohm loads) which fed its output into an Audio Authority Model One speaker switchbox. This unit incorporated the facilities used for matching speaker loudness levels. It also short-circuited the speakers not being played so that they would not change (through resonance effects) the sound of the speakers switched on. Levels were monitored by an Icive IE-10A octave-band spectrum analyzer switched to its sound-level-meter mode.

Don’t think that you have to assemble a system of equivalent specifications (and price) to evaluate $100 speakers correctly or to enjoy them at home. Some components, like the power amplifier and the digital-audio recorders, offered performance far exceeding that possible with systems appropriate for these $100 speakers. Then again, a well-chosen system of inexpensive components would probably sound identical to the one we assembled. In short, we believe the results of this test would have come out the same had we used an inexpensive system (low-power receiver, inexpensive turntable, cartridge, and cassette deck) provided each component were operating properly (no amplifier clipping, no cartridge mistracking, no tape saturation) and the other safeguards against listener bias were observed (single-listener sessions, hidden speakers, matched levels, etc.).
important is that there seems to be some consensus as to speaker preference. If this were not the case, the rankings for some speakers would not be clustered so closely together and the uncertainty regions in every case would be extremely wide.

But there are speakers that seem to be exceptions to this generalization, and one of them is in the "most preferred" group. What does this non-clustered data mean? To me (and this is only speculation on my part) it seems that those speakers with widely scattered rankings had some distinctive sonic characteristic that happened to coincide either very well or not at all with a particular combination of listener taste and program material (don't forget that each listener brought his own program material). In other words, the rankings for the "non-clustered" speakers depend more on the program material and the listeners' sonic tastes than do the rankings for the other speakers.

Using the Results

To repeat, the ranking data in the accompanying chart are not to be taken as an indication of speaker "quality," but only perhaps as an indication of how likely you will be, as an experienced listener, to prefer one system to another in the group. If you're not an experienced audiophile, you might possibly use the rankings to "calibrate" your ears to those of our listening panel. In any case, the chart, in conjunction with some showroom listening, will help you utilize the combined experience of our listening panel to educate your ears. (Remember only that no one can account for vagaries in the acoustics of the showroom or how the speakers are set up within it.)

Eventually the time will come to put your money where your ears are. We do not recommend shopping on the basis of price alone. Even with the widely varying discounts available, the maximum price differential between any two pairs of speakers in the chart will probably be less than $40—not too significant a figure for those in search of good sound at low cost. Furthermore, each of the speakers in the chart sounds different, even the five "most preferred" models. Since all the models tested can be expected to give decades of listening use, scrimping at this low price level seems a bit absurd in contrast to paying a little more for something you prefer. You'll be repaid a thousand times over in sonic and psychological satisfaction if you take the time, trouble, energy, and thought to train your ears before you purchase.

THE LISTENERS

The "golden ears" selected to undergo the daylong ordeal of making speaker comparisons were chosen for their varying backgrounds, catholic musical tastes, and particularly their combined wide experience in listening to all grades of audio equipment.

Bob Ajaye is a sound and speaker technician who has been a participant in previous Stereo Review listening tests, including the mini-speaker report in August 1979.

Howard Alexander is general manager of Shadow Electronic Labs and has worked as an electronics engineer and technician.

Arnis Balgalvis, a data communications consultant, has also participated in past Stereo Review listening tests.

Mark F. Davis, an MIT-trained psychoacoustician, now works for dbx.

E. Brad Meyer is editor of the newsletter of the Boston Audio Society. He also makes live on-location recordings and used some of them as program material in the test.

Thomas Perazella is general manager of a product group for Berkey Marketing, a photographs marketing concern.

David Weinberg also makes live recordings. Otherwise he is employed by the government.

Mark Wilder is an audio-engineering student at the Institute of Audio Research in Greenwich Village, New York City.
Contrary to popularly held opinion, good bass performance in a loudspeaker system is not the product of any special arcane knowledge, nor is it arrived at only through endless cut-and-try experimentation in a garage workshop. The rules for good bass-reproducer design are certainly complex, but they are accessible to good speaker-system designers and even to interested audiophiles. In fact, an understanding of the physical and acoustical laws that govern system design can serve to immunize buyers against the more improbable fads and fallacies that are endemic to the speaker-system marketplace.

To provide some insight into the complex world of the speaker designer, we've asked Electro-Voice's Ray Newman to go just a bit more than diaphragm deep into the process of designing a speaker for today's marketplace. A careful reading of what follows should illuminate some previously mysterious matters and show how they affect the size, shape, and sound of the speakers that finally make it into our living rooms.

—Larry Klein, Technical Director

The basic problem faced by any loudspeaker manufacturer is how to attract the attention of buyers in a vastly overcrowded speaker marketplace. It is possible to make an impact through heavy advertising and promotion, but any success is difficult to sustain without the backup of adequate performance from the product itself. On the other hand, some manufacturers have found that a well-designed, good-sounding product is not selling because it has been inadequately promoted. In any case, it is clear that before a speaker system (or line of systems) is put into production the sales and design people (sometimes they are only one person) must consider all the interrelating factors that affect production, marketing, and sales. Decisions must be made on size, cost, and desired level of performance, and these should be arrived at through knowledge rather than through intuition or chance.

Design Choices

In most cases, the earliest design considerations involve the interrelationship between a system's size, its low-frequency capabilities, its efficiency, and the basic speaker type (usually either vented or acoustic suspension). The physical elements involved in these decisions are (1) the enclosure and (2) the largest loudspeaker (woofer) within it; together they usually determine half to three-quarters of the system cost. The fascinating thing about these four factors (size, bass, efficiency, and type) is that they are related mathematically in such a way that specifying any of the three (within certain practical limits) will determine the fourth. This means that there is a fixed, though large, framework of limitations imposed on the designer.

The actual interrelationships that need to be dealt with can be put in the following form for most loudspeaker systems: efficiency is proportional to (size) X (bass)3 X (system type). In the actual mathematical equation, efficiency is a number that shows how much of the electrical power from the amplifier is converted to the acoustic power your ears will hear. When expressed as a percentage, efficiency is usually between 0.1 and 10 per cent. (Note how little of an amplifier's output power is actually converted into audible acoustic power. Most of the amplifier power fed to a speaker system gets turned into heat.) Size is the interior volume of the enclosure. Bass is the frequency at which the low-frequency output has dropped to one-half (-3 dB) its higher-frequency value. Finally, the system type number depends on the type of system being designed (ported, acoustic suspension, etc.). A more detailed description of the system-interrelationship equation (which we will refer to henceforth as SIRE for acronym fans) is given in the accompanying box.

In a way, the SIRE may be viewed simply as a way of choosing between efficiency, bass response, and size—once a choice has been made as to the type of system. Putting the system type aside for a while, the choices left involve picking two of the three remaining characteristics and letting the other be determined by the equation. Needless to say, some choices are not compatible. For example, small size and high effi-
frequency preclude extended bass. Let us use the SIRE for some examples.

A sealed system with a volume of 200 cubic inches (a minispeaker system of six-pack size) designed for 0.5 per cent efficiency (a moderately low value) intended for operation near a wall would be expected to lose bass output below about 100 Hz if it were well designed (if it were not well designed, the bass rolloff would start at some higher frequency). Designing for an octave-lower bass (such as moving the -3-dB point from 100 to 50 Hz) imposes large penalties in other areas. For example, an octave more bass from a given-size box would mean one-eighth the efficiency, thus indicating the need for an amplifier of eight times the former power. Alternatively, if the same efficiency were to be maintained, the extra octave of bass would require a box eight times as large. (It is to the advantage of a designer to communicate these natural laws as best he can to his company’s marketing people, because no amount of wishful thinking or puttering around in the lab can circumvent them.)

System Type

Speaker systems are usually divided into the categories of sealed boxes (acoustic suspension), vented boxes (bass reflex or ported), and acoustic labyrinths (transmission lines). In actuality, there is great variety possible within these broad classifications. For instance, a number of specific sealed-box system designs could be devised, the variables being the different sizes of the boxes and the specific characteristics of the woofers used within them. Simply by trying different combinations, one could come up with a variety of bass curves (and efficiencies). Some curves would be humpy, others would slope off, and some might be relatively smooth and flat. The system-type number at the end of the SIRE is basically keyed to these various shapes out of all possible response shapes. For instance, a “flat” response curve in a conventional sealed system is called a second-order Butterworth response, a name derived from electrical-filter design. Curve A in the accompanying figure illustrates this type of response. Also shown are two alternative curves—humped (B) and sloping (C)—that might result.

When you’re dealing with a specific system type, you pick two parameters (size and efficiency) and get “stuck” with the third. However, changing the system type so as to raise the system-type number provides interesting possibilities as long as the change does not have unwanted side effects (such as requiring a very complex enclosure or an impossible-to-build woofer mechanism). A properly designed vented box can provide smooth response with two to three times the efficiency of a sealed box of the same size and bass response. Some vented systems that use equalizing circuits as an integral part of their design can have efficiency increases of five or six times without sacrificing bass performance. Alternatively, the system-type advantage can be turned to profit in extended bass or reduced enclosure size (see the box just below).

(Continued overleaf)
60
cant, and the design and integration of the high-frequency units is a matter of sonic contribution is extremely significa-
appearance of the whole system. But their add little to the bulk or the general ap-
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appropriate crossover network.
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able to provide reasonably flat re-
sponse for four to five octaves at the
end of the audio spectrum (with
the help of SIRE), it is very hard to do
so at high frequencies (especially with
systems designed for medium to high
efficiency). Furthermore, there are the
dual questions of what is really meant
by “flat response,” and is it really
something desirable?

Putting It Together

Let’s say that at this point we have
come up with a desired cabinet size,
bass capability, and efficiency, and that
we have worked these out for a system
of an appropriate type. But since a full-
range system needs more than a woofer,
we are obviously not quite ready to go
to market. The speaker needs to be
completed, usually as a two- or three-
way design, with the upper-frequency
drivers selected and integrated with
each other and with the woofer by an
appropriate crossover network.

In general, the upper-range drivers
will be very small relative to the lower-
frequency section and therefore will
add little to the bulk or the general ap-
pearance of the whole system. But their
sonic contribution is extremely signifi-
cant, and the design and integration of
the high-frequency units is a matter of
substantial complexity and often con-
siderable art.

• Bass Bumps and Balance. The
subject of system integration—the elec-
troacoustic blending of the various ele-
ments—gets into some relatively mys-
terious areas, involving, for example,
the psychoacoustic importance of vari-
ous distortions and phase and disfrac-
tion effects. In addition, there are the
more concrete and agreed-upon matters
of bass “bumping” and spectral bal-
ance. The visceral impact of bass is ex-
citing to experience, and many (if not
most) musical styles depend on it to
some degree. Disco and rock music
come first to mind, but classical works
certainly use bass to telling effect as
well. (Listen to a thirty-two-foot organ-
pedal stop in Bach’s Passacaglia and
Fugue in C Minor, for example.) Al-
most every speaker designer has strug-
gled with the dilemma of how to handle
the bass question. A purist approach
would suggest flatness, but it is very
tempting to design in a mild bass
bump—perhaps only a few decibels
high—spread over a half-octave or so.
Some designers have bumped up the re-
sponse much more than those few
tempting decibels (especially in the 50-
to 100-Hz region) in an effort to pro-
vide “good bass” for naïve ears.

Achieving balance between the up-
per and lower part of the frequency
range seems a simple problem, but in
reality it is quite complex. Although it
is possible to provide reasonably flat re-
sponse for four to five octaves at the
lower end of the audio spectrum (with
the help of SIRE), it is very hard to do
so at high frequencies (especially with
systems designed for medium to high
efficiency). Furthermore, there are the
dual questions of what is really meant
by “flat response,” and is it really
something desirable?

It is fairly well known, at least
among engineers, that there are two ba-
cic approaches to measuring frequency
response. One of these is the commonly
cited on-axis anechoic response, which
provides a curve that represents the
first sounds reaching the listener. The
second is the acoustic-power response,
which represents the total integrated
output of the speaker at all possible lis-
tening angles. These two measured re-
sponses will be identical only if the
loudspeaker has constant directionality,
meaning that its dispersion is the same
throughout the frequency range tested;
this is a condition very difficult to
achieve in practice.

This general problem—and especial-
ly that of the balances between the
drivers at the crossover points in multi-
way systems—is an unappreciated, but
sonically very significant, part of total
system integration. Indeed, the general
subject of the directionality of a system
as a function of frequency and its in-
fuence on such matters as stereo imag-
ing (including left-to-right and front-to-back localization) is just beginning
to be examined. So it seems that the
significant marketing-design decisions
are rooted in three not generally well-
owned basics: (1) the effective utiliza-
tion of the decided-upon and necessarily
limited size of a system, (2) carefully
worked-out frequency balance across
the audio spectrum, and (3) appropriate
control over the directional charac-
teristics of the system.

• Appearance. Some thought must
be given to the visual appearance of a
speaker system since its effect in the
marketplace cannot be denied. Howev-
er, it is rare that “cosmetic” elegance—
real rosewood rather than vinyl ve-
nee—is achieved without an appro-
riate price tag, and the manufacturer
has to decide how much he wants to
spend on the visual rather than the
sonic aspects of his system.

Source Material

As has been frequently pointed out in
these pages of late, we are in a period of
rapid improvement in the quality of re-
corded source material. True digital re-
cordings promise such wonders as dead-
quiet backgrounds, virtually no cutting
or playback tracking problems, 80- to
90-dB dynamic range, and nearly un-
limited bass extension. Many of these
characteristics are even now available in
various sophisticated conventional
recordings—digitally mastered analog,
direct-cut, and “CX”- and dbx-encoded
discs—and at least three of them
should concern loudspeaker manufac-
turers. These are increased bass capa-
bilities, freedom from cutting and
tracking distortion, and expanded dy-
namic range.

• Increased Bass Capabilities. This
is a by-product of not having to cut or
track large groove excursions, a prob-
lem that often results in limited or re-
duced bass below 50 Hz (and almost
certainly below 30 Hz) on most current
discs. Very low frequencies converted
into digital form are no more difficult
to cut or track than mid frequencies,
so digital techniques should therefore per-
mit the recording of extended and pow-
erful bass which will be remarkable to
experience if it can be effectively repro-
duced. This problem falls on the
shoulders of the speaker-system design-
er to a greater degree than previously.
The implications of the SIRE approach
to low-frequency system design are
therefore likely to become more im-
portant than ever. The matter of loud-
speaker-cone size (really tied into the
topic of cone excursion) briefly touched
on earlier should also come to the fore.
The reproduction of high-intensity, very-low-frequency signals implies carefully designed, suitable-size woofers in system types that minimize the excursion required for a given bass output. Even the momentary delivery of 1 acoustic watt (a very high output level in a living room) at frequencies at and below 40 Hz with a speaker of reasonable size is a difficult task indeed. As an example, consider a 12-inch driver in a sealed box installed near one wall attempting to radiate 1 watt of acoustic power at 25 Hz. A total cone excursion of almost 4 inches would be required—a more general question involving possible increases in the average and instantaneous peak levels of reproduced music. The new disc formats promise dynamic ranges of 80 to 90 dB instead of the 55 to 65 dB of most current analog recordings. If much of the 15- to 35-dB increase were to find its way into increased peak levels, amplifier and loudspeaker manufacturers (and owners) could find that life has become very difficult. However, most of the increased dynamic range will probably go into reducing background noise, which in turn may be an inducement to increase average "soft" material and larger amplifiers (200 to 400 watts) to be used for higher-intensity music. And, obviously, designers must pay careful attention to keeping the required woofer-cone excursions at reasonable values by using cones of adequate size in system designs that have lower cone excursions for given outputs.

In a sense, hi-fi history is coming full circle in respect to speaker-system efficiency and output levels. The digital revolution may cause the loudspeaker industry to become more aware of the need for higher-output systems. In the

Expanded Dynamic Range

Aside from the low-frequency-excitation problem discussed earlier, there is an impossible demand given the current state of the art.

<image>

**Sound-pressure Levels (SPL)**

SOUND-PRESSURE LEVEL: AVERAGE AND PEAK

<table>
<thead>
<tr>
<th>SPL (SOUND PRESSURE LEVEL)</th>
<th>Average and Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average SPL</td>
<td>90 dB</td>
</tr>
<tr>
<td>Peak SPL</td>
<td>115 dB</td>
</tr>
</tbody>
</table>

<br />

Cutting and Playback Distortion.

The second matter, involving cutting and tracking distortion, may have some interesting implications with respect to higher-frequency system output. It has been suggested that one reason many listeners prefer their highs rolled off is that a system with a flat power response reveals the high-frequency distortion of most program sources. If high-frequency distortion is reduced at the source, the challenge for speaker designers of obtaining both a flat power response and flat acoustic-power response takes on a new significance.

Future Possibilities

It is possible that the reproduction of classical music from a clean source will require the ability to radiate momentary outputs on the order of 1 acoustic watt to achieve peak sound-pressure levels approaching 115 dB in the listening area of living rooms (see box on "Sound-Pressure Level"). These relatively high outputs will increasingly need to be maintained into the bass frequencies as the potential of true digital recording is realized. Such outputs require fairly high loudspeaker-system efficiencies (perhaps 1 to 3 per cent) if small to medium amplifiers (50 to 100 total watts) are to be used in reproductions.

ULTRA LIGHTS 100's: 5 mg. "tar", 0.5 mg. nicotine, 100's: 9 mg. "tar", 0.8 mg. nicotine, av. per cigarette by FTC method.

VANTAGE 100s
Ultra Low tar 5 mg

asures
you want good taste and low tar, too.
The lyrics Carole Bayer Sager provided for Marvin Hamlisch's music in the delightful They're Playing Our Song (still a smash after two years on Broadway) showed that she could do it; "Sometimes Late at Night," her new solo performing album on the Boardwalk label, proves that she has indeed done it. Done what? Among other things, that she's become the best female American lyricist since Dorothy Fields; that she can perform her own work as well as—and often better than—anyone else; that she has mastered the tricky genre of the autobiographical song (there's always a finely judged aesthetic distance in hers, and no breathy, sweaty-palm narcissism). Perhaps most of all, it proves that she has come into the high noon of her creative maturity at a remarkably early age.

The leading female character in They're Playing Our Song was supposedly modeled on Ms. Sager by playwright Neil Simon (the leading male character was presumed to be Marvin Hamlisch). Whether or not that character actually represented Sager isn't important; what is important is that she created through her lyrics a funny, talented, vulnerable girl who was still sufficiently green and unsure of herself that she could see romantic relationships from one side only—hers. She was, in short, a girl who had yet to get it all together, and that is probably why theater audiences have continued to find her so enchantingly real, so believably contemporary.

"Sometimes Late at Night" tunes in on that same girl several years later. She is now a grown woman, and oh boy, has she ever gotten it all together! What is startlingly apparent in this collection of Sager's songs is that she has not only discovered her own identity, personally and artistically, but in the process has arrived at what amounts to a summation of the attitudes of the young women of her generation, a kind of rulebook for making life in the Eighties congenial. And so she frankly enjoys her talent, her looks, and her ability to live independently. She's a career woman, but

But the crucial self-definition here, the one that probably best reflects the times, is that Carole Bayer Sager is not at all uneasy about the choices she has made. Along with many other women of today, she has shaken off the Seventies' queasy self-consciousness. It simply doesn't occur to her to ask dumb questions: "Am I doing the right thing?" "Am I posing, or do I really mean it?"

Now, before visions of Joan Crawford marching up Fifth Avenue to the strains of Evita start popping into your head, let me assure you that none of this is specified, avowed, or preached in any of the songs. It is simply that, like any artist honestly plugged into life as it goes on around her, Ms. Sager can't help but distill and crystallize changes in popular attitudes (if she didn't, she wouldn't really be a popular song writer, now would she?), and she delivers the results with the softest sell imaginable, in a package as lush, plush, and perfumed as one of Mae West's marabou "hostessin' gowns."

On the jacket cover Ms. Sager looks terrific enough that it is hard to imagine her ever having to write or even do anything except possibly be this month's Playmate. On the record she has surrounded herself with about as swelegant a group of colleagues as it is possible to assemble in today's glossiest pop circles. Melissa Manchester, Franne Golde, Richard Page, and Bruce Roberts, among others, sing background vocals. Peter Allen and Bruce Roberts collaborated with her on

"...what amounts to a summation of the attitudes of the women of her generation."
a couple of songs. Neil Diamond dropped by to arrange, produce, and play the guitar on On the Way to the Sky, a song he wrote with Carole. Marvin Hamlisch (no sore loser he) is on hand to provide a lovely arrangement for You and Me (We Wanted It All). And if you’ve been anywhere near a newspaper, TV set, or magazine for the past year you will already know that composer Burt Bacharach is now Carole’s major collaborator (he had a hand in all but two of the songs here), her arranger, her pianist, and, more than likely, her sometime Inspiration.

But whatever the contributions of Bacharach and others, the album remains a vehicle for its star. When you hear Sager’s hesitant, rather mannered voice curl around such gut-simple lines as “So you don’t have to worry/’Cause I know what I can take/Too much has been taken/And I won’t break,” you know she means it. All of her performances carry the same strong emotional conviction. That silly cigarette-commerc
cial line “You’ve come a long way, baby!” finally has the resonance of reality for me, and in Sager’s case I’d have to add “and in such a short time!”

—Peter Reilly

Outstanding Singers and The Grand Line in a Luminous, Transparent Parsifal by Karajan

It was Richard Wagner’s expressed wish that his Parsifal should be presented only in Bayreuth, and this stricture has unquestionably helped to sustain the notion that this at once very solemn and very festive opera would somehow be compromised if produced anywhere else. Eventually, despite Cosima Wagner’s considerable efforts, it proved impossible to keep Parsifal out of other houses, but the myth found expression in other ways: the first three complete recordings of the opera took place at Bayreuth Festivals—in 1951 and 1962 under Hans Knappertsbusch, in 1970 under Pierre Boulez. It was not, indeed, until 1972 that Parsifal received its first studio recording, under Georg Solti (London 1950). Now we have a second studio Parsifal, under Herbert von Karajan, and it too is a bona fide “festival” project, created just prior to the 1980 Salzburg Festival with a hand-picked cast thoroughly prepared in Karajan’s customary stringent and dedicated manner.

It is a beautiful performance, luminous in sound, transparent in texture, and firmly committed to the conductor’s aesthetic principles, one that sustains the grand line from beginning to end. However absurd it may seem to apply the phrase “chamber-music approach” to a score as large and as lavish as that of Parsifal, those familiar with Karajan’s recorded Ring cycle will detect a similar striving here for rich but subtly shaded orchestral sounds in which shattering climaxes are avoided and dynamics sensitively graduated to support the singers. There is no room in such an approach for spontaneity, of course—this is not a live performance, nor does it sound like one. But it will, I think, leave the listener with a yearning to experience such a perfectionist performance in the theater at least once in his lifetime.

Since I accept Karajan’s approach as a valid one, my occasional reservations about this recording should not be taken to diminish the conductor’s splendid accomplishment here. The massive dignity Knappertsbusch brought to Parsifal remains unique, and there is much to be said for Solti’s decidedly more intense sonorities, but all three masters pace the music deliberately and sparsely—in overall timing, the differences among the three versions are negligible.

Kurt Moll, with his exceptionally tender and compassionate Gurnemanz, stands out even among the outstanding singers Karajan has assembled around him. His purely focused tone requires no audible effort throughout the range, and he enunciates the text with superb clarity, as lightly on the breath as if he were singing Bellini. No doubt he would have played the character with greater earthiness and shown more anger and impatience with Parsifal’s first-act incomprehension had Karajan’s view not demanded an attitude of almost unrelenting saintliness.

It would appear also that Karajan did not want his Kundry, Dunja Vejzovic, to be remembered mainly for her shrills and moans (they are in any case discreetly covered by the orchestra). She is apparently the latest in Karajan’s remarkable series of vocal discoveries, a mezzo with a rather light timbre and an impressive range. Obviously well prepared for the role, she offers a memorable yet unexaggerated portrayal and is particularly striking in her dialogue with Parsifal following her monologue “Ich sah das Kind.”

The Parsifal, Peter Hofmann, is very musical and youthful in sound, but
though his voice is quite agreeable and steady at low dynamic levels, it becomes wavery under pressure. He is, however, more than adequate in the role—which is, alas, the best I can say about any of the Parsifals in the complete recordings, except perhaps for Jess Thomas, who outdid himself in the 1962 Philips recording.

José van Dam sings Amfortas’ tortured lines with heart-rending conviction, never allowing the music’s cruel demands to compromise the beauty of his voice. Siegmund Nimsgern’s firm-toned and sinister Klingsor is not given sufficient prominence in the recorded sound. The same goes for the Titurel—but that unfortunate king is not supposed to sound too healthy in a realistic production.

The care with which this cast was chosen deserves all praise. There is no “barking” here in the bad old Wagnerian tradition, and the art of legato is everywhere sustained. The vocal ensembles are sparked by the presence of such eminent singers as Hanna Schwarz, Barbara Hendricks, and Claes H. Ahnsjö in small roles, and the digital engineering (with the slight exceptions noted) is excellent.

Casting one more glance at the complete recordings, the first Bayreuth production (Richmond), in good mono sound and rich in memorable vocal interpretations, must be regarded as an important historical document. Deutsche Grammophon’s previous version under Boulez is entirely outclassed by the present release, but the Philips (Knappertsbusch) and London (Solti) versions remain vital contenders.

—George Jellinek

WAGNER: Parsifal. José van Dam (baritone), Amfortas; Victor von Halem (bass), Titurel; Kurt Moll (bass), Gurnemanz; Peter Hofmann (tenor), Parsifal; Siegmund Nimsgern (baritone), Klingsor; Dunja Vejzovic (mezzo-soprano), Kundry; Claes H. Ahnsjö (tenor), First Knight; Kurt Rydl (bass), Second Knight; Barbara Hendricks, Janet Perry, Doris Soffel, Inga Nielsen, Audrey Michael, and Rahangiz Yachmi, Flower Maidens; Hanna Schwarz (mezzo-soprano), a Voice. Chorus of the German Opera, Berlin; Berlin Philharmonic Orchestra, Herbert von Karajan cond. Deutsche Grammophon 3 2741 002 five discs $54.90, © 3382 002 $54.90.

From the Source:
Leoš Janáček’s Personal, National, and Indispensable Glagolitic Mass

LEOŠ JANÁČEK died in August 1928 at the age of seventy-four, having composed several of his greatest works in his final decade. One of the last was the Glagolitic Mass, composed in 1926. When the work was first heard the following year someone wrote that it “might have been composed by a very aged Slav of bygone times,” but Janáček replied: “It was composed, and could have been composed, only by the musician Janáček.” Another writer, aware of Janáček’s reference to himself as “no believer, till I can see for myself,” suggested that the liturgical work indicated the composer had “turned pious in his old age,” and in this case the response came on a postcard reading simply: “Neither pious nor old, young man!”

Janáček had little use for traditional religion; he regarded churches as symbols of death, with their “graves under the flagstones, bones on the altar, all kinds of torture and death in the paintings. The rituals, the prayers, the chants—death and death again! I won’t have anything to do with it!” In his pantheistic outlook the only cathedral was the great Luhačovice Forest, in or near which the Glagolitic Mass was composed. While the work is liturgically acceptable, he conceived it as a concert work pure and simple, one in which he could “express faith in the certainty (that is, the sure survival) of the nation, not on a religious basis but on moral foundations, which call upon God as witness.”

The term “Glagolitic” refers to an early alphabet used for the language in which the Mass is sung, known now as “Old Church Slavonic.” The prominence of Gogol, Ostrovsky, and Dostoevsky among the literary inspirations for Janáček’s works is cited as in-

Leoš JANÁČEK: neither pious nor old

Kurt Moll: tender and compassionate
dicative of his “pan-Slavonic” outlook, and the Slavonic Mass might be seen as the most exalted celebration of it. Dvořák, whom Janáček so admired, showed a similar approach in his Slavonic Dances, which, in contradistinction to Smetana’s specifically Czech Dances, included forms from Serbia, Poland, and the Ukraine; in the Slavonic Mass this pan-Slavonic gesture does not in any way take away from, but rather serves to enhance, the composer’s national concept. There is, moreover, a personal element in the music even stronger than its national feeling.

There have been several powerful recordings of the Slavonic Mass, among them one conducted by Rafael Kubelik and the most vivid yet achieved with the monics (it also recorded the work earlier). Veselka’s splendid Czech Philharmonic Chorus, which, regrettably, had little circulation in this country. Appealing as the various stereo versions were, though, they were all inevitably compared with the old mono recording (conducted by Břetislav Bakala in the composer’s own city of Brno) which circulated here on Urania three decades ago. The fervor of that performance triumphed over its somewhat primitive sound, and it remained unmatched until Supraphon brought out a new and splendidly recorded version, again from Brno, under the direction of František Jilek, who shows perhaps even more of that proprietary fervor. His solo quartet album has received much critical acclaim, and his Slavonic Mass on disc. Nor has this important, exciting, and uniquely inspiring work ever made so grand an effect as it does in this newest recording—not in the delimiting context of either Czech music or choral music, but in the broadest sense. It is simply indispensable.

—Richard Freed

JANÁČEK: Missa Glagolskaja (Slavonic Mass). Gabriela Beňačková Čápová (soprano); Eva Randová (contralto); Vílem Přibyl (tenor); Sergej Kopčák (bass); Czech Philharmonic Chorus; Jan Hora (organ); Brno State Philharmonic Orchestra, František Jilek cond. SUPRAPHON 1112 2698 G $9.98 (from Qualiton Records, Ltd., 39-28 Crescent Street, Long Island City, N.Y. 11101).

Leo Kottke: hear him, and fall on the floor (in which the organ solos are played by one Bedřich Janáček) and one from Prague under the late Karel Ancerl which, regrettably, had little circulation in this country. Appealing as the various stereo versions were, though, they were all inevitably compared with the old mono recording (conducted by Břetislav Bakala in the composer’s own city of Brno) which circulated here on Urania three decades ago. The fervor of that performance triumphed over its somewhat primitive sound, and it remained unmatched until Supraphon brought out a new and splendidly recorded version, again from Brno, under the direction of František Jilek, who shows perhaps even more of that proprietary fervor. His solo quartet album has received much critical acclaim, and his Slavonic Mass on disc. Nor has this important, exciting, and uniquely inspiring work ever made so grand an effect as it does in this newest recording—not in the delimiting context of either Czech music or choral music, but in the broadest sense. It is simply indispensable.

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Leo Kottke’s New "Guitar Music" Finds Him at the Top of His Form

In 1972 I heard my first Leo Kottke album and nearly fell on the floor. He was playing what I had always wanted to play on both the mighty twelve-string and the standard acoustic guitar—except, of course, his musical ideas were much better than mine and his technical skills were exceptional.

From the early Seventies until 1976, Kottke recorded for Capitol, always using the Sound 80 studio in Minneapolis near his home. He turned out a series of topflight albums, all produced by Danny Bruce. His up tempo instrumentals, with their abrupt changes and sudden injections of syncopation, were delight-filled surprises; his slower compositions were poignant, brooding, and prodigal in their exploration of tonality.

But in 1976 something changed: Kottke seemed to running out of ideas or was perhaps becoming bored. His up tempo and “ballad” material seemed forced in both conception and execution. He moved to Chrysalis Records, where his first album included orchestral backing, a prop he had never used before. The albums that followed, “Burnt Lips” and “Balance,” were plodding and morose, although “Balance,” produced by Kenneth Buttry, showed a few signs of life. In addition, Kottke’s composing talents were in limbo, and he tended to sing more to fill the gap. Unfortunately, his singing doesn’t begin to approach the quality of his instrumental work (his baritone is more resolute than flexible, but it doesn’t deserve quite the critical pounding it has received).

But now for the good news. Kottke’s term of trial has passed, and the all-instrumental “Guitar Music” reveals him as once again confident, assured, and at the top of his form as both artist and producer. The startling rhythms in such up tempo pieces as Part Two are played with a happy mastery, while Strange is a beguiling mixture of rhythms complete with fiery swoops, delicate harmonics, and those quirky, lovely, teasingly incomplete melodies of his. Then there is A Song for “The Night of the Hunter.” It is based on the eerily brilliant 1947 film (directed by Charles Laughton) about two children fleeing a homicidal backwoods preacher (Robert Mitchum). Superbly photographed, the film packs a real emotional wallop, and even if you’ve never seen it, I think you’ll find a good deal of its chill evoked in Kottke’s musical gloss.

His altered-perspective versions of other musicians’ material have always been interesting, and here he throws new light on Ry Cooder’s Available Space, that old chestnut Tumbling Tumbleweeds, Boudleaux Bryant’s All I Have to Do Is Dream (made famous by the Everly Brothers), and Sleep Walk, a 1950s instrumental hit by Santo & Johnny. Kottke’s treatments of them are like his own music: rich and robust.

—Joel Vance

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In the Beginning there was Cosmos—the TV Series, with Dr. Carl Sagan in the role of God. A joint project of Sagan Productions and KCET, Los Angeles, it is said to be the most expensive series ever seen on the Public Broadcasting Service. Then came Cosmos—the Book (Random House, $19.95), which was on the best-seller list for many weeks. Now Cosmos—the Record has appeared in the form of RCA album “The Music of Cosmos” (ABL1-4003). In addition to the main theme from Vangelis’ Heaven and Hell, Part I, the disc contains traditional music from Japan and Bulgaria, bits from works by Shostakovich, Vivaldi, Pachelbel, Roy Buchanam, and Toru Takemitsu, and excerpts from the Russian Easter Festival Overture (Rimsky-Korsakov) and The Sea Named Solans (Bach-Tomita). The blissfully uncouth voice of Dr. Sagan ("Billions and billions of starszzz"), which ruined the series for many viewers, is absent from the record. The jacket contains an endorsement from Gideon Wald, Dean of the Juilliard School of Music, who says the "choice of music and musical sequences is superb," and a dedication from Dr. Sagan, who says, "Human music is an expression of our thoughts and feelings, a combination that is the distinction of our species. We dedicate this record to the musicians of the planet Earth." Price: $9.98—W.L.

Music makes a better gift than the traditional perfume, candy, and flowers, according to the National Association of Recording Merchandisers (NARM). For the last year and a half NARM has been promoting records and tapes as gifts with an aggressive marketing program. Increasingly, record ads have featured the campaign’s logo (a gift bow with a musical note in each of its four loops) and the slogan "Give the Gift of Music." NARM practices what it preaches. When the Americans held hostage in Iran returned home earlier this year, NARM presented each of them with a gift package of the best records released in this country during the time they were held prisoner. The recordings were chosen by the same panel of experts who picked the records added to the Presidential collection at the White House (see March Stereo Review, page 82).

And, speaking of the White House, President Ronald Reagan is also giving the gift of music. When Reagan was visited by Chun Doo Hwan of Korea, the President gave the Korean leader a musical gift chosen to please his three teenage children. It was a collection of records including albums by Earth, Wind, and Fire, Billy Joel, Queen, Blondie, Chicago, and the Bee Gees.

Tina Turner’s recent solo comeback concert at the Ritz in Manhattan attracted a fair share of celebrities along with the paying customers. Pictured backstage with Tina is none other than Tiny (Tapote Through the Tulips) Tim, whom you may recall was the house joke of the Sixties. Mr. Tim seems to be affecting the Urban Cowboy look, which may or may not be a sign of the times.

It is generally agreed in the music biz that Jerry Lee Lewis had had the benefit of a managerial wizard like Col. Tom Parker, he could have been as big as Elvis, if not bigger; certainly the talent was there, and a lego to match. It’s rather a shame, then, that Whole Lotta Shakin’ Goin’ On, Robert Cain’s just-published biography of the singer (Dial Press, $9.95), is such a disappointment. The book is obviously padded (an interview with Tom Jones, lots of old Variety reviews reprinted in their entirety) and written in a style only slightly more elegant than a press release. Worse, author Cain seems to be overawed by his subject, incapable of using the phrase “living legend” less than once every page. Still, there are some spectacular photos (particularly those from the Fifties), and the discography is useful.

A more interesting effort is The Day the Music Died, a roman à clef by Joseph C. Smith (Grove Press, $12.95) about the music business in the early rock era (from 1956 to 1963 and the dawn of the British Invasion). There’s plenty of sex, violence, and juicy industry gossip, and one can have a bit of in-group fun figuring out which of the characters is patterned after which famous person. (Is black record mogul Monroe Wilcox really Motown’s Berry Gordy? Is obnoxious teenage producer Paulie Schultz really...
The book’s main concern, however, appears to be a polemical one: Smith, an old-time r & b songwriter, is pushing the thesis that white rock was from its inception a cultural ripoff, that even at its best it was no more than a pale dilution of superior black models. The claim can be debated endlessly, but without profit, rather like the question of whether whites can really play jazz; maybe they can’t—but they do. One comes away with the impression that Smith believes a bunch of white record executives sat around in a smoke-filled room and came up with a fifteen-year master plan to co-opt rock—certainly an epic conspiracy, if hardly a credible one. —S.S.

The Teenage Filmstars, an English New Wave band, have just recorded a long-overdue tribute to The Prisoner, the surreal, cult-favorite 1967 TV series which was the first commercial-television production ever rebroadcast on PBS. Available on the Fab Listening label, the tune is titled I Helped Patrick McGoohan Escape, after the show’s creator and star. The sun has not yet set on the Empire.

The Patti Smith Group, contrary to what you may have heard, has not broken up, according to Arista Records, to whom they are still very much under contract. An Arista spokesperson confirmed that the PFG live album, reportedly scrapped by the label, in fact never got past the planning stages. Patti herself is at home in Detroit and hard at work—on a new book—and raising her baby by husband Fred (ex-MCs) Smith. Other PFG members are biding their time in New York City; Lenny Kaye has a single out under his name, and JayDee Daugherty is drumming for Willie Nile.

Disc and Tape Reviews

By CHRIS ALBERTSON • IRV COHN • NOEL COPPAGE • PHYL GARLAND
PAUL KRESH • PETER REILLY • STEVE SIMELS • JOEL VANCE

PAUL ANKA: Both Sides of Love. Paul Anka (vocals); orchestral accompaniment. Think I’m In Love Again; Roses Ain’t Red; We Love Each Other; Lady Lay Down; Look What You’ve Done; Why Don’t We Sleep On It Tonight; I’ve Been Waiting for You All of My Life; and three others. RCA AQL1-3926 $8.98, © AQQ1-3926 $8.98, © AQS1-3926 $8.98.

Performance: Facile
Recording: Sumptuous

Busy, busy Paul Anka. He announced only the other day that he’s hard at work “updating” the lyrics of his first hit, Diana, to honor Lady Diana Spencer, soon to become the bride of Prince Charles. (It’s always nice to have a signature tune, even at a royal wedding.) But before finishing that job, Anka released this album. Only two of his own songs are on it—You’re Still a Part of Me, a little number he wrote with Bobby Goldsboro, and Think I’m In Love Again, which he wrote with Bob McDill and which is something of a hit. Anka performs the latter very well indeed, in a hoarse, frenzied, contemporary whine that belies his image of the last quarter-century or so as the Glitter Pasha of Vegas. But Anka’s facility at changing performing styles is as formidable as his talent for staying just that one step ahead of mass-market musical tastes. I understand that his next project is a reworking of the lyrics of My Way for Brooke Shields to sing at her official coming-out party next spring. P.R.

JIMMIE AND VELLA CAMERON: Song Painters. Jimmie and Vella Cameron (vocals); orchestra. You’re Gonna Need My Love Someday, Here Is Where You Belong; I Understand That His Next Project Is A Reworking Of The Lyrics Of My Way For Brooke Shields To Sing At Her Official Coming-Out Party Next Spring. P.R.
A balladeer revealed
Recording: Lush
As he sings in one of his new songs here, Dan Hartman "still remembers yesterday/Getting high on flashing lights." But Hartman's new album is no disco replay. Unexpectedly mainstream pop, it reveals him as more than a one-shot fluke like, say, Bonnie (It's a Heartache) Tyler or Morris (Feelings) Albert. I hope she gets it. P.R.

RECORDING OF SPECIAL MERIT
TERRI GIBBS: Somebody's Knockin'. Terri Gibbs (vocals); vocal and instrumental accompaniment. Somebody's Knockin'; Plans; Wasted Love; Magic Time; It's True; Rich Man; and five others. MCA MCA-5173 $8.98, © MCAC-5173 $8.98, © MCAT-5173 $8.98.

Performance: Interesting
Recording: Good
Terri Gibbs has a "personality" voice; that is, above and beyond its intrinsic musical worth—and that is a great deal—it makes an immediate impression. It is a dramatically deep, rich alto, powerful from top to bottom, and she projects it with a smooth directness. Nothing else in this debut album matches the title song, 'Somebody's Knockin' (already a hit), in quality or performance, but all the tracks indicate an interesting performer with innate style. I'm not sure she should be confined to the quasi-country repertoire she's into here, but I am sure she has a talent that's going to need some special care and handling if she's ever to be more than a one-shot fluke like, say, Bonnie (It's a Heartache) Tyler or Morris (Feelings) Albert. I hope she gets it. P.R.
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George Rose, previously best known in the U.S. for his Tony award-winning performance as Liza’s tipsy father Alfred P. Doolittle in the 1976 Broadway revival of My Fair Lady and then as Captain Hook in the 1979 revival of Peter Pan, sat in his dressing room at the Uris Theater in New York preparing to make a Wednesday matinee appearance as Major-General Stanley in Joseph Papp’s immensely successful New York Shakespeare Festival production of The Pirates of Penzance. This rambunctiously irreverent yet strangely faithful version of the Gilbert and Sullivan operetta was first presented—free to those stalwart enough to wait in long lines for tickets—in Central Park in the summer of 1980, and besides Rose it features Kevin Kline as the Pirate King, Estelle Parsons as Ruth, and pop stars Linda Ronstadt (Mabel) and Rex Smith (Frederic).

Elektra/Asylum recorded the recently released Broadway-cast album a few days before I spoke with Rose. “Usually show records are done in one day,” he pointed out, “but there were many problems with this one, and we all wanted it to be perfect.” I’m happy to report that those problems seem to have been neatly solved, and even though all the fun of the energetic and inventive staging doesn’t come through on discs, the show sounds better on the album than it ever did in Central Park or does at the Uris. The dreadful amplification system used to project the singers’ voices into those huge spaces is here replaced by careful studio mixing and multitracking (the recording session was extended into three eight-hour ordeals, Rose told me). The resulting sound is arrestingly three-dimensional and alive (though my review copy was blotted by rather more than the usual quota of ticks and clicks).

Just before my conversation with Rose, the New York Times published an article about the D’Oyly Carte Opera Company’s being refused a grant by the British Arts Council because its Gilbert and Sullivan productions have become “wooden or tired.” Since the New York Shakespeare Festival production of Pirates is anything but that, however “outrageous” its departures from the letter of G&S tradition, we talked about the issue of traditionalism. “I have felt,” this very model of a modern Major-General Stanley said, “that the vocal standards of the [D’Oyly Carte] company were not as high as they could be. There are too many lower-middle-class sounds in the singing—as there are, indeed, in British acting generally at the moment. A performer playing an aristocrat should not sound like a farm laborer. On the other hand, I do feel sorry that the traditional approach to Gilbert and Sullivan should be in danger.”

With regard to his own characterization of Major-General Stanley, which may be the most remarkable ever, Rose thanks his traditional speech training for the flawless enunciation he exhibits on stage and in the recording. He also disclosed that he found a rare recording—he is an avid record collector—of the legendary C. H. Workman in the part (Workman performed all the so-called “buffo” roles in the Savoy repertory many years ago) and played it over and over, studying the pace and inflection that characterized Workman’s style. His theory is that there should be a “period sound” to a period portrayal. “I am probably the only Major-General in stage history,” he said by way of example, “who accords all three syllables to the word ‘theorem’” (“About binomial theorem I’m teeming with a lot of news…”).

The man in the Major-General’s costume grew up in England as the son of a country butcher and originally aspired to be a cathedral organist. He sang off-stage in Peer Gynt at the Old Vic while getting a musical education at the Guildhall School in London. Later he won a scholarship to the Central School of Speech and Drama and went on to become a full-time actor and singer. For eight years he performed in or understudied classical roles with the Old Vic and Royal Shakespeare companies, appearing with such luminaries as Sir John Gielgud, Noël Coward, the Lunts, and Dame Edith Evans. He also starred in cabaret revues and such musicals as She Loves Me, Walking Happy, The Canterbury Tales, and (opposite Katherine Hepburn) Coco.

But Rose had never played a single role in Gilbert and Sullivan until Joseph Papp hired him for this one. He had never even seen a “professional production” of any of the operettas, though he had heard them on records. “I was raised in the 1920s when there was a great discard of all things Victorian,” he explained, so he came early to hate the G&S music, “which was played by every seaside orchestra. It’s the kind of thing you had to listen to on a wet day when you would have liked to be swimming.”

I first saw the current production on a showy summer evening in Central Park a few days after it had opened. Despite the rain (it fell right through “How beautifully blue be sky,” the farmers, and “Dine Ev’ry Day”), the exhilarating production (I could see a pair of young sound engineers at the side of the stage quarreling over the controls), and some terrible singing (Linda Ronstadt seemed barely able to carry one of Sullivan’s simple tunes, let alone those of the operettas, though he had heard them on records), there was a great discard of all things Victorian.”

Hate the G&S music, “which was played by every seaside orchestra,” Rose said. But Rose had never played a single role in Gilbert and Sullivan until Joseph Papp hired him for this one. He had never even seen a “professional production” of any of the operettas, though he had heard them on records. “I was raised in the 1920s when there was a great discard of all things Victorian,” he explained, so he came early to hate the G&S music, “which was played by every seaside orchestra. It’s the kind of thing you had to listen to on a wet day when you would have liked to be swimming.”

The production was transplanted to the Uris essentially intact, and the recording preserves the show’s feeling of spontaneity and unconventional fidelity to the G&S spirit. It offers (happy surprise!) almost all the dialogue (the occasional cuts or alterations spoil nothing). Ronstadt took some liberties with the score, but Rose had never played a single role in Gilbert and Sullivan until Joseph Papp hired him for this one. He had never even seen a “professional production” of any of the operettas, though he had heard them on records. "I was raised in the 1920s when there was a great discard of all things Victorian," he explained, so he came early to hate the G&S music, "which was played by every seaside orchestra. It’s the kind of thing you had to listen to on a wet day when you would have liked to be swimming."

The Pirates of Penzance
As for George Rose, he is as impeccable on records as ever he was on the stage, even managing to give plausibility to his breathtaking double-time encore of 'I Am the Very Model of a Modern Major-General' despite the absence of an audience to demand it. There really has never been a Major-General Stanley as skillfully spurious as his. The performance would seem as at home in a standard version of 'The Pirates of Penzance' as in Papp's impious (but respectful) one. (And how admirably, paradoxically traditional to have restored the delightful finale of the first New York production from way back in 1879!) Major-Generals of the future would do well to study and learn from Rose on these records even as he learned from that disc by C. H. Workman.

Most highhanded "revisions" and adaptations of G&S simply turn off loyal Savoyards, among whom I count myself, but this one is different. It may even help prolong the life of the whole endangered species. No wonder it was nominated for seven Tony awards, including one for George Rose, one for Kevin Kline (he won), and—I could hardly believe it—even one for Linda Ronstadt.

GILBERT AND SULLIVAN: 'The Pirates of Penzance.' New York Shakespeare Festival production, Broadway-cast album. Kevin Kline (bass), Pirate King; Rex Smith (tenor), Frederic; Estelle Parsons (contralto), Ruth; Linda Ronstadt (soprano), Mabel; George Rose (bass-baritone), Major-General Stanley; Tony Azito (bass-baritone), the Sergeant; others. Chorus and orchestra, William Elliott cond. ELEKTRA VE-601 two discs $19.98, © VC-601 $19.98.

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CIRCLE NO. 20 ON READER SERVICE CARD
THE ASbury Jukes, bless 'em, are the ultimate bar band. For proof, listen to their new two-disc Mercury album with Southside Johnny, "Reach Up and Touch the Sky," recorded live at a bunch of waterfront shows they did on tour in Ohio, Maryland, Michigan, Pennsylvania, and New Jersey. Some old favorites are included (I Don't Want to Go Home, The Fever), but the new delights include an extended, passionate medley of tunes by Sam Cooke plus the world's hottest rendition of Chuck Berry's Back in the U.S.A. (it makes Linda Ronstadt's version sound like a doo-wop jingle). Also of special interest is Stagger Lee, the old folk song that Lloyd Price smoothed out in 1958, sung here with some additional verses from one of the many alternate versions.

Southside Johnny is exuberant but beautifully controlled throughout in a near-perfect combination of sincerity and showmanship, and the Jukes play gloriously. This is one of those rare live albums that justify the genre: there's something here that could never have been captured in the studio. The release is a certifiable Event.

—Joel Vance

Southside Johnny and the Asbury Jukes: Reach Up and Touch the Sky. Southside Johnny and the Asbury Jukes (vocals and instrumental). I'm So Anxious; Talk to Me; All I Want Is Everything; Hearts of Stone; Take It Easy; Trapped Again; Why Is Love Such a Sacrifice; Restless Heart; Verigo: I Don't Want to Go Home; The Fever; Stagger Lee; Only Sixteen (What a) Wonderful World/You Send Me/A Change Is Gonna Come; Bring It On Home to Me; Having a Party; Back in the U.S.A.; Roll Out the Barrel. MERCURY SRM-2-8602 two discs $11.98, © MCR4-2-8602 $13.98, © MCB-2-8602 $13.98.

Performance: A classy lady
Recording: Good

Thelma Houston has indomitably managed to make her version of Warwick oldie Don't Make Me Over, probably the only song in the batch worth all the energy and concentration Houston invests in it. She gives the song a gospel fervor and quality of vocal sound that raise her version above the original. Maybe Thelma Houston's endurance will pay off some day and she'll get a chance to record songs that are as good as she is.

—P.G.

Thelma Houston: Never Gonna Be Another One. Thelma Houston (vocals); vocal and instrumental accompaniment. Never Give You Up; Too Many Teardrops; 96 Tears; Never Gonna Be Another One; Don't Make Me Over; and three others. RCA AFL1-3842 $8.98, © AFK1-3842 $8.98, © AFSL-3842 $8.98.

Performance: A classy lady
Recording: Good

The present Starfish is a far cry from the classic Airplane. This Starfish isn't bad by today's standards. Despite being a bit ponderous, it does the basic rock-and-roll things well, but it just isn't special. Grace Slick is back on this outing, mostly doing background vocals and receiving minimal jacket credit. Most of the vocal emphasis nowadays is on the UHF voice of Mickey Thomas, which is both less stylized and less stylish than the old Slick/Marty Balin/ Paul Kantner interplay. Kantner makes various comments on the situation—"got a new band, new sound ... Rolling Stone, Village Voice, picky picky picky"—in Stairway to Cleveland, the recorded-live final cut. It is chiselfull defense in tone, but also childlike in its unfettered tumble of words and therefore rather effective. Otherwise, the material is trivial, but only Free is really boring.

The "new sound" echoes little of the psychedelic Jorma-and-Jack days and not much of Kantner's attempts at science-fictionish effects—except, ironically, for a hint of the latter in the title song. This is modern go-with-the-flow rock in search of a hit. The first one to emerge, Find Your Way Back, is gimmicky, not unpleasant, but by no means special. It does no good to overrate the past, but if this album is a reflection of what the years have done to us—and it probably is—we really should be in a hurry to get on to more interesting times.

—N.C.
One of the few veterans of r- & b's golden age who is still recording regularly, Ben E. King deserves the deference accorded respected elders—even though he's only in his mid-period Jefferson Airplane and early mid-period floor charts. As the name implies, Mass Production's productions are big. They are also quirky, fun, and Lane has a good voice, but the band tries to play safe and Lane tends to lecture. The vocals don't do much for me—they seem overly mannered in an apparent attempt to sound super-sophisticated—but the instruments are zingy and well recorded, with a good feeling of space around each instrument. I don't think this band will knock Asleep at the Wheel off the throne, but with its smaller size and emphasis on agility and clarity—and, of course, with its feel for what a chunk of the American West sounds like—the Live Wire Choir should gain a decent foothold.

ROBIN LANE & THE CHARTBUSTERS: Imitation Life. Robin Lane (vocals), the Chartbusters (vocals and instrumentals) say Goodbye, Idiot; Pretty Mala; No Control; Send Me an Angel; Rather Be Blind; and four others. WARNER BROS. BSK 3537 $8.98, © M S 3537 $8.98.

Performance: Good, but

Recording: Good

This Boston group straddles a generational line; being young, they have something of the New Wave about them, but Robin Lane's vocals come from Grace Slick, while the band's principal influences seem to be mid-period Jefferson Airplane and early Blondie. The material, introspective, somewhat arrogant, and a bit spaced out, also reminds me of those two groups. Send Me an Angel, the opening cut, smacks of Somebody to Love, and Idiot, with its catchy riff, sounds more like something Blondie would do. The Chartbusters are sturdy musicians and Lane has a good voice, but the band tends to play safe and Lane tends to lecture. There's too much "imitation" here and not enough "Life."

J.V.

LIVE WIRE CHOIR: Topsy. Live Wire Choir (vocals and instrumentals); vocal and instrumental accompaniment. Tried to Run Away; Well Alright; You Can Have the Blues; Topsy; It Ain't Necessarily So, Panhandle Rag, and four others. MATCHBOX MB 1000 $6.98 (plus $1 postage and handling charge from Fitzgerald Distributing, 54717 Tamarack Road, Bend, Ore. 97701).

Performance: Good

Recording: Good

The Live Wire Choir is essentially a country-swing outfit, but horn players are added on several tracks here and the overall effect suggests that you can, indeed, use "jazz" and "American" in the same breath. It has been a long time since you could do that, ch? The vocals don't do much for me—they seem overly mannered in an apparent attempt to sound super-sophisticated—but the instruments are zingy and well recorded, with a good feeling of space around each instrument. I don't think this band will knock Asleep at the Wheel off the throne, but with its smaller size and emphasis on agility and clarity—and, of course, with its feel for what a chunk of the American West sounds like—the Live Wire Choir should gain a decent foothold.

LEO KOTTKE: Guitar Music (see Best of the Month, page 68)

ROBERT MITCHELL: The Roving Kind. Guy Mitchell (vocals); vocal and instrumental accompaniment. A Dime and a Dollar; The Day of Jubilo; You're Just in Love; My Heart Cries for You; The Roving Kind; and seven others. ENCORE © P 14336 $8.98.

Performance: Worth reviving

Recording: Good

Guy Mitchell is one of those once-upon-a-time singers who return every now and then from the dim past to remind you of how things used to be. And sometimes it turns out, as is certainly the case with Mitchell, that every singer who returns nothing is left but four others. MATCHBOX MB 1000 $6.98 (plus $1 postage and handling charge from Fitzgerald Distributing, 54717 Tamarack Road, Bend, Ore. 97701).

Performance: Good

Recording: Good

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RECORDING OF SPECIAL MERIT

MASS PRODUCTION: Turn Up the Music. Turn Up the Music: Sunshine, Bopp; I Got to Have Your Love; and four others. COLUMBIA SD 5226 $7.98, © CS 5226 $7.98, © TP 5226 $7.98.

Performance: Fun

Recording: Fine

As the name implies, Mass Production's productions are big. They are also quirky, fun, and Lane has a good voice, but the band tries to play safe and Lane tends to lecture. The vocals don't do much for me—they seem overly mannered in an apparent attempt to sound super-sophisticated—but the instruments are zingy and well recorded, with a good feeling of space around each instrument. They explore a variety of styles within a basically contemporary black sound. The material is heavily rhythmic, with smooth vocal harmonies and highly individualized instrumental back-ups. I Can't Believe You're Going Away joins the group's multitracked, electronically enhanced energy with a genuine pop melody and a solid vocal by the group's only woman member, Agnes Kelly. In the same lyrical mode is Diamond Chips, in which Kelly's vocal rides perfectly on top of the ambitious arrangements. For variety, listen to the instrumental Bopp, with its jazz-like solos for guitar, trumpet, and electronic keyboard, and to the big, brassy treatment of Saucy. Then ride the album out on the punchy disco beat of Clinch Rosemary Clooney's Performance Mellow, and to the Roving Kind, and seven others. ENCORE © P 14336 $8.98.

Performance: Worth reviving

Recording: Good

Guy Mitchell is one of those once-upon-a-time singers who return every now and then from the dim past to remind you of how things used to be. And sometimes it turns out, as is certainly the case with Mitchell, that every singer who returns nothing is left but four others. MATCHBOX MB 1000 $6.98 (plus $1 postage and handling charge from Fitzgerald Distributing, 54717 Tamarack Road, Bend, Ore. 97701).

Performance: Good

Recording: Good

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N.C.

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CIRCLE NO. 29 ON READER SERVICE CARD

You're Just in Love, he shows himself to be a man with a voice of some range who's always good company. He may even find himself with a hit record again. P.K.

ANNE MURRAY: Where Do You Go When You Dream. Anne Murray (vocals); instrumental accompaniment. Blessed Are the Believers; It Should Have Been Easy; It's All I Can Do; Only Love; and six others. CAPITOL SOO-12144 $8.98, © 4XT-12144 $8.98, © 8XT-12144 $8.98.

Performance: Crushed velours
Recording: Good
Anne Murray's forte is singles. Few if any of her albums hang together very well for me. This one doesn't either, but a fair percentage of it is a nice collection of potential singles. The backing is sometimes supper-clubby lush and sometimes spartan, but there's not a hard sound in it anywhere. All but Call Me with the News are love songs, more of them downers than uppers, and most are catchy enough—and truthful enough—to engage the beguiling, low voice of Anne Murray. If you're experienced enough to expect a bumpy ride out of Love, this should be rather soothing. N.C.

RECORDING OF SPECIAL MERIT
RAY PARKER JR. AND RAYDIO: A Woman Needs Love. Ray Parker Jr. (vocals), Raydio (vocals and instrumentals); Raydio (vocals and instrumentals); vocal and instrumental accompaniment. A Woman Needs Love (Just Like You Do); So Into You; That Old Song, Old Pro; You Can't Fight What You Feel; and three others. ARISTA AL 9543 $8.98, © ATC 9543 $8.98, © AT8 9543 $8.98.

Performance: A good mix
Recording: Good
Ray Parker Jr. is handsome enough—if his album covers aren't lying—to make it as just another pretty face. But, fortunately for us, he is talented as well. He plays several instruments, sings, and leads his group Raydio through albums of dance music that are usually as easy on the ears as they are appealing to the feet. On this outing, the tempo is frequently eased down to a sweet, slow drag, as on So Into You, a real embracer (though not as spectacularly lovely as Peabo Bryson's similarly titled I'm So Into You). The best track is A Woman Needs Love (Just Like You Do), a moderately paced litter that was a successful single. The careful mix of uptempo dance music with slower selections makes this an excellent party album. P.G.

TOM PETTY AND THE HEARTBREAKERS: Hard Promises. Tom Petty and the Heartbreakers (vocals and instrumentals); other musicians. The Waiting; A Woman in Love (It's Not Me); Nightwatchman; Something Big; Kings Road; Letting You Go; and four others. BACKSTREET BSR-5160 $8.98, © BKSC-5160 $8.98, © BKST-5160 $8.98.

Performance: Promises not kept
Recording: Gorgeous
The Waiting, the hit single that opens Tom Petty's new album, is the finest record Petty has ever made, the first really transcendent, cruising-with-the-top-down tune of the Eighties, and in general the kind of song that tempts critics to get a little extravagant with the superlatives. From its ringing Rickenbacker opening through the heartfelt lyrics, soaring chorus, it simply blows away everything else on the radio.

That's a hard act to follow, and unfortunately the rest of the album is a big letdown. The production is splendid. This is the first Jimmy Iovine-produced record in quite a while that doesn't sound like a Springsteen album; it has a big, lush sound that can take your breath away. But the songs just don't cut it. They're all tuneless, overinflated, or halfhearted. A Woman in Love gets under your skin eventually, so it is almost an exception, but Something Big is an overly ambitious attempt at a Raymond Chandler-esque crime narrative that is finally not very interesting. Kings Road is a joky, throwaway trifle, and the love songs, especially on side two, are far too sweet and ardent for their own good. A little humor would have helped; Petty seems to have lost one of his previously most endearing qualities, the sly wink concealed in many of his earlier songs.

This probably sounds a little sour, and I should emphasize that there's nothing of-
fensive about this release, just nothing except The Waiting that’s terribly involving. Petty is still one of the few mainstream rock acts I’d pay money to see, and though this is clearly his weakest album, at least it’s an honest failure, he’s not pandering to anyone while I’m waiting for his muse to return. The Waiting makes the job fairly easy. It, at least, is glorious.

S.S.

RUFUS: Party ’Til You’re Broke. Rufus (vocals and instruments); other musicians. Tonight We Love; Hold On to a Friend; Love Is Taking Over; Secret Love; Party ’Til You’re Broke; Can I Show You; and four others. MCA MCA-5159 $8.98. © A&M SP-4811 $7.98, © CS-4811 $7.98, © ST-4811 $7.98.

Performance: Full of life
Recording: Very good

I like Brenda Russell’s music even though she sometimes sounds like she’s flirting with laryngitis. Her performance here is sweet and saucy, and the songs she wrote for “Love Life” are a fascinating amalgam of soul and rock with just enough barefoot-folk flavor from the Sixties to lend them an air of distinction. Russell is supported by excellent musicians who punch out the instruments with a precision and energy that nearly lift the disc from the turntable. Fresh, accessible, and delightful. P.G.

THE RUMOUR: Purity of Essence. The Rumour (vocals and instruments). Tula; I Don’t Want the Night to End; Writing in the Water; All Boys Lie; Have You Seen My Baby?, Rubber Band Man, Houston, and five others. HANNIBAL/ANTILLES HNBL 1305 $8.98.

Performance: Sharp
Recording: Very good

To put this Rumour-without-Graham-Parker effort into perspective, I regard it as the second-best of a weaker-than-average monthly bunch of records I have here (I’d rate this bunch about a four). Losing Graham Parker is not quite the same thing as getting a charisma-bypass operation—an example of that is Crazy Horse without Neil Young—yet a personality with some dash to it is the only important missing ingredient here. The album is workmanlike—admirable in places, since the workers sound like pros, but workmanlike. The instruments sound a little more worked out in advance than spontaneous, but they are crisp and intelligent. The vocals hover above the level; here is where a big difference could be made. The tunes are better than average, although the artistry of the best of them, Randy Newman’s Have You Seen My Baby?, makes some others that try for the same ironic, wry tone seem a little like poseurs. But there are words worth catching and some good sounds here, just no captivating central motif. N.C.

RECORDING OF SPECIAL MERIT

BRENDA RUSSELL: Love Life. Brenda Russell (vocals); vocal and instrumental accompaniment. Love Life, Rainbow, Something I Like to Do, Lucky, and four others. COLUMBIA 37158 $8.98, © FCT 37158 $8.98, © FCA 37158 $8.98.

Performance: Excellent
Recording: Excellent

Rufus without Chaka Khan is like Irish coffee without the whisky; a pleasantly stimulating brew without a kick. Khan’s searing vocals seemed to challenge the sound barrier, and she exuded an energy and sensuality that elevated the group above others specializing in quality dance music. It will not be easy to replace her. But the five gents of Rufus are carrying on alone, compensating for her departure, at times, with an enormous expenditure of energy. They also seem to work harder at exploiting the full range of their own vocal and instrumental capabilities. This is a highly competent and even enjoyable record, but I miss Khan’s sass.

Rufus are carrying on alone, compensating for her departure, at times, with an enormous expenditure of energy. They also seem to work harder at exploiting the full range of their own vocal and instrumental capabilities. This is a highly competent and even enjoyable record, but I miss Khan’s sass.

SANTANA: Zebop! Santana (vocals and instruments). Changes: E Papa Rê; American Gypsy; The Sensitive Kind; Primera Invasion; Tales of Kilimanjaro: Brightest Star; and five others. COLUMBIA FC 37158 $8.98, © FCT 37158 $8.98, © FCA 37158 $8.98.

Performance: Overworked
Recording: Good

After a prolonged and tedious period of experimentation with jazz and “space music,” After a prolonged and tedious period of experimentation with jazz and “space music,”
ONE of my greatest hits in "relationships"—as we used to call romantic entanglements in the halcyon days of 1976 when gasoline was a mere sixty cents a gallon—gave me an artificial connection to graduate-school days in San Francisco when the Grateful Dead owned the town, so don't tell me about Deadheads. My friend (another euphemism we used then) was one to the nth degree, and I learned that they are idealistic and somewhat romantic creatures, but complex enough to embrace a number of contradictions, including a fundamental toughness under that flowerlike, childlike exterior. That's probably why so many still survive—nay, flourish—in today's hostile settings.

Last October the Deadheads made a pilgrimage to Radio City Music Hall in the black and trendy heart of New York City, where punk rockers cut their hair with chainsaws. They crammed themselves in until they hardly had room to smoke, and from that series of concerts and a similar one in Mecca (San Francisco) comes tangible proof of their survival in the form of the Dead's "Reckoning, Volume One," a double-size acoustic album on Arista. Coming soon: the electric Volume Two.

Unless you've been in the Peace Corps or Borneo, you know that acoustic guitars aren't exactly fashionable in pop music these days. I think it's part of the swing to an urban orientation in recent years. In the Haight-Ashbury heyday—when, by all sociological indicators, the Dead should have peaked—there was a lust for country life. San Francisco was then the only city full of hippies, so it was the only city—period—to a lot of record buyers. Now, of course, the idea of a hippie band and its multitude of followers having survived the Seventies is preposterous in itself, let alone their trotting out ancient instrumenisms some youthful Van Halen fans have never even seen before.

But here it is, and it had me humming first one and then another of its tunes in elevators and check-out lines. The acoustic "Reckoning" is not only a manifesto of survival, but a retrospective of the folk-oriented side of the Dead. That side is quite definite, but it is not simple. The Dead do not sound like any other folkie band any more than they sound like any other electric band. Along with such songs as Elizabeth Cotten's Oh Babe It Ain't No Lie (which has some of the same changes, incidentally, as her famous Freight Train), Charlie Monroe's Rosalie McFall (Charlie was Bill's older brother and one-time partner), the traditional Deep Elem Blues ("elem" is vernacular for "elm"), and the ancient, hard-core Anglo-Saxon folk song Jack-a-Roe, they give us Jerry Garcia playing fills that sound more like those of a jazz guitarist than of a country picker or a rock star or both.

Such is the eclecticism of the Grateful Dead; it is a broader-based and more adaptable band than seems reasonable, considering that it's also rather stylized. Garcia, who accounts for so much of the overall sound, also gets a lot of skin in his own sound (on what appears in the pictures on the cover to be a Martin dreadnaught, miked), to the point of fretting softly enough to allow a little buzz in the bass strings. To subtleties of this sort, add the understated use of the piano and a laid-back combination of brushes and bongos and the eerie, strained sound of the Dead vocals—not forgetting Garcia's folksy tunes and Robert Hunter's dark, arcane lyrics in the original songs—and you begin to see how the band always had their eggs in a number of baskets.

I never classified myself as a Deadhead, but I've liked most of their albums and the overwhelming majority of the Deadheads I have known. The great thing about them, and about Deadism, is that a little bit of the flower child remains, and it seems obvious to me that the more flower children there are—even if they must stay, for a while, in the closet—the better off the world will be. "Reckoning" reminds me, first of all, of how likable so many Dead tunes are—fully half a dozen of these, maybe more, are cackling around in my head right now—and, second, of how Deadism takes care of its own. Even if you have all the previous Grateful Dead albums, you don't have these same songs played this way. And there is not a real clinker in the whole batch, which is a consumption extremely rare in double-size live albums. It works better with headphones, though. What the mikes picked up is recorded well, but the mix is not the greatest, and a moderately noisy household can mask some of the mumbled vocals as well as some of the bass and much of Bob Weir's rhythm guitar.

The benighted who have no connection with Deadism will probably go on wondering what all the fuss is about and abandoning that the boys can't sing and so on and so forth. But Garcia and Weir do not so much sing as contribute a sound that's part of the larger sound. The Dead have, indeed, sounded lame at times on certain songs; here they sound like out-of-town visitors on The Race Is On, an old country-&-gimmick number made famous by George Jones. But the spirit of the Grateful Dead survives even when the band mangles the original spirit of a song. In "Reckoning" there are even a couple of nice redefinitions, notably the rhythm drive given Jack-a-Roe. It will remind you of what the lovely old Joan Baez recording may have lulled you into forgetting: such songs can be played as well as sung.

—Noel Coppage

GRATEFUL DEAD: Reckoning, Volume One. Grateful Dead (vocals and instruments). Dire Wolf; The Race Is On; Oh Babe It Ain't No Lie; It Must Have Been the Roses; Dark Hollow; China Doll; Been All Around This World; Monkey and the Engineer; Jack-a-Roe. Deep Elem Blues: Cassidy: To Lay Me Down; Rosalie McFall; On the Road Again; Bird Song. Arista A2L 8604 two discs $13.98, © ACT2 8604 $13.98, © A872 8604 $13.98.
Carlos Santana began in the mid-1970s to return to the hybrid "Latin rock" sound that first made him popular in 1969. This album should be good news for those who felt he was swell in his first incarnation, even though it doesn't have the same easy, youthful confidence. Nothing here touches the relaxed funk of Oye Como Va or Evil Ways. To be fair, it is impossible to ask a musician to play the way he did a decade ago—the emotional difference between being twenty-one and thirty-one would in itself prohibit that. But the younger Santana is entertaining; the older one just seems to pound away trying to be ingratiating.

Some of these cuts, especially the instrumentals, are occasionally exciting thanks to the energetic Latin percussion. The lead vocals are essayed by Alexander J. Ligertwood, who tries hard to make the group sound like the Average White Band. And Carlos Santana still knows only one guitar solo, which he plays loudly and at length.

J.V.

GRACE SLICK: Welcome to the Wrecking Ball! Grace Slick (vocals); Scott Zito (guitar); other musicians. Wrecking Ball, Mischiever, Shot in the Dark, Round & Round; Shooting Star; and five others. RCA AQC1-3851 $8.98, © AQS1-3851 $8.98.

Performance Godawful
Recording Okay

"Welcome to the Wrecking Ball!" catches Grace Slick in what seems to be the throes of an identity crisis, and from the sound of it I can only hope she feels better soon. She spends most of her time here screeching over the din of a mediocre heavy-metal band in an apparent attempt to out-macho Pat Benatar in the Poodle Rock Sweepstakes; the effect is both ludicrous and sad. Grace can't compete vocally in that league, and even if she could the enterprise is pointless, since this is a rock genre that's been artistically played out for nearly a decade. Right Kind, which verges on Mott the Hoople territory musically, has moments that are entertaining; the older one just seems to lose dignity with age. All of the vocal material deals with the ups and downs of courtship—specifically, the fear of not being wanted or of not trusting the beloved—and it is an impressive display of writing craftsmanship. It's accessible rock that never degenerates into mawkish pop. History Never Repeats is what a frightened character who's been burned before keeps telling himself in a hoping-against-hoping manner.

SEPTEMBER 1981
SHOT IN THE DARK has functioned as Al Stewart's back-up band and opening act for the past five years. For the five-member group's new debut album on RSO, Stewart plays some keyboards and served as co-producer with Chris Desmond. The instrumentation sounds a little like Stewart's, but there is more to the album than that resemblance. I wouldn't think you frivolous if you called it an Anglo-American answer to ABBA; it has that kind of lightweight charm and zest for melody and harmony.

Robin Lamble sings well here, but things get much more interesting when Krysia Kristianne is involved in the vocals. She gives them a high, unearthly quality that, for me, links the group's thoroughly modern soft-rock sound with that of Maddy Prior, Sandy Denny, and other folk-rock antecedents. Every one of the songs is about something, in addition to being uncommonly melodic for our times, yet none has the kind of solemnity that might burden your step through the rest of the day. I can't decide whether I like it because it's less filling or because it tastes great, but I do like it.

—Noel Coppage

SHOT IN THE DARK. Shot in the Dark (vocals and instrumetals); vocal and instrumental accompaniment. Playing with Lightning; I Want the Moon; All My Life; Turn Around; Just As Well; Shot in the Dark; Make Up My Mind; Speak My Language; Angry Song; Some Towns. RSO RS-1-3096 $8.98, © CT-1-3096 $8.98, © 8T-1-3096 $8.98.

Sylvia is a striking-looking young singer who started with RCA as a secretary or something in the Nashville office. Her debut album seems to opt for a style somewhere between cowgirl and countrypop. It is a little overproduced, but the instrumentals do have a certain zing to them. Sylvia (no last name given) sounds a little like Crystal Gayle; she projects from the back of her throat the way Gayle does. Several of the songs here are catchy, and three have made the country charts. The best one—the only one that's interesting structurally—is Missin' You, and Sylvia will sing that better when she gets a little more experience.

On the lighter things that make up most of the album, she's good enough now. Her voice is good enough to warrant careful handling.

N.C.

RECORDING OF SPECIAL MERIT

THREE DEGREES: Three Degrees (vocals); vocal and instrumetnal accompaniment. Jump the Gun; Red Light; Without You; Bodycheck; and three others. ARIOLA AOL 1501 $7.98, © AOC 1501 $7.98, © AO8 1501 $7.98.

Happily, the talented people who helped make disco happen are still out there; un-
happily, a lot of them are now working in Europe, and often their work is released here only after (or if) it succeeds abroad. “Three D” was produced and originally released in Europe; two hit singles—Jump the Gun for dancers and the very mainstream Blue Sky—propelled it across the Atlantic for our delight.

The Three Degrees—Sheila Ferguson, Valerie Holiday, and Helen Scott—are in their second decade as a group. Veterans of the international performing/recording circuit, they began in Philadelphia, went to the international performing/recording circuit, their second decade as a group. Veterans of Atlantic for our delight.

The album’s programming is nicely varied. The instrumental burden of Jump the Gun falls squarely on the rock-like shoulders of electric guitar and synthesized rhythm section, which back up the power-disco vocals with a fresh, sharply etched sound. Starlight slows things down to let the trio sing with power and grace, and Moroder provides balanced, energetic support. The result is fine music. Eighties style.

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Joe Walsh, the loosest Eagle, is widely suspected of having sharper than average wit, but when he made this album he had his mind on something else. The songs are fairly lifeless; the closest thing I could find to a good line was “the animals fell off the wagon, and a tractor or two” about a nippy Grandpa.

Without You—the album’s opening Home, No Escape from the Blues, and five others. Blue Sky JZ 37064 $7.98, © JZT 37064 $7.98, © JZA 37064 $7.98.

Performance: Excellent
Recording: Very good

THE THREE DEGREES-Sheila Ferguson, Valerie Holiday, and Helen Scott—propelled it across the Atlantic for our delight.

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Performance: Excellent
Recording: Very good

The continuing collaboration of Muddy Waters as artist and Johnny Winter as producer/sideman has rejuvenated both of their careers. Waters is more appreciated now than ever before in his forty-year professional history, and Winter has found a respect that eluded him in the days of his hyped “superstardom.” Winter is to Waters what Bowell was to Samuel Johnson, and the public gets the benefit.

Waters, now in his sixties, has a combination of calm authority and frisky charm that makes you believe almost anything he says in his songs. He is like a favorite grandfather who introduces his grandchildren to a nip of the corn and a lusty joke or two. I’m a King Bee is the great, sexy blues written and cut by Slim Harpo in the Fifties; Harpo died, alas, just as he was being introduced to a deserved wider renown in 1969. Both Arthur “Big Boy” Crudup’s Frisco Blues and Waters’ own I Feel Like Going Home are given an almost primitive backwoods blues treatment with spare instrumentation, and Winter has an exceptional slide-guitar solo on the latter. Champagne and Reefer, another Waters original, makes the case for legalization of pot more effectively than all the anthems by white rockers and reggae salesmen put together. Muddy Waters is a king, all right.

DENICE WILLIAMS: My Melody. Denice Williams (vocals); instrumental accompaniment. My Melody: It’s Your Conscience; Silly; Strangers; Sure; Two Can Do; and four others. A.R.C./Con-Lumia FC 37048 $8.98, © FTC 37048 $8.98, © FCA 37048 $8.98.

Performance: Sweetly Intimate
Recording: Very good

Denice Williams’ ultra-high voice and special way of teasing a song always remind me of a sensual baby. That light and effervescently youthful voice might be her greatest asset; it sets her apart from other perennial ingenues of the crowded musical scene who do not sing nearly as well or as stylishly. This latest album, featuring several songs Williams wrote in collaboration with her co-producer and guitarist, shows that as she has fully tailored to make the most of her vocal equipment while creating a mood of relaxed intimacy. The arrangements are tastefully uncluttered, leaving plenty of space for Ms. Williams to pluck away at all those wonderful high notes. Several of the songs have a comfortableness, nestling-down quality that makes the album, if not one of her best, at least easy to enjoy.

JESSE WINCHESTER: Talk Memphis. Jesse Winchester (vocals, guitar); instrumental accompaniment. Say What; Baby Blue; Leslie; House and Tom Bell, is carefully tailored to make the most of her vocal equipment while creating a mood of relaxed intimacy. The arrangements are tastefully uncluttered, leaving plenty of space for Ms. Williams to pluck away at all those wonderful high notes. Several of the songs have a comfortableness, nestling-down quality that makes the album, if not one of her best, at least easy to enjoy.

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CIRCLE NO. 32 ON READER SERVICE CARD

AUGUST 1981
GLENN YARBROUGH, once a member of the Limeliters, has not made many outstanding records in the years since that folk trio broke up, but he has made one now.

You don't have to go much farther than the opening band of "Just a Little Love," featuring his limpid tenor in an ardent reading of Dik Darnell's "She Touched Me," to realize that though time may have greyed his beard and thickened his waistline, Yarbrough can still yodel with the best of them.

He's at his finest here in exuberant numbers such as Christopher Cross' "Sailin'" (it's the one that won all those Grammies), an invitation to leave your cares behind and hoist the sails for adventure, and in pop-folksy ballads such as "Let the Light Shine in the Morning." He's also moving in romantic songs ("Just a Little Love, Close to You") and can even make a lyric as silly as that of "Just a Matter of Time" sound as if it makes sense—at least while he's singing it. Glenn Yarbrough sings, every word comes through loud and clear, and every note glows with life.

—Paul Kresh

GLENN YARBROUGH: Just a Little Love. Glenn Yarbrough (vocals), instrumental accompaniment. She Touched Me: Glenn Yarbrough sings, every word comes through loud and clear, and every note glows with life.

GLENN YARBROUGH: Just a Little Love. Glenn Yarbrough (vocals); orchestra. Face the Music: Rob Winters (vocals, piano); orchestra. Face the Music: Rob Winters (vocals, piano); orchestra. Face the Music: Glenda Waugh (vocals); orchestra. Face the Music: Jennifer主唱; orchestra.

Recording: Good

Robert Winters: Magic Man. Robert Winters (vocals, piano); orchestra. Face the Music: Rob Winters (vocals, piano); orchestra. Face the Music: Rob Winters (vocals, piano); orchestra. Face the Music: Rob Winters (vocals, piano); orchestra. Face the Music: Rob Winters (vocals, piano); orchestra.

Recording: Good

You may have heard Robert Winters sing the title song from "Magic Man," for it has enjoyed some success on the r- & b charts, but that performance is only the tip of an iceberg. Winters is enormously talented not only as a performer but also as a songwriter; he had a hand in writing all but two of the nine tunes in this set, and not one should be overlooked. Winters' well-rounded talent is particularly refreshing at a time when originality is as rare in the pop-music business as efficiency at the post office.

Winters, who also plays the piano, delivers his songs in a voice that is at times reminiscent of both Ray Charles and Al Green but has a wider range than either. He can reach the higher falsetto registers without sounding the least bit strained, and he can pour on the resonance like silken cream. Now thirty-two, Winters has had to wait unusually long before making this revealing album, but that may be due in part to his having been confined to a wheelchair since the age of five. I hope that we'll be hearing a lot more of his work from now on.

—N.C.

YELLOW MAGIC ORCHESTRA: BGM. Yellow Magic Orchestra (vocals and instruments). Ballet: Music Plans; Rap Phenomena; Cue: Camouflage; Happy End; and four others. A&M SP-4853 $7.98, © CS-4853 $7.98, © BT-4853 $7.98.

Performance: The twain meet

Recording: Crystalline

Moaning and droning the English lyrics like true sons of punk but backing them with the most ambitious collection of electronics this side of Kraftwerk, the remarkable three-man Japanese band that is the Yellow Magic Orchestra merges East and West. This new album is something of an extension of the YMO presented in "Multiples" a year or so ago. Except for "Loon," the space-age ballad, finale, "ifice," and "Disco," all the rest are stunningly recorded, and the overall sound of the show is perfectly splendid; if no other album of the original Broadway production was available this one would certainly serve. As it is, this release seems superfluous.

—P.K.


Performance: Restrained

Recording: Very good

A good deal of the dark, chill footage of Providence, a murky Alain Resnais movie from the late Seventies, takes place in the night mind of a novelist played by John
Gielgud. Miklós Rózsa’s music for this strange film is as spookily hypnotic as we have come to expect from the man who made his reputation with the score for Hitchcock’s Spellbound. There is a haunting Twilight Waltz and lightly scored (for Gielgud. Miklós Rozsa’s music for this STRANGE FILM IS AS SPOOKILY HYPNOTIC AS WE HAVE COME TO EXPECT FROM THE MAN WHO MADE HIS REPUTATION WITH THE SCORE FOR HITCHCOCK’S SPELLBOUND. THERE IS A HAUNTING TWILIGHT WALTZ AND LIGHTLY SCORED (FOR GIELGUD. MIKLÓS ROZSA’S MUSIC FOR THIS)

**THIEF (Tangerine Dream). Original-soundtrack recording. Tangerine Dream (instrumentals). ELEKTRA 56-521 $7.98, © TC5-521 $7.98.**

Performance: Racketey rock
Recording: Excellent

**THIEF** is a high-class, high-strung gangster movie in which James Caan plays a tough ex-convict named Frank who pulls off elaborate heists. The score composed and performed by Tangerine Dream is a machine-tooled, high-energy construction with an incessant beat. It suggests "happy, mass-monotonously repetitious in the minimalist fashion of Steve Reich's relentless classical scores, the soundtrack succeeds mainly in pounding you over the head with numbing reiteration of synthesized sounds and rhythms. If you enjoy assaults on your eardrums, by all means add this album to your collection. P.K.

**THIS IS ELVIS. Selections from the original soundtrack. Elvis Presley (vocals); vocal and instrumental accompaniment. RCA CPL2-4031 two discs $13.98, © CEPK2-4031 $13.98, © CP52-4031 $13.98.**

Performance: Variable
Recording: Likewise

It's another month, and you know what that means: another Elvis Presley album. Good thing *Live* people don't put 'em out so fast; there wouldn't be anywhere to walk. What we're mostly getting, of course, is *not* "new" Presley music but memorabilia. This collection of out-takes, album cuts, Previously Unreleased, and excerpts from press conferences and interviews is from a pastiche movie in the same vein. Most of the previously unreleased stuff was unreleased for a good reason—another, better-sounding version already existed. Such is the case with these versions of *Hound Dog* (this one is from the 1956 Milton Berle TV show), *Heartbreak Hotel* (from a 1956 Tommy Dorsey TV show), *and Don't Be Cruel* (from Elvis' famous *Ed Sullivan Show* appearance). But collectors and archivists and speculators presumably don't buy these things to listen to anyway, and I'm told that such people as still hang on the front gates at Graceland will buy anything with the King's name on it, even if they already have the same material in two or three other packagings. N.C.

**JAZZ**

**RECORDING OF SPECIAL MERIT**

**COUNT BASIE: Kansas City Five. Count Basic (piano); Milt Jackson (vibraphone); Joe Pass (guitar); John Heard (bass); Louis Bellson (drums). Live at Five; Memories of You; Bellson for Joe; Tangerine's Turn; Rabbits; O'Clock Jump; and five others. PABLO TODAY 2312-126 $8.98, © K12-126 $8.98.**

Performance: Subtle breeze
Recording: Very good

The light, bouncy swing that one always associates with Count Basie is very much in evidence throughout "Kansas City Five," a quintet album that producer Norman Granz tells us is the beginning of a series of Basie small-group recordings. I assume—since this session took place in 1977—that at least a good part of the series is already "in the can," as we say in this business. I hope the session here is representative of what is to follow and that we can expect the addition of a sympatico horn now and then (Basie's piano has always been the perfect companion to an authoritative horn).

In the present company, the feathery support of Milt Jackson, Joe Pass, Louis (it was always "Louie" before) Bellson, and John Heard is exemplary and quite in character with the ever-tasteful, frugal expressions of their leader. We should be thankful to Mr. Granz for helping to preserve an important tradition so splendidly. C.A.

**MILT JACKSON: Night Mist. Milt Jackson (vibraphone); Harry "Sweets" Edison (trumpet); Eddie "Lockjaw" Davis, Eddie "Cleanhead" Vinson (saxophone); Art Hillery (piano); Ray Brown (bass); Laronce Marable (drums). Blues in My Heart; A Matter of Adjustment; Blues for Clyde; Other Bag Blues; and three others. PABLO TODAY © D2312124 $9.98, © K12124 $9.98.**

Performance: Excellent
Recording: Very good

British writer Benny Green's notes for "Night Mist" read like a textbook, but the music on the record is far from dull. With trumpeter Harry "Sweets" Edison and saxophonists Eddie "Lockjaw" Davis and Eddie "Cleanhead" Vinson on the front line, Milt "Bags" Jackson stomps and shimmies through a bluesy program that Mr. Green ought to have swayed to rather than analyzed. The solos are good and plentiful, and my only reservation concerns Laronce Marable's drums, which seem a bit intrusive.

Art Hillery, a pianist of whom I had not previously heard, is a pleasant surprise.
OLD hippies never die; they just get recycled as punks and New Wavers. Hard to believe? Consider the following three reasons: First: Talking Heads had two potential "front-cover designs for their recent "Remain in Light" album, one a striking shot of some vintage World War II fighter planes against a mountain backdrop, the other a conventionally arty series of band portraits. Although the former is unquestionably the stronger image, the band decided to use it on the back cover because, given the mood of the country, they seriously worried that it might encourage militarism (all together, now—Give Us a Break!). Second: Keith Levene, original guitarist for the Clash and now Johnny Rotten's main collaborator in the self-proclaimed "anti-rock" band Public Image Ltd., admitted in a recent interview that his main musical influence is none other than Jerry Garcia (!?!), leader of the ultimate hippie band, the Grateful Dead (see review of their new album on page 80 of this issue).

It's interesting to me that both Talking Heads and PIL are currently such sound but touchstones, because it confirms a theory I have long held: scratch a critic enamored of an experimental punk band and you'll find a closet Grateful Dead fan. So it's no surprise to me that both "Flowers of Romance," the new PIL album, and "My Life in the Bush of Ghosts," head Head David Byrne's latest collaboration with Brian Eno, are archetypal hippie albums, vintage Sixties psychedelia from start to finish, or that both have been received as avant-garde.

The Byrne/Eno album is by far the more successful of the two. There are, in fact, some reasonably compelling noises in it, but for me the album as a whole is compromised by muddle-headed art-school pretensions. What Byrne and Eno have done is a sort of stylized extension of their work on "Remain in Light," which is to say that the music is a collection of harmonically static funk grooves overlaid with elaborate sound effects and aural "found objects" ranging from radio talk-show snippets to Moslem religious chants. Technically, the album is a real tour de force; the integration of these disparate elements is painstakingly worked out and largely seamless. It sounds astonishing: as Mad magazine used to say, it's "a f flashback stereo spectacular."

Where "My Life ..." differs from "Remain in Light" is that nobody concerned with the Byrne/Eno album attempted to work all those sonic collages into anything resembling the framework of a traditional song. The underlying attitude is the old hippie we-are-all-one/everything-is-music notion, and despite the trendy Africanisms of the underpinning rhythms, the antecedents are fairly obvious: early Dead, Pink Floyd, and the Beatles' Revolution Nine—the kind of pointless rock musique concrete that anybody not thoroughly addled on drugs got tired of around 1970. This is not the work of amateurs or dilettantes; a lot of serious thought and effort, however misguided, seems to have gone into the project. But ultimately it produces the same random trance effects as hippie/psychedelia, and it is just as enervating to listen to. Chalk up "My Life in the Bush of Ghosts" as an interesting experiment.

That is more than can be said about Public Image Ltd.'s "Flowers of Romance." This record is so breathtakingly, determinedly horrendous that it inspires as much awe as ennui. It strikes me as the most transparent emperor's new clothes to have been paraded in public in a decade. As such it merits some kind of grudging respect, and that it should also be a throwback to 1967 is the cream of the jest.

It is no particular surprise either. With hindsight, Rotten's old band, the Sex Pistols, has to be seen as a thoroughly conventional hard-rock outfit differing from, say, Aerosmith only in its anti-establishment stance, and PIL's first two albums were as acid-tinged and apocalyptic as anything to have emanated from the heyday of Haight-Ashbury. And yet they were hailed as groundbreaking and revolutionary, which goes to show. I suppose, that in rock nobody learns from history.

Up until now Rotten has seemed at least an interesting character. No more. The new album sounds like the work of a gang of spoiled brats let loose in a twenty-four-track playroom. Anyone who can listen to this stuff with a straight face—Rotten chanting like a fake muezzin in a Jon Hall Arabian Nights movie and pontificating on a variety of subjects he is unqualified to discuss while his accomplices bang and grunt portentously behind him—is the victim of a con of gargantuan proportions (not for nothing was one Sex Pistols album called "The Great Rock and Roll Swindle"). And the hippie connections are all here: pseudo-Orientalism, doom and gloom, endless droning non-melodies, all just like seads of mercifully forgotten Sixties albums.

"I don't want to go to the hippies' graveyard," sang one Johnny G. on an overlooked punk single in 1978: "it smells of incense there."

On the basis of these two albums (not to mention the really gargoey neo-psychedelic stuff now happening in England), I'd say there are a lot of folks who don't agree, who are only too eager to wind up there. Byrne and Eno seem to have maintained a semblance of dignity and clear-headed sense despite their unfathomable obsession, but Johnny Rotten and company have a real shot for sandalwood. If they're not careful they're going to wind up as a comic footnote to history (or the answer to a trivia question) in the company of such as the Electric Prunes and the Strawberry Alarm Clock.

—Steve Simels

BRIAN ENO AND DAVID BYRNE: My Life in the Bush of Ghosts. Brian Eno, David Byrne (guitar, bass, synthesizer, drums, percussion, found objects); other musicians. America Is Waiting; Mea Culpa; Regiment; Help Me Somebody; The Jezebel Spirit; Qur'an; Moonlight in Glory; The Carrier; A Secret Life; Come with Us; Mountain of Needles. SIRE SRK 6093 $7.98, © MSS 6093 $7.98.

PUBLIC IMAGE LTD.: The Flowers of Romance. Public Image Ltd. (vocals and instrumentalists). Four Enclosed Walls; Track & Phenomen; Flowers of Romance; Under the House; Hynie's Him; Banging the Door; Go Back; Francis Massacre. WARNER BROS. BSK 3536 $7.98, © M5 3536 $7.98.

STEREO REVIEW
however. Keep it up, Bags, Cleanhead, Lockjaw, and Sweets—you'll never be mistaken for a law firm.

**RECORDING OF SPECIAL MERIT**

ELLIS LARKINS, Ellis Larkins (piano); Billy Popp (bass); Jackie Williams (drums). Just Squeeze Me; Ellington Medley; Happiness Boy Chaser; Gershwin Medley; and two others. DGTL/ISLAND 9DGTL 101 $8.98.

Performance: Light and lovely
Recording: Very good

From Island Records, the very people who assault our ears and intelligence with the non-musical utterances of Grace Jones, comes this gem of an album by Ellis Larkins, whose musicality seems to know no bounds. In a program that includes two of his own compositions and a delicious Gershwin medley, Larkins provides lessons in subtlety, good taste, timing, and dynamics. Only the lady on the cover is inappropriate here—this album gets its beauty from within.

**RECORDING OF SPECIAL MERIT**

JEFF LORBER FUSION: Galaxian. Jeff Lorber Fusion (vocals and instrumentals); instrumental accompaniment. Seventh Mountain; Magic Lady; Night Love; Spur of the Moment; and four others. ARISTA AL 9545 $8.98, © ACT 9545 $8.98, © A8T 9545 $8.98.

Performance: Virtuosic
Recording: Top-drawer

Jeff Lorber is still busily fusing jazz and funk and a few other things into wonderfully happy music. His new album opens with a startling departure: Monster Man is straight funk, vocal and all, but much too tasteful to really get down. That aside, the rest of "Galaxian" is studded with gems. Seventh Mountain and Magic Lady, both on side one, practically sing themselves out of the grooves, with Lorber doing an especially fine job overdubbing himself at the piano and on a variety of electronic keyboards. On side two there's a second vocal track (a new idea for the Fusion) called Turn Back and Remember, a bluesy love song sung in an easy, smooth-as-silk falsetto by Donnie Gerard. There's also the Fusion's own Kenny Gorelick on sax fighting it out—but oh, so gently—with guest guitarist Marlon McClain on Spur of the Moment. And there's the thrilling pianism of the title cut.

For Lorber fans, the augmented orchestral sound of most of the album may take some getting used to, but this time more is simply more.

**RECORDING OF SPECIAL MERIT**

MODERN JAZZ QUARTET: More from the Last Concert. Modern Jazz Quartet (instrumentals). Really True Blues; In Memoriam; and four others. ATLANTIC SD 8806 $7.98, © CS 8806 $7.98.

Performance: Superb
Recording: Very good

It doesn't seem like nearly eight years, but that's how long it has been since the Mod-
How does one give a just review to the sumptuous sounds of Thomas W. Waller and His Rhythm? There is simply no way to convey adequately in writing the wit and musicianship that oozes out at every turn of these records. Anything I could say would not begin to exhaust the compelling reasons for acquiring this—or, for that matter, any other—Fats Waller album. So what are you waiting for?

—Chris Albertson

**FATS WALLER: The Complete Fats Waller, Volume II, 1935**

Fats Waller (piano, celeste, vocals); Herman Autrey (trumpet); Rudy Powell (clarinet, alto saxophone); Al Casey, Jimmy Smith (guitar); other musicians. Rosetta (two versions); Pardon My Love; What's the Reason (I'm Not Plesasin' You) (two versions); Cinders; (Oh Suzanna) Dust Off That Old Pianna; Lulu's Back in Town; Sweet & Slow; You've Been Taking Lessons in Love (From Somebody New); You're the Cutest One; I'm Gonna Sit by Myself and Write Myself a Letter; Hate to Talk About Myself; Dinah; Take It Easy; You're the Picture (I'm the Frame); My Very Good Friend the Milkman; Blue Shadows; and four others. PABLO MCAC-5172 $8.98, MCAT-5172 $8.98.

**Performance Abandoned Recording Good**

Joe Sample, performing with virtuoso abandon on a variety of keyboards, damn near knocks himself out in an effort to make this album entertaining. Unfortunately, the songs, all of which he wrote, are such a conglomeration of styles that almost everything tumbles down in confusion. The one success is his collaboration with Flora Purim, who does the lead vocal in Shadows. There are some moments of real loveliness on that track. Otherwise the album is only a flashy showcase for Sample's skill on the Steinway, the Moog, and the Fender Rhodes.

**RECORDING OF SPECIAL MERIT**

**ART TATUM:** Solo Masterpieces, Vol. 10. After You've Gone; Please Be Kind; Would You Like to Take a Walk; Surrender, Dear; Blues in My Heart; and four others. PABLO 2310 862 $8.98, K 10-862 $8.98.

**Performance Masterly Recording Good**

If you are not fortunate enough to have the boxed set of Art Tatum's "Solo Masterpieces" issued by Pablo a few years back (at a rather prohibitive price), piecemeal acquisition of these superb performances has been made possible by their release as single albums. Volume 10 in the series contains nine of the 120 or so titles recorded by Tatum during his marathon solo sessions in Los Angeles between December 1953 and March 1955. Whether you should select...
this particular volume over some other de-
pends largely on your preference in materi-
al; the performances are fairly consistent,
all on the highest level of musical artistry. If
you can afford more than one, you won't go
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**Classical Music Briefs**

A Philips recording of two-piano versions of Gershwin's *Rhapsody in Blue* and Concerto in F by the French duo pianists Katia and Marielle Labèque has been a runaway best-seller in France. Philips' American branch planned to delay release until the Labèques sisters had played in the United States more often, but when it was discovered that some American stores were not waiting but were importing the album directly, the company decided to release it here in June.

About that time Katia Labèque was in the United States for a short vacation with jazz guitarist John McLaughlin, and we managed a quick interview with her between planes. "My sister and I made our American debut two years ago playing Luciano Berio's Concerto for Two Pianos with the Los Angeles Philharmonic, and we were re-engaged to come back and play the Bartók Concerto for Two Pianos with Zubin Mehta. We did that in February and were invited to return next year, but when they heard that we were interested in playing the Bartók Concerto for Two Pianos with Zubin Mehta, they sent a fax to Los Angeles and said, 'If you wait two years, Zubin Mehta received a doctorate from his alma mater and delivered the graduation address. She began her speech to the graduates by saying, 'If you think the last four years were rough, WAIT!'

If there is a doctor in the house at American opera theaters or concert halls these days, chances are it is one of the star musicians. This year violinist Itzhak Perlman was awarded an honorary doctorate by Yale University, and soprano Leontyne Price was given one by Harvard. New York Philharmonic conductor Zubin Mehta received one from Colgate University (Hamilton, N.Y.), and Leonard Slatkin of the St. Louis Symphony received two—one from Washington University and the other from the University of Missouri, both in St. Louis.

Soprano Beverly Sills, general director of the New York City Opera Company, paused in her preparations for a trip to China, where she was to give master classes, long enough to accept an honorary doctorate (her sixth) from Columbia University. After receiving her fifth from Colby College (Waterville, Maine), soprano Roberta Peters, who had already toured China, addressed the Congressional Arts Caucus in Washington urging continued federal support for performing-arts institutions and music education.

Soprano Martina Arroyo, a Hunter College alumna, received an honorary doctorate from her alma mater and delivered the graduation address. She began her speech to the graduates by saying, "If you think the last four years were rough, WAIT!"

Dr. Martina Arroyo
Baritone Sherrill Milnes received an honorary doctorate from Westminster Choir College (Princeton, N.J.). Addressing the graduating class there, Dr. Milnes spoke of “the most virulent of all artistic diseases: musical snobbishness, that maddening self-righteousness that forfeits the dignity and power of a mother’s lullaby, a folk chant, that forgets all music has dignity and emotional strength.”

Other honorary doctorates included one by Columbia to octogenarian composer Otto Luening and those awarded by the New England Conservatory of Music to soprano Phyllis Curtin, composer William Schuman, violinist Louis Krasner, and Jordan White law, the radio and television producer for the Boston Symphony Orchestra.

Australia has become a hotbed of global culture and entertainment. This season the Public Broadcasting Service had a provocative series on contemporary art, The Shock of the New, with Australian critic Robert Hughes as writer-narrator. Movie fans around the world are enjoying the current flowering of the Australian film industry, which has produced such pictures as Breaker Morant, an Academy Award nominee. And London Records has just taped John Gay’s The Beggar’s Opera (1728) in a new version prepared by Richard Bonynge and Douglas Gamley for the Australian Opera, which introduced it in Sydney and has since performed it on tour in other cities in Australia.

According to the Australian Opera’s new general manager Patrick Veitch (until recently of the Metropolitan), “The Beggar’s Opera rounds out our repertoire, which this season includes everything from Meyer-beet’s The Huguenots to Britten’s The Rape of Lucreia. Bonynge and Gamley’s version presents The Beggar’s Opera as though it were a Hollywood movie of the late Thirties. A delightful, tuneful work with forty-nine numbers, it’s a real star vehicle that comes as close to a Broadway show as you can get on the operatic stage today.”

London’s stellar cast represents both the world of opera and Hollywood. In the recording, Lucy Lockit is sung by Australian soprano Dame Joan Sutherland. New Zealand soprano Kiri Te Kanawa is Polly Peachum, and U.S. basso James Morris is Macheath Mrs. Peachum is played by Angela Lansbury, of Broadway and Hollywood. London hopes to have the records in stores before Christmas.

The assisted autobiography, Pavarotti, My Own Story with William Wright (Doubleday $14.95) probably contains no more fiction than most books by or about singers. The Italian tenor’s undeniable charm comes through along with the large ego, and to keep either from overwhelming the reader, the chapters in which Luciano Pavarotti tells his story are placed among interviews with his associates, as if to say, “But enough about me; how did you like my performance?”

In these other chapters his wife talks about Luciano’s “veneration of women,” and the Metropolitan Opera’s assistant manager Joan Ingpen says, “he is a nice man with his colleagues.” These remarks have a somewhat hollow ring to anyone who witnessed Pavarotti’s constant efforts to upstage soprano Judith Blegen in the Met’s performances of L’Elisir d’Amore this year. Further evidence of lack of generosity to colleagues is his failure to include in the book any mention of soprano Renata Scotto, with whom he has had some of his most conspicuous successes in opera houses and on the TV screen.

As a companion to the autobiography, London Records has brought out the album “Pavarotti, My Own Story” (PAV 2007), a two-disc collection of arias and songs at the special price of $17.96. All the selections have been previously released, but for anyone who doesn’t own the original albums this one is a good buy.

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**Disc and Tape Reviews**

By RICHARD FREED • DAVID HALL • GEORGE JELLINEK • PAUL KRESH

STODDARD LINCOLN • ERIC SALZMAN

© = stereo cassette  © = digital-master recording  © = quadraphonic disc

© = eight-track stereo cartridge © = direct-to-disc © = monophonic recording

The first listing is the one reviewed; other formats, if available, follow.

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J. S. BACH: Piano Transcriptions (see MOZART)

**RECORDING OF SPECIAL MERIT**


Performance: Persuasive

Recording: Crystalline

Kenneth Dommert’s annotation for this disc points out that these four works constitute the entirety of Barber’s output for piano solo. Since they fit so comfortably on a single disc, it is surprising that an American company didn’t come up with the idea of so presenting them before the enterprising English Hyperion label did. The Excursions and the sonata, both from the 1940s, have been recorded several times, but I haven’t come across a previous recording of the Nocturne (composed in 1959 for John Browning) or the Ballade (written just four years ago for the Van Cliburn International Piano Competition). I had never come across Angela Brownridge before either, but on the evidence here submitted she is a highly skilled and sensitive performer, especially attuned to the Barber idiom. Horowitz’s premiere recording of the sonata (RCA ARMI-2952) has a unique power, but all four of Brownridge’s performances are extremely persuasive.

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Performance: Outstanding

Recording: Rich and warm

During the last few years the Smetana Quartet, whose admired 1965 recording of Beethoven’s Op. 130 (with its original finale, the Grosse Fuge) reappeared recently on Quintessence PMC-7176, has been redoing all the Beethoven quartets in numerical order in a cycle produced jointly by Supraphon and Denon. Although Denon’s digital recordings have been circulating for some time.
time, with all the quartets from Op. 18 through Op. 74 available now on that label. Supraphon is just getting around to releasing its analog recordings from the same sessions. Numerous felicities in these splendid performances might be cited, but the short of it is that I simply do not know of any other recordings that appeal to me quite as strongly, either of Op. 18 as a whole or of the six quartets individually. The Supraphon recordings (which, according to the dates supplied, may have involved more takes than the Denon ones) are rich, warm, and well focused; Denon's offer a greater degree of transparency and superior surfaces. On either label, this set strikes me as essential to a chamber-music collection.

R.F.

RECORDING OF SPECIAL MERIT


Performance: Gracious

Recording: Excellent

The foundation of chamber music is the string quartet, when other combinations are assembled they are usually grouped around the piano. As a result, string trios are rarely performed, and that is especially unfortunate because it denies us the pleasure of hearing Beethoven's string trios and serenades. Beethoven's earliest essays in chamber music include four string trios and two serenades that are all works of the utmost charm and skill. And the smallest concession to Romantic modernity would have to go far to hear chamber music as fine as that in this album.

Performance: Impressive, heartfelt

Recording: Very good

Cherubini wrote his D Minor Requiem in 1836 when he was seventy-six years of age. It was to be sung at his own funeral, and, so that it would be liturgically proper, he scored it for men's voices only. This is serious stuff—no women, no solos, no brilliant orchestral effects, everything cast in an uncompromising Empire Classicism without the smallest concession to Romantic modernity. Small wonder that this music and its composer—as head of the Paris Conservatoire—would have to go far to hear chamber music as fine as that in this album.

Cherubini's late Classicism has a contemporary appeal for us. If he had been Viennese instead of a Frenchman he would still be famous. We have recently had his C Minor Requiem from Philips and a Deutsche Grammophon reissue of a Czech recording of this same C Minor. This heartfelt performance from Switzerland—a place where many comparable recordings were made in earlier days—should help acquaint people with the very considerable beauties of this music. It is greybeard music, but of the most monumental sort. It will never be hugely popular, but it deserves to remain alive.

E.S.

HAIEFF: Sonatas for Violincello and Piano (see ORNSTEIN)

HAYDN: Cello Concerto in C Major (Hob. VIIb:1); Cello Concerto in D Major (Hob. VIIb:2). Yo-Yo Ma (cello); English Chamber Orchestra. CBS M 36674 $9.98, © MT 36674 $9.98.

Performance: Exquisite C Major

Recording: Well balanced

Who really conducts these performances? No conductor is mentioned on the front of the jacket. On the back liner we find "José Luis Garcia, Conductor," but on the disc label Garcia gets only a parenthetical listing as "Leader," the British term for concertmaster. Whoever may be responsible, the soloist and orchestra are beautifully integrated in these performances, and one of the happy features about the recording itself is the splendidly natural balancing of the two elements. In too many recordings of one or both of these concertos the cellist seems to be in our laps while the orchestra might be back in another room; here the aural picture is extremely realistic. It does not actually enhance our enjoyment of this pair of exceptionally stylish performances, it never gets in the way. The C Major is especially successful, exquisitely set forth from first bar to last with an abundance of warmth and wit as well as elegant phrasing and a rich, pure tone from the soloist that is (Continued on page 95)

We don't have to worry about such things, and, in fact, Cherubini's late Classicism has a contemporary appeal for us. If he had been Viennese instead of a Frenchman he would still be famous. We have recently had his C Minor Requiem from Philips and a Deutsche Grammophon reissue of a Czech recording of this same D Minor. This heartfelt performance from Switzerland—a place where many comparable recordings were made in earlier days—should help acquaint people with the very considerable beauties of this music. It is greybeard music, but of the most monumental sort. It will never be hugely popular, but it deserves to remain alive.
Whether you are about to buy your first high-fidelity component or your fifteenth, you need to have all the facts you can get your hands on if you want to insure your complete satisfaction. Yes, the audio field is a complicated one, but Stereo Review has been running a kind of monthly seminar on the subject for almost two decades now, furnishing the kind of basic buying, installation, and operating guidance you can get nowhere else. Today, over 525,000 readers use it monthly as the first, best textbook in their on-going audio educations. If you have come a little late to class, here's your chance to catch up. Any questions you may have about How to Buy, How to Set Up, How to Use, or How to Understand audio equipment are probably answered in one or more of the reprints listed below.

- 40896 ROOM ACOUSTICS (How to Correct Your Room Acoustics) 10/77
- 40897 GUIDELINES TO SPEAKER SHOPPING 8/69
- 40898 RECORD DEFECTS (Their Causes & Cures) 8/75
- 40900 HOW IMPORTANT IS AUDIO-COMPONENT COMPATIBILITY? 1/74
- 40901 GUIDE TO UPGRADING YOUR COMPONENTS 6/78
- 40902 HOW TO SELECT A MICROPHONE 3/75
- 40904 HI-FI TROUBLESHOOTING CHARTS 7/77
- 40905 SPEAKER MIXING (How to Avoid Bad Choices) 8/75
- 40906 HOW TO SELECT AN FM TUNER 12/75
- 40907 HI-FI DEMONSTRATION DISCS 4/75
- 40908 CLEAN UP AND TUNE UP YOUR AUDIO SYSTEM 6/78
- 40912 USING FM INTERSTATION HISS TO TEST RECORDERS AND SPEAKERS 11/77
- 40914 HOW TO BUY A PHONO CARTRIDGE 1/77
- 40915 THE PROFESSIONAL APPROACH TO TAPE RECORDING 3/77
- 40916 HOW TO ELIMINATE RADIO-FREQUENCY INTERFERENCE 5/77
- 40926 ALL ABOUT NOISE REDUCERS 10/77
- 40961 HOW TO BUY HI-FI (A Beginners Guide To Hi-Fi) 12/77
- 41066 HOW TO MAKE YOUR OWN DEMO TAPES (Semi-pro Recording) 3/78
- 41067 HI-FI EQUIPMENT RACKS 12/78
- 41068 HOW TO BUY A RECEIVER 5/78
- 41069 DIRECT-TO-DISC RECORDINGS 7/78
- 41365 ANTENNAS 9/79
- 41366 TIME-DELAY SYSTEMS 10/79
- 50040 SUBWOOFERS 10/79
- 50041 A DOZEN RECOMMENDED DIGITAL DEMO DISCS 1/80
- 50042 A BUYER’S GUIDE TO AMPLIFIERS 2/80
- 50043 A BASIC VOCABULARY OF TAPE RECORDING 3/80
- 50044 A BUYER’S GUIDE TO CASSETTE DECKS 3/80
- 50151 AUDIO EQUALIZERS (Understanding and Choosing Equalizers) 4/80
- 50152 BUYING GUIDE TO AUTO SOUND EQUIPMENT 6/80
- 50153 LOUDSPEAKER POWER REQUIREMENTS 8/80
- 50162 LOUDSPEAKER PLACEMENT 8/80

**DATE FOLLOWING EACH LISTING INDICATES ISSUE IN WHICH ARTICLE APPEARED.**

Reprints are $2.00 each. Minimum order $6.00.
a considerable pleasure in its own right. This half of the release deserves a "Special Merit" rating, but I'm a bit less persuaded by the performance of the D Major, which is again filled with beautiful playing but seems strangely underanimated—almost static in comparison with the enlivening and communicative presentation of the C Major. Yo-Yo Ma's beautiful tone and the communicator presentation of the C Major—a considerable pleasure in its own right.

The music in this album is somber to an extreme. The Salve Regina, dating from the early years of Haydn's Sturm und Drang period, is harmonically rich with an abundance of Neapolitan and augmented-sixth chords. The vocal lines are sinuous, and the organ's polyphony, but it is excellent for the solid homophony that dominates the oratorio. Although none of the soloists is outstanding, they make a strong quartet and provide a dramatic contrast to the larger and more conventional performance comes with a Line Contact (Shibata) styli life plus laser beam alignment. The best high frequency tracing and a simple design, too, is a result of the orchestration and make-up of the late-Classical orchestra that Mozart and Haydn used for grand occasions. The ensemble numbers thirty: twenty strings and ten winds. The instruments are all originals or faithful copies of those used at the time, and their sound is remarkable for its clarity and mellowness. The "white" sound of strings played with little or no vibrato allows the winds to penetrate without being overpowering. In contrast to the homogenized modern orchestral sound, each utterance of the winds is an important commentary that adds richness and inner verve to the overall sonority. And when winds double a string passage, a very characteristic technique in this period, the violins absorb the sound of an oboe or flute and create thereby a new color. Hearing the great symphonies of Mozart and Haydn played by this orchestra sheds new light on the music. Every note takes on meaning; nothing is thrown away.

The Collegium Aureum's performances here are solid and straightforward. The detailed articulation so essential to the Classical style comes naturally to them. The expression, too, is a result of the orchestration but is neither recorded as effectively. R.F.

RECORDING OF SPECIAL MERIT

HAYDN: The Seven Last Words of Christ; Salve Regina in G Minor. Veronika Kinoces (soprano); Klara Takacs (contralto); Gyorgy Korondy (tenor); Jozsef Gregor (bass). Budapest Chorus (in Seven Last Words); Hungarian State Orchestra, Janos Ferencsk cond. HUNGAROTON SLXP 12199-200 two discs $19.98 (from Qualiton Music Ltd. 39-41 Crescent Street, Long Island City, N.Y. 11101).

Performance: Majestic Recording: Thick

Commissioned by the Cadiz Cathedral in Portugal for a three-hour Good Friday service, Haydn's Seven Last Words consists of an introduction, seven (!) adagios, and a final "earthquake" for orchestra. In 1787 the work was published in three versions: the original orchestral version, Haydn's own arrangement for string quartet, and a piano version that Haydn approved. On his way home from his last London sojourn, the composer heard a vocal version made by the local choirmaster of Passau and was so pleased with the idea that he obtained the score and reworked the vocal parts. It is this oratorio version that is recorded here. The Salve Regina was written in 1771; it is scored for four solo voices, string orchestra, and an obbligato organ (the organ part was supposedly played by Haydn himself).
Richner proves their validity by his controlled balance on a magnificent Boieldieu Imperial concert grand with extension bass notes. In all fairness to Richner’s Mozart, he really ought to treat us to a full disc of Bach on this instrument. The transcriptions played here are by Myra Hess (Jesu, Joy of Man’s Desiring), Ferruccio Busoni (Wachet Auf), and Richner himself (Komm, Susser Tod), the last of which actually uses those extension bass notes. The arrangement of Nun Komm der Heiden Heiland is uncredited.

S.L.

MOZART: Symphonies Nos. 36, 39, and 41; Rondo in C Major (see HAYDN)

ORNSTEIN: String Quartet No. 3. New Boston Quartet. SERENUS SRS 12089 $6.98

ORNSTEIN: Six Preludes for Violoncello and Piano. HAEIFF: Sonata for Violoncello and Piano. ITALIANA: Babini (cello); Elizabeth Sawyer Parsons (piano). SERENUS SRS 12090 $6.98

Performances: Good
Recordings: Good

Brownsville, Texas, is a place best known to ornithologists and birders who go there to find Mexican species that manage to elude the border patrol and slip across the Rio Grande. Leo Ornstein, a stray bird of a different feather, was also rediscovered there not too long ago. A specimen of a type of wild life long presumed extinct, Ornstein was born in Russia in 1892, emigrated with his family to the Lower East Side of New York in 1907, and made his debut as a pianist in 1911 and as a futurist composer in 1913. Armed with such items as Danse Sauvage and Suicide in an Airplane, he quickly became known as the “Wild Man of Music.” Although his avant-garde performance career hardly lasted World War I (he became a teacher and founded a school of music in Philadelphia), his wild-man reputation stuck and his later, more conservative music was all but ignored. Eventually Ornstein disappeared from view altogether—until the recent revival of early American avant-gardism prompted another look at his early work. And then came the astonishing news that the man was alive and well and composing amid the green jays and chachalacas of southernmost Texas! The String Quartet No. 3 was written in 1913 when Ornstein was eighty-four. It is neither an avant-garde piece in his early style nor a neo-Romantic work in the mood of his later compositions, but something of a synthesis of the two. It is a striking, intense work, difficult to perform and not easy to listen to, but it has its rewards, and it is capably performed by the New Boston Quartet. Ornstein’s Six Preludes for Cello and Piano apparently date from the late Twenties or early Thirties. Their profile, quite neo-Romantic, is sharply defined and original; this colorful music ought to appeal to cellists looking for fresh repertoire.

Alexei Haieff, another Russian-American composer of note, was never regarded as a wild man; his music is, in fact, witty and urbane. His Cello Sonata, written in 1963 for Zara Nelsova, is dedicated to the memory of Francis Poulenc—with whose music it shares qualities of sophistication.
simplicity. It is a delight. The cello works are well played by the Brazilian cellist Italo Babini with pianist Elizabeth Sawyer Parisot (wife of another Brazilian cellist, Aldo Parisot). The recorded sound on both discs is acceptable. The editing and production leave something to be desired, but the usual contemporary music-recording handicapping should be applied.

E.S.

SCHUBERT: Variations for Flute and Piano (see SCHUMANN)

RECORDING OF SPECIAL MERIT

SCHUMAN: In Sweet Music. Rosalind Rees (soprano); Orpheus Trio. The Young Dead Soldiers. Rosalind Rees (soprano); Robin Graham (horn); White Mountains Festival Orchestra, Gerard Schwarz cond.

Time to the Old. Rosalind Rees (soprano); Thomas Muraco (piano). COMPOSERS RECORDINGS, INC. SD 439 $7.98.

Performance Excellent
Recording Excellent

William Schuman, now seventy, has an impressive catalog of big works behind him as well as a distinguished career as a musical administrator (he is president emeritus of both the Juilliard School and the Lincoln Center for the Performing Arts). Through the years, though, he has not written many songs for solo voice, which he attributes to the difficulty of finding appropriate texts that appealed to him. He has certainly found some now, and while his writing for the voice is never as felicitous as Ned Rorem's or Samuel Barber's, the recent pieces assembled for this unusual album recorded under his supervision do, somehow, sound more inspired than many of his major symphonic and choral works, which are always impressively crafted but only occasionally take fire.

In Sweet Music, a "serenade on a setting of Shakespeare" based on the poem every schoolboy used to learn about how "Orpheus with his lute" made the very trees bow down when he sang, is an ambitious affair for soprano, flute, viola, and harp that uses the voice in fresh and unusual ways, especially in wordless solo passages of supple lyrical splendor. Derived from incidental music Schuman wrote for Henry VIII in 1944, it is certainly one of his most persuasive pieces, and Rosalind Rees, with polished accompaniment from a trio of first-rate instrumentalists, makes the most of its possibilities.

The Young Dead Soldiers, with a text by Archibald MacLeish, is a "lamentation" for soprano, French horn, eight woodwinds, and nine strings. It is a far more austere accomplishment, culminating in the haunting words from beyond the grave of the men in uniform, "Remember us." The use of the horn is reminiscent of Benjamin Britten's in his Serenade for Tenor, Horn, and Strings, but the style is far closer to atonality. The effect of the work is—no doubt intentionally—quite chilling. More pleasantly affecting are the three settings of sentimental poems by MacLeish about the elderly in Time to the Old, a cycle that Schuman wrote for its performer here, Rosalind Rees. She sings it touchingly, accompanied by the same pianist, Thomas Muraco, as when she gave the premiere in New York on May 19.
Monteverdi's genius is his approach to the word and its meaning, not just its sound. The lack of traditional transcriptions and the unusual shortening in such a de luxe presentation.

I found the performances generally much more satisfying on a two-disc set of Monteverdi madrigals from the Musical Heritage Society, the second volume in a projected complete series. The singing, under the direction of Michel Corboz, is lighter and clearer than on the Philips recording, the textures are transparent, and one can hear more of the musical detail. The male ensemble singing, especially that of Olivier Dufour and John Elwes, is a model of good style. A heroic effect is created by precision and nuance rather than by ye olde can belto.

Finally, a Bis recording of a cappella works by Monteverdi and his contemporaries sung by the Chamber Choir Camerata of Copenhagen, under the direction of Per Enevold, seems rather tame and colorless compared with both the Philips and MHS releases. The singing is certainly pretty, but the chorus lacks rhythmic precision and clear diction. The performances are what one might expect of a rather good college glee club.

—Stoddard Lincoln

### Monteverdi: Madrigals

**Monteverdi: Madrigals, Book VIII**

(Madrigali Guerrieri et Amorosi)

Sheila Armstrong, Angela Bostock, Yvonne Faller, Heather Harper, Anne Howells, Lillian Watson (sopranos); Alfreda Hodgson (mezzo-soprano); Anne Collins (contralto); Luigi Alva, Ryland Davies, Alexander Oliver, Robert Tear, John Wakefield (tenors); Stafford Dean; Clifford Grant (basses); members of the Glyndebourne Chorus and the Ambrosian Singers; Raymond Leppard (harpsichord); Robert Spencer (lute); Osian Ellis (harp); English Chamber Orchestra, Raymond Leppard cond. Philips 6768 175 three discs $29.94.

### Monteverdi: Madrigals, Jennifer Smith, Wally Staempfli (sopranos); Nicole Rosier (mezzo-soprano); Hanna Schaer (contralto); Olivier Dufour, John Elwes (tenors); Philippe Hutschenlocher (barytone); Michel Brodard (bass); Catherine Einsenhoffer (harp); Jürg Hüscher (lute); Marcel Cervera (viola da gamba); Christiane Jacottet (harpsichord); Philippe Corboz (organ); Vocal Ensemble and Chamber Orchestra of Lausanne, Michel Corboz cond. MUSICAL HERITAGE SOCIETY MHS 824283 two discs $13.90 (plus $1.25 postage and handling charge from the Musical Heritage Society, 14 Park Road, Tinton Falls, N.J. 07724).

### Monteverdi: Lamento della Ninfa; Lamento d'Arianna


### CLEMENS NON PAPA: Faurès Beau Lieu; JANEUQUIN: Le Chant des Oyseaux; Au Joli Jeu. SERMISY: Languir Me Fais.

### PASSEREAU: Il Est Bel et Bon

Chamber Choir Camerata of Copenhagen, Per Enevold cond. Bis LP-148 $10.98 (from Qualiton Records, Ltd., 39-28 Crescent Street, Long Island City, N.Y. 11101).

1980. As with other recent albums from CRI, the recorded sound is perfectly brilliant and the surfaces are almost uncannily silent.

—P.K.

### SCHUMANN: Piano Quartet in E-flat Major, Op. 47

Jaime Laredo (violin), Walter Trampler (viola), Leslie Parnas (cello); Richard Goode (piano). SCHUBERT: Variations for Flute and Piano (D. 802); Paula Robison (flute); Richard Goode (piano). MUSICMASTERS MM 20006 $8.98, © MMC 40006 $8.98.

Performance: Outstanding Schumann Recording. Excellent

This is the first release to reach me on this new label, which represents the Musical Heritage Society's entry into retail stores. It inaugurates a series of recordings by the Chamber Music Society of Lincoln Center and shows a great deal of loving care in both the musical and technical aspects of the production. I don't think I've heard a more persuasive performance of the Schumann quartet than this one; it is fiery and warm-hearted in all the right proportions, with beautiful individual contributions and exceptional integration of the four players. Leslie Parnas' solo at the start of the slow movement will melt the hardest heart, and the momentum throughout the work seems as natural as breathing. The sound itself is also agreeably warm, well balanced, and unusually "live." For Schubert, the sometimless winsome variations on the song "Trock'ne Blumen" (from his cycle Die Schöne Müllerin), I'm afraid I've been spoiled by the old Archiv recording in which Hans-Martin Linde played a wooden flute and Alfons Kontarsky accompanied him on usually "live." For Schubert, I'm somehow less wonsome variations on the song "Trock'ne Blumen" (from his cycle Die Schöne Müllerin), I'm afraid I've been spoiled by the old Archiv recording in which Hans-Martin Linde played a wooden flute and Alfons Kontarsky accompanied him on the coupling looks attractive, or if you're simply after an outstanding account of the Schumann Piano Quartet, you can count on this disc.

R.F.

### Recording of Special Merit

### SCHUMANN: Three Romances, Op. 94; Abendlied, Op. 85, No. 12; Adagio and Allegro in A-flat Major, Op. 70; Fantasiestücke, Op. 73; Fünf Stücke im Volkston, Op. 102, Nos. 2, 3, and 4

Hinze Holliger (oboe, oboe d'amore); Alfred Brendel (piano). PHILIPS 9500 740 9.98, © 7300 847 9.98.

Performance: Virtuosic Recording. Lefébure

Schumann didn't really write this much for oboe; all that links these works together in his catalog is the simple circumstance of his having written them all in the same year, 1849. Only the Op. 94 Romances were actually composed for oboe. The Adagio and Allegro was written for horn; the Op. 73 Fantasiestücke for clarinet, and the Fünf Stücke im Volkston for cello, and the Abendlied, played here in an arrangement by Joachim, was the concluding number in a set of twelve piano duets. Schumann did, however, indicate some slight felt original instrumentation in most of these works, and Hinze Holliger makes an eloquent case
for all of them as parts of his repertoire—most especially the Op. 73 Fantasiestücke, which (as Philips neglects to note on its jacket or label) he plays on the oboe d’amore, and the Abendlied, which is much more effective in this setting than in Schumann’s original out. Harrell, I feel, finds the oboe less successful than the horn and cel-lo, respectively, in Opp. 70 and 102, but doubts, reservations, etc. tend to vanish in the face of Holliger’s and Alfred Brendel’s superb playing and sensitive response both to the music and to each other throughout this program. Perhaps it is not for everyone, but it is for lovers of Schumann.

R.F.

JOHANN STRAUSS II: Kaiserwalzer, Op. 437 (arr. Schoenberg); Rosen aus dem Sudto the music and to each other throughout d’amore, and the at least, the feeling of Vienna, the lilt, the piano, and harmonium, and some exceed-

The waltzes were scored for string quartet, Private Musical Performance in to raise money for Schoenberg’s Society for these arrangements, along with a Strauss/RECORDINGS OF SPECIAL MERIT—James Goodfriend

Performance: With feeling
Recording: Good


Performance: Uncut and Impassioned
Recording: Generally good

This disc is much more successful than it deserves to be. The recording is quite good if a little over-

Though what emerges from this Pro Arte disc no more implies twenty-five hours of rehearsal than the other one, it is much more preferable to the DG release. There is here, at least, the feeling of Vienna, the lilt, the Laskans, the proper setting off of new themes and new tempos. In addition, the balance on the Baden-Baden group’s Emperor Waltz, if less even, is more musical. The playing is not as meticulous as that of the Boston players, but the spirit is there, and the recording is quite good if a little over-

There are moments in this Traviata (the Violetta-Germain scene and parts of the last act) that bear comparison with the best on records. The exceptionally silent su-

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For those who find the uncut score too much of a good thing, the recording by the West Coast-based Mirecourt Trio, with cuts sanctioned by the composer, also, I think, surpeme. As this is a new recording through the character of both the performance and the recorded sound is quite different from that of the Ashkenazy/Perlman/Harrell disc. The Mirecourt’s reading is essentially dra-

The differences in details of balance and coloring between these two recorded performances point out the inherent difficulty of recording this music, which at times seems to call for all the canvases. In places the Mirecourt Trio’s reading seems to have something of an edge in realizing the coloristic detail, but I think the Angel disc has a slight edge stylistically. In any case, comparison with earlier recordings of the work shows both new releases to be clearly superior. Both companies, however, seem to call for an orchestral canvas. In any perfor-

Verdi: La Traviata. Joan Sutherland (soprano), Violetta Valéry: Luciano Pavarotti, Alfredo Germont; Matteo Mun-

D. H.

Verdi: La Traviata. Joan Sutherland (soprano), Violetta Valéry: Luciano Pavarotti (tenor), Alfredo Germont; Matteo Man-

D. H.

Verdi: La Traviata. Joan Sutherland (soprano), Violetta Valéry: Luciano Pavarotti, Alfredo Germont; Matteo Man-

D. H.
Schubert's Lovable F Major Octet

Few masterworks of the stature of the Schubert Octet are so downright lovable, and fewer still, perhaps, have been so fortunate in their recordings. All five versions that were available before the release of the Vienna Chamber Ensemble's new one on Deutsche Grammophon are please only the uncritical fans of the two superstars. Joan Sutherland can still produce beautiful sounds with her amazing technique virtually unimpaired, though the top notes no longer soar without some effort. But she is not a truly involved and believable Violetta, and her vocal mannerisms—indistinct phrasing, sliding into notes instead of cleanly attacking them, lagging behind the beat—have not become more endearing through familiarity. Luciano Pavarotti sounds somewhat uncomfortable in the early scenes and cannot summon a rich enough sound for the big Renunciation Scene in Act II. He finds himself in "Dei miei bolli"—a lyric passage that one might think that the musicians came together especially to deliberately and solely to perform this work. (Except for second violinist Klaus Maetzl, who holds the same position in the Alban Berg Quartet, the members of the Vienna Chamber Ensemble, like those of the "old" and New Vienna Octets before them, come from the Vienna Philharmonic, among them the orchestra's concertmaster, principal viola, and principal clarinet.) The comfortable unanimity, the balance of elegance, warmth, and spontaneity, the unselfconscious enlivening of every phrase, and the extremely lifelike recording add up to something quite exceptional. No one who already owns one of the earlier recordings cited should be unhappy with it, but if you are shopping for a recording of this work now, this latest one is surely the one to go for.

—Richard Freed


Performance: Intimate and charming

Recording: Very good

The listing above speaks for the range of this program. From a sentimental old Scottish air to deftly vitriolic Gershwin, from Wagner to Poulenc, we are treated to singing of high polish and expertise in five languages. According to the subtitle, these are Elly Ameling's "Personal Favorites," and I am sure you'll find some of yours in this likable sequence of sixteen songs. None calls for spectacular singing, and all are delivered with the artless, natural charm that characterizes Miss Ameling's work. Her mastery of all the languages and styles is most impressive, and her diction is exemplary. What else can I say? This is not so much a "recital" as pleasant and intimate entertainment for all seasons. Dalton Baldwin performs with his usual excellence.

G.J.

RECORDING OF SPECIAL MERIT


Performance: Enchanting

Recording: Very good

There are no fewer than twenty-eight songs on this disc, but there is no list of titles on the jacket; you have to go through the eight-page text insert to find out what is performed, which means you don't find out until you buy the album. This is regrettable because it might deter some people from investing in what proves to be an enchanting disc. Indeed, just going through the texts—verses by Ronsard, Apollinaire, Max Jacob, Cocteau, and so on—is a lovely experience, one that seems to promise what the music and the performances recorded here in fact fulfill. How fresh all the material seems, first of all. Only the three songs from Poulenc's Poèmes de Ronsard are likely to be all familiar to many listeners. Poulenc occupies half of the first side, the rest of which is shared by the other members of Les Six's big three, Milhaud and Honegger. But it was to side two that I found myself returning more. Although Germaine Tailleferre's Ballade for piano and orchestra has been available for the last year or so on Turnabout TV 34754, her music and that of the late Louis Durey are generally heard only in the context of Les Six; pity, but that makes this sampler all the more welcome. Durey's settings of three Petronius texts and Tailleferre's French versions of the famous Russian Tretyakovsky's tunes are perhaps the most charming components of this charming collection. But all the material reflects the imaginativeness and thorough knowledge of the repertoire and its style that went into the making of this rec-
ord. The programming, the fine performances, the realistic sound, and the thoughtfull documentation add up to a delightful package that should exert strong appeal even for listeners not ordinarily attracted to French song recitals.

R.F.

RECORDING OF SPECIAL MERIT


Performance: Delicious

Recording: Superb

If any real "village band" ever had it so good sonically or was able to turn chestnuts into the musical marvels heard in this album of "nostalgic recolection" by the Canadian Brass, our parks would probably fill up once again with crowds that once thronged to hear such concerts. But this group of five of the world's best brass players can do what no ordinary bandstand group ever could, turning dross into gold in one number after another. Take their approach to the Rossini Largo al Factotum, always such a bore in its military garb for the bandstand. The Canadian group not only tosses the melody about to a fare-thee-well but adds a piquant comic touch when suddenly a voice cries "Figaro!" amid the bandstand. The Canadian group not sharing the same disc. It is difficult to see how such a plan would have worked twenty years ago with Callas and Tebaldi, however desirable the results might have been.

The results here are imperfect but never less than interesting. An entire side is given to the scene in Norma that begins with the monologue "Darmone entrambi" and ends with the thrilling conclusion of the duet "Mira a Norma." The bright tones of Mi...
In eighteenth-century Europe there was not only the Spanish guitar but also a "Viennese guitar." Not that this latter was a different instrument. The "Viennese guitar" was mostly composer-performer Maurizio Giuliani, who came to Vienna from his native Naples (a city that was long ruled by a Spanish court). Giuliani's style was High Classical; though we associate that kind of music making with Vienna, it was also Italian. Whatever its origins, it is charming and appealing to hear today.

A new Titanic disc by David Leisner offers, as its own large work, the Sonata in C Major, Op. 15, plus a set of variations. A Musical Heritage Society release by Robert Sechrist features the same Giuliani sonata and his dramatic Grande Ouverture, Op. 61. The sonata is no deathless masterpiece, but it is well worth hearing. Both Leisner and Sechrist are estimable younger players, but I prefer Sechrist's broader, more virtuoso approach; he seems to make the music come more alive with effective phrasing, dynamics, technical wizardry, and panache. Leisner is perhaps more musically and musicologically careful, but there are awkwardnesses in his playing (let's face it—guitar virtuosity has not achieved the level that is the norm with more standard instruments).

Leisner pairs the two Giuliani works with a Hungarian Fantasy and several shorter pieces by the mid-nineteenth-century Viennese Johann Kaspar Mertz. He was a sort of Schubert of the guitar, and the music is pleasant stuff. Sechrist's coupling consists of several pieces by Giuliani's great Spanish contemporary Fernando Sor. His etudes are still basic classical-guitar material; the Fantasia in C Minor is much more difficult—virtuosic guitar music intended for the par-}

—Eric Salzman


PONCE: Theme, Twenty Variations, and Fugue on "La Follia de la Española." SA-GRERAS: El Colibri; Merengue. BARROS-MANGORE: Danza Paraguaya; Aire de Zambia; Maxixe. LAURO: Seis por Derecho; Angostura; Carora; El Niño; El Marabino/El Totumo de Guarenas. SOJO: Aguinaldo; Mi Teresa/Estrella del Mar/Mi Teresa. Eliot Fisk (guitar). MUSICMASTERS MM 20008 $8.95, © MC 40008 $8.95.

It is not likely that we'll ever hear the duet from Bellini's early opera Bianca e Fernando—in which the intertwining vocal phrases of Norma are prefugured—better done than it is here, and I find the delightful Mozart excerpt charmingly sung and full of character. Freni is, of course, a seasoned Susanna, but Szanto reveals the outlines of a remarkably insightful Countess in this brief scene. (The otherwise informative liner notes ignore the fact that Emma Eames and Marcella Sembrich recorded this same duet back in 1908. Such stellar pairings are not exactly a modern invention.)

Mercadante's forgotten opera The Two Illustrious Rivals yields a duet involving two ladies (one of them a queen) in love with the same man. Musically, this is the weakest part of the recital, for Merca-

(Continued on page 105)
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OLDIES oldies, 45rpm. Also current hits. Free Catalog. Cor- n ish Record Shop, Box 166F, Mason, Ohio 45040.
The Orpheus Trio's new Vanguard album of French music is as delectable a chamber disc as has come my way in a long time. It's not just that it features superlative playing by some of the finest solo musicians in the business (Paula Robison, flute; Scott Nickrenz, viola; and Heidi Lehwalder, harp) and outstanding recorded sound; the canny programming also offers varied and neatly contrasted styles and timbres.

The disc opens with an enormously clever and effective trio arrangement—by famed harp virtuoso Carlos Salzedo—of Ravel's piano Sonatine. Then Heidi Lehwalder plays Fauré's Impromptu, Op. 86, and the side concludes with Paula Robison's elegant performance of Debussy's celebrated Syrinx. Most of side two is devoted to Debussy's bitter sweet Sonata for Flute, Viola, and Harp. The vitality and precision of this performance really point up the quality of the Orpheus Trio as an ensemble: both the individual playing and the balance between the players are exemplary. The record concludes with a vastly entertaining seven-minute Duo for Flute and Viola by Mozart's longer-lived contemporary François Devienne (1759-1803).

The legend on the record jacket speaks of a "Vanguard stereo digital master processed from an original four-track recording," which suggests that this is not a "digital recording" in the presently understood sense of the word. But despite what seems to be the occasional intrusion of traffic noise from outside the recording studio (on 23rd Street in New York City), the sonics here are a model of their kind by whatever process they were achieved. The presence, balance, and frequency and dynamic ranges are all eminently satisfying, and they helped provide me with forty-five minutes of most enjoyable listening. —David Hall
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