How to Deal with Your Audio Dealer

Use an Equalizer For Better Sound

Digital Recordings: 25 Top Compact Discs

Equipment Test Reports
- Harman Kardon hk 590i AM/FM Receiver
- Acoustic Research's New AR Turntable
- Shure ML140HE Phono Cartridge
- Klipsch kg² Speaker System
- Mitsubishi DP-103 Compact Disc Player

Plus
- Yamaha YCT-800 Car Stereo

Disc Specials
The Rolling Stones
Sissy Spacek
Tom T. Hall • Bob Dylan
Joe Jackson • Jaco Pastorius
Stephanie Mills
Debussy's La Mer
Bach's Goldberg Variations
SANSUI, THE LEGEND IN HOME AUDIO, HITS THE ROAD.

Shift into supersound. No other car audio shares the road with Sansui for pure sound, pure status—and pure exhilaration!

Our 36 years of home audio advancement have enabled us to design the most intelligent car audio in the world.

And once you've experienced its performance, you'll feel more at home on the road with Sansui than any other brand.

THE END OF THE ROAD FOR DISTORTION

Distortion? Sansui engineers just wouldn't hear of it. That's why we've achieved a record low for distortion in a car amplifier.

With our ASRC™ (Automatic Stereo Reception Control), you're home-free from multipath distortion and drift caused by tall buildings, mountains and tunnels—anywhere you drive.

Sansui's computerized ASRC automatically reduces multipath interference and weak signal problems.

HOLD ONTO YOUR SEATS

Computer-age integrated circuitry makes Sansui the new super-power in car audio. It delivers total power from amps to speakers like no other unit.

Whether you're mellowing out with Sinatra or reaching exit velocity with Hendrix, Sansui sound will exhilarate you most.

KEEP YOUR EYES ON THE ROAD

With advanced ergonomic design and soft-touch, computer-like controls, Sansui car audio lets you keep your ears on the music and your eyes on the road.

Our IC logic-controlled tape transport with tuner/monitor does the work for you. So all you have to do is sit back and enjoy the superior sonic performance.
And 24 station pre-sets (18 FM, 6 AM) give you further assurance that you won’t be driven to distraction while driving to your destination.

**GET BETTER HANDLING IN THE CORNERS**

Sansui’s versatile Fle-Axis™ speakers send music straight to your ears, without detouring it off the back window or letting it be absorbed en route.

Powerful strontium magnets give you greater power handling, plus crisp, coloration-free sound, low distortion and flat, wide frequency response.

And waterproof cones for our door speakers assure that acid rain won’t distort your acid rock—or dilute Handel’s Water Music.

**THE ULTIMATE PERFORMANCE PACKAGE**

In addition to better sound quality, Sansui gives you all the features found in other units. Plus instrument lighting in a choice of interior-compatible Hi-Tech Green or Luminary Orange on two of our top models.

If you believe, like we do, that hi-tech and high-quality are a way of life, then Sansui car audio should be part of yours. Get it and exhilarate for the ultimate pleasure trip.

For the name of your nearest Sansui dealer, call or write: Sansui Electronics Corporation, Lyndhurst, NJ 07071 (201) 460-9710.

Carson, CA 90746 (213) 604-7300.

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**Sansui**

Putting more pleasure in sound

*CIRCLE NO 44 ON READER SERVICE CARD*
Our 10-band graphic equalizer takes you about as close as you can get to a live performance, without leaving your living room. Ordinary broadband tone controls simply can't compensate for distortion caused by poor room acoustics. But with twenty narrowband linear boost/cut controls you enjoy total command of your listening environment from 31-16,000 Hz. And you can make your own custom-equalized recordings with the sophisticated built-in dual-tape control system. So, bring your favorite music to the store near you and discover the new dimension of listening this equalizer can make. Only $119.95, exclusively at Radio Shack.
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Cover Design by Borys Paichowsky; photo by Geoff Rosengarten. See pages 37 and 44 for test reports on the Klipsch kg2 speaker system and the Mitsubishi DP-103 Compact Disc player.
Perfect Selection
(When the mood calls for just the right song.)

Onkyo’s Instant Song Location

Everyone has a special song for a special moment, as our friend above will tell you. And, Onkyo’s new TA-2044 Integra Series cassette deck makes finding that tune easier than ever before. That’s because the TA-2044 provides the most advanced Automatic Music Control System (AMCS) you can buy. Not only will it scan to let you identify the next cut, but you can program it to instantly play only the one song you want to hear. If you want to listen to the third song on a seven song tape, all you do is punch up the number three, and the TA-2044.

The TA-2044 is a three motor cassette deck that features Auto Space for precise spacing between songs when recording, Dolby B&C, Hard Permalloy head, timer standby, continuous repeat mode, and ten segment LED meter. As with our other new tape decks, the TA-2044 utilizes a full logic, computer controlled design. That means from our low end to our high end, Onkyo cassette decks guarantee the finest recording/playback performance.

So remember, when the mood calls for just the right song, there’s only one right cassette deck—the Onkyo TA-2044. But please, don’t use your feet.

Nobody knows more about audio than Onkyo.

For complete literature on our TA-2044, plus our new TA-2022, TA-2033 and our Integra Series TA-2066 and TA-R77 with Auto Reverse, write directly to Onkyo.

ONKYO
200 Williams Drive, Ramsey, NJ 07446
BEST SELLERS: A survey by PolyGram Records of its initial Compact Disc sales shows that the two top titles were Holst's The Planets, conducted by Herbert von Karajan, and the soundtrack of Chariots of Fire. A close third was the music for the film Fame, followed by discs by Rush, the Boston Pops, and soprano Kiri Te Kanawa.

YELLOW PERIL. Camera and film giant Kodak has reserved a booth at the upcoming Consumer Electronics Show in Las Vegas, and the rumors about it are flying among tape manufacturers and video equipment makers. Speculation centers on a new home movie/video tape format. Kodak has such marketing and distribution clout that current tape and VCR makers might have no choice but to follow.

RED TAPE is decidedly unpopular with Russian audiophiles. The quality of audio cassettes produced by some USSR factories is so poor that Maxell and Sony cassettes are selling for twice the price of Soviet tapes in Moscow and Leningrad. According to Billboard, a music-industry trade magazine, tape factories in the USSR don't produce C-90 or C-120 tape because there are no machines suitable to use them. Let 'em eat ferrichrome.

DIGITAL DEMO: A new CD from Elektra Records, "The Digital Domain: A Demonstration," explores the potential of digital audio technology. The sounds of jet planes, bird song, gongs, and a variety of instruments, as well as the human voice, illustrate the capabilities of the medium. A joint project of Warner Special Products and Stanford University's Center for Computer Research in Music and Acoustics, the disc also includes tests allowing audiophiles to fine-tune their hi-fi systems. It is available in CD format only through record outlets and audio specialty shops. Price: $18.98.

TECH NOTES: Car radios manufactured by Chrysler Corp. will be equipped to receive Motorola-system AM stereo. Production will begin in 1984....The UL (Underwriters Laboratories) has canceled plans for loudspeaker safety standards because there would be "no benefit to consumers." The UL speaker standards were to have covered fire and such physical hazards as tipping. ...Mitsubishi plans to introduce a car stereo CD player in the fall of 1984....Clarion is looking at digital tape systems for the car....Expect the first VHS hi-fi systems in the late spring or early summer of this year.

ELVIS ON CD: RCA's latest Compact Disc release includes a three-disc, limited-edition set of Elvis Presley recordings. Called "Elvis the Legend," the boxed set contains sixty classic Elvis songs, twenty per CD. Only 5,000 numbered copies will be made available worldwide. RCA claims that "even Elvis fans without CD players will want to own this set," which lists for $75. "Elvis' Golden Records," a single CD, is slated for RCA release this month.

NEW CONTRACTS: Conductor Sir Georg Solti has signed an exclusive ten-year contract with London/Decca, continuing an unbroken association begun in 1947. The Chicago Symphony, which Solti has served as music director for almost half that time, signed a new five-year agreement with the record company....Klaus Tennstedt, who is recording the Mahler symphonies for Angel with the London Philharmonic Orchestra, has been named the principal conductor and music director of the LPO....Bernard Haitink, who is entering his twentieth year as sole permanent conductor of Amsterdam's Concertgebouw Orchestra, will also become Covent Garden's next music director. He will succeed Sir Colin Davis, whose appointment ends in July 1986.

A SONG FOR DEAD WARRIORS, a controversial ballet by San Francisco's Michael Smuin, is being shown on the PBS Network on January 16. The hour-long epic has music by Charles Fox, known for his TV music (ABC's Wide World of Sports), film scores (Paper Chase), and popular song hits (Roberta Flack's Killing Me Softly with His Song).
E very generation of college students has a few books that are required reading for anyone who wishes to be considered "with it." "in," "hep," "hip," or "cool." When I was in graduate school, you had to have read George Orwell's 1984, and if you aspired to more than the bare minimum of with-it-ness, you also had to be able to talk about Aldous Huxley's Brave New World.

Huxley's book was first published in 1932, and Orwell's came out in 1949. Both are satirical novels that present gloomy views of the future. The two authors assumed that some form of socialist or communist totalitarianism would triumph and that a powerful elite would dominate the rest of the population.

Both books show a world in which religion and family life have been abolished and spiritual and moral values are dispensed with. In Brave New World all human conception takes place in vitro, and human embryos are developed in bottles. All strong emotions are suppressed by conditioning or drugs, and sexual promiscuity is not only permitted but required.

Like his earlier novel Animal Farm, Orwell's 1984 is a biting satire on Soviet Russia, dwelling on the grimness of everyday life there. In 1984 sex is repressed in order to make citizens more neurotically involved with the Party and more enthusiastic about such things as the annual Hate Week. Individual privacy is destroyed through the use of electronic media, and at all times, through giant telescreens, Big Brother Is Watching You.

Now that the real 1984 is here, I've just reread Brave New World and 1984, and I was surprised to find that both hold up well. Huxley's book is funnier than I remembered, and, despite its pressing grimness, 1984 is more touching than I remembered. I read both with a sense of relief.

Thank God, it hasn't happened here. To be sure, our government sometimes expresses itself in Doublethink and Newspeak, but if we leap out of bed in the morning to do pushups or run a few miles, it is because we want to and not because orders are being barked at us through telescreens. Big Brother is not watching us.

In these futurist novels Orwell and Huxley both express concern about mechanical production of artistic works. In 1984 the heroine operates novel-writing machines, and an automatic versificator grinds out sentimental songs.

In Brave New World, people who had no mothers but were born out of bottles sing, "There ain't no Bottle in all the world/Like that dear little Bottle of mine." And the hit love song is Hug Me Till You Druck Me. It won't surprise me if either turns up on the charts tomorrow, but if we don't like them, we can always turn them off.

In the novel 1984 the telescreen cannot be turned off. In the real 1984 what the electronic media offer us is an ever greater variety of program material and formats and ever greater freedom of choice. So far, computers have produced no music worth listening to, but I hope I'm still here when the movies become what Huxley described as "the feelies."

I want us all to be here at the start of the twenty-first century to watch the returns of 2001: A Space Odyssey. It's got a great score composed not by computer but by human hands in the service of human minds and hearts. As machines are developed to behave more and more like people, I suppose it's up to us people not to behave like machines.

Happy New Year.
A unique solution to a serious turntable problem: Technics turntables with the P-Mount system.

Unfortunately, standard turntable design has left too much to chance in terms of cartridge mounting and performance.

Technics turntables with the patented P-Mount tonearm/cartridge system have changed all that. By providing complete compatibility between tonearm and cartridge to achieve the optimum tonearm resonant frequency: the level at which annoying bass frequency interference is minimized. For the accuracy and fidelity conventional turntables can deny you.

In addition, P-Mount is a plug-in system. You'll get outstanding performance without struggling to install the cartridge. There's nothing to wire. There's no longer a headshell. There's no more fumbling to calibrate overhang or stylus position. Tracking and anti-skating adjustments have been virtually eliminated.

Just plug any P-Mount cartridge into a Technics straight, low mass, high performance tonearm, and tighten one locking screw. With Technics, your records are now virtually immune to the groove wear, poor channel separation and distortion caused by improper cartridge-to-tonearm mounting.

Technics has standardized all key specifications with manufacturers of P-Mount cartridges: cartridge weight, external dimensions, connector shape, stylus position and more. So you can choose from a wide range of cartridges from virtually every manufacturer.

The P-Mount plug-in cartridge system. Just one of the many advances you'll find in the entire line of sophisticated Technics turntables. Including our surprisingly affordable new quartz-locked series.

The turntable revolution continues at Technics.
Pink Floyd

I must disagree in one respect with Mark Peel’s favorable November review of Pink Floyd’s “Works.” Mr. Peel thought that few people under the age of thirty would be familiar with earlier Pink Floyd releases. On the contrary: “Dark Side of the Moon” has been among the top two hundred sellers since its release, and I have to believe that many of us between the ages of twenty and thirty have been exposed to this classic premise album.

DAVID R. LONG
West Jefferson, N.C.

CD-Player Reviews

Regarding Mike Slater’s November letter in which he requests that STEREO REVIEW stop testing Compact Disc players because he either doesn’t want or can’t afford one—talk about self-centered! I have no desire for a tuner or an open-reel tape deck, but I still enjoy learning about them and still read your test reports.

Moreover, contrary to Mr. Slater’s belief, there are audible differences between CD player models. I had the chance to try one out at home that, to my ears anyway, had a “boomy” bass and a shrill high end. But since getting the model I chose, I doubt that I’ve used my “regular” record player more than a few hours.

I anxiously scan every audio publication each month for reviews of CD players and software—and, incidentally, STEREO REVIEW has been sorely lacking in reviews of the discs.

ALFRED W. MYERS
White Plains, N.Y.

Another useful feature would be a CD software survey. None of the CD’s released so far appeared first as LP’s, and noteworthy ones have been reviewed in these pages. But for a survey of the best-sounding CD’s, see the article on page 59.

“Concert-Hall Realism”

I agree fully with Julian Hirsch’s conclusion, in November’s “Technical Talk,” that home reproduction of “concert-hall sound” is impossible, but it seems to me that he left out an important argument. That is, which concert hall do you want to reproduce? Boston’s Symphony Hall? New York’s Carnegie Hall? Avery Fisher Hall—or, heaven forbid, Philharmonic Hall before Mr. Fisher paid to have it rebuilt? The high-school auditorium where the local community orchestra plays?

While it may be argued that any “good” concert hall will do, everybody has a favorite hall. More important, most people have a least favorite one and would certainly not like to hear their favorite music reproduced as if in this most disliked hall.

Still, if someone could reproduce the sound of Boston’s Jordan Hall, center orchestra, just in front of the balcony . . . .

K. A. BORISKIN
Bellingham, Mass.

Arthur C. Clarke, co-author of the screenplay for 2001: A Space Odyssey and author of many science-fiction novels and stories, once formulated a “law” according to which “When a distinguished but elderly scientist says something is possible, he’s almost always right; when he says something is impossible, he’s almost always wrong.”

When Julian D. Hirsch, in his November column, supposedly “explodes” the “myth of concert-hall realism,” proclaiming on the basis of nothing more than his theories and authority that “transporting the acoustic environment of the concert hall to our homes is probably no more attainable than...
the science-fiction dream of faster-than-light travel," he's out on a limb and sawing it off.

DON F. HILL
Riverside, Calif.

Elliott Carter
● I find it impossible to reconcile Richard Freed's appraisal of Elliott Carter's Night Fantasies, reviewed in November, with the recognition Mr. Carter has received for much earlier and better works. It would be unwise to consider Night Fantasies a serious, musical, or interesting contemporary work; it is simply prolix, an attribute characteristic of much of Carter's work—for instance, the Concerto for Orchestra, the characteristic of much of Carter's work—for instance, the Concerto for Orchestra, the Pi

stance, the Concerto for Orchestra, the Piece; it is simply prolix, an attribute characteristic of much of Carter's work—for instance, the Concerto for Orchestra, the Symphony of Three Orchestras, and the Piano Concerto.

H. R. CROWELL
Newark, N.J.

CD Program Lengths
● Larry Klein's response to a question about Compact Disc playing times in October's "Audio Q. and A." was overly polite. Mr. Klein said that we do not get the full potential seventy-five minutes of music on CD's because of "... the disc-manufacturing problems and program-material limitations..." I cannot speak about the manufacturing problems, but "program-material limitations" is pure wind. Before buying my CD player, I taped my LP's, and I can assure you that I do not have any tape with more than three minutes blank on either side. If I, with my limited library, can manage to fill up every recording I make, surely a record company can do as much for theirs.

The few CD's I now have average only forty-five minutes—60 per cent of capacity. Why? The reason is obvious: forty-five minutes is the optimum playing time for an LP. Longer playing times do create manufacturing problems for analog discs as the grooves get closer together. Longer playing times for cassettes mean more tape and increased cost, so it made sense to limit them too. But neither of these excuses serves for CD's. It is just that it's convenient for the record companies, not their customers, to have exactly the same program in all three formats. Thus CD buyers are still suffering from the limitations of the LP. At more than $20 per CD, this is an outrage.

The additional material to fill out a CD would not necessarily have to be new or even digitally recorded. Some unusual piece out of the record company's vaults would be fine. It would cost them nothing except perhaps additional royalty payments to the performers, and many fine works might find their way onto CD's in this manner and in no other. If I don't like the choice, I can easily program it out.

WILLIAM G. NABOR
Mission Viejo, Calif.

● Thank you for David Ranada's interesting article about Compact Discs in November. How I have another question: Will any CD's be released with reduced playing times, something like 45-rpm singles?

L. CHORNY
Bronx, N.Y.

We know of no such plans, and it would hardly seem a cost-effective move.

Simels vs. Plant
● In reviews of Led Zeppelin albums and, more recently, of Robert Plant's two solo albums, Steve Simels goes to great pains to say how much he dislikes both Led Zeppelin and Mr. Plant. His October review of Plant's "The Principle of Moments" really points up his prejudice. I don't think Mr. Simels is prepared to give Robert Plant a fair shake no matter what he records.

GREG WINMILL
Brandon, Manitoba

Macrocomponents
● Numerous issues of Stereo Review before 1983 have had pictures of Larry Klein, at the head of his "Audio Q. and A." column, posing with rather large versions of audio and video equipment, but in 1983 only the October issue has such a picture. This raises several serious questions: Why were the Japanese producing such equipment? Why was then-Technical Director (now Contributing Editor) Klein shown posing with it? And why haven't we seen such pictures in recent months?

Information just made known to me indi-

What you'll hear is all of it. Every twang, too, oom-pah-pah and crack. Konica Audio Tape will get it down and get it right. The first time. Everytime. Because not only is the reproduction absolutely flawless, so is the quality control.

In fact, we're so sure that if for any reason you're not happy with our tape, we'll replace it free of charge.

After over a century of precision coating experience, we've gotten pretty good at laying down magnetic material with incredible consistency. Free from dropouts, and delivering rich, powerful dynamic range.

Konica offers four types of audio tapes for all types of recording situations. So when you want to hear everything you see, make sure you see your nearest Konica dealer.

KONICA AUDIO • VIDEO DIVISION
KONISHIROKU PHOTO IND. USA, INC.
440 SYUAN AVE. ENGLEWOOD CLIFFS, N. J. 07632
The leader in equalizers still stacks up best
with improved specs, more features and a new look.

ADC's new line of Sound Shapers® prove that the best just got better. Again. Our stereo frequency equalizers incorporate the superb electronics, reliability, and high performance technology that have made ADC famous. Plus we've improved them with new refinements that offer you more control and a new design that makes them look as good as they function.

Our top-of-the-line SS-315 offers a unity gain of ±1 dB and the best signal-to-noise ratio in the industry. For the utmost in versatility, the range of each frequency control is an extra wide ±15 dB, far more than the 12 dB of lesser equalizers. Tape monitoring and two-way dubbing capabilities for two decks are available. LED indicators for each control let you see the selected frequency curve at a glance. The SS-315 includes a built-in real-time spectrum analyzer, pink noise generator and calibrated electret microphone enabling you to attain flat response in minutes. Other features include external noise reduction and sound processor loops to accommodate time delay, subharmonic synthesizer, dynamic range expander or reverb units. There's also a subsonic filter that gets rid of damaging, power-robbing subsonic frequencies.

The other models in our Sound Shaper line offer the same fine ADC quality, with similar features geared to your equalization and budget needs.

If you've been waiting for the right stereo frequency equalizer for your system, don't wait any longer. With ADC Sound Shapers, the odds are stacked in your favor. (And if you're into video, be sure to see and hear what our new ADC Video Sound Shapers can do to improve your video performance.)

Renaissance

In his November review of "Time-Line" by the group Renaissance, Mark Peel describes the performance as "floundering." While he gives some recognition to the beautiful blend of classical, folk, and rock elements that distinguished the Renaissance of old, he can't seem to accept the group's natural progression to a more modern sound. All of the old musical elements are still there—they've just been arranged differently and added to by a harder and more electronic rock style. Renaissance has accomplished what few groups have ever done: changing to a refreshing new sound while actually increasing the quality of their music.

Pierre Kenyon
DeSoto, Tex.

Correction

Our November 1983 test report on the Infinity RS6 speaker system incorrectly stated the price. The suggested retail price is $299 per speaker.
Why this is the tape that sets the standard.

JVC sets the standard for all VHS videotapes, no matter who makes them. That's the way it has been ever since JVC engineers originated the format for VHS videocassette recorders. That's why we feel a special responsibility for manufacturing our own brand of VHS videotape at the highest possible quality level.

For our HG and Super HG videotapes, the process begins with a polyester-base film. Using a new binding system, we coat the film with superfine magnetic particles, which improves the packing density of the coating. Our own unique dispersion process makes the coating more uniform and sharply reduces the occurrence of drop-out. The result is videotape that provides a continuously stable picture, with clear, pure colors.

Compared with JVC's own reference tape, our new HG tape has a 2.3 dB higher color S/N ratio; with our new Super HG tape, the improvement is 4.0 dB.

All three grades of JVC videotape, including our Standard formulation, benefit greatly from JVC's extensive pioneering research in VHS tape-to-head dynamics. So no matter which grade of videotape you prefer, now you know how to pick the brand that sets the standard for all the others.
Come to where the flavor is.

Marlboro Red or Longhorn 100's—
you get a lot to like.

17 mg 'tar', 1.1 mg nicotine av
per cigarette, FTC Report Mar '83

Programmable Luxman Compact Disc Player

Luxman's DX-104 front-loading Compact Disc player can be programmed to play up to eight selections on a disc in any order. The programmed track and index numbers can be recalled to confirm what is in the memory. Frequency response is given as 5 to 20,000 Hz ±0.3 dB. The DX-104 measures 16½ x 5¾ x 13¾ inches. Price: $1,200. Luxman Division, Alpine Electronics, Dept. SR, P.O. Box 2859, Torrance, Calif. 90509.

Circle 120 on reader service card

Blaupunkt Car Radio Gives Traffic News

The Sacramento model car stereo AM/FM/cassette player from Blaupunkt is the company's first self-amplified (7 watts per channel) electronically tuned model with Automatic Radio Information (ARI) reception capabilities. Currently broadcast by selected FM stations in New York City, Philadelphia, Detroit, and Trenton, New Jersey, and scheduled for operation in Southern California by this spring, ARI enables motorists to hear important traffic bulletins even if a cassette is playing or the car stereo is shut off.

The Blaupunkt Sacramento combines a stereo radio with an auto-reverse cassette player in a mini-sized chassis. Cassettes are motor-loaded and ejected automatically when the system is turned off. The Sacramento offers electronic station search, six automatic preset stations, and multipath rejection capabilities. Currently broadcast by selected FM stations in New York City, Philadelphia, Detroit, and Trenton, New Jersey, and scheduled for operation in Southern California by this spring, ARI enables motorists to hear important traffic bulletins even if a cassette is playing or the car stereo is shut off.

Seven New ADS Speakers

ADS has introduced a line of seven speaker systems that are said to offer improved performance at lower prices than the company's previous models. The systems were designed for smooth, flat response and are said to be capable of reproducing the most demanding digital program material. All the speakers have proprietary Stifflite woofers, frameless metal grilles, and flush driver mounting to eliminate diffraction effects. Nominal impedance of all models is 8 ohms. Sensitivity specifications range from 87 to 89 dB sound-pressure level measured at 1 meter with a 1-watt input.

The new line ranges from the bookshelf-sized L470 (shown), with a 7-inch woofer and a 1-inch woven soft-dome tweeter, to the top-of-the-line L1290, which has two 8-inch woofers in cast baskets, a 2-inch mid-range positioned for optimum dispersion at a seated listener's ear level, and a ¾-inch tweeter. Rated frequency responses range from 50 to 20,000 Hz ±3 dB for the L470 to 20 to 23,000 Hz ±3 dB for the L1290. Available finishes are walnut veneer or matte-black heavy laminate. Prices per pair range from $319 for the L470 in either finish to $1,299 for the L1290 in walnut, $1,259 in black. ADS, Dept. SR, One Progress Way, Wilmington, Mass. 01887.

Circle 121 on reader service card

Carver Receiver Combines Amplifier, Tuner Innovations

The new digital-synthesis AM/FM stereo receiver from Carver Corporation combines technological innovations first introduced in the company's power-amplifier and FM-tuner components. The Magnetic Field power-amplifier section provides 130 watts per channel without the need for heavy heat sinks or large power capacitors. The Asymmetrical Charge Coupled FM detector in the tuner section affords a usable sensitivity in stereo of 16.3 dBf (1.78 microvolts) with a 75-ohm antenna. The FM detector is claimed to eliminate the distortion, noise, and hiss caused by weak signals and multipath interference without sacrificing stereo separation.

The receiver has phono, video/digital, auxiliary, and two tape inputs. There are six station presets, each usable for both AM and FM. There is a front-panel switch for dubbing from either of two tape decks to the other. The three tone controls have adjustment ranges of ±10 dB at 100 Hz (bass), ±6 dB at 1,500 Hz (midrange), and ±10 dB at 10,000 Hz (treble). There are front-panel controls for FM muting, an AM noise filter, and loudness compensation as well as a stereo headphone jack. Displays include power levels for each channel, frequency, and signal strength.

Total harmonic distortion at rated power into 8 ohms is given as 0.05 per cent, intermodulation (IM) distortion as 0.1 per cent (SMPTE); transient IM distortion is said to be below measurable limits. Frequency response of the amplifier section is 20 to 20,000 Hz ±0.05 dB. FM tuner specifications (with the charge-coupled detector switched in) include a stereo 50-dB quieting sensitivity of 23.5 dBf (4 microvolts), stereo signal-to-noise ratio (S/N) of 85 dB at 85 dBf input, and channel separation of 30 dB at 100 Hz, 45 dB at 1,000 Hz, and 25 dB at 10,000 Hz. Phono S/N (referred to 5 millivolts) is 80 dB, and preamplifier section frequency response is 20 to 20,000 Hz ±0.5 dB. Price: $699. Carver Corporation, Dept. SR, 14304 N.E. 193rd Place, Woodinville, Wash. 98072.

Circle 122 on reader service card
New Products

station presets, and a digital time/frequency display. A low-level output jack is provided for attaching an external power amplifier. A power fader, four-way balance control, and four speaker-output plugs enable use with two pairs of speakers. Price: $399.95. Blaupunkt Division, Robert Bosch Sales Corp., Dept. SR, 2800 South 25th Avenue, Broadview, Ill. 60153.

Circle 124 on reader service card

Technics Equalizer
Has Real-Time Analyzer

□ The SH-8055 graphic equalizer from Technics includes a real-time spectrum analyzer and a pink-noise generator. The twelve-band equalizer has center frequencies at 25, 40, 63, 100, 160, 250, 500, 1,000, 2,000, 4,000, 8,000, and 15,000 Hz. The control range is switchable from ±12 to ±3 dB. Each slider has an LED in its knob for easy visibility of the selected equalization curve. Other features include level indicators, volume-level display, and tape-monitoring loops for two decks. The use of band-pass filter circuitry is said to prevent distortion and noise. Rated total harmonic distortion is no more than 0.005 per cent, and the signal-to-noise ratio is at least 108 dB. Price: $340. Technics, Dept. SR, One Panasonic Way, Secaucus, N.J. 07094.

Circle 125 on reader service card

Audio/Video Furniture
From Custom Woodwork

□ The 21-inch Woodmore cabinet (shown) from Custom Woodwork & Design can either be used as part of a modular wall system or by itself as a stand for a turntable, TV, tape deck, etc. with space for two more components on the inside. The inner shelf is fully adjustable, and the unit features bronze-tempered glass doors and chrome hardware and casters. It measures 21 x 24 x 19 inches.

The Woodmore entertainment table can also be used either as part of a system or alone to provide storage space for several hundred LPs. Optional features include a pull-out cassette drawer, glass doors, and slide-out shelves. The ET 9000 is hand-finished and measures 16 x 47 1/4 x 19 inches. Hand-finished wood doors with shaped or fully adjustable handles are available for all C.W & D cabinets.

Prices: Woodmore 21-inch cabinet, $235 in natural or dark oak, $275 in natural walnut; Woodmore entertainment table, $320 in natural or dark oak, $395 in natural walnut; wood doors, $85 in natural or dark oak.

Custom Woodwork & Design, Dept. SR, 7447 South Sayre Avenue, Bedford Park, Ill. 60638.

Circle 123 on reader service card

Hitachi Cassette Deck
Adjusts Head Azimuth

□ The D-RV7 auto-reverse cassette deck from Hitachi has a record/playback head that is automatically repositioned for optimal azimuth alignment on both sides of a cassette. The deck uses three computer-controlled motors: one for shifting the head, a second for driving the capstan, and a third for driving the reel hubs. The auto-reverse mechanism is activated by an infrared sensor that detects the leader at the end of a cassette side.

The D-RV7 can be programmed to play selections in any order on either side of a tape. A multiple-repeat function allows indefinite playback of a section between any two points on a tape, even if they are on different sides. The deck can also be programmed to sample the first few seconds of each track. Wow-and-flutter is specified as 0.04 per cent (wms), frequency response as 20 to 19,000 Hz with metal tape, and signal-to-noise ratio as 68 dB with Dolby-B and 74 dB with Dolby-C. Price: $229. Hitachi Sales Corp. of America, Dept. SR, 401 West Artesia Boulevard, Compton, Calif. 90220.

Circle 127 on reader service card

Time-Aligned Drivers
In Small B&W Speaker

□ The woofers and tweeter of B &W's DM17 Limited speaker system are time aligned to each other so that, aided by a computer-optimized fourth-order crossover, they are said to produce a perfectly coherent and symmetrical waveform. The 150-millimeter woofer, vertically aligned with the tweeter, has a Bextreme thermoplastic cone that is heavily damped with polyvinyl acetate compounds. The 26-millimeter dome tweeter on top of the enclosure is

with adjustable echo decay (from 0 to 3 seconds), and the Z-7000X has a four-band tone-control system.

The Z-9000X's rated output into 8 ohms is 130 watts per channel (rms) from 20 to 20,000 Hz with no more than 0.005 per cent total harmonic distortion (THD). The Z-7000X is rated for 100 watts per channel under the same conditions. The Z-5000X is rated at 70 watts with no more than 0.007 per cent THD, the Z-3000X at 55 watts with no more than 0.008 per cent THD. Phono signal-to-noise ratio (S/N) is 82 dB in the Z-9000X and Z-7000X; auxiliary S/N is better than 95 dB in the Z-5000X and Z-3000X. Prices: Z-9000X, $960; Z-7000X, $800; Z-5000X, $500; Z-3000X, $400. Sansui Eletronics Corp., Dept. SR, 1250 Valley Brook Avenue, Lyndhurst, N.J. 07071.

Circle 126 on reader service card

Feedforward Circuitry in
New Sansui Receivers

□ Sansui's new Z-9000X, Z-7000X, Z-5000X (shown), and Z-3000X AM/FM stereo receivers all feature the company's Super Feedforward distortion-reduction circuitry. This system, which combines negative feedback with feedforward in the power-amplifier section, is claimed to reduce total harmonic, intermodulation, transient-intermodulation, crossover, switching, and "envelope" distortions to a greater degree than systems using only negative feedback can achieve. The four digital quartz-synthesizer receivers also all have fluorescent frequency/time displays, automatic or manual tuning, sixteen station presets, preset scanning, and preset station indicators. The built-in digital clocks are connected to a three-event timer.

All four models have peak power meters (with fluorescent indicators in the Z-9000X and Z-7000X, LED's in the Z-5000X and Z-3000X). Three pairs of speakers can be handled by the Z-9000X, two pairs by the other models. The Z-9000X and Z-7000X have microphone mixing and built-in moving-coil-cartridge pre-amplifiers. The Z-9000X has a built-in seven-band graphic equalizer and a reverberation amplifier

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made from woven polyester filaments. The cabinet measures 16 inches high, 8 3/4 inches wide, and 10 1/2 inches deep; it is constructed from 12-millimeter-thick high-density particle board laminated with 6-millimeter bi-tuminos pads. There is a 19-millimeter-thick front baffle to ensure an almost totally inert enclosure with low resonance. Available finishes are walnut or black-ash veneer. The speaker weighs about 20 pounds. Each pair of DM17 Limited speakers is computer matched within ±0.5 dB. The rated on-axis anechoic frequency response at 2 meters is 85 to 20,000 Hz ±2 dB. Sensitivity is rated at 85 dB sound-pressure level (SPL) with a 1-watt, 300-Hz sine-wave input measured at 1 meter. Minimum recommended amplifier power is 40 watts; there is no upper limit because an electronic overload-protection circuit limits the SPL to 106 dB (1,000-Hz input measured at 1 meter). Price: $790 per pair; optional stands (shown), $60 per pair. Anglo-American Audio, Dept. SR, P.O. Box 653, Buffalo, N.Y. 14241.

Circle 128 on reader service card

New MOSFET Amplifier From Soundcraftsmen

The A2801 power amplifier from Soundcraftsmen, intended to meet the high current demands of Compact Disc players, is designed for high dynamic headroom as well as high continuous power. Rated at 140 watts per channel into 8 ohms and 205 watts into 4 ohms, the A2801 will operate continuously into as little as 2 ohms without triggering the protective circuitry, which does not use current limiting. Separate front-panel indicators for each channel light up when a distorted waveform is detected, and a third LED indicates when the protection circuitry has been activated. Speaker connectors are heavy-duty five-way binding posts. The A2801 can be rack mounted and has large carrying handles. Oak- or walnut-veneer side panels are optional. Price: $549. Soundcraftsmen, Dept. SR, 2200 South Ritchey, Santa Ana, Calif. 92705.

Circle 129 on reader service card

Koetsu Tone Arm Needs No Antiskating Gear

The SA-1100D Mark II tone arm from Koetsu features a tri-pivot lateral balance system—a three-point gimbal-suspension system employing both center and side supports—that is said to eliminate the need for an antiskating mechanism. A vertical balance system that supports the total weight of the tone arm and its bracket on a single center pivot is said to reduce vertical vibrations to below audible levels. To minimize resonance, the fulcrum is placed at a level slightly above the tone arm's center, and for smoother operation the needle side pivots ride in friction-reducing housings containing five ball bearings. For precise arm movement, the special alloy used in the pivots is polished to extremely close tolerances. Price: $700. D & K Imports, Inc., Dept. SR, 146 East Post Road, White Plains, N.Y. 10601.

Circle 130 on reader service card

Lower-Priced Technics Compact Disc Player

The Technics SL-P7, one of the company's "second-generation" digital Compact Disc players, contains many of the same features as the higher-priced SL-P8. The SL-P7 is also a front-loading design with a motor-driven slide-out disc compartment. Its SEARCH/INDEX keys can be used either for fine cueing with audible playback at three times normal speed or for coarse cueing at thirty times normal speed without audible playback, and they can also be used to access index points on specially coded discs. Other controls include SKIP keys to jump ahead or back to the previous or next selection, a REPEAT key for repeating one selection or a whole disc, and PLAY. A fluorescent digital display shows the total number of tracks, total playing time, the track being played, elapsed time, and index-point data. Unlike the SL-P8, the SL-P7 lacks a remote-control unit, thirty-two-selection programmed playback, and a headphone output. Both units use the three new integrated circuits Technics developed for digital decoding. They also incorporate the proprietary Technics Ultra Super Decoding Algorithm, said to improve error correction and error concealment. Price: $700.

Circle 131 on reader service card

Alpine's Auto-Reverse AM/FM/Cassette Players

Two new in-dash AM/FM/cassette players from Alpine Electronics, the Models 7155 (shown) and 7154, feature automatic tape reverse and automaticdimming of the six station-preset buttons and the cassette loading-slot light. The cassette sections of each unit feature cobalt heads for frequency response up to 16,000 Hz in both directions and have music sensors to cue up the beginning of the next or the previous selection. Other features include selectable metal/chrome equalization, a digital clock, and separate bass and treble controls. In addition, the Model 7155 has an on/off switch for output to a subwoofer; in the on position, frequencies below 80 Hz go to the subwoofer, and in the off position all frequencies go to all speakers. Model 7155 also offers both Dolby-B and Dolby-C noise reduction and has a special noise suppressor for FM. Prices: Model 7155, $399.95; Model 7154, $349.95. Alpine Electronics of America, Dept. SR, P.O. Box 2859, Torrance, Calif. 90509.

Circle 132 on reader service card

NOTE: All product descriptions and specifications quoted in these columns are based on materials supplied by the manufacturers, who will respond directly to reader requests for further information. Domestic inflation and fluctuations in the value of the dollar overseas affect the price of merchandise imported into this country. Please be aware that prices quoted in this issue are therefore subject to change.
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Alpine/Luxman Electronics of America, 19145 Gramercy Place, Torrance, CA 90501
Tape Talk

By Craig Stark

Play or Store?

Q. To reduce print-through and tape sticking I play each of my cassettes every six months whether I listen to them or not. Several people (you included) have said, however, that each playing removes some high-frequency information because the tape is squeezed between the capstan and the pinch roller. Which is more harmful to the sound on the tape, long-term storage or regular playing? My tapes are stored "tail out," protected from temperature extremes and direct sunlight, and left in their plastic cases to keep dust out. Also, the heads on my recorder are kept clean and demagnetized.

GARY R. CHASE
Redding, Calif.

A. If I were as meticulous about my tapes as you evidently are, I'd stop worrying about very small high-frequency losses that will be spread over many years! Those losses will probably even amount to less than those affecting your own high-frequency hearing abilities as you age.

"Exercising" a tape by playing it every six months or so is a good idea since it relaxes internal stresses that may have built up because of slight changes in the plastic materials of both tape and shell. Rewinding a tape just before playing it lowers print-through, at least temporarily, which is one reason professionals store their tapes "tail out" (played but not rewound). But because cassettes are usually recorded on both sides and because print-through tends to be a greater problem for open-reel tapes, tail-out storage is less important for cassettes. What is important is to store tapes of any kind (video as well as audio) in a played condition, not a fast-wound condition. This is because high-speed winding can cause uneven tensions within the tape pack and often leaves a number of dangerously exposed tape edges.

The gradual deterioration in high-frequency response caused by repeated playings is less predictable than I would wish. On the one hand, as far back as 1967 those in charge of the Ampex Corporation's open-reel test-tape production reported that "a test tape which has been carefully handled and played 50 times will have a loss of 0.5 to 2 dB at 0.5 mil wavelength (15 kHz at 7.5 ips). For 100 plays, the loss may be about 3.5 dB at short wavelengths [high frequencies]." (Journal of the Audio Engineering Society, April 1967). At a 7½-ips speed, 15 kHz is the equivalent, in terms of wavelength, of 3,750 Hz at the 1¼-ips cassette speed, and higher frequencies on cassettes would be even more fugitive. Some tape-deck manufacturers' factory setup instructions call for replacement of high-frequency calibrated alignment tapes after only ten to twenty-five playings.

Yet with today's cassette tapes these "magnetostrictive" high-end losses (which arise, as you indicate, from pressing the tape around a small radius) are nowhere near as great as earlier data would predict.

Improved magnetic particles—smaller in size and better shaped—are one reason today's slow-speed tapes hold their high frequencies better than their predecessors did. Magnetostrictive and even simple storage losses are still a serious consideration when it comes to videotapes, whose high-frequency requirements extend far above those of audio cassettes, but 18-kHz losses on my BASF IEC-standard test tapes have yet to become apparent after twenty-five to fifty playings. With less carefully made and handled tapes, however, some treble losses must be expected from both playing and storage, though how much of a loss and how long it will take to show up are not currently predictable.

Dubbing Car Cassettes

Q. I have several questions about making copies of my cassettes for my car system. What specs are the most important in a deck to be used for the dubbing? Should I use the better deck for recording the copies or for playing the originals? Is Dolby-C important, even though my current deck doesn't have it, and should I use Dolby-B for the copies?

GEORGE R. MADDEN, JR.
Williamstown, N. J.

A. Two general considerations should be borne in mind when you think about dubbing cassettes for a car system. First, all analog copying processes involve a loss in quality (especially in wow-and-flutter and in signal-to-noise ratio), and those losses are more likely to be evident when dubbing from another cassette than if the source were an LP, open-reel tape, digital Compact Disc, or FM broadcast. This is because the noise and the wow/flutter spectra of two cassettes are likely to be very similar and those while most of today's car players have Dolby-B, few very offer Dolby-C or dbx. So don't use Dolby-C or dbx for your copies unless your car player is one of those equipped for them (outboard dbx decoders are available, however).

As for which machine to use as the player and which as the recorder, I'd use the higher-quality deck for recording unless you have reason to believe that the other deck is especially poor in playback performance.

Worn Heads

Q. I recently acquired a used open-reel tape deck about one and a half years old. Already, however, there is a noticeable "groove" across the head faces from tape wear. While I haven't observed any obvious degradation in sound quality, can you tell me: How much wear is tolerable? Whether a worn head will damage tapes? And whether, at $20 for each of the three heads, it's worth having them relapped rather than buying new ones?

THOMAS SHERWOOD
SIAFB, N. C.

A. In judging when to replace open-reel heads I've always followed a rather literal "rule of thumb." If you can catch your fingernail on the edge of the wear groove, the time to act has come. Worn heads can indeed damage the edges of the tape, since tape width is never absolutely constant. Edge damage will lead to erratic high-frequency performance, especially in the left channel.

Relapping heads (smoothing and repolishing them with abrasives) is always a chancy business with consumer decks since the head faces are not as deep as those in professional recorders. Based on my experience, at least, the odds are about two to one that you'll get away with relapping a consumer head once; after that, you're likely to get stuck between a rock and a hard place: the noise and the wow/flutter spectra of two cassettes are likely to be very similar and those while most of today's car players have Dolby-B, few very offer Dolby-C or dbx. So don't use Dolby-C or dbx for your copies unless your car player is one of those equipped for them (outboard dbx decoders are available, however).

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For technical specification sheets on the XL-S series, write to:

Audiophile File, Maxell Corporation of America, 50 Oxford Drive, Monache, New Jersey 07074.
Waveform Aberrations

Q. I'm curious about some of the problems affecting amplifier waveforms that I read about in test reports. Can you tell me more about clipping, crossover distortion, and ringing?

A. First of all, practically any problem an amplifier is likely to have is going to affect its handling of signal waveforms. If it didn't, it wouldn't be a "problem."

The four oscilloscope traces shown below were photographed some years ago when I was doing some work on an experimental amplifier. They show a normal sine wave (A), symmetrical clipping (B), severe clipping and crossover distortion (C), and asymmetrical clipping with ringing (D). The clipping of the negative part of the sine wave triggered the oscillation.

Speaker Wires

Q. I am planning on installing permanent in-wall speaker cables the next time I update my audio system. One pair of speakers will be in the den and a second pair will be in the back parlor. The cables will be fished down one wall, run through the basement joists, and then run up through the appropriate walls. The cables will terminate in outlet boxes with cover-plate jacks. I plan to use 12-2 (12-gauge, two-conductor) Romex for the wiring since its insulation is obviously much longer lasting than that of zip cord. Would there be any advantage in using 12-3 Romex and connecting the third, ground wire to the metal outlet boxes?

A. I think your plan is a good one except for its possible "overkill" aspect. For many years I used 12-gauge wire in my built-in speaker-test switching setups in various New York City apartments. But instead of heavy-duty two- or three-conductor Romex solid wire I used single-conductor stranded wire. It has the same low resistance as Romex but is both thinner and far more flexible. This was an important consideration when I needed to run five or six parallel lengths of it around corners and under carpets.

The 12-gauge stranded wire is very strong and inexpensive, and it comes with red, black, or white insulation to assist in keeping your phasing polarities consistent. The two leads can be either tightly twisted or run with wide spacing between them, depending on what you believe about the effects of inductance and capacitance in speaker leads. I think installation is easier if the leads are simply run adjacent to each other. Twisting the leads on very long runs may introduce sufficient capacitance to disturb some amplifier output circuits.

If you have your heart set on using Romex I see no reason not to except for the convenience aspect. I can't think of any grounding reason to use three-conductor
Romex, but future upgrades of your system (perhaps biamplification?) might benefit from a couple of extra conductors in the cable. I recently saw four-conductor Romex on sale, and you might consider it. Unused conductors can always be paralleled for further resistance reduction on long runs.

Truncated Speakers

Q: I have noticed that my car speakers seem to be putting out most of their power from their rear and feeding it into the trunk. I have put a lot of money into my car stereo system to hear my 6 x 9-inch speakers from inside the car, not from inside the trunk. What can I do to solve this problem?

Randy Sykes
Garland, Tex.

A: I don't think you have a problem. I assume that your rear speakers are full-range two- or three-way drivers rather than just 6 x 9-inch woofers. Because of the way two- and three-way speakers are constructed, almost all of their midrange and tweeter energy radiates forward. The woofer, however, radiates equally well from its front and rear. With your trunk open and listening outside the car, you mostly hear the woofer's rear radiation—which, because of its heavy bass, seems to embody most of the "power." In truth, though, it is likely that the bass is just as heavy inside the car, but its relative audible contribution there is balanced by the output of the midrange and tweeter drivers.

You might be able to demonstrate this for yourself by turning your amplifier's treble control (and the midrange control, if there is one) to full cut. You should then hear the same bass-energy balance in the car and in the trunk. Woofers in a home enclosure perform in exactly the same way, but you seldom get to listen to a home woofer from inside its cabinet.

Power Draw

Q: Does it make any difference in electric consumption and utility costs if the a.c. outlets on the rear panel of my receiver and tuner, rather than the wall sockets, are used as the power sources for my tuner, open-reel recorder, cassette deck, etc.?

Bobby Sparkman
Houston, Tex.

A: No, since the total current consumption remains the same. The only possible problem is overload of the timer switch by excessive current draw through it. This is not likely to occur unless you are switching very large—or class-A—power amplifiers. To be safe, compare the maximum current or wattage rating of the timer switch with the total of the current or wattage ratings of the equipment it is switching.

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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SR01
The Yamaha YCT-800 is an in-dash car stereo with a digital-synthesis AM/FM tuner and an auto-reverse cassette player. It has separate line-level outputs for front and rear speakers using short cables terminated in phono jacks. For our road tests we used it with Yamaha's YPA-800 power amplifier.

The operating functions of the YCT-800 are controlled by an efficient combination of knobs, ring controls, and pushbuttons. The knob and ring controls on the left of the panel switch the unit on and off, adjust the volume, control the left-right and front-rear balance, reverse the tape-play direction, and return the cassette to the play mode from fast-forward or rewind. The right-hand controls adjust the loudness compensation and the bass and treble tone, and above it is a rocking bar switch for switching the tuning mode from automatic to manual, and open the memory for storage of six AM and six FM station presets. The top row of knobs, ring controls, and pushbuttons includes a cassette slot, an eject button, and a sensing circuit that extends the breadth of the system, it loads the cassette with the exposed tape to the left. The tape bay is slightly recessed in the panel, and a hinged, spring-loaded flap shelters the tape opening to the left. The tape bay is an eject button, and above it is a rocking bar switch for either tuning the radio or fast winding a tape. Above this bar is a display panel with LCD indicators for all of the unit's functions and operating settings. To its right are the six rectangular station-preset buttons, and below these are six smaller control buttons. One of these engages the Yamaha Music Search system (YMS), which can be used either to find the next recorded selection on a tape, in either direction, or to repeat one selection indefinitely. The tape's scan function successively samples the first 10 seconds of each selection on a tape. The SPATIAL EXPAND button engages an enhancer circuit that extends the breadth of the stereo image. The MONO/MTL button either sets the tuner for mono reception or the cassette player for 70-microsecond chrome/metal tape playback equalization. Another button selects Dolby-B noise reduction in the tape mode or switches between local and distant sensitivity in the tuner mode. The last button selects AM or FM.

Tape direction reverses automatically at the end of a side during normal playback, scanning, or either fast-wind mode; it can be reversed manually by pressing the left-hand knob. There is a sensing circuit that automatically advances the tape to the beginning of the next selection, or to the end of the side, if there is a quiet section of more than 16 seconds. A unique Maintenance Monitor circuit keeps track of the total hours of tape play. One LCD indicator lights after twenty hours have elapsed, and a second glows after forty hours. When the user has cleaned and demagnetized the tape heads and capstans, the monitor can be returned to its zero setting.

The motorized tape-loading system draws a cassette into playing position; unlike most such systems, it loads the cassette with the exposed tape to the left. The tape bay is slightly recessed in the panel, and a hinged, spring-loaded flap shelters the tape opening from some of the airborne dust and dirt inevitably present in a car. The cassette automatically ejects when the YCT-800 is turned off. If the car's ignition is switched off without turning off the cassette player, the pinch-roller disengages; when power is restored the cassette is ejected. Disconnecting the car's battery erases the unit's station-preset memories.

The YCT-800's adjustable loudness control, similar to that on Yamaha's home stereo components, is quite different from the way most manufacturers approach this function. It is not an on/off control but a continuous one. Turned fully clockwise, the knob sets the unit for a nominally flat frequency response. Turning it the other way gradually attenuates the midrange, centered at 1,000 Hz, until at its maximum there is a midrange dip of 20 dB. The result is, of course, a decrease in overall volume, which can be compensated for by use of the volume control. The bass and treble controls affect regions well away from the midrange, so the three controls together give much flexibility in modifying tonal balance.

The instruction manual is brief but clearly written and useful. Price of the YCT-800 is $600. Yamaha Electronics Corp., USA, Dept. SR, 6660 Orangethorpe Avenue, Buena Park, Calif. 90620.

**Lab Tests**

Testing the YCT-800 was relatively straightforward. All of the figures in microvolts given here and in the accompanying table are based on the 75-ohm input impedance of the FM tuner section. The usable sensitivity in mono was 12.8 dBf (1.2 microvolts, or µV), with 50-dB quieting occurring at 15 dBf (1.5 µV). The stereo threshold—when the stereo indicator light came on—was 12 dBf (1.1 µV), and 50-dB quieting in stereo was 32 dBf (11 µV). The stereo separation was good. Automatic channel blending began at about 40 dBf (30 µV), and at 25 dBf (5 µV) the midrange separation was only 5.5 dB.

Other FM-tuner performance measurements included a capture ratio of 8.8 dB (a rather poor figure, but it seemed that the measurement was being influenced by the action of the tuner's various signal-level-controlled circuits, making it somewhat unrepresentative of the FM tuner section). The usable sensitivity in stereo was 26.5 dBf at 65 dBf. The selectivity was good, 68.5 dB for alternate-channel (400-kHz) spacing and 8 dB with adjacent-channel

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**Hirsch-Houck Labs Measurements**

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<td>±1.9 volts</td>
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The tone controls had their rated characteristics, with maximum ranges at 100 and 10,000 Hz of about ± 12 dB. The loudness compensation was good, with an 18-dB control range and a maximum relative bass boost of 10 dB. The maximum audio output at the clipping point was 1.9 volts.

The tape transport worked silently and smoothly. Flutter level and speed were essentially the same at both the beginning and end of a cassette. The tape-playback frequency response in the forward direction was excellent. Measured using the new BASF standard test tapes, it was within ± 1.5 dB from 31.5 to 17,000 Hz with either 70- or 120-microsecond equalization.

In the reverse direction, however, the highs were greatly attenuated, indicative of an azimuth-alignment error, possibly due to tape skewing (there was evidence of poor tape-to-head contact in reverse, which resulted in fluctuations in level at test frequencies above about 8,000 Hz). But as we've said before about auto-reverse players, you can always turn the tape over by hand.

Overall, the Yamaha YCT-800 is one of the more versatile auto radios we have tested, and it is all the more impressive because of its operating simplicity. Its appearance is not at all intimidating, although, as with all such units, careful reading of the instruction manual is a must if one is to use it to the fullest. Everything worked well, though we found it disconcerting when trying to measure tape noise levels to find the blank-skip feature shifting the player into high speed at inopportune moments!

We were struck by how closely the YCT-800's operating features (and performance) resembled those of a moderately priced home stereo receiver. Most of the FM performance characteristics of the YCT-800 would do justice to a typical home receiver, and the tape transport is comparable to many home decks. In a package of this size, that is no mean achievement.

Road Tests

Several trips over our New York area test route and a weekend trip of several hundred miles subjected the Yamaha YCT-800 to a fair sampling of what any car audio component is likely to encounter during its tenure in a dashboard.

Unlike many contemporary car stereos, the YCT-800 has excellent AM performance. Stations I normally receive marginally or only intermittently came through clearly, and I noticed no interference from adjacent stations.

On FM I got clean, sharp signals from city stations well beyond where I can ordinarily receive them. Instead of hunting for another station, I could keep my favorite one tuned in for a dozen or even two dozen miles further from town. As the signal strength weakened, the tuner's noise-control circuitry reduced the stereo separation smoothly and gradually until it reached a mono condition; then a high-cut filter switched in with a soft-muting circuit to reduce the really bad hash. The blending seemed to begin at higher signal levels than with other tuners I have tested, though its operation was unobtrusive. Multipath noise tended to be much less jarring than I am used to hearing from car stereos, but there was also somewhat more of it in my favorite high-interference test areas.

The cassette player loads and plays cassettes quite gently. It easily handled my "worst-case" C-120 test cassette, an old, cheap, off-brand product with tight hubs. Transports that can play this tape with no audible problems and without damage can play anything! The transport mechanism also appeared to be stable and resistant to shock. I noticed an occasional warble driving over the usual stretch of granite-block street streets in Brooklyn, but there was no audible flutter or loss of tape-to-head contact. The forward tape playback sounded exceptionally clean, but in reverse there was some dulling on tapes with considerable high-frequency content.

The tape controls are close together and too easy to activate. When reaching to withdraw a cassette I often pressed the MONO/MONO/MTL or the SPATIAL EXPAND button accidentally. And pushing in the fader ring to adjust it almost invariably changed the tuning setting or started fast winding of the tape. The cassette-eject button was also prone to such hair-trigger response, though to a lesser degree. The most irksome thing about using the tape player, however, was the automatic blank-skip function, which cannot be defeated. On classical music with a wide dynamic range, the low-level signals are read by the sensor as unrecorded passages. If they last for 16 seconds, the player skips to the next part of the tape that's loud enough to be perceived as a selection—sometimes just a little further on in the same track! (This would not be a problem with most popular-music tapes since these tend to be recorded at more constant levels.)

The cueing was always accurate after a blank skip or when I used the YMS selection search or scan functions.

The tone and loudness controls offer plenty of versatility, and I did not miss an equalizer. Playing the midrange (loudness) off against the ends (bass, treble) enabled me to tailor the sound to my car and to correct any perceived tape equalization problems quickly and easily. The continuously variable loudness compensation gives the user much more control than the usual on/off switch. The on/off spatial-expansion circuit was more blatant in its effect but did succeed in giving breadth to the imaging. Since the effect also changed the equalization, it was not equally enjoyable with all recorded instruments, but that's what the tone controls are there for anyway. In some cases I even got a better tonal balance with the expansion on.

I thoroughly enjoyed the performance of the YCT-800. The Maintenance Monitor is a great feature, and the few vexing characteristics of the unit do not greatly detract from this obviously fine car stereo from an innovative company.

—C.G.
SONY UNVEILS WORLD'S FIRST
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TOKYO, Oct. 1, 1982—In one of the most eagerly anticipated events in the history of high fidelity, Sony engineers today introduced the world's first digital audio compact disc player, a dramatic departure from conventional audio technology. This new player uses a laser beam to read a compact disc and reproduce the audio content using state-of-the-art digital processing. The CDP-101 was the result of over a decade of research and development, and it marked a significant advancement in audio technology.

In the beginning, there was analog sound. And through the generations, its supremacy remained largely uncontested. Then Sony engineers created the CDP-101 digital audio compact disc player—"the most fundamental change in audio technology in more than eighty years." For the first time, audiophiles could enjoy the total freedom from distortion that was previously exclusive to concert halls. An incredible dynamic range. And nearly indestructible software.

Predictably, the Sony CDP-101 spawned a host of imitators. But while these other versions seemed to spring up virtually overnight, the process of creating the CDP-101 was considerably more deliberate. Along the way to the CDP-101, for example, Sony invented digital audio processing.

Sony established the industry standards that are most directly responsible for the remarkable sound of the compact disc: the 16-bit linear quantization system, and the CIRC error-correction code. And Sony developed the world's widest range of professional digital audio equipment. Including the digital mastering system used in the mastering of every compact disc made today.

The benefits of Sony's long head start in digital audio are, of course, manifest in the CDP-101. Such as filters that provide excellent frequency response without compromising the attenuation of ultrasonic noise. The same digital-to-analog converter used in the legendary PCM-F1. The fastest track access and greatest immunity to shock in the industry. As well as convenient horizontal loading and supplied wireless remote control.

So if you're confused by the current deluge of compact disc players, your choice is actually much clearer than you think. You can buy one of the players inspired by Sony. Or you can buy the inspiration itself.

SONY, THE LEADER IN DIGITAL AUDIO™

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CIRCLE NO. 26 ON READER SERVICE CARD
How Audible Is Distortion?

We all know that audio distortion is a bad thing, that it needs to be eliminated or at least minimized if we are to enjoy the full benefits of today's advanced hi-fi technology. I have no argument with that—favoring distortion (at least outside of certain rock-music circles) must surely be equivalent to denouncing the flag and motherhood! Still, this is a less than ideal world, and compromise is an inherent part of life. And so we must learn to live with a certain amount of distortion, which, like death and taxes, will always be with us.

There is literally an infinity of possible distortions of an audio signal, but, fortunately, not all of them produce the same audible effects even if they are usually expressed in the same format (usually "x per cent" or the mathematically equivalent "y dB"). One broad distinction is between linear and nonlinear distortions, of which we'll consider only the latter in this article. (Examples of linear distortions are nonuniform frequency response and the various forms of phase distortion.)

Nonlinearity in a music system or component means that the output signal does not vary in exact proportion to changes in the input signal level (that is, the input and output waveforms are not identical in shape). For example, in a linear system or component, doubling the amplitude of the input signal should precisely double the output level. If the latter goes up by a factor of 1.99 or 2.01, the system is nonlinear, and we could express this nonlinearity as a distortion of "0.5 per cent" or as 1 part in 200. (Filters—such as tone controls—also alter output waveforms, but they do so in a mathematically linear fashion and thus, at least theoretically, do not generate nonlinear distortion.)

Strangely enough, while minute quantities of some nonlinear distortions may be unpleasantly audible, others measuring hundreds of times greater may be quite imperceptible to the listener. It is misleading and incorrect to conclude that, say, 0.1 per cent distortion is less audible than 1 per cent distortion or that an amplifier with 0.002 per cent distortion is necessarily "better" than one having 1 per cent distortion at the same power output. Either of those assumptions might be correct, but it is much more likely that there would be no significant correlation between the distortion figures and the sound of the system.

One important type of nonlinear distortion is harmonic distortion, usually measured with a sine-wave input signal, which consists of only a single frequency. Any departure from an ideal sine-wave shape in the output waveform is equivalent to the addition of one or more frequencies at multiples of the original, or "fundamental," frequency. These harmonics can be measured in any of several ways, and their amplitude is expressed as a percentage of the amplitude of the fundamental frequency. If (as usually happens) there are several different harmonics present, their combined magnitude (called total harmonic distortion or THD) can be computed by squaring the amplitude of each one, adding all the squared values, and taking the square root of the total.

The lower-order even harmonics (particularly the second, at twice the fundamental frequency) can affect the timbre of the sound, but are rarely harsh or unpleasant even when present at a considerable level. Low-order odd harmonics are less acceptable, but moderate amounts of third-harmonic distortion are not likely to offend most listeners. Certain types of distortion mechanisms, however, create high-order harmonics (such as the ninth, the eleventh, and so on), and these have been shown to be audible and unpleasant in extremely low amounts under some conditions. The audibility of any form of distortion depends greatly on the nature of the test signal. A minute amount (as little as 0.05 per cent) of almost any high-order harmonic added to the usual 1,000-Hz sine-wave signal may be audible as a separate, higher-pitched component of the sound. But if the test signal consists of two or more different signal frequencies, as in certain intermodulation (or IM) distortion measurements, the distortion level may have to be many times greater before it can be detected by ear. And if the program is complex (music or speech), it is often impossible to hear surprisingly high amounts of distortion—up to 6 per cent or more—because the sound of the distortion is psychoacoustically masked by the program signal.

Furthermore, individual people differ widely in their ability to detect various types of distortion as well as in their tolerance for a distortion once it has been detected. For example, low-order harmonic distortion may merely change the sound of...
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an instrument slightly, certainly less than might result from the performer’s using a different make of violin or clarinet. This effect might be clearly perceptible or even disturbing to the performer or to a fellow musician yet be of no importance whatever to other listeners, even those with considerable musical sophistication.

I am not trying to suggest that nonlinear distortions can be ignored in judging or enjoying a music system. Certain types are intolerable to almost everyone. For example, sharp discontinuities in the waveform caused by amplifier clipping, excessive crossover distortion in an amplifier’s output stages, or (for me, worst of all) a mistracking phono cartridge produce large amounts of very high-order harmonics, usually the odd ones, which are the most objectionable. A rather small amount of ninth- or eleventh-harmonic distortion is likely to produce a negative reaction from any listener who appreciates good sound. As in any aspect of listening to music, it is not possible to be dogmatic about the exact audibility threshold of such distortion. In general, distortion frequencies that are not also present in the program material and thus cannot be masked by the music are the ones most likely to be audible and irritating.

In view of all this, it is hard to justify the emphasis placed by some amplifier manufacturers on reducing their products’ distortion to nearly unmeasurable levels (under 0.001 percent at normal listening levels in many current amplifiers and receivers). An amplifier is but one part of a music system, and it is by far the most nearly perfect one in its reproducing characteristics and thus the least likely to contribute audible distortion under normal conditions. (I am not concerned here with the sonic subtleties attributed to some amplifiers—which are probably due to frequency-response behavior—but with intrinsic and measurable nonlinearities.) Only a true clipping overload is likely to produce a significant amount of harsh, high-order harmonic output from an amplifier, and even that may not be audible unless its duration is excessive. Brief moments of clipping can easily pass unnoticed, being masked by the program that produces them.

Still, our reproduced music does not always sound as clean as we would wish it to be, so something must be distorting it audibly. And so it is. The playback signal from an analog phonograph record contains enormous amounts of distortion, almost never less than ten times the distortion created by even a mediocre amplifier and more likely hundreds or thousands of times greater at high signal levels. This is the case even with the finest direct-to-disc or digitally mastered LP played on the best turntable with the most highly regarded pickup on the.

The loudspeaker, as most of us realize, is also not an ideal transducer. The nonlinear distortion of a well-designed speaker system can be quite low under most conditions (above 100 Hz it may be only a small frac-

most of the common ratings for nonlinear distortion in an electronic component have little to do with how that product might sound . . . . ."

"I feel like a rat doing this to you, Vogel, but you know how tough the competition is out there, and I'm not letting you out until you come up with a state-of-the-art speaker!"

Test Reports start on page 31
Winston. America's Best.

You, the audiophile, are the toughest critic we know when it comes to sound performance. You're very selective in deciding the perfect equipment for your recording and listening needs.

And you're just as selective in choosing your recording tape. TDK knows that. So we developed a line of high performance audio cassettes that meet your critical requirements.

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You're probably using TDK SA-X high bias cassettes now because of their superior performance characteristics. In addition, TDK has developed normal bias AD-X which uses TDK's famous Avilyn particle formulation and delivers a wider dynamic range with far less distortion than ever before. Plus, TDK's unique metal bias MA-R cassette which features high-energy performance in a one-of-a-kind unibody die-cast metal frame.

The TDK Professional Reference Series...it'll sound impressive to your ears. So share the pleasure with your friends; they'll appreciate it.
ABOUT a quarter of a century ago, Acoustic Research developed a turntable whose simplicity, outstanding performance, and low price earned it a unique place in the hi-fi marketplace—and something close to classic status among knowledgeable phonophiles. Aware of the degradation of sound quality caused by acoustic feedback, AR’s founder, Edgar Villchur, designed a turntable (actually a complete record player, since it was available only with an AR tone arm) that was virtually immune to external mechanical excitation.

In addition, the AR turntable essentially eliminated audible rumble by using a very small, low-torque twenty-four-pole a.c. motor (similar to those in electric clocks), which turned at only 300 rpm instead of the 1,800 rpm of the four-pole induction or synchronous motors commonly used at the time. The motor’s fundamental vibration frequency was thus lowered from the very audible 30 Hz of the higher-speed motors to an inaudible 5 Hz. Since the torque of the AR turntable’s motor was relatively low, its platter mass was kept correspondingly small, and it was driven via a light rubber belt. Speeds were changed (between 33⅓ and 45 rpm) by removing the platter and manually shifting the belt to a different-diameter pulley.

The original AR turntable was upgraded several times before being withdrawn from the market a few years ago, but there has evidently been sufficient demand to warrant designing and manufacturing a new model with the same basic virtues. The new AR turntable that we tested for this report is, in many important respects, almost identical to its respected ancestor. Its styling is much handsomer, however, and it is available either with an AR tone arm or with a “blank” mounting board that can accommodate any of a number of high-quality tone arms from other manufacturers. This option disposes of one of the more persistent and valid criticisms of the earlier model, which paired a superb turntable with a rather old-fashioned and hard-to-replace tone arm.

The key to the remarkable acoustic isolation of both the old and new AR turntables is the rigid coupling of the tone arm to the platter by a T-shaped cast-metal plate. This entire arm-and-platter assembly is then suspended on damped springs from the turntable’s motorboard and base. The extremely soft three-point suspension (we would estimate its resonant frequency as about 2 or 3 Hz) makes it possible for the base or dust cover to vibrate with rather large amplitudes at audio and infrasonic frequencies without transmitting this motion to the arm or platter. And even if the arm and platter do move as a result of external vibration, they do so as a single unit and therefore do not affect the output from the cartridge.

The cast-aluminum outer platter of the AR turntable weighs about 2½ pounds, and the total weight of the platter is given as 3.9 pounds in the specifications. The record mat is a thin disc of felt-like material. The new AR tone arm is a straight tubular design with a low-mass removable headshell. The counterweight, which is moved from a balanced condition to set the tracking force, carries a scale calibrated from 0 to 3 grams in steps of 0.5 gram. A similarly calibrated antiskating dial is mounted on the arm base near the arm-lift (cuing) lever, the downward action of which is viscous damped. Attached to the arm base is a clip that serves as an arm rest or retainer.

The base of the AR turntable is made of...
Oiled walnut and is supported on small rubber feet. The dust cover is of plas-tic, and is held in place by a spring action that merely protect the supporting surface. A small pilot light on the front surface glows when it is on. A hinged clear-plastic dust cover remains open when fully raised (but not at intermediate angles). The turntable's dimensions are 19 7/8 inches wide, 15 3/4 inches deep, and 7 inches high with the cover closed (a 17-inch vertical clearance is needed to open the cover). It weighs 18 pounds. Price: with the AR tone arm, $429.99; without the arm (but including a blank tone arm mounting plate), $299.99.

Acoustic Research, Dept. SR, 10 American Drive, Norwood, Mass. 02062.

Laboratory Measurements. We installed a Shure V15 Type V cartridge in the AR tone arm for our tests. The measured capacitance of the arm and signal-cable wiring was about 80 picofarads per channel (the nominal rating is 85 pF) with a very low interchannel capacitance of 2 pF. We set the stylus overhang with the aid of the plastic jig furnished with the turntable, and the resulting tracking error was less than 0.33 degree per inch (barely measurable). After the arm was balanced, the actual vertical tracking force was about 0.1 gram higher than the scale setting (this is a function of how accurately the arm is balanced when the player is first set up).

The effective arm mass (exclusive of the cartridge) was a relatively low 9 grams. It is rated at 13 grams, but different measuring techniques can easily account for the difference. With the rather compliant V15 cartridge the arm system resonated at an ideal frequency, 10 Hz. The antiskating dial had to be set about 0.5 gram higher than the tracking force for optimum correction. Because of the floating suspension, considerable care was necessary to avoid jarring the arm when using the cueing lever, but after some practice we were able to use it effectively. The antiskating torque caused about 5 seconds of a record to be repeated each time the arm was lowered, and the descent took 4 to 5 seconds.

The turntable speed was about 0.3 percent fast, and its flutter was a very low 0.055 per cent weighted rms (JIS) or ±0.08 per cent weighted peak (DIN). The measured flutter was largely a result of test-record eccentricities, and its components were principally below 10 Hz. As with the original AR turntable, rumble was very low, measuring 40 dB unweighted (−46 dB in the lateral plane) and −64 dB with ARLL weighting. The rumble had a broad, random frequency spectrum, and the measurement may have been limited by our particular test setup and the inherent rumble of our silent-groove test records.

Comment. Anyone who saw the old AR turntable being demonstrated cannot forget how it could be pounded with a hammer (actually, a soft mallet) without skipping or even adding an audible thump to the music. The new AR turntable is, if anything, even better than the old one in this respect. We were able to strike it as hard as we wished with a fist or open palm with absolutely no audible effect on the program. The isolation system should make the turntable highly resistant to base-conducted vibration, and we expected it to excel in this test. Even so, we were not prepared for a measured immunity to external vibration that was 20 to 40 dB better than that of any other turntable we have tested in the past couple of years. (Because of changes in our test setup, a close comparison to still earlier units is not feasible.) It is safe to say that the new AR turntable is, by a comfortable margin, the best-isolated record player we have ever used or tested. The only significant transmission took place below 20 Hz, with a minor response at 50 Hz. Anyone who has had problems with acoustic feedback need look no further than the new AR turntable for a solution.

As we noted earlier, one of the few valid criticisms of the old AR turntable concerned the tone arm it included, which was lacking in refinement even by the standards of that time. The tone arm available with the new AR turntable is a very good one that is thoroughly compatible with the turntable and with almost any cartridge one might wish to use. For more demanding audiophiles, however, the blank-mounting-board option permits using the turntable with almost any other arm available.

Our only criticism of the new AR turntable concerns the considerable delicacy needed to handle its arm-cueing lever and the fact that the arm rest lacks any locking device. It is only too easy to knock the arm from its rest clip accidentally, and in the interest of stylus longevity we soon developed the habit of keeping the lift lever up at all times when not playing a record.

The new AR turntable appeals powerfully to our sense of good design. It is almost purely functional yet very attractively and tastefully styled. A simpler record player could hardly be imagined, and, like its predecessor, it should give many years of service with no more maintenance than a periodic belt replacement. And in terms of acoustic isolation, even pounding the base with a hammer (not really a recommended practice, of course) is unlikely to do more than mar the handsome finish.

—Julian D. Hirsch

Circle 140 on reader service card

The ML140HE is one of a new series of Shure cartridges incorporating many of the innovations originally introduced in Shure's V15 series in newly designed cartridge bodies. Replacing the traditionally chunky, block-like Shure cartridge shape is a slim, tapered body whose total weight of 4.5 grams is about 2 grams lower than that of the company's older models. The coil and cantilever assembly, rigidly encapsulated in plastic, features interlocking laminated pole pieces and coil leads terminated in gold-plated pins.

The user-replaceable stylus assembly includes the integral hinged Dynamic Stabilizer first introduced in the V15 Type IV and later incorporated in other Shure cartridges. In normal operation, its conducting carbon-fiber brush rides in the groove to remove dust and debris and to drain away any accumulated static charges on the vinyl surface. The pivots of the hinged assembly contain a viscous damping material, so that the stabilizer actually damps vertical arm/cartridge resonances and improves the ability of the pickup to track warped records. The entire stabilizer can be swung out of the way if one does not wish to use it; in its fully lowered position it also serves as a stylus guard.

The ML140HE has a Side-Guard feature that raises the stylus into the cartridge if it is accidentally scrubbed from side to side, thus minimizing the possibility of stylus damage. The stylus itself is a nude-mounted diamond with a hyperelliptical tip (0.2 x 1.5 mils) that has been specially polished to reduce record wear. The cantilever (like that of the V15 Type V) is a hollow beryllium
Why Your First Compact Disc Player Should Be A Second Generation Mitsubishi.

No wow. No flutter. Dynamic range over 90dB. Plus complete freedom from dust, dirt, surface noise, rumble and speaker feedback.

The truth is, the basic technology of the digital audio disc is so vastly superior to analog sound, that deciding on a player becomes very tricky indeed.

That is, until you check the record.

YOU DON'T BECOME A DIGITAL AUDIO EXPERT OVERNIGHT

Most companies now introducing digital audio players were just recently introduced to digital audio themselves.

Mitsubishi has been at the leading edge of digital audio research since the beginning. Moreover, much of the second generation technology found in the Mitsubishi DP-103 compact disc player you see here is a direct result of that experience.

For example, the DP-103 employs a three-beam optical pickup in place of the conventional single beam. These two insurance beams constantly correct for imperfections in the disc, ensuring stable, error-free tracking.

The retaining springs for the laser optics pickup, which are susceptible to vibration, have been replaced by Mitsubishi's exclusive linear-sliding cylinder—in effect eliminating a problem before you've had one.

These second-generation refinements also allow simplified servo circuitry which results in fewer parts, less to go wrong.

The play, fast forward, fast reverse, skip, and repeat functions are yours all at the touch of a button. With track number and elapsed time visually displayed. And when you've experienced the music that emerges in its full power and range, every nuance etched in magnificent relief, you'll know you've heard the future.

Like stereo componentry that preceded it, the compact disc player of the future will offer improved technology at a lower price. Just like the Mitsubishi DP-103 does. Today.

MITSUBISHI

Even If You Can't Have The Best Of Everything, You Can Have The Best Of Something

Mitsubishi Electric Sales America, Inc., 8330 E. Victoria St., Rancho Dominguez, CA 90221.
Laboratory Measurements. The total effective mass of the ML140HE cartridge and the test arm was 15 grams, and the system's 10-Hz resonant frequency was in the ideal range. In order to measure this frequency (using the Shure ERA V "Audio Obstacle Course" test record), it was necessary to swing the Dynamic Stabilizer up so that it did not contact the record. With the stabilizer in use, the vertical resonance of the arm/cartridge system was so fully damped no arm movement could be seen.

The output at a 3.54-cm/s groove velocity at 1,000 Hz was 4.1 millivolts per channel, with the channel levels matched within 0.1 dB. The cartridge tracked the Fairchil101 test record (30 cm/s at 1,000 Hz) at 0.75 gram, the Cook 60 (32 Hz) at 1 gram, and the 70-micrometer level of the 300-Hz tones on the German HiFi #2 record at 1 gram; at the maximum force of 1.25 grams, it tracked the 80-micrometer level of the HiFi #2 record. The cartridge's frequency response was affected only slightly by changing the load capacitance from 150 to 385 picofarads. This increased its output in the 5,000- to 15,000-Hz range and decreased it between 15,000 and 20,000 Hz by a maximum of slightly more than 1 dB.

We used a load of 225 picofarads for our measurements, and the response was within +0.5, -1 dB from 40 to 20,000 Hz, both channels yielding identical response curves. The channel separation was 25 to 30 dB from 500 to 10,000 Hz, 13 dB at 15,000 Hz, and 10 dB at 20,000 Hz. The intermodulation distortion was measured with Shure's TTR-102 test record; readings were between 1.2 and 1.8 per cent from 7 to 24 cm/s and 2.5 per cent at 27 cm/s. High-frequency tracking distortion, measured with the 10.8-kHz tone bursts of the Shure TTR-103 test record, was 0.6 to 0.7 per cent from 15 to 30 cm/s. Using the CBS STR 112 test record, the square-wave response showed a slight overshoot (about 15 per cent) on the 1,000-Hz waveform followed by lower-level ringing at about 40,000 Hz; the ringing is on the record and only shows up with a cartridge that can track this high. With the ERA IV "Audio Obstacle Course" record, it showed traces of mistracking only on the maximum level of the flute section. The ERA V record revealed a trace of mistracking on Level 6 (the maximum), indicating that the "trackability" of the ML140HE is well above average.

Comment. The Shure ML140HE embodies almost every feature of the top-of-the-line V15 Type V (with only slightly lower-rated trackability) at a substantially lower price. While perhaps no one of its features would be said to give the cartridge a decisive competitive advantage, all of its characteristics add up to make it a rather impressive product.

The proof of a cartridge is in the listening, and in our listening tests the ML140HE did a first-rate job with a variety of records. It was unfailingly smooth and clean sounding, it tracked warped records in a superior fashion when used in a low-mass tone arm, and it was almost totally noncritical with respect to its loading by the amplifier and cable capacitance. Although we could not directly measure the ML140HE's frequency response above the audio range, it is plain from its square-wave response that the low-mass stylus system and the numerous design improvements in the fixed magnetic system give it the sort of extended high-frequency response once associated only with moving-coil designs. It is an excellent cartridge in every respect.

—Julian D. Hirsch

Circle 141 on reader service card

(Continued on page 37)
If you think this is just another car stereo, please reserve judgement until you’ve read about what’s underneath the lights, buttons, and knobs.

All of it is designed to make listening to mobile audio more thrilling than ever before.

**Let’s talk specs**

Nothing better illustrates the revolutionary advancements of our FTX 180 better than its specifications.

First we started with a remarkable new technology: Dolby “C”*. Sanyo’s FTX 180 is the first car stereo that can actually remove up to 20dB of tape hiss and background noise...all without sacrificing one iota of music.

Next, we designed an all-new power amplifier circuit that pumps out 15 watts per channel with only 0.3% total harmonic distortion. That means you can turn up the volume and get the thunderous lows and crystalline highs that the original musicians intended you to hear...with no audible distortion!

Then we combined our FM Optimizer circuit with a 12-station frequency synthesized tuner. The result: it not only locks onto the exact frequency you want, but is virtually impervious to annoying noise.

**Let’s talk features**

Here are just a few: 1) automatic tape searching; 2) LCD digital station frequency/time readout; 3) switchable Dolby B/C; 4) metal tape compatibility; 5) ultra-long life S.S.P. tape head; 6) special bass equalizer with triple turn-over controls; 7) full auto-reverse; 8) fader control for balancing 4-speaker setups; 9) standby switch, so you can listen to radio while fast-winding a tape.

We refer to the FTX 180 and the other Sanyo FTX Series models as “mobile studio sound systems”.

Admittedly, that’s a pretty lofty description. But once you hear one in your car, you won’t dare call it anything less.

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You've got what it takes.

Salem Spirit

Share the spirit.
Share the refreshment.

The Klipsch kg² (pronounced "Kay-gee two") is a compact two-way speaker system with a passive radiator to extend the bass response of its woofer. The 8-inch woofer has a 2½-inch-diameter voice coil and a polypropylene cone. The crossover from the woofer to the 1-inch hard-dome tweeter is at 1,800 Hz, and the tweeter is front-loaded by a short horn with a 2½-inch mouth diameter.

The passive cone, about 10 inches in diameter, is on the rear surface of the enclosure. According to Klipsch, it becomes operational below about 70 Hz and is most effective when the speaker is placed about ½ to 1 inch from the wall; in that position the low-bass output emerges from the narrow slot created around three sides of the speaker cabinet. The instructions suggest, however, that users experiment with different locations (including corner placement for maximum bass) and note that the speaker can be mounted horizontally or vertically.

The Klipsch kg² Speaker System

The rated frequency response of the kg² is 45 to 20,000 Hz ± 3 dB on axis (down 6 dB at 35 Hz). The system's low-frequency cutoff is at 35 Hz, and, since the woofer is essentially unloaded below that frequency, Klipsch recommends that the speaker be used with an amplifier that has a good infrasonic filter to prevent overdriving it with signals below the audible range. A 1-ampere fuse in the speaker line is also suggested as a safety precaution. The angular coverage of the kg², between its -6-dB response points, is about 100 degrees in both the horizontal and vertical planes. The system has a nominal 4-ohm impedance (2 ohms minimum) and a rated sensitivity of 90.5 dB sound-pressure level at 1 meter with a 1-watt input of band-limited pink noise. It can handle 65 watts of pink noise for 8 hours without damage and is recommended for use with amplifiers that are rated between 10 and 120 watts per channel.

The enclosure of the Klipsch kg² is 18⅞ inches high, 13⅛ inches wide, and 11½ inches deep. It is available with oiled oak or walnut veneers; the snap-retained grille is covered in black or brown cloth. Weight is about 23½ pounds. Price: $420 per pair.

\* Laboratory Measurements. Before making any measurements on the Klipsch kg² speakers, we tried several different mounting positions to determine their effect on the sound. Floor mounting, either with or without short stands, was not as satisfactory as a typical "bookshelf" installation about 28 inches from the floor and an inch or so from the wall, so we conducted our listening tests and room-response measurements with the speakers in the latter mounting position. For quasi-anechoic response measurements with our IQS FFT analyzer, we placed one speaker on a stand about 24 inches high.

The averaged room response of the kg² was exceptionally smooth, varying only 6 dB overall from 140 to 20,000 Hz. The close-miked woofer response was summed with the separately measured passive-cone response (corrected for the different sizes of the diaphragms). The resulting low-frequency response was flat within 5 dB overall from 50 to 1,600 Hz. The bass driver's output was down 3 dB at the 1,800-Hz crossover frequency and dropped steeply above that point. In the low bass, the passive radiator's output was dominant below about 55 Hz and remained strong down to 35 Hz (where it was about 7 dB below its maximum, between 100 and 200 Hz).

The bass curve and the room curve overlapped through more than an octave, making possible an unambiguous composite frequency-response curve. Referenced to the average midrange output in the 500- to 1,000-Hz octave, the maximum output was +5 dB in the vicinity of 200 Hz and down 3 dB at 35 Hz. After a 2.3-dB total variation between 550 and 13,000 Hz, it rose to +3 dB at 17,000 Hz. Overall, the +5- to −3-dB response between 35 and 20,000 Hz would be considered excellent for any speaker.

The FFT analyzer confirmed the excellent performance of the kg², although it differed in details from the room response. A small dip in the quasi-anechoic response at 2,000 Hz was probably due to a floor reflection, and the output fell off at 6 dB per octave above 13,000 Hz. Our curve was gratifyingly similar in most respects to an anechoic response plot made by Klipsch on the same unit. Clearly, we were both measuring the same essential properties of the speaker. Our response curves measured on axis and 45 degree off axis differed at frequencies above 3,000 or 4,000 Hz, with a typical difference of 12 dB in the range of 10,000 to 20,000 Hz. The phase response of the system was notably linear, resulting in a group-delay variation of less than 0.2 milliseconds between 2,000 and 20,000 Hz.

The impedance of the kg² system reached a minimum of 4 ohms at about 200 Hz and a maximum of about 25 ohms at 68 Hz. Over most of the audio range the impedance was between 8 and 20 ohms, making the speaker's 4-ohm rating both valid and conservative. The sensitivity of the system was 90 dB SPL at 1 meter with an input of 2.83 volts of midrange pink noise. At this moderately loud level, the bass distortion of the system was very low, increasing from 0.8 per cent at 100 Hz to 3.2 per cent at 35 Hz. At 30 Hz, however, the speaker was obviously being overdriven by this input, emitting a rasping distortion. This result emphasizes the importance of the manufacturer's (Continued on page 41)
INTRODUCING DIGITAL ES COMPONENTS FROM THE PEOPLE WHO BROUGHT YOU THE DIGITAL PLAYER, DIGITAL DISC, DIGITAL REVERBERATOR, DIGITAL PROCESSOR, DIGITAL MIXER, DIGITAL RECORDER, DIGITAL EDITOR, DIGITAL DISC MASTERING

When the history of music is written, the chapter on digital will read like a list of accomplishments from just one company—Sony. And now, to meet the stringent demands of their digital creations, Sony engineers have developed an entirely new line of high-fidelity components. The ES Series.

To handle the phenomenal dynamic range of the new CDP-701ES compact disc player and PCM-701ES digital audio processor, ES features what Stereo Review calls a "truly exceptional" integrated amp. One that offers "the highest dynamic headroom of any amplifier we have yet measured."

The Sony-patented Accurate Pistonic Motion (APM) speaker design has been engineered to handle prodigious quantities of...
power without distortion.
Even the tuner's Direct Comparator has been designed to complement the improved FM broadcast signals that result from digital source material.
Furthermore, because remarkable, should force you to discard your present music collection, ES also includes a LaserAmorphous™ 3-head cassette deck and linear tracking Biotracer turntable—these are worthy challengers to anything on the market today.

To find out more information on the Sony ES Series and the name of your nearest ES dealer, call Sony toll-free at 1-800-222-SONY.
Purpose: to put pavement-scouring performance within reach of every driver who can handle it.

Car in point: Turbo Colt, imported for Dodge and Plymouth, built by Mitsubishi Motors Corp.

0 to 50 in 5.78 seconds. Now, while you're re-reading Turbo Colt's acceleration number in wide-eyed amazement, let us remind you that there's much more to Turbo Colt than a turbocharger. Turbo Colt is equipped to give you all the fun, the great handling, and the looks that should go along with its kind of acceleration. It rolls on Michelin XVS 165/70 HR 13's, with non-linear, high-control springs, solid front and rear stabilizer bars (.79" up front, .57" out back), heavy duty transmission and clutch, and front gas-filled shocks. Front air dam, rear spoiler, tachometer, halogen headlamps and a sport braking system are all standard.

Check out the rest of Turbo Colt's stats and go grab hold of one at your Dodge or Plymouth dealer.

TURBO COLT: VITAL STATISTICS

ACCELERATION: Zero to 50 mph...5.78 seconds

ENGINE: 1.6 liter turbocharged, electronically-controlled injected 4-cyl. MCA-Jet

TURBO BOOST: 7.5 lbs. psi

POWER: 102 bhp @ 5500 rpm

POWER TO WEIGHT RATIO: 19.77 lbs per hp

TORQUE: 122 lbs-ft. @ 3,000 rpm

TRANSMISSION: 4x2 Twin Stick

“Now that's a purpose!”

IMPORTS WITH A PURPOSE.
recommendation that the driving amplifier have a good infrasonic filter.

Comment. Our first experience with a Klipsch speaker—the famous Klipschorn—was in 1947, and it made an unforgettable impression. For many years, the Klipsch name was associated only with large, expensive speakers, beginning with the corner Klipschorn. Later include large direct-radiator systems as well. When we learned of the inexpensive Klipsch kg2, we could not help but wonder how it would compare with its larger relatives.

Well, though we were not able to make a side-by-side comparison, it was apparent that the kg2 rates a place in the Klipsch family tree purely on its own merits. The speaker sounds very smooth and well balanced, with only a moderate extra warmth imparted by its slightly elevated mid-bass output. The deep bass (35 to 50 Hz) was most impressive, especially in comparison with almost any other speaker of comparable size we have heard lately. During our listening tests, the output was strong enough to rattle light fixtures and anything else not securely anchored. Although the angular coverage of the system at high frequencies is completely adequate, a change in high-frequency output can be heard easily if you walk past the speaker while it is reproducing a pink-noise signal. What we heard in this test seemed quite consistent with the directivity measurements we made with the FFT analyzer (and is not necessarily in conflict with the ratings, established under very different conditions).

The "bottom line" on the Klipsch kg2 is that it is a compact, relatively efficient, attractively finished, and inexpensive speaker that also sounds very good. We listened to it for extended periods without feeling any urge to switch to other speakers, a sure sign that its sound was as good as our measurements later confirmed. —Julian D. Hirsch

Circle 142 on reader service card

Harman Kardon hk 590i AM/FM Receiver

According to Harman Kardon, the hk 590i AM/FM stereo receiver was designed with an eye more to its ultimate sound quality than to numerically impressive specifications. The moderately powered unit's amplifier section, therefore, uses relatively little negative feedback. While negative feedback is a common technique to reduce overall amplifier distortion, its excessive use has been blamed for causing various types of dynamic distortions.

The power-amplifier section has a high instantaneous current capability, enabling it to deliver as much as 35 amperes of instantaneous signal current into a low-impedance or reactive speaker load. Its normal continuous-power rating is 45 watts per channel into 8-ohm loads at 1,000 Hz, the power output from either of two decks, or from the regular source, to the amplifiers), and input program selection (FUNCTION). The last switch in the SUBSONIC FILTER (6-dB-per-octave cut below 15 Hz) and the loudness compensation. The AUDIO MODE button parallels the two channels for mono listening, the MUTING button switches off the FM interstation muting, and the TAPE COPY button connects two tape decks for dubbing one to the other. Larger buttons control power, tape monitoring (connecting the output from either of two decks, or from the regular source, to the amplifiers), and input program selection (FUNCTION). The last group includes buttons for phono, AUX/DAD (for a digital disc player), AM, and FM.

A window across the top of the panel contains the numerical frequency display and LED's that show the status of the tape-monitor and function switches. Five small green LED's light up in sequence to show relative tuner signal strength; other lights show that a station has been tuned in and whether it is transmitting in stereo. On the lower portion of the panel are three small knobs for tone and balance adjustment, a large volume knob, and a headphone jack.

The rear apron of the hk 590i contains heavy-duty speaker binding posts, the various signal input and output jacks, and binding posts for a 300-ohm FM antenna and for the supplied detachable AM loop antenna. There is also a 75-ohm FM-antenna coaxial connector. A screwdriver-adjusted control varies the FM-muting threshold level. There are three a.c. convenience outlets, two of them switched. The hk 590i is 171/2 inches wide, 14 inches deep, and 51/4 inches high. It weighs 17 pounds, 10 ounces.


Laboratory Measurements. One hour of preconditioning at one-third rated power left the top of the receiver only moderately warm, and, except when driving very low-impedance loads at high power levels, it never became uncomfortable to the touch during our tests. With both channels driving 8-ohm loads at 1,000 Hz, the power out-
The Harman Kardon HK 590i is a high-performance integrated amplifier that offers exceptional sound quality and flexibility. Its design is characterized by a robust power section that can deliver powerful output with minimal distortion. The amplifier's high-current capability is demonstrated through its ability to drive a wide range of loads with precision, making it suitable for various speaker and source requirements.

Distortion was nearly independent of frequency, with 8-ohm readings between 0.02 and 0.03 per cent from 20 to 20,000 Hz at the rated 45 watts output. At reduced power levels, the distortion was slightly higher, but even at 4.5 watts it never exceeded 0.05 per cent across the audio range. The amplifier's slew factor exceeded 25, ensuring smooth operation even at high power levels.

The amplifier's transient response was flat within ±0.5 dB from 30 to 15,000 Hz, and the channel separation was above average at 71 dB (although it was highly asymmetrical about the center frequency of the tuner), and adjacent-channel selectivity was about 8 dB. The muting threshold was adjustable between approximately 27 dB (10 µV) and 45 dB (100 µV). The 19-kHz pilot-carrier leakage into the audio section was 0.05 µW, and the power-line hum was a very low -77 dB. The frequency response of the AM tuner section was typical: down 6 dB at 62 Hz and 2.200 Hz.

The FM-tuner section had a usable sensitivity in mono of 13.8 dBf (2.7 microvolts, or µV). The stereo threshold was 39.2 dBf (50 µV), which corresponded to its stereo 50-dB quieting sensitivity. The mono -0 dB quieting sensitivity was 16.3 dBf (-10 µV). The noise level was -77 dB in mono and -70 dB in stereo, and the respective distortions (at 65 dBf, or 1,000 µV) were 0.155 and 0.18 per cent. The FM frequency response was flat within ±0.5 dB from 30 to 15,000 Hz, and the channel separation was an almost constant 36 dB over that range (decreasing to 33 dB at 15,000 Hz).

The capture ratio was 1.2 dB at 65 dBf, and the AM rejection was 52 dB at 45 dBf (100 µV). The image rejection was an excellent 89 dB. Alternate-channel selectivity was above average at 71 dB (although it was highly asymmetrical about the center frequency of the tuner), and adjacent-channel selectivity was about 8 dB. The muting threshold was adjustable between approximately 27 dB (12 µV) and 45 dB (100 µV). The 19-kHz pilot-carrier leakage into the audio section was 0.05 µW, and the power-line hum was a very low -77 dB. The frequency response of the AM tuner section was typical: down 6 dB at 22 and 2,200 Hz.

Comment. The Harman Kardon HK 590i is distinctly different from the many receivers offered by other manufacturers. This difference is not a matter of cosmetics, although the receiver's styling is also sufficiently unusual to set it apart from the competition. For many years, one could assume that a moderate-power receiver or integrated amplifier would do a perfectly competent job of driving resistive loads on the test bench (and often challenge the measurement abilities of the finest laboratory instruments). But it was almost axiomatic that low load impedances (even, in many cases, 4 ohms) would severely limit the output of the amplifier and sometimes produce harsh distortions when its current-limiting circuits were triggered. It is not even unusual for an amplifier to be damaged, or at least to have its fuses blown, by such operation. Such behavior has not been limited to integrated amplifiers or receivers, even some powerful and expensive separate pow-
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Bose will help you invest in live performance for your home. Fill out the coupon below, and Bose will send you a free brochure, a list of authorized dealers, and details on a $100 Digital Audio Rebate.

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Better sound through research.
er amplifiers have proved to be anemic per-
ficiency with loads of 8 ohms or so were
connected to their outputs.

This effect has audio significance because
many popular loudspeakers can demand
enormous signal currents from an amplifier
under certain conditions that can be en-
countered in home use as well as in the lab-
oratory. Investigations by Harman Kar-
don's consultant Matti Otala and others
have shown that an effective load imped-
ance as low as 1 ohm could be presented to
an amplifier by some ostensibly "8-ohm"
speakers. Obviously, Harman Kardon has
taken these findings to heart, and the hk
590i is a superb example of a product de-
signed to cope with the worst-case signal
and load conditions one might encounter in
a home music system. I can think of no oth-
er amplifier, past or present, that is capable
of delivering a dynamic output of six times
its rated 8-ohm power to a load of less than
2 ohms.

Apparently this has been achieved with-
out sacrificing reliability or any other per-
formance qualities. The other amplifier pa-
rameters of the hk 590i, including distor-
tion, noise, and stability, are also excellent,
if not quite as impressive as its high-current
capability. The FM tuner, likewise, is good
where it really matters—interference rejec-
tion, noise, and distortion. In
operation, the hk 590i is a smooth, silent
performer, free of unexpected noises under
any conditions of operation. Even the tiny
LED signal-strength indicators switch on
and off instantly, with none of the usual un-
certainty or vagueness, and the five lights
span most of the range of signal strengths
one is likely to encounter, making them tru-
ly useful indicators.

It is almost superfluous to say that the hk
590i sounded as good as its measurements
suggested. It can be played far louder than
most comparably rated receivers or amplifi-
ners without signs of strain. It is not always
easy to wax enthusiastic about a new stereo
receiver, no matter how good it may be. In
fact, it is sometimes too easy to conclude
that most comparably rated receivers are
pretty much equal. Nevertheless, the hk
590i strikes us as being somewhat "more
equal" than most in the ways that really
count. We could not help wondering what a
more powerful, scaled-up version of the
590i might be like—perhaps a kilowatt of
dynamic power into 1 or 2 ohms? At any
rate, the hk 590i is surely a step in the right
direction as we enter the age of the digital
disc and other extended-dynamic-range
program sources. —Julian D. Hirsch

Circle 143 on reader service card

Mitsubishi DP-103 Compact Disc Player

Although less than a year has elapsed
since the digital Compact Disc (CD)
made its appearance in the U.S., a second
generation of players is already reaching
the marketplace. The Mitsubishi DP-103 is
one of that group, following the Mitsubishi
DP-101, which we reported on last July.
Most of the first group of CD players were
large, heavy, and replete with many pro-
gramming features. They were also expen-
sive, typically selling for $1,000 or more.
The DP-103, at $650, is the least expensive
CD player we have tested.

Although the "compact" nomenclature
actually applies to the disc and only by ex-
tension to the player, there has been a cer-
tain incongruity in the disparate dimensions
of the hardware and software portions of
this new medium. The DP-103, however,
merits the adjective "compact" in its own
right, with a volume (and weight) just over
half that of the first-generation Mitsubishi
player. Although it lacks the complex pro-
gramming features of the DP-101, the DP-
103 is exceptionally easy to operate.

The DP-103 is a low-profile, front-loading
machine with a horizontal drawer that
glides open silently to receive the disc at the
touch of the OPEN/CLOSE bar and closes just
as silently with another touch of the same
control. When the drawer closes, the disc
turns briefly and then stops, after which the
digital display at the upper right of the
front panel shows the number of distinct
tracks on the disc and their total playing
time in minutes and seconds. To the left of
this display, a DISK SET indicator light shows
that the disc has been loaded and is ready
for playing. Between the OPEN/CLOSE bar at
the top center of the panel and the power
switch at the bottom are three flat plate
switches marked PAUSE, PLAY, and STOP.

Normally, touching PLAY begins the record
from Track 1, and the time indicator shows the
playing time in the current track. The
disc is played to its end, after which the
player shuts down. The PAUSE and STOP
controls have the same functions as similar
controls on tape decks and other CD
players.

Below the digital display are two large,
flat plates that are pivoted at their centers.
A touch on the appropriate end of the upper
one (SKIP) either advances the laser pickup
to the beginning of the next track or slews it
back to the beginning of the current track.
Repeated operations of this control can cue
the pickup to the start of any track on the
disc, with the display showing the number
of the track about to be heard. Below the
SKIP control is a FF/FR (fast forward/fast re-
verse) pushplate. Pressing one end of it
causes scanning to advance in the corre-
sponding direction, slowly for the first 3 seconds, then at a very fast speed. The program can be heard during the fast scan at its normal pitch but greatly accelerated in tempo.

Next to the scan controls is a repeat button; pressing it causes the entire disc to be repeated indefinitely until the button is pressed a second time (it is not possible to set the machine to repeat only a single track). An indicator light next to the digital display shows that the repeat function has been engaged. Below the repeat button is a headphone jack, and below that is a horizontal-slider headphone level control.

Mitsubishi DP-103 Operating Features and Hirsch-Houck Labs Test Results

Manual Features
- Skip to next track? Yes
- Skip back to previous track? Yes
- Skip to start of current track? Yes
- Scan/search? Yes
- Program audible during scan/search? Yes
- Repeat track/side? No/Yes
- Repeat phrase? No
- Cue by track number? Yes
- Cue by index number? No
- Cue by time? No

Lab Measurements
- Maximum output level: 1.95 volts
- Headphone output: 8 ohms, 0.58 volts, 800 ohms, 0.56 volts
- Total harmonic distortion at 1,000 Hz: 0.003 per cent referred to 0 dB, 0.014 per cent referred to -10 dB, 0.032 per cent referred to -20 dB
- Intermodulation distortion: 0.006 per cent referred to 0 dB, 0.009 per cent referred to -20 dB
- Signal-to-noise ratio: 96 dB unweighted; 103 dB A-weighted
- Channel separation: 114 dB at 1,000 Hz, 95 dB at 20,000 Hz
- Frequency response: +0.5, -0 dB from 20 to 20,000 Hz
- Cuing time: 6 seconds

Other Lab Tests
- Impact resistance: top, C; side, A
- Cueing accuracy: A
- Defect tracking (figures are size of largest defect successfully tracked; signal-surface damage, 730 micrometers; painted dots, 600 micrometers; simulated fingerprint, pass

the button

Mitsubishi DP-103

The DP-103 was exceptionally easy to use as well as being totally silent and bug-free in its operation. In general, skipping from one track to another took about 1 or 2 seconds, and advancing from Track 1 to Track 15 of one of our records required only about 6 seconds. The FF/FR function was very convenient because of the simultaneous audible program output and digital-time display. B重要因素 these controls allowed accurate cueing to a particular moment within a track, and sustained pressure caused the laser to fairly fly through the contents of the disc.

We did not mind the lack of programming facilities in this machine, which more than compensated for their absence by placing no upper limit on the number of tracks that could easily be accessed. It was as easy (and nearly as fast) to get to Track 39 of one of our test records as to Track 1, a feature that we greatly appreciated during our tests.

The evolutionary trends in CD-player development were predictable given the extraordinary flexibility built into many of the first-generation products. Now, more than ever, the consumer is being given a choice between size, price, and operating features, which is all to the good. It is also reassuring to find that the actual playing performance of this second-generation player is even better than that of its predecessors. It is worth repeating that all properly operating CD players sound essentially alike (the differences between them are so minor as to be negligible). But there are some real differences in how well they work under less than ideal conditions (particularly when playing dirty or damaged discs) and in their ease of operation. In both these respects the Mitsubishi DP-103 is an excellent performer, and its very reasonable price only makes it more attractive.

—Julian D. Hirsch
DIGITAL AUDIO DEVELOPMENTS

FROM music synthesizers to computer-aided design of audio components, from studio master recorders to the home digital Compact Disc system, digital audio in its various manifestations dominated the latest annual convention of the Audio Engineering Society. This has been the case for the last couple of years, of course, but this time there were reports on several engineering developments that promise important changes in the way we listen to music at home.

Perhaps the most startling of these came from Philips, inventors of both the LaserVision video-disc system and (with Sony) the Compact Disc digital-audio system. It now appears that it is possible to encode two channels of digital-audio sound on a LaserVision video disc in addition to the picture and the analogous audio soundtrack. Even more significant is Philips’ announcement that the exact same digital-audio encoding system used for the Compact Disc can be used to encode digital LaserVision soundtracks. All a LaserVision player needs to play back digitally encoded soundtracks is the additional CD decoder and digital-to-analog-converter integrated circuit— the laser-tracking circuits essential to a CD player are already contained in LaserVision players.

This is important news to the video-music industry since it means that music-oriented video productions can be recorded on video discs with the same sound quality available from the audio-only Compact Disc system. This development, which may take more than a year to reach the stage of commercial hardware and software, does not imply that combination LaserVision/CD players will become common items, nor does it mean that the CD has suddenly become obsolete. The Compact Disc is a music-oriented medium intended eventually to supersede analog music-oriented media such as the LP disc and the tape cassette. A LaserVision video disc with digitally encoded soundtracks is perhaps best thought of as a totally new, high-quality entertainment medium.

Considerable work on digital signal processing was also presented at the convention, mainly efforts to replace standard analog studio equipment (mixers, equalizers, reverberators) with cost-effective digital-audio devices. The most fascinating work of this type, from the standpoint of future developments as opposed to current results, was described by Roger Lagadec of Studer (maker of Revox tape recorders). He discussed the company’s efforts to improve the sound of existing analog recordings through all-digital reprocessing. The goal of Lagadec’s work is to take “decent” older recordings and to improve their signal-to-noise ratios by a perceptible amount “so as to make them better suited for new media such as the Compact Disc.”

Lagadec also announced an even more ambitious goal: “To take recordings of evident cultural value but objectionable technical quality and attempt to restore what occurred in front of the microphone.” Should these efforts continue to yield good results—and the examples Lagadec played were most impressive—music lovers will eventually be able to hear historic recordings of the pre-digital and pre-stereo eras truly remastered for the Compact Disc (instead of just being digitally copied for the new medium).

Those still intensely worried about the “sound” of digital recordings should start paying more attention to the sound of analog tape recorders, at least according to the results reported by one researcher, Lauric Fincham of KEF has found that while the

generated clicks, so conclusive evidence on this controversial subject is not yet in. My own feeling is that if a difference is audible when switching a sharp-cutoff low-pass filter with a high cutoff frequency, it probably stems from the filter’s not-quite-flat frequency response at lower frequencies. The musical impact of such small errors (+ 0.2 dB) is nil, of course.

There were several papers about digital-audio cassette recorders, but the interesting news in this field comes instead from private conversations I had with a couple of Japanese engineers. They told me that when a digital-audio-cassette standard is issued, it will actually be two standards, one for a fixed-head recorder much like today’s Analog cassette recorders and the other for a rotary-head recorder based on helical-scan video-cassette technology. Such standards may be issued by the middle of this year, with products to follow as soon as production lines can get rolling.

And in regard to the fears that record companies have about digital-cassette recordists’ ability to make an exact copy of a Compact Disc, I was told that the Compact Disc data stream contains a copy-prohibiting “flag” signal that could prevent a flag-detecting digital-cassette machine from recording the audio data. Such codes will probably be ineffectual in preventing copying, however, since a suitable circuit for outwitting them would cost no more than $15 in parts and could be soldered together in half an hour. The problem remains.

An announcement that I hope will become important was made jointly by Studer, Sony, MCI, and Matsushita, who have agreed on an encoding format for professional multichannel digital-audio recorders. They have proposed the DASH (digital-audio stationary-head) system as the industry-wide standard for master-tape machines. None of the new equipment fascinated me more than the digital music synthesizer from Kurzweil. With its uncannily realistic re-creation of standard orchestral instruments, pop-music producers won’t have to pay an orchestra to get the sounds of one on tape. Also new at the AES convention was a collection of papers given at the society’s first all-digital-audio meeting. Digital Audio, Collected Papers from the AES Pre-Conference ($75) contains a great deal of information on digital-audio techniques, especially the encoding of Compact Discs. This book and the October 1978 digital-audio tutorial issue of the Journal of the AES ($5) are recommended reading for anyone who wants to know more about the theory and practice of digital audio. They can be obtained from the Audio Engineering Society, 60 East 42nd Street, New York, N.Y. 10165.
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How to Use an Equalizer

By Craig Stark

From the phono stylus or tape head to the loudspeakers, today's better stereo systems handle the musical frequency range so uniformly that it might seem there is little need to alter it. Indeed, there are some audiophiles who either pay thousands of dollars for preamplifiers that omit bass and treble controls altogether or else, almost as a point of religious dogma, refuse to use the ones they have. Nothing, they feel, must be allowed to tamper with the Original Sound.

This purist approach is based, however, on two false assumptions. First, even leaving aside deficiencies in microphone technique and recording equipment, the exact tonal balance of the Original Sound almost never gets to the tape or disc. Recording and pressing engineers almost always use equalizers to modify the response of the original tapes to make it better suited to the sonic limitations of the LP or cassette medium and to their own personal feelings about what "sounds right." This latter factor plays an enormous role in popular-music recording, and it has even (alas) entered the classical field as well.

The second false assumption is that if you put a signal with a flat frequency response into a speaker you will get a flat frequency response in your listening room. Speakers are notoriously the weak link in the hi-fi chain, which is why you must always make a direct comparison between competing models before buying. (Some listeners with "golden ears" claim to hear significant differences between components of all types that escape most people's notice. But if you can't hear any differences between loudspeakers, I suggest you have your ears checked.) Further, as every audiophile knows, manufacturers of high-quality loudspeakers take great care to optimize their systems' enclosures, for the box/speaker interaction plays a critical part in determining how the system sounds. On a larger scale, the listening room itself is simply an enclosure or box that we share with the speaker system. Interaction between even the best of speakers and the listening room can also significantly modify the frequency balance of the sound reaching our ears—which are the only points where fidelity to the Original Sound really matters.

The best way to compensate for the effects of a recording engineer's sonic misjudgments and for some, at least, of
the response aberrations arising from speaker variations and from speaker/room interactions is to use an equalizer. While basic tone controls may suffice to make overall corrections in bass and treble response, they usually affect both channels simultaneously, even if one channel needs a boost and the other a cut, and they usually affect too much or too little of the audible spectrum. A glance at the tone-control curves of a typical high-quality preamplifier, shown in Figure 1, will make this clear.

Looking at these curves, you can see that there is no way, for example, that you can set the bass control to reduce a 5-dB hump in the 125- to 250-Hz region (characteristic of some vented speaker systems) without rolling off the bass response completely. To make matters worse, the particular monitor speaker I have in mind also needs a bass boost at 50 Hz and below! On the other hand, if you want to add a few decibels boost in the 2,000- to 3,000-Hz region (which will add "presence" to a singer's voice), an ordinary treble control can do it only by simultaneously boosting all the higher frequencies even more, creating a noisy, shrill screech.

As shown in Figure 2, however, an equalizer divides the audible frequency spectrum into several different bands, thus giving you control over the amount of boost or cut applied to each (normally as much as 12 or 15 dB). Moreover, in all but the least expensive models, there are separate controls for the left and right channels.

**Equalizer Types**

Most of the equalizers used in home music systems are graphic equalizers. They are so called because the positions of their controls are like the points on a frequency-response graph, letting the user see at a glance a reasonable approximation of the response curve that the equalizer is imposing on the input signal. The center frequencies of each band in a graphic equalizer are either fixed or variable only in switch-controlled increments, but those of parametric equalizers can be continuously varied for more precise control of a frequency band. Most parametrics also allow the width (the "Q") of the affected band to be varied, so that, for example, you could set the center frequency of a control at 500 Hz and either limit the band it affects to a small fraction of an octave or else open it up to control three and a half octaves. Parametric equalizers are named for their ability to continuously control the parameters of frequency, bandwidth, and level, but their greater flexibility usually comes at a higher price.

Deciding between a graphic or a parametric equalizer depends on what type of control you want over the sound. A parametric is ideal for coping with acoustical problems extending over small frequency regions—for example, a nasty bass room resonance or a persistent hum or whistle in a recording. A graphic is better when several relatively broad-band problems need to be solved simultaneously (as in room or speaker equalization). A graphic equalizer is the only type that can impart a smooth tilt upward or downward over a large portion of the audible spectrum.

(Continued on the next page)
Most stereo graphic equalizers divide the audible spectrum into octaves; that is, their bands are centered at such frequencies as 50 Hz, 100 Hz, 200 Hz, 400 Hz, and so on. Full-octave bands are fairly easy to adjust by ear while listening to music. One-third-octave bands (thirty or more per channel) positively demand the use of a calibrated microphone and a pink-noise generator. Depending on the lowest and highest center frequencies selected by the manufacturer, octave-band equalizers usually have anywhere from eight to twelve bands per channel, ten being the most popular number. Most major manufacturers produce octave-band equalizers, which generally range in price from about $200 to $350, often depending on the number of controls per channel. At lower price points are five- and seven-band units, with each control handling two octaves. Those equalizers can very well serve to complement bass and treble tone controls, but the bands are too widely spaced to achieve optimum results in room equalization. There are also a few bass-only equalizers for this problem-ridden frequency region.

While there are a few rare individuals who claim to have developed "calibrated ears" that correlate well with measured results (who can, for example, say something like, "This speaker is about 3 dB hot around 3,000 Hz," and be right), I must confess that I still find adjusting an equalizer by ear for flat listening-room response either beyond my capacity or my self-confidence. For this reason I especially welcomed the introduction, in recent years, of equalizers with built-in calibration equipment. Typically these include, in addition to the equalizer itself: (1) an octave-band display (called a "real-time analyzer," or RTA) that shows you the frequency distribution of the sounds you are hearing, (2) an electret condenser microphone (accurate enough for the purpose, though usually not of laboratory quality), and (3) a pink-noise generator, which produces a signal containing all audible frequencies distributed so that each octave contains equal energy. (Pink noise is by far the quickest and most accurate signal to use for setting up an equalizer.) The AudioSource EQ-One and the ADC Sound Shaper SS-315, both with list prices of $400, are typical of this type of unit. The Soundcraftsmen AE2420-R Scan-Alyzer ($499), which incorporates differential comparator circuitry to permit measurements accurate within 0.1 dB, is also a noteworthy unit of this kind.

Offering the ultimate in ease of adjustment and flexibility are the microprocessor-equipped equalizers, such as Sansui's SE-9 Compu-Equalizer ($700), an eight-band unit that not only analyzes and displays the in-room response of your system but automatically adjusts the sliders for you. In addition, this unit permits you to store up to four compensation curves (for different listening locations or different kinds of music). Even more advanced is the dbx 20/20, which eliminates sliders altogether (it tunes itself electronically), has ten equalization-setting memories, comes with a very accurate measuring

Above, the Technics SH-8025 graphic equalizer. It has seven bands with ±12 dB boost or cut available in each; features include recording equalization and an equalizer bypass. Price: $125.

Right, Sansui's SE-8X ten-band graphic equalizer and in-line spectrum analyzer. It has two tape circuits for equalized dubbing from either deck to the other. Price: $400.
Equalizer Specifications

In addition to the major features discussed above, a number of equalizer specifications should be considered in evaluating competing units. Figures for total harmonic distortion and signal-to-noise ratio should generally be comparable to those for your preamplifier (or the preamplifier section of your receiver or integrated amplifier). The amount of overall boost or cut for each frequency band, generally either 12 or 15 dB, is less important than the accuracy of the slider markings since a full boost or cut is rarely necessary. The ability to resolve and repeat a boost or cut within ±1 dB is excellent; ±2 dB is good; ±3 dB, though typical, is only fair.

If the unit incorporates a real-time analyzer, spectrum display and pink-noise generator and is supplied with a microphone, the accuracy of the readout should be stated both with and without the calibrated microphone. Except for the highest-quality units, the supplied microphone cannot be expected to be of laboratory quality, but the manufacturer can and should compensate (in the unit's input circuitry) for its known frequency-response deficiencies to bring its readings within ±2 dB or so of flat. Among other useful features are center-detented "flat" positions and an output level control that enables you to readjust for equal apparent loudness from the equalizer's output as compared with its input. A bypass switch is a must to permit aural in/out comparisons.

Other Equalizer Uses

While the principal use of an equalizer is to tailor the frequency balance of the sound in your listening room, it has several other applications as well. For example, if a particular recording is poorly mastered and sounds markedly different from others in your collection, you can use your equalizer to help cor-
rect its sonic imbalance(s) while dubbing it onto tape. Most equalizers provide a switch to feed an equalized signal to a recorder. If you have one that doesn't, simply connect the output of the equalizer to the input jacks of your tape recorder.

There are two cautions to be observed when you record through an equalizer, however. First, don't use your "house curve," the one you normally use to compensate for speaker/room problems. If you do, when you play the dubbed version back through your system with the equalizer at its normal settings you'll find that you've simply doubled your speaker corrections without fixing the imbalance of the record. What you want to do is dubbing an odd-sounding record is to find the frequency compensation that makes it sound the way others in your collection sound without equalization, so that the dub will sound right when played back with your normal settings.

The second caution is to use as little recording equalization—particularly at the frequency extremes—as possible. The cassette medium automatically uses a very large amount of treble boost in the recording process, for example, and to add much more is to risk tape saturation. You can boost the high end of a treble-shy record slightly, but you'll have to experiment to see how far you can go without saturation.

Another important use for an equalizer is in educating yourself about the frequency distribution in music. While a unit with a spectrum display makes this more dramatic, even a "plain" equalizer can yield surprising insights when you experiment by raising and lowering individual sliders that cover known, identifiable bands. For example, you'll find that 1,000 Hz, the normal frequency used for testing equipment, isn't really in the middle of the audible spectrum. In fact it's just about two octaves above middle C. Moreover, you'll find that there is usually very little musical content in the lowest (20 to 40 Hz) and the highest (above 15,000 Hz) parts of the nominal audio frequency range. Exploring just what you have to do with your equalizer to, say, make a voice on FM sound nasal or tubby will train your ears in things to listen for when speaker shopping.

And if you are interested in really comparing speakers, an equalizer can be a wonderful tool even without other instruments. Place a speaker to be tested next to your reference speaker and feed it equalized sound, leaving the reference unequalized. If you now adjust the equalizer so that both speakers sound the same, you can read the frequency-response difference(s) between the two speakers from the positions of the equalizer knobs. While you can use musical material to make these adjustments, you'll find that a constant noise source (FM interstation hiss if your equalizer doesn't have a pink-noise generator) is a lot quicker. If you can take a pair of new speakers home for a tryout before buying them and compare them with those you already have, you could save yourself a costly mistake—or confirm your hope that the new speakers really do give a broader, smoother response.

There are, of course, limits to what stereo equalizers can accomplish, and there are some precautions to observe in using them. An equalizer will not extend the designed-in high- and low-frequency limits of a speaker very much. If you try to use one to supply large boosts at the frequency extremes, you're likely to find that your amplifier begins to distort and/or that your speakers' woofers "bottom out" or their tweeters burn out. Similarly, while an equalizer may help tame standing waves (spots in the room where specific bass notes sound either excessively loud or soft), it won't cure them. Moving your speakers a foot or so in any direction may do as much or more good.

Finally, if you equalize for perfectly flat measured room response, you're likely to find the sound too bright. That's because in a concert hall the treble frequencies are naturally attenuated both by transmission loss through the air and by absorption by the walls, floor, ceiling, chairs, audience, musicians, etc. Listening to a loudspeaker, you're much closer to the sound source than you would be in the hall, and your room's boundaries may not absorb as much high-frequency energy. Thus, you're likely to want to adjust for a smooth tilt or rolloff in room response (perhaps 3 dB per octave above 2,000 Hz, depending on your room) before you're satisfied with the result. That slightly rolled-off treble is the sound you've learned to recognize as "flat," that is, as "the way you'd hear it live." And without an equalizer you wouldn't be able to hear it from your home system at all.

Above, Sansui's SE-77, a twelve-band graphic equalizer with infra- and ultrasonic bands (centered at 16 and 32,000 Hz) for smoothing the ends of the response curves. It also has two-way dubbing equalization. Price: $280.

Right, the Soundcraftsmen DX4200. It combines a ten-band graphic equalizer with the source-switching, amplifying, dubbing, and level-control functions of a preamplifier. Price: $699.
A airline advertising slogan used to tell us that Getting There Is Half the Fun. And for many people the enjoyment of actually traveling to a resort is an important part of a vacation. Similarly, for many hi-fi enthusiasts the process of studying available equipment and deciding what to buy is an important aspect of their interest in audio and the pleasure that they get from it.

A private Stereo Review survey of hi-fi component buyers made last year showed that the majority spend more than five months in study and comparison shopping before making a final decision on the purchase of any major unit in their stereo installation. Of those surveyed 85 per cent consulted dealers—among others—while making up their minds, and four out of five of these people (68 per cent overall) found the dealer's advice helpful.

Not everybody reports favorably on encounters with audio dealers. Beginning audio buyers often approach the process with feelings of inadequacy and trepidation. But a great deal of anxiety and trouble can be avoided by efforts of the consumer alone. Suitable preparation before you shop can help you get the products you want.

A Cautionary Tale

To show what can go wrong, however, when unwary shoppers encounter the many pitfalls of the hi-fi marketplace, let's consider a "worst-case" example from real life. A young couple planning to spend up to $500 for their first cassette deck became so discouraged after visiting four reputable hi-fi dealers in a large metropolitan area that they ended up buying nothing.

What happened is that the couple—let's call them the Smiths—had seen a manufacturer's ad for a deck ("Brand A") with the features they wanted, styling they liked, and a suggested retail price that fit their budget. Armed with this information alone, they hit the streets looking for the best deal on their selection.

The first dealer they visited didn't carry that brand of tape deck at all, and he volunteered the information that the manufacturer was about to go out of business. He offered to save them money on a comparable deck from another company whose line he carried. The Smiths walked out.

The second dealer carried both the brand they originally wanted and the one offered by the first dealer, as well as others. He couldn't confirm whether Company A was going out of business or not, but he said that the Brand B machine offered by the first dealer was a "discontinued" model. He offered to meet the other dealer's price on that deck with a current model from the same manufacturer—but he assured the Smiths that they would really be happier with a deck made by Company C that was similar in price and features to the one from Company A that they had originally wanted. Feeling unsure at this point, the Smiths decided to shop further.

The third dealer didn't carry any of the brands A, B, or C. But he offered them a Brand D deck for the same price as the Brand A and Brand C models, claiming that it would perform at least as well. And if they wanted something cheaper, he could match the price and value of the discontinued Brand B model with a discontinued model from still another company! This was really confusing, because the second dealer had strongly implied that buying a discontinued model was a bad idea.

The Smiths' last stop was at a dealer whose stock included all the brands they had seen so far. The salesman assured them that all the decks they had been shown were well-made machines from reputable manufacturers. Moreover, he said that his store would guarantee anything it sold, including products from any manufacturer that might go out of business. If a component purchased there couldn't be fixed on the premises within a week, the store would provide a "loaner" until it was. But then he suggested that the Smiths consider still another cassette deck, from a manufacturer that none of the other stores had carried, at a price close to their budget limit.
The Smiths conceded that this Brand F deck did seem to be worth its price, and the fourth store and the salesman who spoke with them had impressed them favorably. But by that time, confronted with such a multiplicity of choices and such conflicting, though seemingly reasonable, arguments for them, they chose to withdraw from the field until they could study the literature more carefully and come back with a clearer idea of the kind of deck they wanted.

The best that can be said of the Smiths' experience is that it is not typical of that of most hi-fi component buyers. Like most shoppers, the Smiths visited several different stores and considered factors other than price alone; unlike most other buyers, they had a definite product in mind when they set out. So why did they end up empty-handed? The reason is that they hadn't done enough "homework" to be able to defend their initial choice or to discuss their requirements with dealers offering competing products. The trouble was not in the dealers' sales pitches but in the Smiths' lack of preparation. Faced with multiple offers of equivalent or better products at the same or lower prices, they found themselves unequipped to decide.

Be Prepared

Knowing what you want and need, not merely what you can afford, is the first step toward making a satisfactory purchase. You wouldn't go shopping for a car without deciding in advance whether you need a four-wheel-drive, all-terrain vehicle or a three-speed, automatic-transmission subcompact, yet some people will go into an audio store to buy, say, "a tape deck" without even deciding whether they will use the machine primarily to make and play back their own recordings (and, if so, from what kind of source) or will use it most

"Knowing what you want and need, not merely what you can afford, is the first step toward making a satisfactory purchase..."
in your area carry it. The first mistake made by the Smiths in our opening example was to select a particular deck and then go into stores at random hoping to find one that carried it.

Shopping for several components at once, or for a whole system, is naturally much more complicated and requires even more preparation than going out just to buy, say, a new tuner or tape deck. But it can also create the opportunity to get a better deal. You can often get price breaks on the individual costs of components if they are bought as part of a package. And when a dealer is helping you to assemble a whole system, he can suggest alternative models that will work well together and possibly offer better features or performance for the money than what you originally had in mind. If you go from store to store to buy several different components, you run the risk of making mismatches of your own—which then won't be covered by any one store's guarantee. In addition, you won't get the best possible advice from dealers because you're not giving them the full picture of what you're after or the incentive to spend a lot of time working with you to make sure your purchase will be satisfactory.

By and large, audio dealers, like other retail merchants, are in business for the long run. Those who hope to continue making a profit need satisfied customers—customers who will come back again to buy new products or to upgrade their systems, customers who will refer their friends and other potential buyers. Thus, it's really in a dealer's interest to see that you get fair value for your money. Only a character flaw—one that's fatal to business success in the long run—could lead a retailer to behave otherwise.

But even granted a presumption of fair dealing, our opening example pointed out some oddities in hi-fi retailing that can be a source of confusion, or worse, to unwary shoppers. For instance, why would a dealer carry only two brands of a popular component category? How can two dealers price the same piece of equipment differently? Why would a retailer offer to match another's price on a different brand of product—or match the price of a discontinued model with a mint-new component of the same brand? Why do some dealers carry brands that no one else in the area has? And so on. The answers to such questions lie in the structure of the hi-fi marketplace, the distribution strategies of the hi-fi equipment manufacturers, and the pricing flexibility granted to dealers by law and custom.

The Hi-Fi Market

Unlike new automobiles, which are sold only by dealers whose business is limited to cars, and usually only one or two brands at that, audio equipment is sold by a wide variety of "trade classes"—merchants whose product lines, services, and prices may differ substantially. Generally speaking, the less a dealer offers in the way of expert advice and after-sale service, the lower the purchase price for what he sells.

At one end of the market are the audio specialists. These dealers generally sell only one type of product—audio equipment. But within this category there is also a wide range. Some audio stores will sell every kind of equipment, from the most esoteric, high-priced components for finicky ears and bot-

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When a Deal Is Not a Deal

SOMETIMES what appears to be a great deal is no bargain! "Buyer beware" is a good slogan to bear in mind when you're confronted with certain types of promotions, merchandise, and merchandisers. In the end, you only get what you pay for—one way or another.

The "penny cartridge" and the "dollar loudspeaker" are legitimate retail ploys as old as hi-fi retailing itself—to get you into a store where you may buy other merchandise. But they're not necessarily good deals. The "penny cartridge" is probably not the best you can buy on your budget. Since you're paying for it anyway—the real cost is buried elsewhere, usually in the turntable price—the dealer to put its value toward a better model and pay the difference. The "dollar loudspeaker" ("Buy one for $89 and get the other for only $1") may or may not be worth half the total price of the deal. Make sure that the speakers (both of them) are suited to your system, satisfy your ears, and carry reasonable warranties.

Certain types of merchandise should be regarded very carefully no matter how attractive the price. One such is "gray goods" (see box on page 58), and another is the so-called "private label" or "house brand" manufactured for a specific dealer. The profit margin on a house brand is high because the dealer can set any price he wishes; moreover, you can't shop around for the best price since no one else carries the product. The quality of private-label or house brands ranges from okay to awful. But even when the product happens to be good, it will have less resale or trade-in value since there's no established reputation or price structure. With a type of component that you expect to keep for a very long time, this may not matter, but for anything you might want to upgrade in a few years, it's a bad deal.

Other types of risky merchandise are used goods and so-called "factory reconditioned" products, also known as "B goods." By law, used merchandise must be identified and advertised as such. If you buy it from an established dealer, he will probably offer some sort of limited warranty, but its value depends on the capabilities of his service department. And if you move to another part of the country, you're on your own.

There is a class of itinerant merchants that proliferates in bad economic times. Their so-called "road shows" zoom into town, set up in a vacant lot or motel parking area, and "blow out" merchandise at extremely low prices. Sometimes these merchants are liquidators selling off possessed or surplus goods; sometimes an established retailer will use such an operation to unload excess inventory outside his normal market. The goods might be current major-brand products in the original cartons, but they can also be reconditioned goods, private-label brands, damaged goods, or even those shabby items known as "knock-offs."

A knock-off is an inferior product that is designed and packaged to resemble a "name brand" product, thereby exploiting a major manufacturer's reputation and consumer goodwill while siphoning off sales. A notorious example of such parasitic offerings is the "Jessen" car stereo knock-off that was barred from importation and sale last year; it aped the logo and design of the Jensen car stereo line. Other knock-offs are more subtle. A salesman might tell you, for instance, that the unknown brand he's showing you is actually made by a famous manufacturer—or that it includes parts made by that manufacturer. Big deal; many reputable manufacturers sell off parts that don't meet their quality standards. If you really want a Brand A product, buy the real thing, labeled as such.

Regardless of the quality of the merchandise offered by itinerant sellers, consider your recourse (or lack thereof) if the product you buy is a dud or needs service later. It could cost you much more in the long run. To fix it or replace it, than you saved on it in the first place.

Finally, when it comes to the matter of buying "hot" or stolen merchandise, your own moral sense should be your guide. Just don't expect to have the manufacturer's warranty honored for "swag."

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SOMETHING to bear in mind is that "hifi" is much more complicated and requires even more preparation than going out just to buy, say, a new tuner or tape deck. But it can also create the opportunity to get a better deal. You can often get price breaks on the individual costs of components if they are bought as part of a package. And when a dealer is helping you to assemble a whole system, he can suggest alternative models that will work well together and possibly offer better features or performance for the money than what you originally had in mind. If you go from store to store to buy several different components, you run the risk of making mismatches of your own—which then won't be covered by any one store's guarantee. In addition, you won't get the best possible advice from dealers because you're not giving them the full picture of what you're after or the incentive to spend a lot of time working with you to make sure your purchase will be satisfactory.

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At one end of the market are the audio specialists. These dealers generally sell only one type of product—audio equipment. But within this category there is also a wide range. Some audio stores will sell every kind of equipment, from the most esoteric, high-priced components for finicky ears and bot-
tomless pockets to decent-sounding compact systems to fit the budget of a high-school student. Then there are the high-end-only "audio salons" and custom specialists, the ones where if you have to ask what it costs you probably can't afford it. At the other extreme—but still within the class of audio specialists—are the audio chains, which concentrate on the "bread-and-butter" mid-priced hi-fi components, with perhaps only a few offerings at the high and low ends.

What all the audio-specialty stores have in common is salespeople with some degree of audio expertise, some kind of in-house service facilities, showrooms equipped for demonstrating and comparing equipment, and, usually, fairly generous return and exchange privileges. They may also offer free or nominally priced delivery and even installation of the equipment they sell. All of this can make shopping more pleasurable and less risky, but it doesn't come for nothing. Prices in these stores are generally higher than in other types of stores that sell audio equipment, especially if the dealership is independently owned and doesn't have the high-volume buying power of a chain.

In a different but related category of dealer are the so-called consumer-electronics retailers. These dealers sell a lot of things besides hi-fi components: video equipment, audio and video software (discs and tapes), car stereos, calculators, computers, video games, CB equipment, and so on. Because these stores concentrate at least on electronics products, they can offer a fair level of knowledgeable advice and service to hi-fi shoppers, if generally somewhat less than the audio specialists do.

Audio equipment is also sold in department stores, hardware/housewares stores, TV/appliance emporiums, and other mass merchandisers. Even in the few cases where the selection rivals a small specialty store's, the diversity of a mass merchandiser's wares and the usual high turnover of salespeople makes it rare to find a salesman able to do much more than parrot the manufacturer's literature. Such stores do strive for customer satisfaction, however. While few offer on-premises service, most will exchange defective or otherwise unsatisfactory goods within a stated time after purchase, after which you have the manufacturer's warranty to rely on. Because they buy in large quantities, these mass merchandisers can offer very good prices on audio equipment. You just have to bring a lot of your own knowledge into the store in order to be able to recognize which products are good values for you.

Finally, there are the discount houses, including mail-order discounters, which sell high-demand, fast-turnover products (whether audio only, audio and video, or a whole range of categories) solely on the basis of price. Little is lavished on store fixtures, sales training, service, or anything else that might add to the cost of the products. Merchandise is seldom even displayed, let alone demonstrated. You furnish all of this can make shopping more pleasurable and less risky, but it doesn't come for nothing. Prices in these stores are generally higher than in other types of stores that sell audio equipment, especially if the dealership is independently owned and doesn't have the high-volume buying power of a chain. In a different but related category of dealer are the so-called consumer-electronics retailers. These dealers sell a lot of things besides hi-fi components: video equipment, audio and video software (discs and tapes), car stereos, calculators, computers, video games, CB equipment, and so on. Because these stores concentrate at least on electronics products, they can offer a fair level of knowledgeable advice and service to hi-fi shoppers, if generally somewhat less than the audio specialists do.

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"... a lot of the confusion ... derives from competitive practices that can work to the advantage of careful, informed shoppers."

Prices and Deals

Competition, whether on the basis of price, service, or anything else, is supposed to help the consumer ultimately. But the competitive nature of the hi-fi marketplace is responsible for a lot of the shopping confusion buyers have to contend with. Manufacturers compete with each other, and they use advertising to try to persuade potential customers to seek out and buy their products. But dealers—and categories of dealers—also compete. If you look closely, you're liable to see the same brands across the street from each other. Most often, of course, dealers try to attract prospective buyers on the basis of price; that is, they compete through the discount each is willing to make from the manufacturer's "suggested retail price."

Since federal law prohibits manufacturers from "fixing" retail prices, thereby stifling competition, the suggested retail price (or "list price") is merely a manufacturer's estimate of a price that is competitive with that of comparable products and allows a certain percentage of profit over the retailer's cost. It is likely, then, to represent a maximum price for the product, making it something of a guide to the amount of discount you're getting. Although the list price for a product might not appear in the manufacturer's
or retailer's ads, it can usually be found in product reviews in hi-fi magazines or in annual directories such as Stereo Review's Tape Recording & Buying Guide or Stereo Buyers Guide. (Audio component directories, by the way, might not list "private-label" or house brands, since they aren't available to other retailers and probably not to the majority of consumers.)

Beware in mind, however, that intermediate price reductions do occur as a product nears the end of its selling life. It's shoddy practice for a retailer to trumpet in his ads a deep discount on the original suggested retail price of a three-year-old model that he has gotten from the manufacturer at much less than its original cost.

Average price levels among the different audio trade classes vary so widely because different kinds of dealers can afford different levels of discounting—or, what is the same thing, need different amounts of mark-up to make a profit. But within the same trade class, different dealers may compete on the basis of many things other than price—services, guarantees, and, especially, selection (the models offered for sale). In any case, all the different audio retailers compete for customers shopping for components within a certain price range. If a dealer can't meet his competition's price on one model in a brand, he may be able to do so on another, or with an equivalent product from a different manufacturer, or by offering the product as part of a package, and so on. That's why it's very important for you to know what factors besides price are important to you.

While most assembly-line audio equipment is widely sold by different classes of dealers, some highly regarded brands have "limited distribution" agreements with a network of dealers. In any given area, only one or a few dealers will be allowed to carry that brand, thus providing them a competitive advantage. If a customer wants that brand, or can be persuaded that it's what he needs, the dealer won't have to shave his profit margin by competing in terms of price; he can demand the full list price. Watch out, though, that an "exclusive" brand is not just a house brand (see the box on page 55, "When a Deal Is Not a Deal").

How much or how little profit a dealer can or wants to make on an item only partly explains why prices differ from store to store. Other factors that affect retail pricing—and which can lead to bargains for buyers—include volume-purchasing discounts, model changes and close-outs (discontinued products), "leader" models, "push lines," and even more esoteric marketing arrangements between manufacturers and retailers.

Volume purchasing is the basis of the great majority of "deals" to be found, and, as noted earlier, it is a major reason for the generally lower prices available from audio chain stores, mass merchandisers, and discount houses. The more of any given component a dealer orders, the lower his unit cost and the cheaper he can sell it at a profit—provided he can sell a lot. Large inventories that don't turn over quickly can eat up a dealer's volume-discount savings, so such merchandise is often priced only a little above wholesale in order to move it out of the store as fast as possible.

Dealers can save—and pass on their savings to customers—by buying large quantities of a number of different models in a manufacturer's line. But they can also concentrate on one model and use it as a traffic-generating "leader." (It's not necessarily a "loss leader," since the rock-bottom price may still allow a small profit.) Attractively priced leader models draw more customers into a store, where they may buy different or additional products at higher markups.

Another form of volume deal, called the "push line," comes about when a manufacturer wants to establish or strengthen his position in a market. Typically, the manufacturer will offer selected dealers extra discounts on merchandise and other help to build consumer demand for the line, such as co-op advertising in local media (the manufacturer and the local dealer split the cost), rebates, and premiums ("gifts" to purchasers). In addition, the manufacturer might offer special incentives to a

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**Your Music System Requirements**

Audio Craft is truly unique. We really care. Our prime concern is to fit a music system or component to your exact needs. To make that right fit we must ask questions. Your answers will enable us to focus quickly and accurately on your needs.

We are different. We will take the time to guide you to the correct selection of equipment.

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you own a stereo music system?</td>
<td>Yes</td>
</tr>
<tr>
<td>What pleases you the most about your stereo music system?</td>
<td></td>
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<tr>
<td>What doesn't you stereo music system provide that you would like to have?</td>
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<tr>
<td>What role does music play in your home?</td>
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<tr>
<td>What musical experience have you had recently that has impressed you?</td>
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<tr>
<td>If it were within reason, would you like that experience duplicated?</td>
<td>Yes</td>
</tr>
<tr>
<td>What types of music do you prefer?</td>
<td></td>
</tr>
<tr>
<td>How loud will you normally be playing your stereo music system?</td>
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</tbody>
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Good salespeople ask a lot of questions, so don't get your guard up as long as the questions pertain to hi-fi. The questionnaire reproduced above is given to customers of Audio Craft, a Cleveland, Ohio, audio dealer. Their answers help the store's salespeople gauge customers' needs. Copyright Audio Craft, reprinted with permission.
store's sales personnel—in the form of merchandise or monetary bonuses (called "spiffs")—to get them to "push" the line.

Volume buying isn't limited to new merchandise. Retailers often jump at the opportunities provided by changes in a manufacturer's line, snapping up large quantities of discontinued models at "close-out" prices. And the manufacturer is equally eager to part with discontinued equipment. Moreover, even models still in the line may be heavily discounted if their position has changed—for instance, if last year's top-of-the-line receiver has been de-moted by this year's sensation at the Consumer Electronics Show. The previous top model can become a good leader for an astute dealer and a good bargain for a smart shopper.

The main thing to consider in evaluating an attractively priced close-out is why the model was discontinued. Was it simply to make room for a newer one with different styling, minor changes in features, or slight improvements in performance? Or has there been a quantum leap in audio technology that makes the older model, however worthy in its day, distinctly less than "state-of-the-art" now? Or, though rather unlikely, was the discontinued model a "lemon" from the start, a poorly designed or badly built product that is finally being abandoned?

One of the best ways to answer these questions, of course, is to study the literature—including the specs and features of both the discontinued model and the one replacing it in the line as well as any published test reports on them in STEREO REVIEW and other audio magazines. If you cannot find such information about a specific product, study the specs of similar products and prepare yourself to ask informed questions of the dealer. Again, it is in a dealer's best interests to answer your questions honestly. And the better he knows your requirements and preferences, the better advice he can give you.

You'll also have to use your ears and, if possible, your hands to check the product out, just as you would a brand-new model. Major advances in audio technology don't occur as often as model changes, and the differences between last year's top of the line and this year's may not be audible to you or may be in areas you don't care much about (for instance, if you don't listen to more than a couple of FM stations, having sixteen presets on a tuner or receiver is, for you, a "frill" you can do without).

Besides, not everyone needs, or can afford, "state-of-the-art" equipment. A good product will still be good even if a better one has been introduced. So if you can get a deal on a discontinued model from a reputable manufacturer that seems right for you, by all means take it.

A Last Word

As our initial example of the couple shopping for a cassette deck showed, the hi-fi marketplace can be a very confusing one. But a lot of the confusion—especially the wide variability in retail prices—derives from competitive practices that can work to the advantage of careful, informed shoppers. Knowing how the marketplace works, you'll be better equipped to evaluate what different salespeople tell you—for instance, why one may disparage a discontinued model while another praises it. People are fairly honest, by and large, and it's rare to find an audio salesman who will actually try to cheat his customers. Salespeople are not disinterested either; obviously, their job is to sell their products. On the other hand, if you establish a continuing working relationship with one or two audio dealers, you will probably find that you have a good source of informed advice there.

When you're shopping for audio equipment, from a single component to a complete system, you'll need all the advance preparation you can get through studying the literature and talking with others who own good equipment. And you also need some psychological priming. Keep your critical faculties sharp, don't allow yourself to be rushed or pressured, and never forget that you can always say "No." Don't be afraid to ask questions, take notes, and request literature or a demonstration (if the store is equipped for it). And especially if you're buying more than one component at a time, don't hesitate to bargain; as we've seen, the "suggested retail price" is only a suggestion. Finally, don't be afraid to say you'll think it over and come back. You're going to have to live with the equipment you buy, not the salesman, and you should be sure that you will be happy with it.

If you take a lot of time between beginning to think about buying something and actually taking your new gear home, remember that you're not alone: most people who buy component-level stereo equipment do. And STEREO REVIEW's survey also showed that most people who shop carefully end up with equipment that satisfies them—at least until the "upgrading bug" hits them again!

Steve Booth is senior editor of Audio Times, a New York-based trade journal that has been covering the retail hi-fi business for twenty-five years.

The Gray Market

BESIDES the legitimate discounts from a suggested retail price, some of the "unbelievably low" prices you see quoted for foreign-made audio goods result from an ethically and legally dubious practice called "the gray market" or "parallel importing." What this means is that the dealer has acquired the merchandise from a source other than the authorized importer or domestic subsidiary of the foreign manufacturer. His cost for the goods is lower, since by eliminating a middleman he avoids helping pay for the national advertising and other expenses of doing business in the U.S. that are absorbed by the legitimate domestic supplier and reflected in higher prices to dealers.

Although buying gray goods may save consumers money too, purchasers run the risk of losing warranty protection. Warranties are generally issued by the authorized importer or domestic subsidiary, rarely by the overseas factory, and gray goods may either come without warranty cards or have cards that will not be honored. In some cases, the dealer himself will back up the product (if he has a service department that can do the work), and major manufacturers will often honor even illegitimate warranties to protect their reputations. But there is still a risk of getting a product cheaply that will require extensive servicing.

It's hard to tell if a given product was acquired on the gray market. The packaging will not say so, and the low price itself is not a reliable clue since the availability of gray goods often causes other retailers to lower their prices on goods bought through the normal distribution channels. Missing or strange-looking warranty cards may be the best warning signal.

If you suspect that you're being offered gray goods, demand to see the manufacturer's warranty cards and insist on clearly stated return or exchange guarantees (on paper) from the dealer. If you get a brush-off, you can take a walk—or take the risk.

The gray-market phenomenon might be short-lived. At press time there were cases before the federal courts that could halt the practice. If a competitor grants protection to the authorized importers and domestic subsidiaries, the Customs Bureau has new regulations and procedures already drafted that would stop gray goods at the docks.
Not all Compact Discs sound great. Here are some of the best.

By David Ranada

There are now several hundred digital Compact Discs (CD's) on the market. If you were a firm believer in advertising copy, you'd unquestioningly think that every one of them is a paragon of sonic virtue, a recording suitable for demonstrating the capabilities of your stereo system or of filtering out less satisfactory components while shopping. Not so! In reality, a relatively small number of currently available CD's—I estimate about 10 per cent—meet the highest standards of sonic quality, standards established by hundreds of fine-sounding "black-disc" analog LP's.

The CD's cited below as demonstration-quality recordings, however, have been chosen according to one basic criterion: each must show off at least one of the attributes that makes the CD system potentially superior to any other consumer music medium. Principal among these characteristics are a very wide dynamic range, very low-level background noise (especially noticeable in classical music and in the increased clarity of bass frequencies in all types of music), no wow-and-flutter (when the CD is derived from a digital original recording), very low distortion (most evident in high-level passages), and flat frequency response extending from the lowest to the highest audible frequencies. Most of the discs listed here incorporate all of these attributes. To lend some objectivity to what otherwise were my totally subjective sonic and musical judgments, I have included some oscilloscope photos that visually portray the dynamic range of several CD's (also see the box on page 61).

Don't think, though, that these are the only CD's of demonstration quality. I've been able to hear all, part, or as much as I could stand of just about half of the 450 Compact Discs said to be available in the United States. There are probably many more that are worthy of showing off the CD system. If you like the sound of the analog pressing of a recording now available as a Compact Disc, you'll probably like the sound of the CD as well.

There are quite a few CD's that sound just as bad as their black-disc equivalents because the master tapes were recorded poorly. But several of the recordings I like best derive from analog-tape originals, showing once again that it is not the original recording medium that determines the overall sound quality but how well that medium is used.

Classical Music

- BACH: Concertos for Three and Four Harpsichords. Trevor Pinnock, Kenneth Gilbert, Lars Ulrik Mortensen, Nicholas Kraemer (harpsichords); English Concert, Trevor Pinnock cond. Archiv 400 041-2 (digital original).
**STRAVINSKY: The Rite of Spring.**

- Telarc's minimal-miking technique leads to recordings with very wide dynamic range, very low background noise, and wide and even frequency response. If I had to pick only one CD to show off what the medium can do, it would be Telarc's Copland recording. The opening tam-tam stroke of the Fantasie for the Common Man has never had such startling impact, nor has the end of Appalachian Spring ever faded into such delicious silence as on this disc (see Figure 1). For generally excellent sonics—with somewhat less of a dynamic range than the Telarc records—you can depend on the tastefully multimiked London recordings of Charles Dutoit and the Orchestre Symphonique de Montréal.

The two recordings of Bach keyboard music and the two Rodrigo guitar-concerto discs show off the digital medium's lack of wow and flutter. Yes, you can hear the late Glenn Gould humming his own Goldberg Variations along with Bach's, but for the first, and unfortunately last, time in a Gould recording, the effect sounds lifelike and realistic and, to me at least, is not obtrusive. Less realistic, but a very vivid live concert recording nonetheless, is Bernstein's reading of his Symphonic Dances from West Side Story (the Gershwin pieces on the same disc are less successful musically and sonically). This disc also demonstrates one of the musical advantages of the CD system's cueing capabilities. Each of the dances has a separate track number (nine in all), so that locating a favorite excerpt is greatly simplified.

**Popular and Jazz**

- MICHAEL JACKSON: Thriller. EPIC EK 38112 (analog original).
- BILLY JOEL: The Stranger. CBS CK 34987 (analog original).
- MAMBA PERCUSSIONS: PIERRE VERNAY/AUDIO SOURCE PV.78291 (analog original).
- JONI MITCHELL: Court and Spark. ASYLUM 51001-2 (analog original).
- PINK FLOYD: The Final Cut. CBS CK 38243 (analog original).
- TOM SCOTT: Desire. ELEKTRA MUSICIAN 60162-2 (digital original).

It's usually as hard to find a nonclassical recording with very wide dynamic range as it is to find one that hasn't been overequalized or otherwise over-processed in the making of the original tape. For example, a typical pop recording might have a drum track thumping along in the 60- to 100-Hz range at a level fully 6 dB above the rest of the music. While this might be tolerable with an analog LP played on a low-
**Digital Dynamic Range**

Perhaps the most widely touted feature of the Compact Disc system is its potential for storing a very wide dynamic range, in theory as wide as 98 dB. But how much of that potential 98 dB is really being used by typical Compact Discs?

In a preliminary effort to answer this question, I constructed a dynamic-range meter that shows on an oscilloscope screen the level of a recorded signal plotted against time. The vertical scale in the scope traces shown in this article is the rms (root mean square, a type of average) level of a CD player's output. The base line represents the background-noise level of the measurement system added to that of the CD player, the combination being more than 90 dB below the maximum possible CD output level of 0 dB. Time runs steadily from left to right. In all but one of the scope photos shown here, a trace covers 1 minute and 22 seconds of music.

What do the traces show? In all the recordings of music—as opposed to test signals—that I examined in this fashion, the dynamic-range limits of the Compact Disc medium aren't even approached.

Take a look at Traces A and B, each from a different recording of the opening of Richard Strauss's Also sprach Zarathustra, a work with extraordinary variations between loud and soft when heard live. The opening 32-Hz organ pedal and pianissimo bass-drum roll are shown in the flat portion at the left of the trace, and the climactic portion of this opening sequence ("Sunrise") shows up in the middle (the V-shaped decrescendo/crescendo on a C-major chord). The right half of the trace is the start of the following section for the lower strings and winds ("Von den Hinterweltern").

Closer examination of these photos reveals many things about the use of a CD's potential dynamic range. Although the opening organ note sounds rather soft in playback, the traces show that it is 40 to 50 dB above the player's noise floor. Trace A's organ pedal is noticeably lower in level than Trace B's. Trace A's climax also peaks slightly higher than Trace B's, showing that for at least this portion of the music the recording that generated Trace A has a wider dynamic range. But the highest levels in both recordings don't come near the maximum output level of the player, nor does the drop in level after the climax even approach the CD's noise floor, though both of these recordings have a vividly wide apparent dynamic range when played at any reasonable (not louder-than-life) volume. According to the calibration marks shown, both recordings have a total dynamic range of about 70 dB (when the whole trace is taken into account). This is 28 dB less than what the CD medium is theoretically capable of reproducing.

**Why don't CD recordings use the full dynamic range of the medium?** The nature of music signals and of studio recording practices are a large part of the answer. Pop recordings are usually consistently loud, if only from the omnipresent drum tracks or the overuse of compression and artificial reverberation in the mastering process. Classical-music recordings are limited by natural hall or studio reverberation and by the recording locale's low-frequency background-noise level. Most recordings are additionally limited by the noise levels inherent in studio equipment, some of which are higher than any audiophile would tolerate in a home system. From multiple microphones to mixers, artificial reverb systems, and equalizers, the machinery for the inadvertent introduction of noise and/or a reduction of peak levels is widely available and often used.

On the other hand, it's easy to jump to hasty conclusions regarding these scope traces. While none of the rms levels shown approach 0 dB, the short, transient voltage peaks present in all musical signals typically extend 10 to 15 dB above the measured rms level and will not show up in these traces. At least 10 dB must be added to the values obtained by this measurement method to arrive at a reasonable approximation of the recorded dynamic range on a CD. When this is done for Traces A and B, a total value of about 80 dB is obtained. Moreover, the measurement system has a flat frequency response, unlike the human ear, which becomes less sensitive to low- and high-frequency sounds as the volume level is reduced. A recording with a restricted dynamic range in such traces may not sound so restricted in playback because of the frequency distribution of the music. Nonetheless, at least two preliminary conclusions can be drawn from the dynamic-range traces. First, contrary to the beliefs of some people who are opposed to the CD system, the sixteen-bit digital encoding used for CD's provides a dynamic range wide enough for the full variety of music as it is now being recorded. There is no pressing need to move to very expensive eighteen-bit encoding. Second, recording engineers and producers have a long way go before they run up against the dynamic-range limits of the CD system. And whether listeners would be able to live with the full 98-dB dynamic range is another question altogether.

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Many of the rock and pop discs I auditioned had an overall dynamic range of 20 dB at most. On the other hand, the "Mamba Percussions" record has the potential for becoming the CD equivalent of the direct-to-disc (analog) "Sheffield Drum Record" (Sheffield Lab 14); both are spectacular discs completely devoted to percussion rhythms and effects. If you are looking for impressive transients, these are the records for you.

Most of the remainder of the discs listed take advantage of the CD system's dynamic range in ways that typical popular-music recordings do not. The Pink Floyd album, for example, is loaded (some might say overloaded) with wide-dynamic-range sound effects, including the flyby of a jet plane followed closely by a loud explosion (see Figure 2). The Freddie Hubbard disc is very closely miked but has very low background noise and wide variations in dynamics (Figure 3). Joni Mitchell's "Court and Spark" is very compressed in dynamics but is thankfully free of much of the signal processing often used to "enhance" the sound of a vocalist. And it's nice to hear the bass line in Michael Jackson's Billy Jean without masking analog-disc low-frequency noise, though this track sounds wider in dynamic range than it really is (Figure 4).
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Thomas's Debussy: Excellent Performances, Superb Digital Sound

The new CBS recording of Debussy's _La Mer_ and _Nocturnes_ is one of the best ones to come along in years. There is an extraordinary rapport between conductor Michael Tilson Thomas and the musicians of the Philharmonia Orchestra, especially in the _Nocturnes_, and the recording has the best digitally mastered sound I have heard from this label yet.

Of the three _Nocturnes_, the first, _Nuages_ (Clouds), with its subtle pastel tonal shadings and evanescent pianissimos, benefits enormously from the extended dynamics and clarity of detail afforded by digital technology. And so does the concluding _Sirenes_, with its special problems of balance and blend between the orchestral textures and the wordless women's voices. Both _Nuages_ and _Sirenes_ are performed with exquisite sensitivity here, and special credit is due the English-horn and flute soloists in _Nuages_ for their finesse in dynamic shading and achieving the illusion of varying distances. Overall, the result can best be described as gorgeously languorous.

_Fêtes_, seemingly the easiest of the _Nocturnes_ to bring off with its great splashes of sound and flamboyant central processional, does present some...
problems in performance. Thomas's is a fine one, but I would have welcomed a more accurate match of articulation between the instrumental groupings as they enter; this and getting just the right type of cymbal sonority seem to be the *bêtes noires* any conductor faces in realizing this score.

In *La Mer* Thomas is competing with recordings by just about every major virtuoso conductor of the recent past and the present. While his performance does not efface for me the memory of the best of its predecessors, it has many excellences. The sea as he pictures it in the first two movements reminds me more of the Mediterranean than the North Atlantic; it glitters with bright sunshine. The opening is stately and majestic, with a proper massiveness and power at the close of the section (recalling Hokusai's famous print *The Great Wave*, which is in fact reproduced on the cover of the orchestral score published by Durand). The middle movement is marked by a great delicacy of texture but also by a certain lack of tension. The finale, which darkens to evoke a windswept northwest day, is a total success in Thomas's hands.

On the whole, this is very well-performed Debussy, and, I repeat, the digital recording is superb—a sonic triumph for CBS.

—David Hall

**DEBUSSY: La Mer; Nocturnes. Ambrosian Singers (in Sirènes); Philharmonia Orchestra, Michael Tilson Thomas cond. CBS 3 IM 37832, © IMT 37832, no list price.**

**Sissy Spacek Has A Fine Ol' Time in "Hangin' Up My Heart"**

Sissy Spacek, the actress who portrayed Loretta Lynn so well in the movie *Coal Miner's Daughter*, has just lassoed her first full-fledged solo album, and, any way you look at it, "Hangin' Up My Heart" is cuter than a speckled pup in a little red wagon.

A Texan who originally went to New York to be a folk singer, not an actress, Spacek claims she hated country music when she was growing up. Nevertheless, she sails right into this collection of country-rockers, country classics, Western swing, and even country-punk with joyful buoyancy, her natural Lone Star accent so thick as to brand each track with undeniable authenticity (and to send a careful listener scurrying for the lyric sheet). Better still, "Hangin' Up My Heart" proves that the success of Spacek's soundtrack album was no fluke. She can sing, and she can write original material that should send most of Nashville's lethargic tunemiths into a sweaty panic. Hank De Vito's spunky title tune rocks gently in the memory, and Susanna Clark's *This Time I'm Gonna Beat You to the Truck* packs a gut-bucket wallop that closes out with a wild sax break and the rebellious spirit of a joy-rider crossing over the state line. But by far the most haunting track here is Spacek's own *He Don't Know Me*, about the uninvited attentions of a semi-psychotic, David Hinskley-like admirer. There's a chill built into the melody of this one, an overall menacing quality, reinforced by a twin-guitar solo, that sneaks up on you and shoots shivers down the spine.

Make no mistake about it, "Hangin' Up My Heart" hasn't a hick lick to its name, nor an unnecessary one for that matter. Producer Rodney Crowell, with his clean, country-hip assimilation of the best of the L.A., Nashville, and Texas sensibilities, has fashioned a very smart album here, one that works on just about every level. Some of the songs (*Lonely But Only for You, If You Could Only See Me Now*) have slow, romantic tempos and high, wispy harmonies that are evocative of Crowell's work with his wife, Rosanne Cash (who does some back-up vocals here). But on others, especially *Have I Told You Lately That I Love You* and Hank Williams's immortal *Honky-Tonkin',* Spacek's loose intonation and winning insouciance suggest a tongue-in-check, mock-cowgirl quality.

Spacek seems to be having a fine ol' time, and whether she's co-writing a stunning piece of sassy put-down with country legend Loretta Lynn (*Smooth Talkin' Daddy*) or fronting such invincible pickers as Johnny Gimble and Reggie Young (who sound as if they're having a field day themselves), she acts as if she were born to it, her easy alto soaring without a trace of fear or pretense. In short, a more charming album will be hard to find.

—Alanna Nash

**SISSY SPACEK: Hangin' Up My Heart.** Sissy Spacek (vocals); Reggie Young, Vince Gill (guitars); Hank De Vito (pedal-steel guitar); Johnny Gimble (violin, mandolin); David Briggs (piano); Emory Gordy (bass); Larrie Londin (drums); vocal and instrumental accompaniment. *Hangin' Up My Heart; Have I Told You Lately That I Love You; He Don't Know Me; Lonely But Only for You; This Time I'm Gonna Beat You to the Truck; Honky-Tonkin'; Old Home Town, Smooth Talkin' Daddy; If You Could Only See Me Now; If I Can Just Get Through the Night.* ATLANTIC AMERICA 90100-1 $8.98, © CS-90100-1 $8.98.
Pianist András Schiff’s Impressive, Persuasive Goldberg Variations

EXCEPT for historical reissues, in which case the performance itself is the point of interest, most of us tend to be put off by record annotations that tell us how great the performance is; we would rather read reviews that are not attached to the product—or write them ourselves. But George Malcolm’s enthusiastic remarks on András Schiff’s performances of Bach’s Goldberg Variations, in his annotation for Schiff’s new London set, must be regarded in a different light. Malcolm himself made a very impressive recording of this work on the harpsichord more than twenty years ago. He writes here that he always felt this was the one work of Bach’s that “positively demanded the two keyboards of the harpsichord, in order to achieve contrapuntal clarity in the numerous hand-crossing passages” but that Schiff’s recorded performance “proved [him] wrong!” Of course, the countless listeners who have admired (“venerated” might be a better word) the late Glenn Gould’s two recordings of the Goldberg Variations may not share Malcolm’s astonishment in this respect, but the charming genuineness of these remarks, so free of pretentiousness or condescension, by a senior artist long identified as a specialist in this material can hardly fail to make an impression. That Schiff’s presentation of the music itself makes a bigger one will come as no surprise to those who have followed his recordings.

Actually, Malcolm knows Schiff from a good deal more than this new recording. Schiff was in Malcolm’s master classes in the mid-Seventies, he played concertos with Malcolm conducting on several occasions, and he recorded Bach concertos with him for Denon. Though Schiff only recently turned thirty, he is a veteran of the recording studios, having made several fine discs for Hungaroton over the last six or eight years, as well as some for Denon, before joining the Decca/London roster. He has built up a phonographic identity as a musician of both style and substance, not by going the blockbuster route but in recordings of Mozart, Bach, and Schubert.

Schiff’s new Goldbergs happily confirm the impression made by the earlier releases. The recording is, like Malcolm’s note, genuine and unpretentious: an expansive, thoughtful, clarifying, yet utterly unselfconscious reading by a performer who is thoroughly inside the music. The tempos tend to be broad except in the showy, toccata-like variations, and Schiff is generous with repeats. There is plenty of variety and characterization of the individual variations, and the restatement of the initial aria at the end of the brilliant sequence takes on, without ceremonial gestures or special fuss of any kind, an unfeigned spiritual quality.

Spreading this seventy-three-minute performance over three sides (it will be just right for one maximally filled Compact Disc later on) means there is more Bach to enjoy on side four: the Four Duets (BWV 802-805) and the Chromatic Fantasy and Fugue in D Minor. Malcolm goes so far as to say that the piano is “the only instrument which can do justice” to both parts of the latter work. Schiff goes further than merely “doing justice”: this is another very stimulating and very satisfying performance, the sort that is memorable not as a showpiece for the player but because of what it makes us hear in the music.

I wouldn’t want to do without the Gould Goldbergs, and one must have at least one harpsichord performance (I’d suggest Trevor Pinnock’s on Deutsche Grammophon), but Schiff’s version too has the sorts of insight, integrity, and overall communicativeness that give it a special persuasiveness, and it is superbly recorded. If he never gets around to the Tchaikovsky and Rachmaninoff concertos, so be it; they are covered well enough by others. Let’s hope Schiff goes on giving us more performances on this level in the repertoire he has identified as his.

—Richard Freed

J. S. BACH: Goldberg Variations (BWV 988); Four Duets (BWV 802-805); Chromatic Fantasy and Fugue in D Minor (BWV 903). András Schiff (piano). LONDON O LDR 72013 two discs $25.96, © LDR 572013 two cassettes $25.96.

Joe Jackson’s Evocative “Mike’s Murder”: A Voice For New York City

JOE JACKSON’S “Night and Day,” one of 1982’s best albums, made a persuasive argument for Jackson’s being the heir to George Gershwin and Cole Porter as pop-music laureate of New York City. His score for the forthcoming movie Mike’s Murder settles the issue. Although Jackson is only an adopted New Yorker (he was born in Portsmouth, England), and although Memphis actually gets mentioned more times than Manhattan, Mike’s Murder captures the thrill, danger, and loneliness of being young in New York in the Eighties.

The A&M soundtrack album is divided into vocal and instrumental sides, with the instrumentals largely in the same cool, enchanting Latin-jazz vein Jackson explored in “Night and Day.” The five songs make up what amounts to a suite of character sketches. Whether owing to the thematic demands of the film or to Jackson’s own familiar skepticism, they are drawn with equal
Best of the Month
Recent selections you might have missed

POPULAR
- Peabo Bryson and Roberta Flack: Born to Love. Capitol, ST-12264. "... a flawlessly assembled album of contemporary rhythm-and-blues..." (December)
- Guy Clark: Better Days. Warner Bros. 23885-1. "... the finest album to come out of Nashville this year..." (November)
- Local Hero. Warner Bros. 23827-1. "A beautiful, powerfully exciting film soundtrack by Mark Knopfler." (September)
- Susannah McCorkle: The People That You Never Get to Love. Warner Bros. 1-23880. "... a nearly perfect comeback album." (October)
- Carly Simon: Hello Big Man. Warner Bros. 1-23886. "... exuberant, sexy, fun, sometimes poignant. ... Don't miss it." (December)
- Deniece Williams: I'm So Proud. Columbia, FC 38822. "... a showcase for 'the songbird of soul.'" (October)
- Neil Young: Everybody's Rockin'. Geffen, GEF-17204. "... a brilliant goof... spontaneous sounding and funny." (December)
- Graham Parker: The Real Macaw. Arista, AL-88023. "... intelligent, unsentimental, adult love songs... positively inspirational." (November)
- Mitch Ryder: Never Kick a Sleeping Dog. Riva, RVL 7503. "... a nearly perfect comeback album." (October)
- Rossini: Barber of Siviglia. Philips, ZC 2532 093. "... (Ivo Pogorelich's performance is) simply irresistible in its imaginativeness and sweep." (November)
- Rachmaninoff: Symphony No. 3. "Youth" Symphony. London, LDR 71031. "... sensuous and richly nuanced..." (December)
- Beethoven: String Quartets Nos. 12-16; Grosse Fuge. RCA, ARL 4509. "... remarkable, natural singing, marvelous sound." (October)
- Brahms: Vocal Ensembles. Deutsche Grammophon, 2740 280. "... a Pratt selection... from Frederica von Stade." (October)
- Handel: Hercules. Archiv, 2742 004. "... a great work gets a great performance." (December)
- Mozart: Symphonies Nos. 31, 35, 36, 40, and 41. L'Oiseau-Lyre, D17204. "... some of the finest Mozart playing around." (September)
- Ravel: Gaspard de la nuit. Prokofiev: Piano Sonata No. 6. Deutsche Grammophon, 2532 093. "... (Ivo Pogorelich's performance is) simply irresistible in its imaginativeness and sweep." (November)
- Rossini: II barbieri di Siviglia. Philips, 6769 100. "... the best Barber to come along in some twenty years." (November)

CLASSICAL
- Beethoven: String Quartets Nos. 12-16; Grosse Fuge. RCA, ARL 4509. "... remarkable, natural singing, marvelous sound." (October)
- Brahms: Vocal Ensembles. Deutsche Grammophon, 2740 280. "... a Pratt selection... from Frederica von Stade." (October)
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- Rossini: II barbieri di Siviglia. Philips, 6769 100. "... the best Barber to come along in some twenty years." (November)

"Cosmopolitan," a cocky, surging mid-tempo number in which piano and vibraphone shadow a pulsing beat in rising and descending minor scales, is a perfect picture of the empty satisfaction that can be the reward for hitting the big time: "See my home, see my car/And the beach always used to seem so far." After this dubious nod to the good life, the album moves downtown to where white middle-class kids live in fashionably destitute rebellion on the Lower East Side. 1-2-3 Go pinpoints the queasy excitement of the punk underground, "Laundromat Monday" the languid daylight hours that fill the time between sessions of all-night club-hopping. The intellectual torpor implied by both songs hints that the glitzy treatment New York's New Wave gets in the press may not tell the whole story.

Elsewhere the theme of uncertainty takes shape in more romantic ways. Most evocative are the instrumental and vocal versions of "Moonlight," a song that suggests either a last look over the skyline before setting out for another night on the town or a silent cab ride home down a rain-slicked avenue—windshield wipers swishing in time to a lazy rim shot, organ chords suggesting the sound of wet asphalt whooshing by under the wheels, the sad, slow, high notes of the piano suspended like the moon over the city. It is a time to wonder: "I think the moonlight is my friend/But sometimes, I'm not sure."

Like the sophisticated "Night and Day," "Mike's Murder" blows warm and cool, lyrical and sardonic. Jackson's playing, whether on piano, organ, vibraphone, sax, or synthesizer, alternates between restrained sentimentality and nocturnal mystery. In the absence of guitar, these instruments must shoulder the responsibility for melody and harmony. Perhaps it's because Jackson plays them all himself that they achieve so perfect a balance of color and articulation. By wedding his brooding melodies to open, airy jazz and salsa rhythms, Jackson has found a voice for the only New York City that really exists anyway—the one that leaves you wondering.

—Mark Peel

JOE JACKSON: Mike's Murder. Original sound recording. Joe Jackson (vocals, keyboards, percussion, saxophone, vibes); Graham Maby (bass); Larry Tolfree (drums); Sue Hadjopoulos (percussion). Cosmopolitan; 1-2-3-Go (This Town's a Fairground); Laundromat Monday; Memphis; Moonlight; Zemio; Breakdown; Moonlight Theme. A&M SP-4931 $8.98, CS-4931 $8.98.
VOLINIST Eugene Fodor, shown here with Secretary of State George Shultz following his performance at the Williamsburg summit meeting, has joined the rosters of two independent labels, Pantheon and Laurel Record.

This month he is recording for the latter an album coupling the violin sonatas of John Corigliano and Nicholas Flagello. The accompanying pianist is Veronica Jochum, daughter of the veteran German conductor Eugen Jochum.

A HIGHLIGHT of the annual Montreux Festival in Switzerland is the announcement of the year's best recordings. Normally three "equally weighted" prizes are given; this year there were four, picked by an international jury of nine critics. Cited for 1983 were Alfred Brendel's recording of Mozart's Piano Concertos Nos. 15 and 21, with Neville Marriner conducting the Accademy of St. Martin-in-the-Fields for Philips, the complete string quartets of Mendelssohn played by the Melos Quartet on DG, Schubert's Easter cantata, Lazarus, conducted by Gabriel Chmura and released in this country by Pro Arte, and two works, Metaboles and Timbres espace mouvement, by the contemporary French composer Henri Dutilleux, played by the Orchestre National de France under Mstislav Rostropovich and available here as an Erato import. A special "historical" prize went to the recently released 1950 Furtwängler-conducted Wagner Ring cycle recorded at La Scala, also available as an import, and another, for "special achievement in the field of chamber music," was given to the Beaux Arts Trio.

VOLINIST Gidon Kremer was the first to receive the Accademia Musicale Chigiana Prize in Siena when it was inaugurated in 1982. The pianist Peter Serkin was the second to be so honored when he appeared in Siena recently to play an all-Beethoven recital. Included in the program were the Sonatas Opp. 90 and 101 (the Hammerklavier), both of which he subsequently recorded for Pro Arte for release this month. The instrument is an "original" from 1820 that belongs to the St. Paul, Minnesota, Schubert Club.

CALENDARS for 1984: The Metropolitan and San Francisco Opera Companies have both published 1984 wall calendars picturing, in color, scenes from their current productions. Also shown, in addition to major holidays, are the birthdays of opera's leading singers, conductors, and composers. The Met's "centennial edition" calendar is $6.95 (or two for $12.50), plus $1.85 for handling and shipping, from the Opera Guild, 1865 Broadway, New York, N.Y. 10023. "San Francisco Opera 1984" is available from that company's Opera Shop, War Memorial Opera House, San Francisco, Calif. 94102 for $8.95 plus $2.50 handling and shipping. New York and California residents should add their respective sales taxes.

ANGEL RECORDS recently reached back into its stereo catalog and "caught up," as one company spokesman put it, with current interest in music on cassette by releasing in that format a number of its most impressive operatic and choral titles. Included in this golden-age series of tapes is the Gobbi/Schwarzkopf/Karajan recording of Verdi's Falstaff, the Callas/Serafin Norma, Giulini's recording of the Verdi Requiem, and Handel's Messiah conducted by Klemperer. All have been remastered, and in a few cases they have been spread over fewer "sides" than on discs; for example, the Wächter/Schwarzkopf/Giulini Don Giovanni, originally released on four LP's, is available now on three cassettes.

A SALZBURG FESTIVAL performance of Mozart's The Magic Flute will be telecast over the PBS network on January 9 as part of the Great Performances series underwritten in part by Exxon and the Corporation for Public Broadcasting. Featured in the cast are Edita Gruberova as Pamina, Peter Schreier as Tamino, and Martti Talvela as Sarastro. The production is credited to Jean-Pierre Ponnelle; James Levine conducts... National Public Radio begins this month (January) a complete fourteen-week broadcast season from the 1983 Santa Fe Chamber Music Festival and a series. Music from Washington, relaying recitals and chamber music taped in the capital's major performance venues, including the Kennedy Center, the Library of Congress, the Smithsonian Institution, and the Folger Shakespeare Library.

A HIGHLIGHT of the annual Williamsburg Festival in the United States is the announcement of the jury of nine critics. Cited for 1983 were Alfred Brendel's recording of Mozart's Piano Concertos Nos. 15 and 21, with Neville Marriner conducting the Accademy of St. Martin-in-the-Fields for Philips, the complete string quartets of Mendelssohn played by the Melos Quartet on DG, Schubert's Easter cantata, Lazarus, conducted by Gabriel Chmura and released in this country by Pro Arte, and two works, Metaboles and Timbres espace mouvement, by the contemporary French composer Henri Dutilleux, played by the Orchestre National de France under Mstislav Rostropovich and available here as an Erato import. A special "historical" prize went to the recently released 1950 Furtwängler-conducted Wagner Ring cycle recorded at La Scala, also available as an import, and another, for "special achievement in the field of chamber music," was given to the Beaux Arts Trio.
J. S. BACH: Goldberg Variations; Four Duets; Chromatic Fantasy and Fugue in D Minor (see Best of the Month, page 65)

J. S. BACH: Violin Concerto in E Major (BWV 1042); Violin Concerto in A Minor (BWV 1043); Concerto in D Minor for Two Violins (BWV 1041). Anne-Sophie Mutter, Salvatore Accardo (violins); English Chamber Orchestra, Salvatore Accardo cond. ANGEL ℗DS-37989 $12.98, © 4XS-37989 $9.98.

Performance: Inappropriate
Recording: Very good

These performances are exemplary of the best modern string playing, and the digital sound is wonderfully warm and spacious. Moreover, both of the soloists and the members of the orchestra produce rich, vibrant tones that forcefully project long, seamless lines of dynamically molded melodies. What a shame that it all has nothing to do with Bach's style and quite destroys the music.


Performance: Committed
Recording: Excellent

It is convenient that Leonard Bernstein's "Complete Works for Solo Piano" (as this collection is headed) fit snugly on a single LP disc, and it is fortunate that since we have no comparable recording by Bernstein himself (who did, of course, record the earlier Anniversaries on 's some thirty-five years ago), this music has found in James Tocco a pianist so sympathetically responsive to the Bernstein idiom and so well equipped to project it on the most persusive level. According to John Grunen's annotation, the project was suggested by Bernstein himself, when he had just completed Touches in 1981 and Tocco pointed out that his name is an Italian word for "touch." Gruen also points out that the various Anniversary pieces served as source material for some of Bernstein's larger works, such as the Jeremiah Symphony and the Serenade After Plato.

Bernstein's own descriptions of Touches (composed for the Van Cliburn Competition) and the Moby Dyptch (written for Anton Krueti) are included, and he is quoted by Tocco as having stated that he arranged the Copland orchestral fantasy as a piano piece because "he grew tired of hearing American pianists end their programs with Hungarian Rhapsodies. Whether it's in the transcription or the execution, it struck me that the percussive elements come across a good deal better than the warmth of heart, but it's an effective piece for all that, and Tocco plays it quite brilliantly. It is the Anniversary pieces in the three early sets, though, that leave the most lasting impressions—vigorously, caudicious, bluesy, a unique meld of Gershwin and Debussy in an idiom wholly Bernstein's own—and Tocco presents them with total commitment, abetted by superb sound and exemplary pressing.

R.F.

BOITO: Nerone. János B. Nagy (tenor), Nerone; József Dene (baritone); Simon Magy, Loszaj Miller (baritone), Fanéul; Ilona Tokody (soprano), Asteria; Klára Takács (mezzo-soprano), Rubria; József Gregor (bass), Tigellino; others. Hungarian Radio and Television Chorus; Hungarian State Opera; The National Hungarian Opera Orchestra. Radio and Television Chorus; Hungarian State Opera; The National Hungarian Opera Orchestra. HUNGAROTON ℗SLPD 12487-89 three discs $38.94.

Performance: Strong and involved
Recording: Very good

Arrigo Boito completed the libretto of his second opera, Nerone, in 1870, shortly after the launching of Mefistofele. His work on the music of Nerone, however, was constantly delayed by various literary tasks, notably writing the librettos to Ponchielli's La Gioconda, to Verdi's revised Simon Boccanegra, and, later, to Otello e Falstaff. We can also imagine that exposure to Verdi's musical genius at close range could hardly have been the ideal stimulus for the modestly gifted Boito. The years passed, Nerone progressed snail-fashion, and not

A Rubinstein Memorial

It was more than twenty years ago that RCA released an album of live recordings from Arthur Rubinstein's fall 1961 Carnegie Hall recitals. Now we have a fine new imported German pressing of those recordings, and the much brighter sound enhances the vividness of the great pianist's elegant performances.

The program here is a lovely one consisting of music with which Rubinstein had special ties. He probably did more than any other pianist to popularize Villa-Lobos's two Baby's Family suites, and Szymanowski's Op. 50 mazurkas were dedicated to him. His understanding of all the individual styles is as apparent as his enthusiasm for the music.

Moreover, these are very fine live recordings. The applause and cheering might have been edited out, but the recitals were major artistic events, and as preserved here they still are. The new labeling fails to specify which twelve of Prokofiev's twenty Visions fugitives are included or to note that it is the first of the Villa-Lobos suites that is offered—and in an abridged form. But musically there is no cause for complaint here.

—Richard Freed

even Verdi's death in 1901 freed Boito's mind of self-doubts concerning the worth of his second opera. When Boito himself died in 1918, the long-frustrated house of Ricordi finally prevailed on Arturo Toscanini and Vincenzo Tommasini to complete the orchestration. And so, nearly sixty years after its inception, on May 1, 1924, Nerone was premiered at La Scala and welcomed with some enthusiasm. Its subsequent performance history, however, has been rather insignificant. Eve Queler's enterprising Opera Orchestra of New York gave the opera's first American performance, in concert form, in April 1982.

Despite certain limitations, Nerone is an interesting and provocative opera. In his perceptive annotation for this set, Charles A. Rizzuto draws attention to Boito's abiding fascination for the conflict between good and evil. In Nerone, he wrote blaring "pagan" music for Nero and his disreputable cohorts to contrast with the serene, at times transfigured, quality of the music surrounding the figures of Fanuel and the Christian martyrs. This contrast is the opera's central element; the message is the ultimate triumph of Christianity over the forces represented by Nero, who is imaginatively portrayed as an irrational and bloody tyrant with an obsessive theatrical bent.

Considering the limited time Queler had at her disposal to involve her cast in this out-of-the-way opera, the results are quite remarkable. The Hungarian ensemble certainly rose to the occasion. Outstanding among the singers is mezzo Klara Takics, whose plush tones compensate for rather cloudy diction in the sympathetic role of Rubria, the Vestal priestess (Nero had canceled her virginal credentials). Janos B. Nagy brings a clarion tone and the sense of demented fury the title character calls for, while baritone Lajos Miller, with his flowing bel canto delivery, endows Fanuel with becoming nobility. Although rather miscast in the role of the hysterical Asteria, Ilona Tokody makes a strong impression, as does Jozsef Gregor as Tigellino, Nero's henchman, the part young Ezio Pinza sang in the opera's 1924 original cast. I was less happy with Jozsef Dene, who is malevolent enough but tonally unsteady as Simon Mago.

With the chorus and orchestra giving its apparent best, Queler holds this now splashy, now serenely understated, and occasionally quite impressive music remarkably well in hand. In sonic terms, the recording is effective and rich sounding, though the Finale of Act I sounds a bit compressed. Altogether this release is quite a coup for Eve Queler and Hungaroton.

BORODIN: Scherzo in A-flat Major (see MUSSORGSKY)

BRUCKNER: Symphony No. 8, in C Minor. London Philharmonic Orchestra, Klaus Tennstedt cond. ANGEL / DSB-3936 two discs $25.96, © 4X2S-3936 $19.98.

Performance: Warm
Recording: Good

For those who may find Herbert von Karajan's 1976 recording of Bruckner's Eighth Symphony a bit too solemnly austere and Bernard Haitink's recent digitally mastered Amsterdam recording rather studied, this leaner yet warmly phrased version by Klaus Tennstedt may represent an attractive alternative. It came rather as a surprise to me after Tennstedt's expansive recording of Bruckner's Romantic Symphony (No. 4), and, in truth, he makes the Eighth more romantic in outlook than many conductors do.

Within the framework of his concept, Tennstedt and the London Philharmonic deliver a finely honed performance—a little too finely honed, I feel, in the outer sections of the scherzo, which could have stood more abrupt accentuation at certain points. I also found the great climax of the adagio unexpectedly rushed. The sonics are warm and clean but don't offer quite the cathedral spaciousness, combined with presence, of the Haitink discs.

D.H.

CHAUSSON: Poème de l'amour et de la mer, Op. 19; Chanson perpetuelle, Op. 37; Le Colibri; Sérénade italienne; La Dernière feuille; Les Papillons; Le Charme. Jessye Norman (soprano); Michel Dalberto (piano); Orchestre Philharmonique de Monte Carlo, Armin Jordan cond. ERATO/RCA © NUM 75059 $10.98, © MCE 75059 $10.98.

Performance: Not ideal
Recording: Very good

This well-planned disc yields a generous representation of the vocal writings of Ernest Chausson: five songs from his Op. 2 song collection (1879-1882), the elaborate two-part song cycle Poème de l'amour et de...
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The singers of Les Arts Florissants, however, immediately displace any shred of boredom by dramatic tension and excitement. Agnès Mellon's plea to the ungrateful ladies who withhold their favors is eloquent, Gregory Reinhart's Pluto is chilling, and boredom by dramatic tension and excitement—however, immediately displace any shred of tativo. The emotion is so powerful that criticism is pointless. This is simply an excellent record. S.L.

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STEREO REVIEW

MOZART: Violin Concerto No. 1, in B-flat Major (K. 207); Violin Concerto No. 2, in D Major (K. 211). Pinchas Zukerman (violin); Saint Paul Chamber Orchestra, Pinchas Zukerman cond. CBS 0 IM 37833, © IMT 37833, no list price.

Performance: Vivacious

Recording: Crisp

Generally speaking, these are elegant performances of Mozart's first two violin concertos. Pinchas Zukerman's solo playing is piercing, and the Saint Paul Chamber Orchestra produces a clear, articulate sound appropriate for Mozart. But, while the outer movements are perfection itself, the slow movements seem to lack repose, and figurations that should offer quiet support are frequently rather too busy, marring the essential poise required by this music. Nonetheless, the readings overall are strong ones that do the performers credit. S.L.


Performance: Good to superb

Recording: Very good

Vladimir Ashkenazy's second recording of Mussorgsky's Pictures at an Exhibition highlights its elements of dramatic contrast, with a strong emphasis on dissonance where it occurs, as in "The Hut on Fowls' Legs." The tone for the whole performance is set in the very opening "Promenade," which is bright, decisive, and a bit fierce. All thirty-two minutes of Pictures are accommodated here on a single side, after which comes for me the most interesting and exciting part of the disc: the shorter pieces by Taneiev, Liadov, Borodin, and Tchaikovsky.

The Taneiev is far removed from the scholarly expectations raised by its title; it is a Chopinesque prelude in the grandest Chopinesque style followed by a fugal essay remarkable in its imagination and dramatic ferocity—a real tour de force. The delectable little piece by Liadov comes as a welcome contrast and is played with the utmost elegance. The Borodin Scherzo is a kind of Polovstian dance tamed down for the drawing room. The Tchaikovsky Dumka, on the other hand, is probably the composer's most substantial solo piano work, though it appears to have been available previously in the U.S. only on early LP's by Horowitz and Ray Lev. Ashkenazy plays it to the hilt, with an unerring feel for the contrasting mournful and wild episodes. The piano sound throughout is both brilliant and rich, though perhaps just a shade too reverberant in the Kingsway Hall acoustic.

D.H.

PROKOFIEV: Romeo and Juliet, Ballet Suites, Opp. 64a and 64b. National Symphony Orchestra, Mstislav Rostropovich cond. Deutsche Grammophon © 2532 087 $12.98, © 3302 087 $12.98, © 410 519-2, no list price.

Performance: Intense

Recording: Very good

Rather than performing the Romeo and Juliet ballet excerpts in the order of the drama, as some conductors have done in recent years, Mstislav Rostropovich here opts for the two seven-movement concert suites prepared by the composer. The first ends with the terrifying "Death of Tybalt" music, and the more familiar second begins with the "Knights' Dance" ("Montagues and Capulets") and concludes with "Romeo at Juliet's Grave."

As pointed out in the sleeve notes, the reading is based in large part on the conductor's memories of the composer's piano performances at home when the young Rostropovich was a protégé of Prokofiev. Add to this Rostropovich's own special brand of intensity and vehemence, and you get a ren-
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The treatment of the "Masks" episode in Suite in these scenes also comes off remarkably emotional expression inherent in the music. The National Symphony squeeze out every drop and in the final scene Rostropovich and the orchestra play the famous sequence of separated chords at a somewhat slow pace, appealing to some listeners and not to others. The virtuoso orchestral treatment that will appeal to some listeners and not to others. Despite a certain lack of rhythmic bite in the opening of the system you have.

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CIRCLE NO. 24 ON READER SERVICE CARD
based on the poems of Johann Seidl (the poet of Die Taubenpost, Schubert's last song). Best among them is Das Zungen-glocklein, a little gem. Wiegenlied is pretty but a bit overlong, and Bei dir is more apt to impress the listener with its buoyant enthusiasm than by its melodic allure.

Virtually all these songs are tailored to the delicacy, charm, and mastery of intimate communication that are Elly Ameling's trademarks. I find the tempo she sets for Liebesbotschaft not quite lilting enough, and Auflosung calls for a weightier sound for an optimum effect. But these are minor cavils in two recitals that are nearly always engrossing. As usual, Dalton Baldwin provides model support. Both discs are well engineered, with exemplary clarity and surfaces, but Philips offers the more resonant sound. The Philips annotations are better too, for Etcetera offers minimal notes and texts in German and French only.  

G.J.

SCHUMANN: Violin Concerto in D Minor (see SIBELIUS)


Performance: Sibelius better
Recording: Good

Gidon Kremer's second go-around with the Sibelius Violin Concerto is decidedly more fortunate in sound quality than his cavernous and ill-balanced 1979 Vanguard recording with Gennady Rozhdestvensky conducting. Riccardo Muti and the Philharmonia Orchestra give Kremer strong backing throughout, and for a violinist of his caliber technical difficulties just do not exist. His interpretation is virile and lyrical in the first two movements and exceptionally fiery in the finale, yet with no sacrifice of nuance.

Less happy are the results in that stepchild of high-Romantic violin concertos, the Schumann D Minor, which both Joachim and Brahms felt should not be published since the composer, on the verge of his final mental collapse, had been functioning creatively below standard. (The album notes, by the way, are in error with respect to the first public performance, which was given not by Jelly d'Aranyi with the BBC Symphony under Sir Adrian Boult on February 16, 1938, but by Georg Kelenkampff in Berlin on November 26, 1937.) Kremer and Muti have not, I think, succeeded in cracking this tough nut of a piece in terms of achieving a convincing line and steady flow in the opening movement. Matters improve in the slow movement, to which Kremer brings a fine Innigkeit and tenderness, and he imparts a good flow to the somewhat repetitious polonaise-like finale, handling the sometimes intractable solo episodes with remarkable ease. The sound as such is good in both works, though the orchestra is a touch over-reverberant now and then in the opening of the Schumann.  

D.H.

R. STRAUSS: Symphony for Wind Instruments in E-flat Major. Munich Wind Solists Academy, Wolfgang Sawallisch cond. ORFEO © S 004821 A $13.98 (from Har-
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monia Mundi USA, 2351 Westwood Boulevard, Los Angeles, Calif. 90064).

Performance: Good
Recording: Good

During the late years of World War II, before Allied bombers blasted away the last vestiges of the milieu in which his life had been centered, Richard Strauss composed two works for an array of sixteen wind instruments, both originally called sonatinas. The earlier one was subtitled From an Invalid’s Workshop, and the later one, in E-flat, was called The Happy Workshop. The scoring calls to mind Mozart’s Serenade, K. 361, for thirteen wind instruments, but the Strauss pieces have a more elaborate instrumental layout and use a four-movement format embodying far more developmental matter than Mozart’s.

I confess to being somewhat overwhelmed by the richness of texture and detail in The Happy Workshop, but certainly the composer’s fans and woodwind buffs should delight in it. I did enjoy the elegant crafting of the expansive third-movement Menuett and the contrasting somber and humorous elements in the finale. The Munich ensemble under Wolfgang Sawallisch gives a reading that is both precise and affectionate. The digitally mastered recording was made in a spacious locale whose name sends a bit of a chill down the spine: Renaissance-Festsaal des Schlosses Dachau.

D.H.

TANEYEV: Prelude and Fugue in C Sharp Minor (see MUSSORGSKY)

TCHAIKOVSKY: Dumka, Op. 59 (see MUSSORGSKY)


Performance: Analytic
Recording: Crystal clear

Lorin Maazel was never one to tear a musical passion to tatters, and here with the Cleveland Orchestra, over which he presided as music director for a decade, he offers us a Tchaikovsky Pathétique notable for delineation of textural detail but also, in the end movements, for an essential coolness. To the famous 5/4 second movement Maazel brings an intriguingly febrile quality by no means out of keeping with the music’s character, with the pedal-point middle section moving along more swiftly than usual. The quickstep third movement is something of a virtuoso tour de force here: every line is clearly audible, including the descending contrabasses at the point where the clarinets set forth the main theme. I have the distinct feeling that here and elsewhere in this performance the timpani balances were arranged so that the linear aspects of the music would not be swamped at the climaxes. It’s an interesting, even revealing reading, if not altogether convincing one. You could practically write out the score simply from hearing this disc. But is that really what Tchaikovsky’s Sixth is all about?

D.H.

VERDI: Simon Boccanegra. Lajos Miller (baritone), Simon Boccanegra; József Gregor (bass), Fiess; Veronika Kinces (so-
Performance: Good
Recording: Very good

Recognition came belatedly to Simon Boccanegra, particularly outside Italy. The Vienna State Opera produced it for the first time in 1930, the Metropolitan in 1932. I had the good fortune to discover it in 1937, attending, as a student, its first performance. It was then the Royal Hungarian State Opera under the leadership of its great resident Italian conductor, Sergio Failoni. Hearing the opera now, with an all-Hungarian cast led by another Italian conductor (and a great local favorite), revives wonderful memories for me.

The world has become much smaller since then. Recorded complete operas—such one-time rarities as Simon Boccanegra—have become commonplace, and the front-line Hungarian singers of this generation have learned to perform operas in their original languages. More astonishingly, they form ensembles in recordings of Verdi and Puccini (to say nothing of Goldmark and Boito) that can stand up to formidable international competition.

Giuseppe Patané is unquestionably the hero of this particular enterprise. It is certainly his accomplishment that the performance has an authentic Verdian sound and spirit. He may not have worked with the cast of his dreams, but, shaping the orchestral framework to the strength and limitations of his singers, he has given us a committed account of this deeply moving opera.

Lajos Miller rises to commanding heights in Boccanegra’s great Council Chamber Scene, where he intones the “Piango su voi” cantilena very movingly. The music, however, frequently taxes his resources; when it does, his smooth lyric baritone becomes unsteady. Still, his is a commendable, stylish, and intelligent portrayal. Veronica Kincses, likewise, is not ideally cast in the rather demanding role of Amelia; I miss a certain solidity in the lower range that the part calls for. But when the music moves into the bounds of Kincses’s very attractive lyric compass (the Recognition Scene, in particular), the Hungarian soprano meets its requirements with exquisite poignancy.

János B. Nagy reveals a firm and rather powerful tenor that has no difficulty coping with Adorno’s music. He sings in a forthright manner, though not with much subtlety or tonal variety and with occasional rhythmic and intonational lapses. József Gregor projects an appropriately stern and menacing Fiesco, with a snarling edge to his substantial voice. His command of the upper range is enviable, but I miss the mellifluous manner of a true basso cantante in this music, that is, the Pinza/Siepi sound as opposed to the Christoff/Ghiaurov model. Baritone István Gáti is a major artist and, as the villainous Paolo Albiani, he sounds like one. The subsidiary roles are adequately handled.

While Simon Boccanegra is not in the

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BRONISLAW HUBERMAN was not only a famous violinist but also the founder of what became, in 1948, the year after his death, the Israel Philharmonic Orchestra. For the centenary of Huberman’s birth, in December 1982, the orchestra’s music director, Zubin Mehta, conceived the idea of a week-long Huberman Festival with the IPO accompanying a group of today’s outstanding violinists. Spanning a couple of generations, the participants included the Israeli-born, Paris-based violinist Ivry Gitlis, a protégé of Huberman’s; the Polish-born British violinist Ida Haendel; and Isaac Stern and three of his protégés—Itzhak Perlman, Pinchas Zukerman, and Shlomo Mintz.

The festival performances were broadcast live on radio and filmed for television, and some of them were recorded live by Deutsche Grammophon, which has now released them in a two-disc or two-cassette package. The set includes three works for multiple soloists and one, Vivaldi’s The Four Seasons, in which Stern, Zukerman, Mintz, and Perlman are each featured in one of the component concertos. Stern and Mintz are heard together in Bach’s Concerto for Two Violins, and they are joined by Haendel and Gitlis in Vivaldi’s B Minor Concerto for Four Violins (the one Bach transcribed for four clariers). Perlman and Zukerman (the latter as violinist this time) play Mozart’s Sinfonia Concertante in E-flat Major for Violin, Viola, and Orchestra (K. 364). Isaac Stern, Pinchas Zukerman, Itzhak Perlman, Shlomo Mintz, Ida Haendel, Ivry Gitlis (violin); Israel Philharmonic Orchestra, Zubin Mehta conducting.

Most of these fiddlers have recorded these works before. No matter. The live Tel Aviv performances have an air of excitement about them, an air of occasion—perhaps in part generated by the artists’ joy in playing for their assembled peers as well as for the larger audience. (Some of the applause and cheering might have been edited out, though in this case it seems a part of the occasion, perhaps the only apt release for the intensity built up in the performances.) There are other fine recordings of all these pieces, several possibly superior in one respect or another to those here, but all the solos in The Four Seasons are exceptionally beautiful, and so is the Perlman/Zukerman partnership in the Mozart (despite a rather perfunctory orchestral contribution). As a document of a violinistic “summit meeting,” the set is very much in a class by itself.

The sound is splendid, and there is a fine, concise note by the distinguished Israeli musicologist Peter Gradenwitz.

—Richard Freed


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Performance: Excellent Recording: Splendid

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COLLECTIONS


Performance: Wonderful Recording: Excellent

The organ at the opera house in Sydney, Australia, was built in 1979 by Ronald Sharpe, and Peter Hurford exhibits its splendors in this wonderful tour of music ranging from Baroque to modern times. He is a virtuoso performer who understands the organ’s potentials and is not afraid to exploit them. Although opportunities to descend into vulgarity and banality may seem overwhelming with such an instrument, Hurford succeeds in keeping within the bounds of good taste, though obviouly reveling in the music’s sonorities. The recorded sound is superb.

S.L.


Performance: Syrupy Recording: Good

As far as technique is concerned, Julian Lloyd Webber plays the cello very well, but most of the arrangements in this collection are so oppressively tasteless, and the few pieces in their original form so extremely sentimentalized in the interpretation, that listening to the record offers little pleasure beyond the technical security itself. R.F.
The first time I chatted with the amiable Southside Johnny (Lyon) of the Asbury Jukes was in conjunction with the release of "Hearts of Stone" (1979), since widely celebrated as the Jukes' chef d'oeuvre. I talked to Johnny again recently in celebration of the band's first new release in over two years, "Trash It Up," and asked what had caused the recording hiatus. "It took me a year just to get over the disappointment of our live album not doing as well as I thought it should," he said. "Why should I subject myself to all this again if I don't feel I have something to say? So mostly I worked on my voice. For the last two and a half years I've been thinking about Billie Holiday, Frank Sinatra, Muddy Waters, people who aren't really trained singers but have great expression. I think I've learned a lot about being a singer since we recorded last."

Johnny was not exactly singing in the shower all this time, however. The Jukes toured and made what has become a somewhat controversial Miller Beer commercial. Johnny himself also worked as musical consultant for the movie Eddie and the Cruisers.

Asked to describe the new album, he thought a moment, then declared it "a wry, humorous look at sex and how it can be fun without being exploitive—which doesn't get touched on that much. It's not soft candlelight and wine, but we've done that already."

With its stripped-down sound (fewer horns, more synthesizer) and updated dance rhythms (courtesy of producer Nile Rodgers of Chic), the record is a bit of a departure, and I wondered if Johnny worried how the band's hardcore fans would take it. "Sure," he said, "I worried for a while. But what the hell—it's still rhythm-and-blues, and what else have we been doing all this time? You have to keep 'em on their toes."

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S.S.

Deniece Williams is the latest pop star to appear on a daytime soap opera. In her recent debut on CBS-TV's As the World Turns, Williams (shown below with continuing series star Scott Bryce) portrayed herself performing at a night club on board a luxury yacht. Her latest Columbia LP, "I'm So Proud," was reviewed here in the "Best of the Month" section in October 1983.

S.S.
Dylan Lives!

BOB DYLAN's new "Infidels" is a sprawling, uneven, infuriating mess of an album—but it's alive in ways that most current rock product rarely even aspires to be. At the very least, it puts Dylan back in the ball game, for good or ill.

Actually, "Infidels" is more than infuriating; it's almost willfully perverse. Examining our expectations, probably just as he used to do before his recent string of thoroughly awful religious albums. He's succeeded, I think, because, despite the erratic production and the occasional song that runs longer than it needs to, "Infidels" gives us an overwhelming sense of a living, breathing, thinking human being at work. And if there's anything that rock has been in conspicuously short supply of lately, that's it. That this particular real person should turn out to be an aging bard whom most of us had long since written off as completely irrelevant is merely another of the album's pleasures, one of life's little ironies.

There is some genuinely brilliant stuff here, notably Union Sundown, a meditation on greed mated with a slashing blues-based rhythm track; I and I, a terrifying song that has one of the most impassioned vocal performances of Dylan's career; and, especially, Neighborhood Bully, a return to political songwriting that is guaranteed to alienate Dylan's old leftie constituency for all time. Overall, it's quite an album. While it's possible that I'm overrating it simply because hearing Dylan breathe (secular) fire again is such a pleasure, I'm inclined to doubt it. Head for your nearest record store and decide for yourself. —STEVE SIMELS

PHILIP BAILEY: Continuation. Philip Bailey (vocals); vocal and instrumental accompaniment. I Know; Trapped; It's Our Time; Desire; The Good Guy's Supposed to Get the Girls; I'm Waitin' for Your Love; and two others. COLUMBIA QC 38725, © QC 38725, no list price.

Performance: Fine, high singing
Recording: Very good

Although Philip Bailey's name might be unfamiliar to the popular-music public, his sound is well known. For more than twelve years he served as co-lead singer, along with Maurice White, in the pacesetting progressive-soul group Earth, Wind & Fire, lending his distinctive, piercingly high falsetto to their most memorable songs. If you still can't place him, try to recall that spectacular A above high C he hit on the phrase "higher and higher" during the refrain of EW&F's That's the Way of the World, one of the outstanding popular performances of recent years. That single sky-scaping note and the way he built up to it were enough to establish him as a modern master of falsetto singing. Recently he teamed with Deniece Williams on They Say, the searing gospel number that was a highlight of her remarkable album "I'm So Proud."

"Continuation," Bailey's debut solo album, is not as consistently excellent as some of his previous collaborations. There is a somewhat lower level of musical imagination in the material he sings here (some of his own compositions). But the album does demonstrate that he is an artist with a singular and highly polished vocal style who is capable of generating considerable heat through his incisive attack, zestful delivery, and firm professionalism. There's not a sloppy note to be heard here.

One of the highlights is It's Our Time. Deniece Williams joins him on it, repraying his favor; their duet scintillates with ebullience and joy. Just listen to the way they play vocal games with each other as they pitch for those startlingly high notes. Several of the other selections are safely unadventurous funk, but some are fresh enough to permit Bailey to dazzle us with his vocal footwork. Your Boyfriend's Back might have bogged down interpreted by a lesser artist, but Bailey drives it across with a sass and verve that are riveting. This same spirit shines through on two other cuts, Trapped and Vaya (Go with Love), each of them enough to make it on its own. So is Philip Bailey. —P.G.
PAT BENATAR: Live from Earth. Pat Benatar (vocals); instrumental accompaniment. Fire and Ice; Medley—I Want Out/We Live For Love/Hell Is for Children; Hit Me with Your Best Shot; Love Is a Battlefield; and four others. CHRYSLIS FV 41444, © FVT 41444, no list price.

Performance: Hit-mongering
Recording: Undistinguished

"Live from Earth" is a throwback to the days when producing a credible live recording was beyond the technical means of most rock bands. The sound is muddy and unfocused, the performance banal, knee-jerk hit-mongering. There's a lot of posturing but no genuine feeling in this music. The tunes—Pat Benatar's best, I'm afraid—aren't nearly interesting enough to hold up under such perfunctory, hash-slinging treatment. Considering Benatar's operatic training and hard-nosed reputation, you would think she could hold her own on stage. But she's no Valkyrie; she has to resort to a raw, tuneless scream in order to project over the thrashing accompaniment. Perhaps sensing the futility of the project, Benatar and producer/guitarist Neil Geraldo bring the live music to an abrupt halt midway into the second side. The two concluding studio tracks—Love Is a Battlefield and Lipstick Lies, the first a weak stab at new music, the second an Electric Flag-style white r-&-b number with a dated sound—are only marginally better. M.P.

RECORDING OF SPECIAL MERIT
BIG COUNTRY: The Manor. Big Country (vocals and instrumentals). In a Big Country; Inwards; Chance; 1000 Stars; The Storm; Angle Park; Fields of Fire; Harvest Home; and three others. MERCURY 812 870-1 $8.98, © 812 870-4 $8.98.

Performance: Guitar heaven
Recording: Good

These guys are getting tremendous hype, being the first recent non-heavy-metal English act to use the traditional guitars-only lineup, which may signify that the anti-synthesizer backlash is finally upon us. What I really find interesting about the band is that it's so aptly named. Despite the Celtic folk overtones of a lot of the material, the group's almost orchestral use of massed guitars really does evoke Cinemascopic Western vistas and the Marlboro-ad school of film-music composition. Anyway, there are more obvious antecedents for the group's sound: the Byrds and, especially, Television come immediately to mind. I suppose you could label this stuff the new Folk Rock, as some have already done. But it's so aptly named. Despite the Celtic folk overtones of a lot of the material, the group's almost orchestral use of massed guitars really does evoke Cinemascopic Western vistas and the Marlboro-ad school of film-music composition. Anyway, there are more obvious antecedents for the group's sound: the Byrds and, especially, Television come immediately to mind. I suppose you could label this stuff the new Folk Rock, as some have already done. The point is that whatever it is and wherever it came from, it's good. Although the lyrics, when you can make them out, seem mostly functional, and some of the songs could use some editing, for the most part this is a bracing set of tough-and-tender tunes done up with spectacular, original-sounding guitar work. It will be interesting to see how these guys develop. S.S.

RECORDING OF SPECIAL MERIT
THE BLUEGRASS CARDINALS: Cardinal Class. The Bluegrass Cardinals (vocals and instrumentals). Pulleybone Gayden;
The Bluegrass Cardinals are five guys in polyester suits who make 100 per cent cashmere music. Formed in 1973, the group has gone through various personnel changes, but the mainstays have been Don Parmley, on banjo and baritone vocals, and his son, David, on lead vocals and guitar. The Parmleys are class operators, and on their first album for Sugar Hill the Cardinals demonstrate an uncommon degree of musicianship and finesse. Unlike so many other bluegrass groups, who just throw it all out there, the Cardinals understand the idea of dynamics, and they temper the usual fast-driving banjo numbers with a couple of real stunners—a gorgeous a cappella version of Bill Monroe's inspirational "That Home Above," and a western-bluegrass rendition of Bob Nolan's "Way Out There" that may just spawn a whole new musical form.

The Cardinals place more emphasis on vocals than they do on instrumentals, and David Parmley's baritone is consistently smooth, rich, and commanding, while his partners' exquisite harmonies often sound more like those of a gospel quartet than a high- lonesome bluegrass group. What impresses me most about this band, though, is the sense of integrity they bring to their music. Their picking is tasteful and economical, with nary an extravagant note, and their instrumental interplay is more imaginative than most bluegrass groups care to bother with. Best of all, they don't even begin to play "Rocky Top" or "Rollin' in My Sweet Baby's Arms."

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but it's entirely plausible for someone whose training, like Boy George's, consisted of checking hats at London's chic Blitz club and applying make-up to the faces of the Royal Shakespeare Company.

What galls the Puritan work ethic in me about Boy George is that he's good. Besides being pretty, Boy George is a very appealing vocalist. The frequent comparisons of him with Smokey Robinson are apt; he puts the same kind of emotion into a song. "Colour by Numbers" is a light, soulful mix of funk, synth, and Latin influences delivered with none of the heavyhandedness you'd expect from someone who looks like a Hasidic Rastafarian. Boy George's colleagues—Jon Moss on drums, Mikey Craig on bass, and Roy Hay on keyboards and guitar—play with crisp precision (maybe these guys actually did study their instruments). And back-up vocalist Helen Terry, whose acrobatic phrasing reminds me of Nona Hendryx, is used to great effect.

The song lyrics play off Boy George's paradoxical image—both sexual and racial—in an oddly innocent and unthreatening way. Were it not for Culture Club's powerful visual image and the lyrical possibilities this creates for the band, there wouldn't be much to distinguish "Colour by Numbers" from an album by, say, the Three Degrees. What Culture Club and other British new-music groups are doing is reshuffling the elements that make up our popular music and thus redefining the criteria we use to judge a pop performance. The Beatles did the same thing with their mop tops. It's up to the public to decide whether a featured box, spiked, tinted hair, or any other visual element is a legitimate component of pop music. Judging from the success of MTV and the popularity of groups such as Culture Club, the answer seems to be a resounding yes. M.P.

RECORDING OF SPECIAL MERIT

GAIL DAVIES: What Can I Say. Gail Davies (vocals); vocal and instrumental accompaniment. Boys Like You; On a Real Good Night; What Can I Say; You're a Hard Dog (To Keep Under the Porch); Setting Me Up; and five others. WARNER BROS. 23972-1 $8.98, © 23972-4 $8.98.

Performance: Terrific
Recording: Quite good

Gail Davies consistently puts out some of the most engaging and stylishly produced albums in popular music. Her new one, "What Can I Say," produced by Davies herself with her usual command and verve, further showcases her stubborn streak of individuality; she continues to record whatever songs turn her head instead of songs that sound like what everybody else is doing. We get such stunners here as Rodney Crowell's On a Real Good Night, Ray Charles's Hallelujah, I Love Him So, Mark Knopfler's Setting Me Up, and several fine new songs by Davies, including the title tune. My favorite is a muscular, full-tit number written by Harlan Howard and Susanna Clark, You're a Hard Dog (To Keep Under the Porch), which is about something other than straying canines. Davies is an accomplished singer technically, and her voice comes from somewhere outside country (maybe even jazz/rock fusion), but she never lets that get in the way of having a good time. Part of her appeal stems from her infectious joie de vivre, which she manages to pass on to her musicians, who pick and strum like there's no tomorrow. Not every song here is compelling, of course, but the way she does it is, whether she's singing exquisite double-tracked harmony, setting a funky horn section down in the middle of a surprise turn, or wailing like a banshee. Occasionally she strums-sweetens a little too heavily for my taste, but she smooths me over with a bitternesweet duet with Ricky Skaggs, It's You Alone, written by her brother Ron.

So far, the Nashville establishment has almost ignored Davies. I predict that before long they won't have any choice but to own up that she's one of the most talented people now operating out of Music City.

THE DOORS: Alive, She Cried. The Doors (vocals and instrumentals); John Sebastian (harmonica). Gloria; Light My Fire; You Make Me Real; Texas Radio & the Big Beat; and three others. ELEKTRA 60269-1 $6.98, © 60269-4 $6.98.

Performance: Matter of taste
Recording: Surprisingly good

Viewed dispassionately, this anthology of recently unearthed live Doors material is
The Return of Tom T. Hall

Just when it looked as if Tom T. Hall would be relegated to the graveyard of country music, here he comes with an impressive new album, "Everything from Jesus to Jack Daniels," that should refurbish his reputation as country music's greatest storyteller. It's been many a year since Hall came up with a passel of tunes that actually said anything or had any of his old satiric bite, and while there aren't any songs here to rival The Tear That Clayton Delaney Died or Ballad of Forty Dollars, nobody else is writing songs like those on a regular basis. Either we do get some very listenable word portraits, including one about a truck driver who murders his wife after he overhears a stranger discussing her midnight fantasies, another about a Mac Sledge type, and a terribly moving one about a traveler who rides a cattle truck in a Bible in a West Virginia boarding house.

Hall recorded most of his major hits for Mercury and then bounced around on a couple of other labels before returning to Mercury for this album, and he sounds relaxed and happy to be home. Produced by Chet Atkins and Hall's old colleague Jerry Kennedy, it also marks a return to the mostly acoustic ensemble sound that so distinguished Hall's early recordings, complete with Kennedy's expressive dobro playing. If you close your eyes and drift away on the music, you just might forget all those bad albums Hall put out in between. Welcome back, Tom.

—Alanna Nash

MICK FLEETWOOD'S ZOO: I'm Not Me

There's a holiday feeling about this album, as though Mick Fleetwood and his cronies had written and played some of the selections just for fun. George Hawkins (bass, keyboards, guitar, vocals); Billy Burnette, Steve Ross (vocals, guitars); Christine McVie, Lindsey Buckingham (vocals); other musicians. Angel Come Home: You Might Need Somebody; State of the Art; This Love, I Give; and five others. RCA AFI-4652 $8.98, © AFK1-4652 $8.98.

Performance: Very good
Recording: Very good

DEAN FRIEDMAN: Rumbled Romeo

Dean Friedman (vocals, guitars, keyboards, harmonica); vocal and instrumental accompaniment. First Date, Are You Ready Yet; Marginal Middle Class; Special Effects; Buy My Baby a Car; I Depend on You; and four others. The Record Co-op DF100 $10 (from The Record Co-op, P.O. Box 1806, Ansonia Station, New York, N.Y. 10023).

Performance: Very good
Recording: Very good

DEAN FRIEDMAN had an oddball hit a few years ago with " Ariel," a hilarious song about a male wimp and a true-believer bimbo who blunder into bed. Friedman's is a special talent that, unfortunately, has limited
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mass-market appeal. His lyrics are wry and sentimental at the same time, and, although he uses the instrumentation of pop, there is a neo-folkie aura about his vocals.

In this album Friedman celebrates and gently kids love in suburbia. His program begins with a rather tender description of a youthful love in suburbia. His program, with the instrumentation of pop, there is sentimentality at the same time, and, although it has mass-market appeal. Friedman has accurate insights and writes some very funny lines. The only drawbacks are the occasionally plodding tempos and sluggish arrangements. "Rumpled Romeo" is a flawed gem, but a gem nonetheless.

J.V.

RECORDING OF SPECIAL MERIT

MERLE HAGGARD: That's the Way Love Goes. Merle Haggard (vocals, guitar); the Strangers (instrumentalists); other musicians. That's the Way Love Goes. Don't Seem Like We've Been Together All Our Lives; If You Hated Me, I Think I'll Stay; and six others. EPIC FE 38815, © FET 38815, no list price.

Performance: Soulful and subdued

Recording: Very good

Anyone coming out of a failed love affair would have to be masochistic or even suicidal to want to spend too much time with this album, a collection of gorgeously melancholy songs that reflect the Hag's own estrangement from his songwriter wife, Leona Williams. No one else in country music is quite as good as Merle Haggard at conveying devastation and desolation, partly because he stays away from self-pity, relying instead on understatement and irony. Haggard copied a lot of his vocal licks and nuance from the late Lefty Frizzell, and one of Frizzell's songs serves as the title tune here. But seven of the songs are new originals, and while some of them sound written out of need rather than inspiration, several others are classic country performances. If You Hated Me, with a wistfully bluesy Reggie Young guitar solo, is a quiet Haggard masterpiece. This is Haggard's fifty-second album in eighteen years, and although it's a downer, it's a wonderful downer, the kind that makes you say, "Okay, I've bled enough for now; let's get on with it." Overall, a magnificently moving album.

A.N.

HEART: Passionworks. Heart (vocals and instrumentalists). How Can I Refuse; Johnny Moon; Sleep Alone; Blue Guitar; Love Mistake; Allies; and five others. EPIC QE 38800, © QET 38800, no list price.

Performance: Spotter

Recording: Loud

A typical Heart album has two or three truly good songs interspersed with several pieces of tripe sung in a blunderbuss manner and dominated by clumsy, overrecorded drums. The wowsers can be most convincing, however, and in this typical Heart album there are two gems: How Can I Refuse, which is credited to the whole band, and the wonderfully constructed Johnny Moon, written by Heart's two lead singers, Ann and Nancy Wilson, along with Sue Ennis. Johnny Moon is almost a jazz tune in its lengthened breaks, and the vocals are steamily sexy. For the rest of the album, unfortunately, the band plows, plod, and pummels its way through the kind of showbiz stuff its income depends on. The Wilson sisters deserve better of themselves.

J.V.

JOE JACKSON: Mike's Murder (see Best of the Month, page 65)

RICK JAMES: Cold Blooded. Rick James (vocals, keyboards, guitar, percussion); the Stone City Band (instrumentalists); the Mary Jane Girls, Smokey Robinson, Grand Master Flash, Billy Dee Williams (vocals). U Bring the Fear Out; Ebony Eyes; P.I.M.P. the S.I.M.P.; Tell Me (What You Want); New York Town; and four others. GORDY 6043GL $7.98, © 6043GC $7.98.

Performance: Predictably palpitating

Recording: Good

You don't walk away from a Rick James performance humming the melody, because there usually isn't one. But if you are turned on by long, repetitive rhythm patterns, he won't let you down. On "Cold Blooded" James actually gives us a brief break from...
Stone City Band (which now also has its own album) sounds hot, and with a Princely vocal assist from the Mary Jane Girls (James’s answer to Vanity 6) it's all quite functional, so to speak. This is not exactly a bad parody. I don’t know why James felt a need to include guest performers on this album, for he could certainly have performed as well himself. It is not always apparent, even to the man himself. It is not always apparent, even to the man himself. It is not always apparent, even to the man himself. It is not always apparent, even to the man himself.

James’s answer to Vanity 6) it's all quite functional, so to speak. This is not exactly a bad parody. I don’t know why James felt a need to include guest performers on this album, for he could certainly have performed as well himself. It is not always apparent, even to the man himself. It is not always apparent, even to the man himself. It is not always apparent, even to the man himself. It is not always apparent, even to the man himself.

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The funk by including a pleasant near-baldad, Ebony Eyes, featuring Smokey Robinson’s much touted sex appeal and features James’s gaudy, drag-queen image. There is something not written by Hayward or John Lodge. (Graeme Edge, with the blubbering vocals, or woo your address label)

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Stephanie Mills Hits Her Stride

Stephanie Mills has done some floundering over the years looking for a way to focus her considerable singing talent. When disco was the rage she tried that, then she attempted to come across as an abrasive punk when the popular mood shifted. Later she sank to the lowest common denominator of funk in a grab for the largest possible audience. But for her new album, "Merciless," she has finally learned to exploit her own special gifts: a wonderfully robust and immediately responsive voice with a delicate shiver at its edge, a marvelous sense of phrasing, and boundless expressiveness. The result is perhaps her best album yet, with a panoply of different emotions conveyed through her finely tuned vocal instrument.

All of Mills's talent bubbles up to the surface here in "Endless Love," a ballad with a bittersweet tang that recalls songs by Jacques Brel and Edith Piaf. As with all the best singers, Mills does more with this song than just perform it; she uses it to touch her listeners' deepest feelings.

A new steadiness and self-confidence shows throughout the album in the selection of material and pacing. Mills is not afraid to start out with an off-beat, slow-tempo blues number, "How Come U Don't Call Me Anymore?" where she gives Aretha Franklin a run for her money. On a lilting little number called "His Name Is Michael" that's similar in theme to Michael Jackson and Paul McCartney's "The Girl Is Mine," Mills and Peggy Blue sing together as effectively as Jackson and McCartney did. Another highlight is the rakish "Pilot Error."

"Merciless" suggests, overall, that Stephanie Mills has hit her stride. She's already lived up to her promise as a teen star on Broadway in "The Wiz," and on the evidence here she could surpass even that in the future. As long as she keeps singing from the heart instead of according to popular formulas, she can't miss.

—Phyl Garland

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ORDER FROM: TEST RECORD, Dept. 30013, CN 1914, Morristown, NJ 07960
SMOKEY ROBINSON: Blame It on Love and All the Great Hits. Smokey Robinson (vocals), vocal and instrumental accompaniment. Just a Touch Away, Blame It on Love, Tell Me Tomorrow, Baby Come Close; Cruising and five others. TAMLA 6064 TL $7.98, © 6064 TC $7.98.


Smokey Robinson's new Tamla release spans roughly a decade of recording activity. There is nothing rough about this music, however. The so-called Motown sound has long since spread thin beyond recognition, but Smokey's high-pitched voice is intact, and here he delivers three new songs—Just Like You, Don't Play Another Love Song, and Just a Touch Away—with as smooth a sound as on the older recordings. The style, too, is the same easy reading that launched Motown twenty-five years ago. This collection may lack the spark of funk and the steely edge of synthesized New Wave, but it has personality, and as enduring pop fare it will always find attentive ears. Count mine among them.

PETER SCHILLING: Error in the System. Peter Schilling (vocals); instrumental accompaniment. Only Dreams; Lifetime Guarantee; The Noah Plan; Major Tom (Coming Home); Major Tom, Part II, (Let's Play) USA, and three others. ELEKTRA 60265-1 $3.98, © 60264-4 $3.98.


"Error in the System" is a grim study of the death of humanity, of the substitution of order and science for desire and will, of steel and plastic for flesh and blood. Peter Schilling's cold, mechanical synthesized compositions create a vision of man swallowed by his own inventions—computers, television, and other products of technology. Only Dreams, for instance, deals with the inter nalizing of experience, the intellect's retreat from reality, a consequence of an automat ed existence that makes no demands on humans other than to watch. In Major Tom (Coming Home), a sequel to David Bowie's seminal Space Oddity (although its chorus sounds more like the Moody Blues), an astronaut is carried into deep space, the prison er of a machine that has failed to respond to human feelings.

It is a powerful but troubling and somehow hollow achievement. The album is engineered with razor-sharp, almost sterile precision, as if it had been recorded in a germ-free environment. To add to the inhuman feel, Schilling, who is German, sings in a perfectly uninflected English, much as you'd expect a robot to sound. There is irony in a album that exploits technology in order to convey the theme of man enslaved by machine: by dehumanizing his music, Schilling has created the very condition he's trying to write about. If you yourself enjoy it, perhaps that means you've succumbed too.

SISLY SPACEK: Hangin' Up My Heart (see Best of the Month, page 64).

STRAY CATS: Rant n' Rave with the Stray Cats. The Stray Cats (vocals and instrumentalists). Rebels Rule; Too Hip Gotta Go,
Look at That Cadillac; Something's Wrong with My Radio; 18 Miles to Memphis; How Long You Wanna Live, Anyway?, and four others.

EMI AMERICA SO-17102 $8.98, © 4X0-17102 $8.98.

Performance: Good, but .

Recording: Good

The Stray Cats are not a genuine rockabilly band. Despite a reasonably authoritative grasp of the genre's musical vocabulary, they're no more a bunch of Southern crackers than the Rolling Stones are a bunch of Delta bluesmen, which is not necessarily a tractively. Brian Setzer does terrific Scotty Moore guitar imitations, and, as usual, Dave Edmunds's production couldn't be bettered. Also as usual, I don't get the sense that these guys particularly mean what they're singing, but I suppose if I was fifteen and had never heard "The Sun Sessions" I might feel different.

S.S.
The Stones: A New Intensity

THE new Rolling Stones album, "Under Cover," is a nervy release: powerful and even scary at times. I have to admit I didn't think the Stones still had it in them.

It's not a departure, really. A lot of familiar Stones riffs turn up throughout, and while the songs have been dressed up with appropriately up-to-date electronic and percussion effects, you're not likely to mistake, say, It Must Be Hell or Tie You Up for the work of anybody else. The basic theme of the album, sex and violence, isn't new for the Stones either. What is new is the bleakness with which these concerns are addressed. If "Under Cover" has a message, it's that chaos has arrived and the only way to survive it is to dig yourself a foxhole, climb in, and hope for the best.

The lead song, Undercover of the Night, the first explicitly political piece this band has done since the late Sixties, is particularly spectacular, conjuring up nightmare visions of unending brutality while the guitars simulate explosions and the sound of machine guns punctuates Charlie Watts's drumming. But most of the rest of the record is on the same level; even the throwaways don't feel like fluff. This could be considered the real blues album that the Stones have always threatened to make.

It's resolutely entertaining. The best thing here is I Ran, cleverly done as an almost continuous succession of 360-degree pans and edited with a real feeling for the rhythm of the song. But both Wishing, the most genuinely affecting number, and Nightmares, which finds the boys dressed up as men in white coats, have their moments too. Actually, my only complaint concerns the omission of the recent clip to It's Not Me Talking, a big-budget parody of Fifties sci-fi B movies that makes the kitschiness at the core of this band's work fairly explicit. Still, what is here makes very pleasant viewing and listening.

—Louis Meredith

RECORDING OF SPECIAL MERIT

GIRL GROUPS: THE STORY OF A STONE

Based on Alan Betrock's book with the same title (from Delilah), this video program chronicles a magical era in American pop music, from roughly the late Thirties to the beginning of the British Invasion. It was a time when the Brill Building was pop's Mecca, when there were singing groups in every high-school washroom, and when rock was still innocent: the time of Motown, Phil Spector, and a hundred one-shot groups whose records still resonate in our collective unconscious.

Naturally enough, the emphasis here is on the music. Priceless TV clips by the Exciters, the Ronnettes, Martha and the Vandellas, the Shangri-Las, and the Chantels, to name only a few, are interwoven with fascinating recent interviews with people who shaped the sound of the time, such as songwriter Ellie Greenwich (Chapel of Love) to such performers as Mary Wilson of the Supremes. The result is an evocative and often very funny portrait of a time that now seems as remote as the Civil War.

Conventional wisdom has long held that these were culturally barren years, that between the time Elvis Presley was drafted and the Beatles arrived rock-and-roll was at its all-time low ebb. "Girl Groups" rather convincingly helps put the lie to that. It's also so much fun to watch that you probably won't even notice that this is time-capsule stuff, a slice of genuine Americana. I could quibble about the choice of producers interviewed (Shadow Morton remains just a shadow) or about what songs are given short shrift (the utteredly sublime One Fine Day), but, given the limitation of an hour's running time, I don't see how it could have been done much better. If the words "da doo ron ron" ever meant anything to you, you're going to have to have "Girl Groups." In fact, I can't imagine anyone with even a casual interest in rock-and-roll being without it for a moment.

—Louis Meredith

The lead song, Undercover of the Night, the first explicitly political piece this band has done since the late Sixties, is particularly spectacular, conjuring up nightmare visions of unending brutality while the guitars simulate explosions and the sound of machine guns punctuates Charlie Watts's drumming. But most of the rest of the record is on the same level; even the throwaways don't feel like fluff. This could be considered the real blues album that the Stones have always threatened to make.

There's genuine pain and terror here, and the music seems like a kind of exorcism.

At the same time, if you want to dance to it, you can. This is one of the Stones' best party records ever, especially the almost nonstop rockorama on side two. But it's a party record for a world in flames, a cry of confusion and desperation without even a hint of the drugged-out, tongue-in-chic decadence of some earlier Stones albums.

In short, "Under Cover" is a brutal, uncompromising, possibly even uncommercial piece of work, the hardest shot of the hard stuff the Rolling Stones have given us in far too many years. It may even be a masterpiece. In any case, it is perhaps the first first Eighties record, and if that seems an unlikely achievement for a bunch of middle-aged, jet-setting millionaires—well, stranger things have happened. Whatever it is, however, you should hear it.

—Steve Simels

THE ROLLING STONES: Under Cover

The Rolling Stones (vocals and instruments); other musicians. Undercover of the Night; She Was Hot; Tie You Up (The Pain of Love); Wanna Hold You; Feel On Baby; Too Much Blood; Pretty Beat Up; Too Tough; All the Way Down; It Must Be Hell. THE ROLLING STONES 90201-1 $8.98; © CS 90201-1 $8.98.
MOSE ALLISON: Lessons in Living. Mose Allison (vocals, piano); Jack Bruce (bass); Billy Cobham (drums); Eric Gale (guitar); Lou Donaldson (alto saxophone). Lost Mind; Middle Class White Boy; Your Mind Is On Vacation; Night Club; Seventh Son; Wild Man on the Loose; and three others. ELEKTRA/MUSICIAN 60237-I $8.98, © E4-60237 $8.98. 

Performance: Good
Recording: Excellent

Mose Allison has been a jazz cult figure since the Fifties, a "hipster" from the era when to be a hipster was avant-garde. Like Jon Hendricks, with whom he shares a talent for satirical lyrics, he is a jazz entertainer. His eccentric piano playing and wafer-thin vocals are acquired tastes, and the targets of his satire (the musician's life, the middle class) are somewhat passé. Yet he remains a skillful and ingratiating performer. This album, recorded live at the Montreux Jazz Festival in 1982, has terrific sound, and Allison puts on a professional, zippy show for an enthusiastic crowd. J.V.

RECORDING OF SPECIAL MERIT
HERB ELLIS, BARNEY KESSEL, CHARLIE BYRD: Great Guitars at Charlie's Georgetown. Herb Ellis, Barney Kessel, Charlie Byrd (guitars); Joe Byrd (bass); Chuck Redd (drums). Where or When; Change Partners; Opus One; Old Folks; Get Happy; and three others. CONCORD JAZZ CJ-209 $8.98, © CJ-209 $8.98. 

Performance: Excellent
Recording: Excellent

Charlie Byrd, Herb Ellis, and Barney Kessel are three very accomplished guitarists. For more than a decade they have operated as a trio with verve and subtlety. Each artist retains his individuality while blending and contrasting their ideas as well as the different sounds of their guitars—Ellis's and Kessel's are amplified instruments, Byrd's is an acoustic gut-string model. The trio also makes excellent, and sometimes surprising, choices of material. Hoagy Carmichael's lovely New Orleans is not heard often enough, and the rearrangement of When the Saints Go Marching In gives new life to a tune that has been done to death. This album is an exquisite display of talent and taste. It was recorded live with the crisp sound that, in studio or out, we have come to expect from Concord Jazz releases. J.V.

LINDA HOPKINS: How Blue Can You Get. Linda Hopkins (vocals); Rod Holloway (tenor and alto saxophones); Clara Bryant (trumpet); Art Hillery (organ); Gerald

A SLIGHT DISTURBANCE of the earth created the Jack Daniel's cave spring some 400 million years ago.

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JANUARY 1984
Jaco Pastorius

Most jazz musicians play in a big band at some point in their careers, usually early on. They hone their chops, learn a little about arranging, and then get out at the first opportunity—for big-band jazz is largely seen as a moribund art form. Jaco Pastorius is trying to do something about that image, and he appears to be succeeding. His second large-ensemble album is "Invitation," which he recorded on tour in Japan (a country that seems to be extraordinarily receptive to swing bands judging from the number of concert albums recorded there). The album is a condensed version for U.S. release of a two-disc set released in Japan in 1982 under the title "Twins I and II." Like bassist/leader/composer Pastorius himself, it's playful, inventive, and energized.

The title cut is straight out of the Stan Kenton book: driving percussion and tricky horn charts that bob and weave beneath a spirit. And in so doing, he injects some much-needed life into the sleeping giant of swing. —Mark Peel

JACO PASTORIUS: Invitation. Jaco Pastorius (bass); Word of Mouth Big Band (instrumentals). Invitation; Amerika; Soul Intro/The Chicken; Continuum; Liberty City; Sophisticated Lady; Reza/Giant Steps; Reza; Fannie Mae/Eleven. WARNER BROS. 23876-1 $8.98, © 23876-4 $8.98.

Wiggins (piano); Calvin Newborn (guitar); Bob Maize (bass); Jimmie Smith (drums); Leonard Feather (piano). Salty Papa Blues; Born on a Friday: Why Don't You Do Right; Evil Gal Blues; Counting My Tears; I'm Hungry; and four others. PALO ALTO JAZZ PA 8034-N $8.98.

Performance: Pure joy.
Recording: Good.

Here's the absolutely terrific Linda Hopkins in an almost equally terrific album. "How Blue Can You Get" is not quite a complete show-stopper because of the decision by Leonard Feather, who co-produced with Herb Wong, to fill most of the album with his own songs. While Feather is a fine writer of blues—most of these date from the Fifties—it would have been nice to hear from some other talents. Nonetheless, Hopkins gives her considerable all to such things as the old Dinah Washington hit Evil Gal Blues, the saga of an ugly woman who was Born on a Friday, and the classic Why Don't You Do Right? She has a wonderful right-on approach to her material, and her freewheeling way with a lyric is a pure joy to hear. She's supported by a fine group of musicians, including the legendary Clora Bryant on trumpet. This is Linda Hopkins's first album in several years. Why on earth do the great brains of the recording industry let such talent languish?

P.R.

ART PEPPER: Art Lives. Art Pepper (alto saxophone); George Cables (piano); David Williams (bass); Carl Burnett (drums). Allen's Alley; Samba Mom Moni; But Beautiful; For Freddie. GALAXY GXY-5145 $8.98, © GXY-5145 $8.98.

Performance: Fine Pepper.
Recording: Good remote.

If you liked "Roadgame" (Galaxy GXY-5142), one of the first Art Pepper albums to be released after his death, you will not be disappointed in "Art Lives," which contains more material recorded at Maiden Voyage, a Los Angeles club, in mid-August 1981. Pepper is in wonderful form, playing far better and with a great deal more zeal than he did on his final dates the following year. Pianist George Cables also shines on all four selections, especially Samba Mom Moni. My favorite, however, is a very intense blues called For Freddie.

C.A.

CARRIE SMITH: Fine and Mellow. Carrie Smith (vocals); instrumental accompaniment. God Bless the Child; I Cried for You; Don't Explain; Lover Man; and eight others. AUDIOPHILE AP-164 $8.98 (from Audiophile Records, 3008 Wadsworth Mill Place, Atlanta, Ga. 30032).

Performance: Pleasant.
Recording: Good.

Carrie Smith shines on "Fine and Mellow," a new release that she recorded in 1976. The material consists of songs associated with Billie Holiday, and though Smith's range is limited, she has the good sense to stay within it. Pleasant listening.

C.A.

RECORDING OF SPECIAL MERIT

STEVE SMITH: Vital Information. Steve Smith (drums); Dave Wiewezewski (tenor saxophone); Mike Stern, Dean Brown (guitarists); Tim Landers (bass). Looks Bad, Feels Good; Questionable Arrivals; V.G.; All That Is; and three others. COLUMBIA FC 38955, © FCT 38955, no list price.

Performance: Hard-blowing.
Recording: Excellent.

If you know Steve Smith at all, it's probably from his stint as a drummer for Journey between 1979 and 1981. "Vital Information" is his recording debut as leader of a jazz fusion group. In the tradition of such drummer-bandleaders as Art Blakey, Elvin Jones, and Billy Cobham, Smith has put together a hard-blowing all-pro session with alumni of the Miles Davis, Cobham, and Jean Luc-Ponty groups.

If it were just a matter of credentials, any five of a thousand jazz musicians could produce a great album. In the case of Vital Information, we have good players working with good material—ambitious compositions build around fast tempos, unusual time signatures and key changes, quick exchanges between soloists, and frenetic but uncluttered rhythmic backing. It's a distillation of the best ideas from such electronic jazz pioneers as John McLaughlin, Miles Davis, and the European ECM performers.

M.P.
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Prepared by Margaret Lidz
STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION (Required by 39 U.S.C. 3685)

1. Title of Publication: Stereo Review
   a. Publication No. 00391220

2. Date of filing: October 1, 1983

3. Frequency of issue: Monthly
   a. No. of issues published annually: 12
   b. Annual subscription price: $9.86

4. Location of known office of publication (not printers): One Park Avenue, New York, New York 10016.

5. Location of the headquarters or general business offices of the publisher (not printers): One Park Avenue, New York, New York 10016.

6. Names and complete addresses of the publisher, editor, and managing editor: Publisher, J. Scott Briggs, One Park Avenue, New York, New York 10016; Editor, William Livingston, One Park Avenue, New York, New York 10016; Managing Editor, Louise Cooch Boundas, One Park Avenue, New York, New York 10016.


8. Known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities: None.

9. Extent and Nature of Circulation:
   a. No. of issues published annually: 12
   b. Annual subscription price: $9.98

10. Extent and Nature of Circulation:
   a. Publication No. 00391220

11. Copying of No. Copies Single
   a. Each Issue
   b. Due to

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13. EFFECT OF MAIL ORDER: None.

14. EXTENT OF MAIL SUBSCRIPTIONS: None.

15. EXTENT OF MAIL SUBSCRIPTIONS: None.

16. MONEY received, paid or accrued: None.

17. MONEY received, paid or accrued: None.


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The Basic Repertoire

By Richard Freed

For some years critic Richard Freed, a contributing editor of STEREO REVIEW, has listened to all available recordings of the nearly two hundred symphonic works that form the essential core of orchestral programs and classical record collections, selecting those versions he considered the best. We have published his choices in a pamphlet, which we have updated annually, and we are now publishing his selections of the best current recordings of the Basic Repertoire in a regular series in the magazine. If you want the pamphlet, the most recent updating (1982) is available for $1 (check or money order) and stamped (40¢) self-addressed No. 10 envelope; send to Basic Repertoire, P.O. Box 506, Murray Hill Station, New York, N.Y. 10156.

MOZART: Clarinet Concerto in A Major. With the disappearance of the stylish De Peyer/Magaz version, the most appealing survivors are the durable Jacques Lancelot/Paillard recording, now on Musical Heritage Society (MHS 1391, © MHC 2068) and the more recent one by Harold Wright and Seiji Ozawa (DG 2531 254, © 3301 254).

MOZART: Piano Concerto No. 20, in D Minor. Rudolf Serkin is the commanding soloist in both the best-sounding recording of this work, his new one with Claudio Abbado conducting (DG © 2532 053, © 3302 053), and the best low-priced version, with George Szell (CBS MY 37326, © MYT 37326). The reading by Stephen Bishop-Kovacevich and Colin Davis is especially fresh, cogent, and altogether compelling (Philips 9500 570, © 7300 703).

MOZART: Piano Concerto No. 21, in C Major. Alfred Brendel, with Neville Marriner conducting, presents an exceptionally bracing view of this frequently ceremonialized work (Philips © 6514 148, © 7337 148, © 400 018-2). Ingrid Haebler’s ingratiating performance with Witold Rowicki conducting (Philips Festivo 6570 077, © 7310 077) is not far behind. Other good, though somewhat less individual versions: Radu Lupu with Uri Segal (London CS 6894), Walter Klien with Günter Kehr (Turnabout TV 34504, © CT-2207), and Jörg Demus playing a restored 1800 instrument with the Collegium Aureum (Pro Arte PAL-1040, © PAC-1040).

MOZART: Piano Concerto No. 23, in A Major. For all-round style and freshness, the most appealing versions are those by Barenboim-Kovacevich (on the other side of his No 20), Demus (with his No 21), Wilhelm Kempff (Leitner conducting, DG Privilege 2535 204, © 3335 204), and Brendel (Philips 6500 283, © 7300 227). Ashkenazy, conducting from the keyboard, makes a strong impression on CD (London © 400 087-2).

MOZART: Piano Concerto No. 24, in C Minor. Robert Casadesus and George Szell were at their awesome best in this work (CBS M 31814, © MT 31814) Murray Perahia, conducting from the keyboard, gives a poetic, well-proportioned account (CBS M 34219, © MT 34219). Kempff and Leitner are even more persuasive here than in No. 23 on the same record.

MOZART: Piano Concerto No. 27, in B-flat Major. There’s not one major disappointment among current recordings of this final concerto, but those by Emil Gilels with Karl Böhm (DG 2530 456) and by both Perahia (CBS M 35828, © MT 35828) and Ashkenazy, (London © LDR 71007, © LDR5 71007, © 400 087-2) as pianist-conductors are a cut above the rest.

MOZART: Violin Concerto No. 5, in A Major. The radiantly communicative recording by Anne-Sophie Mutter, with Karajan (DG 2531 049, © 3301 049), holds a place of honor among those by distinguished senior colleagues as Arthur Grumiaux, with Colin Davis (Philips 835 112, © 7505 003), Isaac Stern with George Szell (CBS MY 37808, © MYT 37808), Heifetz conducting for himself (RCA LSC-2957 or LSC-3265), and the elegant Josef Suk with Libor Hlaváček (Eurodisc 200 053, © 400 053, or in Supraphon set 1110 1521-5). Iz-Zak Perlman, with James Levine and the Vienna Philharmonic, is perhaps even more persuasive and surely the most radiantly recorded (DG © 2532 080, © 3302 080, © 400 020-2).

MOZART: Serenade in G Major ("Eine kleine Nachtmusik"). Karl Böhm’s reissued Berlin Philharmonic recording (DG Privilege 2535 492, © 3335 492) exudes Gemütlichkeit. So does Karajan’s latest remake with the same orchestra (DG © 2532 031, © 3302 031, © 400 034-2). In the same mellow frame are the performances under Karl Ristenpart, with especially attractive companion works (Musical Heritage Society MHS 753, © MHC 2156), and the elegant Josef Suk with Libor Hlaváček (Eurodisc 200 053, © 400 053, or in Supraphon set 1110 1521-5). Iz-Zak Perlman, with James Levine and the Vienna Philharmonic, is perhaps even more persuasive and surely the most radiantly recorded (DG © 2532 080, © 3302 080, © 400 020-2).

MOZART: Sinfonie concertante in E-flat Major for Violin and Viola. Dated sonorities fail to mar the pleasure of the stylish performance by Arthur Grumiaux and Arigo Pelliccia with Colin Davis conducting (Philips 835 256, © 7505 003). Josef Suk and Josef Koudouzek, with Hlaváček conducting, make a similarly happy impression (in Supraphon set 1110 1521-5), and Suk’s earlier version with violinist Milan Škampa and conductor Kurt Redel is a fine buy (Quintessence PMC-7106, © PAC-7106). Of the two very different Zuckerman recordings, I prefer the earlier one, with Barenboim conducting (CBS M 31369 or in MZ 36936).

ADVERTISERS’ INDEX

JANUARY 1984
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