SOUND INVESTMENT
Buying a Component System on a Budget

DSP HITS THE ROAD
How to Put a Concert Hall in Your Car

TEST REPORTS
Onkyo A/V Amplifier, NHT Speakers, Forté Power Amp, More
You may think you've heard it all before. But we can assure you that you've never heard anything quite like this. Unless, that is, you've ever had the opportunity to drive with a twelve-piece jazz ensemble playing in your car.

Introducing the Premier KEX-M900 from Pioneer Electronics. An incredible 3-source unit that is, to put it quite simply, the most advanced car audio system ever created. And it's due to the way we've utilized a revolutionary new technology known as Digital Signal Processing (or just DSP). A remarkable development that provides complete digital audio control, totally altering the way you listen to music in a car.

Basically, it means we put a computer inside a car stereo head unit. A high-speed, special-purpose microprocessor, to be exact.

Then, because of the DSP chip's tiny size, we were able to load the unit with dozens of other features and components once considered impossible to incorporate in the car-audio realm.

Of equal interest are the three modes of equalization we give you to choose from. The 3-band parametric EQ gives you the freedom and versatility to recreate sounds with incomparable accuracy. While the built-in 7-band graphic EQ features the convenience of six user presets.

Additionally, the parametric bass and treble comes equipped with front and rear equalization control for precise staging.

With your multi-play CD controller, you can then enjoy complete command over your Pioneer 6-disc magazine changer, which is fully compatible with your Pioneer home multi-play CD system.

There's also a brand-new disc title memory feature. So you can program the artist's name to appear on the display.

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There's also a brand-new disc title memory feature. So you can program the artist's name to appear on the display.
when their disc is being played.

Even the tuner we designed for this system is something out of the ordinary.

Our SUPERTUNER IV is the very first to come along with single-digit sensitivity. Which means it can now pick up more stations from greater distances and hold them longer than any other tuner on the market today.

And what about all your cassette tapes, you're asking?

Afraid you'll have to sacrifice them to get CD sound in your car?

Not true. A simple touch of a button and the faceplate flips down to reveal a cassette deck with full-logic control, auto-reverse and all the features you'd expect from Premier.

For safety and convenience, we've also added a wireless remote that lets you control the entire system without ever taking your eyes off the road. And with the learn feature, you can then program the remote to learn and operate any one additional function appearing on the unit's face.

Now, at this point, you're probably wondering where you're going to find a security system sophisticated enough to protect your investment.

Well, you don't have to. The KEX-M900 comes with our network of Premier Installation Specialists.

These expert craftsmen will design and install your system with the utmost care and attention to detail. For more information and the name of the Premier dealer nearest you, give us a call at 1-800-421-1601.

We could go on, of course. But we think you've probably heard enough.
It’s not just how it’s made, it’s how well it’s made.

Whether you’re on a budget or just seeking maximum value, don’t be fooled by bargains that sound cheap at the store—they just might sound cheap when you get home.

Even Denon’s most economical receivers, such as the DRA-335R and DRA-435R, preserve sound quality first. (This is Denon’s Design Integrity principle.) Both of these receivers employ electronic switching and elegant circuit topology for the most direct signal paths. This not only lowers noise and distortion; it greatly enhances reliability.

For superior audio quality, the finest components are used throughout the signal path, including polypropylene and polystyrene capacitors and metal film resistors. Competitive receivers use skimpy transformers and IC output stages, which restrict your system’s dynamic range. Denon’s discrete output transistors and substantial transformers give the DRA-335R and DRA-435R the power to drive even the most “difficult” speakers.

At Denon lower cost need not preclude important features. Both the DRA-335R and DRA-435R feature Variable Loudness and full Integrated System (IS) remote control of a CD player, CD changer and cassette deck. The 16-station programmable tuners of the DRA-335R and DRA-435R feature improved AM NRSC deemphasis.

Even though the Denon DRA-335R and DRA-435R receivers pack in so many features for the price, never forget the real reason to buy a Denon: Sound.

DENON
The first name in digital audio.
You could put together a fine surround-sound music system with Atlantic Technology’s Pattern Surround Home Theater, the Carver CT-6 tuner/preamplifier, and the Pioneer PD-75 compact disc player. For more on system buying strategies, see “Sound Investment” on page 55. For more on the Pattern Surround system, see page 17.

Photograph by Jook P. Leung

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Richard Thompson, Elgar Symphony No. 2, Julian Cope, and Shostakovich Symphony No. 11 ........................ by Daniel Kumin
The advantages of a technological breakthrough are usually obvious. But they bring with them attendant problems. Eliminating those is what leads to perfection.

Everyone knows “digital sound” is cleaner, crisper. But sound waves aren’t digital at all. They’re analog. So the digital signals must be converted back to analog signals before they’re sent to the speakers. The degree of accuracy of this process determines how good the sound is, how real.

The two accuracy problems involve “reading” and “converting” the digital information on the CD. The “reading” or “sampling” occurs at 44,000 times per second. A 4x’s oversampling digital filter purifies the sound at 176,400 times per second. And our 8x’s oversampling CD units, 352,800 times per second. By utilizing an 8x’s oversampling digital filter, virtually all harshness and coloration of sound are eliminated.
Finally,
Skip-Resistant, Bit-Streamed,
Fiber Optics, Digital CD.

With a conventional 16-bit CD, the sampled information is converted to an analog signal in this 16-bit "chunk." Big chance for error. Because the order within this chunk may be almost random. Take the numbers 1, 5, and 9. Arrange them in one order and the number is 951. In another, 519. Big difference. And in a 16-bit binary environment it could be even worse. Because the least significant bit represents the number 1 and the most significant, 32,768. A gap far greater than that between the decimal numbers of 1 and 9.

So our digital-to-analog-converters, DAC's, don't convert the data in chunks. They do it one bit at a time. It's called "bit streaming." And it ensures that the analog waveform that is sent to the speakers is the ultimate in accuracy.

And because we're reaching for perfection, three more quick features. Our CD's are almost skip-proof. So don't worry about bumpy roads. And our disc-to-disc access time is super fast. No more twenty seconds of silence. And our 6300 CD changer unit employs a fiber optical cable to run through the car up to our head unit. After all, once you've gone to all this trouble to keep the sound clean and accurate, why mess it up with some static interference.

More importantly, our trunk-mount CD changers with our FMC 303 controller will plug in to any existing in-dash FM radio. No more underdash cutting and splicing. Which means when you go to sell your car, just unplug the unit, and the car's audio system is still just like it came from the factory.

Last, but certainly not least, is DAT. Digital Audio Tape units. We not only have them, we developed the first DAT player for the car. Our current model not only plays DAT's but also controls our CD changer. The ultimate in digital entertainment.
When it comes to great audio, we’re not afraid to cut corners.

What’s true in life is true in loudspeakers: If you don’t keep an open mind to new ideas you’ll end up pretty square, like most speakers in the world.

At NHT® we’re obsessed with great sound and the technology that creates it. That’s why our speakers are angled at 21 degrees. It’s part of an acoustic technology called Focused Image Geometry. It’s one reason our unusually shaped speakers give you exceptionally accurate sound.

An example of better thinking going in, and better sound coming out. That’s our angle.

EVERYTHING YOU HEAR IS TRUE.
McIntosh

defines the
voice of quality
in music

Crafted with pride in the United States by dedicated, highly trained craftspeople.
The Amp/Speaker Interface

Thank you for bringing to light—in Brad Meyer's "The Amp/Speaker Interface" in June—the objective (read: measurement-based) explanation for why high-quality amplifiers can sound different. For too long, subjectivists have been unchallenged when they ascribe amplifier sound differences to mystical circuit-performace differences that can be reliably evaluated in ABX testing. But more subtle characteristics, such as timbre, image resolution, spaciousness of the soundstage, etc., cannot be. Such discriminations require a comparison of current auditory experience with the memory of another component, where that memory is firmly established over time in extended listening.

I have owned four different CD players over the years. Each successive player has had a significantly better sound quality than its predecessor. I was able to hear a big difference between them because I had built up a vast auditory memory with each player prior to evaluating a new one. Had I evaluated these players using the ABX method, I might not have noticed much difference between them and would have failed to increase my listening enjoyment by selecting the one with the better sound.

As a minimal A/B extended-listening comparison between different brands or models of component, I would suggest listening to a single CD every day for five consecutive days, then, on the sixth day, listening to that same CD after substituting the component to be tested, keeping all other conditions the same. The ABX system is designed to eliminate the effect of your memory with each player prior to evaluating a new one. Had I evaluated these players using the ABX method, I might not have noticed much difference between them and would have failed to increase my listening enjoyment by selecting the one with the better sound.

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The ABX system is designed to eliminate from equipment comparisons all factors except actual sonic differences; it does not place any constraints on the time intervals, which can range from seconds to months at the discretion of the tester or listener. Any other method of comparison that fails to control extraneous factors—especially the listener's knowledge of the equipment being compared—is necessarily less reliable.

Long-term tests of the type you suggest have never been tried and have revealed only that human acoustic memory is unreliable. ABX testing can and does reveal extremely subtle differences in timbre and imaging. And do not think that a difference that seems substantial is therefore real. Time and again I and other subjects have heard substantial differences between components in short-term listening only to discover that we were the victims of illusion. The argument that long-term listening can reveal the subtlest sonic qualities can never be completely dismissed. But I think that "big difference" you claim to hear between your CD players is not so big if you can't identify it without weeks of listening.

—E.B.M.

Roach Control

Regarding "Infested Components" in April's "Letters": In south Florida, roaches are a real problem. They like the heat of audio components and some glues and insulation materials. The cure—bay leaves! Since putting a bay leaf under each component and in each storage space several years ago, I haven't seen a roach hanging around. None! Worth a try, and what harm could it do?

GEORGE J. CAVANAGH
Cooper City, FL

R. E. M.

Regarding Ron Givens's June review of the latest R.E.M. album, "Out of Time," it's a shame that Mr. Givens apparently just can't view R.E.M. as anything other than a guitar-bass-drums-vocals band. To call its use of strings, horns, and a guest rap by KRS-1 part of a "wild catalog of special effects" is somewhat odd, to chastise the group for expanding its instrumental ensemble to include mandolin and harpsichord is just plain disturbing.

Yes. "Out of Time" is somewhat of a departure from R.E.M.'s "Murmur" and "Green" stages, but the band is hardly "bored," as Mr. Givens submits. This record offers some of the most accessible, enjoyable songs in the entire R.E.M. catalog, particularly Losing My Religion, Shiny Happy People, and Radio Song. I think Mr. Givens is the one who sounds bored, and boring, here.

RICH FARRELLY
Huntington, CT

DAT vs. CD

In the article "Digital Recording Comes Home" in June, Craig Stark says that "... a DAT deck is essentially a CD-quality tape recorder." In my opin-
GET MORE OUT OF YOUR MUSIC.

The more music you hear
The more you feel.
Sony Metal SR.
A wider dynamic range.
Wrings out higher highs.
Lower lows.
Escape to our metal.
For barely more than
Type II cassettes.
Take it for a spin.

SONY.
LETTERS

ion, there is no such thing as "CD-quality tape," period. Have we forgotten that the real innovation in CD technology is the use of laser optics? While DAT's may match the audio quality of CD's, can they match their durability? Isn't this the real benefit, the real "quality" of CD's? Doesn't it seem that while digital recording is a huge step ahead, the use of magnetic tape is a huge step backward?

J. WILLIAM FRINK
Buffalo, NY

Buzz Off!

I enjoyed Ian Masters's "Finding Fault" in June as I, too, have had to deal with unwanted noise in my system. I tried everything to get rid of it and decided it was the fault of a ground loop. Not wishing to hack up all my RCA cables, as Mr. Masters suggested, I purchased a Ground Loop Isolator patch cord at Radio Shack for a mere $10.95. The cable has gold-plated RCA plugs and even comes with a mini-plug adaptor for use with portable CD and tape players. I went through my system removing one cable at a time, replacing it with the Isolator cable, and listening to the results. When I had gone through all but three of the cables (it figures), the buzz disappeared. I would recommend use of this cable as a possible inexpensive cure for some noise problems.

JAMES M. SCHALOW
Wausau, WI

More on "Amadeus"

In a letter about the movie Amadeus in the June issue, William Lloyd claims that it shows Mozart through the eyes of Salieri. This is true, but there's still an enormous amount of historical inaccuracy involved. In truth, the movie was as unfair to Salieri as it was to Mozart.

And in answer to Mike Morrison's letter, yes, Mozart was possessed of an irrepressible nature, but Amadeus took that element of his character and blew it out of proportion, making him thoroughly one-dimensional. If Mr. Morrison would like Mozart "brought to life," he should read a copy of Mozart's letters. In 1781 he addressed the problem of exaggeration and falsification in this way: "But whoever writes a 'comedy' and wants to win applause, must exaggerate a little and not stick too closely to the truth." I think that in author Peter Shaffer's case, "to win applause" are the three key words here.

LYNNE E. FORLENZA
Barnegat, NJ

Analog Mixes

I have noticed something rather strange about many recent CD's on the Elektra label that I have purchased: They have a "DAD" SPARS code [meaning that they were recorded digitally but mixed on analog equipment]. What is the reasoning behind this?

JEFF EUSTIS
LaSalle, IL

For many pop albums, more studio time is required for the mixing than for the original recording sessions, and analog editing equipment is still cheaper today than digital. Also, some engineers prefer the "warmer" sound of analog equipment.

Speaker Building

In "Tune-Up" in May there was a reference to programs running on IBM-

There's only one company out of the hundreds of speaker manufacturers that also makes musical instruments.

Yamaha.

Our grand pianos grace the stages of the major concert halls throughout the world.

Yamaha, in fact, is the largest manufacturer of musical instruments in the world.

For over 100 years we've been making music.
type personal computers that are used to help design speaker enclosures. How can I obtain one of these programs?

**STEPHEN ECCHER**
New City, NY

Sources that we know of include Old Colony Sound Lab (P.O. Box 243, Peterborough, NH 03458; 603-924-6371), SpeakEasy (46 Cook St., Newton, MA 02158; 617-969-1460), Audio Teknology, Inc. (7556 SW Bridgeport Rd., Portland, OR 97224; 503-624-0405), and DLC Design (24166 Haggerty Rd., Farmington Hills, MI 48335; 313-477-7930). Macintosh computer users should contact True Image (349 W. Felicita Ave., Suite 122, Escondido, CA 92025; 619-480-8961) or Old Colony Sound Lab, which also carries some Apple II programs.

**CD Playing Times**

Are there different standards for playing times for CD's of classical and popular music? Am I justified in feeling that I'm getting "less bang for the buck" with current New Age and jazz titles?

**CYNTHIA INFANTINO**
Libertyville, IL

In a word, yes. As we've pointed out on previous occasions, popular-music producers still tend to think along the lines of the ten songs and 30 to 35 minutes that were typical of vinyl albums for many years. There are signs of change, but it's unquestionable that classical recordings are more likely to exploit the longer playing times of the CD and tape formats.

**Pink Noise**

Just what in the hell is "pink noise"? And is that what Roger Waters and David Gilmour based their band's name on?

**RICHARD T. COLOMBOTTI**
St. Petersburg, FL

Pink noise is a broad-band random signal containing, on average, an equal amount of acoustic energy in each octave. Consequently, it is warmer sounding than white noise, which contains, on average, an equal amount of energy at every frequency (thus, much more energy in the higher octaves than the lower ones).

The name Pink Floyd derives from two jazz/blues musicians in founder Syd Barrett's record collection, Pink Anderson and Floyd "Dipper Boy" Council.

**CD Wish List**

Compact discs are wonderful, but only when you can get what you want on CD. Here's a brief list of albums that have not been transferred to CD, most released within the last ten years. Perhaps with a little publicity, these great albums can be made into great CD's.

- Willie Nile: "Willie Nile"
- Lou Reed: "Legendary Hearts" and "The Blue Mask"
- Marshall Crenshaw: "Downtown"
- Warren Zevon: "Warren Zevon," "Stand in the Fire," and "Bad Luck Streak in Dancing School"
- Ellen Foley: "The Spirit of St. Louis"
- Kate and Anna McGarrigle: "Love Over and Over" and "Dancer with Bruised Knees"
- T-Bone Burnett: "Proof Through the Night"
- Devo: "Duty Now for the Future" and "Oh No It's Devo"
- Tomio K.: "La Bamba"
- Adrian Belew: "Lone Rhino" and "Twang Bar King"

**MARC MICKELSON**
Madison, WI

uses a remarkably light yet rigid microcell diaphragm material. Creating a tweeter that recovers and responds virtually instantly to any audio signal.

Resulting in a line of speakers with exceptionally smooth tonal balance and superior imaging characteristics.

Speakers as transparent to the ear as they are appealing to the eye.

Stop by your Yamaha dealer and hear the remarkable new R/2 loudspeakers for yourself. But don't be surprised at how great they sound.

After all, we've been practicing for well over 100 years.

**YAMAHA**

Introducing four new ways to appreciate it.
NEW PRODUCTS

Denon

The Denon AVP-5000 audio/video preamplifier has four Dolby Pro Logic surround modes and nine additional ambiance modes, all executed digitally. A pair of high-speed digital signal processing (DSP) chips perform such functions as delay, reverberation, equalization, dynamic-range adjustment, and Dolby Pro Logic processing. The AVP-5000 has four optical digital inputs, five analog inputs, and six audio/video inputs with both composite and S-video connections. A Source Direct switch allows analog signals to bypass the digital stages. A programmable remote control is included. It features "soft keys," an LCD screen, and System Call keys to transmit a string of commands. Price: $2,300. Denon America, Dept. SR, 222 New Rd., Parsippany, NJ 07054.

Terk Technologies

The f a m is Terk Technologies' newest AM/FM antenna. Its "no co-induction" principle enables the AM and FM sections to function without interfering with each other electrically. When the antenna is upright, it is omnidirectional. A status indicator shows whether it is in the best position for clear reception. There is a variable gain control at the base of the unit. The f a m measures 7½ inches tall and has a faux-granite finish with teal trim. Price: $34.95. Terk Technologies, Dept. SR, 233-8 Robbins Lane, Syosset, NY 11791.

Conrad-Johnson

The Conrad-Johnson Sonographe SC22 line-stage preamplifier, which uses field-effect transistors (FET's) exclusively, provides switching for six high-level inputs, including two tape-monitor loops. An optional plug-in card (SC22P) enables the auxiliary/phono input to be used with all cartridges but the lowest-output moving-coil models by providing 40 dB gain and RIAA phono equalization. The SA150 high-current stereo power amplifier uses metal-oxide-semiconductor FET's (MOSFET's) for both input and output stages because of their "tube-like transfer functions." It is rated for 135 watts per channel into 8 ohms from 20 to 20,000 Hz with less than 1 percent total harmonic or intermodulation distortion. Prices: SC22, $695; SC22P card, $189; SA150, $995. Conrad-Johnson Design, Inc., Dept. SR, 2800R Dorr Ave., Fairfax, VA 22031.
To solve the annoying problem of disc skipping, we introduce the newest Kenwood car CD systems. They're built with our exclusive disc transport for maximum vibration control. So now you can cruise over uneven terrain without missing a beat from your favorite discs.

The key to it all is our Automatic Slant Angle Adjustment, which keeps the transport at an even level for smooth playing.

To top it off, we also added one-bit technology with 256 times oversampling for cleaner sound.

For the name of your nearest dealer, call 1-800-4-KENWOOD.

After all, it's the music that should overwhelm you. Not the road.

IT WAS EITHER IMPROVE THE ROAD OR IMPROVE THE CD PLAYER.
**NEW PRODUCTS**

Panasonic


Arcam

The Arcam Delta 120 is a dual-mono power amplifier. Its aluminum housing holds a separate amplifier for each channel, each with its own power supply and toroidal transformer. The Delta 120 is rated at 100 watts per channel into 8 ohms and 150 watts into 4 ohms, or 300 watts into 8 ohms in bridged-mono mode; the two channels can also be run in parallel for biwired loudspeakers. There is switching for two pairs of loudspeakers. Price: $1,100. Distributed by Audio Influx, Dept. SR, P.O. Box 381, Highland Lakes, NJ 07422-0381.

Advent

The Advent Laureate, a two-way floor-standing loudspeaker system, uses the company's "co-active" dual-woofer design, with two 6½-inch long-excursion drivers. The 1-inch tweeter is a ferro-fluid-cooled soft-dome driver. Frequency response is rated as 42 to 23,000 Hz ±3 dB. Nominal impedance is 6 ohms (4 ohms minimum). Sensitivity is given as 90 dB and power handling as 500 watts peak, 125 watts rms. Dimensions are 37¾ x 9 x 12 inches. The cabinet is finished in oiled pecan. Price: $550 a pair. Advent, Dept. SR, 25 Tri-State International Office Center, Suite 400, Lincolnshire, IL 60069.

Commodore

Commodore's CDTV Interactive Multimedia player uses proprietary technology to access audio, video, graphics, and text from specially-recorded discs. In addition, the player can play standard audio-only CDs, CD+Graphics discs, CD+MIDI interactive music discs, and CD-ROM educational and reference discs. Fifty CDTV multimedia discs will be available initially, and a library of more than a hundred is planned. The CDTV player, which includes a computer with 1 megabyte of random-access memory, connects to a home stereo system and a TV set. An eight-times-oversampling digital filter is used for conventional CD's. A remote control is included. Price: $999. Commodore International, Dept. SR, 1200 Wilson Dr., West Chester, PA 19380.
IN RETROSPECT, PAT COIL WAS GLAD HE HAD A BREAKDOWN IN THE STUDIO.

Picture this.

Jazz pianist Pat Coil is about to record his first solo album, *Steps*, for Sheffield Lab. Each song to be recorded live. No overdubs. Some have happened.

"In retrospect," says Coil, "I'm really glad that the sequencer broke down." The final version, with Parks' guitar, has a human, free-flowing feeling underscored by Michael Ruff's scat vocals and Coil's deft improvisational work. Quite a different feeling from the intended version.

of LA's best studio musicians are waiting to play. Names like Tom Scott, Michael Ruff, Dean Parks.

Then it happened. A sequencer with a crucial preset synth part for the song *Roads Less Traveled*, suddenly decided to turn into a $2000 paperweight.

Plan B: change the synthesizer to an acoustic guitar. Hand the charts to guitarist Dean Parks and start recording. Which, as it turns out, was the best thing that could have happened.

Another factor in the song's intimacy was the way it was recorded. Live to two track—long considered the best way to capture spontaneity and life in a studio setting.

Hear Pat Coil on a pair of Boston HD9 bookshelf speakers. Music this good should be heard on speakers this good.
NEW PRODUCTS

JVC

JVC's XL-P70 portable CD player is packaged with an AC-RS2 line-out adapter for connection to a home audio system. The player's Compu Link connector enables it to interact with other JVC Compu Link components for such special functions as automatic source selection and synchronized dubbing. It has an eight-times-oversampling digital filter, dual digital-to-analog converters, and bass-enhancement circuitry. Tonal balance can be altered with a five-band graphic equalizer, which has preprogrammed responses for rock, jazz, classical, and vocal music. Operational features include twenty-two-track programming, three-way repeat, intro scan, and random play. A ten-key wireless remote control is included. Price: $350. JVC, Dept. SR, 41 Slater Dr., Elmwood Park, NJ 07407.

Case Logic

The Case Logic CDW-12 compact disc wallet holds as many as twelve discs without their jewel boxes. Covered in a nylon shell, the wallet is padded with foam to protect the discs, which are stored in transparent pockets. A zippered closure prevents dust and dirt from reaching the CD's. An index card is included. Price: $12.95. Case Logic, Dept. SR, 6930 Winchester Circle, Boulder, CO 80301.

Aiwa

The Aiwa NSX-D9 minisystem includes an integrated amplifier, an AM/FM tuner, a dual-well cassette deck, a compact disc player, and a pair of three-way speakers. The amplifier, which offers Dolby surround-sound decoding as well as hall and theater ambience modes, is rated at 45 watts for each front channel and 15 watts each for the rear channels. It features Aiwa's T-Bass low-end boost and BBE sound-enhancement circuitry. There are three video inputs, two video outputs, and optical digital inputs. The CD player features dual 1-bit digital-to-analog converters. The tuner has ten FM and ten AM presets, and the autoreverse tape deck has both Dolby B and Dolby C noise reduction. The components are 7¼ inches wide and stack 15¾ inches high. A remote control is supplied. Price: $1,200. Aiwa America, Dept. SR, 800 Corporate Dr., Mahwah, NJ 07430-2048.

B·I·C America

The Venturi V52 mini-monitor loudspeaker from B·I·C America is magnetically shielded so it can be placed near a TV set without interfering with the picture. The two-way speaker incorporates a 5¼-inch woofer with a butyl-rubber surround and a ½-inch polyamide-dome tweeter. The crossover point is at 5,000 Hz. Nominal impedance is 8 ohms. Bandwidth is rated as 60 to 20,000 Hz and sensitivity as 90 dB. The contoured edges of the cabinet, which is finished in oak or black, reduce the size of the baffle to eliminate a "boxy" sound. Dimensions are 11¼ x 7 x 7¼ inches. Price: $149 a pair. B·I·C America, Dept. SR, 895-E Hampshire Rd., Stow, OH 44224.

Vector Research

The Vector Research VM-204 car stereo power amplifier is rated for 50 watts rms into four channels, bridgeable to two at 100 watts each, with total harmonic distortion of 0.05 percent. Signal-to-noise ratio is given as greater than 100 dB, and frequency response is specified as 20 to 20,000 Hz ± 3 dB. The VM-204 features high-current output transistors, a low-noise, high-efficiency toroidal transformer, gain controls, cross-check protection circuitry, and compatibility with floating-ground head units. Dimensions are 9 x 1¼ x 13 inches. Price: $400. Vector Research, Dept. SR, 1230 Calle Suerte, Camarillo, CA 93012.
Omé theater is a great idea, but many people are put off by the apparent complexity and expense of the equipment required, not to mention having to fit in all those extra speakers. They want it all, but they want it all to come in one box, to be easy to set up and use, to make most operational "decisions" by itself, and to be reasonably priced.

Atlantic Technology's Pattern Surround Home Theater very nearly meets those criteria. The Pattern system provides instant home theater—just add a video monitor (or TV set) and an audio/video source such as a laserdisc player or a hi-fi VCR. And it's priced at only $1,199. Okay, so it comes in two boxes, not one. And after uncrating it, you do have a certain amount of cabling to do. But those caveats aside, the Pattern system is commendably simple, self-explanatory, and complete.

The Pattern Home Theater delivers four-channel surround sound (left, right, and center front channels and a rear surround channel) from the fewest possible parts. Those parts occupy a minimum of living space and add little complexity to a home-entertainment system. Intended more as an add-on to a TV room's freestanding TV and VCR (or videodisc player) than to complement existing hi-fi or A/V systems, the Pattern array is specifically optimized for film sound on video. Although it can be used to play purely musical programs, that is not its true mission in life. The system includes a bass module about the size of a small suitcase, a miniature (13 x 2 x 9-inch) Dolby Pro Logic Surround decoder and system controller, and five identical tiny satellite speakers, each roughly the size of a pint milk carton.

The bass module houses twin long-throw 8-inch woofers and five frequency-optimized amplifiers. Total system output is 120 watts, which includes a single 60-watt amplifier for the dual woofers and four 15-watt amps for the satellites, one each for the three front satellites and one for the two rear satellites (as is standard for Dolby Surround, both rear speak-
The Pattern Surround Home Theater delivers four-channel surround sound without taking up much space, and it is easy to install and operate.

Setting Up
The Pattern Home Theater is billed as uncommonly easy to install and use, so as a sort of acid test I tried setting it up without consulting the manual. I unpacked and installed the system in my roughly 18 x 12-foot listening/viewing room and connected it to a laserdisc player, a VCR, and a 31-inch direct-view monitor.

The bass module, which came in its own box, is a hefty, solid, but not unmanageable piece built of vinyl-covered wood. I initially placed it against the front wall to the left of and slightly behind the monitor. The satellites, decoder, and remote controller came together in the second carton. The decoder fit easily atop the monitor along with the center satellite. Taking care that the center speaker's sound path was not obstructed by the cabinet edges, I aimed it slightly down toward the listener.

The left and right front satellites went on top of my regular stereo speakers, which put them a bit below the top edge of the screen and about 2 feet to either side. Atlantic Technology offers a simple and attractive black metal stand ($89 a pair) that is usable with all four satellites; I initially employed a pair for the rear speakers.

Having placed all the pieces, I turned to the daunting side dish of black spaghetti packaged with the system. First came the "umbilical cord"—a 20-foot, five-conductor snake equipped with RCA plugs on both ends—that interconnects the decoder and bass module. The plugs are color-coded; the decoder and bass module do not have correspondingly colored jacks, but they are labeled RED, BLACK, GREEN, and so on.

NEXT was a long, asymmetrical T-shape cable with a two-connector round plug on the end of each unequal crossbar and a DIN speaker plug on the upright. I figured that this cable joined the surround speakers to the bass module, which has a single DIN speaker jack labeled SURROUND. (Atlantic Technology can supply a free replacement that branches off in a Y directly from the module.) Three similarly terminated single cables joined the bass module to each front satellite.

I used dual-RCA cable to patch the laserdisc player and VCR's audio outputs to two of the decoder's three line-level inputs. The respective video signals went directly to video inputs on the monitor.

With everything wired up, but still without a glance at the manual, I picked up the Pattern remote control and pressed POWER, then PRO LOGIC. The decoder lit up but nothing else
New catalog subscribers may choose to receive a free Rykodisc CD sampler, *Steal This Disc 3*. The 72-minute CD contains 23 tracks, including a song from the new Nils Lofgren release, plus Jimi Hendrix, Jerry Jeff Walker, Frank Zappa, Badfinger, Ringo Starr & His All Starr Band, Dolo, Country Joe, McGear, David Bowie and more. Reg. Price: $9.99 + S&H. New Subscribers pay only the $3.95 S&H Charge. (55328)

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happened. Next I keyed the NOISE SEQ button, and lo! a whooshing sound emanated from the left front speaker, then moved in sequence to the center, the right front, and finally to both rear satellites. This is the standard Dolby Pro Logic system calibration routine: The idea is to set all channels equally loud at a given listening position. Using the remote’s volume controls, I managed the calibration with ease.

Finally, I consulted the manual. Give me an A—.: Everything was set up perfectly, except that the satellites were upside-down. In retrospect I see only two setup problems for even the greenest of multimedia beginners.

First, there is no left-right balance control for either the front or the rear speakers. This usually won’t present a problem, but in my room the surround speakers can’t be evenly spaced from the center. Fortunately, the swiveling capability of the Pattern satellites ultimately provided an easy acoustical solution to the balance problem.

Second, the Pattern decoder has two small knobs to set the Dolby input-level balance—a critical adjustment for soundtracks or components that are balanced even a teeny bit off-center, as it insures accurate routing of signals to the center channel. The inexperienced user would certainly need the manual’s cogent guidance to set these controls properly.

**Listening**

Up and running, the Pattern delivered sound that was immediately involving and satisfying. Beginning with a handful of movies on laserdisc (including The Fabulous Baker Boys, Die Hard, and The Hunt for Red October), I heard exceptionally clear, intelligible dialogue that remained highly focused and locked solidly on screen. This is the chief virtue of Dolby Pro Logic as opposed to standard Dolby Surround, and the Pattern system achieved it very well.

At first, however, I did note a sort of hollow chestiness in male voices. Attenuating the bass level (via a knob on the cabinet) by what sounded like about 6 dB and moving the bass module about 3 feet away from the corner and 2 feet out into the room solved the problem almost completely. Dialogue panned smoothly from far left through the center to far right, and when I closed my eyes and listened it was very hard to localize the front satellites.

In my initial setup, I had the rear satellites on stands some 4 and 7 feet to either side of the listener/viewer, with both drivers in each speaker oriented toward the rear corners of the room. The surround effects from this configuration were good, but not astonishingly so. I then took the rear satellites off the stands and placed them further apart and considerably higher up—about 3 feet overhead. I twisted the top driver of each speaker 180 degrees, so that one fired forward and the other backward, neither directly to the listener’s ears. This arrangement improved things tremendously—surround effects became tangibly more spacious, involving, and realistic. Sounds such as airplanes flying from front to rear (or the reverse) panned more smoothly, with much less vagueness or gap in the center. Equally important, the sense of natural acoustic space in concert-style musical sequences was dramatically enhanced.

The Pattern system worked well with stereo and surround-encoded TV broadcasts. The decoder did a fine job with the best- recorded programs, such as The Tonight Show and Twin Peaks. Turning to more classic film sound effects, I auditioned a sizable parade of explosions and crashes from Die Hard and Red October. In my room the sound was as clean and loud as in an average small commercial cinema— which is loud indeed—and had very nearly equal bass depth. Bass impact was impressive at all levels, and the knowledge that the system does little with the lowest half-octave of sound (below about 35 Hz) had no effect at all on my ears and brain. Low-end impacts, rumbles, and pedal tones were suitably visceral and powerful; boom and turriness were minimal. The system’s dynamic bass equalization lets it play even at excessive levels without “crunching” the woofer. I’d estimate that it could fill a fully furnished living room of perhaps 600 square feet with realistic cinema-level sound.

Moving on to music, I selected a variety of concert videodiscs and numerous CD’s. Dolby-encoded videodiscs had a definite advantage. In Pro Logic mode the Pattern setup delivered quite a musical surrounding. With nonencoded discs the results were less predictable. A stereo opera recording sounded fine in Dolby mode, whereas several pop CD’s sounded distinctly better when I switched the Pattern to its stereo mode, which plays just the bass module and the left and right front satellites.

Stereo-mode music playback yielded good bass extension, with a noticeable though not unpleasant bit of extra “whomp” in the mid-bass. When I was sitting in the sweet spot between the left and right front satellites, the imaging was pinpoint but narrow. Clarity and smoothness were acceptable. Balance on voices tended just a shade toward the closed or “cupped,” and definition of complex music, though respectable, was not quite as good as one can get with some higher-end speaker systems. The system shows its real strength playing Dolby-encoded sources in Pro Logic mode. Movie soundtracks are mixed and balanced quite differently from CD’s: They’re meant to be pumped through cinema sound systems in large halls and consequently tend to sound too bright in the home. The Pattern system’s design and equalization clearly take this into account. Indeed, its one extra Dolby-mode feature is a button labeled THEATER COMP, which adds a subtle extra treble rolloff (my guess is 3 dB per octave above 8,000 Hz). I preferred to use this option with about half of the laserdisc movies I played, but only rarely with movies on hi-fi videocassette.

**Summing Up**

The Pattern Surround Home Theater is ridiculously easy to use, and its control simplicity is sure to win friends among technophobic movie buffs. My complaints are few. The remote control didn’t always actuate the desired command on the first keypress, its master volume control is “lumpy,” and there’s not quite enough resolution in the remote control and surround volume adjustments (you can, however, fine-tune the individual channel-level knobs on the bass module). Also, the relative loudness of the main front, center, and surround channels occasionally went out of whack. (Fortunately, the manual tells how to fix it.)

Nevertheless, properly set up and fed with fine source material, the Pattern system sounds at least as good as many of today’s cracker-box, multiplexed-to-the-max movie theaters—and possibly better. Can you assemble a better-sounding home theater system from discrete components? Certainly. But it will cost more (probably a lot more), take up much more room, and very likely be considerably more complex both to set up and to use.

Perhaps the best evidence that Atlantic Technology is on the right track for a large part of the public is that the Pattern Surround Home Theater, once installed, quickly seems to disappear, becoming a “normal” part of even the most ordinary TV-watching.
The Big Klipsch Sound Is Now Small In Size And Price

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The woofer cone, for example, is carbon graphite filled to set a new standard for bass quality and authority in a system of this size. The voice coil of this woofer is vented for increased power handling and effortless reproduction of dynamic musical passages.

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And the elegantly-styled cabinet of the kg® is hand finished in your choice of genuine wood veneers to make this speaker as beautiful as the music it reproduces. In this price range, the cabinet of virtually every competitive system is wrapped with vinyl which merely imitates wood. The kg® gives you the real thing.

Yes, though quite small in size and price, the kg® is very big in performance and value. Your investment in this system will be a lasting one. Hear and see the new KLIPSCH kg® at your nearest KLIPSCH dealer.

To find him, look in the Yellow Pages. Or call toll free 1-800-395-4676.
No one has a longer or more distinguished history of leadership and innovation in metal tape than TDK. So when we introduced the MA-R back in 1979, it instantly became the benchmark all other metal tapes would be measured against.

Since that time, however, the evolution of digital recording sources has progressed far beyond what anyone ever expected. Beyond what even the most advanced metal tapes in the world are capable of reproducing.

Which is why we created the new MA-XG. A tape which is not only the best audio tape in TDK's history. But the best tape in recorded history.

DIGITAL MUSIC DEMANDS PERFECTION IN A CASSETTE.

Music from digital sources is dynamic to say the least. It can go from absolute silence to maximum loudness instantaneously. And for an audio cassette to reproduce its power and dynamic range accurately and free from distortion, the audio tape has to have extremely high output capability or what is known as MOL (Maximum Output Level).

But digital music can also go from maximum loudness to absolute silence instantaneously. And the lack of background hiss makes the clarity of the pianissimos and the transparency of the passages that linger and fade striking. To convincingly reproduce this kind of delicacy requires a tape with extremely low bias noise. Otherwise, music signals which are softer than the tape noise will be masked and inaudible.

The perfect recording tape then, for CDs and other digital sources, is one with the highest possible output and the lowest possible noise. The kind of tape it was almost impossible to design. Almost.

THE WORLD'S BEST DUAL-LAYER PURE METAL TAPE.

Rather than settle for a tape which compromises output for low noise, or low noise for output, TDK opted for a tape that compromised nothing. So the MA-XG combines two separately "tuned" layers of ultrafine Finavinx magnetic particles. The bottom layer utilizes a unique high-density Finavinx particle designed for highest possible output. The upper layer consists of low
noise ultrafine Finavinx particles arranged in a high-density coating with the help of TDK's proprietary particle orientation technology. What this unique design results in is a metal tape with the highest output (+7.5 dB at 315 Hz) and the lowest noise (−59 dB) of any analog cassette. Or more simply put, the ultimate "digital ready" tape.

A MECHANISM AS SOPHISTICATED AS THE TAPE.

You don't even have to listen to the MA-XG to know how advanced its design is. Just hold it in your hand. Its extra heavy-weight RS-III mechanism utilizes an unprecedented super-rigid five-piece construction which provides the ultimate defense against vibration and the sound-smearing effects of modulation noise as shown on the modulation noise chart. The unified dual-layer molded face plates consist of a non-rigid plastic outer layer for resonance reduction and an inner layer of fiberglass-reinforced plastic for strength. These two plates and three side frames are held together by ten screws (three different kinds), applied both vertically and sideways, resulting in dimensional precision and structural integrity previously impossible to achieve. It even employs a system of internal sound stabilizer weights and super high-precision guide pieces to ensure maximum vibration attenuation and the highest degree of azimuth accuracy.

AUDIO MAGAZINE AGREES MA-XG IS THE BEST EVER.

That the TDK MA-XG is the ultimate recording tape is not just our opinion. It's a belief shared by the ultimate authority: Audio magazine. After an exhaustive test of 88 audio cassettes (the results of which were published in the March 1990 issue), Audio found the MA-XG to be not only the best of any metal (Type IV) tape, but the best of any tape. Period.

So, if you're going to record digital music, make sure you record it on the new MA-XG. Because the best music in recorded history shouldn't lose anything in the translation.
What Is a Preamp?

Q I have never understood exactly what a preamplifier is and how it benefits a system. Could you clear it up for me?

KEVIN APSLEY Wilmington, DE

A The term is imprecise and rather uninformative, referring simply to the component's position in the audio chain. A preamplifier may be free-standing or part of an integrated amplifier or receiver—the functions are the same. It is usually the control center of an audio system, containing input switching, overall level control, tone controls, and the like. Most also include a specialized section called a phono preamp, which compensates for the standard RIAA equalization applied when vinyl records are made and boosts the low-level signal from a phono cartridge to match that of other components. Phono preamps may also be separate devices to be used with control preamps that lack a phono stage or to provide the further stage of amplification required with extra-low-output moving-coil cartridges (in which case they are sometimes called "pre-preamps").

Bias Adjustment

Q The instruction manual for my new three-head cassette deck doesn't explain in detail how to use the bias-adjustment control. I have heard that FM interstation noise can be used for this purpose. How?

JOE A. RODRIGUEZ Brentwood, CA

A Incorrect bias level can increase distortion, but the most audible effect is on high-frequency response: Too little bias and the sound will be excessively bright, too much and the sound will be dull. The easiest way to set bias in a three-head deck is to record a signal with lots of treble and switch back and forth between source and tape while adjusting the bias. When the two signals sound as similar as possible, bias will be as close to correct as you are likely to get without measurements. Any signal will work, but the interstation hiss from an FM tuner has lots of high-frequency energy and is relatively constant, which makes this kind of adjustment easier and more precise.

High-Impedance Speakers

Q I am planning to replace a very old power amplifier, but my speakers are rated at 16 ohms impedance, and I have been unable to find an amplifier rated at more than 8 ohms. Is there any alternative to just having my old amplifier repaired?

CARLOS DIAZ-GRANADOS Miami, FL

A Running speakers that have an impedance lower than that recommended by the amplifier maker can be risky, but using higher-impedance speakers is very unlikely to cause a problem. The only effect is a reduction of the maximum power the amplifier can deliver.

Extending Response

Q My cassette deck suffers from two problems. The first is restricted high-frequency response: The specifications say that it goes up to only 12,000 Hz with normal or chrome tape and to 14,000 Hz with metal. Second, the sound is muffled when I play tapes made on another machine, although everything is fine when I play recordings I have made myself. Could either or both of these conditions be improved by replacing the tape heads with better ones?

THOMAS WARDASZKA South Daytona, FL

A It's usually cheaper and better to replace a whole component than to redesign and rebuild it. In your case, I doubt that either course is necessary. Although your deck's response specifications are not state of the art, they are not seriously deficient, either. It does sound as though your machine may need service, however. Its poor performance with tapes made on other recorders indicates azimuth misalignment of the heads in your deck, which can cause significant loss of high-frequency response. The reason tapes you make yourself sound okay is that its own recording and playback heads are in good alignment with each other (perfect alignment if the deck is a two-head model), even if they are out of whack with the rest of the world.

Any competent service facility will be able to adjust your deck's head azimuth quickly and inexpensively. The improvement will be dramatic and immediately audible with tapes made on other machines. The only drawback is that tapes made previously on this deck will sound muffled on it after the heads have been realigned, because the azimuth of the recorded signal will no longer match that of the playback head.

Extra-Long Tapes

Q Many chrome and metal tapes are now available in 100-minute and occasionally 110-minute lengths, but I've noticed that only normal-bias tapes are available in the longer 120-minute length. That would seem to be a useful length for recording CD's that run close to an hour (you could dub a whole disc on one side). Why are there no high-quality C-120's?

JOHN HICKMAN Halls, TN

A The C-120 cassette, which holds an hour of music on each side, has always been the poor relation in the cassette world. Its bad press stems from the necessity of making the base film somewhat thinner than with C-60 or C-90 cassettes, many early cassette decks couldn't handle the skinny tape, and lots of portable and automotive transports have trouble with it even today. Hence, the C-120 has the status of a "convenience" tape rather than a serious audio medium.

Some of the prejudice is misguided; I have used C-120's extensively over the years and have rarely had a problem. The length is indeed a very useful one, particularly for preserving hour-long radio programs, and at least one manufacturer (BASF) has acknowledged this by offering a metal C-120.

Because so many CD's contain between 45 and 50 minutes of music, the tape companies have decided that 100 minutes is "CD length," although 50 minutes a side has little relation to the CD's 70-minute-plus capability. The length does, however, correspond to about the maximum amount of tape that can fit into a cassette shell without having to be made thinner.

If you have a question about hi-fi, send it to Q&A, STEREO REVIEW, 1633 Broadway, New York, NY 10019. Sorry, only questions chosen for publication can be answered.
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Listening in the 90's

Today people have become more and more space conscious. Many apartment dwellers don't want to give up valuable floor space for large speaker systems. Others who are planning a surround sound or home theatre system simply don't have the room for more speakers in their listening rooms or hesitate to commit the floor or wall space to a good sounding pair of speakers.

Until now, serious music lovers have had little, if anything, to choose from that would produce a large, bigger-than-life sound in a small, compact size. Systems that fit one's space requirements have been woefully disappointing in sound quality.

The RM 3000 Three Piece System

Polk's engineers had determined long ago that there were indeed certain technical advantages in small speaker systems. Both high and mid frequencies could be faithfully reproduced with superior transient response and dispersion characteristics, and the convenient, more flexible placement of small enclosures within the listening area could create an ideal sound stage.

Unfortunately, reproducing the life-like, full body of the lower frequencies could not be achieved in a truly compact enclosure.

Polk's RM 3000 replaces the traditional pair of speakers with three elements, two compact midrange/tweeter satellites and one low frequency subwoofer system. This configuration makes it easy to properly and inconspicuously place the system within your listening room while offering superior sonic performance.

The small satellites can be located on shelves, mounted on a wall or placed on their own floor stands. They are very attractive and yet small enough to be hidden from view if desired.

The RM 3000 subwoofer is also small enough to sit behind your furniture and can be used on its side to fit into tight spaces. And since it is beautifully finished, it can be used as a piece of furniture.

The Legendary Sound of Polk

In the tradition of Polk Audio, Matthew Polk and his team of engineers were determined to make the RM 3000 sound better than any other speaker of its type.

Initial reactions have been filled with superlatives including Julian Hirsch of Stereo Review magazine who says, "...they sound excellent...spectral balance was excellent—smooth and seamless."

Behind these accolades is an impressive technical story.

The Technical Side

The big sound of the RM 3000 is due, in part, to the unique arrangement of the tweeter and midrange elements. This "time aligned system" delivers the high and mid frequencies at precisely the same instant. The result is a clear, lifelike and expansive presentation.

The cabinet materials selected for the satellites are over four times as dense as typical enclosures. The black matrix finish is a non-resonant polymer aggregate (FOUNTAINHEAD®). The gloss black piano and paintable white finishes are rigid ABS
surrounding a mineral filled polypropylene inner cabinet. Polk engineers have all but eliminated any “singing” or resonating of the satellite enclosure. You hear the effortless, free sound of a much larger system.

Most subwoofer systems look alike on the outside, but the Polk is worlds apart on the inside. Utilizing twin 6 1/2” drivers coupled to a 10 inch sub-bass radiator, the bass is tight and well defined. There is no tuned port to create “whistling” or “boominess” of the bass frequencies.

You Have To Hear It To Believe It

You really won’t believe how good the RM 3000 sounds until you hear it. We invite you to your nearest authorized Polk dealer for a demonstration. You’ll hear sound as big as life...from a speaker you can live with. You’ll hear the next generation of loudspeakers.

Where to buy Polk Speakers? For your nearest dealer, see page 90.
Watt Is a Decibel?

In discussing the performance of almost any audio component, it is virtually impossible to avoid using some technical terms that are unintelligible to some readers, or at least misunderstood. One of the most often-used—and misused—terms in this category is decibel, or dB. Strictly speaking, the decibel is an expression not of volume or loudness but of relative power levels in electrical systems. It was created, many decades ago, for use in telephone systems. The signal originating from a telephone is rather weak to begin with and is rapidly attenuated as it passes through miles of wire lines and terminal equipment. In order to have enough power at the receiving end to allow effective communication over any considerable distance, the signal requires periodic amplification to compensate for the losses in the transmission lines. When long-distance phone systems were first being set up, it was necessary to determine how much of the signal was lost at each stage so that the proper amount of amplification could be installed.

The ratios between the power levels at different points in the transmission system can be very large, and simply saying, for example, that the signal at Point B is 0.014 of its initial level is a clumsy way to put it. Instead, the logarithm of any given power ratio (the power of 10 to which it corresponds) was designated as its value in bels (from the name of Alexander Graham Bell, inventor of the telephone). In practice, the bel turned out to be too large and cumbersome a unit (in the above example, the output power of the line would be at −1.85 bel), so it became customary to use 0.1 bel, the decibel, instead. Thus, a power ratio of 0.014 would be expressed as −18.5 dB.

Although the decibel, being a ratio, always implies two power levels, it is common practice to leave the reference level unspoken (or “understood,” even though it is often misunderstood). If the reference is 1 watt, relative power could be expressed in dBW; if it is 1 milliwatt, the abbreviated term is dBm, and so on.

Confusingly, the abbreviation dBV is often used to indicate that a ratio of voltages (not power) is being discussed (it does not necessarily mean decibels referred to 1 volt). When we are dealing with power ratios, the number of decibels is equal to $10 \times \log(P_2/P_1)$, where $P_1$ and $P_2$ are the input and output power levels. If we are comparing voltages ($V_1$ and $V_2$), and only if the circuit resistances at input and output are identical, the decibels equal $20 \times \log(V_2/V_1)$ because power is proportional to the square of voltage.

Sometimes people refer to “voltage dB” and “power dB” as if they were different quantities, but they are one and the same thing, with only a slight difference in the computation. If the resistances at Point 1 and Point 2 in a system are different, however, the power at each point must first be computed from the equation $P = E^2/R$ (where $E$ is electric force and $R$ is resistance), after which the two levels can be converted to decibels in a straightforward manner.

No doubt many of you are thinking, “That’s fine, but why do we audiophiles have to bother with the decibel in its various forms?” Actually, there is a very good reason: Sound and human hearing are more amenable to logarithmic than to linear analysis. The dynamic range of music (the ratio of its maximum and minimum acoustic power levels) can be enormous (in the millions or billions), and it is much more convenient to deal with a number like “60 dB” than with its equivalent power ratio of “1,000,000 to 1.” Also, the acoustic power level at a listener’s ears must be doubled to make a small but noticeable increase in the apparent loudness; doubling a huge ratio expresses this less clearly than the logarithmic equivalent, 3 dB. It takes a tenfold (10-dB) increase (or decrease) in power to be perceived as a doubling (or halving) of loudness.

Thinking logarithmically, in decibels, helps you appreciate some of the realities of audio-component specifications. If you can barely notice a 3-dB power increase (doubling it), it may not make much sense to replace your perfectly good 50-watt amplifier with a more expensive 100-watt amp. The new one may (or may not) sound better in some respect, but it is not likely to sound any louder.

Sometimes logic doesn’t prevail, however. I am thinking of the attempt some years ago to standardize amplifier power ratings in terms of decibels referred to 1 watt, or dBW. Giving ratings in dBW is surely the most rational—and revealing—way to deal with this popular but overvalued specification, since it makes it obvious that a 100-watt (20-dBW) amplifier is hardly as different from a 130-watt (21.1-dBW) amplifier as it may (or may not) sound better in some respect, but it is not likely to sound any louder.

Frankly, I found it hard to accept this rating system, despite its inarguable logic, and it never achieved any significant acceptance in the industry. Perhaps there was a fear that most people (not necessarily audiophiles) would find it so confusing that the change would backfire on manufactu-

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ers and the industry as a whole. Still, the issue may come up again, and now I would have no qualms about switching to dBW ratings.

There is one specification in which a totally new decibel-based measurement system successfully replaced one that had been used for decades. FM-tuner sensitivity was traditionally expressed in microvolts (millionths of a volt) of broadcast-signal energy received from the antenna. As with amplifier power, there was an inevitable competition between manufacturers to claim the lowest possible number of microvolts needed for a given level of noise reduction ("quieting") in the audio outputs of their tuners. Like automobile horsepower and amplifier wattage, sensitivity was heavily promoted, and it was suggested that minute differences in it could make a significant difference in listening results.

As it happens, a tuner's performance is determined by the amount of power it receives from the antenna, not merely its voltage. If you compare the ratings of FM tuners with 300-ohm and 75-ohm antenna inputs, you will find that the tuners with the lower-impedance inputs need only half the input voltage for the same performance. Does this mean that they are more sensitive than the 300-ohm models?

Not at all! In fact, their sensitivity can be identical, since a 75-ohm circuit has the same power level as a 300-ohm circuit does with twice the input voltage. The commonly used 300- to 75-ohm antenna transformers supplied with many of today's receivers and tuners reduce the antenna voltage by half in the process of making the impedance transformation.

To eliminate the confusion resulting from this situation, FM-tuner measurement standards were changed a number of years ago to use input power from the antenna, instead of voltage, as the basis for sensitivity and other measurements. In this case, the 0-dB reference power level was set extremely low, 1 femtowatt (10^-15 watts), and FM signal levels are thus stated in terms of decibels referred to 1 femtowatt, or dBf. There was considerable resistance on the part of many manufacturers to changing their specification standards, but by now virtually all tuners and receivers made in the U.S. and Japan carry dBf ratings. Most European manufacturers, however, still adhere to the German DIN standard, which is very different from ours.
Onkyo A-SV810PRO
A/V Integrated Amplifier

Julian Hirsch, Hirsch-Houck Laboratories

The A-SV810PRO, Onkyo's first surround-sound audio/video integrated amplifier, features Dolby Pro Logic decoding for Dolby Surround soundtracks and digital signal-processing (DSP) circuitry for ambience enhancement of music. It contains five power amplifiers. Three are rated to deliver 85 watts each to left and right front and center speakers, and two are rated for 35 watts each to a pair of rear speakers (all based on 8-ohm loads).

The A-SV810PRO provides ten factory-preset surround modes selectable via five front-panel buttons. These buttons can also be used to choose from another ten user-programmed DSP sound fields. The adjustable parameters include bass, midrange, and treble frequency response and level for each of the five channels, the overall level of the sound-field effects, simulated room size and shape, simulated seat position (left, middle, right), and reverberation level.

Although these adjustments can be made using the front-panel controls and display, they are most conveniently executed by using the supplied remote control and the on-screen displays on a TV set connected to the monitor output in the rear of the amplifier. The remote control has several buttons dedicated to sound-field adjustments that greatly simplify the process.

The A-SV810PRO has rear-apron audio inputs for a CD player, tuner, and moving-magnet phono cartridge as well as recording and playback connectors for a single audio tape deck. There are audio and video connectors for three VCR's and playback inputs for a videodisc player and a direct-broadcast satellite (DBS) receiver. Each video circuit includes an S-video connector in addition to a coaxial connector for composite video. A fourth video playback input is located on the front panel for convenience in connecting a camcorder or other temporary source to the amplifier.

The speaker outputs at the rear of the receiver are insulated binding posts compatible with dual banana plugs. They accommodate left and right front speakers, either one or two center-channel speakers, and two rear surround speakers. Unlike most integrated amplifiers and receivers, the A-SV810PRO does not provide an extra set of outputs for a pair of speakers in another room. There are left and right line-level outputs for driving a subwoofer through a separate amplifier. The three AC outlets are switched.

A rear-panel jack for a remote-control cable enables the amplifier to cooperate intelligently with Onkyo Remote Interactive tuners, turntables, cassette decks, and tape and CD players. The system remote control supplied with the amplifier is preprogrammed to operate most Onkyo...
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- Hi Fidelity Magazine

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- Sound & Vision Magazine

In the U.S.: AudioStream, MPO Box 2410, Niagara Falls, New York 14302
In Canada: Paradigm Electronics Inc., 477 Fenmar Drive, Weston, Ontario M9L 2R6
**TEST REPORTS**

**FEATURES**

- Separate power amplifiers for left, right, and center front, left and right rear (surround) channels
- Digital signal processing circuits for creating adjustable sound fields
- Dolby Pro Logic surround-sound decoding
- Audio inputs for CD, phono (MM), and tuner; input/output connections for one audio tape deck
- Audio and both composite and S-video connections for three VCR's, a videodisc player, and a direct-broadcast satellite receiver; additional front-panel input for camcorder or other video source
- Video monitor outputs
- Outputs for main front (stereo) speakers, one or two center speakers, two rear (surround) speakers
- Line output for subwoofer (needs separate amplifier)
- Eleven preset sound-field modes include Dolby Pro Logic (normal, phantom-center, and three-channel), Hall 1, 2, and 3, Theater 1 and 2, Live Concert, Jazz Club, and Disco; bypass setting with no surround processing
- Separate adjustment of bass, midrange, and treble response in each amplifier channel
- Adjustable sound-field parameters include room size and shape, seat position, reverberation, effect level
- Front-panel display of all sound-field settings and amplifier adjustments; on-screen display using video monitor also includes menus for verifying and adjusting various parameters and graphic representations of simulated sound fields
- Full-function infrared system remote control, preprogrammed for Onkyo components, can learn commands for other brands
- Remote Interactive (RI) control connector for directly linking compatible Onkyo components with amplifier
- Three switched AC outlets

**LABORATORY MEASUREMENTS**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000-Hz output power at clipping:</td>
<td>main front channels (both driven), 90 watts into 8 ohms, 130 watts into 4 ohms; center channel (driven alone), 104 watts into 8 ohms; rear channels (both driven), 40 watts into 8 ohms</td>
</tr>
<tr>
<td>Clipping headroom:</td>
<td>main front, 0.25 dB (8 ohms referred to 85 watts); center, 0.88 dB (8 ohms referred to 85 watts); rear, 0.56 dB (8 ohms referred to 35 watts)</td>
</tr>
<tr>
<td>Dynamic power output:</td>
<td>main front, 92 watts into 8 ohms, 157 watts into 4 ohms, 225 watts into 2 ohms</td>
</tr>
<tr>
<td>Dynamic headroom (main front channels into 8 ohms):</td>
<td>0.34 dB</td>
</tr>
<tr>
<td>Maximum distortion (20 to 20,000 Hz into 8 ohms):</td>
<td>0.6% at 20 Hz and 85 watts, 0.06% from 40 to 20,000 Hz</td>
</tr>
</tbody>
</table>

Sensitivity (for a 1-watt output into 8 ohms): CD, 40 mV; phono, 0.7 mV

A-weighted noise (referred to a 1-watt output): CD, -89 dB; phono, -77 dB

Phono-input overload (1,000-Hz equivalent levels): 110 to 135 mV from 20 to 20,000 Hz

Phono-input impedance: 43,000 ohms in parallel with 53 pF

Frequency response: CD, 20 to 20,000 Hz +0, -0.1 dB; phono, 20 to 20,000 Hz +1.4, -0 dB

Tone-control range: bass, ± 8 dB at 100 Hz; midrange, ± 12 dB at 1,000 Hz; treble, ± 10.5 dB at 10,000 Hz

Components and can be reprogrammed to control similar products from other manufacturers.

Considering the complexity and versatility of the A-SV810PRO, its front panel is strikingly simple and uncluttered. A large display window dominates the center of the panel, with a volume knob to its right (the knob is motor-driven when the remote control is used). The display normally shows the selected program source in large letters; small amber lights identify the surround mode in use. A group of bar-graph displays shows the tone-control settings of all five channels.

Five buttons to the left of the display select the desired surround mode (for modes numbered higher than No. 5, a button must be pressed twice in rapid succession). When a preset mode is selected, the source name is replaced in the display by the preset number, then in a few seconds by the name of the corresponding surround mode (such as Hall 2). The source name reappears a couple of seconds later. The factory-preset surround modes include three Dolby Pro Logic settings: One uses all four channels (left, right, center, and surround), one is a three-channel mode that uses only the front speakers (left, right, and center), and one provides a phantom center channel via the left and right front speakers when no center-channel speaker is used. In the first two modes, it is possible to switch the center-channel output between NORMAL, in which only frequencies above 100 Hz are fed to the center speaker and the bass content is reproduced by the left and right front speakers, and WIDE-BAND, where the center speaker gets a full-range signal.

Mode selection can be done from the front panel of the amplifier, which has several pairs of narrow buttons dedicated to that function, or from the remote control. Besides the Dolby Pro Logic modes, the preset surround modes include Theater 1 and 2, Hall 1, 2, and 3, Live Concert, Jazz Club, and Disco. There is also a bypass setting with no surround-sound signal processing. The PARAMETER selectors call up specific features of the acoustic program. The name of the selected parameter replaces that of the source in the display while the adjustment process continues. Not all parameters are adjustable for every mode; for
instance, in the Dolby modes the delay in the surround outputs can be varied from 15 to 30 milliseconds, but in the two Theater modes only the room size and shape are adjustable.

The Onkyo A-SV810PRO is a large amplifier, measuring 18 inches wide, 16 1/2 inches deep, and 6 1/4 inches high and weighing about 38 1/2 pounds. The front panel’s edges are attractively rounded, and the unit is finished in black with white markings. Price: $1,100. Onkyo, Dept. SR, 200 Williams Dr., Ramsey, NJ 07446.

Lab Tests

The Onkyo A-SV810PRO delivered a clipping-level power output of 90 watts into 8-ohm loads, with both channels driven, at 1,000 Hz in the bypass setting. Although it is not rated for loads of less than 6 ohms, our measurement into 4 ohms showed an output of 130 watts at clipping, with no resultant damage to the amplifier or even activation of its overload protection. In the normal Dolby mode, the output of the center channel, driving a single 8-ohm load, was 104 watts. When both rear channels were driven, they clipped at 40 watts per channel.

The dynamic power output of the three front channels at clipping was 92 watts each into 8 ohms, 157 watts into 4 ohms, and 225 watts into 2 ohms. Total harmonic distortion plus noise (THD + N) in the front channels was less than 0.03 percent from 10 to 80 watts. At 85 watts, the distortion was less than 0.06 percent from 20,000 Hz down to 40 Hz, rising at lower frequencies to 0.6 percent at 20 Hz.

Frequency response, through the CD inputs, was +0, -0.1 dB from 20 to 20,000 Hz. Channel imbalance was 0.8 dB (the amplifier does not have a conventional left/right balance control, although it does have an automatic input-balance circuit for Dolby Pro Logic operation). The tone controls had conventional characteristics, with a nominal range of at least the rated ±10 dB at the frequency extremes (the midrange control’s response peaked at 1,000 Hz). The RIAA equalization error of the phono preamplifier was essentially zero from 20,000 to 1,000 Hz, rising to +1.4 dB at 20 Hz.

Sensitivity, for a reference 1-watt output, was 40 millivolts (mV) at the CD inputs and 0.7 mV at the phono inputs. The respective A-weighted noise levels were -89 and -77 dB. The phono-input termination was 43,000 ohms in parallel with a 53-picofarad capacitance. The phono stage overloaded at 1,000-Hz-equivalent levels of 110 to 135 mV across the audio range. The high-level stages (CD, etc.) overloaded at 2.3 volts.

Comments

Despite the considerable combined power capability of its five amplifiers, the A-SV810PRO never became uncomfortably hot, even when operated into 4-ohm loads. Its protective system never activated in actual use, although we checked its operation using 2-ohm loads (which shut down the amplifier without mishap).

As its many features indicate, this is a very versatile component. Its front panel is deceptively simple: It can be used with full effectiveness entirely through the front-panel controls. It is much easier, however, to operate it through the remote control, which has the advantage of letting you adjust the surround mode and channel levels from the listening position.

The best way to set up a full-featured A/V system using this amplifier is to view its surround-adjustment menus on a video monitor. The menus clearly show you exactly which options are available and which have been selected while you listen to the audible effect of any adjustment. Once you have adjusted your surround sound this way, you will probably never go back to using the front-panel display, even though it provides almost all of the information that appears on the monitor.

Something the on-screen display shows that the front-panel display can’t is a graphic representation of the shape and relative size of the room being simulated by the DSP circuits and the location of your listening position in the imaginary hall. It also shows the impulse response of the selected environment, including the relative amplitudes and delay times of the signal components. Although we did not verify these delay plots by measurement, they appeared plausible and are certainly an educational feature of the system. With various settings the display showed four to eight delay components, the delays ranging between 0 and 100 milliseconds and the amplitudes ranging between 0 and -20 dB, as well as the general appearance of a large body of reverberant sound.

Used in a four-speaker surround system, the A-SV810PRO seemed to be at least as effective in its creation of a believable sound field as other surround processors we have used, and it was considerably easier to set up and adjust than most of them. Assuming that your other system components are either compatible Onkyo models or compatible with the programmable remote control (and almost all will be), this fine amplifier/control center can be the heart, brain, and muscle of a highly versatile and exceptionally easy to operate A/V system.
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NHT Model 2.3
Loudspeaker System

Julian Hirsch, Hirsch-Houck Laboratories

The NHT Model 2.3, which heads the line of speakers from Now Hear This, Inc., differs in several important respects from superficially similar speakers offered by other companies. Its compact, slender, “tower” cabinet measures 37 inches tall, 7 inches wide, and 12 inches deep, and each speaker weighs 46 pounds. As with other NHT speakers, the front panel is angled toward the center of the room by about 20 degrees (the speakers are sold in mirror-image pairs) to reduce side-wall reflections and concentrate the sound in the listening area. According to NHT, this design provides a natural ambience and spatial perspective as well as a focused, stable stereo image. Another benefit is said to be improved control of standing-wave patterns within the sealed enclosure, resulting in a smoother midrange response.

The NHT 2.3 is a three-way system, but with an important difference. It is probably more accurately described as a two-way system with a built-in subwoofer. The 6½-inch “midrange” driver operates down to 70 Hz and crosses over to a 1-inch fluid-cooled soft-dome tweeter at 3,100 Hz, with 12-dB-per-octave slopes. These drivers are conventionally located at the top of the speaker panel and are acoustically separated from the lower portion of the enclosure. At the bottom of the panel are two 6½-inch ultra-low-resonance woofers that operate from 70 Hz down. These are in a separate sealed volume and function as true subwoofers, with a low-frequency cut-off slope of 12 dB per octave and a 6-dB-per-octave rolloff above the crossover frequency.

Ideally, the NHT 2.3 speakers should be placed at least 12 inches from the wall behind them and at least 30 inches from the side walls. They should be placed as symmetrically as possible, with the cabinet sides parallel to the walls of the room and the drivers angled in toward the listening area. Stabilizers supplied with the speakers can be attached to the bottoms of the cabinets to improve their footing on deep-pile carpets.

The NHT 2.3’s key design specifications include a frequency response of 35 to 25,000 Hz ± 3 dB and a sensitivity of 86 dB sound-pressure level (SPL) at 1 meter with a 2.83-volt input. Nominal impedance is 4 ohms, with a 2.9-ohm minimum, and the speaker is recommended for use with amplifiers rated at up to 200 watts output.

The cabinet is finished on all visible surfaces in a choice of black gloss, white high-pressure laminate, or hand-oiled oak veneer. Gold-plated multi-way speaker binding posts are recessed into the cabinet’s lower rear panel. Price: $1,200 a pair. NHT, Dept. SR, 537 Stone Road, Suite E, Benicia, CA 94510.

Lab Tests
We placed the NHT 2.3 speakers according to the manufacturer’s recommendations. Room-response measurements were made with the microphone about 15 feet directly in front of the left speaker, close to the axis of the right speaker. The responses of the two speakers to a swept sine wave with a one-third-octave “warble” were plotted separately on the same chart and averaged to form a single curve.
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Carousel CD changers have been out for a while now. But the DCM-350 is the first to carry the Denon name. Which again proves Denon's belief that being best is more important than being first.

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Industrial Design of the Proton 400 Series and RS-325 Clock Radio: Reinhold Weiss Design, Chicago.
Despite its conventional appearance, the NHT 2.3 is a unique loudspeaker—a two-way system that also contains a fully integrated subwoofer section.

Results in another room would certainly differ somewhat from ours, we would not expect them to show any radical discrepancies.

Sensitivity in our room was somewhat higher than rated, measuring 88.5 dB SPL at 1 meter with a 2.83-volt input of pink noise. We measured total harmonic distortion (THD) plus noise with close microphone placement for the two subwoofers and the woofer, using a 3.4-volt sine wave (corresponding to 90 dB SPL in our sensitivity measurement). The woofer’s distortion was an almost constant 0.1 percent from 3,000 Hz down to 70 Hz. The subwoofer distortion was lowest, a mere 0.4 percent, at 70 Hz, and increased to 1.8 percent at 50 Hz and 3 percent at the speaker’s rated 35-Hz lower limit.

The system’s minimum impedance of 3.1 ohms was at 65 Hz. The average impedance was about 6 ohms up to 600 Hz, increasing to a 16-ohm maximum at 3,000 Hz (it exceeded 10 ohms at all frequencies about 1,500 Hz). Any properly functioning amplifier should have no difficulty driving the NHT 2.3.

Our quasi-anechoic FFT measurements confirmed the essential characteristics of the other tests. They also showed that the tweeter’s high-frequency dispersion was excellent toward the center of the listening area and considerably less extended toward the adjacent walls of the room, which was consistent with NHT’s design goals of minimizing side-wall reflections and concentrating the program in the listening area. The system’s phase characteristics were excellent, as shown by its group-delay variation of less than 0.1 millisecond overall from 3,000 to 20,000 Hz and only about 1 millisecond at 180 Hz.

Comments

Despite its conventional appearance, the NHT 2.3 is a unique loudspeaker. I do not recall any other relatively compact speaker that has contained a legitimate subwoofer section. Granted, there are no universally accepted limits to a subwoofer’s frequency coverage, but I would not consider frequencies above 100 Hz to be in the subwoofer range under any circumstances. As for the lower limit, this is somewhat open-ended; the lower the better (at least down to 20 Hz or so). I would certainly consider 35 Hz to be “real bass,” however, and the NHT 2.3 delivers a room-filling, low-distortion output at that frequency.

So we have here an excellent two-way system—with all the advantages in smoothness, dispersion, and stereo imaging that make that configuration so popular—which also contains a genuine subwoofer section that is fully integrated aesthetically and acoustically with the rest of the system. And NHT has achieved this without sacrificing compactness and at a price competitive with those of many well-regarded but more conventional speakers.

Quite apart from its physical features, the NHT 2.3 sounds first-rate. Its lateral and vertical imaging, playing the Chesky JD37 test disc, were as good as we have heard. And it frequently produced a surprise in the form of low bass that no one would expect to hear from a speaker of its size. Altogether, the Model 2.3 is a worthy flagship for the NHT speaker lineup.
Forte power amplifiers, according to the manufacturer, are among the first to use insulated-gate bipolar transistors in their output stages. These devices are said to be so linear in their operation that overall negative feedback is not required for distortion reduction, and none is used in the Forte amplifiers.

The Forte Model 5 is a Class AB stereo amplifier rated at 100 watts per channel into 8-ohm loads from 20 to 20,000 Hz with no more than 0.1 percent harmonic distortion. Like other Forte amplifiers, it uses a direct-coupled field-effect transistor (FET) input stage for each channel, driving gain transistors loaded with constant-current sources. The high linearity of these circuits and of the output devices requires only minimal local feedback to achieve low distortion.

Two identical circuit boards (one for each channel) are mounted on the sides of the chassis, with their output transistors fastened directly to the heavy heat sinks extending from each side of the amplifier. In the center of the amplifier is a husky toroidal power transformer, which the manufacturer says can deliver twice its continuous rated power for extended periods without damage or undue voltage drop. Twin bridge rectifiers and computer-grade filter capacitors provide the positive and negative DC voltages to the amplifiers.

The Forte Model 5 is a relatively compact amplifier measuring 17 inches wide, 8¾ inches deep, and 5 inches high. The rounded corners of the heatsink fins and the front panel give it an attractive appearance and reduce the chances of scratching yourself or your furniture. The Model 5 weighs 19¾ pounds.

The front panel contains only a large rocker-type power switch with a small red LED pilot light above it. Near each corner is a ½-inch hole with the end of a brass bolt visible at its center (apparently part of the mounting of a heat sink behind the panel); these add some visual interest to the otherwise nearly featureless panel.

On the rear of the amplifier are two pairs of gold-plated multiway binding-post speaker terminals and two gold-plated phono-jack signal inputs. The amplifier has a detachable heavy-duty three-conductor power cord, which plugs into a combined socket and fuse-holder.

The operating manual stresses the importance of never having any external common-ground connection between the input and output circuits, or between any signal ground and the chassis, at the risk of damaging the amplifier. It also provides specific recommendations on maintenance and cleaning.

The Forte Model 5's ratings are given for 8-ohm loads only, although qualified suitability for 4-ohm opera-
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Julian Hirsch, Stereo Review, 1987

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tion is implied by a notice on the rear of the amplifier stating that it should not be operated into wide-band loads of less than 4 ohms. Other specifications include a −3-dB bandwidth of 3 to 100,000 Hz, a slew rate of 50 volts per microsecond, and a damping factor of 200 in the audio range. The amplifier is rated to deliver a maximum continuous current of 10 amperes into 0.1 ohm, or a peak current of 30 amperes. Its output noise is specified as less than 300 microvolts.

**Price:** $1,295. Distributed by the In-Concert Division of Threshold, Dept. SR, 7325 Roseville Rd., Sacramento, CA 95842.

### Lab Tests

We preconditioned the Forté Model 5 for 1 hour at 33 watts, with both channels driving 8-ohm loads. Its exterior became quite hot (as it did in normal operation) but remained within the limits stated in the manual, which says that if the heat sinks feel "unpleasantly" warm but do not actually burn the skin, the amplifier is probably operating correctly.

The Forté Model 5’s frequency response was +0.02, −0.1 dB from 20 to 20,000 Hz. Its wide-band response was down −0.3 dB at 10 Hz and −3 dB at 120,000 Hz. With both channels driving 8-ohm loads, the output clipped at 132 watts, for a clipping-headroom rating of 1.2 dB. Into 4 ohms, the clipping level was 200 watts. The dynamic power output was 170 watts into 8 ohms and 312 watts into 4 ohms.

**Comments**

We installed the Model 5 in an audio system and used it to drive (among others) some speakers whose impedance fell below 3 ohms at a few points, although it remained above 4 ohms over most of the audio frequency range. Also, we never operated the system at levels that would induce hard clipping. Considering these conditions, it came as no surprise that the Model 5 behaved just as one would expect from an ideal power amplifier.

When dealing with amplifiers in this price range, one should not expect to hear any special coloration or sound quality, and the Model 5 provided no surprises in that respect. Its special qualities were evident not so much in its sonic properties, which were excellent, as in the smoothness and perfection of its operation. Specifically, switching the Model 5 on or off produced absolutely no detectable transients. It came on in less than a second with no clicks, hum, or other obtrusive effects. But even though the amplifier is sonically invisible, it is attractive enough that it should be seen as well as (not) heard. It gives the impression of being smaller than its measurements would indicate, and it is light enough to be handled easily and safely.

Our only reservation about the Forté Model 5 concerns its ability to drive low-impedance loads. There should be no problems in this respect with most speakers (even "4-ohm" models), but there are speakers that are notoriously difficult to drive because of a combination of low sensitivity and low average (or highly reactive) impedance. If you have such a speaker, or are contemplating switching to one, the Forté is probably not your best choice for a power amplifier. The difficulty is compounded by the fact that it does not use electronic overload protection but relies on its DC fuses to protect the output stages. As our experience shows, the fuses are very effective, but keep in mind that they are normally not replaceable by a user.

On the other hand, the Forté Model 5 need not be operated at high average levels in a home installation, and probably few users will ever experience any difficulties from that source. Its very conservative power rating means that you would have somewhere between 130 and 200 watts available to you, and that should be ample for any reasonable listener.

### Laboratory Measurements

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output power at clipping (1,000 Hz)</td>
<td>132 watts into 8 ohms, 200 watts into 4 ohms</td>
</tr>
<tr>
<td>Clipping headroom (relative to rated output)</td>
<td>1.2 dB</td>
</tr>
<tr>
<td>Sensitivity (for a 1-watt output into 8 ohms)</td>
<td>0.12 volt</td>
</tr>
<tr>
<td>Dynamic power output</td>
<td>170 watts into 8 ohms, 312 watts into 4 ohms</td>
</tr>
<tr>
<td>Dynamic headroom: 2.3 dB (8 ohms)</td>
<td></td>
</tr>
<tr>
<td>Maximum full-power distortion (20 to 20,000 Hz into 8 ohms)</td>
<td>0.028% at 100 watts (7,000 Hz)</td>
</tr>
<tr>
<td>A-weighted noise (referred to a 1-watt output)</td>
<td>−88 dB</td>
</tr>
<tr>
<td>Frequency response: +0.02, −0.1 dB from 20 to 20,000 Hz</td>
<td></td>
</tr>
</tbody>
</table>
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Illustration by James Dowlen ©1990
Jamo Atmosphere Loudspeaker System

Julian Hirsch, Hirsch-Houck Laboratories

The Jamo Atmosphere is a unique loudspeaker whose design is as distinctive visually as it is acoustically. It is intended for wall mounting by means of a bracket whose prongs fit holes on the back. Recessed into the top surface is a 20-watt halogen bulb that enables it to function as a sconce, illuminating the wall and ceiling above it.

The speaker resembles a circle about 14⅜ inches in diameter with its upper third sliced off (although the top is actually an arc of a circle of large radius, for all practical purposes it can be considered as a flat horizontal surface). The front and back of the enclosure, which appears to be a plastic molding, are curved, giving it a "clamshell" appearance when viewed from the side.

The rear of the Atmosphere has a bass-reflex port (1 inch in diameter) for its 5¼-inch woofer. The front surface is covered by a nonremovable metal grille, behind which are the woofer and a 1-inch dome tweeter. The tweeter, located below the woofer, is angled slightly downward.

A white cable, about 15 feet long, plugs into a four-pin receptacle on the rear of the speaker. At its other end is a step-down transformer that plugs into a wall socket, via a 7½-foot power cord, and provides 24 volts AC for the halogen lamp. The white cable also contains the two speaker leads, which emerge from the lamp transformer and continue for another 13 feet. A small pushbutton switch on the bottom rear of the speaker enclosure serves as a power switch for the lamp, which has no effect on the speaker's operation.

The Atmosphere is nominally an 8-ohm system rated to handle up to 35 watts continuous power or 90 watts peak power. Sensitivity is specified as 92 dB sound-pressure level (SPL) at 1 meter with a 1-watt (2.83-volt) input. Jamo says the speaker has built-in overload protection. Its rated bandwidth is 40 to 20,000 Hz, and the crossover frequency between the drivers is given as 3,000 Hz. The enclosure volume is 8 liters, and the speaker weighs 8 pounds. The Jamo Atmosphere is available in either a black or white lacquer finish. Price: $399 each. Jamo Hi-Fi USA, Inc., Dept. SR, 425 Huehl Rd., Bldg. 3A, Northbrook, IL 60062.

Lab Tests

We installed the Jamo Atmosphere speakers on a wood-paneled wall, about 5 feet from the floor and 3 feet from the ceiling. One speaker was 13 inches from a side wall and the other about 30 inches from its wall (furniture and room layout limited the choice of placement). We used our customary microphone placement for room response measurements, which showed a very flat response, ±2.5 dB from 200 to 20,000 Hz. The room curve showed relatively little of the standing-wave interference that usually produces severe response irregularities with conventional floor-mounted speakers, but a strong bass peak boosted the output between 80 and 200 Hz. At the microphone position (about 12 to 15 feet from the speakers), the bass response peaked about 10 dB higher than the average midrange and high-frequency level and fell off steeply below 80 Hz.

Our close-miked measurement of
response at the woofer cone and port, corrected for their respective diameters, showed a slow rise from 3,000 Hz down to 130 Hz (the crossover between the cone and port outputs), leveling off from there to about 30 Hz and dropping steeply at lower frequencies. The output at 100 to 150 Hz was about 10 dB above the 3,000-Hz level.

As often happens with bass-reflex systems having a small port diameter, the port frequency-response measurement is somewhat unrealistic. The audible contribution of the port is usually much less than that of the cone and may be much more distorted. The most suitable splice we could make between the room response and the woofer response showed a less prominent upper-bass rise and a much flatter, deeper low-bass extension than would normally be expected from the small driver and enclosure volume of this speaker.

Although the Atmosphere's composite response seemed to be within ±3.5 dB from 30 to 20,000 Hz, that was clearly unrealistic. Our ears agreed fairly well with the room curve—a wide, smooth, and extended midrange and high-frequency response coupled with a large peak in the 100- to 150-Hz range.

The speaker's measured sensitivity was 88 dB, about average for home speaker systems but well below the rated 92 dB. The woofer distortion at a 3.5-volt drive level (corresponding to a 90-dB sensitivity measurement) was low over most of the midrange, 0.4 to 1 percent from 120 Hz to beyond 1,000 Hz. It rose to 10 percent at 50 Hz and 18 percent at 40 Hz. The port distortion was comparable to the cone readings up to about 200 Hz.

The speaker's impedance dipped to 6.8 ohms at 200 Hz, reaching a maximum of 31 ohms at the 3,000-Hz crossover frequency. The woofer's impedance peaks occurred at 37 and 115 Hz. Horizontal dispersion of the tweeter was very good, with little difference between the response on-axis and 45 degrees off-axis up to 10,000 or 12,000 Hz. Group-delay variation was only ±0.2 millisecond from 180 to 18,000 Hz.

The Atmosphere's small woofer did not actually reach its physical limits of motion during our pulse power testing, but it began to show various forms of waveform distortion at 100 Hz when the input reached 250 watts into its 11-ohm impedance. Up to the point where the amplifier clipped at 350 watts, the speaker's output was a somewhat irregular but recognizable sine wave. The irregularities may have resulted from operation of the overload protection. At 1,000 and 10,000 Hz, the amplifier clipped (at 600 to 650 watts) before the speaker distorted severely or became damaged.

Comments

The Jamo Atmosphere sounded very much the way its response curves looked. With most musical material, it has a clean, crisp, and well-balanced sound in the midrange and treble. Male voices were rather "boomy," however, and this characteristic sometimes appeared in music with appreciable bass content in the 100-Hz range. On the other hand, it is quite possible that the Atmosphere's bass performance in another room would be very different from what it was in ours. We also listened to sine-wave tones from test CD's to determine how much of the apparent bass output was real. Although there was a definite bass sensation as low as 20 or 30 Hz (much more than one would expect from a 5-inch cone), it consisted largely of distortion components. As high as 50 to 60 Hz, where there was a considerable bass-fundamental component, the harmonics could be plainly heard on sine waves, even at moderate levels.

As often happens, the contrast between the sound of the Atmosphere and that of most conventional speakers was initially striking but faded away as one became used to it. It was not unpleasant or jarring at any reasonable listening level (except with some human voices), and with musical material it usually had a pleasant, listenable sound quality.

In view of the Atmosphere's unusual styling, we see its most obvious application as a "decorator" speaker, quite possibly as a substitute for in-wall speakers, especially in situations where cutting into walls and running internal wiring is impractical. The built-in lamp produces an attractive effect, although there may be some problems in running the signal/lamp cable down a wall unnoticeably.

The second obvious application for the Atmosphere is as an effects speaker in a surround-sound system. Its frequency response is more than adequate for that purpose (the rear channel in a Dolby Surround soundtrack is intentionally rolled off at low frequencies, which would tend to offset the Atmosphere's emphasis of that range), and it can be placed almost anywhere that the system requires without being at all obtrusive.

Although the Jamo Atmosphere may look a bit odd, and perhaps not much like what we think of as a loudspeaker, its very distinctiveness is probably its greatest strength. In any case, it can never be called another "me too" speaker design.
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Bobby Watson & Horizon—The Inventor (Blue Note), 408-492
Hank Crawford / Jimmy McGriff—On The Blue Side (Milestone), 406-464
Courtney Pine—The Vision's Tale (Antilles), 407-494
Grover Washington, Jr.—Anthology Of Grover Washington, Jr. (Columbia), 336-652
Gloria Jones—The Best Of Gloria Jones (Columbia), 403-246

SOCIAL SIGNS

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Larry Carlton—Collection (GRP), 407-825
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THE growth in the capability and complexity of car electronics has been staggering. Ford engineers estimate that the retail value of the electronics in one of their cars runs about $900 and that it will increase to $2,000 by the turn of the century. Increasingly, electronics make up the most vital parts of your car: Power-train controls minimize engine emissions and tweak performance, antilock braking keeps you safe on wet pavement, and displays alert you to everything that’s going on. But nowhere is the sophistication more evident than in car audio systems. Tuner, cassette, CD, and DAT sources play through equalizers and crossovers, using the power of multiple amplifiers to drive an array of loudspeakers. The result is mobile sound of unprecedented quality.

But the real revolution in car audio electronics is just beginning. Digital signal processing (DSP) promises to transform car stereo reproduction in ways that will surpass the earlier revolutions of the compact cassette and compact disc. Ambience enhancement, equalization, dynamic noise compensation, automatic frequency-response analysis and equalization, and other features are already available in high-end car components. In the years to come, prices will fall and new features will appear, and someday all car audio components will employ a wide variety of DSP. The first generation of DSP products for the car raises the curtain on an exciting new era in autosound.

To find out exactly where things stand today, I assembled three of the hottest car DSP components: the Clarion DSP-959E ($800), the Eclipse EQS-1001 ($650), and the Technics DA3000 ($1,419). I examined them down to the last submenu, then installed them and went for test drives. I’ll never forget. No matter whether you’re recreating concert-hall acoustics, dynamically adjusting for wind and road noise, or correcting the frequency imbalances in the passenger compartment, these components demonstrate that car DSP has arrived and means business, performing tasks that one could only dream of doing with analog circuits.

**CLARION DSP-959E**

The Clarion DSP-959E is a dash-mounted DSP component that provides two important digital signal-processing features, ambience enhancement and graphic equalization, as well as seating-balance control and a pink-noise generator. The user can select from a variety of presets or enter custom settings.

The processor’s central display is surrounded by seventeen buttons that control such functions as volume, balance, fader, mode selection, effects levels, and so forth. Three large buttons under the display are used to select presets. Eight ambience programs are preset in memory: Hall, Chamber, Church, Stadium, Jazz Club, Rock Concert, Disco, and Live House. Each program defines a particular acoustic environment, applying specific equalization and simulating sound reflections from room surfaces by means of multiple delayed signals to speakers around the interior of the car. You can also use the controls on the processor to set up and store as many as eight programs of your own, tailoring such characteristics as the balance between direct and synthesized reflected sound to suit your taste. You can then select these custom programs with the same set of buttons used to select the factory-preset programs.

You can customize an existing program’s ambience characteristics by manipulating as many as three of five parameters: initial delay, room-size delay, liveness delay, reverberation time, and ratio of high-frequency re-

**Can digital signal processing put a concert hall in your car?**

by Ken C. Pohlmann
verberation. These settings can be individually tuned and saved to create a new custom program. For the Hall, Chamber, and Church preset programs, the initial delay, reverberation time, and high-frequency reverberation ratio are adjustable. For the other presets, the initial delay, room size, and liveness can be adjusted.

The initial-delay setting controls the time interval between the direct sound and the signals simulating early reflected sound; it affects the perceived distance between the sound source and the listener. It can be varied from 1 to 70 milliseconds for the Hall program and from 1 to 100 milliseconds for the others. The room-size adjustment varies the rate at which signals simulating early reflections arrive, which affects the perceived size of the room. The liveness setting controls the amplitude of early reflections—the larger the values, the more live the room seems. Reverberation time controls the rate of decay of simulated late reflections to make a room sound more or less reverberant. It can be varied from 0.3 to 10 seconds. The high-frequency reverberation ratio controls the rate of decay of high-frequency reverberation to change the perceived tonal balance of the simulated room.

The DSP-959E can also function as a nine-band graphic equalizer with four factory preset EQ curves (labeled POP, VOCAL, CLASSIC, and FLAT) plus four user-programmable presets. To adjust the equalization, you select the EQ program, select the band you want to adjust, raise or lower the output in that band, move on to the next band you want to alter, and so on. You can adjust the level in each band over a range of ±12 dB in 2-dB increments. The ambience-enhancement and the equalization programs can be used simultaneously.

The DSP-959E's POSITION button lets you choose from five listening-position presets: full, front-right, front-left, front-only, and rear-only seating. Fader, balance, and other parameters are automatically adjusted for the best fit to your choice. The seating-position setting is effective regardless of whether other DSP functions are in use. A mute button can be used to attenuate the volume by 20 dB during important phone calls.

Five miscellaneous functions—car type, rear-mix level, rear-mix on/off, test tone, and illumination color—are accessible from the UTILITY button. The car-type program enables you to change the balance, phase, and ambience settings of the audio output signal to match any of three types of vehicles: a small car, a medium-size or large car, and a minivan.

The rear-mix level adjustment sets the ratio of direct to ambient sound in the rear-speaker outputs between zero (which sends no direct sound to the rear speakers) and 100 percent (which makes the output from the front and rear speakers the same). The rear-mix on/off function switches the direct sound to the rear speakers on and off.

The test-tone function turns on a pink-noise generator, which cycles through the four output channels to verify that the four amplifiers are connected properly. In addition, the level of the amplifiers can easily be balanced using this signal. Finally, the illumination-color selector switches the color of button back-lighting between green and amber. The central display remains blue.

The display provides a wealth of information. It shows which basic ambience program (such as Hall or Church) is in use, the ambience and EQ preset numbers, and the settings of the volume, balance, and fader controls. There is a graphic display for the seating-position setting and the nine graphic-equalizer bands. In addition, there are indicators for mute, EQ, digital input, and other status conditions. The display is back-lit and readable under all lighting conditions.

The DSP-959E's circuitry is housed in a single DIN-size dash-mounted chassis. As with any dash unit, it was an easy matter to secure the mounting bracket, slip in the processor, and apply a front bezel. Electrical connections are also simple. The Clarion has ground, battery, remote turn-on, and power leads as well as a digital-to-analog (D/A) control lead that can attach to your head unit, which is used to select either the analog or the digital audio input lines. The processor has two line-level analog input jacks and a harness that supplies four line-level analog output leads. In addition, there is a fiber-optic digital input for direct connection to digital sources such as Clarion's own Model 6300CD compact disc changer.

The DSP-959E was a delight on the open road. Its nine-band graphic equalizer did a fine job of correcting response deficiencies in my car, with nice overlap between adjacent bands. Although the factory preset equalization curves are of limited value, it is easy to enter your own in the four user-programmable EQ memories.

I also appreciated Clarion's ambience-enhancement programs. The sound of the reverberation is pretty good, and the choice of user-adjustable programming parameters is logical and enables expeditious design of optimal sound fields. In short, even if you don't like the factory preset programs, you should have no problem tailoring others more to your taste. With a total of sixteen presets (eight factory and eight user) at your fingertips, you should be able to quickly choose appropriate ambience processing for any kind of music.

The other functions provided by the DSP-959E were equally impressive. The car-type selection, rear-mix control, pink-noise generator, and even seating-position control all offer useful adjustment capability. Although many of these functions will be set during installation and rarely changed afterward, they help integrate the unit into the car system for better sound.

A final note on the Clarion: Human factors are difficult to define and even tougher to engineer. Some products seem to behave willingly under your fingertips, whereas others rebel at every turn. The DSP-959E is as obedient an audio product as you're likely to find. Although it provides very sophisticated control over a wide variety of processing functions, it is easy, almost intuitive, to use. The basic functions, such as volume and balance, are utterly simple, as is use of the ambience and
equalization presets. Even programming the user presets is pretty easy. If you are one of those people who think they'll never master car DSP components, the DSP-959E is eager to prove you wrong.

**ECLIPSE EQS-1001**

The Eclipse EQS-1000 dash-mounted ambience processor was the first car audio DSP unit. The new EQS-1001 provides similar functions: an electronic subwoofer crossover and factory presets for four types of room acoustics—Cathedral, Live Club, Concert Hall, and Stadium—with control over early reflections and late reverberation and the ability to store and recall six customized programs.

But the new unit is a hideaway chassis controlled by a touch screen on the Eclipse EQZ-301 cassette tuner ($600) or by the EQR-1100 wired remote control ($200). The components are connected through the new Eclipse Bus Interlink data-transmission system.

The EQZ-301 gives you control of its internal AM/FM tuner and cassette transport as well as a CD changer and the EQS-1001 DSP module, courtesy of a sophisticated touch-screen display/controller and hidden menus. Volume, fader, bass, treble, and balance controls are operated by pressing the touch screen to step through these functions. You adjust them either by touching the bar-graph display or by pressing the audio-control rocker button. Other front-panel controls are used to operate the tuner and cassette deck in much the same way as other high-end cassette receivers.

You make DSP adjustments by touching the bar-graph display on the cassette tuner or pushing its audio-control rocker switch (or from the EQR-1100 remote). To simplify operation, the Eclipse does not display numeric values for settings, only a bar graph indicating relative levels. Internally, the processor is keeping careful track of things: Early-reflection duration can vary from zero to 100 milliseconds, late-reflection time from 25 milliseconds to 1.0 second (1,000 milliseconds) in Stadium mode, 30 milliseconds to 1.2 seconds in Live Club mode, and 100 milliseconds to 4.8 seconds in Concert Hall or Cathedral Modes.

A handful of controls are located on the hideaway chassis itself. One set of three controls affects the subwoofer output. A potentiometer is used to set the subwoofer level over a ±10-dB range. A two-position switch selects polarity, and another switch selects either an 80- or 150-Hz cutoff frequency. The filter slope is fixed at 18 dB per octave. Because subwoofer parameters are normally set during installation and will not change unless the system is being redesigned, it is logical to bury these controls on the hideaway.

Four DIP switches are used to select various modes of operation. The first selects either 300- or 600-millivolt line-input sensitivity. The second bypasses the center-channel output for systems without a center-channel speaker. When the center channel is bypassed, early and late reflections are instead sent to the front channels along with the direct signal. The third switch turns the subwoofer channel on and off. The fourth is used by installers to run internal diagnostics.

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**CLARION DSP-959E ($800)**

**Laboratory Measurements***

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum output level</td>
<td>1.58 volts</td>
</tr>
<tr>
<td>Frequency response</td>
<td></td>
</tr>
<tr>
<td>(20 to 20,000 Hz, referred to 1,000 Hz)</td>
<td>0.22, -8.86 dB</td>
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<tr>
<td>Channel separation</td>
<td></td>
</tr>
<tr>
<td>at 1,000 Hz</td>
<td>82.1 dB</td>
</tr>
<tr>
<td>at 20,000 Hz</td>
<td>51.7 dB</td>
</tr>
<tr>
<td>Dynamic range</td>
<td></td>
</tr>
<tr>
<td>(A-weighted)</td>
<td>91.8 dB</td>
</tr>
<tr>
<td>Signal-to-noise ratio</td>
<td></td>
</tr>
<tr>
<td>(A-weighted, referred to 0 dB)</td>
<td>94.5 dB</td>
</tr>
<tr>
<td>Distortion (THD + N at 1,000 Hz)</td>
<td>0.012%</td>
</tr>
<tr>
<td>at 0 dB</td>
<td>0.028%</td>
</tr>
<tr>
<td>at -20 dB</td>
<td></td>
</tr>
<tr>
<td>Conversion linearity error</td>
<td></td>
</tr>
<tr>
<td>(analog to digital and back at -70-dB level)</td>
<td>0.0 dB</td>
</tr>
<tr>
<td>Interchannel phase error</td>
<td></td>
</tr>
<tr>
<td>(at 20,000 Hz)</td>
<td>19.3 degrees</td>
</tr>
</tbody>
</table>

*All measurements through analog inputs

The DSP-959E performed well on the test bench except for a rolled-off high-frequency response. I suspect that this was a sample fault—our test unit was an early engineering sample. The interchannel phase error of 19.3 degrees may be a result of ambience processing. Other figures were excellent, and the conversion linearity was perfect, at least down to -70 dB.
HE chassis also contains all inputs and outputs. Line-level audio signals enter and exit through eight gold-plated phono jacks: stereo inputs, stereo front and rear outputs, and mono center-channel and subwoofer outputs. Power, ground, and the center-channel amplifier output are routed through a six-pin box connector. The center-channel output can drive a speaker directly from an internal power amplifier that puts out 13 watts into 4 ohms.

Interconnection is greatly simplified by the Eclipse Bus Interlink. Its multipin cable links the components and enables control signals and audio data to flow between them. The Interlink speeds installation, increases reliability, and reduces cost through its efficient design. It also facilitates system expansion. Many different audio components could be added to the bus, each communicating as necessary with other components on the bus. In the future, in addition to stereo components, security, video, navigation, noise-cancellation, and other devices could be plugged into the bus.

Despite the number of components controlled from the EQZ-301, its front panel is quite easy to negotiate. The DSP control functions are logical, making operation of the EQS-1001 almost intuitive. The touch screen is particularly handy for adjusting ambiance settings. That settings are shown by a bar graph rather than a numeric display will be pleasing or frustrating, depending on your point of view. I suspect that for most users the bar graph will be more convenient than readings of decibels and milliseconds.

The more important question, however, is the effectiveness of the signal processing. I have had an EQS-1000, the predecessor to the EQS-1001, in my dashboard for more than a year and have become a confirmed believer in high-quality ambiance enhancement. When I switched on the EQS-1001, I immediately identified the same excellent processing software and the convincing ambiance it can impart to music. Natural-sounding reverberation is especially difficult to synthesize, and the EQS-1001 does an excellent job at it, even with long reverberation times.

The Hall, Club, Cathedral, and Studio programs all sound superb and are useful for simulating a variety of listening environments, especially since you are free to vary the principal processing parameters to suit your music, installation, and taste. This flexibility is important, because factory presets rarely coincide exactly with your particular listening situation. Finally, happily, the audio sources supplying signal to the EQS-1001 are excellent: The EQZ-301's tape deck and tuner section are top-notch.

The EQS-1001 is an excellent example of a car DSP application. Although it does not provide some of the features of competing DSP components, the sound quality of its ambiance processing is superior. Moreover, its control is well integrated with the EQZ-301 tape deck and tuner section. If ambiance enhancement is more important to you than other DSP functions, such as equalization or noise compensation, the EQS-1001 is the processor you'll probably want.

TECHNICS DA3000

The Technics DA3000 has more software on board than some home computers. It provides ambiance enhancement, parametric or graphic equalization, dynamic noise control, and automatic spectrum analysis—all by means of digital signal processing. The DA3000's processing power is contained in a hideaway chassis operated from a dedicated controller connected with an umbilical cable. Although the chassis has a few switches, most user controls are located on the remote, which has twenty-one buttons.

ECLIPSE EQS-1001 ($650)

**Laboratory Measurements**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum output level</td>
<td>1.98 volts</td>
</tr>
<tr>
<td>Frequency response</td>
<td></td>
</tr>
<tr>
<td>(20 to 20,000 Hz, referred to 1,000 Hz)</td>
<td>+0.01, -2.0 dB</td>
</tr>
<tr>
<td>Channel separation</td>
<td>n/a**</td>
</tr>
<tr>
<td>Dynamic range</td>
<td></td>
</tr>
<tr>
<td>(A-weighted)</td>
<td>94.5 dB</td>
</tr>
<tr>
<td>Signal-to-noise ratio</td>
<td></td>
</tr>
<tr>
<td>(A-weighted, referred to 0 dB)</td>
<td>100.9 dB</td>
</tr>
<tr>
<td>Distortion (THD + N at 1,000 Hz)</td>
<td></td>
</tr>
<tr>
<td>at 0 dB</td>
<td>0.021%</td>
</tr>
<tr>
<td>at -20 dB</td>
<td>0.085%</td>
</tr>
<tr>
<td>Conversion linearity error</td>
<td></td>
</tr>
<tr>
<td>(analog to digital and back at -70-dB level)</td>
<td>+0.04 dB</td>
</tr>
<tr>
<td>Interchannel phase error</td>
<td></td>
</tr>
<tr>
<td>(at 20,000 Hz)</td>
<td>0.4 degree</td>
</tr>
</tbody>
</table>

*All measurements through analog inputs

**Because the processor mixes channels to create reverberation, we could not measure channel separation.

The EQS-1001 was solid on the test bench. Frequency response was nearly flat, and the signal-to-noise ratio was impressive. Distortion was low at 0 dB and remained relatively low at -20 dB. Interchannel phase error was negligible. Signal-path linearity deviated by only a tiny amount at the -70-dB test level.
TECHNICS DA3000 ($1,419)

Laboratory Measurements* 

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum output level</td>
<td>1.17 volts</td>
</tr>
<tr>
<td>Frequency response</td>
<td></td>
</tr>
<tr>
<td>(20 to 20,000 Hz, referred to 1,000 Hz)</td>
<td>+0.02, -2.00 dB</td>
</tr>
<tr>
<td>Channel separation</td>
<td></td>
</tr>
<tr>
<td>at 1,000 Hz</td>
<td>52.1 dB</td>
</tr>
<tr>
<td>at 20,000 Hz</td>
<td>42.4 dB</td>
</tr>
<tr>
<td>Dynamic range</td>
<td></td>
</tr>
<tr>
<td>(A-weighted)</td>
<td>86.9 dB</td>
</tr>
<tr>
<td>Signal-to-noise ratio</td>
<td></td>
</tr>
<tr>
<td>(A-weighted, referred to 0 dB)</td>
<td>86.2 dB</td>
</tr>
<tr>
<td>Distortion (THD + N at 1,000 Hz)</td>
<td></td>
</tr>
<tr>
<td>at 0 dB</td>
<td>0.029%</td>
</tr>
<tr>
<td>at -20 dB</td>
<td>0.120%</td>
</tr>
<tr>
<td>Conversion linearity error</td>
<td></td>
</tr>
<tr>
<td>(analog to digital and back at -70-dB level)</td>
<td>-0.4 dB</td>
</tr>
<tr>
<td>Interchannel phase error</td>
<td></td>
</tr>
<tr>
<td>(at 20,000 Hz)</td>
<td>0.1 degree</td>
</tr>
</tbody>
</table>

*All measurements through analog inputs

The DA3000 delivered generally good numbers on the test bench. Frequency response was down only slightly at 20,000 Hz. Channel separation was more than adequate, and the signal-to-noise ratio was respectable. Distortion was low at 0 dB but rose somewhat at -20 dB, and conversion linearity was good.

and a built-in microphone around a central display panel.

The power button turns both the controller and the hideaway unit on and off. Other buttons are used to select and adjust master volume, balance, rear volume, center-channel volume, and subwoofer volume. The master volume can be varied over a 78-dB range in 2-dB steps; the other volume controls operate over a ±30-dB range. A mute button is included to drop the volume by 20 dB in one jump when you need immediate quiet.

The Digital Sound Effects (DSE) button gets you into the ambience-enhancement software, which offers eight different preset acoustic environments on two menus: Stadium, Hall, Jazz Club, Cathedral, Disco, Vocal, Relax, and Normal (no processing). You can add four more programs of your own devising on a third menu.

It is fairly easy to enter your own ambience settings. After selecting one of the factory-preset environments, you can step through a variety of ambience parameters: liveness, front delay, rear delay, center delay, simultaneous delay in all channels, and reflection balance. Individual settings are adjusted by the same up/down buttons used for volume control and other such functions.

The liveness adjustment varies the signal presence over nine possible settings. The various delay adjustments can be set anywhere between zero and 370 milliseconds. The reflection-balance adjustment varies the balance between direct and reverberant sound over a range of zero to 99 percent; at 50 percent, the direct and reverberant sound levels are equal. Naturally, the delay adjustments will have no effect if the reflection balance is set to zero.

When you're done, you can store the settings.

The EQ button turns the DSP equalizer on and off. Either graphic or parametric equalization can be selected via a slide switch on the hideaway chassis. When the slide switch is set to its FIXED position, the processor provides a graphic equalizer with three bands each for the left and right channels, centered at 63, 800, and 16,000 Hz. Adjustment range is ±12 dB, and three equalization-preset buttons are used to store or recall equalization settings. If the EQ button is held down, all three bands are returned to flat response.

When you set the chassis slide switch to the VARIABLE position, you get a parametric equalizer that enables you to adjust three parameters independently in four bands for each of the four main channels: level, center frequency, and Q (bandwidth). Depending on which of the four bands is selected (for any of the four channels), different center frequencies are available. The first band provides control centered at any of eight frequencies from 100 to 500 Hz, the second band at any of six frequencies from 250 to 800 Hz, the third band at five frequencies from 1,000 to 2,500 Hz, and the fourth band at six frequencies from 3,200 to 10,000 Hz. The width, or Q, for each band can be selected from one of five values ranging from 1 to 7. As in the graphic EQ program, level in each parametric band can be adjusted in 2-dB steps over a ±12-dB range, settings can be saved, and flat response can be restored by holding down the EQ button.

Buttons are used to switch from the analog input to either of two digital inputs and back to the analog input. Pressing the THRU button defeats the digital effects processing and mutes the center-speaker and subwoofer outputs, yielding a simple two-channel front/rear output.

A microphone is built into the re-
The DA3000's auto-equalization software will be satisfactory for many systems, though high-end users will want to rely on outboard equalization and manual adjustment to achieve a more balanced and, more important, a more musical tuning.

The unit's manual parametric equalizer offers considerable flexibility in tuning a system, especially in its ability to adjust the bandwidth in each of the four main channels. This is good equalization software. On the other hand, the three-band graphic equalizer is simply too limited to be practical; I hope more bands are added in future upgrades.

The eight ambience-enhancement presets are very musical sounding. There is a great temptation to show off ambience processing by loading on the effects, resulting in a silly and unnatural sound. The DA3000's presets are very tasteful and useful in processing different kinds of music signals. On the down side, the maximum reverberation time is too short: Some settings, such as Cathedral, should have a longer reverb.

The adjustable ambience parameters (liveness, delay, and balance) give the user some control over the synthesized environments, but I found them somewhat confusing. I prefer software that permits direct control over early and late reflections, in terms of both amplitude and time. On the other hand, most listeners do not want to be bothered by detailed sonic manipulation, and some might do more harm than good with greater flexibility. In short, the DA3000's ambience-processing functions do not take the engineering approach I would have, but they still achieve good results.

Finally, I tested the Dynamic Road Noise Control feature, and I was very impressed with its performance. As with the ambience processing, Technics has used a light hand and a subtle approach that effectively helps overcome ambient noise without distorting the music. As noise increases, the processor steps through a number of equalization curves at progressively higher output levels, boosting both low frequencies and, to a lesser extent, high frequencies. Audibility is definitely enhanced in poor listening conditions, but without excessively altering frequency balance. This is a great feature.

Despite the DA3000's extensive capabilities, its controls and indicators are generally easy to understand and use after a little practice. Thanks to the many helpful prompts from the display screen, even relatively complex operations, such as setting parametric equalization, soon became routine. I suspect, however, that after the unit is programmed by the installer, many users will rely mainly on presets.

Quibbles aside, the Technics DA3000 is a wonderful car audio component—undoubtedly among the most sophisticated available. Its automatic equalization, parametric equalization, and dynamic noise-compensation features have extraordinary capabilities. If you are looking for a technological tour de force for your car, this is it.

NEW DIMENSIONS

The Clarion, Eclipse, and Technics DSP components we tested, along with comparable models from other companies, of which there are more all the time, convincingly demonstrate that digital audio technology is firmly in the driver's seat. With the power of DSP at our disposal, new dimensions of reproduction fidelity will be possible. Because of the flexibility of DSP software, we are likely to see a wide variety of products serving many different applications and tastes.

These three digital processors are certainly diverse, with functions and sonic characteristics that are miles apart. If you want the best-sounding reverberation on the market, wholly integrated with a high-end head unit, the Eclipse EQS-100I is perfect. If you want flexible ambience enhancement, along with digital equalization and other goodies, the Clarion DSP-959E is outstanding. Finally, if you want all the bells and whistles, ranging from ambience enhancement to noise compensation, the Technics DA3000 has just what you're looking for.

Two years ago, the idea of simulating concert-hall acoustics in a car was farfetched. Today, not only can you re-create a concert hall as you drive, but you can choose from a whole menu of acoustic spaces or devise your own. Two years ago, the task of rebalancing your system for different listening positions or a different number of passengers was tedious at best. Today it can be accomplished at the touch of a button. Two years ago, automatic compensation of audio amplitude and equalization for road and wind noise was just an experiment. Today it is a reality.

We've come a long way from a rotary knob with a click stop.
How much money should you spend on a serious hi-fi or audio-for-video system? The fact that you are reading a magazine devoted to good sound indicates that a much better question might be, "How much money can you spend?" Those with unlimited budgets can stop right here and proceed directly to the audio/video dealers of their choice. This investigation is for the rest of us.

"Budget," of course, implies different things to different folks, but it almost always means some choices, changes, or compromises. Even when you're working within a budgetary straitjacket, however, quality is one thing you won't want to compromise.

Consider a basic audio system in the under-$1,000 range. Such "starter" systems have an honorable history of several decades now. But doesn't the price of everything always go up, while quality moves in the opposite direction?

Not necessarily. A loaf of bread purchased during the Carter presidency cost less than half of what today's loaf costs, but an $800 hi-fi system bought today will almost certainly outperform its late-1970's antecedent by a wide margin. The credit for this goes largely to the compact disc, but advances in loudspeaker manufacturing, economies of scale around the Pacific Rim, and the fiercely competitive hi-fi market have all played a part.

BY DANIEL KUMIN
Suppose you decide on an $800 system composed of a pair of compact, two-way loudspeakers, an AM/FM receiver with 30 to 60 watts per channel, and a simple CD player. With careful in-store listening, shrewd shopping, and intelligent component choices, you could come up with a setup capable of remarkable musical realism at respectable volume levels.

What exactly would you be sacrificing? First, deep bass. If you shopped for accurate reproduction quality, your $300 loudspeaker pair is almost certainly a relatively small, two-way “bookshelf” model with one woofer and one tweeter per cabinet. (By all means avoid buying cheap four-way or—horrors!—“five-way” speakers. More drivers are not always better.) A compact two-way system can reproduce nearly the full range of music with excellent balance, good dynamics, open, airy sound, and convincing stereo imaging and localization. But it won’t do much with the bottom octave or so of the audio range, the deepest bass sounds; small (6- or 8-inch) woofers and compact enclosures just can’t reproduce those frequencies.

As a result, when you’re listening to full-orchestra works, the lowest notes of contrabassoons, contrabass tubas, and so on will be less solid than in real life, and big bass-drum strokes won’t have much impact. Pipe-organ pedal tones will get short shrift, too, as will deep-toned techno-pop synth-bass and synth-drum sounds and the very lowest notes of a jazz string bass or a pop bass guitar. While these elements will be audible, they’ll pack less of a punch at their fundamental tones.

The next sacrifice is in the loudness department. An $800 system’s compact speakers, driven by a small receiver with modest power reserves, simply won’t put out viscerally moving volume levels. Stepping up to a more powerful receiver will help, but remember that doubling the rated power buys you only 3 dB more in potential loudness—a very modest gain, about equivalent to turning up the car radio a bit to hear a news story more clearly. You’d need to move from perhaps 50 watts per channel to 200 watts or more for big gains in loudness—and then you’d reach (if not exceed) your small loudspeakers’ power-handling limits.

An alternative power source that does give you more for the money in some respects is the integrated amplifier—basically, a receiver without the radio sections. As a rule, an integrated amplifier will provide about 25 percent greater power than a comparably priced receiver. More significant, it will probably also offer more flexible switching, more inputs and outputs, and possibly somewhat higher overall quality. Another plus is greater upgrade flexibility. You can save up for a fine AM/FM tuner later on, or add a high-power amplifier and use the integrated amp as a preamplifier.

Finally, with a starter system you compromise on features and refinement. A $300 receiver is almost certain to omit such A/V features as surround-sound decoding and integrated video switching. It’s unlikely to have the world’s greatest tuner section, most flexible input-switching facilities, or fanciest tone controls, either. Similarly, a $200 CD player will employ a basic design without elaborate features or the most advanced circuitry.

All things considered, though, an $800 system can sound very good indeed—assuming your ears have led you to good speakers and you’ve selected appropriate associated gear.

Upgrades and Additions

If you suddenly inherit a big collection of LP’s, you may want to add a good turntable and phono cartridge to your system. A basic record-playing combo will set you back $175 to $250. A year or so down the line you ought to be able to move on to some true upgrades. You’ll probably want to start with bigger, better loudspeakers. For between $400 and $600, you can buy a pair of two-way or three-way speakers that deliver more overall oomph than your first pair—including
much of that missing deep bass. Move the original pair to another room for extension duties, or save them for rear-channel service with add-on surround-sound equipment.

Instead of altogether new speakers, you might consider adding a subwoofer to your original pair. You can even prepare for this upgrade option by making your initial speakers the satellites from a three-piece subwoofer/satellite system (if you can buy them separately). Satellites designed to be used with a subwoofer will be even more limited in deep bass than small full-range speakers, but many are quite listenable by themselves. In either case, a subwoofer is a $200 to $300 addition that can bring your speaker system very close to big-box, full-range status.

To transform this system into a fiscally rational but still impressive A/V surround-sound setup, add an integrated surround processor that includes built-in amplification for rear and center channels. Look for Dolby Pro Logic to bring movie-theater realism to your home video experience.

Remember that surround sound requires two or three additional speakers besides the main front stereo pair. If you decide on a four-speaker setup, using your original small speakers for the rear channels and simultaneously upgrading the front speakers makes a lot of sense. For a five-speaker Dolby Pro Logic configuration, add another speaker for the center channel; make sure it is acoustically well balanced with the main pair.

Now let’s assume that you want to buy a high-performance system right from the start, a system for the ages that should keep your ears happy long after the novelty has worn away. In a $1,500 system, the speakers will be larger than in the starter system, of course, with an extended low end, wider dynamic range, and greater power-handling ability. The receiver will represent a commensurate increase in power, being closer to 100 watts per channel than 50 watts. The CD player will be a more refined model boasting more features and higher performance.

If the components are well chosen, a system like this will deliver nearly full-range sound, including most of the deep bass, at volumes close to concert levels. It should also offer flexible input/output switching and considerable sound-tailoring features. What you won’t get is a tiny bit of the deepest bass and perhaps 6 dB of volume.

**Upgrades and Additions**

A CD changer of corresponding quality will give you multidisc extended play and set you back about $200 more than the single-disc CD player.

For about $300 more, you can substitute for the CD player a combi-player that handles all optical disc formats, including conventional laser videodiscs. If you see a home theater in your future, you should strongly consider laserdiscs. They’re by far the best all-round A/V source.

A home cassette deck is more necessity than option for many people, especially those who have serious cassette-based car stereo systems. Figure on spending $300 to $500 for an appropriate deck, depending on how critical a component you expect it to be.

If you started with the $1,500 high-performance system and took all of the upgrade and add-on options mentioned, you might end up with something like a $2,500 surround-sound system. The only real differences here are the inclusion of a combi-player at the outset, the selection of an A/V receiver featuring onboard surround-sound processing and power for four or five channels, and the addition of center-and surround...
S U R R O U N D - S O U N D  S Y S T E M

Floor-standing main speakers, $700 a pair
Center-channel speaker, $200
Surround speakers, $200 a pair
Audio/video receiver, $800
CD/laserdisc combi-player, $600
Turntable and cartridge, add $450
Cassette deck, add $500
DAT deck, add $750

$2500

Upgrades and Additions

Once again, a CD changer for con-
tinuous-play music is a good alternate
or add-on at $500 to $600. You may
also want to consider a top-notch turn-
table and cartridge combo; you'll
spend $400 to $500 on this. Finally,
check out a cassette deck, with some
extra features this time. Pick one with
Dolby C or Dolby S noise reduction to
make really good car tapes. The price
range is pretty wide, $400 to $850. For
a leading-edge system, a digital audio
tape (DAT) deck is the way to go, for a
cost of $700 to $900.

A $4,500 home-theater system
should combine genuine audiophi-
ophile performance with full-
bore ambience-enhancement
options. The controls are so-
phisticated, the features mani-
fold. Be warned, however: This level
is where you run smack into the law of
diminishing returns. Pick any compo-
nent from the list on the facing page;
you can spend twice as much without
getting something twice as good—or
anything near that. There comes a
point at which it requires exponential-
ly more money to achieve that last iota
of performance.

The quest for the hi-fi Holy Grail
can be great fun, provided you value
the process as much as the supposed
result. It is, however, a very expen-
sive quest, and only you and your
wallet can decide if you're going to
pursue it or just sit back and enjoy
your hard-earned system.

The power plant and control center
is a top-of-the-line A/V integrated
amplifier with Dolby Pro Logic decoding
and various other sound-field modes,
for about $950. Among its innumer-
able fancy features will be a full-system
"learning" remote control. Of course,
the amplifier will supply plenty of
juice—about 100 watts for each of the
main front channels and at least 50
watts for the center channel (prefera-
bly more). This should achieve realis-
tic concert or cinematic levels with
virtually any musical or A/V program
material, unless you need to fill an
exceptionally big room.

For radio listening, you'll need a
separate tuner ($350). You might also
consider one of the new generation of
top A/V receivers, which offer nearly
as much in terms of power, features,
and flexibility as an A/V integrated
amplifier for slightly less total cost
than an amp and tuner together.

An upper-range combi-player for
CD's and laserdiscs will feature so-
phisticated digital-to-analog conver-
sion technology, numerous video en-
hancements such as digital frame
memory for stills and effects, and extensive programming and convenience options. Figure about $900. And let's not forget $550 for a high-end analog cassette deck (add $200 more for a DAT deck instead). Pure video items such as a VCR and video monitor we leave up to you—this is about audio, remember?

**Upgrades and Additions**

There are not a great many upgrades and additions that make much sense for this super system. Still, there are a few possibilities you might explore, such as more sophisticated speakers. These might range from $1,800 a pair—the next level where you are apt to find perceptible progress—to $3,000 a pair or more.

Another option is separates instead of an integrated amp or receiver. Substituting a separate preamp, power amplifiers, a tuner, and an outboard surround processor will add anywhere from $500 to $1,500 to the total price tag. Combining a pure audio preamp and an outboard digital signal processing/surround-sound unit with video switching is even more expensive. A sensible middle ground is to mate an audio preamp and power amp for the main channels with a modest integrated A/V amp for both the surround processor and the surround channels.

Separates bring some real benefits, especially greater flexibility and easier upgrades. For example, increasing your power capabilities becomes a matter of replacing just one component, not the heart of your system. If you really need high power, say 200 watts per channel for your main speakers, separates are the only way to go. Aside from somewhat greater shelf-space demands, separates really have only one drawback: greater cost.

Another reasonable option is a powered subwoofer. Even many expensive, large loudspeakers don't reproduce the bottom half-octave, down around 20 to 35 Hz or so, with the visceral rumble of a first-rate cinema sound system. An active (amplified) subwoofer can convincingly rock your home for $500 to $1,000.

Our sample system configurations are just a handful from an infinity of possible scenarios, and they don't even include such useful accessory components as equalizers and headphones. Whether you set a budget ceiling of $800, $1,500, $2,500, or $7,613.79, you are virtually guaranteed to end up with more audible quality—rather than less—than you first expected. On the other hand, you're equally certain to discover that however terrific the budget-stretching $1,400 speakers you've settled on sound, the ones you really want are $1,850 a pair—and out of reach (for now). But that's the nature of the game.

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**HOME THEATER SYSTEM**

Floor-standing main speakers, $1,200 a pair
Center-channel speaker, $250
Surround speakers, $300 a pair
A/V integrated amplifier, $350
AM/FM tuner, $350
CD/laserdisc combi-player, $900
Cassette deck, $550
Substitute separate preamp, surround decoder, and power amps, add $1,000
Substitute better speakers, add $1,000
Powered subwoofer, add $700

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**UPGRADES AND ADDITIONS**

- Separate amps, preamp, and surround decoder, $1,000
- Better speakers, $1,000
- Powered subwoofer, $700

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STEREO REVIEW AUGUST 1991 59
Dorothy Jay had caught a glimpse of the 60 x 21 1/2 x 8-inch Infinity 9 Kappa speakers before they were installed in her New Jersey home, she would have blocked their entrance at the back door.

But cabinetmaker Frank Fischer, of F & W Woodworking in Brooklyn, made the speakers shrink, to the delight of both Mrs. Jay and her husband, Richard. Fischer visually lopped 6 1/2 inches off the width of each speaker by cutting holes the size of their grilles in the Jays' audio/video cabinet, thus making the speakers' bulky 3 1/4-inch solid-oak frames disappear into the Australian lacewood cabinet. The cabinet also houses the electronic components for a three-zone Audioaccess distributed-music system, a 50-inch rear-projection TV, and drawers to hold discs and tapes.

Larry Abrams, project coordinator of Audio Interiors in Hauppauge, New York, put the system together. It includes a Fosgate DSM-3610 surround-sound processor, the Pioneer Elite Pro-92 television, a Hitachi VT-3800a Super VHS VCR, a Philips CDV488 combi-player, and a Nakamichi CA-7A preamplifier, ST-7 AM/FM tuner, CDC-3A six-disc CD changer, and RX-202 cassette deck. Two remote Audioaccess PX-6 key-panel preamplifiers control volume and source selection outdoors and upstairs.

Abrams placed the components with convenience in mind. The four pieces requiring access to load tapes or discs are at the bottom of the stack in easy reach. The other components are controlled by a Mitsubishi universal remote. Five Adcom GFA-535 power amplifiers for center, surround, and remote speakers are behind the right Kappa 9 speaker, and a 225-watt-per-channel Nakamichi PA-7A power amp for the Infinity speakers is behind the equipment. The TV set's own speakers are used for the center channel, and additional speakers include two pairs of Polk AB-800 in-walls for the side and rear surround channels in the media room, a/d/s/c-400 in-walls for the living room, the dining room, and the master bedroom, water-resistant Boston Acoustics Model 325's in the master bath, and four University Sound Music Caster 100 outdoor speakers around the pool.

With system control possible both in the media room and through keypads in the remote rooms and outside, the Jays have the ultimate in audio/video convenience. Dorothy Jay is happy because "the speakers are camouflaged now, and they're not offensive." And Richard Jay is taken with the big picture. "He's been known to come back early from vacation to watch the TV," Abrams said.
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The celebrity snow bunnies are keeping a low profile in Aspen, Colorado this February morning. A quick look around the town turns up neither hide nor carefully coiffed hair of Goldie and Kurt, Don and Melanie, Sylvester, Vanna... not even so much as a glimpse of Hunter S. Thompson.

Also missing in action is singer-songwriter John Denver, now exactly one hour late for an interview at Pour La France cafe and bakery, a site he abruptly substituted at the last minute for the meeting place we had agreed on earlier, his Rocky Mountain High home in the exclusive section of Starwood. But then plans often go amiss in this former mining town now better known as a ski resort and playground of the rich and famous.

For example, Claudine Longet didn't really mean to fatally shoot her lover, pro skier Spider Sabich, here in 1976. (How embarrassing for the Andy Williams family Christmas specials!) Likewise, Gary Hart hadn't planned on getting that chummy with Donna Rice when they met here in 1986, nor did Ivana Trump have any intention of surrendering the Donald to Marla Maples when the three collided on the snowy slopes in 1989.

And, just as certainly, John Denver had no intention of running his brand-new Porsche off the road and crashing through somebody's fence the night before our interview, the reason he offers for being late when he finally shows up with his sixteen-year-old adopted son Zach in tow. But by this time Denver ought to know he has some kind of Tibetan curse where Porsches are concerned. He had another one, you see, but as one of the country's most famous environmentalists he'd been criticized for owning such an extravagant fuel-burner. So last year, dutifully calling it a "gas-guzzler," he got rid of it and bought a Jeep. It was just one way he could help the planet, he said at the time, along with washing his windows with vinegar instead of soap, installing low-energy lights in his house, and using cotton diapers for his new baby Jesse Belle, the product of his marriage to Australian actress Cassandra Delaney after his split from Annie, the first wife he long celebrated in song and whose side many Aspeners still take in the wake of a bitter divorce.

The Porsche flap grew out of the national howl that went up when Den-

"I have a vision of a better world, and I'm able to articulate that in my music."
ver planned to install several gigantic gas tanks on his various Colorado properties. He wanted them, he says, so he could buy gasoline in volume, in part to aid his Windstar Foundation, an environmental education and research center, and in part to offer lower gas prices to his employees. It was a perfectly fine idea, he thought, except the newspapers reported that the famous energy saver now had enough gasoline to drive his Porsche around the world twelve times. The accusation angered the normally mild-mannered singer, but it forced him to cancel the gas tanks to quell the public outrage.

Now that the controversy has died down, he has both one giant gas tank and a new Porsche—make that one slightly damaged Porsche—that he insists gets 20 miles to the gallon. People who drive luxury cars with no regard for fuel efficiency, he declares, should be taxed accordingly.

But, Denver adds, choosing a high-visibility seat in the muffin restaurant and registering his disappointment when the chef is unable to whip up an order of his beloved huevos rancheros, that isn't what he came here to talk about. He is far more interested in discussing his new album, "The Flower That Shattered the Stone," and why he believes this collection of mostly middle-of-the-road songs calling for global peace, love, and ecological reform will be the stepping-stone to a completely rejuvenated career.

"I think I'm going to have record success again," states Denver, who hasn't had a No. 1 single since 1975. "I'm singing better than ever before, and people are looking for something in our world that has to do with a better quality of life. I'm a positive person, and I have a vision of a better world, and I'm able to articulate that in my music. I have an audience all over the world. And I think when they hear this music, my success will be much larger than anything I experienced before."

It's not impossible for Denver and his keening tenor to come back in a big way, of course, but it is hard to imagine, as unlikely as, say, Helen Reddy's rising from the ashes to displace Madonna on the record charts. If it did happen, of course, it could be described only one way: "Far out." And, yes, the phrase still falls out of Denver's mouth from time to time.

But, at forty-seven, the singer's trademark granny glasses and mop-top hairdo are gone, replaced by a somewhat earnest expression and the trimmed-down features of a middle-aged man who pays attention to his body, even if he does veer off his macrobiotic diet "whenever a good taco walks by." Or, presumably, huevos rancheros.

But that's not all that's changed. At the height of his career in the Seventies, Denver was one of the top five record sellers in the history of the music business. His first greatest-hits album—there were eventually three—sold in excess of ten million copies, and tunes such as Rocky Mountain High, Take Me Home, Country Roads, and Thank God I'm a Country Boy were almost as familiar in Peking as in Peoria. Fourteen of his albums were certified Gold and eight Platinum.

Then, in the mid-to-late Eighties, Denver's career fell off with the momentum of a snowball descending Aspen Mountain, the victim, he says, of a changing of the guard at RCA Records, of the shift in interest of his manager at the time, Jerry Weintraub, from music to filmmaking, and of his own inattention to the egos of radio programmers while he was busy serving on President Carter's Commission on World and Domestic Hunger.

All of these factors—along with his penchant for being the kind of celebrity who spends more time trading jokes with Bob Hope than tending to his music—unquestionably contributed to his decline. Time spent using his status to further his many worthwhile activist and environmental interests may also have contributed. But even more damaging was the way Denver's bouncy, romantic hybrid of folk, country, and pop had begun to take a dreary turn toward MOR. And his image as a middle-class hippie—a man quick to reveal his as-
I want success to prove myself,
but I'm not going to sell my soul for it.
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The Heart, Wit, and Soul of Richard Thompson

If there were a Triple Crown in rock—for writing, singing, and playing—Richard Thompson surely would have won it at least once by now. From the beginning, with the seminal British folk-rock group Fairport Convention, through a duo period with Linda Thompson (then his wife), and over and over since then as a solo artist, Thompson has created a body of work that is unsurpassed for strong thought and stronger emotion. By pouring out his bittersweet heart, his sentimental soul, and his jaundiced wit—sometimes all at once—Thompson has made music with the depth and range of good fiction. In that sense his new album, “Rumor and Sigh,” is his latest book of short stories, filled with vivid characters and lively plots. But it’s also a damned good record, rich with melody and dazzling in its imaginative guitar work.

As a songwriter, Thompson gets typecast as a malicious brooder. The reputation is not entirely misplaced, since he’s written more than his share of unhappy-in-love songs, and “Rumor and Sigh” does serve up a few more portions of Thompson spite. Read About Love puts us inside the mind of an emotionally retarded man who only knows love from the perspective of Hustler magazine. You Dream Too Much is a nasty song about unrequited lust—“I thought maybe just one caress/She said you dream too much.” Surprisingly, Thompson flings his strongest bile at former British prime minister Margaret Thatcher, in Mother Knows Best, with such fury that he almost loses control of the song’s instrumental track. But there is light to balance the dark. God Loves a Drunk is drenched with sentiment about boozers, and his clear-eyed observations about sodden behavior make the song a wistful treasure. Psycho Street goes hilariously overboard by envisioning a middle-class neighborhood that would intrigue David Lynch with its combination of Welcome Wagon cheeriness and insane decadence.

Musically, Thompson is just as powerful, if not as wide-ranging. Except for a few trad-rock touches here and there—such as the jolly, accordion-rich Don’t Sit on My Jimmy Shands—he plays it straight. But Thompson gets more music out of the basic guitar, bass, and drums than most rockers because he’s such an expressive guitarist. Beyond the technical mastery he displays by rattling off twisted musical phrases and effortlessly shifting timbres in an instant, Thompson has the instinct to make every move count. No note, no hook, no arpeggio is more important than the emotion he’s trying to convey.

Come to think of it, the secret of Richard Thompson’s genius is simple: He’s great at everything he does. He’s a singer-songwriter-guitarist with all the right stuff. Forget the Triple Crown. Let’s put him in the Hall of Fame.

Ron Givens

RICHARD THOMPSON: Rumor and Sigh. Richard Thompson (vocals, guitar); other musicians. Read About Love; I Feel So Good; I Misunderstood; Grey Walls; You Dream Too Much; Why Must I Plead; 1952 Vincent Black Lightning; Backlash Love Affair; Mystery Wind; Don’t Sit on My Jimmy Shands; Keep Your Distance; Mother Knows Best; God Loves a Drunk; Psycho Street. CAPITOL © CDP 95713-2 (61 min), © 4TH-95713.

Inspired Elgar From Yehudi Menuhin

YEHUDI MENUHIN, now seventy-five, goes from strength to strength, no longer as a virtuoso violinist but as a conductor. His 1989 reading of the Elgar First Symphony on Virgin Classics was wholly convincing, and his new recording of the Second Symphony, again for Virgin, strikes me as the clearest and most powerful recorded version since the readings of Sir Adrian Boult. Menuhin’s Second is a bit leaner in texture than Boult’s were but immensely potent in its amalgam of architectural strength and profound lyrical feeling.

The first and last movements of the Elgar Second are every bit as difficult to bring off as the corresponding sections of the Mahler Seventh. The tex-
Menuhin: from strength to strength

THE term tour de force is one of the most overused in the critic's lexicon, but it's the only way to describe "Peggy Suicide," the mammoth new release by Julian Cope. In the old days of thick vinyl slabs and heavy cardboard sleeves, this would have been a double-disc package; you would have lugged it home and had a sore arm as evidence of its weightiness. The eighteen-song, 76-minute set fits neatly, however, on one shiny little CD (the cassette contains an extra song), which conveys no sense of the arduous, extended nature of the album.

In fact, "Peggy Suicide" is nothing less than a rock-and-roll rendering of the Gaia Hypothesis, the theory that the earth's biosphere is a single living entity, and a black-humored catalog of human folly in threatening that entity's survival. It's a lot more than that: musings on sanity, a dialogue between the "conscious" and "unconscious" mind, even a few uncomplicated love songs.

Although Cope has parceled the songs into four "phases," the album is not exactly a tidy, pseudo-classically organized affair like the Who's "Tommy," nor is it meant to be. Cope has made highly polished records in the past; this one is earthy. Unvarnished by studio trickery, his vocals have a first-take quality. If he strays off-key or sings in a ragged way, it's left in. The guitar work is similarly rough-hewn and improvised, scraping against the walls of reality like some of the Velvet Underground's epic raveups.

A delightfully imaginative British eccentric in the grand tradition of Syd Barrett, Kevin Ayers, and Brian Eno, Cope gravitates toward bluesy, long-form psychedelia in "Peggy Suicide." What keeps his kite from tearing loose and floating away is his grounding in the more succinct song structures of pop, the evocative type practiced by pioneers of the late Sixties. If You Love Me at All, for instance, is reminiscent of one of Randy California's wilder guitar-vocal sprees with Spirit, and Double Vegetation, with its Hey Joe-style changes and hypercharged guitar solos amid howls of pain and illumination from the singer, could have been just about any old Sixties garage band's glorious, hallucinogenic glimpse into deep space.

Cope celebrates his own inspired dementia, defending it as a higher form of sanity, in Hanging Out & Hung Up on the Line and its companion piece, Hung Up & Hanging Out to Dry. Slippery, underwater guitars and early-Pink Floyd keyboards set the scene for Not Waving but Drowning, based on the apparently true story of a kid who slid off the deck of a ferry while tripping on LSD and was never seen again. Head offers the casual observation, "I can feel my head exploding now." Much of "Peggy Suicide," however, is topical and specific in nature. Some of it is impenetrably British, but that shouldn't prevent anyone from enjoying the music or Cope's angry disenchantment. Soldier Blue, for example, was inspired by the British authorities' repressive behavior during the riot against the poll tax last year.

Menuhin: from strength to strength

Julian Cope's
Planetary Consciousness

STEREO REVIEW AUGUST 1991
Later, Cope offers two songs about the madness of human dependence on automobiles, *East Easy Rider* and *Drive, She Said* (Cope himself pedals around London on a bicycle, wearing a gas mask). *Safesurfer*, a long, feedback-filled guitar raga, evolves into a portentous warning about HIV transmission, sung in the voice of a sex-hungry deceiver: “You don’t have to be afraid, love, ’cause I’m a safe surfer, darlin’.” All of these perils are summoned to call attention to the plight of “Peggy Suicide,” Julian Cope’s personification of a threatened planet, which he describes as an “enormous Mother Earth... standing at the very edge of the highest cliff of Infinity./She has taken all she can—and is about to leap off.”

**JULIAN COPE: Peggy Suicide. Julian Cope (vocals, electric and acoustic guitars); other musicians. Pristine; Double Vegetation; East Easy Rider; Promised Land; Hanging Out & Hung Up on the Line; Safesurfer; If You Loved Me at All; Drive, She Said; Soldier Blue; You...; Not Waving but Drowning; Head; Leperskin; Beautiful Love; Western Front 1992 CE; Hung Up & Hanging Out to Dry; The American Lite; Las Vegas Basement; Upright (tape only). ISLAND ® 422-848 388-2 (76 min), © 422-848 388-4.**

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**Järvi’s Irresistible Shostakovich**

Of all the symphonies of Shostakovich, No. 11, brought out in 1957, perhaps most clearly claims the character of a chronicle; even more than his two big wartime symphonies, Nos. 7 and 8, it is a narrative work, addressed to his compatriots in a language they in particular would grasp. The Eleventh bears the subtitle “The Year 1905” and ostensibly memorializes that year’s abortive revolution in the composer’s own country, but the actual motivation for this kind of symphony surely came from the similarly ill-fated Hungarian uprising of 1956. None of this, of course, can insure the quality of the music, which may be judged in this case on the strength of Shostakovich’s success in utilizing what he himself described as his “most Mussorgskian” approach to symphonic writing. In any event, this big symphony has been receiving more attention in the last few years than in the preceding thirty, in recordings as well as in our concert halls, and the latest of them, a Deutsche Grammophon release with Neeme Järvi conducting the Gothenburg Symphony Orchestra, makes the strongest case yet for the work, surpassing at last the first stereo version, Capitol’s 1958 showpiece with the Houston Symphony Orchestra under Leopold Stokowski.

Järvi has recorded eight of Shostakovich’s fifteen symphonies, No. 1 and Nos. 3-10, with the Scottish National Orchestra for Chandos, but he is apparently completing the cycle with his Swedish orchestra for DG, on which label he has already given us a splendid account of No. 15. The American conductor James DePreist, with another orchestra in the same general neighborhood, the Helsinki Philharmonic, created a bit of a stir with an Eleventh for Delos in which the tempos are extremely deliberate and the silences are quite dramatic in their underscoring of the intensity, but it is a risky view of the work that will not register positively with every listener. Järvi achieves even more in the way of intensity and sustains that effect with a very sure sense of momentum. His overall approach is closest to that of Kiril Kondrashin: straightforward, flowing, unfussy, resisting what must be powerful inducements to abandon oneself to outsize rhetoric with the certainty that the symphony is big enough without such indulgence. Järvi brings the score to life with conviction and in wholly musical terms, allowing the “chronicle” aspect to take care of itself—which it does with irresistible impact.

Stokowski’s recording ought to be restored to the CD catalog, and I’m glad to have DePreist’s version as a provocative alternative view. But it is Järvi that is the all-around most persuasive account of the Eleventh Symphony, that makes it a richer and more varied and more consistently moving
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1024 & 1030 6th AVENUE, NEW YORK THE LARGEST SELECTION UNDER THE SUN
PAULA ABDUL: Spellbound. Paula Abdul (vocals); other musicians. The Promise of a New Day; Rush House; Rock House; Spellbound; Vibeology; U: My Foolish Heart; and four others. VIRGIN © 2-91611 (49 min), © 4-91611.

Performance: Stylish
Recording: Very good

“Spellbound” is a stylish, sassy album from a singer who’s grown by leaps and bounds since her debut album, “Forever Your Girl,” made news for its statistical feats—10 million copies sold, four No. 1 singles. But the songs and performances in “Forever” were as thin as the attention span of the buying public, and its success had more to do with choreography, videography, and programming than musical worth. “Spellbound” deserves to outsell “Forever Your Girl!” simply because it stands on its own as music, with or without visual embellishment.

Paula Abdul has enlisted a fine team of collaborators here—the Family Stand, a Brooklyn-based funk-rock outfit whose members produced and wrote (or co-wrote) eight of the eleven songs. They give her a firm, substantial foundation of sharp, hip grooves for her to attitudinize over and melodic ballads for her to sing. And sing she does. The brief flourish of Milli Vanilli-type controversy regarding her vocals should be laid to rest after Blowing Kisses in the Wind, a truly brazen performance of a sultry, lovely song about unrequited longing.

Despite some gimmicky effects in Spellbound (cheesy sci-fi synth riffs), Vibeology (a silly sex-sounds interlude), and Rock House (mock-angry rap, “To the critics on my jock/Shut up and dance!”), all three songs are propulsive funk workouts that never let up in energy or ideas. Abdul also works with (and borrows from) Prince, who contributed and produced the song with the shortest title in history, U, a snazzy, urbane come-on. Abdul sings the opening track, an uplifting shot of positive thinking called Promise of a New Day, with Princely conviction, and the closing number, Will You Marry Me, tumbles headlong into a marriage proposal, a sentiment often expressed (but not yet acted upon) by the Purple One. Even the ubiquitous Don Was weighs in here, producing Abdul’s interpretation of a John Hiatt (!) song, Almost Tonight.

With “Spellbound” Abdul enters the upper echelon of contemporary r-&-b trailblazers. She has become not only a profitable commodity but an artist, and this album represeins the state of the art in urban contemporary pop.

BO DEANS: Black and White. Bo Deans (vocals and instrumentals). Good Things; True Devotion; Black, White and Blood Red; Paradise; Any Given Day; Forever on My Mind; and six others. SLASH/REPRISE © 26487-2 (48 min), © 26487-4.

Performance: Good, but...
Recording: Very good

The Bo Deans’ fourth album raises a confusing question about their direction. Namely, are they a “roots” band or a “contemporary pop” band? The sweetly old-fashioned “Black and White” has an alluring quality, but it’s also strong, though the production is fussy. Almost all the other songs, however, are dressed up in sterile Sunday best—which, as any rock-and-roll knows, looks laughably out of place on Saturday night. Black, White and Blood Red, for instance, sounds like a techno-pop version of Eight Miles High, and Paradise and Any Given Day, both good songs, are weakened by bouncing-ball keyboards. The bottom line is that these guys need less, not more, assistance in the studio—that is, a producer who’ll turn on the tape recorder and then go out for a beer while they have a little unpretentious fun with their music.

ELVIS COSTELLO: Mighty Like a Rose. Elvis Costello (vocals, guitars, keyboards, bass); other musicians. The Other Side of Summer, Hurry Down Doomsday (The Bugs Are Taking Over); How to Be Dumb; All Grown Up; Invasion Hit Parade; Harpies Bizarre; After the Fall; and seven others. WARNER BROS. © 26593-2 (54 min), © 26593-4.

Performance: Dense
Recording: Fair

Anyone who caught Elvis Costello’s performance on Saturday Night Live last May probably did a double-take. The one-time Prince of Punks sported a rabbibinal red beard, long braided hair, and a spreading middle. Appearances don’t deceive; you can hear evidence of musical bloat and wordy excess in his new album, a slow-going, nearly hour-long obstacle course that will derail all but die-hard Costellophiles.

The obsessiveness that fueled his early albums has lately acquired a dense,
sinking gravity to it. Whereas Costello’s rage and contumely cut to the bone in 1977, now they say under the weight of a compulsive abstruseness, giving the impression of a street-corner fanatic belowing conspiracy theories. These days Costello doesn’t so much create songs as pass them like kidney stones. It doesn’t help that the new recording makes his voice sound parched and flat, nor is it a boon that he’s taken up with sundry California studio pros whose well-tempered playing is a far cry from the Attractions inspired mayhem.

At the same time, there is method to Costello’s madness, and the album coheres, oddly enough, around some of its most difficult compositions. All Grown Up boasts a subtle, swelling string-and-woodwind arrangement, and trumpet, grand piano, and chamberlain decorate Invasion Hit Parade. A woodwind quintet and harpsichord create a rarefied air in Heres Bizarre as Costello skewers the courting rituals of the bourgeoisie. Counterpointing these is the relatively uncluttered, confected pop of So Like Candy and Playboy to a Man, collaborations with Paul McCartney, and The Other Side of Summer, in which Beach Boys-inspired music washes over a typically splenic, impenetrable lyric.

The payoff of making it through this fourteen-song maze is Couldn’t Call It Unexpected No. 4, which exemplifies all of the virtues of a well-crafted song. The lyrics are deep, not unreachable, the music, set in waltz time, is ingenious, not stridently clever. One can identify with it emotionally as well as intellectually. As for the album as a whole, it is difficult to form a final opinion. Some may consider it Costello’s most ambitious work since “Imperial Bedroom.” Others will find it as convoluted as “Goodbye Cruel World,” his worst album. In a way, both views are right. P.P.

CYCLE SLUTS FROM HELL. Cycle Sluts from Hell (vocals and instrumental); B. Gustafson (guitar). Conquerers, By the Balls; Queen High Love; Dark Ships; I Wish You Were a Beer; Soultaiker, and five others. Epic/ASSOCIATED © ZK 46123 (39 min), © ZT 46123.

Performance: Quaint Recording: Good

Well, what have we here? At first it appears to be an all-girl band with a twist. Then it appears to be an all-girl band with a twisted sense of humor, all decked out in dark make-up and leather and lace bodices for an Elvira Rides with the Hell’s Angels look. But then we find it isn’t really an all-girl band at all—there’s someone named Lord Roadkill, who could be a Cycle Slut from Hell but looks suspiciously like an Alice Cooper also-ran.

It’s hard to tell whether the Cycle Sluts actually play in this send-up of heavy metal, since the CD booklet doesn’t say exactly which instruments, if any, they favor. But apparently Lord what’s-his-name writes the music, and the Sluts—whose such quixotic names as Venus Penis Crusher, She-Fire of Ice, Queen Vixen, and Honey 1%er—pen the lyrics. And what poetry they are, sweet nothings like, “You got outta line/Giving me a hard time/Gotta real bad temper/And a real good grip/By the balls/By the b-b-b-b-b-b-balls.” With such homey sentiments as that, does it matter that the music itself is actually mild, if rudimentary, fun—kind of Sixties girl-group stuff on overdrive—and that the vocal blend is styled after the group-shout of the Village People? Well, probably not.

You might not want to invite the Sluts over to meet the folks, but their album will make an energetic backdrop for your next Dungeons and Dragons tournament. Oooh, Mama! A.N.

ICE-T: O.G. (Original Gangster). Ice-T (rapper); others. Home of the Bodybag; First Impression; Ziplock: Mic Contact; Mind over Matter; New Jack Hustler; and eighteen others. SIRD/WARNER BROS. © 26492-2 (73 min), © 26492-4.

Performance: Relentless Recording: In your face

Profanity issues from rapper Ice-T’s lips not only in measured dribs and drabs but in scalding torrents. But because the emotions behind it—the rage, contempt, and intent to offend and arouse—are so deeply felt, you never become numbed. Ice-T is as hard-core as this stuff gets. His tales about criminality and gang warfare have not been sanitized on their way from the streets of South Central L.A. People die in that climate of violence and despair, and he describes the look and sound of it without sentimentality. The horror isn’t swept under the rug; rather, it hangs off the end of the fork for all to see (to borrow an image from William Burroughs’s novel Naked Lunch).

“O.G. (Original Gangster)” is an uncut double dose of gangster rap, rock, and r & b from those mean streets. Midnight, for instance, is as harrowing a tale of gang war as has been told in any medium. Against a backdrop of gunfire and sirens, Ice-T raps in lightning-quick, no-nonsense rhymes that cut to the bone with their lack of pretense or apology. He obsesses over the prison of the streets and the bars of a real prison, making entrapment in one or the other seem inescapable in the stacked-deck world he inhabits. Just check out the way the street-criminal, mind-of-a-lunatic rap Pulse of the Rhyme dissolves into the repulsive racial violence of The Tower, about the reality of prison life. No, this isn’t a “party” record, although the beats and samples make it hard to sit still. There’s no happy ending, no ray of hope or false assurance that things will get better, just the realization that to address the mess of inner-city turmoil and racial strife, we must first face their reality without flinching. P.P.

B.B. KING: Live at the Apollo. B.B. King (vocals, guitar); Gene Harris and the Philip Morris Super Band (instrumentals). When Love Comes to Town; Sweet
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Eric Andersen

The singer-songwriter Eric Andersen's promising career was more or less put on hold in 1973 when the tapes of his second album, "Stages," were apparently lost on the way from the Nashville studios where he recorded them to Columbia Records headquarters in New York. Considered in a league with Jackson Browne, Joni Mitchell, and James Taylor after his previous album, "Blue River," Andersen missed a crucial chance to break out of country-folk into the mainstream. Although he recorded several of the "lost" songs for Columbia, they do. The production values do seem dated at times, just as Andersen's baritone seems more immature than I remembered it, but the songs prove again why the singer-songwriter movement was potent enough to move a whole generation. As with "Blue River," Andersen's strength in the "lost" songs is his sense of emotional turmoil and urgency, his preoccupation with finding a romantic love that can endure the friction and wear of time.

In song after song in "Stages," Andersen examines the torment in his search for a union that is at once fantasy and reality, perfection and comfort. He employs cautious optimism and grace in three stand-out introspective ballads, Time Run Like a Freight Train, Be True to You, and Woman, She Was Gentle, that survive the shift of musical styles through the years unscathed. So, oddly enough, do two songs that are strongly connected to a specific time and space: Wild Crow Blues, a vignette of Patti Smith and the Chelsea Hotel avant-garde in the late Sixties and early Seventies, and the rocking I Love to Sing My Ballad, Mama (But They Only Wanna Hear Me Rock and Roll), a tongue-in-cheek description of audiences Andersen faced when he toured with the Byrds.

The first of many surprises with the new material is that Andersen now sings in a voice far richer and rougher than his old one. The second is that he's grown into a writer who no longer shades his lyrics with enigmatic phrases but lays eternal truths out on the table, particularly in Make It Last (Angel in the Wind), a Dylanesque effort featuring back-up by Rick Danko and Garth Hudson of The Band. This and the other new songs, Lie with Me and Soul of My Song, not only bring the body of Andersen's work full circle but vindicate his image as a performer who never quite came into his own. Brimming with power and redemption, they reveal an artist who may now find the financial and critical rewards he deserves.

At the end of the decade, as Suzanne Vega and Tracy Chapman began to win a new audience for contemporary folk music, Andersen recorded his first American release in years, "Ghosts Upon the Road" (for Gold Castle), and saw Columbia release his early work on CD. And then the tapes for "Stages," as mourned and celebrated in some circles as lost music by the Beatles, were finally located in Columbia's vaults. Remastered for CD, with three additional tracks of new material, "Stages—The Lost Album" has been released at last.
LUTHER VANDROSS: Power of Love. Luther Vandross (vocals); vocal and instrumental accompaniment. *She Doesn't Mind; Power of Love/Love Power; I'm Gonna Start Today; The Rush; I Want the Night to Stay; Don't Want to Be a Fool* and four others. Epic ® EK 46789 (56 min), © ET 46789, © E 46789.

Performance: His silken best Recording: Very good

The extraordinary popularity Luther Vandross has sustained over the past ten years is a testament to the durability of sweet soul singing in a decade dominated by rap and raunch. By eschewing gimmicks, sticking to his strengths, and his most distinctive songs, he and co-producer Marcus Miller have given them spicier rhythms and more imaginative vocal and instrumental settings than in the past. The opener, *She Doesn't Mind*, comes pulsing out with a beat that intoxicates even before Vandross opens his mouth, and the title medley, *Power of Love/Love Power*, has a spirited gospel touch and an all-star back-up group that includes the likes of Cissy Houston, Tawatha Agee, and Lisa Fischer.

There are also plenty of those delicious romantic ballads that Vandross sings better than almost anybody. The best original ballad is *I Want the Night to Stay*, but it pales beside the brilliant refashioning of Jerry Leiber and Mike Stoller's often-covered *I Who Have Nothing*. An introductory saxophone solo by Kirk Whalum establishes a lush mood before Vandross pairs his silken baritone with the comparably luscious voice of Martha Wash (formerly of the Weather Girls and Two Tons of Fun). Wash is a perfect match for Vandross, and as they intertwine their voices, toying with the emotions as well as the words, they turn the song into an unforgettable slow burner. It's the perfect conclusion for the best album Vandross has ever released. 

JAZZ


Performance: Keyboard orgy Recording: Good remotes

For the past six years, New York's 92nd Street YMHA has presented a series called “Jazz in July” whose artistic director is the pianist Dick Hyman. Hyman readily admits to being biased toward his own instrument, and that preference is clearly reflected in this delightful new album of live recordings. Made between 1985 and 1988, they feature Hyman and fellow pianists Marian McPartland, Dick Wellstood, Ralph Sutton, Derek Smith, Roger Kellaway, and Jay McShann. The "significant others" include cornetist Ruby Braff, bassist Milt Hinton, and singer Carrie Smith. It all adds up to 70 minutes of high-caliber keyboard artistry in a diversity of styles ranging from Sutton's stride to McPartland's delicate modernism. There are also superb, often whimsical collaborations between Hyman and Smith, Sutton, and Wellstood (who died not long after his 1987 performance). I don't wish to take anything away from the five white players who appear on this truly precious release, but I find it extraordinary that only one of the pianists, Jay McShann, is black. There is no dearth of excellent African-American pianists in New York, so the omission is baffling, to say the least. Let's hope that the Y's 1990's bookings are more representative of what New York has to offer. 

SUGGESTED READINGS

86 SUGGESTED READINGS

STEREO REVIEW AUGUST 1991


Bird Lives

No question about it, Charlie "Yardbird" Parker was the pivotal figure of bebop, the "modern" jazz style that challenged tradition in the post-war years. When Parker died in 1955, he was only thirty-five years old. His early death, together with the enormous impact his music had already had on jazz, immediately made him a legend, the first such jazz figure since Bix Beiderbecke. Unlike Bix, who died in 1931, "Bird" spent his most productive musical years in an age when technology allowed recording activity to stretch beyond the authorized, planned studio session. Accordingly, he left behind a seemingly inexhaustible legacy of private recordings. Combined with commercial releases and the inevitable alternate takes, these make up a Charlie Parker library so voluminous as to rival the average jazz record collection.

The latest addition to the ever-growing library of unofficial Parker documentation is an authorized release on Mosaic of the so-called Benedetti recordings. Dean Benedetti was an alto saxophonist and fanatic Parker fan who in the late Forties followed his idol into clubs, armed with a recording machine and a determination to leave no Parker note behind. Unfortunately, Benedetti was less interested in the work of Bird's co-musicians, so he was loathe to waste acetate-disc space on them. Consequently, the new Mosaic CD set consists of 278 highly fragmented tracks that add up to more than seven hours of bits and pieces—Bird droppings, if you will. Many of these snippets capture engaging streams of improvisation that will prove invaluable to the serious Parker scholar, but there is also great excess here. Most of the longer tracks have neither a beginning nor an end, but they do at least contain performances that are worthy of a jazz fan's attention.

What really mars the release is the inclusion of extraneous material that adds nothing to our understanding of Charlie Parker's music, including a 19-minute collage of Benedetti's home recordings (a passing train, rehearsing on his alto, reading a letter to his mother, etc.) and ridiculously brief snatches of Parker, ranging in length from 3 to 13 seconds. For example, there's 8 seconds of Night and Day, 5 seconds of what is "probably" Stardust, 6 seconds of what is "possibly" Stardust (note the variation), a 5-second "ending of unidentified tune," and so forth. That's like uttering "years ago" and calling it "possibly The Gettysburg Address." Even so, "The Complete Dean Benedetti Recordings of Charlie Parker" is a misnomer, for portions of the original acetates were too damaged to be included. Why include meaningless scraps?

Mosaic's catalog is rife with "Complete" titles ("The Complete Candid Recordings of Charles Mingus," "The Complete Blue Note George Lewis," etc.). Clearly, the idea was to continue the concept with the Benedetti recordings, but this is an obvious case of a release falling victim to its title. Don't get me wrong, there is a great deal of wonderful music here, a real feast for the serious Parker fan, but a sensibly selective approach would have yielded a more listenable, and more affordable, five-CD set. Price is an important consideration, because this is not the kind of album you buy for pure listening enjoyment; you don't slip these discs into your player if you wish to relax with a significant other. It is decidedly a set for musicians, scholars, and must-have-everything collectors. If you wish to acquaint yourself with Charlie Parker's music and don't care if he wore red socks to the studio, ate a blueberry muffin for breakfast, or borrowed a chord pattern from the Baroness Koenigswarter's upstairs maid, I suggest you pick up some of his commercial releases.

In an attempt to re-create the chronology of the original recordings, the 278 tracks in the set are grouped into 64 "sections," but the accuracy of this arrangement is highly questionable, as is its importance. I could go on about the negative aspects of the album's packaging, but I don't wish to discourage the effort as a whole. There is plenty of good, listenable music here, fine Parker work extracted—sometimes in a crude, abrupt manner—from group performances that one wishes had been preserved from beginning to end. Not everyone will be able to adjust to the inferior sound quality, and the fragmentary nature of the recordings limits the audience to which they will appeal, but Parker's stature earns these discs a prominent place in the documented history of American music. The accompanying illustrated, forty-eight-page booklet is not all trivia. Parts of it are actually well written and sensibly focused, including an informative essay on Benedetti by co-producer Bob Parker and interesting notes on the music by Jim Patrick.

Chris Albertson

CHARLIE PARKER: The Complete Dean Benedetti Recordings. Charlie Parker (alto saxophone); other musicians. September in the Rain; Big Noise; Past Due; The Man I Love; Dee Dee's Dance; Big Foot; All the Things You Are; Out of Nowhere; My Old Flame; Bird Lore; Little Willie Leaps; This Time the Dream's on Me; The Way You Look Tonight; How High the Moon; Chasin' the Bird; Dizzy Atmosphere; Night in Tunisia; and 261 others. MOSAIC 129 seven CD's (430 min). Mosaic Records, 35 Melrose Place, Stamford, CT 06902.
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BACH: Concertos for Violin and Orchestra in A Minor (BWV 1041), E Major (BWV 1042), and G Minor (trans. from BWV 1056). Concerto for Two Violins and Orchestra in D Minor (BWV 1043). Pinchas Zukerman, José-Luis Garcia (violin); English Chamber Orchestra, Pinchas Zukerman cond. RCA VICTOR © 60718-2-RC (59 min), © 60718-4-RC.

Performance: Grand
Recording: An earful

BACH: Brandenburg Concertos Nos. 1-6 (BWV 1046-1051); Suite No. 2, in B Minor, for Flute and Strings (BWV 1067). Josef Suk (violin); Jill Valek (flute); Suk Chamber Orchestra, Josef Suk cond. VANGUARD © OVC 7002/3 two CD's (118 min).

Performance: Cool, detached
Recording: Clear

Faced with the overwhelming trend toward period instruments, what should a musician trained on nineteenth-century instruments and instrumental technique do about eighteenth-century music? Same as always? Retool? Avoid the early stuff?

The problem is particularly acute for violinists and violinist-conductors like Pinchas Zukerman and Josef Suk, who direct chamber orchestras whose repertoire rests on eighteenth-century foundations. Essentially, Suk—in his playing and conducting—takes the clean, Classical approach, a sort of modernist Anti-Romanticism on “Romantic” instruments. Zukerman, on the other hand, remains true to his own training in the Russian Romantic school and simply finds a way to make it work for Bach.

I prefer the Zukerman approach: long line drives, crescendos and decrescendos, strong pacing from start to finish, big phrasing and deep breathing. Suk is too cool, too detached; anything he can do sounds better on early instruments. Zukerman is doing what he does best and using it to illuminate Bach. Illuminate it as he does. In fact, who’s to say that much of this isn’t perfectly good performance practice? My guess is ol’ Johann Sebastian would have loved it.


Performance: Bartók outstanding
Recording: Very good

Gidon Kremer and Martha Argerich do not seem to approach Bartók’s First Sonata quite with absolute unity of mind and purpose. They give us something perhaps rarer and more stimulating—the phenomenon of two very strong personalities pulling each other in new directions, each taking risks, each responsive to the other’s provocative ideas, each in turn building on the other’s last thought and feeding into the joint realization higher levels of intensity, excitement, and outright revelation than any pre-formed unanimity might have generated.

The work responds to this sort of impulsion especially well. Here it blazes in the outer movements, glows in the middle, and leaves one with the exhilarating feeling of discovery.

I have some reservations about the treatment of the Janáček sonata, as its more reflective passages tend to be rather overwhelmed by the white-hot intensity, but it is a stunning performance by any standards and certainly commands one’s attention. Messiaen’s early (1932) and very brief (7½ minutes) Theme and Variations is hardly representative of its composer on anything like the level of the Bartók and Janáček sonatas, and it does not seem to summon forth the same sort of commitment from the performers. It is an imaginative make-weight, though, and far more persuasive here than in its one current alternative reading. All three works are effectively recorded.

R.F.


Performance: Four out of five
Recording: Very good

The Tokyo String Quartet has been recording since 1973 but is only now getting around to Beethoven, initiating a complete cycle of that composer’s quartets with this set of those from his middle period. It is an old-fashioned approach to recording but one that makes great musical sense: bringing to the project interpretations seasoned by years of performing Beethoven cycles in the concert hall (with a couple of personnel changes along the way). It is the way nearly all recordings used to come about, but the principle of living with the music before committing a performance to the permanency of recording is no longer the rule. What the Tokyo Quartet has to say about Beethoven may not be exactly revelatory, but it is presented with the unfailing taste and assurance we have come to expect from this foursome.

STEREO REVIEW AUGUST 1991
One may want more than taste and assurance in these powerfully expressive works, of course, and more is indeed delivered in four of the five performances. The one disappointment, to my ear, is the first “Rasumovsky” Quartet, in F Major. For direct appeal and warmth of heart, few string quartets by any composer can match this work, it is music that simply embraces the listener. The Tokyo players, perhaps overly concerned about keeping its emotional expressiveness within bounds, seem reluctant to allow it to do more than bow. The cellist in particular is too reticent by half, both in his big opening gesture and throughout the work.

The four remaining works, however, are charged with an enticing sense of involvement and communicativeness. In all of them the players respond with appropriate urgency, passion, and wit.

There is no delimiting understatement in the second and third quartets of the “Rasumovsky” set. There is, in fact, a dazzling realization of the range of colors and moods in the C Major, and in the projection of the old Russian tune Slava that serves as trio to the scherzo of the E Minor there is the sort of(new?) possible only within the framework of instinctive elegance this group always brings to its musicmaking. The same factor makes the terse power of the F Minor especially convincing by absolutely ruling out the possibility of histrionic excess.

The most persuasive of the five performances is the one of the E-flat Major, Op. 74. The particular strand of expansive lyricism that sets this work apart from Beethoven’s other quartets happens to make it the best suited of all to these players’ performing style. It fairly glows for them, just as one might have hoped the F Major would. Throughout the set the recording presents a balance of warmth and clarity of detail that is particularly effective in creating a near-ideal chamber-music ambience. R.F.

**BRAHMS:** Piano Concerto No. 1, in D Minor, Op. 15; Tragic Overture, Op. 81. Horacio Gutiérrez (piano); Royal Philharmonic Orchestra, André Previn cond. Telarc CD-80252 (64 min).

Performance: Stimulating Recording: Excellent

Like Peter Donohue and Evgeni Svetlanov, whose enlivening Angel recording of the Brahms D Minor Concerto was reviewed here last March, Horacio Gutiérrez and André Previn, who seem to have developed an exceptional rapport, eschew traditional gestures in favor of a stimulating, refreshing approach to the work, free of anything hinting at bluster. They are broad and expansive, yet remarkably fluid in the first two movements—Gutiérrez spinning out the end of the adagio with a Chopinesque intimacy and delicacy—and especially bracing in the finale. The richly enjoyable performance benefits from an aural frame in which the piano and orchestra are especially well balanced, and the overall sound quality equals the finest yet achieved on this label.

Previn’s reading of the Tragic Overture is by no means a mere makeweight. Like the concerto, the piece is taken expansively but with a sure sense of dramatic momentum. In both its breadth and thrust it is thoroughly and engagingly Brahmsian, and again the excellent recording makes the most of the score’s distinctive coloring.

**BRUCKNER:** Symphony No. 4, in E-flat Major (“Romantic”). Vienna Philharmonic Orchestra, Claudio Abbado cond. Deutsche Grammophon 431 719-2 (69 min).

Performance: Richly satisfying Recording: Resplendent

This appears to be Claudio Abbado’s initial excursion into the major Bruckner symphonies, and it is a splendid success. Riccardo Muti’s Berlin recording for Angel brought a distinctly Italianate element to the score, and there is a touch of that with Abbado, too. He provides flexible phrasing for the lyrical matter of the first and last movements and avoids rigidity in the somberly processional slow movement, yet he preserves the essentially Austrian character of the music. The famous “hunting” scherzo comes off with both brilliance in its outer sections and tenderness in the trio. (The Nowak edition, with the return of the opening horns and mandolin, is used.) The most interesting aspect of Abbado’s reading is that it relates the music as a whole more to the youthful Bruckner symphonies than to the cyclopean Seventh, Eighth, and Ninth—all to the good, I say. The Vienna Philharmonic plays gorgeously, and the sound is as brilliant and full-bodied as one could wish. This is the best all-digital Bruckner Fourth that has come my way thus far.

**D.H.**

**DIAMOND:** Elegy in Memory of Maurice Ravel (see RAVEL)

**ELGAR:** Symphony No. 2 (see Best of the Month, page 67)

**JANÁČEK:** Violin Sonata (see BARTÓK)

**MAHLER:** Symphony No. 7, in E Minor; Kindertotenlieder. Jessye Norman (soprano); Boston Symphony Orchestra, Seiji Ozawa cond. Philips 426 249-2 two CD’s (106 min).

Performance: Songs better Recording: Songs better

The first and last movements of the Mahler Seventh, the least recorded of his symphonies, present real problems in terms of communicating a coherent structure for the work as well as in conveying its musical substance in convincing fashion. Seiji Ozawa and the formidable Boston Symphony provide a sound enough reading here, but it lacks the magic of those by Leonard Bernstein with the New York Philharmonic and Claudio Abbado with the Chicago Symphony, both of whom brilliantly captured the ebbs and flows of this kaleidoscopic work.

I am not happy with some of the balances in the Ozawa recording. “Nature bellows,” observed Mahler of the striking tenor-horn solo that ushers in the first movement. It certainly does so here, to an untoward degree; the instrument seems rather too much front and center. I am also bothered by the center-stage timpani, which seem overly forward and too resonant at times, making the introduction to the recurrent rondo fanfare in the final movement sound less cleanly articulated than it should be.

Ozawa brings off the middle movements decently, but the dialogue for nearby and distant horns is no match for what Abbado accomplished in Chicago. And neither Ozawa nor anyone else has yet matched Abbado’s incredible performance of the spooky scherzo. Ozawa’s reading of the second Nachtmusik movement, with its delicate scoring (including guitar and mandolin), lacks the amoroso element Mahler called for.

The recording does, however, include a substantial bonus in the form of a gripping performance by Jessye Norman, recorded with Ozawa and the Boston Symphony in concert in Frankfurt, of the immensely moving song cycle Kindertotenlieder. The final lines of the third song, Wenn Dein Mütterlein, are almost unbearable in their impact. And while some may find Norman’s projection of the near-hysterical first verses of In Diesen Weiten to be overwrought, I was profoundly stirred. Norman is in top form throughout, and her telling vocal...
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“Gurrelieder”

SCHOENBERG’S Gurrelieder was written in the first year or two of this century, but it was not orchestrated or performed until a decade later. It is really the last work of the nineteenth century, post-Wagnerian Romanticism at its outer limits. It is a full-evening dramatic piece—not an opera but a huge dramatic cantata—based on the wild, late-Romantic writing of the Danish poet Jens Peter Jacobsen.

The score requires six soloists, including a Sprechstimme reciter, three four-part male choruses, a mixed eight-part chorus for the finale, and an orchestra that comprises twenty-five woodwinds, an equal number of brass, four harps, a big collection of percussion, and a huge string ensemble. Romantic melody and tonality are pushed out and stretched up to—but not beyond—their breaking points. The musical and dramatic effects are extraordinarily striking, but, as always with Schoenberg, the big structure is also carefully elaborated.

The first performance of Gurrelieder, in 1913, provided the composer with one of his few public successes. Although the work is only occasionally revived—most recently by Zubin Mehta for his spectacular New York Philharmonic farewell concerts—it always leaves a deep impression. The truth is, it is a work that has been waiting for the advent of digital sound and the CD to make its full impact.

Two very different new recordings were recently released. The one led by Riccardo Chailly from Berlin on London Records. This one is shaped like a first-rate dramatic production: shaded, phrased, pushed forward, held back, shouted out, and then internalized, expressive in both lyric shape and intensity of color. None of this is antimusical; quite the contrary, the poetic/dramatic values and the musical ones here work together.

Chailly has a first-rate cast: Siegfried Jerusalem is devastating as the tragic King Waldemar; Brigitte Fassbaender is exquisite and moving in the Song of the Wood Dove, and Hans Hotter is the powerful speaker in the extraordinary finale, which bridges the nineteenth and twentieth centuries, reconciling the themes of Wagnerian tragedy and redemption through the power of nature, Romantic tonality and modern atonality.

And the sound! Even Mahler at his hugging or Ravel at his most delicate never quite achieved the range and expression and deep integration of orchestral color and timbre that fills and binds this work all the way through. All this is particularly well represented and integrated in the Berlin performance and recording.

In Gurrelieder, the old magic power of music to take us out of the everyday and into the realm of the transcendent is represented in its fullest Romantic form for the last time. I am a great fan of live performance and of music in the theater, but this is a work of magnitude and performance and of music in the theater, but this is a work of magnitude and imagination that comes across in a recording like the Chailly/London version as it never can in real life. 

Eric Salzman

SCHOENBERG: Gurrelieder. Siegfried Jerusalem (tenor), Waldemar; Susan Dunn (soprano), Tove; Brigitte Fassbaender (mezzo-soprano), Wood Dove; Hermann Becht (bass), Peasant; Peter Haage (tenor), Klaus the Fool; Hans Hotter, speaker; Chorus of St. Hedwig’s Cathedral, Berlin; Chorus of the Dusseldorf State Musikverein; Berlin Radio Symphony Orchestra, Riccardo Chailly cond. *LONDON* 430 321-2 two CD’s (101 min).

SCHOENBERG: Gurrelieder. Paul Frey (tenor), Waldemar; Elizabeth Connell (soprano), Tove; Jard van Nes (mezzo-soprano), Wood Dove; Walton Gronroos (bass), Peasant; Volker Vogel (tenor), Klaus the Fool; Hans Franzén, speaker; Chorus of the North German Radio, Hamburg; Bavarian Radio Chorus; Frankfurt Opera Chorus; Frankfurt Radio Symphony Orchestra, Eliahu Inbal cond. *DENON* CO-77066-67 two CD’s (108 min).

The Orpheus Chamber Orchestra’s album, titled “A Little Light Music,” illustrates his practical side, that he was never too proud, even in the last years of his life, to write what must be some of the most evocative dance music ever. The Hanover Band, in contrast, offers three popular late masterpieces. There’s little disparity, however, between Mozart’s popular and more serious styles. The lighter pieces simply tend to be shorter and less harmonically and melodically sophisticated than the masterpieces. Even the little contredanses live up to their descriptive titles—such as “The Malicious Daughters”—with concise character and nature sketches that could only have come from the composer of The Marriage of Figaro. Unfortunately, the Orpheus Chamber Orchestra mistakenly assumes that Mozart’s humor, of which there is plenty here, comes off best with a deadpan delivery. The approach may be refined, but it also fails flat.

The Hanover Band, though, accomplishes the near-impossible feat of letting us hear the oft-recorded works on its disc as if for the first time. More than Christopher Hogwood, John Eliot Gardiner, or Roger Norrington, conductor Roy Goodman has a special connection with Mozart. He brings out the interplay between the various layers of the orchestra, and while there is not much contrast with modern atonality and modern atonality.
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makes the rhythms coax, insist, play, and dance. He obviously believes that Mozart's music at its most abstract is still programmatic.

Eine Kleine Nachtmusik has an extra minute on the Nimbus disc, thanks to some musicological speculation too complex to detail here. However ingratiating, the movement's artistic level is well below the rest of the piece, but it does put the other four movements in a more pleasing, archlike balance. D.P.S.

RAVEL: Daphnis and Chloe (complete ballet). DIAMOND: Elegy in Memory of Maurice Ravel. Seattle Symphony and Chorale, Gerard Schwarz cond. DELOS ™ DE 3110-2 (64 min).

Performance: Gorgeous
Recording: Extravagant

What a basket of succulent fruit Daphnis and Chloe is! Bananas, pineapples, papayas, melons, and, of course, passion fruit. Although its style was modern enough for its day, the ballet is, in fact, one of the last grand examples of the nineteenth-century French taste for voluptuous soft-core porn elegantly posing as classical art. Fortunately, when we listen to it on record we don't have to watch prancing ballet dancers dressed up as nymphs and satyrs. Ravel's music can dress up any personal fantasy we choose.

This new disc is of the complete ballet—which works better for me than the better-known suites—in a gorgeous and somewhat overripe performance and recording from an unlikely place. Apparently Ravelian nymphs and satyrs can be found not only in Mediterranean precincts but in the rain forests of the American Northwest as well.

David Diamond's Elegy is a moving work in a spartan, modernist style that seems worlds removed from the lush hedonism of the composer it honors. Ravel flirted with dissonance late in his life, but works like Daphnis are almost pure musical sensuality, and that is certainly the main point of this CD extravaganza. E.S.

SHOSTAKOVICH: Symphony No. 11 (see Best of the Month, page 69)


Performance: Insightful
Recording: Very good

After his rather Teutonic recording of the Tchaikovsky First Symphony a year or so ago, Kurt Masur's approach to the "Little Russian" comes as a surprise and delight. His hand is light throughout, and he departs from the usual tendency to make the symphony a flashy virtuoso vehicle. There is plenty of drive and vitality where needed, but I am more pleased by Masur's careful attention to the lyric element, his subtly flexible phrasing, and his tasteful tempo modifications. The second-movement march is a deft affair full of delicate touches, including a horn descant that usually gets buried in the orchestral texture. The woodwind work in the middle section of the scherzo calls to mind Sadou's best moments in the Mendelssohn symphonies. The festive finale gets a splendid workout, and unlike most conductors, Masur does not gloss over the seemingly prosaic subsidiary theme but accords it a musicianly treatment that makes it sound better than it is.

Romeo and Juliet, for a welcome change, is not given a hothouse workout. With loving care, Masur achieves in this performance an almost flawless balance between the work's dramatic and lyrical aspects. The sound is just fine, with effectively broad-scale lateral imagery, and the reverberation of the Neues Gewandhaus is much less obtrusive than in the past. I warmly recommend this recording. D.H.

Collection

KATHLEEN BATTLE AND JESSYE NORMAN: Spirituals in Concert. In That Great Getting Up Morning; Oh, What a Beautiful City; Ride On, King Jesus; Swing Low, Sweet Chariot; Ride Up in the Chariot; Scandalize My Name; Oh, Glory, There Is A Balm in Gilead, and thirteen others. Kathleen Battle, Jessye Norman (sopranos), instrumentalists, chorus, and orchestra, James Levine cond. DEUTSCHE GRAMMOPHON ™ 429790-2 (68 min).

Performance: Joyous
Recording: Fine

Recorded live at Carnegie Hall, this disc should please virtually everyone. The selections are varied in mood and program, and the reverberation of the Neues Gewandhaus is much less obtrusive than in the past. I warmly recommend this recording. D.H.
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THE HIGH END

by Ralph Hodges

An Illustrious Amateur

There are few commercial enterprises in which a name wields as much power as some names do in high fidelity. In the beginning, when Fisher and Scott were the Chevrolet and Ford of the industry and McIntosh and Marantz the Cadillac and Lincoln, ownership of components bearing any of these names was indication of a certain type of arrival, and knowledge of these names provided the guidance an uncertain buyer needed to make a cash commitment to serious audio.

Except for McIntosh, which even now is undergoing its own changes, these names have all been brokered, bought, and taken overseas. Leaving behind all the people originally associated with them. This may be a cheerless comment on the vigor of the American electronics business, but it is also an impressive demonstration of the endurance of some of its principals. These names are still strong, and the right to use them is extremely valuable. Perhaps the strongest, although it has suffered the greatest vicissitudes of becoming an electronics engineer. Instead, he became a commercial artist. During World War II he also became a navigation officer in the Army transport service, serving in the South Pacific on a supply freighter. Skills acquired during military service have often proved good career springboards, but Marantz says that he received no more electronic training than the usual ten-cent tour of the radio equipment given to new junior shipboard officers.

Back home, he bought a small house and decided that his car radio, which was never used, really belonged in its living room. So he rifled the dashboard and built the scavenged parts into a piece of domestic furniture. This was the beginning of the beginning. The living room lacked a 6-volt storage battery, so he had to learn to build power supplies. The loudspeaker was not a permanent-magnet type, so he had to investigate alternatives. What really pushed things over the brink was the Pickering magnetic phono cartridge that he fancied. It required a low-level phono-preamplifier stage, which he says he managed to devise with the help of many acquaintances (Marantz is a modest man). The phono preamp ultimately grew into a "no-holds-barred," full-fledged preamplifier that he was encouraged to market by those who recognized its promise. His wife suggested he build one hundred of them and see what happened.

The rest of the story is rather familiar. Despite unlikely manufacturing sites, the Marantz Company was a functioning entity by the mid-Fifties. Its alumni roster comprises something of an audio hall of fame. Sid Smith did all the power amplifiers and much of everything else. Dick Sequerra was there, and so were James Bongiorno and Julius Futterman. Mitchell Cotter provided consulting assistance. The emerging products excited dealers and became the delight of doctors and lawyers throughout the nation. To own Marantz electronics placed you above audiophile reproach.

Sadly, it was one of Marantz’s most influential products that led to the demise of the original organization. The celebrated Model 10B tuner, today a collector’s item, was so complicated in its three-year development that it consumed the company’s working capital. In 1964 Superscope acquired the Marantz name, and in 1968 Saul Marantz and his corporate identity became permanent strangers.

The Marantz brand has had a bumpy ride since then. Progressively it expanded into a full product line that encompassed not only high-end products but also mainstream ones and even beach-blanket portables. The international community seemed responsive, but many U.S. audiophiles saw only the desecration of a legend that, in fewer than twenty years, had achieved a dominant role in the definition of high fidelity. Management of the Marantz name in this country went from faltering to largely ineffective, and the brand changed hands again. Recently it has had little market presence except abroad.

There may yet be a happy ending, however. In about 1980 Philips of the Netherlands acquired a controlling interest in the nine Marantz manufacturing plants worldwide (in places such as Japan, Belgium, and Singapore) and the distribution and sales networks everywhere but in North America. Now it has at last got hold of the U.S. as well, and it has put the franchise here into the hands of Bang & Olufsen (in which Philips holds a 25-percent stake). The "new" Marantz is not scheduled to begin U.S. sales activities until 1992, but it has some prototypes to show that should do the name proud.

The proposed Marantz Audio Computer has some four dozen digital signal processing (DSP) functions built in, some of which have been hitherto unavailable in consumer equipment and probably even in professional products. It is configured so that two functions can be used at a time, and two 4-inch LCD video screens on the front panel display scrolling menus and monitor the operations selected. There are digital as well as audio inputs, and there are video outputs so that the displays can be routed to any TV screen you choose. I’m not sure this is a product Saul Marantz would have chosen to make, but I suspect he will not be embarrassed by it.

As for Mr. Marantz, he is now retired, but he is not inactive. On hold is a company called Lineage Corp., which has waiting in the wings preamplifiers and power amplifiers designed with the consulting services of John Curl. These products may not make it beyond prototype unless the economic climate improves. But if they do, they’ll boast, appropriately, a splendid lineage.
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