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High Fidelity
SEPTEMBER 1988
VOL. 38 NO. 9

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On the cover: From the top, JVC's HR-S8000U Super VHS Hi-Fi VCR, Realistic's AV-900 audio-video receiver, and Lexicon's CP-1 surround-sound/ambience processor; all of them positioned in front of Dark Horse Ballgames, by Dan Wofford. Twining Gallery, New York City.

Cover design: Joanne Goodfellow
Cover photo: David A. Wagner

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I have been promising myself lately that I would stop using the “D” word so much, but it’s a tough habit to break. Let’s get it out of the way right at the beginning: Nobody introduced a DAT recorder at the Summer Consumer Electronics Show (CES). Whew! I feel better now.

Resignation has set in on this matter. Hardly anyone even bothers to ask manufacturers when it will happen, anymore. So what did go on? Not that much, relatively speaking. The semiannual Consumer Electronics Shows are where most manufacturers exhibit their lines and introduce their latest products. But this year’s Chicago outing was unusually quiet. That’s not to say there wasn’t a lot of new stuff, because there was (see our wrap-ups on the latest in electronics, high-end audio, and car stereo)—just not as much as usual.

And though there was no DAT for anything except demonstration, digital technology continues to work its way deeper and into audio and video equipment. We saw more amplifiers and preamps than ever before with direct digital inputs, as well as a surprisingly large number of high-priced, high-performance components designed to do nothing but convert digital signals to analog. For example, a number of manufacturers are now building CD players that depend on a separate box to do their D/A conversion. The other digital growth category is surround sound, in its various forms. Lexicon is currently shipping its exciting all-digital surround processor, the CP-1, which Technical Editor David Ranada scrutinizes in a feature review this month, and JVC has a new Digital Audio Processor designed to go head-to-head with Yamaha’s highly regarded DSP units.

In video, digital processing appears finally on its way to enhancing the quality of conventional NTSC television. Philip’s new IDTV (improved-definition TV) monitors use sophisticated, proprietary digital circuits for noise reduction and noninterlaced scanning. The result is a high-resolution picture free of visible scanning lines even on a large screen and with a noticeable reduction of such classic NTSC color artifacts as “hanging dots” and “dot crawl.” Also missing are the blurring of objects in motion and the loss of vertical resolution that have characterized some earlier attempts at noninterlaced scanning.

All was not digital, however. Among the most interesting new turns in audio is a truly concentric two-way driver from KEF, called Uni-Q (although I should note that the driver almost certainly was designed with the aid of digital computers). It is based on a tiny dome tweeter that actually fits into a woofer, placing the diaphragm of the high-frequency unit where you normally would expect the woofer’s dust cap. KEF claims significant improvements in the smoothness and consistency of the radiation patterns of speakers based on this technique. (See “Currents” for more on Uni-Q and Philip’s IDTV.)

Small Changes
In case you haven’t noticed, there are some changes in our recent test reports. One is that they now are signed by their authors. We thought this might help you calibrate your tastes to those of our reviewers. Another is that we have added a new category of review for products that we feel deserve expanded coverage. The first of these was our report on Yamaha’s new surround processors in July, and we have another this month on a competing unit from Lexicon (complete with comparison). Also this month we add a second new category of reviews, “User’s Reports,” for products that we think merit deeper coverage than a simple description in “Currents” but that do not require or lend themselves to full-bore laboratory analysis. And finally, we have in this issue a special section called “Ultra High Fidelity,” focusing on high-end audio. In the months to come, we hope to bring you more such sections spotlighting subjects both within and slightly outside our normal fields of interest.
DEAD WRONG?
I agree with Michael Riggs that performers should use amplification sparingly ["Front Lines," July], if it is necessary. His choice of the Grateful Dead as an example of an overamplified band misses the mark, however. The P.A. system they use delivers the cleanest sound I’ve ever heard live, and the band alters the system to the size of the concert hall (or stadium) so that it isn’t too loud.

I am reminded of a recent interview with Robert Hunter (the Dead’s longtime lyricist), in which he accurately described their current status as “Johnny-come-lately media darlings.” Mr. Riggs’s reference to the Grateful Dead must have been influenced by this recent phenomenon, because there are plenty of much louder bands.

Mike Weber
Rochester, N.Y.

Michael Riggs replies: You certainly are correct that there are many bands pushing more decibels than the Grateful Dead. I wasn’t using the Dead as an example of an overamplified band, but just wanted to establish that I am not opposed to loud music as a matter of taste or principle. The last time I heard the group live was some years ago in St. Louis at the Fox Theatre (the fabulous Fox), and they were very—but bearably—loud. I mentioned them mainly because I had heard them in concert and because they are well enough known that nearly everyone would know whom I was talking about.

Polarity Inversion
I notice that your CD player reviews no longer indicate whether the player under test inverts signal polarity. I realize that the audible significance of polarity (absolute phase) is a subject of debate, but one thing is clear: It is one of the easiest characteristics to measure. As you know, the NEC CD-810, Mitsubishi DP-311R [test report, January], and Onkyo DX-G10 [test report, March] CD players have switchable polarity, which your review of the Mitsubishi describes as making “an appreciable difference on some recordings.” Also, some preamplifier manufacturers (such as Mark Levinson, Rowland Research, and Threshold) include this function on their products; evidently their designers think it matters.

I therefore request that you include this information in your reviews of CD players. In fact, I wish you would include this data in your reviews of other types of products.

Robert Rowton
Albuquerque, N.M.

We usually say when a CD player inverts polarity, though we are perhaps not perfectly consistent on this point, and if a player has switchable polarity we always mention it. However, we’re not sure how useful information about polarity is in cases where it is not switchable. Every stage of amplification or transduction in the recording and playback chains offers an opportunity for inversion—which adds up to a lot of chances. It is even possible for a preamplifier to deliver one polarity to its tape outputs and the opposite to its main outputs. So unless you know what every output on every component in your system is doing to the signal polarity, as well as the polarity of the signal on every recording you play, you are going to have to decide by ear anyway.

By the way, if your system doesn’t have a polarity switch, you can achieve the same end by flipping the polarity of your speaker connections (swapping the hot and ground leads). Just make sure that you keep both speakers hooked up the same way, so that they remain in phase with each other.—Ed.

SUBWOOFER PLANS
I am interested in building a subwoofer using two 10-inch drivers. Are there any books or plans on the market that explain how to do this, or can you tell me the best way to accomplish this project.

Theodis Whiteside
Little Rock, Ark.

The best source we know of on such matters is Speaker Builder magazine. We suggest you write them for subscription information at P.O. Box 494, Peterborough, N.H. 03458. The publisher of Speaker Builder also distributes a number of books on the subject.—Ed.

GLOBAL MUSIC: WHAT IN THE WORLD?
Driving through Virginia and Maryland recently, I heard some great instrumental music on an unidentified radio station. It sounded like Cuban, Latin American, and African all at once, similar to the music of Paul Simon’s Graceland. All the announcer said was that it was “street music from Zaire.” Perhaps some of your readers could help me to identify the artists and record labels. I also hope to see some reviews in High Fidelity on this wave of world pop.

Newell E. Cox, Jr.
Enoree, S.C.

It’s hard to pinpoint specific artists of music so variously described by you and the announcer—music that could appear on any one of countless recordings now riding that world-pop wave. What we can tell you is
Vivaldi, The Four Seasons The English Concert/Pinnock. Archiv DIGITAL 115356
Horowitz in Moscow Scarlatti, Mozart, Rachmaninov, Liszt, Chopin, Scriabin. others. DG DIGITAL 125264
Perlman: French Violin Showpieces Havanise, Carmen Fantasy. Tzigane, more. DG DIGITAL 115457
Tchaikovsky, 1812 Overture; Romeo & Juliet; Nutcracker Suite Chicago Symphony/Solti. London DIGITAL 125179
By Request...The Best Of John Williams & The Boston Pops Olympic Fanfare, Star Wars, more. Philips DIGITAL 125360
Brahms, Cello Sonatas Yo-Yo Ma, cello; Emanuel Ax, piano. Grammy DIGITAL 115434
Galway & Yamashita: Italian Serenade Flute & guitar works by Paganini, Cinarosa, Giuliani, others. RCA DIGITAL 173824
Gregorian Chant Schola of the Hofburgkapelle, Vienna. Hauntingly serene. Philips DIGITAL 115434
Slatkin Conducts Russian Showpieces Pictures At An Exhibition, more. RCA DIGITAL 154358
Debussy, La Mer; Nocturne Boston Symphony Orchestra/Davis. Philips DIGITAL 115068
Beethoven, Symphonies Nos. 4 & 5 Academy of Ancient Music/Hogwood. L'Oiseau-Lyre DIGITAL 115009
Mozart, The Piano Quartets Beaux Arts Trio; Bruno Gürner, viola. "Absolutely indispensable."-Stereo Review Philips DIGITAL 115271
Teresa Stratas Sings Kurt Weill Surabays-Johnny, Foolish Heart, 13 more. Nonesuch 124749
Tchaikovsky, Symphony No. 4 Chicago Symphony Orchestra/ Solti. London DIGITAL 125038
Dvořák, Symphony No. 9 (New World) Chicago Symphony/Solti. London DIGITAL 115168
Mendelssohn, A Midsummer Night's Dream Neville Marriner, cond. Philips DIGITAL 115546
Ravel, Daphnis et Chloé (Complete) Montreal Symphony/Dutoit. London DIGITAL 115520
Mozart, Requiem Leipzig Radio Choir; Dresden State Orchestra/ Schreer. Philips DIGITAL 115039
Pavarotti: Volare Title song. Serenaata, 14 more. With Henry Mancini. London DIGITAL 125102
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that the dominant pop/ethnic music of Zaire is called soukous, and among the prominent current releases on which it can be heard are Kanda Bongo Man’s Amour Fou/Crazy Love (Carthage CGLP 4432), the collection Heartbeat Soukous (Earthworks/Virgin America 90883-1), and the Compact Disc compilations Out of Africa (Rykodisc RCD 20059) and African Moves (Rounder CD 11152).

One of our readers may indeed have more suggestions; meanwhile, I have advised one of our writers, Joe Blum, to be investigating worldwide music on CD for many months now and will present a feature review on the subject in our November issue.—Ed.

BASICALLY BERNSTEIN

Paul Moor provides a useful consumer service in his review of Leonard Bernstein’s Deutsche Grammophon recording of Harry’s Symphony No. 3 [May] by noting substantial cuts in the music. Would that more reviewers took upon themselves the duty of detecting and reporting such matters, at least when published scores are available.

I am surprised, however, by Moor’s statement of “shock” about the cuts. Bernstein’s prior recording of this music, for CBS (also with the New York Philharmonic), was similarly abridged. The conductor/composer’s CBS recording of Ives’s Symphony No. 2, recently reissued on CD, also contains substantial cuts, which are duplicated in Zubin Mehta’s New York Philharmonic recording with the Los Angeles Philharmonic.

Bernstein performed the Ives symphony in New York last year with a subsequent DG release of the performance projected. I was unable to attend the concert, but I suspect the cuts from several decades ago will also show up in the new recording. Unfortunately, the three uncut performances of the Ives symphony (Farberman, Herrmann, and Thomas) are all deficient either in performance or sound quality. I was looking forward to the new Bernstein release, but if he follows the precedent of his Harris performance, perpetuating cuts made as a young conductor, I will be as disappointed as Mr. Moor.

Arthur S. Leonard
New York, N.Y.

Somehow it seemed, to me at least, trite—anticlimactic. I agree with Messrs. Cook and Nevedine ["Letters," February] that Bernstein has now made this masterpiece sound "right." Mr. Hurwitz’s critique was in-depth, intelligent, and most sensitive.

I have to also point out my thorough enjoyment and appreciation of the essay on Toscanini ["Misunderstanding Toscanini"] that Thomas Hathaway presented in your August 1987 issue. In fact, that is what made me realize that CD had finally matured enough for me to "take the plunge"—for which I am grateful. It is reviews like these that keep HIGH FIDELITY "musical," although I enjoy the magazine throughout. All of the present articles, such as those by David Ranada, that are interesting, well written, and satisfying. Keep up the good work.

William Langelotti
Oakville, Conn.

PERFECTION REJECTION

Much as I hate to disagree with Alfred Brendel—I’m recalling your May article "Fame’s Catching Up with Alfred Brendel"—I must take issue with calling note-perfect recordings a "fetish." While I listened to Brendel’s recent Schubert recital, the pain inflicted by a false note dissolved immediately in the pleasure of the performance. The same error on a recording, however, snowballs with each playing until it dominates the whole piece. In fact, on a recording even the "personality" of a performer or conductor can get in the way of the music. No wonder some perennials best-sellers lack sparkle. Perhaps that’s the reason why canned perfection never diminished concert attendance. However, I wouldn’t sacrifice either kind of listening pleasure to the other.

Max J. Schindler
Boonton, N.J.

Nor would we. Nevertheless, it is only fair to point out that the term "fetish" was the choice of Brendel’s interviewer, Scott Cantrel, in introducing the pianist’s statements on the value (or lack thereof) of "spotless surface" in recording today.—Ed.

SAN FRANCISCO PLAYS MAHLER’S THIRD

I would like to point out that the magnificent performance of the Mahler Third Symphony mentioned in "San Francisco’s Sonic Boom" [June] and attributed to the San Francisco Symphony’s music director, Herbert Blomstedt, was actually conducted by Michael Tilson Thomas. I have lived in San Francisco for four years, having moved here from Chicago, where I was fortunate to hear the Chicago Symphony
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during the first 15 years of Sir Georg Solti’s tenure. The SFS has given many magnificent performances in my years here, but those performances of Mahler’s Third were ineffably beautiful—the orchestra, chorus, mezzo-soprano Florence Quivar, and Maestro Thomas performing matchlessly together. After the performance, I gathered several program books to send to friends in Chicago to inform them of what they had missed.

Also, rumor has it that San Francisco is considering Thomas for a principal guest conductor slot. I am, for one, enthusiastically support that idea.

Edward D. Wiadas
San Francisco, Calif.

Second, if you can’t find a better employee to write reviews of heavy metal, then do indeed stick to pop and jazz. I agree that Kingdom Come is far from great, but the Scorpions—to whom Mr. Richardson refers in his review—are definitely no “third-rate act.” It seems that Richardson also dislikes AC/DC, judging from his review of Zodiac Mindwarp and the Love Reaction, which appears on the same page. Anyone who dislikes both the Scorpions and AC/DC has absolutely no business doing reviews of heavy metal.

Give us potential buyers of heavy metal a break and find someone who knows the music he or she is talking about!

Roger Simmermaker
Titusville, Fla.
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Alpine is moving full-steam ahead with its mobile digital offerings, including three new in-dash CD players, each housed in a single DIN-size chassis. The top model is the AM/FM 7907 ($900), the first car model to use a four-times oversampling digital filter. The player's laser assembly is 81 percent the size of Alpine's previous designs, enabling the use of a larger disc stabilizer. Features include random play, 20-selection programming, and a remote-operated volume control. Lastly, the DCD-910 ($450) is the company's first model with eight-times oversampling. It also includes a coaxial (pin-jack) digital output, index search, and auto-space to aid tape dubbing. *Denon America, 222 New Rd., Parsippany, N.J. 07054.*

**Triple Play**

The DCD-610 CD player ($300) is Denon's new entry-level model, featuring four-times oversampling, one of the company's Super Linear 16-bit digital-to-analog converters (with a circuit to correct interchannel delay), 20-selection programming, and a wireless remote control. To facilitate two-sided tape dubbing, an Auto Edit function finds the beginning of the track nearest the midpoint of a disc. As with nearly all new players, three-inch CDs can be played without using an adapter. The DCD-810 ($390) adds a second DAC, two random-play modes, and a remote-operated volume control. Lastly, the DCD-910 ($450) is the company's first model with eight-times oversampling. It also includes a coaxial (pin-jack) digital output, index search, and auto-space to aid tape dubbing. *Denon America, 222 New Rd., Parsippany, N.J. 07054.*

**Fine Tuning**

The TX-1000U AM/FM tuner ($549) replaces the T-85 at the top of Yamaha's tuner lineup. Tuning is controlled by a rotary knob—an increasingly popular style—and can proceed in 0.01 MHz increments on the FM band (as opposed to the conventional 0.1 MHz) to fine-tune offset stations or compensate for multipath effects. Other tuning aids include a 24-segment signal-quality meter, two FM antenna inputs (you select either on the front panel), wide and narrow IF settings, and an RF attenuator switch. There are also 24 station presets and the facility to store a station's call letters for display. Yamaha rates the tuner's alternate channel selectivity at a very high 90 dB. The TX-1000U comes with a remote for access to the presets and can also be operated by Yamaha's RS system remote. *Yamaha Electronics Corp., 6660 Orangethorpe Ave., Buena Park, Calif. 90620.*

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**FLORIDA**
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- Channel TV
- Command Sound
- Computers Today
- Davey
- Lacherman
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- Overseas Elect.
- Packard
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- Standard Brands
- Yen's Enterprises
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- Lachermann
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**IDAHO**
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- Clark St. Midwest
- Century
- Columbia
- Clybourn
- Chicago
- 31st in Video Music
- Voco
- H. F. Precision
- Jacques Electronics
- M. & P. Accent Video & Electronics
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- Knox Appliance & TV
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- Liberty Tree Audio
- The Channel Video
- Video Signs

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- Samsung Electronics
- Sound Systems

**MINNESOTA**
- Newman Hi-Fi Inc.
- Walker & Peterson's
- Sound
- Audio
- Grand Central

**MISSOURI**
- Hollywood Video
- Homestead
- overnight
- & TV

**NEBRASKA**
- Eklund's Appliance

**NEVADA**
- Baker Appliance
- & Video

**NEW HAMPSHIRE**
- The Sound Resort
- State Street
- Discount House

**NEW JERSEY**
- Abington Audio
- Audio Video
- Druckers Wholesale
- Holmdel
- Keith Audio
- Akins
- Soundtrack
- Storer's Store
- Tops Appliance City
- Wall to Wall
- Sound & Video

**NEW YORK**
- Awesome Audio
- Bartner's TV & Appliance
- 3FM Street Photo
- Great Central Radio
- Newman & Lewis
- S. & S. Buying
- Stereo Advantage
- Wall to Wall
- Sound & Video
- The Way

**NORTH CAROLINA**
- Bostic
- Lakeview
- Queen City TV
- & Appliance
- Tod's Stereo

**NORTH DAKOTA**
- Today Electronics

**OHIO**
- Hamilton's Furniture & Appliance
- Jones's
- Sight & Sound
- Stewart's Appliance

**OKLAHOMA**
- Soundtrack

**OREGON**
- T & L Electronics

**PENNSYLVANIA**
- The Appliance Shop
- Lenovo
- Appliance
- TNR
- Audition
- Mr. Photo
- Odyssey Home Entertainment
- Sennheiser Audio
- Sound Co.
- Video Unleashed
- Wall To Wall
- Sound & Video

**SOUTH CAROLINA**
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- Lacherman
- Lifetime
- TV & Appliance
- Co.
- Science Video

**TENNESSEE**
- Audio Video
- Components

**TEXAS**
- B & M Distributors
- Ed Kenley & Son
- Auto Video
- Entertainment
- Sound Systems
- Ten Thousand
- FM Video
- Video Rama

**UTAH**
- R. C. Bailey Home Furnishings

**VERMONT**
- Great Northern Stereo Warehouse

**VIRGINIA**
- Audio Exchange

**WASHINGTON**
- Damore's TV
- Appliance
- Direct Buying Center
- Hill Photo
- Huppin's
- Ken's TV & Appliance
- Magnolia Hi-Fi & Video
- Pauser
- Stereo First
- By Bem
- Son Bin Video Theaters
- Westward Marketing

**WEST VIRGINIA**
- Alpha Enterprises

**WISCONSIN**
- American of Madison
- Flannern & Halvorsen Hi-Fi Heaven
- Suess TV

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**CURRENCE**

**SEPTEMBER 1988**

**FOR ADDITIONAL ALLEN AND DETAILS CALL 1-800-323-1728.**

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**CURRENTS**

Alpine 7905 removable AM/FM car CD player

Denon's eight-times resampling DCD-910 CD player
Great Combination

With its new VS-A77U VHS Hi-Fi VCR ($779), Akai invites you to create your own video surround-sound system. The new top-of-the-line model contains a Dolby Surround Sound decoder plus a 10-watt (10-dBW) stereo amp for powering front or back speakers. Two other surround effects are provided, as well. All you need add, then, are two pairs of speakers and a second amp. The deck itself is a four-head design using Akai’s Quick Start transport, which dramatically reduces tape-loading time (from stop to play, for instance). Other highlights: MTS/SAP tuning, on-screen programming, indexing, and a comprehensive remote control that can “learn” as many as 45 functions to operate other audio and video components. Akai Div., Mitsubishi Electric Sales America, 225 Old New Brunswick Rd., Piscataway, N.J. 08854.

New ID for TV

While we await the promise of HDTV (High Definition Television), Philips is moving ahead with IDTV (Improved Definition TV), which is fully compatible with the present-day NTSC television system. The basis of IDTV is noninterlace scanning, wherein a full 525-line picture is displayed 60 times a second, rather than formed by alternating (interlacing) two 262.5-line fields at the same rate. This requires that information from a previous field be combined in some manner with the current field, using memory circuits to store the earlier information in digital form. The main advantages are increased apparent vertical resolution and the elimination of line flicker—the former most easily observed on large-screen sets.

Philips’s first IDTV set is the 27-inch 27-J245SB ($1,500), a table model with two built-in tuners and a wide variety of picture-in-picture and freeze-frame digital effects (all benefiting from the IDTV process). It will be joined shortly by the 31-inch 31-J460SA ($2,600), a console model with similar features. Both sets have built-in split-screen demonstration modes for showing the results of the noise reduction and the difference between ordinary noninterlace scanning and the Philips method. Other features include a host of on-screen menus and a learning remote control preprogrammed to operate many other brands of VCRs and cable boxes. Philips Consumer Electronics Co., P.O. Box 14810, Knoxville, Tenn. 37914.

The CD-BOX™

Elegant, Efficient CD Storage

Compact Discs Do Almost Everything Better Than LPs... But They Don't Fit In Record Cabinets!

Hills Products introduces the CD-BOX compact disc storage system. A stand alone unit, it fits the space intended for records in most audio-video furniture and wall systems perfectly! Finished in your choice of light or dark oak, walnut, or black, its two smooth-sliding drawers hold up to sixty CDs (single, double, or triple), with dividers that keep discs upright and organized. 30 day, money-back, satisfaction guarantee.
The CD-BOX $64.95 to $69.95. Dimensions: 6 1/4" w, 12 3/4" h, 14 3/4" d. To order or for information call Hills Products: 1-800-247-2018.

AM/FM audio receiver, the TX-SV7M is equally well endowed, featuring a 100-watt (20-dBW) stereo amp, inputs for four audio and two video sources, and Onkyo’s bass-expander function. Because it’s likely to be anchoring an audio-video system, the receiver comes with a “learning” remote, already programmed for other Onkyo audio components (hint, hint!). Onkyo, 200 Williams Dr., Ramsey, N.J. 07446.
EQ Galore
Sansui's RZ-7000 receiver ($600) delivers 70 watts (18.5 dBW) per channel and includes a five-band graphic equalizer that can be operated by a full-function remote control. The EQ section has five factory presets, five user programs, and a unique function: Each of the 30 tuner presets can be assigned its own EQ curve, which is then recalled along with the station. The remote also controls certain new Sansui cassette decks and CD players. Two other remote-control receivers without onboard equalizers—the 60-watt (17.8-dBW) RZ-5000 and the 50-watt (17-dBW) RZ-3000—list for $460 and $370, respectively. Finally, the new series leads off with the $280 RZ-1000, a 32-watter (15.1-dBW) that has a generous number of inputs and handles two pairs of speakers.

Ready for yet another choice in CD changers? Sansui's CD-X510M ($630) accepts two six-disc cartridges and can be programmed to play a 30-selection sequence. A single-disc tray and a 3-inch CD adapter are supplied along with the two main cartridges. A variable introscan feature will sample each cut on all discs for a chosen period of one to 59 seconds. The unit comes with a remote control and can also be operated by the remotes included with the new RZ receivers (above). Sansui Electronics, 1250 Valley Brook Ave., Lyndhurst, N.J. 07071.

Singular KEFs
There are a number of problems associated with using multiple drivers in a loudspeaker. Among them: reinforcement and cancellation of frequencies around the crossover point, changes in phase caused by different arrival times from each driver, and variations in tonal balance as you change listening position (caused by each driver's different directivity pattern at the crossover frequency). The benefit of a multidriver system, of course, is that each driver can be optimized for its role. KEF makes the best of both worlds with its new Uni-Q driver, said to be the first true coincident two-way source. The Uni-Q consists of a tweeter mounted on the same axis as the woofer, both sharing the same acoustic center. Unless you look closely, you could mistake the tweeter for the woofer's dustcap. By making the tweeter's magnet from a powerful new neodymium-based alloy, KEF was able to fit the entire assembly within the woofer's voice coil.

The top four models in KEF's new C-Series employ the new driver. The C-35 bookshelf model ($440 per pair) has an 8-inch woofer with 3/4-inch tweeter. The slightly taller C-55 ($550) adds to that an 8-inch passive radiator. At $750, the floor-standing C-75 has a 1-inch tweeter and a second bass driver, while the top-rank C-95 ($1,295) adds to that KEF's Coupled Cavity Bass Loading. KEF Electronics of America, 14120-K Sullyfield Circle, Chantilly, Va. 22021.

Cheap Protection
The Cassette-Lock ($20) is a simple way to deter criminals from taking a bite out of your car's dashboard. The same size as a cassette, it slips into a radio's cassette compartment and, with the turn of a removable latchkey, grips and immobilizes the player's tape spindles with two steel cylinders. It will also disable the radio in some players, according to Laser Corp, its supplier. Window stickers and a tag that hangs from the unit warn thieves of the no-win situation. Laser Corp says that a Swedish auto-insurance company provided the Cassette-Lock to its policy holders after determining that thieves working in a car park were passing up car stereos equipped with it (a genuine Saab story?). Laser Corp, 945 W. Hyde Park Blvd., Inglewood, Calif. 90302.

SOUND INVESTMENTS
If you own vibration sensitive equipment like CD players, turntables, VCR's or videodisc players you can greatly improve your systems sound quality with AQ's Sorbothane Big Feet and CD Feet. They are simply amazing in their ability to eliminate unwanted vibration.

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The greatest music is on CD—and here's your chance to pick six favorites listed in this ad. As a special introductory offer to the CBS Compact Disc Club, you can select any six CDs for $1. All you do is fill in and mail the application—we'll send your six CDs and bill you $1, plus shipping and handling.

How the Club works. About every four years—and you may then cancel your Club membership, you may order any six CDs for $1. All you do is fill in the response card always provided and mail it by the date specified. You will always have at least 10 days in which to make your decision. If you ever receive any Selection without having 10 days to decide, you may return it at our expense.

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IS adjusted, the attenuator will reduce the signal strength to solve your overload problem. When properly installed and properly installed, your tuner's antenna terminals. It should be accommodated by the MM and MC jacks?

Robert Mitchell
Rahway, N.J.

The term “MM,” an abbreviation for “moving magnet,” is used generically to describe a wide variety of phono-cartridge designs (usually magnetic) whose load-impedance requirements and signal output voltages fall within certain parameters. The signal output may vary from 0.5 to 5 millivolts, but the input impedance requirement is fixed at 47,000 ohms, ±10 percent. MC (moving-coil) cartridges, on the other hand, may have outputs that range from several millivolts to a fraction of a millivolt and are usually critical as to their load requirements. While many of the high-output MC cartridges can be connected directly into standard MM inputs (although they may require a higher volume setting on the amp), the low-output MC cartridges require either an extra gain stage (a pre-preamp) in the amplifier or an outboard matching transformer.

Tuner Overload

Although my FM reception was fairly satisfactory, since I live in a private house I thought I could bring in a few more stations with a little less noise by putting up a roof antenna. Although the antenna came highly recommended and is a high-gain unit designed to operate on the FM band, my reception is now worse than it ever was. The sound is slightly harsh, some stations appear at several places on the dial, and I’ve even lost a couple of stations. I’ve gone back to my folded dipole and everything is as it was before. What went wrong?

Edwin Goldberg
Elmsford, N.Y.

This one is easy. The higher signal levels from your new high-gain antenna overloaded the input circuits of your tuner (easy to do with a high-gain antenna relatively close to the transmitters), causing the ill effects you noted. Assuming that the antenna is still on your roof, there’s a simple, inexpensive little black box called a variable signal attenuator that you can install between your antenna downlead and your tuner’s antenna terminals. It should solve your overload problem. When properly installed and adjusted, the attenuator will reduce the signal strength coming down the antenna line sufficiently to prevent tuner overload, yet allow enough of a signal increase to improve reception; in addition, it will not degrade the antenna’s directional multipath-rejection characteristics. Simply rotate the attenuator’s knob until you find the best compromise setting. Variable attenuators come in 300-ohm and 75-ohm models and sell for well under $10 at Radio Shack and other electronics parts stores.

Tweeter Repair

One of the tweeters in my speakers has stopped working, and I’d like to get it fixed. But my speakers are over a year old, out of warranty, and the manufacturer is on the opposite coast. Is it a good idea to have my speaker repaired locally—assuming I can find a reliable service shop?

Charles Castro
Grass Valley, Calif.

First, check your warranty, since many speaker brands provide longer coverage than the conventional 90 days or one year. In any case, I suggest that you call or write the manufacturer, who should be able to advise you on your next step. Tweeters are usually quite easy to replace in that all you need to do is (1) remove the speaker grille, (2) undo some mounting screws, and (3) disconnect two solder or clip-on connections at the rear of the damaged tweeter. When you install the replacement, make sure to observe the polarity markings or color codings on the tweeter terminals and connecting wires.

It is likely that the manufacturer’s price for a replacement tweeter will be far less than the cost of shipping your entire system to and from the factory. Be sure to have your system’s model and serial numbers at hand when you call, because manufacturers have been known to change driver types between production runs without changing the speaker system’s model number.

If you doubt your ability to perform the repair yourself, the manufacturer may be able to suggest a factory-authorized repair station in your area. In truth, any competent local technician should be able to install a new tweeter. Do not take your system to a local TV/hi-fi service shop and ask them to supply a replacement tweeter. The crossover network in your speaker has been designed for the existing drivers, and, unless a new unit is an exact match, the system will not perform properly (and will fall out of warranty, besides).

As a final check once the new tweeter is installed, place your two speakers side by side, set your preamp to mono, and use your balance control to compare the sound of the two systems on a wide-range of program material. If they sound grossly different—particularly in the area of the tweeter crossover frequency—the new tweeter may have been installed with its connecting-lead polarities interchanged. If switching the leads doesn’t resolve the problem, ask the manufacturer for his suggestion.

We regret that the volume of mail is too great for us to answer all questions.
The New Stuff
Is Here

By Christopher J. Esse

Our offices nearly emptied around the first week in June, when the Consumer Electronics Show (CES) took place in a very warm Chicago. The CES is a large—and I mean large—trade show, at which hundreds of companies of all sizes and significance proudly present their latest products to the collected masses. Those masses are mostly retailers and distributors, for whom the show serves as a business forum. Work, work, work. Meanwhile, we editors get to look at and play with all this stuff, feigning disinterest and completely absolved of any serious business responsibilities—like any self-respecting critic.

I spent additional time scouring the car-audio displays, which were remarkably free of car-piercing demonstrations; or maybe I'm just getting used to it. Although the winter version of the CES is the major event for car audio companies, the midyear gathering still offered a number of interesting items and revealed a few trends.

First up, the ubiquitous update on Digital Audio Tape (DAT) players. As you may know (but don't feel left behind if you don't), car DAT players are now from Clarion, Kenwood, JVC, and Alpine, and as a factory-installed option in the Lincoln Continental and Cadillac Fleetwood (part of those cars' premium sound systems—Ford/JBL and Delco/Bose, respectively). Soon to join the DAT pack are Blaupunkt, Mitsubishi, and Eclipse (more on the last to come). All parties involved realize that in the absence of DAT recorders for home taping, the very expensive car players at this point are technological "statements" more than viable products. Nevertheless, there's no doubt that in an ideal world a car DAT player is both viable and desirable.

Car Compact Disc changers are currently offered by Alpine, Sony, Pioneer, and Technics (the last three reviewed here since March). For its CDX-A20 changer, Sony has added the ultrasmall RM-X1 wired controller ($130), which can be linked to an existing head unit's auxiliary input. This brings to four the number of controller options for the Sony. For its CDX-M100 changer, Pioneer now offers a second controller in addition to the KEX-M700 cassette/tuner. The new tuner-equipped DEX-M300 ($500) has a removable control panel that functions as a wired remote (the main chassis can be stowed away or installed in the dash) and can be linked to an existing head unit with the optional RD-480 switch box. Finally, Technics has introduced the CQ-R9550 cassette/radio ($750) as a control option for its changer, now offered independently as the $850 CX-DP11. The new head unit has no buttons, relying instead on either remote control or a touch-sensitive LCD panel that changes its face for each source: radio, cassette, and CD. The CQ-R9550—for which the changer is an option—may shout, "Hey, look what we can do," but it's surprisingly easy to use and definitely hip.

You will have more CD changers to choose from in the coming months. Kenwood has introduced a 10-disc model (KDC-C100, $1,199) with a removable wired control panel and an optional hideaway tuner module ($249). Concord is gearing up a 12-disc model operated by a half-DIN in-dash module with a supplied wireless remote. And Clarion is ready with its Audia 6000 (about $1,650), a 12-disc player with a slask-mounted control head that can be removed for programming sequences at home.

It looks as if Blaupunkt may be the first to market a car navigation system in the United States. No word yet on when, but a system based on technology licensed from industry-leader ETAK will be rolled out in Europe early next year. (Incidently, General Motors has a financial stake in ETAK.) Map information is stored on special CDs and displayed on a small screen, and you can zoom in and out to see detail ranging from major interstates to, presumably, local streets. Based on your current location, the system can help you chart a course, relying on a dead-reckoning method of navigation. According to Blaupunkt, maps of as many as 35 major U.S. cities can fit on one CD. Even so, the company suggests that its first audio CD changer may be designed for use in a navigation system. And I wonder if Blaupunkt's ARI system—which receives special broadcast traffic reports—can somehow be tied in, as well?

The Blue Dot company (that's Blaupunkt, translated) is also providing a beefed-up Parametric Sound Amplifier, the PSA-168 ($400), that offers four channels at a rated 40 watts a side. That's double the power of the original PSA-108, reviewed here last February. The PSAs accept preset EQ modules that counteract the undesirable acoustics of various car body styles. Another batch of EQ modules is being introduced for Japanese cars.

The traditional five- or seven-band graphic equalizer is starting to look pretty bland, as manufacturers seek to expand its mission. Many models now include at least one built-in crossover (for a subwoofer), and two recently introduced pieces—the Kenwood KGC-6041 ($299) and the Concord CEQ-7+ ($300)—also include single-band parametric equalizers that cover the troublesome bass-frequency range. The Kenwood's is actually semiparametric, with two sliders: One selects a frequency between 100 and 400 Hz, the other cuts the level by as much as 12 dB. The Concord's is a true parametric, with concealed screwdriver adjustments for frequency (50 to 400 Hz), bandwidth (or Q), and level. But the half-DIN Concord offers a dizzying array of additional features. A front-panel connector accepts an optional Y-adapter, one side of which can be connected to a microphone for measuring the frequency response in your car (you should use a tape or CD of pink noise as the sound source). By viewing the unit's spectrum analyzer, corrective adjustments

(Continued on page 22)
"Because I wanted to have the world's finest amplifier and the world's greatest transfer function, I built the astonishing Silver Seven."

Before you meet the new M 4.0t, Bob Carver wants you to meet its inspiration, the 'money-is-no-object' Silver Seven.

"One of my important design precepts is that power amplifiers should be easily affordable but last year, when I began designing a powerful new amplifier, I temporarily set aside that precept of affordability. The result is the Carver Silver Seven Mono Power Amplifier."

Destined to redefine ultra-high-end values forever, the Silver Seven is truly a "money-is-no-object" design. In fact, just a single pair of its fourteen KT88/6550A Beam Power output tubes cost more than some budget amplifiers.

The Silver Seven employs classic, fully balanced circuit topology and the finest components in existence.

A-450 Ultra Linear output transformers with oxygen-free primary leads and pure silver secondaries.

- Wonder Cap capacitors throughout.
- Interconnects are Van den Hul Silver.
- Internal wiring is pure silver.
- Wonder Solder throughout.
- Gold input connectors and high current gold output connectors.

The Silver Seven's polished granite anti-vibration base floats on four Simms's vibration dampers. The separate power supply's power transformer end-bells are machined from a solid block of high-density aluminum.

Capable of an astonishing 390 joules energy storage, the Silver Seven delivers a conservatively rated 375 watts into 8 ohms from 20Hz to 20kHz with no more than 0.5% distortion. On the 1-ohm tap, peak current is in excess of 35 amps!

Sonically a pair (for stereo) of the flawless Silver Sevens almost defies description.
"Because I wanted to share its magnificent sound with you we built the new Carver M-4.0t."

The M-4.0t, identical transfer function and 375 watts rms/ch. at 8 ohms 20-20kHz with no more than 0.5% THD. Total maximum output current is 60 amperes.

Superlatives are insufficient.

What does this have to do with the new M-4.0t?

Everything. Because the M-4.0t precisely duplicates the transfer function of the Silver Seven.

Ever wondered why two amplifiers of identical wattage can sound different? Or why two designs with different output ratings can sound much the same? In many cases, it's because each power amplifier exhibits a unique relationship between its input and output signals. Like human fingerprints, this transfer function is subtly distinct, defining much of the sonic character of the design. Bob has not only perfected the art of measuring an amplifier's transfer function, but is able to duplicate it in a completely dissimilar amplifier design! That's how he invested his solid state M-1.0t with the transfer function of a set of $5,000 esoteric tube amps several years ago.

This time he's gone one better. Or two.

He's used this powerful scientific method to duplicate the transfer function of the Silver Seven in the new M-4.0t (now you know what the "it" signifies). Mind you, we are not saying the M-4.0t is identical to a pair of Silver Sevens. An M-4.0t weighs 23 pounds versus the Silver Seven at 300 pounds a pair. The Silver Seven stores 390 joules of energy while the M-4.0t stores none. As a Magnetic Field Power Amplifier the M-4.0t instantly draws the power it needs directly from the AC line.

Though in choosing the M-4.0t you may miss the warm glow of the Silver Seven's silver tipped vacuum tubes reflecting in polished black lacquer, be assured both amplifiers are the most musical, effortless, and open sounding you have ever heard. Bass is full and tight, midrange is detailed, treble is pure and transparent.

Each can float a full symphony orchestra across the hemisphere of your living room with striking realism.

Bob Carver developed this incredible design for one reason: to bring you the best the world has to offer and the best amplifier value ever, and he has succeeded handsomely.

Listen to the new, incredibly affordable M-4.0t at your nearest Carver dealer. Or write us for more information. We'll even send you data on the Silver Seven. After all, if you ever want to move up from the M-4.0t, there's only one possible alternative.
(Continued from page 19)

can be made on the electronic seven-band graphic equalizer, which is able to memorize four curves. To take best advantage of the parametric section, you can have an installer pump pink-noise signals through the other side of the Y-adapter and check the results on a professional spectrum analyzer. In addition, the Concord has a selectable (80- or 240-Hz) mono subwoofer output and a back-panel CD-player input (selectable from the front).

Audio Control's EQQ ($349) is a new twelve-band graphic equalizer with separate controls for front and back channels—handy when dealing with tonally diverse front and back speakers. The critical bass region is covered by five half-octave-spaced controls, and the unit can connect to any preamp output as well as to speaker outputs. Like Audio Control's other models, this one is designed to be mounted in the trunk—set it right and forget it, if you will. The same goes for Alpine's seven-band 3401 ($550), one of the very few true parametric equalizers on the market. The 3401 can be switched to devote three bands to the front channels and four to the back.

If equalizers are getting the once-over, so are other forms of signal processing. Polk is now shipping its SDA (Stereo Dimensional Array) speaker system for cars, having offered the technology in home loudspeakers for a number of years. The goal of the SDA system is to minimize interaural crosstalk—that is, make sure your right ear hears only sounds from the right speaker and your left ear just those from the left. This is done by injecting reverse-phase cancellation signals into each opposite channel. The effect can be likened to wearing headphones, except that here the image extends far outside your cars. In a brief listening, I did notice a widening and deepening of the soundstage. An SDA system consists of the Automotive Crossover Matrix (housing the SDA circuitry and a subwoofer crossover) and two pairs of Polk speakers, and costs from $500 to $750.

On the amplifier front, Alphasonik has wrought the PMA series, with models ranging in power from 30 watts per channel ($150) to 300 watts a side (tentatively $990) and all bridgeable to mono. The company's protection circuitry, called Variable Permatect, is said to maintain "a safe operating parameter for all internal components" regardless of speaker load. Well, the proof is in the pudding, and I was given a helping: Right before my eyes the Alphasonik guy shorted one of the amps and it kept right on playing—at a very low level, of course. I guess we'll start seeing "0-ohm" ratings next.

Canton's Mainframe amplifier system, first reported on last October, deserves another mention now that it is actually available. It consists of three- and five-space racks ($225 and $325, respectively) that hold Canton's M-50 50-watt monaural power amps ($300 each). Each rack itself supplies all connections for the amps and the head unit, and you can start with as few as two amps and build from there—even connect another rack. Switches on each amp select any of four inputs or combinations thereof, as well as built-in crossovers (at 150 Hz and 2.5 kHz) for bi- or triamplification. Neat package.

While component speaker systems are still gaining favor among audiophiles, there is evidently a huge market for truck and hatchback "box" speakers. These are meant to be stowed behind the seat in a pickup or somewhere in the back of a van or hatchback. Yamaha is the latest to heed the call, which has already been served generously by Mitek, Pyle, Jensen, and others. But from what I've heard in box speakers, sound quality still takes a back seat to utility.

A major new player has entered the market. The name—Eclipse—is new, but the company, Fujitsu Ten, has been a force for many years, especially as a supplier to car makers. The Eclipse line is broad: three cassette/receivers, one cassette/tuner with a built-in graphic equalizer, two CD players (one with tuner), an equalizer with subwoofer crossover, a pair of two/four-channel amps, three speakers, and a DAT player. Eclipse is particularly proud of the sensitivity of its "Ultra Tuner II" circuitry, as well as of the touch-panel operation of the EQZ-200 cassette/tuner. All of the head units are replete with high-end features (prices range from $550 to $1,600), and the company backs the line with a three-year parts and labor warranty. We plan to test the top cassette/receiver next month.

You've probably read about the optical-fiber outputs on some of today's upper-end home CD players. They are used to carry the unconverted digital signals to an outboard digital-to-analog converter. Such digital signals are largely immune to radio-frequency and electromagnetic interference (RFI and EMI) anyway, so here the benefits offered by the optical carrier are redundant. However, in a car audio system, with long runs of cable carrying analog signals from head unit to amps, optical's immunity from picking up (or generating) interference is a godsend. Enter Phoenix Gold, a company that specializes in cabling, connectors, and adapters for autosound systems. Its new Optical Fiber System, developed by LS Research (Larry Schotz—there he is, again!), converts four channels of audio into optical signals and sends them over a single fiber-optic cable to a decoder, which restores them to electrical form. If the cable run from your head unit to your crossover or amps has been plagued by interference, weep no more. Part of the beauty of this system is the single optical cable, which measures just \( \frac{1}{4} \) inch in diameter (but don't put a kink in it). Phoenix Gold wryly points out that its system, at around $200, is equivalent in price to two pairs of "esoteric" cables.

A word on styling. With few exceptions (notably Soundstream and the new Harman Kardons), today's head units show little attention to form (and function, for that matter). At the show, it was clear that things are improving. I noticed that new models from JVC, Sanyo, and Panasonic have taken on a softer, more rounded look—rather in the manner Sony uses to clean up its front panels. But the problem goes deeper than styling: There is simply a practical limit to how many features you can pack into a head unit (or into home audio receivers, some of which have really gotten out of hand). Perhaps some innovative designer will find a way to put infrequently used and arcane functions onto a wired or wireless remote, one that can be tucked away for the rare occasion when they are needed. In effect, this is exactly the goal of multifunction buttons and displays, but I still find them too convoluted for their own good.

That's enough commentary. I am preparing another test drive for the next issue, so button up your windows and keep to the right.
Recoton W-100 Wireless Loudspeaker System

Through his clever inventions, design engineer Larry Schotz has imparted a bit of magic to the world of audio. For Recoton, he developed an adapter that connects a portable Compact Disc player to any car cassette player. He also developed the company's F.R.E.D. MTS adapters, which provide stereo-TV reception for virtually any non-MTS television set. His latest effort on behalf of Recoton is the wireless transmission system employed by the W-100 speakers.

At the heart of the W-100 system is a small stereo FM transmitter that connects to an output on your audio system—to either the tape-out jacks, the preamp-out jack, or the headphone jack. It can also be connected to the audio output of a separate component, such as a portable CD player or a VCR. Pin-plug connecting cables and a headphone-jack adapter are supplied. The transmitter injects the audio signals into your household wiring system through the 110-volt AC outlet into which it is plugged. With little effort, your house is now truly wired for sound, and you can tap that sound from any other AC outlet.

This is where the speakers come in. Now available in black or white, each is encased in a sturdy ABS-plastic cabinet, with a nonremovable perforated-metal grille covering a four-inch, full-range driver and two small ports. The main speaker houses an equalized 10-watt (10-dBW) stereo amplifier and plugs into an AC outlet; it also contains the decoding circuitry (with proprietary noise reduction) that strips away the audio signal embedded in the incoming alternating current. The two speakers are linked by a generous length of wire, and the main unit's power switch and volume control serve the pair.

Setting up is easy. The only control of concern is that for input level on the back of the transmitter: You turn it up until a red overload indicator on the front panel flashes only occasionally. If you're using a source's headphone output, Recoton says its volume control should be set to about half of maximum (although I didn't find this to be critical).

I first used my main audio system as the source and carried the speakers off into an adjoining room. Hey, it works! Not only is the signal clean—immune to interference from other electrical devices—but the sound from the speakers themselves is a pleasant surprise, although not likely to outshine a regular two-way speaker around this price. The bonus is in the bass, where the built-in equalization gives you more, and deeper, bass than you have any reason to expect. I would guess—and Recoton states—that the W-100s provide usable bass down to around 80 Hz. And don't underestimate the prowess of the modest amplifier: The W-100s can make things plenty loud in a typical bedroom.

When setting the transmitter's input level it's best to err on the low side, because running it too hot will cause audible clipping distortion. Indeed, for set-and-forget operation, you should adjust the level against your system's loudest source; in my case, an overly compressed FM station proved to have the highest output level at my receiver's tape-out jacks.

In all three of our W-100 samples, channel balance slightly favored the channel containing the amplifier. I didn't find this distracting, although it points out the limitation of using tape-out jacks as the source, wherein you lose the use of your audio system's balance and tone controls. However, by using your system's headphone jack (or a preamp output, if you've got one) to feed the transmitter you reclaim these controls. Alternatively, you may hook up the transmitter at the tape output of an equalizer to permit additional sound shaping (but no control of balance). I did not find it necessary to fiddle with the tone of the W-100s.

It would be silly to try to list the various uses for the W-100s—there are so many. And once you have installed the transmitter, it's a routine matter to set up additional pairs of W-100s. I got a kick out of bringing the speakers to places where I've never listened to music—for instance, down to the garage, forty yards away but equipped with an AC outlet. (Unlike with an infrared transmission system—or, to a lesser extent, an over-the-air RF system—line of sight to the transmitter does not constrain the Recotons, and the company estimates conservatively that the transmitted signals have a range of 1,000 linear feet of AC wiring.) Used as back-channel speakers, the W-100s can eliminate a good deal of mess in a surround-sound setup. I also tried them with an electronic piano that has no speakers of its own. Since the speakers are, in a way, portable, Recoton should consider some sort of recessed grip to make carrying easier.

Undoubtedly, we will see more of Larry Schotz's wireless technology. Indeed, Recoton soon plans to offer a transmitter/decoder package for use with other powered speaker systems. Perhaps the technology will be expanded for data transmission, or even used to create high-fidelity intercoms. But whatever comes along in the future, it will be hard to beat the Recoton W-100 system for its wide appeal, value, performance—and a little something called magic.

Christopher J. Esse
Now available in a home model.

Introducing the Toshiba Digital A/V Processor Controller. The first of its kind to house an A/V controller for up to 14 components, digital processor and amplifier all in one component.

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\*125 watts per stereo channel, max. RMS, into 8 ohms from 20 Hz to 20 kHz with no more than 0.09\% THD

Toshiba America, Inc. 82 Totowa Road, Wayne, NJ 07470
Most of the audio-video products on the market do nothing with video signals except switch them. The AV-900 is one of the exceptions: It tunes TV signals as well, and, depending on your setup, has by a wide margin the broadest signal-source repertoire of any receiver we've tested to date.

Your first glance at the back panel will tell you what is involved. In addition to the customary pin-jack pairs for audio inputs and outputs, and the less customary single jacks for composite video, there are no fewer than five F connectors to carry RF (radio frequency) signals. (Yes, they're all the U.S.-standard threaded kind that mate with most cable and antenna 75-ohm lines.) They are marked for FM, TV, and cable inputs, and for TV and VCR outputs. The reason for the RF outputs is so that your TV set and VCR can tune channels independently of the AV-900; these “through” connections remain live even when the AV-900 is turned off to facilitate, for instance, time-shift recording when you're away from home.

The manual illustrates splitter hookups that permit taking FM from the cable or antenna feed; routing standard cable to the TV terminal and scrambled cable (via the cable-system box) to the cable terminal; and so on. The built-in tuner handles all the VHF and UHF channels (2 to 83) at its TV setting and cable channels 1 to 65 and 95 to 99. The carrier of the RF output can be switched between channels 3 and 4. The cable input can be switched between standard, IRC, and HRC. (These switches, which probably will be used only once, are on the back panel.) So all the important bases are covered. Even if you have a sat-

(Continued on page 28)
The Polk Revolution Continues!

“Polk reinvents the loudspeaker”

High Fidelity Magazine

Nearly six years ago the audio world was stunned by Matthew Polk’s introduction of revolutionary SDA technology. While other designers had been concentrating on small refinements to existing loudspeaker technology, Matthew Polk opened the door to new frontiers of exciting realism in sound.

True Stereo SDA technology maintains stereo separation all the way to your ears, something which no conventional speaker can achieve. Conventional speakers make it sound like the musicians are trapped in the speaker boxes or in the small space between them. Polk’s patented SDA speakers fill the entire width of your listening room with sonic images so breathtakingly real that it’s just like having the musicians in the room with you. They must be experienced to be believed!

Introducing the SDA SRS 2.3

Introduced two years ago, the flagship SDA Signature Reference System (SDA SRS) is the ultimate expression of loudspeaker technology. A two-time winner of the prestigious Audio Video Grand Prix Award, the SDA SRS was recently chosen by the editors of Stereo Review magazine for their ultimate dream system.

Now being introduced, the SDA SRS 2.3 offers all of the benefits of third generation SDA technology in a slightly more modest package. It is the perfect speaker for those listeners who demand the best and most exciting listening experience but who cannot accommodate the larger SDA SRS.

Words can never fully express the thrilling experience of listening to the new SDA SRS 2.3. Effortless reproduction at live concert levels, distortion free, body-tingling bass and room-filling stereo imaging are executed so flawlessly that when you close your eyes you’ll forget that you are listening to speakers at all: Visit your local Polk dealer and experience them for yourself.

Matthew Polk’s award winning SDA SRS 1.2 and the SDA SRS 2.3.

polkaudio
The Speaker Specialists®

5601 Metro Drive, Baltimore, Md. 21215

Where to buy Polk Speakers? For your nearest dealer, see page 88.
FM Tuner Section

**Frequency Response & Channel Separation**

- Frequency response: left channel +½, −1⅞ dB, 20 Hz to 15 kHz
- Frequency response: right channel ±1 dB, 20 Hz to 15 kHz
- Channel separation ≥37 dB, 20 Hz to 10 kHz

**Sensitivity & Quieting**

- Stereo quieting (noise)
- Mono quieting (noise)

**Stereo sensitivity (for 50-DB noise suppression)**

44½ dB at 95 MHz, with 0.34% THD + N
44½ dB at 92 MHz, 41 dB at 106 MHz

**Mono sensitivity (for 50-DB noise suppression)**

15 ½ dB at 98 MHz

**Capture Ratio**

1.1 dB

**Selectivity**

- Alternate-channel: 63 dB
- Adjacent-channel: 5 dB

**Harmonic Distortion (THD + N)**

- Mono: at 100 Hz 0.30%, at 1 kHz 0.15%, at 6 kHz 0.25%, at 15 kHz 0.35%
- Stereo: Pilot Intermodulation 0.14%
- Intermodulation Distortion (mono) 0.05%
- AM Suppression 62 dB
- Pilot (19 kHz) Suppression 81 dB
- Subcarrier (38 kHz) Suppression 106 ½ dB

TV Tuner Section

**Audio Frequency Response (mono)**

- +½, −3 dB, 35 Hz to 13 kHz

**Audio S/N Ratio (mono; A-weighted)**

- Best case (no color or luminance): 60 ½ dB
- Worst case (multiburst signal): 25 dB

### About the dBW

We currently are expressing power in terms of dBW—meaning power in dB with a reference (0 dBW) of 1 watt. The conversion table will enable you to use the advantages of dBW in comparing these products to others for which you have no dBW figures.

<table>
<thead>
<tr>
<th>WATTS</th>
<th>dBW</th>
<th>WATTS</th>
<th>dBW</th>
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<tr>
<td>1.0</td>
<td>0</td>
<td>32</td>
<td>15</td>
</tr>
<tr>
<td>1.25</td>
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<td>16</td>
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<td>1.6</td>
<td>2</td>
<td>50</td>
<td>17</td>
</tr>
<tr>
<td>2.0</td>
<td>3</td>
<td>63</td>
<td>18</td>
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<td>2.5</td>
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<td>3.2</td>
<td>5</td>
<td>100</td>
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<tr>
<td>4.0</td>
<td>6</td>
<td>125</td>
<td>21</td>
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<tr>
<td>5.0</td>
<td>7</td>
<td>160</td>
<td>22</td>
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<td>6.3</td>
<td>8</td>
<td>200</td>
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<td>9</td>
<td>250</td>
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<td>10</td>
<td>320</td>
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<tr>
<td>25.0</td>
<td>14</td>
<td>800</td>
<td>29</td>
</tr>
</tbody>
</table>

Selecting channels manually is fairly easy, so you may choose to include only favorite channels in the edited sequence and hand-select the others as needed.

This is easiest to do with the supplied remote, which requires two AAA cells. Its keypad (the only feature not shared by the front panel) accepts direct numerical entry of channel numbers for cable and TV—or of the AM, FM, and simulcast presets. Also on the remote is a power switch (the receiver switches between on and standby), the cable/TV switch, a mute (a real one—not a 20-dB attenuator), and the sound-mode stepper. This last acts as a mono/stereo switch when you are using an audio source. When the AV-900 is tuned to an MTS stereo broadcast, the stereo mode is chosen automatically; the switch can select the SAP option, which may contain dialogue in a second language or, at the broadcaster's option, material extraneous to the video. The only other time you need use the sound-mode stepper button is if the broadcaster has turned on the stereo carrier after you tuned in.

Special attention has been given to video dubbing, controlled by three buttons on the hidden panel. The first turns on the dubbing loop; the second chooses whether the feed is from VCR 1 to VCR 2 or the reverse; the third chooses whether the video (or audio-video) processor is included in the dubbing loop. This is an unusually comprehensive scheme. It does not allow for audio-deck tape dubbing without altering your hookup, but perhaps that's beside the point in such a receiver.

All of this interactivity requires logic...
control. According to the manual, the receiver's microprocessor can lock up, preventing further use. The cure is to unplug the power cord (the memory circuits should remain unaffected for a day or so without power) and then replace it.

The AV-900's remote does it all if that fails as a cure, there is a reset button accessible through a hole on the bottom panel, but pressing it will zap the memory, too. My test sample never locked up, however, and I assume that the manual's warning is there just in case.

In Diversified Science Laboratories' tests, the AV-900's FM tuner performed satisfactorily in all respects except sensitivity, which measures the lowest we have seen in some years. If you have an antenna rotator, you'll appreciate the five-element signal-strength indicator, with thresholds extending from 16/3 dBf (very weak) to 60/3 dBf (suburban strength). Although such a wide range requires big gaps (10 dB or more) between thresholds and thus leaves those parts of the range undocumented, it is very unusual to have even this good a signal-strength display on a modestly priced receiver.

Although the built-in TV tuner is a welcome (and unique) convenience, its video performance is no more than adequate. Response rolls off sharply at the top, restricting horizontal resolution to approximately 270 lines. The color error is not severe (particularly considering the inherent color inaccuracy of typical monitors), and the chroma level can be corrected altogether with the "color" control of the receiver. In any case, you may choose to use the AV-900's TV tuner to supply just TV audio. On this score, audio frequency response is respectable and S/N (signal-to-noise) ratio is very good.

The phono section exhibits a slight (1/3 dB) rise in the treble and tails off somewhat below 50 Hz. This attenuation evidently is deliberate: the upper end of a mild, unstoppable infrasonic filter that reduces warp output by approximately 12 dB. The volume control steps up and down by very consistent increments of a little more than 1 dB. Loudness compensation adds more than 10 dB in the deep bass and more than 5 dB in the extreme treble (both relative to response at 1 kHz) when the volume is turned down. The bass and treble controls are fairly well behaved for a moderately priced receiver, with about 14 dB of cut or boost near the frequency extremes for maximum settings. However, rotation by one detented step away from the "0" (flat) central detent makes a much more radical change in response than does movement between the last two detents in either direction and on either control.

The power section seems to perform as one would expect of a 35-watt model in all respects but one: The protection relay opened before the lab could make any measurements of either inter-wave or dynamic power at either 4 or 2 ohms. That doesn't necessarily mean that low-impedance loads are poorly handled—only that the protection is set for a power level short of the respective clipping points. When in doubt, it's probably best to avoid low-impedance loads, but I certainly experienced nothing suggesting misbehavior in this regard.

Obviously, there is a great deal to this receiver for the $600 price. The degree to which you might perceive its occasional limitations—or, in fact, whether you might perceive them at all—will depend on the sort of signals you put through the AV-900 and what you require of them. In a great many applications, it will be much more than adequate. Radio Shack has gone for functions, rather than for features as such, and is to be commended for this. If it also has gone for price rather than the last measure of performance, that will count as a virtue or a sin, depending on your budget and your demands.

Robert Long
Think big. Think six feet tall and 400 pounds. André the Giant? No. It's Altec Lansing's flagship loudspeaker, the Bias 550. I first saw and heard this mammoth speaker late last year at Altec's headquarters in Milford, Pennsylvania. It sounded very good there—which was perhaps only to be expected, given the $12,000-per-pair price.

The reason the Bias 550s are so large and heavy is simply that they contain so much stuff. Each five-way pentamplified system comprises six drivers, an electronic crossover, and five low-distortion amplifiers (one for each band) with a total rated output of approximately 700 watts. The two 10-inch carbon-fiber subs, at the top and bottom of the cabinet, operate below 80 Hz. They actually are mounted in subenclosures that are decoupled from the main cabinet by foam-rubber strips to minimize reradiation of sound from the enclosure.

Because the system is so heavy, Altec has mounted the remaining drivers in a central cabinet that swivels horizontally approximately ±15 degrees so that you can adjust their angle for best stereo imaging. At the bottom is an 8-inch carbon-fiber woofer that handles the range between 80 and 450 Hz. Then a 6½-inch carbon-fiber midrange driver (at the top of the central cabinet) takes over up to 1.5 kHz. Between these two cones is a pair of diamond-coated polyimide domes that reproduce the high frequencies. The lower one is a 2-inch upper-midrange unit that works between 1.5 and 4.5 kHz; the tweeter is a 1-inch driver. All crossover slopes are 12 dB per octave, except for a 24-dB-per-octave low-pass filter on the subwoofer amplifier.

Including the amplification within a speaker affords the designer numerous advantages. The crossover can be ahead of the amplifiers, making it easier to design and build and minimizing its contribution to system distortion. And each driver can have its own amplifier, optimized for the driver's characteristics and for the frequency band in which it is expected to operate. Altec has extended the benefits of built-in multiamplification to the user by giving you what amounts to a five-band graphic equalizer with remote control. You can vary the outputs of the individual amplifiers within each speaker in 2-dB increments over a ±6-dB range. You also are able to vary the overall level and the channel balance.

Although these features are available at the speaker—on a control panel (with level indicator lights for the various frequency bands) along the bottom of the central cabinet—they are most conveniently operated from a small, handheld infrared remote. In particular, the remote enables you to adjust level and EQ simultaneously for both channels, to mute the speakers, and to turn them on and off, all from your listening position. My only reservation about this is that our pair of 550s sometimes got out of sync with each other (only one might mute, for example), and it then was hard
to get them working in tandem again.

Each speaker is supplied with three dark cloth grilles that in normal use cover all of the front baffle except the control panel. In the middle of the back panel is a large set of finned amplifier heat sinks (which normally run quite warm). Below these are an illuminated main power switch, a manual on/off switch that can be used instead of the one on the remote control, and a socket for the power cord. To one side are a pin-jack input for connection to your preamplifier, a matching output (in case you want to pass the signal on to some other component), and a switch that increases the gain of the amplifiers by 6 dB when it is engaged. The entire cabinet rests on casters, which afford it a reasonable degree of mobility.

The response shown in our graph was obtained with the speaker placed several feet away from any walls and with the equalization set nominally flat. As you can see, the result is a curve that rises at the top and bottom (or sags in the middle, depending on how you look at it). And though the speaker actually sounds good that way on some material, I usually preferred to knock down the level in the top band and the bottom two. Otherwise, the sound often tended to be overpoweringly bass-heavy and somewhat brash. In fact, Diversified Science Laboratories obtained flattest response with the subwoofer, bass, and tweeter amplifiers at -4 dB and the midrange and upper-midrange amps adjusted to +2 dB. The response obtained with those settings was within ±4 dB from 20 Hz to 20 kHz on-axis.

The Bias 550’s distortion figures, though not the very best we’ve seen, are exceptionally low. At moderate levels (85 dB SPL) total harmonic distortion hovers at a few tenths of a percent or less all the way down to 50 Hz, rising to just 1½ percent in the 30- and 40-Hz measurement bands. At DSL’s highest test level (100 dB SPL), THD rambles in the vicinity of ½ percent down to 160 Hz, jumping to between 2 and 3 percent from there down to 60 Hz and then rising steeply at lower frequencies. Sensitivity is such that, with the gain switch in its normal position, a 0.215-volt input generates an output of 90 dB SPL with the gain switch set to +6 dB, the same output is achieved with only a 0.105-volt input. On our 300-Hz pulse power-handling test, the speaker accepted a maximum of 3.2 volts peak (with the gain switch at +6) for a calculated peak sound pressure level of 119½ dB at one meter.

As one might expect from these measurements, as well as from the sheer wattage built into the speakers, a pair of 550s never sounds strained. This is particularly apparent on high-level, low-frequency percussive sounds that tend to get muddled on lesser systems. On the big Altecs, the sound never seems to "mush out"; detail is never sacrificed for the sake of volume.

What is surprising is how little these speakers sound like what they are: huge boxes. When the Bias 550s are correctly balanced, it is possible to listen to a good recording with your eyes closed and almost forget that the speakers are there. The stereo image is precise and stable, and the overall sound is very big and open without ever sounding bloated. Another special benefit of this speaker is its extraordinary low-frequency extension. You will find sounds on some recordings that just disappear when played on speakers of more typical deep-bass capability. I also found that I could get a very smooth, natural tonal balance from the Bias 550s and excellent reproduction of the human voice (although one of our auditioners detects a slight metallic coloration on high strings). Without these more mundane virtues, the speaker would be hard to take seriously. As it stands, the Bias 550 is a very high-priced, very high-performance product that is a strong competitor in its elevated class. If you are prepared to accept its physical and financial demands, it warrants careful consideration.

Michael Riggs

(Continued on page 33)
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A
fter checking out the many rec
cent Compact Disc players that
have come my way in full super-
tech regalia, it's delightful to encounter
one as simple and unassuming as the
HD-800. Its spare (I'm tempted to say
Calvinist) front panel features quiet de-
sign and very legible buff-on-black iden-
tification of the major controls. (Matte
gray on matte black just doesn't make it
under dim home lighting.)

On this panel are the necessary trans-
port controls—drawer OPEN/CLOSE,
PLAY/PAUSE, STOP (which also clears
the programmed-playback memory),
and both directions of track skipping and
continuous search (scan)—plus DIS-
PLAY (three timekeeping modes), RE-
PEAT (of the disc or a programmed se-
quence) and the programming button
itself. All of these controls are repeated
on the supplied remote, which is
powered by two AA cells (also supplied).
The remote also includes a numeric key-
pad to simplify programming of the 36-
selection memory, but you can use the
front-panel skip controls to select tracks
if you don't want to bother with the
remote.

Outside of the power switch, head-
phone jack, and output-level control,
that's it. The level control, incidentally,
influences the back-panel line-output
jacks as well as the headphone level. You
can argue the case either way: This de-
sign lets you match the HD-800's output
level to that of other components (as-
suming they supply less oomph than the
HD-800 at its maximum setting); but if
you leave the setting at maximum and
then plug in a headset, you may be in for
a few uncomfortable moments of scram-
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is within the ballpark but not in the same class, parameter for parameter, as the best we've tested. Response is not quite as flat and distortion not quite as low as we have come to expect in today's top models, but there are no big boggles and the performance level certainly outstrips anything you could expect from FM or LPs, whether assessed aurally or from the data. The least encouraging element in the latter, certainly, is that measurable nonlinearity extends as high as -40 dB.

Otherwise, the departures from theoretical perfection generally are so small that I would tend to dismiss them as inaudible or near-inaudible. Still, I can't honestly say that the resulting sound is every bit as clean and convincing as it is with some of the pricier competition. Sustained sounds, in particular, seem very slightly muddy or "grainy" by comparison. Mind you, this level of performance still utterly eclipses the difficulties—of tracing, tracking, noise, and wear—to which LPs are inherently heir.

Among the HD-800's strong points are the simplicity of its layout design and the moderate price—and, for lovers of classical music in general and opera in particular, that it will play contiguous programmed tracks seamlessly, so that you can lift out a scene or a movement that consists of multiple bands without damaging its integrity. Early players often faltered badly here; some still do. And, also unlike early models, the HD-800 passes all of DSL's tracking-test challenges in interrupted or obscured data "pits." A luxury model the HD-800 is not, but that is actually a part of its appeal.

Robert Long

| Channel Separation (at 1 kHz) | 88 dB |
| Channel Balance (at 1 kHz)   | ± 0.1 dB |
| S/N Ratio (re 0 dB; A-weighted) | 95.7/2 dB |
| without de-emphasis | 95.7 dB |
| with de-emphasis | 100.1/4 dB |
| Harmonic Distortion (THD+N; 40 Hz to 20 kHz) | ≤ 0.20% |
| at 0 dB | ≤ 0.064% |
| at -24 dB | ≤ 0.064% |
| IM Distortion (70-Hz difference; 300 Hz to 20 kHz) | ≤ 0.028% |
| at 0 dB | ≤ 0.01% |
| -10 to -30 dB | ≤ 0.01% |
| Tracking & Error-Correction | pass |
| maximum signal-layer gap | > 900 µm |
| maximum surface obstruction | > 800 µm |
| simulated-fingerprint test | pass |

| Linearity (at 1 kHz) | undithered | dithed |
| 0 to -30 dB | no measurable error |
| at -40 dB | + 0.1 dB |
| at -50 dB | + 0.2 dB |
| at -60 dB | + 0.8 dB |
| at -70 dB | + 2.3 dB |
| at -80 dB | + 5.0 dB |
| at -90 dB | + 14.2 dB |
| at -100 dB | + 13.7 dB |

| Maximum Output Level | line output | headphone output |
| 2.03 volts | 2.95 volts |

| Output Impedance | line output | headphone output |
| 510 ohms | 110 ohms |

Remote has numeric keypad for programming.
For best results with music, Lexicon strongly recommends the use of side, in addition to front, speakers with its CP-1 digital ambience/reverb generator. Rear speakers should be added last. Setups for Dolby Surround decoding should incorporate a center-channel speaker. However, substantial enhancement can be obtained with a normal two-speaker system.

Shown on the facing page is the square integrated-circuit package holding the heart of the CP-1: a custom-designed mathematical microprocessor.
With the Lexicon CP-I, for the first time I have strongly felt something I have previously only just sensed with other electronic components: how a piece of audio equipment can be not simply a machine for producing certain desirable effects but also an engineering work of art designed to implement and embody a specific sonic worldview. The CP-I takes definite and distinctive stands on how you should be hearing stereo music and how you should be decoding Dolby Stereo movie soundtracks.

To back up a bit, the CP-I is an all-digital component containing its own analog-to-digital and digital-to-analog conversion circuitry and performing all of its operations in the digital domain and under full wireless remote control. The CP-I generates signals to be fed to additional speakers (via separate amplifiers) that are placed around the listening room, but it also provides a substantial enhancement of ordinary two-speaker stereo. Its name—Digital Audio Environment Processor—only hints at its true power to transform the home listening experience. To work this wonder, the CP-I has four primary modes of operation, each very different in sonic effect: Panorama, Ambience, Reverberation, and Surround.

**Panorama**

This is the CP-I’s most interesting mode, because it provides a function never before attempted in a consumer product and rarely attempted elsewhere: theoretically correct interaural crosstalk cancellation. The principle forms the basis of Carver’s Sonic Hologram and Polk’s SDA speakers. The intention with all these products is to correct a fundamental problem with listening to stereo signals over loudspeakers: Each ear hears both speakers. The solution is to prevent, say, the left ear from hearing the right speaker by canceling at the left ear the “crosstalked” signal with one emitted from the left speaker. The crosstalked sound will have been altered in frequency response because of the shadowing and diffraction effects of the head and will be delayed relative to its arrival at the right ear. So the cancellation signal emitted from the left speaker will have a phase opposite to the right-ear signal, will be delayed slightly, and will have a frequency response reflecting the diffraction and shadowing of a person’s head.

Naturally, a crosstalk signal and its cancellation signal must meet simultaneously at the ear in order to precisely eliminate each other. This is why the Carver and Polk systems, for best effect, require the listener to sit precisely halfway between the speakers. Using the CP-I’s Panorama mode, you still have a similarly restricted listening area, but the Lexicon can be set to compensate for an off-center listening position by changing the delays of the crosstalk-cancellation and main signals. This cannot be done effectively via analog methods.

Finally, and most importantly, the crosstalk cancellation signal itself is heard by the opposite ear, so it also requires cancellation by yet another delayed, out-of-phase signal. This cancel-crosstalk/cancel-cancellation process ideally should continue forever, which is something that first-order systems cannot do. Lexicon provides continuous cancellation, probably until the amplitude of the cancellation signal drops below the system’s quantization limits, and it is the first consumer device to do so.

Panorama’s effect is as if one were listening to headphones but with the expanded stereo image headphones provide remaining firmly, and spectacularly, outside the head. Some ambience effects in the recorded material may even seem to surround the listener. The speakers seem to disappear as sources of sound and the front wall of the listening room seems to vanish. And despite the deliberate alterations in frequency response and phase—

(Continued on page 40)
"The technology for a new generation of loudspeaker systems was already here," says Henry Kloss. I was just the first one to put it together right."

"Right." in this case, meaning a stereo system that allows the integration of speakers into a room in a way that's never before been possible.

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The almost subaudible but palpable sounds generated by the big pipes of the organ, the bottom of the acoustic or electric bass, the low notes of the synth...

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It is by design, not afterthought, that Ensemble comes with two, not one, bass units.

Because the human ear can't easily localize bass sound below about 150 Hz, there is no need in a home music system for the bass to emanate from the same source as the higher frequencies. (And many acoustical reasons why it shouldn't.)

So to take advantage of this basic but vastly overlooked fact, the bass units are built small enough to be placed where they'll produce the best sound, without visually overpowering your room.

There are a compact 12" × 21" × 4.5." Yet they generate the low-frequency energy that would ordinarily require either a pair of very large conventional loudspeakers, or adding on a massive "subwoofer." Moreover, using two separate easily placed bass units dramatically reduces the creation of standing waves—the bane of pure hi-fi reproduction.

Without detriment to the sound, Ensemble's bass units can be placed beneath the couch, on top of the bookshelf, or under the potted plant.

And the result is a happy coincidence: Where the units sound the best is likely where they'll look the best. Even if that means not being able to see them at all.

As for the other 8 octaves of music.

The rest of the sound spectrum, from a nominal crossover of 140 Hz, is reproduced by a stereo pair of two-way satellite units. Each incorporates a low-frequency driver, crossover over at 2,700 Hz to a direct-radiator tweeter that goes beyond audibility.

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Finished in scratch-proof, gunmetal grey Nextel, they will look good for a lifetime.

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Every time I came out with a new speaker at AR, KLH, or Advent, my friends would ask me, "Henry, is it worth the extra money for me to trade up?" And every time I would answer, "No, what you've already got is still good enough."

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Henry Kloss, Member of the Audio Hall of Fame. The creator of Acoustic Research in the 1950's, KLH in the 1960's, and Advent in the 1970's—the dominant speakers of their decades—now brings you Ensemble: the best-sounding speaker system of this era.

on a small number of sales, but from selling a lot of systems to a lot of people. You, perhaps, among them.

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In fact, the easiest way to buy Ensemble is to call us with your credit card in hand, and speak with someone who will be happy to walk you through, talk you through, everything you might ever want to know about the system. From why or why not to buy Ensemble, to questions about installation, room placement and other related audio equipment.

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and unlike first-order systems—the CP-1 obtains this effect on the image while still sounding very uncolored and neutral. The optimum listening position is, however, restricted to a few inches around the location for which the system has been calibrated. Outside that area there is no Panorama effect, although the sound remains pleasantly spacious, depending on the recording.

Panorama itself has three submodes: Normal, Wide, and Binaural. Normal provides the correct crosstalk cancellation for recordings “whose bass energy is evenly distributed across the stereo stage,” as the manual puts it. Wide is for recordings with centered bass energy (pop, rock, and jazz, usually). Binaural is meant for playback of true binaural (dummy-head) recordings.

Aside from the absolutely critical adjustments for input balance, listener position, and speaker angle, Panorama has controls for the amount of low-frequency spatial correction, and for the level, delay, and high-frequency rolloff of rear speakers if they are used (these are fed with L-R and R-L stereo-difference signals).

Ambience
This mode, it is explained, “generates the appropriate early reflections for stereo simulation of one of six different halls—one rectangular hall and one fan-shaped hall in small, medium and large sizes—and sends the reflections to the side and rear speakers.” Adjustable parameters include the basic hall shape (fan or rectangular), “liveness” (the amount of recirculation applied, with increased values simulating more reflective room surfaces), high-frequency rolloff (imitating the absorption of high-frequency sound in the air), and speech detection on/off (a feature allowing the generation of large amounts of ambience on music “without making announcers or dialogue too echoey”).

Practically all of the CP-1’s functions are controlled by its infrared handset.

Reverberation
Unlike Ambience, the Reverberation mode does not simulate the early reflections of specifically shaped halls. Instead, this mode produces a “rich, smooth reverberant decay in small, medium or large spaces” by means of a rapidly increasing echo density that smooths impulsive sounds and by a slow and natural (uncolored) decay. Early side reflections, which are still generated, are much weaker than in the Ambience mode and no specific hall shape will be audible because of them. Lexicon recommends the Reverberation mode for simulating a space that has a long reverberation time relative to its size (such as a reverber chamber, a church, or a cathedral).

The three primary controls in this mode, aside from the small/medium-large settings for room size, are for midrange reverberation time, for the ratio of the low-frequency reverberation time to that of the midrange (the former usually being longer than the latter), and for the delay between the initial sound and the start of the reverberation. Reverberation, like the Ambience mode, has a variable treble-rolloff control.

If you have configured the CP-1 for operation without side speakers, both the Ambience and Reverberation modes will simulate them to some extent by incorporation of the Panorama effect. As with the Panorama mode proper, optimum listening position becomes restricted to that area for which the Panorama mode has been calibrated. Side-speakerless Ambience and Reverberation operation activates controls within those modes for the level of Panorama effect, the listener position, and the speaker angle.

In what is the single most inconvenient aspect of CP-1 operation, the final values for listener position and speaker angle arrived at during Panorama calibration must be separately entered for the Ambience/Panorama and Reverberation/Panorama operation. While I found the closest matches quite satisfactory, this is a surprising loose end in a product otherwise so superbly thought out and executed. Lexicon’s reason for this simple-looking mixup is ultimately quite technical: The choices of angles do not match because the sampling rate of the CP-1 differs between the Panorama mode and the Reverberation and Ambience modes. The rates were chosen so that the amount of processing required in each mode could be performed in the time allotted between samples. And that time is limited by the processing speed of Lexicon’s proprietary signal-processor chip and its associated memory circuits.

Surround
This is the mode used for film-sound enhancement and is really only suggested for use with systems containing more than two speakers. For movie-sound enhancement with only two speakers, the manual recommends the Panorama mode, which can be very effective with movies but is, at times, distracting in its ability to place sounds far to the sides. The Surround mode itself contains three rather distinct submodes: Mono Surround, Dolby Pro Logic decoding, and Stereo Logic.

Mono Surround is for the enhancement of mono film soundtracks and sends the music and sound effects in such signals to the sides and rear via a room-simulator.
I could not resist the opportunity for a direct comparison. When we received the Lexicon CP-1, we had not yet returned to Yamaha its DSP-3000 Digital Sound Field Processor, or its companion DSR-100 Dolby Pro Logic Decoder, both of which I reviewed in July. A Lexicon/Yamaha competition is natural, since both systems perform the same two fundamental functions: Dolby Pro Logic decoding and the enhancement of music by the controlled generation of early echoes and reverberation. And because I don't think such a head-to-head (hall-to-hall?) contest would be common in audio stores, my conclusions might prove useful, at least to those who are experienced at vicarious listening. (Most of the comments I make about the DSP-3000 can also be applied to the earlier Yamaha DSP-1.)

The main obstacles to making a fair in-store Lexicon/Yamaha comparison are the differing requirements of the two units in the number and placement of the effects speakers. In their full-blown configurations optimized for music listening (as opposed to film-sound enhancement), both systems require six loudspeakers, and both have outputs for two main speakers and two rear units. However, the Lexicon CP-1 requires side placement of the two remaining effects speakers—directly to the side of the main listening position, if possible. The Yamaha's remaining outputs should, ideally, feed speakers placed toward the front of the listening area, more distant from and spaced more widely apart than the main speakers. Furthermore, the main speakers for both the Lexicon and Yamaha units should be pulled away from the walls to reduce the deleterious effects of early room reflections. At a dealership, therefore, a fair comparison would take up a great deal of valuable space, not to mention valuable speakers and amplifiers.

But these purely logistical aspects are as important at home as at a store. After all, if you want the best possible sound out of each device and yet you cannot, in your listening room, place the speakers where they should go, you might then lean toward the system that is better suited to your room's layout and even its decor and furnishings.

It is in regard to logistics that the primary advantage of the CP-1 over the Yamaha combination becomes important: The Lexicon unit has provisions—and the manual has the relevant instructions and explanations—that allow a gradual expansion of the system from only two speakers to as many as seven. As I said in the Yamaha review, using such equipment requires commitment (to finding the space, gathering and hooking up the equipment, restricting your listening position, etc.). The CP-1 will ultimately require equal dedication, but the extent of your logistical and financial commitments can be spread out in time. Some listeners, especially those who are willing and able to restrict their optimum listening positions, may be quite content with the CP-1 hooked up to two speakers and operated in the various Panorama-related modes.

Given the complexity and versatility of the two devices, there are obviously many more points on which they can be compared. The Yamaha setup comes out ahead in:

- The variety of very different-sounding acoustical environments provided
- The wide latitude of variation for each environment due to the large number of parameters that can be adjusted
- The direct-digital input that bypasses a cycle of digital-analog-digital conversion (DSP-3000 only)
- The wider main-channel bandwidth in all modes (the main channels remain essentially unaltered)
- The video-overlay system to display environment settings on a monitor (DSP-3000 only)
- The incorporation of Presence modes suitable to the nonambient, nonreverberant enhancement of pop music.

The Lexicon CP-1 has its own set of advantages:

- Because of its back-panel level controls and the speaker-configuration selection process, it is easy to set up.
- Good-sounding settings are simple to obtain because it has fewer variable parameters for each mode.
- The factory default settings are extremely well chosen, making it more difficult to obtain bad-sounding settings (the variable parameters have to be dialed to outlandish values in order to obtain truly objectionable effects).
- None of the factory settings creates hollow-sounding vocals.
- The nearly all-digital Dolby Pro Logic decoding is clean and accurate (because of the low distortion of the processing, and thanks to the automatic azimuth adjustment).
- The Panorama feature can provide substantial sonic enhancement using only two speakers.
- All processing is conducted in stereo.
- The price is lower (the Yamaha DSP-3000 without its companion Pro Logic processor costs $1,899; the CP-1, $1,200).

Except for this last and, perhaps, decisive advantage of the CP-1, I consider the match a draw. But, sonically, this is really an apples/oranges comparison: Both devices can sound excellent with nearly all types of music, but they always sound different (except in the Dolby Pro Logic mode, where the processing is similar). In addition to the Yamaha's lack of a mode similar to Lexicon's Panorama functions, the differences originate deep in the fundamental design approaches taken to the generation of ambience and reverberation. Yamaha's DSP units are designed to duplicate the early reflections that occur in real performance spaces, and they use data directly taken from such environments. Lexicon's CP-1 is designed to create idealized hall acoustics, and the data it uses are derived from the theories of how we hear concert halls and what sonic characteristics we prefer.

The differences between these two design philosophies surface as early as in the recommended number of speakers and their positioning and persist through any attempts at sonic comparison. I find the cultural role reversal embodied in the Lexicon and Yamaha devices almost as fascinating as the sounds they create: The ambience-creation-oriented, analytical, reductionist viewpoint has been taken by the East, the ambience-perception-oriented, holistic synthesis has been created by the West. I would be satisfied with either hemisphere.

D.R.
program (for a small theater), while keeping any dialogue front and center. Its only adjustable parameter is the treble-rolloff frequency it applies to the side and rear channels.

Dolby Pro Logic surround sound decoding is the same function available on many other components carrying the Pro Logic logo. Lexicon’s version, besides being the only one so far to operate completely in the digital domain (except for the required Dolby-B decoding of the surround signal), has a couple of adjustable parameters. The rear-channel delay is variable, and the amount of bass from the center channel that is sent to the front-channel speakers can be altered. This bassblend function is provided in case the center channel speaker lacks sufficient low-frequency response—as it often does if you happen to be using the one in your video monitor.

A feature unique to Lexicon is the CP-1’s Auto Azimuth/Balance, available in the two Logic modes. When turned on, it monitors the soundtrack’s dialogue and continually adjusts the relative level and time offset of the two input channels in order to keep the dialogue properly centered and to improve accuracy in the steering of signals among the speakers.

Stereo Logic is intended for the playback of music through speakers arrayed for soundtrack decoding and takes advantage of the front-center and rear speaker(s) inherent to such a setup. Since Stereo Logic “allows you to hear all of the mix (except for strongly centered vocals) separately and spread throughout the room,” it can be particularly recommended for pop-music enhancement. This mode adds to the adjustable parameters of Dolby Pro Logic decoding: Front Effect and Rear Effect can reduce the amount of signal steering (they are fixed at maximum values, by Dolby specs, during Pro Logic decoding); the rear-channel rolloff can be varied, as can the rear-channel delay; and the analog Dolby-B noise-reduction chip can be activated, if desired.

All this seems rather complex, but it is a complexity necessitated by versatility. The logical layout and operation of the remote control—from which virtually all CP-1 functions are performed—helps you to quickly master the operation of the various modes. But of even greater assistance is the 47-page manual, a masterpiece of technical writing. Its English is clear and simple, yet it is also complete, accurate, well organized, and continually educational. It teaches you about crosstalk cancellation, the importance of early lateral reflections in concert-hall acoustics, and how Dolby Surround decoders work. Even references (with footnotes!) are provided. You hardly even need to listen to the CP-1 (just kidding).

More important than its teaching values are the manual’s instructions for setup, calibration, and operation. The CP-1 can be set to handle from two to seven speakers, in twelve different speaker arrangements. The instructions tell you how to do the following: add speakers to a system to obtain improved effects (side speakers are most important for Ambience and Reverberation, a front-center speaker for Surround); set relative speaker levels using the CP-1’s built-in calibration-signal generator; store any modes altered from their factory settings into the twelve user memories (you can also assign a name to the user settings); and even adjust the contrast on the unit’s front-panel alphanumeric liquid-crystal readout.

The ultimate result of all this teaching and of the distinctive design approaches taken by Lexicon is a device that can make any recording sound better, either by expanding its image in width and depth (to the front and the rear of the listening room) through the Panorama mode, or by creating a sense of envelopment in a good concert hall (Ambience) or a more reverberant space (Reverberation). Although the frequency response of the processed sound found in the data doesn’t extend fully to 20 kHz, this is of small audible consequence compared to the decided enhancement provided by the CP-1’s creation of acoustic spaces. The other measured performance parameters are all fine, though some noise might be heard through the effects speakers in very quiet listening rooms. Certainly the measured performance of the CP-1’s Surround modes need take second place to no other component’s. The Dolby Pro Logic decoding, because of the effectiveness of the Auto Azimuth/Balance feature and because of its low distortion and accurate steering, must be considered definitive and superior even to Dolby’s own professional decoders used in theaters.

I’ve gone on long enough. You owe it to your ears to hear the CP-1 in operation. Compare it to other surround-sound or ambience-generation devices (see “Hallmarks of Quality,” p. 41). Look over the manual, as even a quick skim will be instructive. You’ll probably find, as I have, that the Lexicon CP-1 has a definite personality, and it is one that you’d enjoy getting to know.

David Ranada
SOMETHING OLD, SOMETHING NEW
BY ROBERT LONG
Two controversial issues from the past have created new audio trends.

To everything there is a season, as the song says—to quote the Book of Ecclesiastes. Last June’s Consumer Electronics Show (CES) confirmed that this is the season of rebirth for two “dead issues” from the past: quadriphonics and peak power ratings. If you, like me, are an old-timer in high fidelity, this is shocking news. But in fact, the underlying reason for it to be news at all is that, this season—of digital audio and video—is very different from those in which we originally laid these two issues to their supposedly eternal rest.

Back in the 1960s, a colleague of mine asked an RCA representative how the company could pack a “300-watt” amplifier into its top radio-phonograph console. By high fidelity standards few consoles back then had more than about five watts per channel (measured at 1 kHz at a 10-percent distortion level), and the norm probably was nearer one watt. Even component-grade amplifier specs didn’t extend into the 300-watt range, so RCA’s rating raised a lot of eyebrows.

At that time, component high fidelity was a completely separate field from the consoles and other mass-market goods that were represented by the EIA (Electronic Industries Association), which ran—and still runs—the Consumer Electronics Shows. EIA power-rating standards generally assumed 10-percent distortion at 1 kHz and paid little or no attention to what happened at other frequencies. Furthermore, the EIA standards were less than fastidious about how those watts were measured and how the rating was stated. Things ended up so that a component amplifier rated at 20 watts per side could easily be advertised as a “100-watt” amplifier by EIA standards, with their less stringent approach to distortion and their nonexistent power-bandwidth requirement.

What the RCA console engineers had done, according to my colleague, was devise a pulse waveform whose peak voltage could be squeezed through the amplifier at such a drive level that the engineers could calculate an instantaneous power of 150 watts per channel, given whatever load impedance they chose to adopt. Forget distortion (the waveform was in clipping), forget power-supply capacity (the pulse was very brief and allowed plenty of time between peaks for the capacitors to recharge), and forget power bandwidth (terra incognita among console makers).

Well, times have changed. The EIA has absorbed the IHF (Institute of High Fidelity) and, with it, the rating standards of the component industry it represented. But even before that happened, the Federal Trade Commission stepped in and, in 1974, outlawed the myriad methods of power measurement, the net results of which were utter consumer confusion. And all of that is, as they say, on the side of the angels.

So... how come we’re right back arguing over just what kind of instantaneous pulse waveforms amplifiers will pass—or should be able to pass? Companies such as NAD and Proton keep hammering on the point that their amplifiers will generate longer-duration power bursts than competing products, because most of the latter seek only to satisfy the dynamic-headroom rule written by the IHF in 1978 (about the time it was absorbed into the EIA) and, to boot, many don’t even have appreciable dynamic headroom. Isn’t this the same sort of power-rating sophistry all over again in another guise?

The answer—no—is partly a matter of history, partly a question of evolving technology. Before the FTC stepped in with its mandate, component companies had begun using “music power” ratings that, supposedly, allowed for the fact that music is “com-
posed of a series of transients,” to quote the cliché. In reality, this ploy was basically an attempt to give technological legitimacy to an inflation of power ratings so that components could more nearly compete with mass-market goods, at least on spec sheets. As such, music power presumably was one of the abuses the FTC stepped in to correct.

But behind the music-power concept is more than a grain of truth. When you test a conventional amplifier with a continuous sine wave, the power-supply capacitors are being drained as fast as they can recharge without producing-intoward-by-products like clipping or excessive distortion. But music rarely behaves like a continuous tone. It consists of bursts of sound with, relatively speaking, “holes” in between. Fully charged power-supply capacitors can deliver the drive necessary for much higher power than can be managed on a continuous basis. In musical terms, a sustained note can clip at a lower level than a short transient. Between transients the power supply can charge up the capacitors in readiness for the next bout.

The 1978 EIA amp-testing rules for the dynamic-headroom measurement were written with the awareness that there had been a baby in the music-power bathwater that the FTC had thrown out four years earlier. Short-term output power can be a useful index of amplification ability with musical signals, but real music varies widely in its transient characteristics, and the 20-millisecond pulse used to test dynamic headroom under the 1978 rule was a compromise based on the best available information and on the requirements of those all-analog times.

The times are now digital, and digital-audio signals can have extremely wide dynamic range, so that peak values and transients have taken on a new significance. If the phrase “digital ready” has any meaning at all (and often it doesn’t), it is this: that the product in question will handle cleanly the uncompressed transients of digital signals played at appropriate levels. In order to ensure that, companies like NAD and Proton claim to have taken a harder look at dynamic headroom than the EIA committee did in writing the 1978 testing rules. Specifically, these companies say that musical transients can last as long as 200 milliseconds (one-fifth of a second) and that their amplifiers will sustain transients for at least that long. Actually, their amps will pump out the EIA’s 20-millisecond bursts at still higher levels. The shorter the transient (and, again, real transients do vary a great deal), the less the likelihood that it will exhaust the power-supply capacitors.

Getting involved in these specifics really obscures the central point, however: that clean, uncompressed transients into real loudspeaker loads are now available as never before. Quite a few equipment manufacturers, besides NAD and Proton, have gotten the point. At the June CES, companies as diverse as Carver, Tandberg, and Nikko were espousing the high-current-output capabilities of their new products. (High-output current capability means that power can be maintained or even increased into load impedances loads.) The data sheet for Carver’s mono Silver Seven tube amp (talk about technologies from the past!) actually states the energy-storage capacity of each channel (390 joules) as well as the peak output currents it can deliver (35 amperes per channel). A Carver solid-state design of the same general capabilities, the M-40T, costs less than one-twentieth as much, however ($800 vs. $17,500 for two channels of the Silver Seven). The peak output current given for Tandberg’s $1,350 TPA-3036A, a 100-watt power amplifier, is greater than 30 amps.

Audio Dynamics’s good-looking CA-2000E 100-watt integrated amplifier ($800) has a dynamic-headroom rating of 2.7 dB at 4 ohms and can deliver peaks of 325 watts into 2 ohms. Both of the two receivers in the revived Nikko product line have dynam-
decoders. Many are even suitable for effective enhancement of music-only playback, as well.

The second necessary ingredient to multichannel sound’s revival has been movies encoded with Dolby Stereo audio containing surround effects. Without these movies, I doubt that the integration of video switching and even processing into “audio” componentry would have proceeded nearly as fast. The effectiveness of Dolby Surround in enhancing the dramatic impact of movies in the theater created a pre-attuned home audience for surround decoders. And without the need for stereo components implied by the adoption of stereo soundtracks in videocassettes, there would have been less reason to introduce Hi-Fi versions of the videocassette formats. The evidence of an audio-video symbiosis at work surrounds us.

The most visible symbols of the confluence are the so-called audio-video receivers. While the feature that qualifies a receiver for full audio-video status seems to be merely an auxiliary audio input relabeled VIDEO, some models go quite a bit further. In fact, the control panels of some of the most elaborate models themselves seem to be a revival of the quad-spurred excesses of the late Sixties and early Seventies.

Take, for example, Pioneer’s 125-watt, $935 VSX-9300S, featuring a built-in Dolby Pro Logic decoder with digital delay line, a 30-watt rear-channel amp, and a video enhancer. A count of controls and buttons shows 64 on the front panel, 71 on the remote. Or have a look at the incredibly busy front panel of Technics’s SA-R530, an $850, 100-watt model complete with built-in equalizer/spectrum analyzer, digital-delay Dolby Surround decoder with special music-enhancement modes, and elaborate display readouts. Kenwood’s $875 KA-V1000R (80 watts front, 20 rear) looks mundane in comparison, although it too contains a digital-delay Dolby Surround decoder and audio-video switching. Akai’s $649, 125-watt AA-V435B brings S-VHS switching to the product category. Philips’s 125-watt FR-980 ($1,000) is alone among the new A/V receivers in claiming high-current/low-impedance drive capability. Dynamic power into 2 ohms is given as 380 watts per channel. The Philips also has a graphic equalizer, Dolby surround, video enhancement, and 15-watt rear-channel amplifiers. All of these units come with “universal” remote controls, which have the ability to learn the infrared codes for other devices.

Equally interesting is Onkyo’s TX-SV7M 100-watt receiver (90 watts front, 20 rear when the surround decoder is activated), which contains a stereo TV tuner for VHF channels 2 through 13 ($1,050). It, too, comes with a universal remote control. And the surround processor in the Toshiba XB-1000 ($949) is said to reproduce the ambient sound quality of various listening environments (concert hall, nightclub, cathedral, etc.). Power is rated at 125 watts in stereo and 50 watts per channel in Dolby Surround and the other digitally processed modes.

Digital techniques used in the Toshiba unit made possible the series of multichannel processors that began with the Yamaha DSP-1 (HIGH FIDELITY’S 1986 Product of the Year) and continues with the Lexicon CP-1 (reviewed this month). Other surround-sound processors of less extravagant capability, and of lower cost, were introduced at the June CES. These include Surround Sound Incorporated’s System 4000 ($600) with built-in rear-channel amplifiers and proprietary sound-steering circuitry; Technics’s SH-AV40 ($280), also with built-in amplifiers; and Kenwood’s SS-77 ($250) and the remote-controlled SS-97 ($360).

In these surround-sound and ambience processors, some of them digitally based, we can glimpse the audio-video future. Digital processing will do many things much better, and ultimately less expensively, than the analog circuitry of the past. Digital techniques will enhance the audio-video experience and will finally fulfill the artistic potential of lifelike dynamic range and of multichannel sound. This is the season for the resurrection of old—and good—ideas.
ANALOG AND DIGITAL TECHNOLOGIES COEXIST IN HIGH-END AUDIO

Specialty Manufacturers Seek Improvements in Old and New Recording Systems.
When it first appeared, pundits predicted the Compact Disc would displace LPs by the mid-1990s. And to judge by the number of record racks in stores now devoted to CDs instead of LPs, you might be inclined to think that the black disc's days are numbered. But, according to the Electronic Industries Association (EIA), the penetration of CD players into American homes is still only 10 percent. Disc prices remain prohibitively high for many people, and those collectors who have amassed huge LP libraries are loath to abandon the friendly old technology. There is one group, in fact, that likes LPs for their sound quality.

Among high-end audio companies, analog-record playback technology is quite healthy, at least in comparison with the notable lack of recent innovations in the LP field by mass-market manufacturers. While acknowledging that significant advances have been made in CD player design in the last few years, analog-record proponents maintain that digital-audio media suffer from hardness, lack of ambience and fine detail, and other assorted sonic ailments, many of which are not so much digital ills but nostalgia for analog-medium distortions and noise. At the same time, many high-end audio companies are embracing CD and other digital technologies. One recent entrant into digital audio maintains that "analog recording and reproduction of audio signals is inherently superior to digital processes," but adds that "digital audio technology has progressed to the point where it offers many important possibilities and, in some areas, improvements in audio recording and reproduction."

Indicative of the vinyl medium's high-end vigor is the stream of new turntables, tonearms, and cartridges recently introduced by specialty audio manufacturers. While major audio manufacturers are putting their muscle behind the CD, many smaller firms continue to refine Emil Berlins' invention—some with fairly unusual techniques.

For example, at last January's Consumer Electronics Show (CES), SOTA Industries introduced its Cosmos turntable, which employs many of the techniques used in the company's Star turntable, such as a continuous-vacuum record hold-down and an inverted bearing. The Cosmos uses new six-layer composites for sub-chassis and arm support; but the major departure is the Benchmark vinyl mat, said to make the record, mat, and platter behave as a single entity. A SOTA spokesperson claims the new mat improves stereo separation by around 15 dB. The Cosmos sells for $3,500 to $4,000, depending on the finish.

Also using a vinyl mat material is the Edison Price Music Table. A preproduction version was shown at this June's CES in Chicago. What's more radical than the vinyl mat is the turntable's use of air bearings. The platter is suspended on a 98-square-inch air bearing and is stabilized by a second bearing measuring 3/4 by 1/2 inches. Friction of the bearing is so low, according to the company, that if the platter is given a fast spin by hand with the belt removed, it will keep turning for about two hours. Different systems are used for horizontal and vertical platter suspension, thereby eliminating "platter teeter." The vertical system employs eight leaf springs, while the horizontal system uses another 98-square-inch air bearing with magnetic damping. Resonant frequency is given as less than 1 Hz. To fasten records to the 1/2-inch virgin vinyl mat, the Music Table employs a 12.4-inch rim clamp with 216 quarter-inch teeth that press down on the perimeter of the record.

The unit is optimized for the Eminent Technology Tonearm 2, an air-bearing linear-tracking device, but mounting boards are available for other arms such as the SME Series V. Retail price for the Music Table, ET-2 arm, pump, cabinet, and VPI Power Line Conditioner is expected to be between $10,000 and $15,000.

VPI, meanwhile, introduced the Mark III version of its HW-19 turntable at the June CES. Like the earlier Mark II, it employs a threaded record clamp, a 1-inch acrylic platter with 6-pound lead insert, and a four-point chassis suspension system. The Mark III also uses nonmagnetic stainless steel for the main chassis, which

BY GORDON BROCKHOUSE
improves inerterness and rigidity, along with a new belt and motor pulley for greater speed accuracy. The company also introduced the HW-19 Jr., a stripped-down version of the HW-19. It will sell for $600 without tonearm or $900 with an Audioquest arm. The Junior can be upgraded to a regular HW-19 Mark III.

Also setting its sights downsmarket is Arison, whose Icon turntable will sell for $520, including an Ortofon OM-20 cartridge. The auto-shutoff belt-drive unit uses four isolating feet and a three-point subchassis suspension. Naim Audio introduced its first tonearm at the summer show: a unipivot design that employs a brass support pillar and jewel bearing, so that it offers no torsional resistance to any curvature of the LP. It will be available this month for around $1,200.

Sumiko, meanwhile, has new versions of its Talisman and Alchemist cartridges. All boron- and sapphire-cantilever models now have Van den Hul Type I stylus, which are said to reduce record wear and improve detail. In lower-priced models, magnesium alloy rather than aluminum cantilevers are now being used. Higher-energy magnets and lighter coils, as well as new field focusing techniques, are also employed.

Oracle continues to refine its designs. In Chicago, the Canadian firm introduced the Mark III version of its Alexandria turntable. Selling for $850 or $925, depending on finish, the Mark III has a 24-pole high-torque motor, said to be quieter than the Hall-effect unit used on the previous Mark II model. The motor is encapsulated in a Sorbothane-filled aluminum housing, decoupling mechanical vibrations from the platter and subchassis. Drive electronics have been made more reliable, and the process of changing springs to accommodate different tonearms is now easier. A nonmetallic platter—Arborite—is more acoustically "dead" than the metallic platter used on the Mark II.

Oracle also has three new tonearms. Manufactured in Japan for the company, the Alpha and Beta retail respectively for $295 and $395. Both use straight aluminum arm tubes, ball race bearings, and oxygen-free copper wiring. Vertical tracking angle, but not azimuth, is adjustable. The Beta's center pillar can be filled with viscous damping fluid. Along with a higher-quality bearing than the Alpha, the Beta's arm tube has a plastic coating to reduce tube resonances. Oracle's $895 Yugoslavian-made Kuzma arm is wired with Van den Hul cable. Both azimuth and vertical tracking angle are adjustable. The Kuzma employs a gimbal bearing and its aluminum arm tube is treated with a finish that is said to dampen vibration.

Making their North American debut are two models from U.K.-based Voyd Turntables. The principal design aim of both is to minimize dynamic stylus drag. When a highly modulated area of the record reaches the stylus, Voyd's reasoning goes, the stylus creates drag that momentarily makes it difficult for the motor to pull the record past the stylus. To overcome these problems, the Voyd Turntable uses three motors, so that there is no tendency for the motor to pull the subchassis in one direction or another. Its less expensive cousin, the Voyd Valdi, uses two motors. Because high-mass platters store energy, both units employ low-mass acrylic platters. With multiple motors, the designers maintain, the same speed stabilization can be obtained from a heavy platter as from a heavy platter and single motor.

A radical new turntable from Musea-tex takes these principles to their logical extreme. If high-end audio has an enfant terrible, the company's Ed Meitner is it. In every one of his products, he has taken sacred high-end axioms and stood them on their ear. For instance, while discrete components were de rigeur in high-end electronics, he brought out a remote-control preamp crammed with ICs.

He's now doing the same for turntables with the Meitner AT-2 Record Playing System. Instead of a heavy platter, he uses no platter at all. Instead of minimizing bearing friction, he adds silicone goop to the main bearing to increase friction, to make the effects of dynamic stylus drag on the motor comparatively small. As the stylus tracks the record, it sets up vibrations in the vinyl. Meitner maintains that any mat/platter combination will reflect a significant amount of that energy back to the record—and thence to the stylus. But vinyl will release that energy easily to air, he believes, so the best platter is no platter. A screw-on clamp with knife-edge machinings supports the record beneath the label area. A large flywheel underneath the LP (but not in contact with it) is belt driven. Vertical tracking angle can be adjusted with a micrometer under the flywheel.

The AT-2 comes with an undamped unipivot arm. Instead of a single tube, the arm has three struts said to reduce standing waves that affect conventional arms. Arm, flywheel, and bearing rest in an assembly composed of Corian, a synthetic marble. The assembly terminates in three large pointed feet, resting on a base that is also composed of Corian.

The AT-2 is radical and looks it. At the CES, Musea-tex demonstrated the AT-2, using its PA-6i preamp and a prototype active speaker. The speaker is a story in itself: Each unit employs two heavily braced
Corian cabinets housing a single driver. The top enclosure contains the mid/bass unit, and a bass driver is housed in the bottom. A tweeter is mounted between them in free space. Diffraction is minimized by a damping material applied to the cabinets’ exterior. To me the sound from the system was among the very best at the show. Meitner’s ideas may be radical, but at least some of them seem to work.

While great ingenuity is obviously being applied to the vinyl medium, specialty audio manufacturers have at last seen fit to similarly embrace—though at arm’s length, in some cases—the Compact Disk as well. While some high-end enthusiasts criticize CD sound for hardness, many freely acknowledge its great dynamic range, low noise, and, especially, its convenience.

Many specialty audio manufacturers involved in other areas now build CD players: A&R Cambridge, Conrad-Johnson, Kinergetics, Meridian, and Mission, among others. In addition, several companies specialize in audiophile-oriented players. And each company has its own tricks. A couple of years ago, California Audio Labs introduced a player using a tube analog stage (the Tempest), and it has since introduced models with hybrid and solid-state analog sections (the Aria and Tercet). Cambridge Audio’s players use 16-times oversampling, and have no output filters: The only things between the digital-to-analog converters (DACs) and the outputs are coupling capacitors. Conrad-Johnson introduced a new version of its Sonograph SD-1 player. The SD-1 Beta incorporates a new power supply for the DACs, using polypropylene filter capacitors. This improves transients, the company claims. Meitner will have its player, based on a Sony professional transport, to market this fall. It will incorporate special circuitry that is said to provide the necessary “brick wall” output filtering, without undesirable phase effects in the audio passband. The player also has a brass flywheel that sits on the disc during play in order to control jitter. The $2,195 machine has separate outboard power supplies for the analog and digital sections; the analog circuitry is housed separately from the rest of the player in its own Corian chamber and the two are connected by an optical cable.

Also announcing CD plans in Chicago was amplifier manufacturer Krell Industries, Inc. Krell Digital showed “a prototype of a prototype” of a unit that will sell for around $5,000. Also in the works are players in the $3,000 to $3,500 and $7,000 to $7,500 price ranges. The company would not give any hard information, but said only that the players “will address the real issues of disc reproduction, such as data retrieval and conversion.” Krell will also investigate products other than CD players, including digital amplifiers and preamps, DAT recorders, and digital signal/room processors. Added a Krell spokesperson: “Our purpose is to let everyone know there’s a Krell Digital, Inc.”

There is already movement in these areas among other manufacturers: Witness the Yamaha and Lexicon digital reverb/surround-sound processors. But smaller companies are bringing out their own digital processors, as well. In Chicago much of the activity was in outboard DAC units, designed to improve on players’ built-in circuitry. These range in price from $649 to $6,500. Cambridge Audio announced three DAC boxes, two of which will make it to the American market. The DAC-2 has two inputs for CD and input and output jacks for a CD recorder. The 16-bit, 16-times oversampling converter will automatically track any sampling frequency—not just 32, 44.1, and 48 kHz. A 5-watt Class A headphone amp is built in. It should be available now for around $1,000.

Coming later in the year is a converter/preamp using the 32-bit, 16-times-oversampling circuitry employed in Cambridge’s CD-1 Series II player. This unit, the DAC-1, will convert sampling rates, says the company: You can take an input sampled at 44.1 kHz and send 48-kHz-resampled data through a digital output. Watch for howls from the record-industry lobby once it gets wind of this one. The DAC-1 will also be a true digital control center, adjusting volume, bass, treble, and channel balance all in the digital domain. Stan Curtis, managing director of Cambridge Audio, said the DAC-1 is “a pre-cursor of preamps of the future. Our long-term position is that CD players and DAT recorders will ultimately become mechanisms that produce a bit stream. How you modify and process it belongs in another box.”

John Dawson, managing director of A&R Cambridge (Arcam), visited Chicago to demonstrate his company’s “Black Box”: a 44.1-kHz outboard digital-to-analog converter. Future options will include a 48-kHz board and fiber-optic interface (co-ax wire is standard). Explaining the single sampling frequency, Dawson said, “At the moment I don’t think we should be putting money into DAT.” The rationale behind the product is to get conversion and analog circuitry away from the player’s electrically noisy drive mechanism, microprocessors, and display. Arcam claims its device yields better imaging, additional detail, and smoother sound than the built-in DACs of many CD players. Dawson also notes that outboard DACs give users an upgrade path as advances in electronics are made. The $649 Black Box employs twin 16-bit DACs and four-times oversampling. “There’s far too much rubbish talking about numbers,” Dawson added, saying he would be happy to connect a competitor’s 16-bit, 16-times-player—“and make it sound better.”

Arcam was using its own CD player in A/B comparisons, switching between the player’s own conversion circuitry and the Black Box. At times, differences seemed minimal or nonexistent. At other times, the outboard device appeared to yield better bass extension, greater detail, more “bloom.” The sound seemed less strained, more open. But bear in mind that this demonstration was conducted under hectaric conditions. I wouldn’t want to swear to anything without extensive listening under more controlled, double-blind test conditions.

The same numbers-are-rubbish stance was espoused by a representative of British Fidelity (Musical Fidelity on its home turf) in describing his company’s outboard DAC stage. Like Arcam’s, this one accepts CD only, but it will accommodate both co-ax and optical inputs. Asked for technical information on the device, the BF representative smirked—in grand high-end tradition—“We don’t go in for techno-babble.” Japanese companies, he said, are great at using specs to distort information about product performance.
Instead, he suggested, I should listen to the product. Fine, I thought, except that the setup did not allow comparisons of the player’s own circuitry (it was a Denon, I believe) and the outboard device. By using different inputs on the preamp, such comparisons could easily have been made. BF, its representative maintained, just wanted to show that their box sounded good. But the demonstration offered no opportunity to hear for oneself what the box was (or was not) doing. Apparently, we’re supposed to take it on faith that the unit delivers the goods.

At the extreme end of the price scale is an outboard converter from Wadia Digital. Consisting of a decoding computer (using multiple A&T digital signal-processing chips), fiber-optic communicator, separate power supply, and 50 feet of optical fiber interconnect, the system employs a time-domain algorithm called “Frenchcurve,” which the company says yields the equivalent of 64-times oversampling. The supplied 18-bit DACs can be upgraded to 32-bit! units; software on ROM chips is also upgradeable. The claimed benefits include improved left-right and front-rear imaging, better ambience, reduction of “digital glare,” better transients, and intertransient silence. It will accept inputs from 32-, 44.1-, and 48-kHz sources. The three-piece system will ship this month for around $6,500.

Although it was not an official exhibitor, Theta Electronics had its DAC box installed in the Rowland Research room. In addition to polarity switching, offered by virtually all converters, Theta’s machine has level adjustments, left and right trim adjustments, and reverse—all accomplished digitally. Employing eight-times oversampling, the unit uses a complex filtering algorithm that is said to preserve time-domain information better than other methods. The converter accepts 44.1- and 48-kHz sources and is available now for about $4,000.

Not only specialty companies were showing outboard converters. Philips—codeveloper of the CD system—had a two-piece CD player, the outboard converter offering two sets of coax and optical inputs. It will sell for around $4,000. The company also showed a 140-watt integrated amp with dual 16-bit DACs and four-times oversampling; as with others of its kind, no phono input is provided. The amp can be switched to pure Class A operation. Selling price was not confirmed, but it will be “under $3,000,” a representative of North American Philips said. Also displayed in prototype form were speakers employing dual 8-inch woofers and ribbon midrange and high-frequency drivers. (So far, there’s no word on availability and price.) After putting in the low-end audio-video marketplace for years with its Magnavox and Sylvania brands, Philips is making serious moves upmarket under the Philips logo. The Dutch parent company is putting lots of resources into the project. Unless corporate infighting destroys the venture, the stuff’s good enough to place Philips in the position it deserves in the audio-enthusiast market.

The other codeveloper of the CD system, Sony, showed last April in a special press conference in Terre Haute, Indiana (site of its CD pressing plant), a very high-end CD player with a separate chassis for the transport and converter functions, the two units being linked by optical connections. The $8,000 CDP-RI/DAS-RI features eight-times oversampling digital-to-analog conversion using dual staggered DAC chips for each channel. Special noise-shaping digital processing is performed on the signal to give the system 18-bit resolution while using 16-bit converters (a similar technique was used in Philips’s first CD player to get 16-bit performance out of 14-bit DACs).

Sony isn’t the only Japanese company paying increased attention to the high end. With other Pacific-rim suppliers nibbling at its heels, and the high value of the yen eroding profits, many of Japan’s manufacturers are shifting their focus upmarket. A lot of their stuff looks real serious too, but in the high-end market it may have image problems, coming from what the typical high-end buyer sees as “mid-fi” companies. Sansui, for example, has a well-constructed two-way speaker that employs some exotic materials—e.g., a titanium dome tweeter coated with diamond dust. In addition, the company has introduced its own outboard DAC. The question is: Will dealers and consumers take these efforts seriously? Sansui’s speaker, for example, may be well worth a listen. But after selling rack systems for the last few years, the company will have to work to reestablish credibility with audiophiles—as will other Japanese companies that serve the mainstream.

At the same time, high-end manufacturers are setting their sights on larger markets. An entire system around Conrad-Johnson’s Sonogene line, as one example, can be configured for about $5,000. While this may sound high end to most, a company spokesperson said that puts C-J products within the range of mid-fi buyers. Ariston has a $399 35-watt remote-controlled integrated amp and $440 speakers to go with its $520 turntable.

Ever since audio became a mass-market commodity, there have been two streams: companies that build products the market wants and companies whose overriding concern is sonic quality (or snake-oil demonstrations masquerading as sonic quality). As the market matures, as buyers become more aware of the things that contribute to good sound, these streams are converging: hence the majors’ shift upmarket (with increasing attendant applications of snake-oil mysticism) and the move of some specialty firms into larger markets (with an emphasis on specs and measured performance atypical of high-end manufacturers). Nevertheless, surely any trend that advances the state of the art, and makes high-quality audio affordable for more people, is a welcome one.
John Eargle has had a long and distinguished career in audio. He has worked for RCA and Mercury records, was president of the Audio Engineering Society, and has held teaching positions on the faculties of the Aspen and Eastman schools of music. His pedagogical talents extend to book writing, and his _Studio Recording, The Microphone Handbook_, and _Handbook of Recording Engineering_ belong on the shelf of any self-respecting audio engineer or dedicated audiophile.

At present, Eargle is director of recording for Delos International, Inc., a small but ambitious and adventurous classical and jazz record company based in Chatsworth, California. His work for them includes the engineering of a quite varied repertory of digital recordings, including a Grammy-winning disc by Joe Williams (Notin' But the Blues, Delos D/CD-4001) and two outstanding series of orchestral recordings (Gerard Schwarz and the Seattle Symphony Orchestra, James DePreist and the Oregon Symphony). Undoubtedly aiding him in his work as a recording engineer is his musical training: He graduated from the Eastman School of Music in 1953, and received a master's degree in music from the University of Michigan in 1954. His instruments were the organ and the piano.

**DR:** Do you think it is necessary to have musical training to be a good engineer?
**JE:** Let me put it this way: It certainly helps to have familiarity with musical instruments and ensembles. And that is most easily come by, I think, through musical training. There is a natural association there. I really can't imagine anybody being a "compleat" recording engineer without a knowledge of instruments. You'd like to be able to tell a timpani player, for example, to play softer but to use harder sticks, or to tell a bass drum player to loosen the head of the drum because he is not playing to fill a hall but for a recording—where you want more low bass.

**DR:** Are musicians usually amenable to such suggestions?
**JE:** In the percussion department they certainly are, because it doesn't upset any delicate kinesthetic balance. If you told a horn player to play softer, you might have a problem on your hands. Certainly if you told an oboist to play softer it wouldn't work, the instrument just wouldn't play. If you tell a harpist to play louder you're going to get an ugly sound. You can learn things of this sort by apprenticeship, but having a musical background puts you in a little better stead—you enter the race with a little momentum.

**DR:** What, then, is your starting point when you are recording a piece: the performers, the score, the hall?
**JE:** The biggest problem is coming to grips with the hall. For various reasons, if a hall is designed to let around 3,000 people hear properly, it is, for the most part, not a very good hall to record in. For example, the very purpose of an orchestral "shell" is to direct the sound out into the house, and that is sometimes antithetical to good recording. Generally, the best recording venues are where everybody is out in the same acoustical environment—the big ballrooms and converted churches you find all over Europe are very nice in this regard. In Boston's Symphony Hall, the best recordings were made when they took out the seats and put the orchestra out on the floor.

And of course you want to meet with the conductor and find out what his expectations are, and with the producer. If you don't, you end up with diverse ideas and you're going to have a mess on your hands. I make it a point, whenever a new producer or conductor is involved, to spend a lot of time going over various recordings to find out who likes what, and why.

Something I also spend a lot of time working on is where to put the players. Every now and then when I've been away from an orchestra, I find that the horns have migrated back to the middle, behind the winds. I always pull the horns as far to stereo-left as I can, so that they provide a good foil for the brass. Percussion players tend to flock together so they can cue each other. But I like to spread them as far apart as I can, just to get more stereo interest. Why not? You're paying for stereo equipment, so why not get stereo. It's so easy to obtain.
DR: What is the difference in function between the engineer and the producer in sessions you record?

JE: The role of the producer is to guide things from a musical point of view, and to make sure every moment in the score is "covered." The producers I work with normally do their own editing, and that is probably the very best training ground for a producer: knowing what will edit and what won’t.

Every producer does about the same degree of editing in classical recording. People have often told me, “This is barely edited, because we don’t believe in much editing.” Well, that’s nonsense—like being a little bit pregnant. If it’s a landmark, one-time-only performance that you’re documenting, then you don’t do any editing at all, because there’s nothing to edit. But if you’re going to go in and fix something, why not fix a whole bunch of things and make a better recording? The normal way we record at Delos is to have one or two overall takes for the continuity and the structural integrity that you get in a long take. And then we go in and fix things here and there.

DR: Who sets the balances between instruments?

JE: The balance situation is really sort of a three-way affair between the conductor, the producer, and the engineer. I can have ideas on balance, the producer certainly does, and the conductor, of course, has it all in his head. The microphones hear things differently from the way the conductor does—because they are in different places—and there are times when the conductor simply has to trust the judgment of the people back in the recording booth. The more a conductor works with a recording team, the more that trust is likely to be engendered.

For example, with every recording I do with Gerard Schwarz I have an acceptable balance from the first downbeat. We’ve worked in the same hall so many times that I’ve even got the mixer settings notated. I may make some minute adjustments within the first 30 seconds, but those are very small. And he rarely wants to come back and listen to the balance, he just takes our word for it.

Normally I do not change my microphone balances during the course of a work. Let’s say that, all of a sudden, the third movement of a piece is louder than everything that has gone before. What I’ll do then is pull the stereo master down.

DR: You wouldn’t ever consider, say, bringing up the harps for a couple of measures and then bringing them down again?

JE: There’s really nothing to be gained by that. That is when you start getting into trouble, when instruments are coming and
going. One thing always bothers me: hearing a harp glissando in the middle of a heavily orchestrated Strauss tone poem—because you shouldn’t be able to hear it. You should be able to hear a harp only when it very definitely is exposed.

DR: Where, then, does this put you on the purist-multimike continuum?

JE: I don’t really know what the term purist means, but I surely know what multimike means. I have used upwards of eleven microphones in recording a symphony orchestra—and each one is there for a purpose. Mainly they’re stereo pairs; the idea is to create a convincing illusion over two loudspeakers. I believe that putting up a single pair of mikes can rarely accomplish this.

If you wanted to document something, you might say the Blumlein crossed-pair of figure-8 microphones probably give you the best documentation—of one pair of mikes in one position. But that is hardly a good recording to me. It may make a document, but it is the same kind of document as setting up a camera with a wide-angle lens in row G in a theater and photographing a play.

DR: So what do you consider a good recording? Is it one that is realistic, or one that’s accurate, or both?

JE: When you hear a good recording, it sounds like all these things. A really good recording to me is one that sounds accurate, that sounds realistic, that conveys the music. It’s also one in which I’m hard put to say how the guy made it. You can always tell what somebody did wrong in a bad recording, but you can’t always be certain how a good recording was made. And that’s because things are done very carefully. You don’t hear microphones being mixed in at too high a level, you don’t hear the image shifting.

You have to be flexible enough to realize that a recording setup is not the same as a concert setup. We did a recording recently of soprano Arleen Auger with pianist Dalton Baldwin—this is the love-songs album [Delos D/CD 3029]. In concert, the piano lid would have been up on “half stick” and she would have been nested right in the crook of the piano, singing to the audience, with her hand resting on the rim of the instrument. You can’t get a very good balance if you use this setup to make a recording.

First off, you need a better sound out of the piano, so you want the piano to be on “full stick,” which also means it is too loud for the soloist. But if you move the soloist away from the piano you also eliminate the eye contact that’s so important for a good performance. So I placed her about eight feet away, facing him. There was a cardioid mike in front of her, about four

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(Maybe you should write that down so you don’t forget it.)
feet away, with the backside of the mic facing the piano. And for the piano I had a pair of omnis no more than two to two and a half feet apart, just about ten inches above the rim of the piano, and two feet out, looking over the rim. I panned her mic to the middle and got a very nice, natural-sounding balance with the instrument—although it's really what you'd call a "studio" recording. There is a nice reverberant tail on everything, but the impression you get with this recording is that she is in my living room—and that's as valid an effect as taking you into the concert hall.

DR: Do you approach your jazz recordings differently from classical ones?
JE: Undoubtedly. A lot of jazz recordings are made very close-miked, as if to bring the performers into your living room. What I like in a jazz recording is a lot of hard-panned images. But I also like a nice amount of room sound, and I like stereo miking when the instrument is big enough to accommodate it. For instance, the piano and drums are always miked in stereo. The drums might be spread between center and right, and the piano would be spread from left to center.

DR: In modern technology what has made the most difference in the way that you record? Is it digital recording, mike techniques...?
JE: It's a whole bunch of things, the most notable of which are the quest for really good microphones, using fewer of them, and operating at a better distance—say, ten or eleven feet instead of right on top of the instruments in an orchestra.

I'll give you an example. Think of a violin as a radiating element, much like a multiway loudspeaker. At low frequencies it is like a Helmholtz resonator and is kind of omnidirectional in radiation pattern. At midfrequencies, the violin's flat top plate preferentially radiates perpendicularly, and that can be very, very harsh-sounding. At the high frequencies, the bridge does all the work and you've got a kind of tweeter effect that is rather multidirectional. If you have the mikes right above the violin, on-axis to the top plate, you're going to get an extremely harsh sound. Violins sound best about 30 to 40 degrees "off-axis."

DR: Are there any Delos recordings that you are particularly proud of?
JE: I always try to make each one at least as good as the one that came before, or possibly a bit better. We have a new recording of James DePreist doing the Shostakovich Eleventh Symphony with the Helsinki Philharmonic. I'm very excited about the sound of the orchestra and about the room we recorded in. It was done with only six microphones, four across the front and two toward the back of the orchestra. They had an enormous double-bass section, very gutsy, almost Russian-sounding, with a lot of rosin flying!

DR: How would you sum up your philosophy of recording?
JE: I am what you might call a firm-minded engineer, I like to do things my own way. If I had to work with a producer who wanted to do a 16-track multimike recording, I simply wouldn't work with him. I'm not there to do that kind of recording, I don't believe in it. But no matter how "opportunistic" the techniques employed might be, a recording should always sound natural.
Promising Signs

It's preview time again! Readers familiar with HIGH FIDELITY's annual listing of the year's forthcoming classical releases will notice that nearly all the titles planned for release in the coming months will be available on Compact Disc. This holds true across the board, from the majors right down to the smallest independent operators. Anybody who wants to put out a CD can now afford press time, and almost everybody in the classical field is taking advantage of this. As a result, the complexion of the market is changing. The smaller labels are reissuing back catalog right alongside the majors, and using the profits to fuel new recording ventures.

It is an opportune time for the industry to turn its attention to gaps in the catalog, and there is evidence that some enterprising labels are successfully doing just that. Erato, typically French in its go-it-alone attitude, is making impressive headway with a 14-disc package devoted to the major works of Messiah, a Prokofiev cycle under the baton of Mstislav Rostropovich that includes the monumental opera War and Peace, a much-needed new recording of Gluck's Iphigénie en Aulide, and a Martinů collection from James Conlon. Harmonia Mundi France, another Gallic concern, has major works by Cavalli and Marc-Antoine Charpentier in the offing. Across the Channel, Virgin Classics takes a bow with the world-premiere recording of Britten's Paul Bunyan. Closer to home, Nonesuch continues to search out esoteric repertoire and bring the music of important American composers to a wider public. Among this year's finds: new works by Christopher Rouse, Steve Reich, and John Zorn.

There are some disappointments as well. London, which has botched its CD reissue of István Kertész's Dvořák symphony cycle (Nos. 4, 5, and 6 with the London Symphony at full price; the early account of No. 9 with the Vienna Philharmonic at midprice; and the rest nowhere in sight), has yet to come up with CD versions of the two operas remaining in Charles Mackerras's remarkable Janáček cycle: From the House of the Dead and Kátka Kabanová. Normally adventurous Bissing seems to have gone through a retrenchment, and poor Pro Arte, with titles like "America Swings II: More Hits of the Big Bands," is starting to look like a parody of Hollywood.

It is worth remembering that the long-playing record made its debut 40 years ago. Were it not for Dr. Goldmark's wonderful invention, this magazine would not exist. Nevertheless, the LP has been superseded, and HIGH FIDELITY, true to its name, was the first to play taps. As is documented in the ten and a half pages that follow, the CD has been responsible for a resurgence in recording activity and a restoration of back catalog that, taken together, are an encouraging sign for the future.

So Long, Irving Berlin

The celebration of Irving Berlin's 100th birthday—accompanied by an outpouring of his music on radio, television, and recordings—gives added insistence to a question that has been on my mind for years: What do young people hear when they listen—if they listen—to the music of Berlin? Or that of George Gershwin, Jerome Kern, Cole Porter, or Richard Rodgers?

I have treasured this music as long as I can remember. To me, the beauty of the melodies and the cleverness of the lyrics are a combination that expresses the heights to which popular music can aspire. The key word is "popular." These are songs that were the standards on radio, on countless records, in the movies. The same music is still being played today—for a radically limited audience.

Will this kind of music ever return to popularity? Will another generation be able to appreciate the merits of these melodies? Will they appreciate the poetry?

Obviously, rock fans don't respond to music the way I do. I've listened, or tried to listen, to what passes for popular music today, and I can't understand why anyone would spend a minute or a nickel on it. The beat is boring. The melodies are below the level of kiddie records. The lyrics, when they can be understood, are puerile. The production sounds like Star Wars. I've heard better in a car crash. Still, there must be something in today's music that appeals to a large audience. I just don't get what it is.

Generation gaps? Changing tastes? Certainly. But how can the music of Berlin—music that is superior in so many ways—fail to gain some kind of hearing or inspire new music in the same vein? Today, aside from Stephen Sondheim, nobody seems to even be trying.

Is it possible that the majority of the population now can't hear the beauty in true music? Has it become a foreign language to them? Has the din of rock deafened the popular audience to the real thing?

The best of past popular music will continue to bring pleasure to the lucky few who have the recordings and the discrimination to tell the difference between tumult and tunes.

The ultimate question is: Will there be another nationwide celebration when Irving Berlin turns 125, or will there be merely a lot of sound and fury signifying nothing much for the fans of genuine popular music?

Stan Goldstein

Mr. Goldstein, one of our readers, lives in Minneapolis, Minnesota.

For an account of Irving Berlin's music on Compact Disc, see Terry Teachout's feature review, "Centennial," in this issue.
Good Things Come in Small Packages

The year’s forthcoming releases on CD, cassette, LP, and DAT

The Compact Disc has been the cause of sweeping changes in the record industry, especially in the field of classical music. Its rapid acceptance in the marketplace forced labels to undertake a complete restructuring of their catalogs, and many are adjusting only now to the demise of vinyl and the opportunities various CD formats have presented. The flood of reissues of important recordings from the analog past continues, and in the last few months we have even started to see midprice CD reissues of digital recordings originally issued as full-price CDs. The number of new recordings is up, and with everything that has ever been recorded now fair game for the remastering process, music lovers may well wonder, “What hath CD wrought?”

Part of the answer is on the pages that follow.

After publishing two previews of the year’s forthcoming recordings for several years—one for Compact Discs, the other for LPs and cassettes—the editors of HIGH FIDELITY decided last year to return to a single preview, distributed last year to return to a single preview, except for LPs and cassettes. The Compact Disc has been the cause of sweeping changes in the record industry, especially in the field of classical music. Its rapid acceptance in the marketplace forced labels to undertake a complete restructuring of their catalogs, and many are adjusting only now to the demise of vinyl and the opportunities various CD formats have presented. The flood of reissues of important recordings from the analog past continues, and in the last few months we have even started to see midprice CD reissues of digital recordings originally issued as full-price CDs. The number of new recordings is up, and with everything that has ever been recorded now fair game for the remastering process, music lovers may well wonder, “What hath CD wrought?”

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For our purposes, a black album is an album by a black artiste, though the term has connotations that aren't always that simple. For instance, when the story spread that Prince's new album is in fact a second choice—that a different album had been readied to the point of being pressed but not distributed in Great Britain—everyone assumed that the withheld jam must have had something commercially risky about it. And when word got around that the unheard (except by those lucky enough to secure a bootleg) LP was to be called The Black Album, that settled it: This had to be something too esoterically heavy for the marketplace. In this case, "black album" was taken to mean something with a built-in audience limit, whose musical contents could be parsed only by initiates. But we seem to be in a period of transition, with different perceptions floating about as to what the term might mean, by the above "limited audience" definition, Michael Jackson doesn't make black albums, not something with which everyone would agree. As we survey an almost randomly selected batch of current black albums, perhaps we can see whether the term has any real significance aside from its usefulness in keeping certain records from reaching the largest possible number of listeners.

It's hard to believe that moldering in the vaults is a Prince album too bold for public consumption, because from the regal one's coy, nude cover photograph to the tough, layered funk inside, Lovesexy (Paisley Park 25720-1) is take-it-or-leave-it time. Musically, this is basic purple-funk—a nonpandering holding action, not the kind of thing to win new converts. Lyrically, Prince hasn't backed down from his preaching of transcendent sensuality, defying the Zeitgeist with such lines as "no side effects and the feeling lasts 4-ever ... it tastes good, it makes U feel clever" (from "Alphabet St."). In fact, the album is his most coherent statement thus far of his melding of religiosity and hedonism.

This is the revolution Prince has been continually referring to (lest you think it had something to do with politics): the wrestling of sex from the devil and the claiming of it for the spiritually enlightened. Those who see a conflict in his evoking of God and libidinal freedom just haven't gotten the message yet.

Solid as it is, Lovesexy is a bit of a disappointment after the tour de force of Prince's previous record, and those of you who could use a little more of that are pointed toward the videocassette of the same title, Sign o' the Times (MCA Home Video 80797). Made during his 1987 European tour, the concert tape is directed by Prince with a combined energy and attention to detail that keeps the 85-minute, 13-song performance moving (12 of the songs are from Sign, with a brief "Little Red Corvette" thrown in) and that emphasizes the already incredible showmanship of his appearances. This is flashiness designed to put across the musical substance rather than disguise the lack of same (with the possible exception of a Sheila E. drum solo).

Ex-Prince protégé Morris Day has given us another rendition of his post-Time solo shtick, Daydreaming (Warner Bros. 25651-1), and though he offers nothing new—his sound has stayed locked in place for the last five years or so—he does manage to restrain his usually labored sense of humor and concentrate on centrist-funk booty-kicking. Good-natured and forgettable, the album has only one soggy stretch, the eight-minute macho-weepie ballad "A Man's Pride."

The paisley one's influence also asserts itself, more superficially. on Rick James's Wonderful (Reprise 25659-1), especially on the cover, where James appears to have raided Prince's wardrobe, his art director (the color scheme is purple), and possibly one of his past hairdressers (lovely curls). James has always been commercially savvy, and these touches are an acknowledgment...
that you can mitigate the commercially negative connotations of a “black album” if your image has been tinctured with some Sixties revivalism. At any rate, the music inside is pure James: Though there are no paeans to “Mary Jane” or any other controversial substances, “Loosey’s Rap,” “In the Girls’ Room,” and “Sexual Luv Affair” have all the old lasciviousness (“pone-funk,” as they might say in D.C.). The music, despite an occasional nod to trendiness (like working metal guitar and some scratching into one ten-second segment of the title cut), is pop/funk with James’s padding proclivities held in check. Even the one schmaltzy ballad, “I Believe In U,” has a nice hooky lift in the chorus. James may have been outflanked by Prince in one important aspect—Rick’s leering sounds a little old-fashioned—but this is a welcome return to form, his best album since 1981’s Street Songs.

If market pressures can make Rick James dress like Prince, then you have to hand it to Run-D.M.C. for their tenacious integrity: Their new one, Tougher Than Leather (Profile PRO 1265), could have been “Walk This Way” ten times, but the onlyolve (“transmutation” is more like it) is the Monkees’ “Mary, Mary,” and cuts like “They Call Us Run-D.M.C.” and “Beats to the Rhyme” build on trad rap elements carefully, cleverly. Even those numbers with a strong guitar presence are just more of what the crew have been working on since before their megafame days—as witness their mini-history, a collection of five videoclips called Run-D.M.C.: The Video (Profile Video PVC 1001). And while you’re at it, re-dig the famous meeting with Aerosmith, portrayed much more ambiguously in the visuals than in the actual music: Steve Tyler may be smiling by the end of the song, but Run (Joseph Simmons) and D.M.C. (Darryl McDaniels) look like they can barely tolerate his being there. They’re willing to sample the rock, but they’re not anxious to join the band.

Not everybody has the ability to remain so true to form. Grandmaster Flash, often credited with originating the rapping-scratching thing back in the mid-Seventies, has reunited with his original MCs, the Furious Five, for On the Strength (Elektra 60769-1). This is the gang’s first in five years, and the improvement over Grandmaster’s recent solo efforts is obvious: He needs a strong rapper like Mele-Mel, and he’s cooling it somewhat on the dumb novelty songs. But this is the guy who did the rap classic “The Message,” and there’s not a cut here that can touch it in lyric content or New Urban Rhythm intensity. Even more of a devolution is The Light (Capitol Cl 90157), by another of rap’s original originators, Afrika Bambaataa. With half a dozen guest stars (including Boy George and Nona Hendryx) and with one side leaning toward MOR soul while the other leans toward...

George Clinton outtakes, this album sounds like Bam presiding over somebody else’s greatest hits. Unfocused, to put it mildly.

Well, when the geezers become paralyzed by career-consciousness, you have to look to young blood for the old enthusiasm. To this end, try Mantronix, starring DJ Mantronik and M.C. Tee, who deal the rap cliches like they invented them—or at least still believe in them. Their current album, In Full Effect (Capitol Cl 48336), is full of weirdo humor and almost delirious high spirits. Mantronik’s “Mega-Mix” is what “Revolution No. 9” might have sounded like had John Lennon been funky, and Tee’s raps are just as painlessly avant-garde: The rhymes don’t always come where you’d expect, the sentiments take surprising digressions, and sometimes you don’t know if he’s just B.S.-ing or trying to articulate some unusually subtle insight (the guy should take up record-reviewing).

In Search of Black Albums now takes you to the West Indies, whence comes Ziggy Marley and the Melody Makers with their new album, Conscious Party (Virgin America 90878-1). Ziggy, son of Bob, is a Rastafarian, something that seems to appeal to the dormant Puritan in many North Americans—how else to explain the open-armed reception of an album with cuts like “Tumblin’ Down,” “A Who a Say,” and “Have You Ever Been to Hell,” songs with messages of such stern righteousness that they make Moral Majority proclamations seem like the Playboy Philosophy. Perhaps it’s just old-fashioned paternalism (my, the natives are colorful this year, and aren’t their superstitions quaint?). True, the music, here produced by Talking Heads’ Chris Frantz and Tina Weymouth, is caressing and friendly, and on the nondoctrinal songs (i.e., all of Side 2) Marley is the kind of underdog’s champion you can’t help but root for. But assuming that he believes what he sings, there’s an awful lot of people out there willing to either ignore the lyrics or humor the fellow.

(Continued on page 88)
Déjà Wave

It's the end, the end of the—Seventies? Compilations (and updates) from the age of punk.

I'm starting to get bored again with the U.S.A., not to mention the kingdom across the Atlantic. But what can I do? At the urging of several record and video companies, I can go back to 1977—and I'm not sure that's such a bad idea.

Last year, everyone was so busy celebrating the 20th anniversary of the Summer of Love that they forgot it was also the 10th anniversary of a song called "Hate and War" by a band called the Clash. So it has taken a while to rev up a full-scale revisitation of punk and its cousin, new wave, but here it is: double-album compilations, videocassette collections, and newly available recordings. Plus lots of current releases by former angry young men and women—including Patti Smith, who has just come out of retirement (though her new album was unavailable for review at press time). It's enough to make a grown person shout, "Gabba Gabba Hey!" Let's determine whether it's enough to make us part with our money.

The return of Patti Smith is a reminder that the roots of punk reach as far down as the New York Dolls, the MC5, the Stooges, and the Velvet Underground. But that's another story. Our story centers on the revolution that was punk, and then new wave, in the late Seventies. The revolution began primarily in England in 1977, but it should be remembered that the very first recordings came from the Ramones of Forest Hills, Queens, in May 1976. And the band's new double-album compilation

BY KEN RICHARDSON
of 30 tracks, Ramones Mania (Sire 25709-1), is a kick. Like the other double sets under review here, Ramones Mania is presented nonchronologically, no doubt to ensure that each side is as strong as possible. But the strategy isn't employed very well on this album's fourth side, five of whose seven songs are from the Eighties. And Side 1 is marred by a juxtaposition backfire: "Do You Remember Rock 'n Roll Radio?," a fun track from the Phil Spector-produced End of the Century, is now a bloated whale between "Teenage Lobotomy" and "Gimme Gimme Shock Treatment." These are minor drawbacks, though, especially when you get a Side 2 as delirious as "Blitzkrieg Bop," "Cretin Hop," "Rockaway Beach," "Commando," "I Wanna Be Your Boyfriend," "Mama's Boy," "Bop 'Til You Drop," and "We're a Happy Family." Note that "Mama's Boy" and "Bop 'Til You Drop" are from 1984 and 1987—meaning that Eighties Ramones aren't always bad Ramones. For listeners in need of a road map, there are plenty of discographical details, along with a fine essay by Billy Altman.

Sailing east, we go first to the Damned. Though formed after the Sex Pistols, the Damned were the first British punks to release a single ("New Rose," October 1976), to release an album (Damned Damned Damned, February 1977), and to tour America (early 1977). They also are England's equivalent of the Ramones, their country's longest-surviving and most amusing punk band. The Damned have survived numerous personnel changes; a fascinating family tree of the group, drawn by rock archivist Pete Frame, is printed on the inner sleeves of the two-record compilation The Light at the End of the Tunnel (MCA 2-8024). Together with Herb Fenstein's comic essay, the tree gives abundant information for charting the development of the band through 27 tracks. Like the Ramones set, this one has a weak Side 4, also because of predominantly recent material. But again, not everything new is for naught, and some of the LP's juxtapositions are exhilarating: from the thrash of 1977's "I Feel Alright" to the control of 1986's "Anything," then back to the pop of 1982's "Lovely Money." As of press time, I couldn't get my hands on a copy of the Damned's videocassette compilation, also called The Light at the End of the Tunnel, but I'm impressed by the consistent strength of the double LP. Whereas the Damned have been going for 12 years, the Sex Pistols barely made it through 2 ½—but their impact, as the saying goes, was immeasurable. Today, that kind of influence allows the domestic release of four albums of rare Pistols recordings, most with Glen Matlock on bass, as well as a video documentary. All of this material comes from the library of Duve Goodman, the band's sound man, engineer, and producer. Unfortunately, Duve isn't much of an editor, as there is an inordinate amount of repetition over these five titles. In fact, We Have Cum for Your Children (Wanted: The Goodman Tapes) (Skyclad Sick Sex 6; 6 Valley Brook Drive, Middlesex, N.J. 08846) is for the most part merely a sampler of the material found on the other three records. Not recommended. Nor is Better Live Than Dead (Restless 72255-1; 1750 E. Holly Ave., El Segundo, Calif. 90245), recorded at a show in England sometime around September 1976. The sound is no better than that of your average bootleg; the performances aren't especially revealing. More deserving of your money is The Swindle Continues (Restless 72256-1), a decent-sounding collection of studio material. Side 1 has alternate takes of seven tracks that appear on Never Mind the Bollocks, Here's the Sex Pistols (the only album the band itself released) but is remarkable for the eighth track: a raving, nearly seven-minute version of "No Fun." Side 2 is credited to the "Ex-Pistols"—varying assemblages of guitarist Steve Jones, second bassist Sid Vicious, drummer Paul Cook, and assorted vocalists, following the early 1978 departure of Johnny Rotten. Five tracks are run-of-the-mill fin-de-Pistol rock. Three others are something else: an accordion-acoustic "Anarchy in the U.K.," a Stars-on-45 parody of our heroes called "Sex on 45," and the remaining members' statement of purpose, "The Swindle Continues" ("We made history/Said rude things on TV/And now (Continued on page 85)
Irvind Berlin's 100th birthday on May 11 has been commemorated with a flood of Compact Discs devoted to his work, joining several titles already in the catalog. Some of these tributes are much better than others, so choose carefully.

Worst things first: Unless you have an uncontrollable itch to hear how Marilyn Monroe and Mickey Rooney sing "Heat Wave" and "Top Hat, White Tie, and Tails," stay as far away as possible from The Irving Berlin Songbook: A Centennial Celebration (RCA 6984-2; playing time 38:43). RCA could easily have dipped into its vast archives to put together the freshest and most illuminating Berlin anthology imaginable, from John McCormack's "All Alone" and Fritz Kreisler's "Blue Skies" to Phil Woods's "Cheek to Cheek." No such luck. Celebration does contain a few first-rate items, but most of the tracks on this odious clunker seem to have been chosen at random from the cutout bin.

The Irving Berlin 100th Anniversary Collection (MCA MCAD 39324; playing time 37:02) offers a higher grade of musical quality, with Bing Crosby, Al Jolson, Fred Astaire, Ethel Merman, Billie Holiday, Louis Armstrong, Dinah Washington, Bing Crosby, Tony Bennett, and Duke Ellington among those present. Still, a 12-track CD is a bad joke, no matter how good the tracks are. MCA says it couldn't get permission from other labels to include all the tracks it had in mind. A likely story. Let's forget. MCA owns the rights to the vast Decca catalog of jazz and pop on 78, the glittering contents of which it has steadfastly ignored since the dawn of Compact Disc.

Anyone interested in jazz is likely to have most of, if not all, of the recordings on Always (Verve 835 450-2; playing time 52:55), a compilation chiefly drawn from the various Irving Berlin Songbook albums recorded in the 1950s for Norman Granz's Verve label, several of which are already available in their entirety on CD. The singers here are Sarah Vaughan, Ella Fitzgerald, Billie Holiday, Louis Armstrong, Dinah Washington, Bing Crosby, Fred Astaire, and Billy Eckstine. The 16 performances (four of them CD-only) are interesting, but the overall stylistic tone, as usual with Granz, is too mechanistically jazz to give the listener any insight into Berlin's extraordinary diversity. Like most of the Verve Songbook titles, Always is more about the people who perform it than the composer to whom it is devoted.

By contrast, the double-LP-on-one-CD Irving Berlin: A Hundred Years (Columbia CGK 40035; playing time 73:18) covers an astonishing amount of stylistic ground. This collection contains everything from period-piece 1930s recordings of "Let Me Sing and I'm Happy" and "Puttin' On the Ritz" by Ben Selvin and Jan Garber to a whispsery cabaret version of "What'll I Do" taped by Judy Holliday in 1958. There are "creator" recordings of the utmost historical importance (Ethel Waters's "Harlem On My Mind," Fred Astaire's "Cheek to Cheek") and jazz interpretations of no less significance (Billie Holiday's "This Year's Kisses," Red Norvo's "Remember"). The transfers from 78 are generally very good, and the excellent notes by producer Michael Brooks include complete discographical information. You can't help but wonder, though, why Brooks didn't put together an entire series of CDs devoted to, say, Astaire, Waters, Norvo, Mildred Bailey, and the Boswell Sisters, instead of spending so much energy on a Berlin tribute that, for all its good points, ends up being as frustrating as it is enjoyable. Here's hoping.

Fred Astaire's classic Brunswick recordings from the 1930s may not yet be available on CD, but the ten Berlin songs he recorded in 1952 with an all-star Jazz at the Philharmonic combo led by pianist Oscar Peterson have been released as The Irving Berlin Songbook (Verve 829 172-2; playing time 36:18). The earlier recordings are of course preferable, and a ten-track CD is absurdly short. But it's a joy to hear Astaire's second thoughts on songs like "Top Hat, White Tie, and Tails," especially with trumpeter Charlie Shavers and tenorist Flip Phillips in pursuit.

Tony Bennett's Bennett/Berlin (Columbia CK 44029; playing time 30:32) is organized along the same clean lines as the Astaire set. The Ralph Sharon Trio provides jazzy, sympathetic support. Dexter Gordon, Dizzy Gillespie, and George Benson sit in from time to time to spice things up. Though the slick studio sound is too bright and resonant, Bennett's heart is still very much in the right place—so it is sad to have to report that he was in threadbare vocal estate when Bennett/Berlin was taped. These performances would doubtless have been a gas to hear in person, but Bennett's unfailingly intelligent singing, heard in the cruelly exposed setting of this digitally recorded small-group album, has little to offer in the way of sensuous pleasure.

Like Bennett, Rosemary Clooney was an immensely successful pop singer of the 1950s who now prefers to work with jazz (Continued on page 88)
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DEJA WAVE
(Continued from page 80)

we’re having fun/We want a holiday in the sun”). Guaranteed to cause laughter or despair. Either way, worth hearing.

Finally, there’s The Mini Album (Raretess, 72257-1), touted as a specially priced “six-song masterpiece”—and you better believe it. All six tracks are alternate-take studio recordings made in July 1976, and the sound is the most vital I’ve heard for the Pistols. “Sub-mission,” “Seventeen,” “Anarchy in the U.K.,” and “No Feelings” may have junkier guitar on Bollocks, but the Mini Album versions are better for their spaciousness and slightly slowed tempos, allowing a less affected Rotten to charge up front and give full vent. (“Satellite” and “I Wanna Be Me” are also here.) For an appropriate visual complement, try the 25-minute documentary made by the Pistols prior to their dissolution and now released under the title Buried Alive (Ice World Outlaw 11-V; Music Video Distributors, Inc., P.O. Box 1128, Norristown, Pa. 19404). A few performance segments are here, but the bulk of the videocassette comprises news reports and TV interviews, including the smug Bill Grundy egging the band on to “say something outrageous” in their infamous confrontation. And a “videoclip” of Elizabeth II on horseback, to the strains of “God Save the Queen,” is as savage as any words Rotten has shrieked in his career.

And a long career it’s turning out to be: Currently available is Johnny Rotten’s—er, John Lydon’s—eighth album as leader of Public Image Ltd., Happy? (Virgin America 90642-1). It’s not bad, but the synth and female choruses are disposable, and Lydon’s voice, though still capable of a great howl, is ultimately on automatic pilot. For some truly magnificent Lydon, go back one album—to Album (Elektra 60438-1), bursting with primal vocals, gigantic Steve Vai guitar, and a Bill Laswell beat of menace. Such danger would be an asset to the eponymous debut recording of Paul Cook’s new band, Chiefs of Relief (Sire 25703-1). Cook and former Adam Ant-person/Bow Wow Wow-zer Matthew Ashman work up a decent funk sweat, yet their sound remains trapped in the confines of studio machinery. At least it’s still alive—which is a lot more than can be said for Steve Jones’s recent Mercy (MCA 42006), a terrible record by any standards. Jones has caught the AOR formula and caught it bad: Ballads and rockers plod and plod, sung in an expressionless gurp. Stick with Lydon—and check out “Big Tears,” a 12-inch import by Glen Matlock’s new band, CBI, which I haven’t heard but which deserves a listen, considering that Matlock has been called the main architect of the Sex Pistols’ music.

Matlock may or may not have been the main architect of British punk itself, but Joe Strummer and Mick Jones of the Clash certainly were its master builders. The Story of the Clash, Vol. 1 (Epic E 44035) avoids the Side 4 pitfalls of the Ramones and the Damned by placing most of the band’s late, fuzzy material on Side 1. This does make for a slow start—“Should I Stay or Should I Go?” and “Straight to Hell” sound lethargic today—but any side that also has “The Magnificent Seven,” “This Is Radio Clash,” and “Armagideon Time” ain’t too shabby. And what follows is punk at its very, very best, compiled in association with the band: from “Janie Jones,” “Complete Control,” and “Police and Thieves” to “Safe European Home,” “Tommy Gun,” and “Clampdown.” Unfortunately, the garbled account of life-and-times-with-the-band that sprawls across the album’s gatefold, though written by Clash valet Albert Transom in the spirit of the times, is useless. And CBS (parent to Epic) extends its streak of lousy reissue packages by providing nothing more than original release dates for the 28 tracks, not even bothering to credit

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first drummer Terry Chimes (alias Tory Crimes). As for this "Vol. 1" business: If the understanding is that CBS is readying a second double LP, then pass up both of them in favor of the same amount of vinyl first released by the band itself—The Clash, Give 'Em Enough Rope, and the double set London Calling—because the band's most compelling material is found throughout these first eight studio sides.

It's no secret that Strummer and Jones have been something less than compelling of late. Jones has made two albums of techno-mumbo-jumbo at the helm of Big Audio Dynamite, the second somewhat better than the first because it was co-produced, and several of its tracks co-written, by Strummer. (The third Big Audio Dynamite should be out by the time you read this.) Strummer on his own, though, has had similar trouble. His soundtrack of Latin instrumental music for Walker (Virgin America 90686-1) is well produced and well played but not very original. The good news is that his new release, a portion of the soundtrack to Permanent Record (Epic SE 40879), is his best work since the glory days. Now fronting an assertive band called the Latino Rockabilly War, Strummer contributes five hot cuts. The simple acoustic-electric slash of "Trash City" is itself a neat rebound.

Back in America in 1977, punk was taking a back seat to its more arty, poppy counterpart, new wave. The best of these new-wave bands have shed their young clothes and grown with contemporary music as it has embraced sounds from various parts of the globe. Which brings us to Storytelling Giant (Warner/Reprise Video 38137), billed as "a work composed of all ten Talking Heads videos made over the past decade." Despite that line, and despite a sticker on the videocassette shrinkwrap that says, "1977-1987: Ten Years of Talking Heads," the earliest titles are "Once in a Lifetime" and "Crosseyed and Painless" from 1980's Remain in Light. No matter: Storytelling Giant is first-rate. As the notes say, the videoclips "are connected by random, unrehearsed, spontaneous footage of real people talking"—you didn't think David Byrne, our Renaissance Man, would simply slap the clips on a tape, did you? The real people are wonderful, whether or not their comments relate to the music, and the clips themselves are among the video generation's best, from the Putting on the Hits-gone-madness of "Wild Wild Life" to the sit-down performance of "The Lady Don't Mind."

Pretenders: The Singles (Warner/Reprise Video 38140) attempts a similar retrospective but fails. First, its 15 videoclips are indeed "the singles," underscoring the fact that the Pretenders were two different bands: purveyors of Top 40 hits and, on their first two LPs, creators of potent new wave, grounded in punk energy. So we get "Stop Your Sobbing" and "Show Me," not material like "Precious" and "The Adultress." Second, the accompanying visuals will unquestionably make you go to sleep: Most titles are sterile performance clips shot in a studio or on a constructed set. Third, someone has tried to fix/update many of them but done it dumbly, so "Back on the Chain Gang" now has incongruous footage of the band at Live Aid, and—worst of all—both "Chain Gang" and "Message of Love" now close with obituaries for original guitarist and bassist James Honeyman-Scott and Pete Farndon, making this tape a depressing account of the self-destruction of two talented musicians and a vital band. If you just want the audio of this video, buy the companion Singles collection on LP.

Like the Talking Heads videocassette, Joe Jackson: Live in Tokyo (A&M Video 61717) shows an artist who has successfully ventured far from new-wave beginnings. But like the Pretenders collection, Jackson's tape can be tedious: The nearly two-hour 1986 performance is divided into three parts, and you can bet that the middle movement is slow, helped little by the static lighting, static camerawork, and static audience. All is not quiet, however: Parts 1 and 3 offer stretches of rock played by a tight throwback to Jackson's original band. And included in the videocassette package is an almost 20-minute CD single: "Look Sharp!," "A Slow Song," and an alternate, early recording of "I'm the Man," all taken from Jackson's new live two-record set. Truth be told, the better document of Joe Jackson is that double LP, Live 1980/86 (A&M SP 6706). Spurred by a hatred of live albums, Jackson has compiled the best one I've heard in a decade by presenting many old songs in clever new arrangements: "On Your Radio" redone for keyboards, "Fools in Love" abandoning its original chunka-chunka rhythm for a threatening bass slither, "It's Different for Girls" starting on acoustic guitar alone and then adding bass and finally drums. This approach even negates any repetitiveness in the three solid appearances of "Is She Really Going Out with Him?," the first in a kind of Sixties soul, the second broadly a cappella, the third on accordion, piccolo, and violin. Most daring, though, is Jackson's scuttling of the bass pulse that helped make "Steppin' Out" his highest-charting hit; the song is now slower, with shifting levels of drama. Not enough? Then notice that each side of this double set features a different backup band from a different tour. The LP and the video con-
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Those who like their exotica less scolding might want to try the two-record sampler **This Is Soca** (Sire 25650-1). Soca is modern calypso, which is a music most associated in the States with Harry Belafonte and those cutesy Fifties novelty hits ("Mathilda," "Day-O"). Soca shares with that earlier music the lilting melodies and buoyant rhythms, but its more dense instrumentation (steel drums, electric bass and guitar, horns) gives it a distinct tempo flavor. Half of this anthology is taken up by David Rudder and his band. Charlie's Roots. Rudder has an attractive, honeyed voice, and here and on his own new LP, *Haiti* (Sire 25723-1), he essays the festive side of soca, as well as its more serious aspect (*Haiti's* title cut, quite moving).

With Rudder, we're a long way from Prince, and we have yet to stretch our premise as far as it can go. Living Colour is a heavy metal band, and *Vivid* ( Epic BFE 40499) is their debut. Lead guitarist Vernon Reid is a former avant-gardist—he played in Ronald Shannon Jackson's *Decoding Society*—and I think he and lead singer Corey Glover are just a tad too tasteful for the over-the-top vulgarity that informs the best metal. Aside from that, they sound like the real thing, which means they are. All the band members are black, so is this a black album? At least one of the songs, "Funky Vibe," has a distinct black point of view: Its male protagonist keeps getting those looks on the street, until he has to shout out, "No, I'm not gonna rob you!" And there's a touch of funk that underpins some of the metal riffs. But there's also a cover of Talking Heads' "Memories Can't Wait" and the Mick Jagger-produced "Glamour Boys," neither suggesting any particular color.

Let's try one more. Tracy Chapman is a folk singer, and her debut, *Tracy Chapman* (Elektra 60774-1), looks to be a hit. Her arrangements are simple and her lyrics plain—to too plain for some, who have remarked on the naiveté of songs like "Talkin' Bout a Revolution" and "Across the Lines." But it's not as though we've ever been awash in progressive sentiment these past eight years, and for some of us her plain-speak is refreshing. Chapman is black, but there's not a song on the album that doesn't speak for and to a variety of people—including "Across the Lines," with its query, "Across the lines/Who would dare to go/Under the bridge/Over the tracks/That separates white from blacks." Which may not suggest anything definite to you, but after listening to all of this music, I can't help thinking that maybe "black album" is a record-industry ruse... a music-magazine convenience... all in our minds.

**BLACK ALBUMS**

(Continued from page 78)

**CENTENNIAL**

(Continued from page 81)
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