

THE WORLD'S #1 A/V MAGAZINE

# Stereo Review

## Super Systems

REAL-WORLD  
RECOMMENDATIONS  
FROM THE PROS

### ROOM ACOUSTICS: FACT & FANTASY

A Practical Guide To  
Better Listening

### PERIPHERALS

Multimedia Sound  
Connections

### GET BACK!

Turntables Revisited

### TEST

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Mirage Speaker, and more



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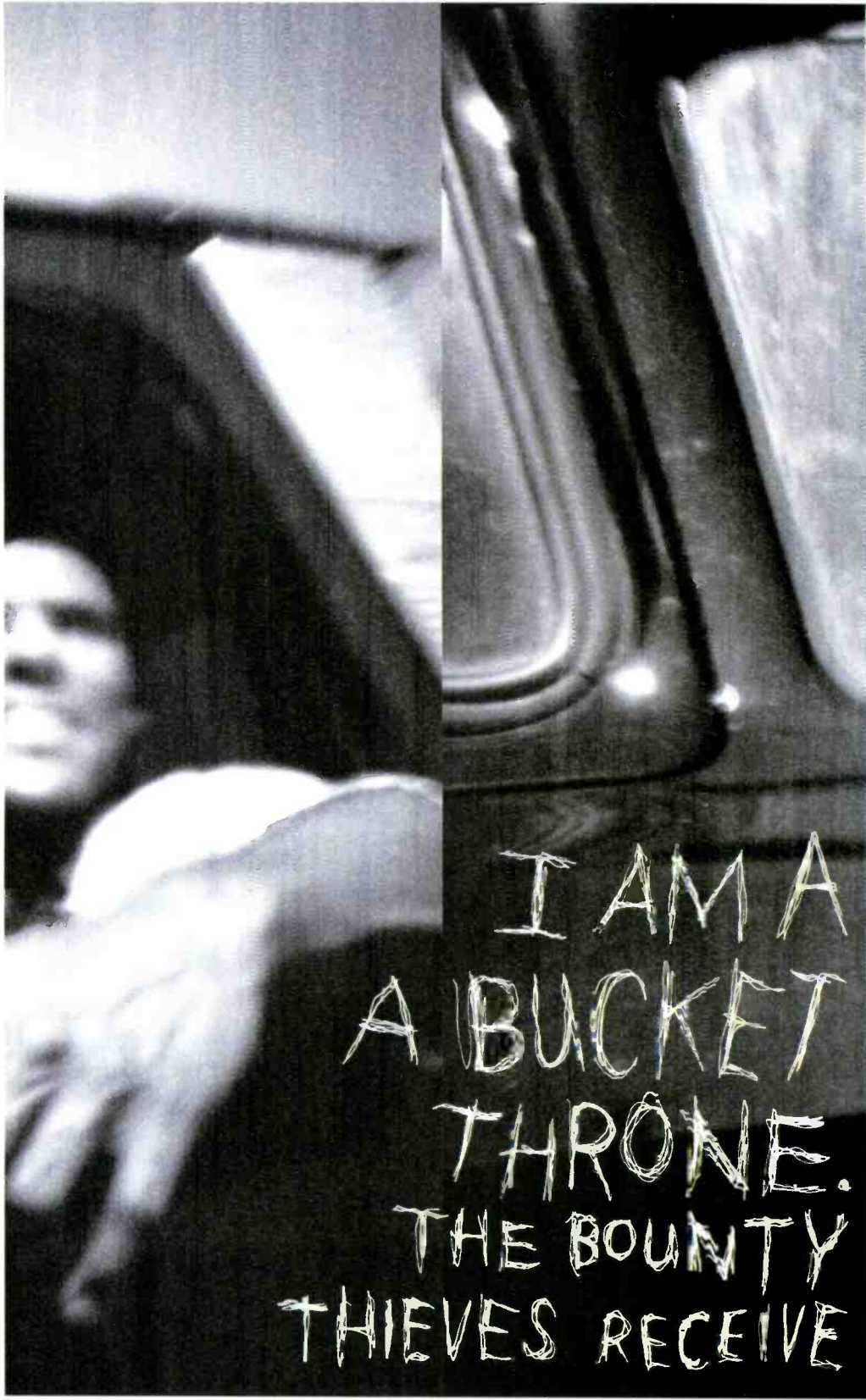


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“...by a wide and clearly audible margin, the Micro90t is the best small-satellite home theater speaker system I have ever reviewed.”

—David Ranada, *Stereo Review*, February 1997

## Boston Acoustics Home Theater Options

### Micro Reference

Big theater sound from small, sculpted satellites.

### Compact Reference

Incredible sound from compact speakers.

### Lynnfield VR™

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### Boston Acoustics THX®

Dubbing-studio-quality sound.



The experts at *Stereo Review* listen to literally hundreds of home theater speakers each year. So it stands to reason that the Micro90t must be pretty special to warrant such praise.

The reason for this enthusiasm? Good old-fashioned engineering know-how.

Take the Micro90 satellites, for example. They feature a die-cast aluminum housing of incredible strength and rigidity. So the drivers' energy is projected as pure, clean acoustic output instead of being wasted as cabinet vibration. The result: a satellite that can fit in the palm of your hand, and still fill a room with astonishing sound.

Its anodized aluminum tweeter with AMD handles lots of power, yet reproduces highs with virtually zero distortion. And its swivel-mount pedestals make for simple shelf or wall mounting. The Micro90 powered subwoofer, with its clean 75-watt amp and 8-inch DCD™ bass unit, produces ample amounts of deep, tight, powerful bass.

Add the tonally matched Micro90 center channel and either direct or diffuse-field surrounds and you've got a system that beats all other satellite home theaters "by a wide and clearly audible margin." You can test-listen the Micro90t at your local Boston dealer. But rest assured, you won't be the first to listen with a critical ear.



This Micro90t home theater system includes: Two Micro90 satellites, sonically matched center channel, powered subwoofer, and a pair of VRS Micro diffuse-field surrounds (available separately).

## Boston Acoustics

300 Jubilee Drive, Peabody, MA 01960 (508) 538-5000. [www.bostonacoustics.com/boston](http://www.bostonacoustics.com/boston)  
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Lynnfield VR and DCD are trademarks of Boston Acoustics, Inc.





Cover. See page 51 for more about this \$3,400 home-theater-ready system and two other "Dealer's Choice" setups. Screen image from *Raiders of the Lost Ark* (Paramount Home Video).

Photograph by Dan Wagner

# Stereo Review

INCORPORATING HIGH FIDELITY

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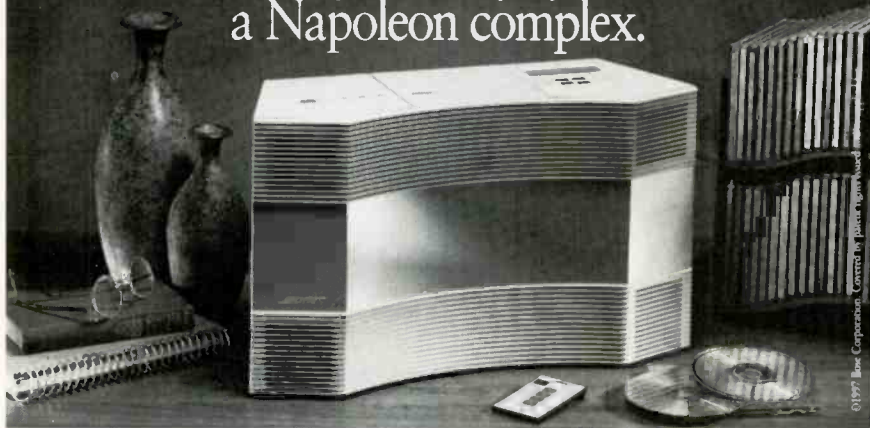
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*You* live for it. That moment when the violins are soaring and the drums are pounding, and you suddenly realize you've been holding your breath. It's this transcendent moment that keeps us working here at Parasound. That keeps us combining ground-breaking circuit designs with premium audiophile parts. Take, for example, our four most affordable high-current amplifiers. With independent power supplies and direct-coupled inputs, they pull you deep inside the music one moment, and then launch you out of your seat the next. And now they even turn themselves on whenever they receive a 12 volt control signal. They're all part of our obsession to create great sounding audio components that are so well-built you'll be able to hand them down to your son Thelonus.



# LETTERS

## Lexicon Logic

We appreciate the opportunity to address the "one serious fault" David Ranada found in our DC-1 Dolby Digital A/V preamplifier (April test reports). We share his "pet peeve" against products that force you to cycle through operating modes.

There are, however, two ways the DC-1 allows users to avoid that. First, each input can be assigned an operating mode (actually two, one for AC-3 sources and one for analog or PCM digital sources) that will load automatically when the source is selected. Thus, selecting the videodisc input could automatically engage the Logic 7 mode (or the THX mode, the Pro Logic mode, and so on), and selecting CD might engage the Music Surround mode. In addition, the owner can select as many as eight favorite modes and program them for direct access from the remote control.

We apologize for not making all this more apparent in our "otherwise complete but wordy manuals," as Mr. Ranada called them. The lapse will be corrected in a manual revision.

BUZZ GODDARD  
Lexicon, Inc.  
Bedford, MA

## Captain Beyond

Whoever writes the "Now on CD" section of "Best of the Month" should be commended for including in April a note on the release of *Dawn Explosion* by Captain Beyond. I was convinced I was the only fan of this band still living.

You stated, however, that "the band's legendary debut is still *not* on CD." While it is not readily available, it is, or was, available as an imported Japanese Polydor CD (POCP 1826).

V. T. WRIGHT  
Jacksonville, FL

*Thank you, but we were aware of the Japanese CD: in fact, there is also a German import (IMS POCP 1826). We said that the appearance of Dawn Explosion represents the band's first appearance on a "domestic" (that is, U.S.-released) CD. The "Now on CD" entries, by the way, are selected and written up by popular music editor Ken Richardson and classical music editor Robert Rippas.*

## Computer Connection

I recently purchased a computer and have become very interested in the interface between it and my stereo system. Are there any multidisc (100+) CD changers that have computer-interface capabilities so that I can control my CD player through the computer?

CRAIG FIUMARA  
Philadelphia, PA

*Several CD megachangers, from Sony, Kenwood, Technics, and perhaps others, can ac-*

*cept data input from a computer keyboard for stored disc titles and categories, but we don't know of any consumer models specifically designed to be controlled by a computer (though Denon and NSM of Germany have some very expensive models like this for professional use). But Sony's CAV-11 CAV-2 VisionTouch interface add-on is said to enable any computer (Windows or Macintosh) to control most A/V components that use infrared remote controls. The CAV-1 lists for \$300 and includes Sony's single-button, egg-shaped wireless remote; the CAV-2, without remote, is \$200.*

## High-End Meister

I was all set to congratulate you for hiring the incomparable Corey Greenberg to be your "High End" meister, but then I opened the April issue back-end first and . . . nothing! Say it ain't so! *We need Corey!* He's the perfect combination of intelligence, irreverence, and entertainment. He can write, and he can listen! STEREO REVIEW has always had a healthy dose of irreverence with Steve Simels, Parke Puterbaugh, and the great Charles Rodrigues. *Corey is the final touch!*

GERALD NEILY  
Baltimore, MD

*Corey Greenberg's "High End" column is now appearing monthly.*

## Snake Oil?

While I'll be the first to admit that our audio pursuit is replete with alchemy, snake oil, and mysticism, I was very put off by Ian G. Masters's high and mighty attitude (in April "Audio Q&A") regarding degaussing CD's. I've been doing this for years, and my listening panel, audiophiles and non-audiophiles alike, can *always* hear not just a difference but an improvement in focus, clarity, ambience, and a general sense of being closer to the recording venue.

Anyone can do this simple test: After your system is warmed up, play a favorite CD for a minute or so, then take it out, degauss it with a bulk tape eraser for about 10 seconds, and then replay it. If Mr. Masters didn't try this, and he's not clear whether he did, he owes your readers at least that much. (By the way, I'm one of those who can hear absolute polarity and who thinks LP records *still* sound better than CD's.)

RICHARD P. CLANCY  
Ashland, MA

*If someone told you that your car would run better if you painted it yellow, would you have to try it in order to decide that the advice was nonsense? And were those listening-panel experiments of yours double-blind tests where neither the listeners nor the person running the test knew whether the CD that was playing had been degaussed?*

## Classical Music Speakers

I miss the old days when I could listen to speakers in stores playing classical music. These days, salesmen either don't have any classical CD's or don't care to listen to any. I've had salesmen walk off when I asked them to put on some classical music, and one turned down the music I was playing to put on a rock CD for another customer. Now there is a great emphasis on home-theater systems. I don't want to be blown out of my apartment: I just want to enjoy the quiet passages in classical music, played cleanly on good speakers. Are there any stereo stores that still cater to the classical-music lover?

JOHN A. CAWTHON  
Pueblo, CO

*Yes, but you may have to travel to larger cities to find them. Use the Yellow Pages, or call the Professional Audio/Video Retailers Association (1-800-472-7294), to find dedicated dealers (not mass-market electronics stores) that will accommodate you. Take your favorite classical CD's with you — it's always a good idea to audition equipment using recordings you know. Any store that would refuse to let you try out speakers with your choice of music is obviously not interested in your business, so go elsewhere.*

## Analog to Digital

I recently went through my collection of CD's, paying close attention to the labeling indicating whether the recording, mixing, and mastering was done digitally or with analog equipment. I found that all but one were recorded and mixed in analog, then digitally mastered. Why don't all musicians record digitally? And what benefit is there to digitally mastering an analog recording?

ADAM J. POLLOCK  
Spring Valley, CA

*Some CD's are reissues of LP's made from old analog master tapes. But when a new recording starts out in analog, it could be because the producer, artist, or engineer prefers the character of analog sound. Or it may be that an expensive multitrack digital recorder simply wasn't available. Many recordings today are made on analog multitrack decks, then mixed down to a stereo digital recorder. The reason for digital mastering is that you have to convert analog to digital sooner or later to get it onto a CD. Going straight to a digital stereo master eliminates a generation of analog tape and the associated noise and distortion.*

**We welcome your letters. Please address correspondence to Editor, Stereo Review, 1633 Broadway, New York, NY 10019. You should include your address and telephone number for verification. Letters may be edited for clarity and length.**





Patented Acoustimass® module. Helps make a 60-ton runaway train sound like, well, a 60-ton runaway train. Hides out of view.

# Home Theater Made Easy

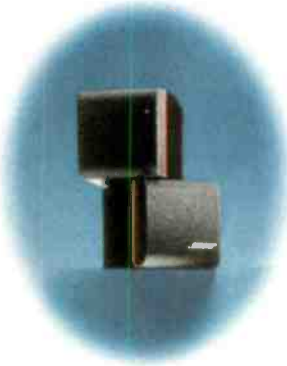
[The Bose® Lifestyle® 12 home theater system]



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Remote with real control. Automatically sets to surround sound for movies and TV, or two-channel stereo for music. Works right through walls.



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# 700 GSA



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Designed for your ears.  
And what's between them.

### The new GSA-700 Surround Sound Processor/Amplifier.

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- Two 50-watt high current rear channel amplifiers.
- Adaptable to Dolby® Digital with outboard processor.
- 2 audio and 2 video inputs.
- 1 audio and 1 video output.
- Full remote control access with on-screen display.



# NEW PRODUCTS



## ▲ TECHNICS

The 110+1-disc SL-MC410 CD megachanger from Technics skips over empty slots to keep disc-change time under 11 seconds. Stored CD's can be assigned to five play groups and fourteen music categories, the flip-down front panel allows discs to be replaced or rearranged

while one is playing, and there is a single-play slot. The album title, performer's name, and song title are displayed during play for discs with CD Text coding. Price: \$300. Technics, Dept. SR, One Panasonic Way, Secaucus, NJ 07094.

• Circle 120 on reader service card



## RECOTON ▲

The WP525 wireless headphone system from Recoton, which transmits signals over the 900-MHz band, is said to have a range of 150 feet. The padded, circumaural earcups feature titanium diaphragms and have a self-adjusting headband. Weight is 10 ounces (with batteries),

and bandwidth is rated as 15 Hz to 15 kHz. Playing time is up to 8 hours with three rechargeable AAA batteries (supplied), or 14 hours with replaceable alkaline batteries. Price: \$150. Recoton, Dept. SR, 145 E. 57th St., New York, NY 10022.

• Circle 121 on reader service card

## ▼ DEFINITIVE TECHNOLOGY

The ProCinema 100.3 sub/sat system from Definitive Technology has two satellites and a powered subwoofer finished in white or black. The 10-inch-high satellites, with 5/4-inch woofers and 1-inch tweeters, can be wall- or shelf-mounted. The 14 1/4 x 11 1/4 x 17-

inch (H x W x D) sub is rated down to 19 Hz and has a 10-inch driver and a 100-watt amp. Price: \$799. A matching center speaker is available. Definitive Technology, Dept. SR, 11105 Valley Heights Dr., Owings Mills, MD 21117.

• Circle 15 on reader service card



## ▲ KENWOOD

Kenwood's 1090VR Dolby Digital A/V receiver is rated to deliver 150 watts each to five channels. A pink-noise generator for speaker balancing, remote subwoofer level adjustment, and switchable high-pass filtering facilitate setup. Other features include the easy-to-use FutureSet

remote control (preprogrammed for most current A/V gear), front and rear S-video connections, five DSP ambience modes, an RDS tuner, and dual-room/dual-source operation. Price: \$1,200. Kenwood, Dept. SR, P.O. Box 22745, Long Beach, CA 90801.

• Circle 122 on reader service card



# NEW PRODUCTS



## ▲ AURA SYSTEMS

The MR52 and MR62 coaxial car speakers from Aura Systems, part of its Mobile Reference Series, feature Neo-Radial Technology using powerful, lightweight neodymium ring magnets for greater power handling and excursion with less distortion than conventional designs. The MR52

(\$250 a pair) has a 5¼-inch woofer and a ¾-inch silk-dome tweeter in a cast-aluminum frame; the similar MR62 (\$280 a pair) has a 6½-inch woofer and a 1-inch tweeter. Aura Systems, Dept. SR, 2335 Alaska Ave., El Segundo, CA 90245.

• Circle 123 on reader service card



## ▲ VELODYNE

The variable low-pass crossover in Velodyne's FSR-15 powered subwoofer can be switched out, feeding it directly from an A/V receiver or processor. The sub has a 15-inch driver, a 250-watt amplifier, a servo system to keep distortion low, automatic turn-on, and a phase switch. Response

is rated as 18 to 120 Hz  $\pm$  3 dB. The 20 x 21½ x 17½-inch cabinet is finished in black woodgrain vinyl with granitelike trim. A remote control is included. Price: \$1,699. Velodyne, Dept. SR, 1070 Commercial St., Suite 101, San Jose, CA 95112.

• Circle 124 on reader service card



## ▲ MILLENNIUM TECHNOLOGIES

The Millennium 2.4.6, an outboard decoder for DTS (Digital Theater Systems) 5.1-channel surround sound, has both coaxial and Toslink optical digital inputs and will automatically detect and decode DTS signals from specially encoded CD's and laserdiscs. A master volume control and a  $\pm$ 15-dB level trim for

the center, surround, and subwoofer channels are provided. A 5.1-channel program can be "down-mixed" to fewer channels if desired. Price: \$699. Millennium Technologies, 5.1 Marketing & Sales, Dept. SR, P.O. Box 8359, Incline Village, NV 89452; phone, 1-888-551-6789.

• Circle 125 on reader service card



## ▲ SORICÉ

The Asana shelving system from Soricé features solid lacquer-finished hardwood or black MDF shelves and solid steel columns, couplers, and other hardware that are easy to assemble in almost any arrangement. The Combo 3R

shown has cherry shelves and a black TV platform; other woods/finishes available. Price is \$389 plus shipping from Soricé, Dept. SR, P.O. Box 747, Nutley, NJ 07110; phone, 1-800-432-8005.

• Circle 126 on reader service card

## ▲ ALLSOP

Allsop's Orbitrac 2 LP cleaning system, said to be good for 100 cleanings, includes a storage case with two 1-ounce bottles of cleaning solution, two cleaning pads, a brush to clean the pads, and a nonskid base. Price: \$35 (plus shipping and handling) direct from Allsop, Dept. SR, P.O. Box 23, Bellingham, WA 98227; phone, 1-800-426-4303.

• Circle 127 on reader service card





# THE EXPERTS AGREE— ONE DVD PLAYER DELIVERS THE ULTIMATE PERFORMANCE



## THE SONY DVP-S7000

“...sets the reference standard.” - *Video*, April 1997

“...the resolution of our lab-quality monitor's component video input was sorely tested...” - *Stereo Review*, May 1997

“No other video product I have tested...has approached the dead-on accuracy of DVD through the DVP-S7000...(it's) the most nearly perfect video product I've had on my bench...” - *Audio*, May 1997

“...a cut above the rest in terms of features, ergonomics and performance.” - *Home Theater*, May 1997

There's no doubt about it. The DVP-S7000 offers an impressive array of features with everything from Smooth Scan™ noiseless picture search and component video output to a linear bit rate meter and Sony's exclusive Dual Discrete™ optical pick-up. But what else would you expect from the company that is Defining the Digital Future™.



IN THE LINE OF FIRE



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# NEW PRODUCTS



## ◀ PSB

PSB's Century Series includes two bookshelf models, the 300i (far left) and the 400i, that can also be stand-mounted as shown. Each two-way bass-reflex (ported) speaker has a 6½-inch woofer and a ¾-inch dome tweeter. The 14¼-inch-high Model 300i is rated at 70 Hz to 21 kHz ±3 dB, the 16-inch-tall 400i at 55 Hz to 21 kHz ±3 dB. Finish is black ash or dark cherry. The matching 100Ci center speaker is 17 inches wide and finished in ebony ash. Prices: 300i, \$299 a pair; 400i, \$399 a pair; 100Ci, \$179; stands, \$89 a pair. PSB, Dept. SR, 633 Granite Ct., Pickering, Ontario L1W 3K1.

• Circle 128 on reader service card



## MONSTER CABLE ▲

Monster Cable has branched out with four InvisiSound Performer in-wall/ceiling speakers. All feature woofer cones made of DuPont's new Invarex and have paintable metal grilles. From left, the IS 8000 (\$390 a pair), with an 8-inch woofer and a swivel-mounted 1-inch tweeter; the IS

6500 (\$300/pair), similar but with a 6½-inch woofer; the IS 5250 (\$230/pair) with a 5¼-inch woofer; and the round IS 5250R (\$120 each) with the same drivers mounted coaxially. Monster Cable, Dept. SR, 274 Wattis Way, South San Francisco, CA 94080.

• Circle 129 on reader service card



## ▲ ROKSAN

The British-made Roksan Caspian stereo integrated amplifier (top) is rated for 70 watts per channel and is said to have a signal path that's as simple, straight, and pure as possible. There are five line inputs as well as a tape loop. The front-loading Caspian CD player offers standard transport functions and features a "super single-bit

enhanced" D/A conversion system with its own power-supply transformer and isolated circuit board. Both come with remote controls. Prices: amplifier, \$1,500; CD player, \$1,750. Roksan, distributed by QS&D, Dept. SR, 33 McWhirt Loop, #108, Fredericksburg, VA 22406.

• Circle 130 on reader service card

## NEWFORM ▼

The Newform Research R5-1 hybrid satellite speaker, designed for use with a subwoofer, features a 5-inch front-radiating monopole ribbon tweeter rated up to 25 kHz, while a 5-inch woofer handles the midrange and upper bass down to 80 Hz. Recommended amplifier power is 30 to 150 watts, and sensitivity is given as 88 dB. Cabinet dimensions are 15 inches high, 7 inches wide, and 11 inches deep, and finish is black oak-grain vinyl. Price: \$556 a pair. Newform Research, Dept. SR, P.O. Box 475, Midland, Ontario L4R 4L3.

• Circle 131 on reader service card



## ▲ TDK

With the new 74-minute CD-RXG74 blank discs from TDK, music lovers, semiprofessional or amateur performers, and audio archivists can now make CD's on CD-R home recorders that are as long as most commercial CD's. The CD-R discs, which are write-once (no erase and rerecord) and usable for digital audio only (no graphics or other multimedia data), can be played back on any CD player. Price: \$18 each. TDK also sells 60-minute CD-R blanks. TDK Electronics, Dept. SR, 12 Harbor Park Dr., Port Washington, NY 11050.

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# NEW PRODUCTS



## ▲ STINGER ▲

Stinger's Amp-Wire, UL CL3-rated for in-wall use, is available from its car audio dealers in four color-coded configurations in lengths up to 1,000 feet: blue (20¢ a foot) is two-conductor, 16-gauge; yellow (35¢/foot), four-

conductor, 16-gauge; teal (34¢/foot), two-conductor, 14-gauge; and pink (54¢/foot), four-conductor, 14-gauge. Stinger, Dept. SR, 13160 56th Ct., Suite 508, Clearwater, FL 34620.

• Circle 133 on reader service card



## ▲ TOTAL MEDIA SYSTEMS

The TMS Adibat Reference home-theater speaker system includes a pair of Model 8.5 towers, the matching 8.5C center speaker, and two SC-200DP surrounds, all with black ash finish. The 8.5 and 8.5C have 2-inch ribbon tweeters, 2-inch dome midrange drivers, and 8-inch cone

woofers in dual-ported cabinets. The three-way surrounds switch between hemispherical and dipolar radiation. Rated response is 34 Hz to 27 kHz +2, -3 dB for all five. Price: \$10,000. Total Media Systems, Dept. SR, 50 Schmitt Blvd., Farmingdale, NY 11735.

• Circle 135 on reader service card



## ▲ MULTIMEDIA LABS

The TC 1680 computer speaker system from Multimedia Labs includes a pair of two-way satellite speakers rated down to 150 Hz, a passive bass module with a 6-inch driver and a tuned port in a cabinet only 12 inches high, and an integrated amplifier that fits under the PC monitor.

Rated to deliver 22 watts to each satellite and 40 watts to the sub, the amp includes Spatializer 3D surround processing, a graphic EQ, and headphone and mike jacks. Price: \$300. Multimedia Labs, Dept. SR, 458 Main St., Reisterstown, MD 21136.

• Circle 134 on reader service card



## ▲ FISHER

Fisher's FVH-4950 VHS Hi-Fi VCR features Speed Watch, which lets users fast-forward or back-wind tapes at double speed and hear the soundtrack at normal speed and pitch, though with shorter pauses between words; it also works at 7× speed, but with more audio losses. Other features

include VCR Plus<sup>CS</sup> and Index Plus for easy time-shifting, one-year/eight-event programming, a large remote control with shuttle dial, and automatic head cleaning. Price: \$400. Fisher, Dept. SR, 21350 Lassen St., Chatsworth, CA 91311.

• Circle 136 on reader service card


## ◀ TENEX MEDIAWORX

Tenex's MediaWorx Smart Access jewel case for CD's and CD-ROM's ejects the disc at the touch of a button. The crack-resistant, transparent/gray case, which includes a pocket for a CD booklet and space for a label (blanks

supplied) on the spine, is available at office-products and computer stores. Price: five-pack, \$7.99; ten-pack, \$13.99. Tenex, Dept. SR, 1850 E. Estes Ave., Elk Grove Village, IL 60007.

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# TIME DELAY



Fleetwood Mac, 1977

manship — with the significant difference that they are their own victims.”

New products included the ESS ant Monitor speaker (\$566) and Marantz’s most powerful receiver, the 185-watt-per-channel Model 2385 (\$1,100). Hirsch-Houck Labs gave high marks to the Thorens TD-126C turntable (\$625), calling it “a truly fine machine that will surely appeal to discriminating phonophiles.”

In music interviews, Bette Midler said, “I have been known, you know, to sacrifice beauty for my art,” and Herbert von Karajan, asked if there was too much pressure on young conductors to reach the top faster, replied, “That’s *their* problem.”

“Go Your Own Way” was “the only really successful track” on Fleetwood Mac’s *Rumours*, according to Steve Simels. “It seems rather pointless to shell out \$7.98 for what is essentially a one-song album.”

## 10 YEARS AGO

The June 1987 issue focused on American audio, with Julian Hirsch declaring in “Technical Talk” that “the presumed extinction of the American hi-fi industry has been greatly exaggerated.” Among highlighted U.S. products in a special report were Bose’s Acoustic Wave Music System, California Audio Labs’ Tempest CD player, Harman Kardon’s revived Citation line, and Polk’s SDA-SRS-2 speaker.

In test reports, Hirsch said of the Acoustics Research TSW910 speaker (\$2,000 a pair), “It is hard to imagine a

listener so bass-starved that he would even think of adding an external subwoofer to a system like this!” Also reviewed was NEC’s first receiver, the AVR-1000 (\$869), praised as “one of the most versatile A/V receivers we have seen.”



U2’s *The Joshua Tree* landed in Best of the Month, as did pianist Aldo Ciccolini’s Satie recital on EMI/Angel. Elsewhere, two landmark reissue projects were covered: the first four Beatles albums on CD and *The Complete Keynote Collection* on twenty-one LP’s.

Frank Zappa told us he was “negotiating with several companies who are intrigued with the idea of putting me on TV, but they’re all afraid of what might happen when I open my mouth.” — Ken Richardson



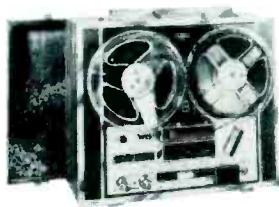
NEC A/V receiver, 1987

## 30 YEARS AGO



In “Who’s Afraid of Hugo Wolf?” London editor Henry Pleasants discussed the critical writing of a composer who took on the Vienna musical establishment in the 1880’s by describing Brahms as not “a second Beethoven” but “only a leftover of old remains.” Pleasants’s June 1967 article also cited other composer/critics, including STEREO REVIEW contributors William Flanagan and Eric Salzman.

Among new products was Lafayette’s RK-880 four-track open-reel tape deck (\$250). Hirsch-Houck Laboratories tested KLH’s Model Twelve speaker (\$275), placing it “among the handful of truly outstanding speakers we have



Lafayette tape deck, 1967

heard.” And in “The Engineers Have Their Say About Turntables and Tonearms,” Garrard’s Edmund W. Mortimer predicted that “pickups and arms will become so light and sensitive that there will be no safe way to handle them manually.”

“Jim Nabors thinks he can sing,” wrote Rex Reed in a review of *Love Me with All Your Heart*. “Instead, he only proves that he is a much better comedian than I ever suspected from watching *Gomer Pyle*.”

## 20 YEARS AGO



In his June 1977 “Technical Talk,” Julian Hirsch tackled “specsmanship,” defining it as “the use of impressive figures or special technical approaches to argue that a product is superior to its competition *when those figures or approaches have little or nothing to do with the practical or audible performance of the product.*” He added that, “along with manufacturers and dealers, there are more than a few audio enthusiasts who also engage regularly in a form of specs-



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# PERIPHERALS

PRODUCTS AND TRENDS THAT  
GO BEYOND MAINSTREAM AUDIO/VIDEO

## New Technology Shows PC Audio a Little Respect

BY JAMES K. WILLCOX

Until recently, audio has been the Rodney Dangerfield of the personal-computer industry, garnering little respect while glitzier technologies, such as 3-D graphics and full-motion video, grabbed all the attention. Now, however, as growth in the traditional computer business has slowed, PC manufacturers looking to expand their business — aided and abetted by two of the industry's driving forces, Intel and Microsoft — are enviously eyeing the living room and the ubiquity of components like TV's and CD players.

In the past, several factors have worked against paying much attention to the audio quality of PC's. For one, when most software was delivered on floppy disks, there simply wasn't enough storage space to include high-quality audio in computer programs. And for another, even after the move to higher-capacity CD-ROM's, the cutthroat pricing of PC's and peripherals has kept even modest upgrades, such as better speakers or sound cards, relegated to a few high-end models.

In addition, the cost and complexity of installing add-on boards, which often requires a reconfiguration of the PC's internal resources, has made upgrading a PC an offputting experience for many of us. As a result, with the exception of games, computers have simply not been viewed as home-entertainment devices. In terms of audio, it's rare for a \$2,500 PC to outperform even a \$200 shelf system.

During the past few months, however, the PC industry has made a concerted effort to address that limitation. While the industry is proposing wide-

ranging changes in the way PC's handle audio, perhaps the most immediate improvement is offered by Intel's new Pentium processor, called MMX, which was specifically developed to improve multimedia performance.

### The MMX Promise

An extension to Intel's Pentium processor, MMX began appearing in PC's in January and is now widely featured in newspaper and magazine ads for computers. By the end of the year, most new PC's are expected to include the MMX technology. Although much of the early attention to MMX focused on its improved graphics and video performance — enhancing 3-D effects and bumping up the video frame rate from about 6 or 7 frames per second to 15 frames per second — MMX also has the potential to improve audio performance in games and other entertainment software.

Essentially, MMX adds a set of fifty-seven new instructions that enhance the processor's ability to handle computationally intensive programming loops, which appear frequently in multimedia applications. The benefit for audio is that while a regular Pentium processor can only handle one audio sample at a time, an MMX can simultaneously process four audio elements in parallel. Audio is processed more efficiently, freeing up memory for software developers to use a higher sampling rate or a more accurate data-compression algorithm to produce more natural sound.

The MMX technology has strong potential for the new DVD format. During a behind-the-scenes demonstration at Warner Home Video's hotel suite at the Winter Consumer Electronics Show (CES), Intel ran DVD movies and DVD-ROM software on a prototype PC equipped with its second-generation MMX processor, code-named Klamath. Both the MPEG-2 video and the Dolby Digital soundtrack were impressively decoded by the processor on the motherboard, and as heard on a full six-speaker setup the results rivaled a stand-alone DVD player in sound quality.

There were fewer than a dozen MMX-optimized software titles at the launch, but since many PC manufacturers will move to all-MMX lineups in the second half of the year, a substantial library of native MMX entertainment, education, and reference software should be available by fall.

### Catching the Bus

While MMX is already providing an incremental improvement in PC audio, a more ambitious increase in sound quality should result from a proposed industry-wide change in the way a PC handles audio. In "Peripherals" in March ("One If by Land, Two If by Bus"), Ken Pohlmann provided an overview of the proposed Audio Codec (AC '97) specification for producing high-quality audio in PC's. While it calls for many improvements in the way audio is handled within the PC — segregating analog audio chips from the noisier digital circuitry, for example — one of the key enabling technologies will be the move to faster external bus architectures, such as Universal Serial Bus (USB) and



Altec Lansing's USB46 multimedia speaker system (\$150, bass module not shown) is the first audio product with the new Universal Serial Bus (USB) connections to a PC.



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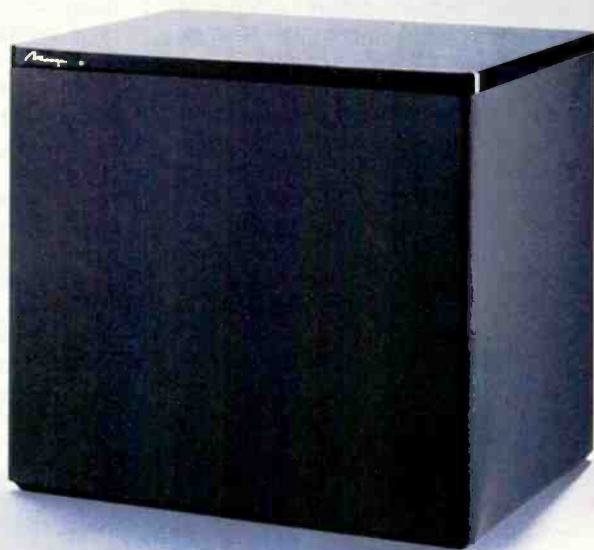
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# PERIPHERALS

IEEE 1394, generally referred to as FireWire.

In simplest terms, a computer bus is the interface or pathway used to connect peripherals. Despite the phenomenal advances made in processing power, the typical PC's limited number of expansion ports — generally a single parallel port and one or two serial ports — can no longer satisfactorily handle the number of peripheral devices now available. And since each of these ports requires its own hardware support, conflicts often arise as devices compete for internal resources, creating installation nightmares for PC users as they try to accommodate new printers, scanners, digital cameras, removable storage devices, and other peripherals.

The immediate solution appears to be the Universal Serial Bus (USB), the likely successor to serial and parallel ports that is already beginning to appear in some new PC's, such as those from IBM, Sony, and Toshiba. The main advantages of USB are the ability to add as many peripherals as anyone could want (up to 127, to be precise), simplified "plug-and-play" installation, and the ability to "hot-swap" peripherals (exchanging one device for another without turning the computer off).

Although USB's data-transfer rate of 12 megabytes per second (Mbps) is considered only medium speed, it far outstrips the 115 kilobytes per second (kbps) speed of current serial ports. And for less demanding devices, such as a mouse or keyboard, USB supports a lower-speed subchannel and will switch between modes automatically.

In order to accommodate multiple peripherals, USB uses what is called a "tiered-star topology." While current PC's use single-point connections, where peripherals are plugged into the PC directly via the serial port, with USB only one peripheral, such as a monitor or keyboard, has to be connected directly to the PC and acts as a "root hub" for other devices to be connected. Other peripherals are attached to the root hub or to other hub peripherals, which can be daisy-chained to the root hub peripheral. (In that respect, USB is rather like the Apple Macintosh SCSI connection scheme.)

Because USB uses the processing power of the computer and not that of the individual peripherals, it is able to

monitor and manage the PC's resources centrally, detecting when a device is added or removed and automatically reconfiguring the system to allow for true plug-and-play capability. And because power is also sent through the USB cable, many low-power devices won't require separate, clunky AC adaptors.

As a result of USB, the back of the PC is expected to change greatly. Instead of the current array of separate keyboard, mouse, serial, parallel, modem, and game ports, future PC's will most likely include two or three USB ports. And because expansion will be moved outside the PC itself, manufacturers will be able to employ sleeker, more compact PC designs, more along the lines of audio and video gear.

What does this have to do with audio? Well, in addition to traditional PC peripherals, such as printers and scanners, USB supports such analog devices as speakers and microphones. In fact, audio quality can be dramatically improved by using USB to bypass the poor digital-to-analog (D/A) converters used in most sound cards, sending digital audio signals directly to a digital-ready powered speaker with built-in high-quality D/A converters, DSP chips, and multichannel Dolby Digital (AC-3) decoders.

For example, during CES, Altec Lansing unveiled its USB46, billed as the first USB-ready speaker system. For \$150 you get two tiny satellite speakers, a bass module, and software providing on-screen audio controls. The USB46 will be available in the second half of this year.

## FireWire

While the comparatively high speed of USB makes it suitable for most peripherals, including ISDN (Integrated Services Digital Network, a kind of high-speed digital telephone line), higher-bandwidth media such as uncompressed video require even greater speed. USB's other limitation is that devices are restricted to 16-foot cable runs, making it unsuitable for long-lead home networks. For higher speed and longer distances between hub peripherals, the industry is looking to a technology called FireWire, the catchy name given to IEEE 1394, a specification of the Institute of Electrical and Electronics Engineers.

Originally developed by Apple Com-

puter, IEEE 1394 boasts a data-transfer rate ranging from 100 Mbps to a whopping 400 Mbps, making it more than equal to the task of streaming digital audio and video. As a result, FireWire is better suited than USB for tying the personal computer to traditional consumer-electronics devices. And, like USB, which is considered a complementary technology, FireWire offers plug-and-play and "hot-swapping" capabilities, and it can support up to sixty-three peripheral devices and longer cable runs.

The real benefit for the consumer electronics world is FireWire's ability to transmit isochronous data, such as digital audio and video, which require delivery at a constant, guaranteed rate. With the combination of digital audio and video in DVD, FireWire is emerging as the leading long-term solution for high-capacity data transfer.

Because USB involves almost negligible costs to PC makers and peripheral suppliers, it is expected to be adopted rapidly. While some PC's are already available with USB connectors on the motherboard, it won't be until later this year that USB peripherals, such as keyboards, modems, and printers, will start coming to market.

**F**ireWire's comparatively high cost will relegate it initially to the status of a high-performance option, but ultimately it may have even more impact on A/V components. Some of the latest digital cameras and VCR's include FireWire capability. Sony, for example, already has three digital cameras and a digital VCR with FireWire connectors. Because of its high data capacity, FireWire will enable meaningful linkages between PC's and emerging formats such as digital videocassettes as well as with conventional audio gear. During CES, Yamaha offered a glimpse of the potential power of FireWire with a complete FireWire-based home-entertainment demonstration using a PC to control the whole system.

With these baseline changes in PC architecture, in tandem with other developments coming to market such as DVD, DVD-ROM, and Dolby Digital decoders, later this year we may see the first PC's that can credibly challenge the performance of some home audio systems. PC audio, it seems, is finally being given its due. □





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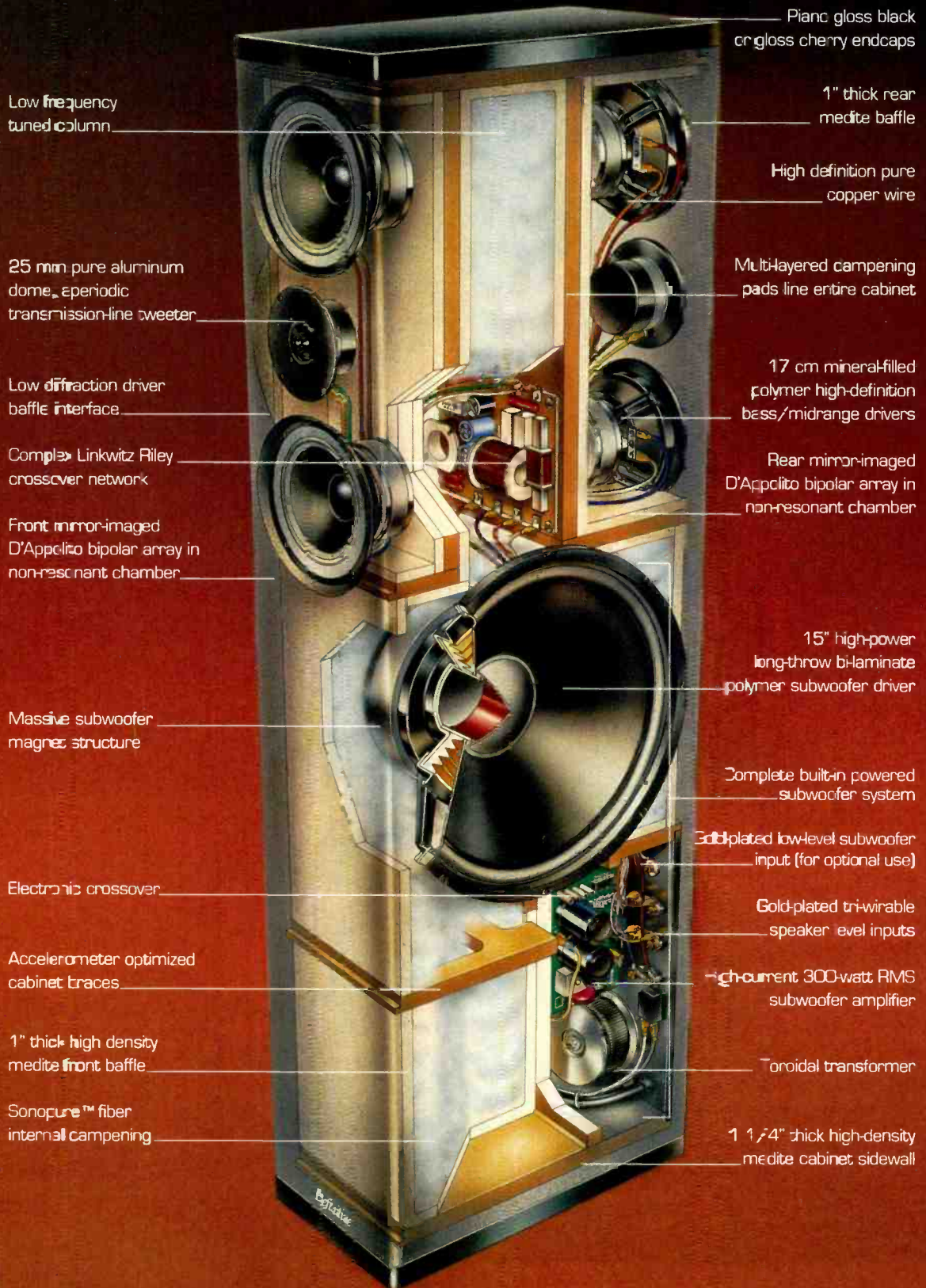


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Rear mirror-imaged D'Appolito bipolar array in non-resonant chamber

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~Ben Eutterworth, Home Theater Technology



# Julian Hirsch Says, "...I Would Choose These Speakers for Myself."

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—Julian Hirsch, *Stereo Review*

*"This slammin' system will probably kill any other you've ever heard or seen."*

—Brent Butterworth, *Home Theater*

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## The Ultimate Home Theater

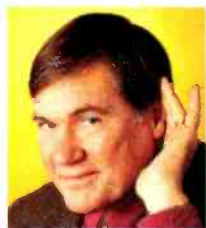
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 CA- Access to Music; Larkspur; Accurate A/V; S. Lake Tahoe; Ahead Stereo; Los Angeles; Audio Concepts; Long Beach; San Gabriel; Bay Area Audio; San Jose; Boots Camera; Fresno; Christopher Hansen; West LA; Coast Home Ent.; Atascadero; Orcutt; Creative Stereo; Santa Barbara; Ventura; David Rutledge Audio; Palm Desert; DB Audio; Berkeley; Digital Ear; Justin; Daw Stereo Video; San Diego & Suburbs; La Jolla; El Cajon; Chula Vista; Escondido; Lee's Home Theater; Visalia; Monterey Stereo; Monterey; Paradise; Sacramento; Performance Audio; San Francisco; Systems Design; Redondo Beach; Videotek; Westminster; Wilson Home Theater; Woodland Hills.  
 CO- Audio Visions; Grand Junction; Listen Up; Denver; Boulder; Colorado Springs; Soundtrack; Denver & Suburbs; Boulder; Ft. Collins; Colorado Springs.  
 CT- Al Franklin's; Greenwich; Audio Etc.; Orange; Carston's Audio Video; Danbury; Roberts Audio Video; New London; The Sound Room; Westport; Stereo Shop; Hartford.  
 DC & Washington Suburbs; Myer-Emco.  
 DE- Sound Studio; Newark; Wilmington.  
 FL- Absolute Sound; Winter Park; Audio Advisors; West Palm Beach; Audio Center; Deerfield Beach; Audio Video Store; Tallahassee; The Audiohouse; Vero Beach; Cooper for Stereo; Clearwater; Hoyt Stereo; Jacksonville; Palm Audio; Destin; Sound Components; Coral Gables; Sound Ideas; Gainesville; Sound Insight; Ft. Pierce; Stereotypes; Daytona Beach; Stuart A/V; Stuart.  
 GA- Laser Disc Enterprises; Atlanta; Merit TV; Columbus; Stereo Connections; Valdosta; Stereo Festival; Atlanta.  
 HI- Audio Center; Honolulu; Waipahu.  
 IA- Audio King; Cedar Rapids; Des Moines; Archer Audio Video; Ft. Dodge; Audio Video Logic; Des Moines; Audio Visions; Sioux City; Camera Corner; Davenport; HawkEye Audio; Iowa City; Cedar Falls.  
 ID- Ultimate Electronics; Boise; Wise Buy; Idaho Falls.  
 IL- United Audio Centers; Chicago & Suburbs; Good Vibes; Champaign; Jon's Home Ctr.; Quincy; Sound Forum; Crystal Lake; Sundown A/V; Springfield.  
 IN- Classic Stereo; Ft. Wayne; Mishawaka; Good Vibes; Lafayette; Kings Great Bays; Evansville; Ovalton Audio; Clarksville; Indianapolis.  
 KS- Accent Sound; Overland Park; Advance Audio; Wichita; Audio Junction; Junction City, Manhattan.  
 KY- Ovalton Audio; Lexington, Louisville.  
 LA- Alterman Audio; New Orleans; Metairie; Lake Charles Music; Lake Charles; Mike's Audio; Baton Rouge; Wright's Sound Gallery; Shreveport.  
 MA- Cookin'; Chestnut Hill; Saugus; Goodwins Audio; Boston; Shrewsbury; Nantucket Sound; Hyannis; Northampton Audio; Northampton; Pittsfield Radio; Pittsfield.  
 MD- Gramophone; Baltimore; Elliott City; Myer-Emco; Gaithersburg; Beltsville; Rockville; Sight & Sound; Easton; Soundscape; Baltimore; ME- Cookin'; Portland.  
 MI- Pezack's; Detroit; Troy; Classical Jazz Holland; Classic Stereo; Kalamazoo; Grand Rapids; Sand North; Iron Min.; Stereo Center; FRAV; Flint; Court St.; Listening Room; Midland; Saginaw.  
 MN- Audio King; Minneapolis & Suburbs; Rochester; St. Cloud; Audio Designs; Winona.  
 MO- Independence A/V; Independence; Reference Audio; Sedalia; Sound Central; St. Louis.  
 MS- Ideal Acoustics; Starkville; McLelland TV; Hattiesburg; Players A/V; Ridgeland.  
 MT- Aspen Sound; Missoula; Kalispell; Avitel; Bozeman; Rocky Mt. Hi Fi; Great Falls.  
 NC- Audio Video Systems; Charlotte; Audio Visions; Wilmington; Now Audio Video; Durham; Greensboro; Raleigh; Winston Salem; Audio Lab; Wilmington.  
 NE- Custom Electronics; Omaha; Lincoln.  
 NH- Cookin'; Nashua; Manchester; Newington; Salem, S. Nashua.  
 NJ- Hal's Stereo; Trenton; Monmouth Stereo; Shrewsbury Sound Waves; Northfield; Woodbridge Stereo; West Caldwell; Woodbridge.  
 NM- Ultimate Elect.; Albuquerque; Sound Ideas; Albuquerque.  
 NV- Ultimate Elect.; Las Vegas; Upper Ear; Las Vegas.  
 NY- Audio Breakthroughs; Manhasset; Audio Den; Lake Grove; Audio Expressions; Newburgh; Clark Music; Albany; Syracuse; Stereo Exchange; Manhattan; Hart Elect.; Vestal; Innovative Audio; Brooklyn; Listening Room; Scarsdale; Rowe Camera; Rochester; Speaker Shop; Amherst.  
 OH- Audio Ctr.; Akron; Cleveland; Mayfield Hts.; Westlake; Audio Etc.; Dayton; Classic Stereo; Lima; Ohio Valley Audio; Cincinnati; Paragon Sound; Toledo; Stereo Visions; Columbus; Threshold Audio; Heath.  
 OK- Audio Dimensions; Oklahoma City; Ultimate Electronics; Tulsa; Photo World; Bartlesville.  
 OR- Bradford's HiFi; Eugene; Chelsea A/V; Portland; Beaverton; Kelly's Home Ctr.; Salem; Magnolia HiFi; (Portland); Beaverton; Clackamas; Stereo Plant; Bend.  
 PA- Audio Junction; Pittsburgh; Gary's Elect.; State College; GNT Stereo; Lancaster; Hart Elect.; Blakely; Hi Fi House; Abington; Broomall; Camp Hill; Harrisburg; Listening Post; Pittsburgh; Palmer Audio; Allentown; Pro Audio; Bloomsburg; Stereo Shoppe; Selingsgrove; Williamsport; Stereoland; Natrona Heights; The Stereo Shop; Greensburg.  
 RI- Stereo Discount Ctr.; Providence.  
 SC- A/V Design; Charleston; Custom Theater & Audio; Myrtle Beach; Unstubs Audio; Columbia.  
 SD- Audio King; Sioux Falls; Sound Pro; Rapid City.  
 TN- College HiFi; Chattanooga; Hi Fi Buys; Nashville; Now Audio Video; Knoxville; Modern Music; Memphis; Sound Room; Johnson City.  
 TX- Home Entertainment; Dallas; Houston; Peace; Audio Tech; Temple; Waco; Audio Video; College Station; Brack A/V; Beaumont; Bunkley's Sound Systems; Abilene; Blom's; San Antonio; High Fidelity; Austin; Krystal Clear; Dallas; Marvin Electronics; Ft. Worth; Sound Quest; El Paso; Sound Systems; Amarillo; Sound Towne; Texarkana.  
 UT- Alpine Elect. Pro; AudioWorks; Salt Lake City; Crazy Bob; St. George; Sikes Bros.; Logan; Ultimate Elect.; Layton; Murray; Orem; Salt Lake City.  
 VA- Myer-Emco; Falls Church; Tyson's Corner; Fairfax; Audio Connection; Virginia Beach; Audiotronics; Roanoke; Home Media Store; Richmond.  
 WA- Magnolia HiFi; Seattle & Suburbs; Tacoma; Silverdale; Spokane; Aspen Sound; Spokane; Pacific Sight & Sound; Wenatchee; Tin Ear; Kennewick.  
 W.VA- Sound Post; Princeton.  
 WI- Audio Emporium; Milwaukee; Absolute Sound & Vision; Sheboygan; HiFi Heaven; Appleton; Green Bay; Sound World; Wausau.  
 Puerto Rico- Precision Audio; Rio Piedras.  
 Suburbs & B Sound; Calgary; Edmonton; Winnipeg; Bay Biot Radio; Toronto; Victrola; Advance Electronics; Winnipeg; Victrola; Toronto; Canadian Sound; Brampton Ont.; Digital Dynamics; Clearbrook; Harrington's; Peterborough Ont.; Kebesoon; Montreal; Lipton's; New Market Ont.; Peak Audio; Halifax; Sound Room; Vancouver; Stereoland; Windsor; Target Hi Fi; London; Treble Clef; Ottawa.  
 Mexico- Contact Grupo Volumen; Mexico City.



# AUDIO Q & A

IAN G. MASTERS

## Port-Noise Complaint

**Q** My PSB Subsonic II powered subwoofer has performed well except for one problem. During certain musical passages that contain very deep, sustained bass notes, there is a significant amount of noise from its ports, occasionally to the point of annoyance. I've heard that flaring both ends of a port will reduce turbulence and hence the noise. Would that be effective? Any other ideas?

JOHN GOULD  
Manhattan, KS

**A** The rushing sound caused by turbulence at the ends of subwoofer (and full-range speaker) ports generally happens only in extreme circumstances, especially in high-quality equipment, but it is definitely real. Because the sound is usually much higher in frequency than the desired output, it can often be blocked or absorbed acoustically. That's the cheap solution: Hide your subwoofer behind a couch, or put a chunk of carpet on the wall facing the ports, and the noise will probably vanish. Such measures won't always solve the problem, however.

You're correct about flaring, and, in fact, PSB has taken that approach in its more recent products. But there are fixes you can try that may make things more listenable without your having to open up the enclosure. I never like to encourage that, if only because you're likely to void your warranty. One alternative Paul Barton of PSB suggests is simply to tape thin pieces of fiberglass batting over the port openings on the back of the subwoofer. If that still doesn't fix the problem, plug the openings completely. If you do that, the speaker will begin to roll off at a higher frequency, so you'll probably have to readjust both the crossover frequency and bass level to compensate.

## Faint Front Effects

**Q** I have set up a seven-speaker home-theater system that adds two front-effects speakers to the normal array, but I can't get the front-effects speakers to play loud enough. I've checked all the connections and switch settings, and I have made sure that the level control for the front-effects channels is at maximum, but the sound is still very faint. Is it meant to be that way, or is there something improper about my setup?

JAMES PERILLO  
Oakville, CT

**A** You don't say whether the speakers you are using for the front-effects channels are identical to others in the system. If they are and you can't get adequate output even

with the level all the way up, I'd say something is amiss with your decoder or amplifier, and a trip to a service facility would be in order. If the speakers are different, however, I suspect that it's a problem with sensitivity. The effects speakers just can't produce enough output with the power you're feeding them. You can easily check this by temporarily connecting your surround speakers to these channels to see how loud they play. If it's a sensitivity problem, about all you can do is change the effects speakers or add more amplification. But if you obtain reasonable levels from the effects speakers with the channel-balancing tones available from all of the seven-speaker home-theater devices we know of, you may be asking for more than they are supposed to deliver. Some ambience modes can produce rather soft front-effects outputs.

## Airport Hazards?

**Q** Do airport security X-ray devices or scanners harm standard audio CD's — or have any effect on them at all?

KERRY P. COLLINS  
Allen Park, MI

**A** No. CD's are optical media, and they are read by bouncing a laser beam off physical variations in the playing surface, so X-rays have no effect on them. Similarly, metal-detecting devices use electromagnetic sensing, and there's no magnetic material in a CD. Even if there were, the fields are low enough that they would probably have no effect, so your tapes are okay, too. At least I have never had any problem in that regard, nor have I heard of anyone else who has.

## FM Woes

**Q** No matter where I've lived, I've experienced problems with FM reception. In New York City, I even have occasional problems receiving local stations; matters are worse upstate. I've bought all sorts of electrified gizmos, but nothing works. Short of installing a massive rooftop antenna or a satellite dish, what can I do?

ALLEN C. FISCHER  
Brooklyn, NY

**A** Urban FM reception is notoriously tricky, and it can change unpredictably even if nothing in your own setup is altered. Electronic boosters can work acceptably if the problem is low signal level, but they do little if the signal they have to work with is already degraded. On the other hand, attenuators can be effective if the problem is that



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one station's signal is so strong it causes front-end overload and pops up in distorted fashion all over the dial.

You may find that you'll have to use different reception strategies for different stations. Indoor antennas — or even sometimes the wire dipole supplied with most receivers — can pick up a clean signal if they are directional enough and if they have a clear shot at the broadcasting antenna (or a single strong reflection). Move the antenna around to see if you can find a spot that delivers acceptable reception. Otherwise a rooftop antenna with rotor is the best bet, although that may not be a practical solution if you live in an apartment.

Most cable-TV companies offer FM as well, for a small premium, and that might be the best solution. Cable FM has not always been known for its purity, but things have improved in recent years.

### dbx Revisited

**Q** In addition to Dolby B and C noise reduction, the cassette deck I bought in Europe also includes dbx noise reduction, which I find very effective. As far as I know, this machine is not available on this side of the Atlantic, and I don't know very much about the dbx system. How does it compare with Dolby noise reduction? How many decibels of reduction does it provide?

IRENEUSZ SKORUPA  
Brooklyn, NY

**A** When Dolby B was king in the world of tape noise reduction, dbx came along to compete for the crown. It offered roughly double the 10-dB improvement claimed for Dolby B, and it was much less prone to problems caused by level mismatches and the like. Recording buffs who used it — a handful of cassette decks included it, and there were a few add-on processors — tended to swear by it, and my own limited experience of it impressed me.

But Dolby B was too entrenched, and too few manufacturers were willing to take a chance on an alternative technology, however good, so dbx failed to flourish in North America. It does still exist, however, as part of the stereo TV standard, but is basically invisible. And Dolby has gone on to introduce improvements in the form of Dolby C, which is comparable to dbx, and Dolby S, which is a good deal better.

### Too Quiet

**Q** I've just bought new speakers and a new receiver, and I notice that when I play music at low volumes, the sound comes from the right speaker only. When I turn the volume knob up, the problem disappears. Which is misbehaving, the receiver or the speakers?

THU LE  
Corona, CA

**A** It's almost certainly the receiver, but to make sure you could swap the left/right speaker connections at the receiver's output terminals and listen at a low volume. If the same speaker is silent, it's a speaker prob-

lem; if the effect switches sides, it's the receiver. The volume control is really two potentiometers ganged together, and the one controlling the right channel might not be making good contact at the low end of its travel. A shot of contact cleaner might clear things up, if you can get at the control. But as your equipment is new, I'd go to the trouble of taking it in and having the receiver repaired (or replaced) under warranty. Channel-matching tolerances of rotating volume controls are generally pretty sloppy at the low end of the volume range, and yours may simply be wildly out of spec.

### Dolby Digital vs. Pro Logic

**Q** I have noticed that some recent laserdiscs are encoded with Dolby Digital (AC-3) or DTS rather than regular Dolby Surround, and I wonder if that results in inferior sound. My understanding is that the two channels of Dolby Surround-encoded material hold all the sound, which is sent to the various speakers by a Pro Logic decoder, but that the main left and right channels of an AC-3-encoded signal don't contain all the information. Would I be better off buying the Dolby Surround version of laserdiscs rather than Dolby Digital or DTS?

MINH T. LUONG  
Brooklyn, NY

**A** There are several misconceptions here. The first is that, despite what may be implied by the presence of the Dolby Digital logo, an uncompressed digital Dolby Surround-encoded soundtrack is still there on the AC-3 discs, and it can still be processed by your Pro Logic decoder if you prefer it. What was sacrificed when Dolby Digital soundtracks came to be added to laserdiscs was *one* channel of the *analog* soundtrack, but very few of us ever listen to that anyway. Thus, the only people adversely affected by the presence of the newer system might be the few who own very early laserdisc players that can only handle the analog soundtrack. On DTS discs, the digital surround soundtrack does replace the two-channel digital audio, so if you'd prefer to listen in Pro Logic, you'd have to either buy a non-DTS disc or decode the analog soundtracks with Dolby Pro Logic.

And it's true that in regular Dolby Surround all the audio information is contained in the left and right channels, which are then decoded into four channels. But that's only because the system had to work that way. The decoding process redirects the center and surround material (and removes most of it from the signals for the left and right speakers) in an attempt to simulate a discrete multichannel system. Dolby Digital and DTS don't have to resort to such tricks: They reproduce six discrete digital channels from the start.

**If you have a question about audio, 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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## SIGNALS

KEN C. POHLMANN

# Kenneth and Kenny

**E**ver since my airbag exploded, I constantly hear voices inside my head. Day and night, the voices tell me how I should act and what I should say. Specifically, I have two different voices inside me: good Kenneth and evil Kenny. Kenneth is a really nice guy, very mature for his age, and filled with optimism and sensible advice. Kenny is the exact opposite: years of therapy have helped me to characterize him as being full of *Schadenfreude*, a famously untranslatable German word that means laughing up your sleeve at other people's misfortunes. Naturally, Kenneth and Kenny are in total disagreement. Kenneth advises me to eat tofu and lots of veggies; Kenny really likes Whoppers. Kenneth wants me to exercise regularly on my bicycle; Kenny urges me to ride my motorcycle "too fast for complete control," as he puts it. Kenneth pushes me to get a dental checkup at least once every six months; it's Kenny's opinion that oral hygiene is a scam perpetrated by toothpaste companies. They have different opinions on everything, including the new DVD.

Kenny thinks DVD is stupid. He says it's so messed up that its inventors don't even know what DVD stands for. It meant Digital Video Disc for awhile, then they changed it to Digital Versatile Disc, and when they figured out how dumb *that* sounded, they decided that "DVD" shouldn't stand for anything. Kenny says that DVD is really just a shrunken-down laserdisc. Both formats have Dolby Digital (AC-3) soundtracks, and at best most people won't be able to see any difference in picture quality. At worst, because of the complexity and cost of expert MPEG-2 encoding, poorly produced DVD's will have picture quality far inferior to a laserdisc. The laserdisc is a minor factor in the audio/video market, and DVD can only aspire to that same small niche. Another downer: DVD is suffering from the same copy-protection paranoia that doomed DAT, resulting in purposely contrived incompatibility and federal legislation. So, Kenny says, DVD is headed for the same mass-market obscurity as DAT.

Kenny also points out that many Hollywood studios are not participating in DVD's launch, and without a broad catalog of titles there will be absolutely no

reason for people to buy DVD hardware. Unlike first-generation VCR's, first-generation DVD's will not be able to record programs for time-shifting or archiving. Moreover, it's Kenny's opinion that recordable DVD-Video will never be a mass-market item. It will be too expensive, and Hollywood studios would never, ever let consumers have DVD-Video recorders anyway. At best, if consumer DVD-Video recorders ever became available, they would be hobbled with so many limitations as to be practically useless. DVD-Video recorders will be used by professionals for studio work, but as far as the A/V consumer is concerned, DVD is a playback-only format. That means that DVD is essentially an adjunct to VHS tape, and since most people think VHS tape is perfectly fine, they'll have no reason to buy DVD players and discs.

**Kenny says DVD is really just a shrunken-down laserdisc, while Kenneth thinks it's a worthy successor to the CD.**

Hey, if people really want better TV, they'll simply buy a DBS dish.

Kenneth really likes DVD. He argues that the CD revolutionized the audio, video, and computer industries, and there is every reason to believe that DVD will do the same. Indeed, from a purely technological viewpoint, DVD blows away CD. The world needs data storage that's denser and faster, and DVD greatly improves on CD in both respects. In short, DVD is a worthy successor to the CD.

Kenneth also points out that CD initially met with a lot of skepticism. Many manufacturing companies and record labels believed that consumers would never abandon their record players and vinyl records for a completely new and incompatible format. The naysayers were spectacularly wrong. Although sales were slow for the first three years, the CD ultimately triumphed. The DVD faces the

same skepticism, but it has several key advantages. When it was first launched, CD was only a music carrier. DVD enjoys the advantage of launching titles in both the A/V and computer industries. That is supremely important in this new era of convergence, and DVD-Video and DVD-ROM will mutually support each other, to each other's advantage. DVD-Video will provide the highest-quality A/V playback, and compatible DVD-ROM recorders will be available for people who really need them — computer users.

Kenneth concedes that a chicken-and-egg situation exists. People won't buy DVD players unless there are DVD titles, and studios won't release DVD titles unless people have DVD players. But that's true of every new format, and, as with the CD, it simply requires a little patience. Besides, DVD enjoys the great advantage of backward compatibility, which the CD never had: DVD players can also play CD's. Consumers everywhere will discover the incredible sound and picture quality of DVD, and its convenience, and switch over. When the cost of MPEG-2 decoder chips and other DVD circuits falls low enough, CD players will disappear except at the very low end, and virtually all optical-disc players will be DVD players. DVD will become the universal audio/video/computer medium.

Kenneth and Kenny have been arguing about DVD for months, and now that DVD players and discs are available, their bickering has become intolerable. They just won't shut up. Meanwhile, I'm caught in the middle. I can see both the pros and cons, and although I agree with Kenneth that DVD will ultimately succeed, I can't ignore Kenny's identification of the many pitfalls that it must avoid. Personally, I suspect that DVD will follow a scenario that is familiar in the A/V world. It will first be embraced by early adopters, people who want the absolutely coolest toys available. Specifically, laserdisc enthusiasts will be the first to scrutinize DVD. If a decent selection of movies is available, they will buy the first DVD hardware. Then they will start collecting DVD titles, so that when HDTV monitors arrive they will be ready to really feast. Later, as DVD prices decline, and the recording catalog expands, other buyers will be attracted. They will not give up their VCR's, but they will recognize the advantages of DVD playback in their home theaters. In a way, both good Kenneth and evil Kenny will be proved right. Kenneth will see DVD succeed, and Kenny will enjoy seeing manufacturers sweat as they try to get the ball rolling.

Well, following Kenneth's good advice, I have to go to the dentist now — but only after Kenny made me postpone the appointment three times. I only hope they don't use nitrous oxide: it makes Ken act kind of crazy. □



# "The M&K S-150 THX surround-speaker system sets the performance standard for the \$5,000 region"

Wes Phillips, *Stereophile Guide to Home Theater, Spring 1997*



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## TECHNICAL TALK

JULIAN HIRSCH

# The Shape of Sound

I recently received a letter from a reader who is planning a music/theater room for his home and is concerned about the influence of speaker configuration on the final sound. Specifically, he asks about the relative advantages or disadvantages of a conventional installation of moderate-size left and right main speakers, coupled with one or two subwoofers, as compared with a pair of relatively large speakers containing integral powered subwoofers. He specifies the dimensions of his room and asks which format would provide the more pleasing or accurate sound quality.

Although I understand his uncertainty, I'm afraid I can't supply an unequivocal answer, even with the information he gives me. If only it were a simple, straightforward choice! For one thing, individual tastes in matters of sound quality vary as much as the number of speakers available to choose from. There is a wide diversity of opinion about the relative merits (or lack thereof) of the many new speakers appearing on the market, and a speaker reviewer, who must base his conclusions on his own opinion, can provide little assurance that his opinion will be applicable to a reader's own situation.

As I have often mentioned in speaker test reports, the system frequency response as perceived by a listener, which has a major (though far from exclusive) influence on a speaker's ultimate sound quality, is a function of numerous factors, and many of these factors, even in the rare cases where they are identifiable, are beyond the ability of the listener to affect in a meaningful way. The characteristics of the speaker's drivers and crossover network, the enclosure design and construction, and the proximity to furniture and walls can all have a considerable effect on the final sound.

My own experience suggests that most of the variability in sound quality (aside from the recording itself, of course) comes from the room's dimensions, acoustic properties, and furnishings, and from the speaker's placement in that room and relative to the listener. Although every speaker has its own special sound characteristic, this is unavoidably modified by its placement, the room acoustics, and the listening position.

Actually, a very similar situation exists in a concert hall. Every seat location provides a slightly different character of sound to the ears of its occupant. I know people who go to great lengths to occupy a specific seat in a given hall, considering all others to be inferior. Personally, I find that attitude a bit excessive.

Likewise, in home music reproduction, the sound field is inevitably different at every point in the room. In this case, however, the listener may (sometimes, at least) have the option of selecting the "ideal" listening spot in the room. Nevertheless, I suspect that in the vast majority of home installations, most people find the sound quality to be acceptable over a range of listening positions.

While I cannot provide an unequivocal answer to my correspondent's questions, I would like to offer a few thoughts that

**Within their design  
parameters, speakers of  
all types can be  
top-grade performers, or  
at least adequate.**

may provide some perspective. Excluding the special case of in-wall speakers, most of the many thousands of speaker models currently on the market can be broadly classified as (1) free-standing electrodynamic column or box speakers; (2) planar speakers, either electrostatic or magnetic; or (3) powered speakers, usually subwoofers. There are also some combinations of two or more of these categories.

Within their design parameters, speakers of all three types can be top-grade performers, or at least adequate (if a speaker is less than adequate, it is likely to have a rather brief stay in the hi-fi marketplace). It can be risky to categorize a speaker's quality on the basis of its physical construction, such as the number and size of its drivers, their design characteristics, or the use of exotic materials. Some unusual materials or technologies are truly worthwhile, but sometimes the audible benefits

are principally in the mind of the listener. There are, have been, and always will be good and not-so-good examples of every type of speaker. But, as in many other fields, the final assessment of quality is almost totally subjective.

The relatively recent appearance of several columnar speakers with integral powered subwoofers, which my correspondent specifically inquired about, does not really represent a separate speaker category but is merely a logical physical form for a two-way or three-way tower system with one or two discrete subwoofers. Combining these elements in one enclosure provides equivalent performance to the more traditional speaker configuration but saves space. In addition, there is the presumption that the built-in subwoofer's output and sound quality will be compatible with those of the main speakers.

Although there is probably little, if any, difference between the low-bass performance of a system whose subwoofer section is physically part of a full-range speaker and that of a more conventional system with one or two separate subwoofers, I consider the former's simplified installation to be a distinct plus. It seems to me that minimizing the already considerable number of wooden boxes and cables on the listening-room floor is a step in the right direction from the standpoint of reliability as well as aesthetics.

On the other hand, most manufacturers of stand-alone subwoofers point out the desirability of being able to place the subwoofer module (or modules) in the best location for its function, independently of the placement of the main stereo speakers, whose position and orientation usually have a significant effect on the imaging of a stereo program in the listening room.

There is yet another factor to be considered when deciding on integral versus separate powered subwoofers. A good three-way loudspeaker or a subwoofer can easily weigh between 50 and 70 pounds, or more. When the subwoofer is built into the main speaker system, the unit weight can exceed 100 pounds per channel! The system will probably be left in place once its optimum location is established, but it is well to consider the weight factor before purchase.

In the final analysis, your choice of components should be made on the basis of your personal taste in sound quality, with due consideration for the aesthetic and economic factors involved. It is obviously desirable to hear the speakers in operation, even if only at a dealer's showroom, before making a final selection, but remember: Those same speakers, once in place in your home, will almost certainly sound different from the dealer's demo. The good news is that if you install your speakers properly, they can just as easily sound *better* than the demonstration. □



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Home Theater, Feb, 97

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—Julian Hirsh  
Stereo Review, Dec. 96

\*Strictly speaking: for 20 years or until patent expires.



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LOOK P. LEUNG

## Sansui RZ-8150AV Audio/Video Receiver

DANIEL KUMIN • START LABS

**S**ansui is a name that goes way back in the collective memory of U.S. audio buffs. The brand was one of the first off-shore players to crack the domestic market with serious high-fidelity gear, and it was one of the earliest manufacturers of any origin to offer affordable solid-state amps that displayed a definite audiophile bent. So it's good to see the firm's squiggly-S logo back on the component shelves after a hiatus of a year or so.

Kicking off Sansui's ambitious new U.S. line are no fewer than forty models covering the usual gamut of stationary and portable audio gear. None of these appear at face value to be revolutionary, but many seem poised to offer good value and performance. The RZ-8150AV is a \$699 Dolby Pro Logic A/V receiver that incorporates most of the familiar functions of the genre and adds something such receivers don't usually have, a champagne-gold brushed-aluminum faceplate. I like it, and it definitely stands out from the ranks of black-faced gear that on an average day litters every available surface (including the floor) in my studio. (The same receiver is available in black as the RZ-8200AV.)

Otherwise, the 8150AV is fairly standard issue. It's rated to deliver 75 watts each to the front three channels and 25 watts each to the two surround outputs, all into 8 ohms at 1 kHz with 1 percent total harmonic distortion (THD), and it offers Dolby Pro Logic decoding, four nonmatrixed surround modes for music, a Karaoke setting, and a number of inputs and outputs. There are two audio-only tape loops, a CD input, and a phono input (something found on a shrinking number of new receivers these days). All the video jacks, including the single monitor output, are composite-video; no S-video ports are provided. Speaker connectors all around are relatively light-duty clamp-terminals that could prove difficult to utilize with cables heavier than about 14 gauge. There are no

line-level outputs, so upgrading by adding outboard power amplification directly is not possible.

The receiver's audio-plus-video provisions are limited to a full record/play loop for a single VCR and an input for a laserdisc player. This will just about cover a basic home-theater setup, but in all honesty it's not really enough. Many systems today have (or will have) both a laserdisc (or DVD) player and one or two VCR's *plus* a small-dish satellite receiver, a camcorder, and a video-game player or another multimedia source.

Another fairly glaring omission is the absence of a subwoofer line output. On most mid-line A/V receivers this is a simple, full-range output summing the front channels (total parts cost: about 16¢), which is precisely what you get when you route front left/right speaker outputs via a powered subwoofer's high-level inputs and pass-through outputs. But doing it that way can be a cabling hassle, so having a line-level sub-out jack on the receiver is a legitimate convenience. Neither of these shortcomings is truly crippling, but these days a \$700 receiver really should do a better job of servicing moderately complex systems.

Control layout is for the most part conventional, with volume and balance knobs and pushbuttons for source and mode selection. The exceptions are the four arrow keys labeled Multi Control and the associated Tone and S. Parameter keys. You select bass or treble and such surround-mode options as center mode/level and surround de-

**DIMENSIONS:** 17 inches wide, 5¼ inches high, 13¼ inches deep

**WEIGHT:** 25½ pounds

**PRICE:** \$699

**MANUFACTURER:** Sansui, distributed by Regal Electronics, Dept. SR, 4251 Burton Dr., Santa Clara, CA 95054; telephone: 408-988-2831



lay/level and make adjustments using the up and down keys. Tone modifications are made only in 2-dB steps, which is a little coarse in my book. The other front-panel features include a microphone jack and associated level knob, a headphone jack, and the Karaoke key.

I connected the 8150AV in a fully capable home-theater setup with excellent full-range front left/right speakers, a matched center speaker, and dipole speakers in the surround positions. To exercise the 8150AV fully, I did most of my listening with the left/right towers running full-range, although I also did some listening with a powered subwoofer augmenting the towers (which necessitated looping outputs to those speakers through the sub as mentioned earlier). Sources included Dolby Surround-encoded laserdiscs, music CD's, and a DSS (Digital Satellite System) receiver.

The Sansui receiver proved a solid performer, with two-channel power output that drove my typical-sensitiv-



ity main speakers to satisfying levels without stress. The same held true for the center output in the surround modes, and, despite their modest power rating, the surround outputs as well.

In fact, the surrounds sounded considerably punchier and more dynamic than with several similar but more powerful (on paper at least) receivers I've encountered. When the surround-channel amp ran out of steam, there was the hardening, brightening, and thickening of the sound that's typical of modern solid-state power amps when they're overdriven.

The 8150AV delivered quite good performance in Pro Logic mode. Its steering logic was smooth and accurate, and sounds panned from left to right or front to back generally moved smoothly and naturally. Channel leakage from center to sides, though a touch greater than that produced by the best receivers, was low, and the center image was quite stable and free of dynamic spitting of "p" and "t" sounds, which is much more important in my book. Noise was not much of a practical factor. While the 8150AV was not as quiet in Pro Logic mode as today's best receivers, its performance was more than acceptable, with audi-

## MEASUREMENTS

Test-bench results from the RZ-8150AV for the most part speak for themselves. Tuner results were typical of what we've been seeing from value-priced gear for years. Stereo performance was fine, too, with output power precisely as rated and good (low) noise levels, though the frequency response was lumpier than we'd prefer when the tone controls were de-activated.

Measured Dolby Pro Logic performance was surprisingly substandard, a throwback to the kind of numbers we used to see a couple of years ago. Surround-channel noise level was barely adequate, and there were tracking errors in the surround-channel noise-reduction system. These prevented us from obtaining an unambiguous determination of the noise-reduction calibration. We therefore used the standard Dolby calibration level of 251.5 millivolts for our surround-channel frequency-response test. This showed substantial (greater than 3 dB) deviations at midband frequencies that would probably be audible in direct comparison with a correctly responding decoder. These deviations might be heard as "pumping" noise, a slightly bright or forward frequency balance, or elevated noise levels, depending on the program material and playback volume. — David Ranada

### DOLBY PRO LOGIC PERFORMANCE

#### FREQUENCY RESPONSE

left, right . . . . . 20 Hz to 20 kHz +0.4, -1 dB  
center . . . . . 20 Hz to 19.3 kHz +0.1, -3 dB  
surround . . . . . 20 Hz to 6.6 kHz +1.4, -3 dB

#### OUTPUT AT CLIPPING (8-ohm loads)

left, center, right . . . . . 99 to 104 watts  
surround . . . . . 29 watts

#### NOISE (re 1-watt output, A-wtd)

left, right . . . . . -73 dB  
center . . . . . -74 dB  
surround . . . . . -69 dB

#### DISTORTION (THD+N, 1 kHz, 1-watt output)

left, right . . . . . 0.032%  
center . . . . . 0.038%  
surround . . . . . 0.25%

#### SURROUND-DECODER INPUT-OVERLOAD MARGINS (at 1 kHz)

left, right (re 2-volt input) . . . . . -1.6 dB  
center (re 1.4-volt input) . . . . . +1.2 dB  
surround (re 1.4-volt input) . . . . . -0.4 dB

#### SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR

N/A (see comments)

#### CHANNEL SEPARATION (100 Hz to 7 kHz)

left output, right driven . . . . . >35 dB  
left output, center driven . . . . . >31 dB  
left output, surround driven . . . . . >33 dB  
center output, left driven . . . . . >42 dB  
center output, surround driven . . . . . >33 dB  
surround output, left driven . . . . . >53 dB  
surround output, center driven . . . . . >31 dB

### AMPLIFIER SECTION

All data for two-channel stereo operation.

#### OUTPUT AT CLIPPING (at 1 kHz)

8 ohms . . . . . 120 watts  
4 ohms . . . . . 169 watts

#### CLIPPING HEADROOM (re 120-watt rating)

8 ohms . . . . . 0 dB

#### DYNAMIC POWER

8 ohms . . . . . 151 watts  
4 ohms . . . . . 225 watts

#### DYNAMIC HEADROOM (re 120-watt rating)

8 ohms . . . . . 1.0 dB

#### DISTORTION AT RATED POWER

0.7%

#### SENSITIVITY (for 1 watt output into 8 ohms)

CD input . . . . . 19.4 mV  
phono input . . . . . 0.33 mV

#### NOISE (re 1-watt output in 8 ohms, A-wtd)

CD input . . . . . -78 dB  
phono input . . . . . -71 dB

#### FREQUENCY RESPONSE

phono . . . . . 20 Hz to 20 kHz +0.45, -0.85 dB  
line-level . . . . . 20 Hz to 20 kHz +0.24 dB, -0.88 dB

#### TONE-CONTROL RANGE

100 Hz . . . . . +7.9, -8.4 dB  
10 kHz . . . . . +7.6, -8.7 dB

### TUNER SECTION

All figures for FM only except frequency response.

#### SENSITIVITY (50-dB quieting)

mono . . . . . 18 dBf  
stereo . . . . . 40 dBf

#### NOISE (at 65 dBf)

mono . . . . . -74 dB  
stereo . . . . . -70 dB

#### DISTORTION (THD+N at 65 dBf)

mono . . . . . 0.77%  
stereo (including pilot leakage) . . . . . 1.0%

#### CAPTURE RATIO (at 65 dBf)

1.5 dB

#### AM REJECTION

50 dB

#### SELECTIVITY

alternate-channel . . . . . 62 dB  
adjacent-channel . . . . . 10 dB

#### PILOT-CARRIER LEAKAGE

19-kHz . . . . . -78 dB

#### CHANNEL SEPARATION (1 kHz)

45 dB

#### FREQUENCY RESPONSE

FM . . . . . 30 Hz to 15 kHz +0, -1.8 dB  
AM . . . . . 00 Hz to 0.0 kHz  $\pm$ 0 dB

## TEST REPORTS

ble noise at any realistic listening level kept below the whirl of the laserdisc player (my hands-on yardstick) even in silent scenes.

Sansui endowed the 8150AV with four "extra" surround modes. Theater is a Pro Logic elaboration that sends full-range (and possibly equalized) content to the surround outputs, while Hall, Dome, and Natural are four-channel surround programs. I found Hall and Dome excessively "boingy" under most conditions (especially the somewhat bizarre, heavily delayed Dome mode), but the Natural setting, which appeared to be essentially a passive ambience-extraction mode, delivered some very pleasing effects, particularly with small-scale, acoustic-instrument recordings of chamber music and jazz. Even better, the receiver permits users to store relative surround- and center-channel levels, as well as delay times, independently for each surround mode. This means that you can set your favorite balance for your favorite mode permanently. I set up Natural with surround-speaker levels 4 dB below the calibrated point, which yielded a subtle, generally usable surround-sound effect in my studio. Far too few popularly priced A/V receivers provide this exceptionally valuable feature. Kudos to Sansui for getting it right.

Oh, yes — the Karaoke mode. It did

an impressive job of suppressing center-channel soloists (via reductive Pro Logic steering, presumably), permitting me to sing or play along with the music (as long as the voice or solo I wanted to delete was mixed in the recording's center). I plugged one of my trusty Shure SM-57's into the 1/4-inch mic input (via a matching transformer/adaptor) to confirm the Karaoke mode's operation, but I will not confess to indulging in any vocal acrobatics — though I do suddenly seem to know all the lyrics to "Leopardskin Pillbox Hat" by heart.

FM performance was mediocre at best, and the receiver's brutally slow pushbutton seek-tuning did not improve my outlook. Reception of truly weak and distant signals was close to nonexistent, and all but the strongest broadcasts were plagued by noise and multipath distortion. Sound quality from the strongest FM sources was generally good, though a bit short of the full dynamic nuance of which the FM medium is capable. Despite this, I would expect the 8150AV to work perfectly okay in a typical urban/suburban installation. I could receive strong local commercial signals from a simple dipole indoor antenna, but rural users and those hoping to "DX" fringe college stations and the like will be disappointed unless they have access to a good, high-gain outdoor antenna.

AM performance was better. With the supplied loop antenna, the 8150AV successfully tuned in about a half-dozen AM stations, essentially par for modern-day receivers at my location. The receiver does allow you to enter a five-character alphanumeric rubric for each preset station, and you can tune stations directly by keying in their frequencies, though only at the front panel — remote access for this feature would be a nice touch.

I have a few other ergonomic gripes. The absence of any remote-accessible seek or manual tuning means that anything other than preset up/down (there are thirty presets altogether) requires a trip to the front panel. Conversely, the handset includes a mute key, but the front panel does not, so if the remote is hiding inside your sofa and you need to squelch the volume you have to crank down the front-panel volume control. On the plus side, Sansui does provide a clear, simple display and good visual confirmation of commands, though these are easily obscured by normal daylight because of a far too reflective window. Moreover, the front-panel lettering is quite small, and the labels for the eight controls set into the black-plastic display cover are all but indecipherable even from head-on 18 inches away — insane!

The remote was somewhat better, with reasonably generous key spacing, segregation of key groupings by button color, and clear (but small) black-on-silver lettering, although the fifty-three keys are all small and shaped identically. (I have kind of a mania about this stuff, so a few grains of salt could be in order.)

Sansui's RZ-8150AV is a refreshingly simple A/V receiver with solid amplifier performance, decent Dolby Surround performance, and a couple of excellent features, notably its adjustable ambience modes. On the other hand, FM performance was below par, and the omission of a subwoofer output and the paucity of A/V inputs, while unlikely to give much pause to casual listeners and viewers, could well put off true home-theater buffs. Furthermore, these features are readily available in comparably priced receivers from many other brands (typically along with a bit more power, too). In a less furiously competitive category the RZ-8150AV might have an easier row to hoe; nonetheless, the reintroduction to the U.S. of one of the audio world's finest old names is more than welcome. □





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## TEST REPORTS



# Mirage Omnipolar OM-6 Speaker

**JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES**

Over the twenty years of its existence, the Canadian manufacturer Mirage has gained a well-deserved reputation for producing high-quality loudspeakers. The company is probably best known for its bipolar speaker systems, the first of which was introduced in 1986. Today its product line includes both bipolar and conventional forward-firing speakers.

Typically, a bipolar speaker has a dual set of identical drivers — usually a tweeter and a midrange driver — that radiate sound *in phase* to the front and rear. Bipolars are designed to be

placed a few feet from the wall behind them so that sound from the rear drivers reflects off the wall and arrives at

**DIMENSIONS:** 45½ inches high, 9¾ inches wide, 4¾ inches deep at top, 16½ inches deep at bottom

**WEIGHT:** 61½ pounds

**FINISH:** high-gloss black lacquer, black acoustically transparent cloth grille

**PRICE:** \$3,000 a pair

**MANUFACTURER:** Mirage, Dept. SR, 3641 McNicoll Ave., Scarborough, Ontario M1X 1G5; telephone, 416-321-1800

the listening location a few milliseconds *after* the sound from the forward-facing drivers. This small time delay imparts an enhanced sense of spaciousness to the sound compared with the sound from similar drivers firing forward only.

Mirage's new OM-6 speaker, which the company describes as "Omnipolar," employs a variation on the bipolar principle. Viewed from the front, the OM-6 resembles a moderate-size conventional floor-standing tower speaker with an essentially featureless black cloth grille covering its exterior.

From the side or top, however, you can see that the upper half of the panel is only 4½ inches deep. It contains one pair of forward-facing drivers and a second pair of rear-facing drivers, each pair consisting of a 1-inch pure titanium hybrid-dome tweeter and a 5½-inch injection-molded polypropylene-cone midrange driver with a butyl-rubber surround. Although the two sets of drivers are identical, their relative positions are inverted: The forward-facing tweeter is *above* the forward-facing midrange driver, while the tweeter of the rear-facing pair is *below* its midrange driver.

According to Mirage, this design produces a wider dispersion of the sound into the listening area than the usual bipolar arrangement, where the corresponding drivers are directly opposite one another. And because the OM-6's cabinet is so shallow at the top, the critical middle and high frequencies are radiated with a minimum of cabinet interaction.

The lower half of the speaker serves a multiple role. In sharp contrast to the upper half, it is deep (16 inches) and heavy, accounting for most of the system's 61½-pound weight. In addition to physically stabilizing the system (there is no way it could be tipped over accidentally), the base contains two long-throw 8-inch woofers in a closed volume, which radiate from the sides of the base. The woofer pair in each speaker is driven by a built-in 150-watt amplifier.

The sloping rear panel of the bass section has several controls. The level knob varies the bass output (relative to the speaker's overall level) over a ±6-dB range; the middle position is said to provide the optimum balance between bass and higher frequencies. A similar LF EQ knob adjusts the frequency response of the subwoofer over the range from -3 dB at 20 Hz to +3 dB at 45 Hz (the center 0-dB set-



ting provides the nominally optimum frequency response).

The inputs to the OM-6 system are two pairs of gold-plated binding-post terminals, which are normally joined by gold-plated straps. They are spaced for dual banana-plug connectors and can also be used with stripped wire ends or lugs. If the jumper straps are removed, the system can be biwired or biamplified, with separate signal wires (and driving amplifiers) for the low- and high-frequency sections.

Line-level connectors are also provided for driving the speakers from a preamplifier or A/V processor and separate power amplifiers. A Y-connector (not furnished) is required to split the preamplifier output for each channel into two paths, one for the main-system power amplifier and the other for the OM-6's built-in subwoofer. A small toggle switch on the

90-dB sound-pressure level (SPL) at a 1-meter distance. The distortion was only 2 percent between 100 and 70 Hz, increasing smoothly at lower frequencies to 3 percent at 50 Hz and 10 percent at 30 Hz. While those numbers may seem large when compared with amplifier measurements, they are quite moderate in the loudspeaker world.

A quasi-anechoic MLS frequency-response measurement at a 3-meter distance (a normal listening position) reaffirmed the excellent response flatness of the OM-6. The response variation was  $\pm 4$  dB from 300 Hz to 20 kHz and  $\pm 3$  dB up to 14 kHz.

Measured impedance of the OM-6 was a minimum of 6 ohms from 200 to 500 Hz. At most other frequencies it was typically 6 to 8 ohms or higher and would present no problems to any amplifier. Our measurements also con-

**The front and rear drivers in the top section of the OM-6 are inverted relative to each other, which Mirage says gives wider dispersion into the listening area than a conventional bipolar design.**

speaker's control panel, with settings marked 0 and 180 degrees, is used to establish the correct phase relationships for the amplifiers.

The system frequency response is rated as 18 Hz to 22 kHz (variation unspecified) and its sensitivity as 91 dB. The nominal impedance is 6 ohms, with a 4-ohm minimum. The OM-6 is recommended for use with amplifiers delivering from 30 to 200 watts per channel.

For listening, and for many of our measurements, we placed the two OM-6 speakers 8 feet apart and 3 feet in front of the wall behind them. The subwoofer controls were set to their nominal center positions. The room response (which is unlikely to be duplicated in other acoustic environments) was a surprisingly uniform  $\pm 3$  dB from 100 Hz to 20 kHz and  $\pm 5$  dB from 20 Hz to 20 kHz.

The close-miked subwoofer response reaches its maximum at 60 Hz, sloping off smoothly by 3 dB at 35 Hz and by 9 dB at 20 Hz. Above 60 Hz the output decreased by about 6 dB at 120 Hz and 15 dB at 200 Hz.

We measured the subwoofer distortion at an input level that produced a

firmed the sensitivity rating of 91 dB SPL, which is slightly above average.

Considering the measured performance of the OM-6, we would expect it to be a first-rate speaker in all respects, and we were not disappointed. Bass output was strong and clean down to about 22 Hz in our room. The lower limit of bass performance is a function of room characteristics as well as speaker design, and the OM-6 did at least as well in this respect as any other full-range speaker we have tested in this room.

Of course, there is much more to speaker sound than low bass, and the OM-6 proved itself with a variety of program material. Its soundstage was seamless, and the speakers were surprisingly inconspicuous, especially in comparison with others offering a comparable bass response.

The price you pay for these qualities is appreciable, but quite comparable with the cost of any serious rivals. The Mirage OM-6 is well worth auditioning even if you are not in the market for a speaker of this caliber, just to hear (and see) what can be achieved by an unorthodox but well thought-out design. □



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## Cinepro 3k6 Six-Channel Power Amplifier

DANIEL KUMIN • START LABS

If you prefer a Dodge Viper to a Lotus Esprit, Bruce Springsteen to Bruce Hornsby, and *Independence Day* to *Jules et Jim*, I've got your home-theater amplifier right here, the Cinepro 3k6. Cinepro is a San Francisco company that's rooted firmly in the commercial-cinema supply business; it has provided power amps designed for movie theaters since 1989. It recently made a move into theaters of the more private variety, offering first the Model 600X power amplifier and now the Model 3k6, which you can have for the not insubstantial sum of \$2,995 (plus \$49 shipping), factory-direct. Cinepro is also authorizing sales by several high-end custom installers.

Appropriately, the Cinepro 3k6 is a not insubstantial power amplifier, as a few vital statistics will quickly demonstrate: six channels, 2,100 watts total into 8 ohms or 3,000 watts into 4 ohms, thirty-six Motorola output transistors, and — excuse me, I think that's the chiropractor calling me back — 72 pounds net weight. When you unpack the Model 3k6, you know you've done something.

The amplifier's handsome, heavy, industrial-design two-tone aluminum front panel is slotted for rack-mounting — a two-man job if ever I saw one. The fascia is dominated by six large, click-stop input-level knobs, one per channel. Each has two associated LED's: A green one flashes to indicate the presence of a signal, and the adjacent red one lights if the signal begins to clip. The only other front-panel control is a very heavy-duty power rocker-switch. The feel of the 3k6's controls is first-class, and its faceplate finish is very nice indeed.

In contrast, the amp's top, side, and bottom covers are plain-Jane, heavy industrial-style sheet-metal panels. The rear is mostly taken up by a single

large heat-sink area. To one side is a column of six sets of speaker binding posts, and to the other are six sets of inputs, each with both unbalanced (RCA) and balanced (XLR) jacks. Between each pair of inputs is a mini-toggle Dual/Mono bridging switch. Bridging different combinations of channels will let the amp run as a three-, four-, five-, or six-channel power plant. A fourth mini-switch performs a ground-lift function; typically a pro-audio feature that interrupts the separate chassis ground, this can help you hunt down ground loops in order to reduce system hum.

Inside, the Cinepro 3k6 is built in a no-bull, pro-sound style that might raise an audiophile eyebrow or two. You'll find no attempt at beautification under the cover, but the construction is very solid, with excellent discrete components and heavily plated circuit boards used throughout. The power supply features a gargantuan toroidal transformer and a stack of filter capacitors (120,000 microfarads in all) that would bring a smile to Dr. Frankenstein's face.

Each of the amp's three two-channel boards have twelve bipolar output devices, and all three share the common heat sink along the rear surface, a layout that Cinepro says improves thermal coordination among channels and thus sound-quality consistency. Cinepro also notes that the 3k6 has a low-negative-feedback design and a simplified, three-gain-stage topology. A thermostatically controlled fan is set to

**DIMENSIONS:** 19 inches wide, 8¼ inches high, 16 inches deep

**WEIGHT:** 72 pounds

**PRICE:** \$2,995 factory-direct (plus \$49 shipping)

**MANUFACTURER:** Cinepro Professional, Dept. SR, 1030 Vicente St., San Francisco, CA 94116; telephone: 415-564-6300



come on only under conditions of severe stress.

Obviously, this is no pantywaist amplifier. Cinepro rates the 3k6 to deliver 350 watts per channel into 8 ohms, or 500 watts into 4 ohms, and more than 1,000 watts per bridged pair, all at less than 0.15 percent total harmonic distortion (THD). Its "typical" 8-ohm power output per channel and THD are given as 450 watts and less than 0.05 percent. Combined with a rated dynamic headroom of 3.5 dB, this makes for some fairly eye-opening potentials, including short-term outputs of well over 1,000 watts per channel.

Why so much power? Cinepro rightly points out that in today's digital age, having 18 or 20 dB of headroom over average levels is not excessive. Playing one of today's most demanding movie soundtracks at an average level of 10 watts, say, you'd need about 800 watts of clean power to handle the peaks. (Cinepro's example of a 10-watt average level is really quite high, even with less sensitive speakers, but we'll take it as a worst-case scenario to make the point.) None of this is exactly breaking news; the 3k6 simply takes the concept further than most other high-power, high-headroom power amplifiers.

The 3k6 idles warm, according to its maker a consequence of being biased toward pure Class A operation, a common design to improve the quality of low-level signals. The firm recommends substantial "break in" to get the best sound, and though I don't always take such advice too seriously, I did have an opportunity to leave the system playing interstation FM noise through five channels at once at moderate volume for about 36 hours.

Measuring an amplifier with such immense power-output capabilities is no mean feat, if only because of the number and size of the "dummy-load" resistors required. We were unable to drive all six channels to full output simultaneously, so our figures reflect a one-channel-driven condition. I did manage to power the 3k6 with four channels active at full gain and the remaining two running at reduced settings to remain safely below my remaining load resistors' 100-watt ratings (they're too costly to treat cavalierly). The input-level attenuators, however, induced response errors of about 0.2 dB in the top and bottom octaves; these are best left wide open except for temporary, convenience adjustments. (When they were opened,

the balance between adjacent channels was within 0.4 dB.) With all channels driven I could not infer any surplus over the rated 350 watts per channel into 8 ohms below the maximum stated THD of 0.15 percent; in fact, in this case the measured channels all clipped at around 285 watts.

ble-wired, 30- or even 40-ampere circuit to supply it.

I used the 3k6 to power a home-theater speaker suite comprising a pair of B&W 803 Series 2 front left/right speakers, a B&W HTM center speaker, and a pair of Citation Model 7.3 dipole surrounds — all dynamic designs

**In full five-channel digital surround playback, the volume of clean sound powered by the Cinepro 3k6 amplifier was awesome, and the 3k6 itself was exceptionally quiet, with no discernible hum or buzz.**

But note that my AC line voltage (a dedicated 20-ampere circuit) sagged a good 5 or 6 volts under the strain, which no doubt explains the shortfall. Besides, in a real-world setting, the odds that all channels of any multi-channel amp would be driven simultaneously *in phase* at even a tenth as high a level are quite literally nil. Cinepro's literature recommends 20- to 30-ampere AC service; I must admit that I'm not fully certain precisely how much total power the 3k6 can develop. My studio is wired in heavy-duty domestic fashion, but not like a commercial welding shop! Clearly, the 3k6 could safely exploit more current. My advice is that if you're going to spend three grand on an amplifier, pay an electrician a couple of hundred dollars more to install a dedicated, dou-

with sensitivity ratings between 88 and 90 dB. I didn't have a passive subwoofer with enough power-handling ability on hand, so I ran the Cinepro with one channel idling. That channel could easily have been bridged to increase center-channel power to absurd levels, but I chose equal power to all five speakers instead. I ran the Model 803's full-range to exercise the amp more fully.

I auditioned the Cinepro amp for about a week, playing both Dolby Surround and Dolby Digital laserdiscs and CD's as well as a handful of the first Digital Theater System (DTS) CD's and laserdiscs to come my way. Powered by the Model 3k6, the system seemed to have a new measure of effortless transient ability and open, airy spaciousness. In plain stereo, the B&W 803's sounded unusually punchy and clean; in full five-channel digital surround playback, the volume of clean sound was awesome. And the 3k6 was exceptionally quiet, with just the barest ear-to-the-tweeter hiss and no discernible hum or buzz (with the ground-lift on).

Was all of this simply the power of suggestion? Possibly, though I do believe that in real-world listening most amplifiers clip early and often (albeit very briefly and largely inaudibly). Is this amp overkill? Quite possibly, but who cares? If it was my \$3,000, I'd be quite content simply knowing that the amp could take anything Hollywood's sound masters might throw at it.

The short form? This is one hell of an amplifier. In fact, if Cinepro wants the 3k6 back, they're going to have to come and retrieve it. No, it's not what you're thinking — it's just that I don't think I can get the beast back into its shipping carton without help. □

## MEASUREMENTS

All data reflect one-channel operation except as noted.

### POWER OUTPUT AT CLIPPING (at 1 kHz)

8 ohms ..... 405 watts  
4 ohms ..... 790 watts

### CLIPPING HEADROOM (re rated output)

8 ohms ..... 1.1 dB

### DYNAMIC HEADROOM (re rated output)

8 ohms ..... 3.2 dB  
4 ohms ..... 3.2 dB

### DISTORTION (THD+noise)

at 1 kHz, 350 watts (8 ohms) ..... 0.08%  
20 Hz to 20 kHz, 1 watt (8 ohms, one to six channels driven) ..... 0.4%

### SENSITIVITY

(for 1 watt output, 8 ohms) ..... 84 mV

### SIGNAL-TO-NOISE RATIO

re 1 watt, A-wtd ..... -93 dB  
re rated output ..... -118 dB

### FREQUENCY RESPONSE (8 ohms)

20 Hz to 20 kHz ..... +0, -0.15 dB

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## TEST REPORTS



LOOK P. 161/162

# TDL Electronics NFM 1 Loudspeaker

JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES

**T**DL Electronics, though perhaps not very widely known in the U.S. high-fidelity market, is a well-respected British manufacturer of high-quality loudspeakers. It has specialized in "reflex transmission-line" speakers that are notable for their small cabinet cross sections and clean, extended bass response. In our last test report on a TDL product, the RTL 2, a little over two years ago, we found it to be an excellent speaker.

At that time TDL also had a distinctly different speaker in its line, then called merely the Near Field Monitor, that has recently been modified and improved and is now known as the NFM 1.

As most audiophiles probably realize, it is generally recommended that high-fidelity loudspeakers be placed some distance (at least 2 or 3 feet) out from the wall behind them rather than close to or directly against it. The sound reflections from the wall can often create a sense of space and ambience that enhances the spatial properties of the program.

In contrast, the TDL NFM 1 is, as its full name suggests, specifically designed to be located in a *near-field* environment, typically about 1 foot from the wall behind it. (It cannot be placed directly against the wall since its bass vent is in the rear and should not be obstructed.) The near-field character of the NFM 1 makes it a good choice for small rooms and surround-channel applications, according to the manufacturer. It is also a candidate for use with a multimedia computer, although since it is not magnetically shielded, it can't be placed next to the monitor.

Based on its size and weight, the

**DIMENSIONS:** 10 $\frac{3}{4}$  inches high, 7 inches wide, 9 inches deep

**WEIGHT:** 8 pounds 6 ounces (each); speakers are packed in pairs

**FINISH:** black ash or rosewood vinyl

**PRICE:** \$299 a pair

**MANUFACTURER:** TDL, distributed by Melody Audio, Dept. SR, 1940 Blake St., #101, Denver, CO 80202; telephone, 303-295-3100

NFM 1 can properly be described as a minispeaker, although its sound is far from miniature. The diminutive cabinet contains a nominally 5 $\frac{1}{2}$ -inch woofer (the cone is actually about 4 $\frac{1}{2}$  inches in diameter) with a treated-paper cone and a soft surround. Above the woofer is a  $\frac{3}{4}$ -inch soft-dome tweeter with ferrofluid cooling. The ducted port on the rear of the cabinet extends nearly to the front panel. The 3-kHz crossover network is a full two-way, second-order design with 12-dB-per-octave slopes.

In our measurements, the averaged room response of the two channels, measured 14 feet from the microphone on the axis of the left speaker (the two speakers were spaced about 8 feet apart), was within  $\pm 5$  dB from 75 Hz to 15 kHz. The quasi-anechoic (MLS) frequency response of the NFM 1 was very good, with an output variation of only  $\pm 4.5$  dB between 300 Hz and 20 kHz at distances from 1 to 3 meters.

The bass response was also measured separately, using two microphones close to the woofer and the bass port. Combining the two measurements, with their levels adjusted to compensate for the respective areas of the two sources (cone and port), produced a bass-response curve flat within  $\pm 0.5$  dB from 250 Hz down to 50 Hz, the lower limit of the speaker's rated response. The output of the woofer fell off at 12 dB per octave below 50 Hz. Its response at higher frequencies sloped off slightly, by only 5 dB, between 200 Hz and 1 kHz (the upper limit of this measurement).

Such bass performance from a single 4 $\frac{1}{2}$ -inch driver is actually quite impressive. Of course, a conventional cone driver of this size cannot be expected to equal the performance of a larger speaker, and this limitation was dramatically demonstrated by the increased distortion at low frequencies. At an output level corresponding to 88 dB sound-pressure level measured at 1 meter with a 1-watt input (the system's rated sensitivity, which we verified), the distortion was quite low, ranging between 1 and 5 percent at frequencies between 70 and 200 Hz. At lower frequencies the distortion readings increased rapidly, to about 12 percent at 35 Hz.

Although these numbers may seem high, especially in comparison to the distortion levels of amplifiers, they are actually typical of small conventional drivers operating at reasonably high levels at low frequencies. The cone ex-



cursor increases rapidly under those conditions, which inevitably results in a higher distortion level.

The rated nominal impedance of the NFM 1 is 8 ohms. Its measured impedance characteristic, like that of most speakers (though to a lesser degree than many), varied considerably with frequency, ranging from a maximum of about 20 ohms at 20 Hz, 100 Hz, and 2 kHz to minimum readings of 5 to 6 ohms at 60 Hz, 250 Hz, and 10 kHz. The NFM 1 is recommended for use with amplifiers rated at 15 to 60 watts per channel, which obviously presents no significant risk to the speaker drivers.

Because the NFM 1 is an unusual speaker, it is not easily compared with most other hi-fi speakers. Stand-alone speakers of its small size are rarely intended for serious music listening. On the other hand, many (if not most) speakers in the NFM 1's price class lack its construction quality and design sophistication, to say nothing of its sound quality. For example, it has two pairs of gold-plated binding-post connectors recessed into the rear panel, permitting biwired or bi-amplified operation if the gold-plated

straps that normally join them are removed. This feature is rarely encountered in the size and price range of these speakers.

Realistically, the NFM 1 can be viewed as a high-quality, affordable small speaker with a limited low-bass response and power-handling capability compared with more typical audiophile speakers. These limitations are offset by an excellent frequency re-

has the option of installing several large (and often costly) speakers for optimum performance.

We also listened to the system with a more typical placement (about 3 or 4 feet from the wall), and its sound that way was very good, too. Judging from our experience in testing and listening to the NFM 1 reproduce a variety of program material, we would describe it as a highly versatile and very afford-

**We would describe the TDL NFM 1 as a highly versatile and affordable small speaker that looks good and will sound good in a variety of smallish environments.**

sponse at moderate program levels (and adequate power-handling ability for many, if not all, home listening requirements) when the speaker is operated within its range.

It also has the advantage of delivering excellent performance when it is placed close to a wall, which (together with its small size) allows it to be installed and used effectively in the smallest rooms. After all, not everyone

able speaker that looks good and will sound good in a variety of smallish environments. It should satisfy the needs of most people whose budgets and spaces rule out larger conventional speakers, yet without undue compromise of sound quality. Its only real limitations, unfortunately established by natural laws, lie in the low bass and in playing volume, two areas no small speaker can excel at. □

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## USER'S REPORT



# NHT VT-1.2 Home Theater Speaker System

DAVID RANADA • TECHNICAL EDITOR

**A**s NHT puts it, the company's VT-1.2 system was designed as the "smaller counterpart" to its popular VT-2 home-theater speaker system, which we reviewed in May 1996. Like its bigger sibling, the VT-1.2 system consists of five speakers: two main tower speakers and three identical satellites used as center and surround speakers.

The family resemblance is unmistakable. Like the VT-2 towers, the 38-inch-high VT-1.2 towers (\$1,100 a pair) are narrow and deep (5½ x 15¾ inches) as well as finished in a high-gloss black laminate. Although the dimensions have sonic benefits, their main advantage is that they produce a speaker that is surprisingly unobtrusive when viewed from the front and decidedly less imposing than the taller and wider VT-2.

There's room, however, on the top half of the VT-1.2's front panel for three magnetically shielded drivers: two 4½-inch midrange units vertically flanking a 1-inch fluid-cooled soft-dome tweeter. One 8-inch long-throw woofer is located near the floor on the "outer" side of each VT-1.2 in the mir-

ror-image pair. The low woofer position helps in obtaining a flatter bass response and reduces speaker-placement problems. The speaker is vented and has a round port on the back.

Also on the rear panel are four multiway binding-post input terminals, two for the woofer and two for the other drivers. In normal operation these pairs of terminals are connected by metal jumper straps. You can, however, biampify the VT-1.2 by removing the jumpers and driving the woofer and the mid/high-frequency drivers with separate amplifiers. Aside from the primary advantage of biampification — the ability to play louder by not requiring one amplifier to drive the entire audio band — this hookup is said to turn the woofer of the VT-1.2 into a "powered subwoofer." If the VT-1.2's woofer is driven by an NHT SA-2 or SA-3 subwoofer amplifier, the company says, you'll "be able to fine-tune bass response for an individual listening environment." More on this claim later.

A fascinating feature carried over from the VT-2 is a front-panel switch to optimize off-axis dispersion for audio (music) or video (soundtracks). In

distinct disagreement with the THX camp, NHT believes that making the sonic image *less* sharp rather than more so is the way to go with soundtracks. NHT says that this will create less "cognitive dissonance" between the sonic image and the on-screen image, which is likely to be considerably smaller in width.

Saw off the top half of a VT-1.2 and plug up the resulting hole in the cabinet and you get a VS-1.2 satellite speaker (\$300 each), which is a sealed (acoustic-suspension) design containing the same magnetically shielded drivers as the front of the VT-1.2. (NHT's literature, however, promotes the VT-1.2's 4½-inch "midrange" drivers to "long-throw woofer" status in the VS-1.2. Ah, marketing!) The VS-1.2 serves as both center and surround speaker in a VT-1.2 system, or you could use three of them across the front and two as surrounds together with a separate subwoofer. Half as tall as the VT-1.2, the VS-1.2 measures 5½ x 19 x 8 inches and weighs 13½ pounds. Available in high-gloss black or white laminated finishes, the speaker has rear-panel facilities for use with the optional stands shown in the photo, with wall-mount brackets, or with a supplied tilting "foot" that can position and angle the speaker when it is placed on a shelf or on top of a TV monitor.

Sensitivity for both the VT-1.2 and VS-1.2 is given as 86 dB sound-pressure level (SPL) at 1 meter with a 1-watt input. While the nominal impedance for both speakers is 8 ohms, the VT-1.2's minimum impedance is 5 ohms; the minimum for the VS-1.2 is 6.3 ohms. None of these values should pose any problems with typical amplifiers or receivers.

We certainly didn't have any problems hooking up the system. It was actually a relief not to have to go through the tedious process of hooking up a subwoofer module, finding a good place for it, and adjusting it for best response. We just plunked down the VT-1.2 towers in our normal main-speaker positions, positioned one VS-1.2 front and center, and placed two VS-1.2's directly to the sides of the main listening position, our normal position for surround speakers. Our reference system's super-deluxe Dolby Digital surround-sound decoder, a Lexicon DC-1, was set for "large" front speakers, a "small" center speaker ("normal" in Dolby Pro Logic parlance), and "small" surround speakers.



Note that your amplifier or receiver doesn't need to have a subwoofer output to drive a basic VT-1.2 system.

With no further placement adjustments, we were able to obtain from the VT-1.2 towers an unusually flat response of  $\pm 2.6$  dB from 250 Hz to 16 kHz at our listening position. Used as a center-channel speaker, the VS-1.2 produced a nearly identically flat response and, as a consequence, was a nearly perfect sonic match with the towers. The VT-1.2's horizontal off-axis response was unusual in that it remained very smooth and rather flat between 250 Hz and 5 kHz to fairly high angles. Even at 90 degrees off-axis, the response was still very smooth even though it gently sloped downward with increasing frequency. These characteristics were probably responsible for the attractive neutrality of the VT-1.2's sound as well as the slightly "forward" quality it gave to voices compared with other speakers that don't maintain such a flat and smooth off-axis response.

Imaging of the two towers alone was excellent with music when the front-panel switches were set to A (audio). Depth effects were particularly well reproduced. Flipping the switches from A to V (video) produced a surprisingly small change in response (a slight dip at mid frequencies) considering the impact it had on image sharpness. With the imaging tracks of Delos's *Surround Spectacular* test disc (DE3179), we clearly heard the promised "smearing" (NHT's term) of the image, though directionality was correctly preserved. With movie soundtracks this effect did indeed reduce the distracting nature of some far-left or far-right sound effects without adding excessive fuzziness to front-and-center sounds. The imaging effect is subtle, however, and requires close attention to the dramatic relationships between sound and image, not merely to slam-bam explosive sound effects.

At frequencies below 250 Hz, the VT-1.2 towers' response was a little bumpy, at least at the positions we had them in. Although we got useful output down to around 30 Hz, there was a dip in the response at 160 Hz followed further down by slight peaks at 100 and 50 Hz, all more important from a musical standpoint than bass extension. We were not able to flatten the response — nor, indeed, to alter it appreciably — by biamplifying the speakers and using the crossover and level-adjustment facilities of an NHT

SA-2 subwoofer amplifier. (By the way, this amp comes with a manual that has the best instructions, including flow chart and glossary, for setting up and adjusting a subwoofer system that we have ever seen.)

Tweaking the speakers' positions would probably have produced a flatter response (close-miked measurements of the woofer and port outputs indicate that the VT-1.2 itself performs well at low frequencies). Biamplication alone cannot turn a built-in woofer into the acoustical equivalent of a separate subwoofer module. You can place a subwoofer module where it interacts best with the listening-room acoustics (a corner is a good place to start), but you cannot do that with most speaker systems where the woofer is in the same cabinet as the high-frequency drivers. You usually cannot optimize high-frequency imaging and bass response simultaneously without a physically separate subwoofer module. NHT, conveniently, makes three subwoofer modules.

Nonetheless, having hooked the NHT VT-1.2 system up to our 100-watt-per-channel Dolby Digital decoder/amplifier setup, and having a couple of brand-new DVD players and such surround-spectacular DVD pressings as *Twister* and *Eraser* on hand, we decided to let 'er rip *without* biamplication or subwoofer-module assistance. We were blown away by the system's performance with Dolby Digital sound-

tracks. It couldn't play quite as loud or as deep as the VT-2 system, but it played loud and deep enough for us and our neighboring offices.

With Dolby Pro Logic soundtracks, the monopole radiation of the VS-1.2 surround speakers imaged too well, producing annoying in-the-head images of the surround signal. But switching in the THX surround-decorrelation of the Lexicon decoder greatly increased the diffuseness of the sound from the surrounds. NHT recommends a slight rearward placement of the VS-1.2 when it is used as a surround speaker for Dolby Pro Logic, and our listening proved that this is desirable, especially when no surround decorrelation is available.

The VT-1.2's basic sonic neutrality benefited all types of music, and the inherently matched sound from all speakers in the system worked wonders with the digital ambience-enhancement modes of the Lexicon processor. We imagine it will do so with most other decoders' digital signal processing, too. There are precious few home-theater speaker systems that combine ease of hookup with nice styling and top-drawer sound suitable for medium to small listening rooms. In fact, we can't think of any besides the NHT VT-1.2.

NHT, Dept. SR, 535 Getty Ct.,  
Benicia, CA 94510; telephone, 707-  
747-0151



"See that couple? No, the ones walking by the left acoustic chamber. They're buying two of these for their home in Florida."

## USER'S REPORT



# JVC F3000 Minisystem

DANIEL KUMIN

**D**esigners have been shoe-horning audio into ever more compact and efficient packages practically since the invention of the vacuum tube. One of today's leading examples is the "minisystem," which consists of components that are considerably smaller than the standard 17-inch-wide boxes found in most home audio systems. Small-scale audio systems make lots of sense, especially for secondary listening rooms, and they have enjoyed a burst of popularity in recent years, with many companies offering shelf systems that take hi-fi very seriously.

One such effort is JVC's F3000 minisystem. Four discrete components make up the electronics stack: the AX-F3000 integrated amplifier, FX-F3000 AM/FM tuner, XL-F3000 CD player, and TD-F3000 autoreverse double cassette deck. These "separates" must be used together, however, since the CD player, tuner, and tape deck are tethered to the amp via proprietary ribbon-cable umbilicals carrying both audio signals and power.

Each of the components is just under 10 inches wide and 5 inches deep; the amp and tape deck are each about 5 inches high, while the tuner and CD player are only about 3 inches high. They can be stacked two by two or all

in a single column with the amp at the bottom. JVC's choice of finish — a light, champagne-tone brushed aluminum — is quite handsome, and the tuner and CD player sport simple yet legible amber dot-matrix displays.

All controls are of the pushbutton variety except for the amplifier's volume, bass, treble, and balance knobs. Control "feel" was solid, and though the buttons and knobs are small, most were relatively easy to use (the bass, treble, and balance knobs are too small and too close together). In addition to the custom inputs for its companion components, the amp has three RCA-type inputs, including phono, aux, and a second record loop marked MD because JVC makes a MiniDisc recorder. The CD player has an optical digital output (unusual among shelf systems), and the tuner offers a conventional FM antenna F-connector and bare-wire connectors for AM. The amplifier's stereo speaker outputs are of the *faux*-banana-plug screw-terminal type.

"Extras" include a headphone mini-jack on the amp and a clock (but no calendar modes) in the tuner that permits timer recording and clock-radio functions; when the system is off the tuner display shows the time. Two somewhat unusual amp features are a CD Direct mode, which is said to de-

liver "higher sound quality" by bypassing the tone and balance controls, and a Presence control, which turns out to be a loudness contour for low-volume listening but which also imposes a significant treble boost.

JVC offers as an option a pair of SX-F3000 companion speakers. The 13-inch-tall ported, two-way speaker combines a 5½-inch woofer and a 1-inch soft-dome tweeter. Close inspection revealed significantly better driver and crossover components than those typically found in shelf-system speakers. While the speaker's fiberboard enclosure is a bit lighter and more resonant than many of today's better bookshelf speakers — at least as suggested by the highly scientific, rap-on-the-cabinet test — its rosewood-vinyl finish is very classy.

The complete F3000 system has a suggested retail price of \$1,250, including the speakers. The electronics can be purchased alone for \$830.

Setting up the JVC F3000 system was revelatory in its speed and ease — no doubt this is a big draw for less technically inclined consumers. Once the components are uncrated, you simply plug the ribbon cables from the CD, tape, and radio components into the amp; each is a different size and can only go one way. Then you wire up the speakers (you do have to attend to polarity as usual), plug in the power cord, and you're ready to listen.

I was quite impressed by the F3000 stack's overall musical capabilities, which I evaluated with the JVC speak-



ers alternating with a pair of NHT SuperOne speakers, a comparably priced bookshelf model with which I am very familiar. CD playback was very clear, quiet, and dynamic, with no clearly audible faults. The FX-F3000 integrated amp. rated for 35 watts into 4-ohm loads (40 Hz to 20 kHz with 0.9 percent total harmonic distortion), was able to drive either speaker pair to very respectable listening levels.

The JVC speakers had a 2- or 3-dB edge in sensitivity over the NHT SuperOnes, so they played a bit louder before audible clipping; even so, they could not deliver true concert-hall levels, though they did yield unexpectedly solid sound in my large, 15 x 20-foot studio. On dynamic musical passages with deep bass, the NHT speakers did not produce the full clarity and "oomph" that they enjoy when powered by my usual 100-watt amp — no great surprise there. On the whole, I judged the F-3000 system's sound quality as generally open, airy, and defined, at least playing CD's. Its conveyance of subtle musical resolution was better than my admittedly higher-end bias had led me to expect.

JVC's SX-F3000 speakers did not equal the NHT's but were still quite good, at least as compared with the speakers packaged with most minisystems. They sounded open, detailed, and reasonably smooth, though with a trace of "cupped" or nasal qualities on some vocal material and with a hint of edge and sizzle on treble elements. Compared with the NHT's, they were somewhat less extended in the lower octaves and a bit less defined overall. Note that the NHT SuperOne, at \$350 a pair, costs *less* — and so do at least a dozen comparable speakers from various North American and European makers. Consequently, I'd have to advise passing on JVC's speakers, selecting one of the many small bookshelf speakers on the market.

The TD-F3000 double cassette deck offers Dolby B and C noise reduction as well as HX Pro headroom extension. It has the usual dubbing and autoreverse modes, along with dual full-logic (soft-touch) transports and a neat CD-dubbing control that automatically cues up the disc and tape and fades out the audio at the end of the tape. Conspicuously absent, however, are any form of input-level control or a tape counter. The lack of an input-level control compromises the deck's recording quality — CD dubs were clean, bright, and defined, but decid-

edly treble-compressed and a bit tizzy-sounding, presumably thanks to a gain-riding automatic record-level control. The lack of a counter makes navigation a bit tricky. There is bidirectional music search, but the deck winds tape rather slowly; it took almost 3 minutes to fast-wind a C-90 cassette.

FM performance was fairly typical of all-in-one systems: mediocre. Music quality of strong, local stations free from strong-signal competition nearby on the dial was clear, balanced, and relatively free of harsh treble and compressed dynamics, though a bit lacking in air, which I interpret as a product of high-frequency blending even on strong signals. Weak and distant stations suffered quite noticeably. With a carefully oriented dipole antenna, the FX-F3000 tuner managed to pull in only about half as many intelligible FM stations as a typical \$300 receiver does in my semirural location, and about half of those were not very usable for serious music listening. Several strong local carriers popped through the dial several steps to either side of their assigned frequencies, in two cases obliterating weaker alternate-frequency stations that I can normally receive here.

Bottom line: In an urban location rich in strong FM stations, or with a good bidirectional outdoor antenna, the JVC tuner should do fine, but if you want to hear distant broadcasts or weak public or college stations, you're liable to be frustrated. A bit surprisingly, AM reception was quite good. With an AM-loop antenna the tuner pulled in eight intelligible signals (on speech), which is more than respectable performance.

The integrated nature of JVC's F-3000 system makes for several ergonomic niceties. For example, there are no input-select keys. You simply hit a command or mode on any of the three sources, such as play on the CD player, and the amp automatically selects that input, if necessary turning itself on first. (The three external inputs must be selected manually, of course.) The CD player includes the expected track-programming and track/disc repeat modes, and the tuner is endowed with forty preset station memories and seek/scan tuning.

The slim remote controller that is supplied includes basic commands for all four components. The simplification keeps the button count within reason (forty, plus larger volume up/down keys), but it makes for a few oddities.

For instance, there are no fast-search CD keys, only track-skip, nor is there any radio-tuning option other than preset selection. Somewhat more seriously, there is no CD pause key on the remote either, only on the player itself (the remote will stop but not pause disc playback). I did not much care for the Presence control, which dialed in hefty mid-bass boost and a rather hot, zingy top octave, and the CD Direct mode did not yield any clearly audible benefit.

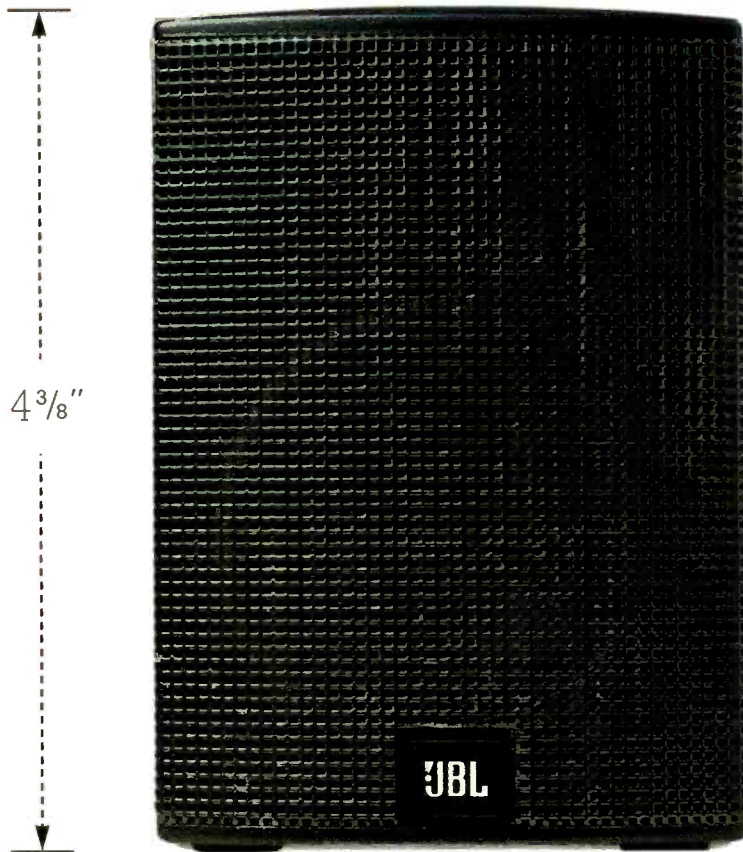
But other than those and one or two other quirks, the F3000 system proved easy and straightforward to use. JVC's compact hi-fi stack probably wouldn't take the place of a more rigorous component system for serious music listeners, but in many cases it should prove quite satisfactory, especially in a secondary space such as an office or dorm room. And there's no rule that says you couldn't add an active subwoofer and a pair of high-performance compact speakers to yield even more satisfying full-range sound. The F3000 is not unique — several other manufacturers offer similar little systems pitched toward high-quality audio performance — but that does not reduce its usefulness, or its notable value. It's an attractive and effective small-scale system.

*JVC, Dept. SR, 41 Slater Dr., Elmwood Park, NY 07407; telephone, 1-800-252-5722.*

## A FEW NUMBERS

A brief, informal session on the test bench **more** than confirmed JVC's rather meager published specs for the CA-F3000 system and solidly substantiated its "higher-end" claims. Measured from the aux input to the speaker outputs at 1 watt (8 ohms), frequency response was  $\pm 0.3$  dB from 20 Hz to 20 kHz, hitting  $-3$  dB only at 75 kHz. THD plus noise was less than 0.13 percent at any power level between 1 and 25 watts (1 watt, 8 ohms), and signal-to-noise ratio (S/N) clocked in at about 79 dB (A-weighted, re 1 watt in both channel.). The FX-F3000 integrated amp clipped at 1 kHz at about 30 watts into 8-ohm loads and at 45 watts into 4 ohms. CD performance (measured at the MD-1000 line output) was even better. Frequency response was  $\pm 0.05$  dB from 20 Hz to 10 kHz, rising smoothly to  $+0.75$  dB at 20 kHz. Distortion was below 0.01 percent at all frequencies (at 0 dBFS), and A-weighted S/N was nearly 113 dB. Digital-to-analog linearity on the 400-Hz fade-to-infinity test was nearly spot on: within  $+1$  dB down to  $-110$  dB. All these numbers would do most full-size CD players proud. —D.K.

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# Dealer's Choice

## **A/V SPECIALISTS MAP OUT MUSIC AND HOME-THEATER SYSTEMS FOR THREE BUDGETS**

**BY REBECCA DAY**

**E**verybody's got a budget. For most of us, that budget comes in way under what we'd really like to spend on a music system or a home-theater set-up. How do you deal with the gap between what you want and what you can afford? ■ One way is to dig for the best values available and avoid budget-busting features you don't need. Or you can go the modular route by putting together the best music system you can afford now and moving on to home theater as your finances permit. However you slice it, squeezing a dream system into a real-

life budget can be quite a challenge. ■ Few know that better than the retail specialists who sell A/V equipment to value-conscious customers every day. For this latest installment in our "Dealer's Choice" series, we assigned different shopping missions to three respected dealers and asked each to recommend the "best" system the allotted dollars could buy. ■ The proposed component line-ups do not include sales tax, and all prices are the manufacturers' suggested retail, which are typically higher than actual store prices. Turn the page to see how our retail experts wrote up the tickets.

# A Two-Room Music System "You Can Get Excited About"

**W**e weren't sure, in these days of home theater and whiz-bang multimedia, that we'd be able to find a retailer who still gets pumped up over good ol' two-channel audio. So it was refreshing to hear Larry Clark, president of the Music Store in Greenfield, Massachusetts, say that a lot of his customers fall into the stereo-only category. We gave Clark a \$1,500 ceiling and asked him to put together the best possible system for a music lover with no interest whatsoever in home theater.

"The typical stereo customer wants great sound for \$1,000 to \$2,000," Clark says. "Here's a \$1,400 audio system that you can get really excited about. At \$100 under budget, it represents a great value, and the components are so well matched that you get maximum performance from each piece." Equally important is Clark's assurance that this setup will deliver years of trouble-free enjoyment.

## \$1,400 MUSIC SYSTEM

### THE MUSIC STORE (Greenfield, MA)

Yamaha RX-595 receiver (\$400)

Yamaha CDC-665 CD changer (\$270)

Klipsch KG 3.5 speakers (\$500/pr)

Klipsch KSB 1.1 speakers (\$230/pr)

The hub of the system is a Yamaha RX-595 stereo receiver, which Clark says is a strong performer as a radio, a preamp, and a power source. The tuner section walks the fine line between being sensitive enough to pull in weak signals yet selective enough that strong signals won't interfere with adjacent stations. If you prefer tuning in a distant station in mono to extract the clearest possible reception, the receiver will even remember that preference when the station is stored in one of its forty presets.

The RX-595's power section delivers 80 watts a channel with a mere 0.019 percent distortion and boasts a signal-to-noise ratio (S/N) of 110 dB to snare the subtleties and wide dynamic range of digital recordings. Aside from its four audio and two A/V inputs, which should be ample for most music enthusiasts, the RX-595 is one of the few receivers on the market with a phono

input — a nice bonus for anyone with an LP collection. Additional features include a tape loop, A/B speaker switching, and a programmable remote control.

The speaker-switching feature is put to good use in Clark's system, which includes two pairs of speakers, one for the main listening area and one for a second room. "My most satisfied customers are those who have a second pair of speakers to provide music in a separate location," he explains, noting that the most common destination for B-jack speakers is the kitchen, followed by the home office.

Clark went with all Klipsch speakers. For the mains, he recommends a pair of KG 3.5's, which combine a horn-loaded tweeter and an 8-inch woofer in a 33-inch-tall cabinet with a black woodgrain-vinyl finish. Given the same assignment a few months down the road, he would go with the new KSF 8.5 speakers (\$650 a pair), which should hit stores this summer. Either way, Clark says, we're talking vintage Klipsch — super-efficient speakers (both carry a 94-dB sensitivity rating) capable of delivering powerful, clean sound at high volume. For the second room, he chose a pair of 11-inch-tall KSB 1.1 bookshelf speakers, which are available in a black or white vinyl finish and can be placed on a shelf or mounted on a wall. Alternatively, the KSB 1.1's could be used to augment the main speakers in a large room.

The system's primary source component is a Yamaha CDC-665 five-disc CD changer, chosen for its overall performance and convenience features. Clark points out that it uses Yamaha's S-Bit Plus digital-to-analog (D/A) converter for smooth musical reproduction. Besides offering the possibility of more than 5 hours of uninterrupted music, the changer's carousel mechanism allows the user to change four CD's while the fifth is playing.

Once you get music going in a couple of rooms, it can become very tempting to spread it around some more. Clark is ready to meet that request with the Niles SPS-4 speaker selector (\$125), which can accommodate up to three more remote speaker pairs. As for other potential upgrades, Clark sees the Klipsch KSW 100 powered subwoofer (\$449) as a nice addition to the main speakers. The sub would fill out the bottom octaves as well as ease the power burden on the receiver.

PHOTO BY DAN WAGNER; BILLY BAGS MODEL 2302 AUDIO RACK



DEALER'S

DC

CHOICE



**A**n investment in home theater is no casual undertaking. You have to find the space and the cash to make it happen, neither of which comes easy. One approach is to take things one step at a time. Start with an solid A/V-ready audio system and expand it as your budget and space allow.

That's the assignment we handed Dan Johnson, president of Classic Stereo and Video in Grand Rapids, Michigan. We offered Johnson \$3,500 in vapor-bucks and asked him to assemble the best audio-for-video system that money could buy, either in one shot or over a period of time.

Johnson knows the value of a dollar, real or not, and he wants to be sure that his customers are well served now and in the future. That's why he selected Denon's AVR-3200 A/V receiver as the hub of his system. Distributing 85 watts per channel in stereo mode or 85 watts each to five channels, the receiver is ready and able to handle the most demanding Dolby Digital and Dolby Pro Logic soundtracks. Besides providing both Dolby Digital and Pro Logic decoding, the AVR-3200 has inputs for a *second*, external decoder in the event that Digital The-

### **\$3,400 HOME THEATER-READY SYSTEM**

#### **CLASSIC STEREO AND VIDEO (Grand Rapids, MI)**

Denon AVR-3200 Dolby Digital receiver (\$1,200)

Denon DCM-360 CD changer (\$320)

Mirage M-595is speakers (\$700/pr)

Mirage MC-3 center speaker (\$330)

Mirage MBS surround speakers (\$350/pr)

Mirage BPS100i subwoofer (\$500)

ater Systems (DTS) or another 5.1-channel digital-surround format amasses a software following. "This receiver should be fully compatible with future changes in surround formats, helping to preserve your investment," Johnson explains.

It's hard to predict which or how many components you might add to your system in the future, which is another reason Johnson tapped the AVR-3200. Its back panel sports ten analog inputs and offers a choice of optical or coaxial digital inputs. On the video side, there are four composite-video and four S-video inputs and three composite-video and three S-video outputs, enough to satisfy all but the hardest of hard-core videophiles.

Despite its rather intimidating back panel, the AVR-3200 is classic Denon in being simple to operate, according to Johnson. "The remote is very well laid out, and its Personal Memory Plus feature allows the least technical person in the family to operate all of the main functions flawlessly," he says. The receiver remembers the surround mode and level settings last used with a particular component and automatically re-

turns to those settings the next time you switch to that component.

Denon's reputation for quality and convenience were also deciding factors in Johnson's choice of a CD player. The Denon DCM-360 five-disc carousel changer can be operated by the receiver's remote control and offers twenty-track programming, three types of random playback, and five variations on the repeat theme. The changer also employs Denon's proprietary Alpha processor for quasi-20-bit D/A conversion, which he says contributes to the player's "very natural sound."

It didn't take Johnson long to decide that he would tap Mirage to fill all six speaker slots. "Mirage makes the finest-sounding system I know of in this price range, and it's magic when used with a receiver like the AVR-3200," he says. Whether the system is playing music or movies, he feels that it's equally impressive and exceptionally faithful to the original recording.

His preferred front-channel lineup teams the MC-3 center speaker with a pair of M-595is towers. Each M-595is houses bipolar-configured pairs of 5½-inch woofers and ¾-inch titanium tweeters in a 3-foot-tall cabinet with a black wrap-around grille cloth and glossy black end caps. Johnson is quick to point out, however, that the M-595is is a suitable choice *only* if the speakers can be positioned with at least a foot of space to the sides and rear to allow the rear-firing drivers to "breathe." Otherwise, he'd go with a pair of Mirage direct-radiating speakers instead. With a pair of 5½-inch woofers flanking a 1-inch titanium tweeter in a glossy black cabinet, the MC-3 center speaker is a good match for the M-595is.

Carrying the bipolar theme to the surround channels, Johnson's plan calls for wall-mounting a pair of small (11 x 7 x 5 inches) MBS speakers on either side of the listening position to create a movie-theater-like wrap-around effect. Naturally, each speaker's "null" would face the listener, with one woofer/tweeter complement radiating toward the front of the room and the other toward the back.

Rounding out the speaker lineup is the Mirage BPS100i powered subwoofer, chosen for its ability to pump out tight, clean, and thunderous bass. "You get amazing sound from its pair of 6½-inch drivers," Johnson says, noting that the sub is rated down to 28 Hz and packs a 100-watt amplifier and an adjustable crossover.

If you're following the building-block approach, Johnson's recommendation is to first establish a topnotch music system with a pair of M-595is speakers and the Denon electronic components, then add the remaining speakers in stages, beginning with the surrounds. When all is said and done, the whole package actually comes in \$100 under budget, leaving a little room for an upgrade.

The only thing Johnson's proposal doesn't account for is a nice big-screen TV and a video source component. But if you gave him another \$1,000 to play with, he'd add Denon's new DVD-2000 DVD player to the lineup in a heartbeat.

# An Audio-For-Video System That Grows With Your Budget

PHOTO BY DAN WAGNER; SCREEN IMAGE, RAIDERS OF THE LOST ARK (PARAMOUNT HOME VIDEO); ZENITH 27-INCH TV; BAKER'S RACK FROM BED BATH & BEYOND



DEALER'S

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**W**e gave Ron Paternoster of Definitive Audio in Seattle \$5,000 to work with and asked him to whip up the finest home-theater ensemble that five grand can buy. Since we thought our imaginary wad of cash was a pretty generous sum, we were a bit chagrined when the store manager asked us to loosen our purse strings so that he could deliver a package he could really rave about. Our first reaction was to hold the line. But considering how typical it is to set a budget and blow it before you even get started, we agreed to up his credit line \$500 to see what he would come up with.

Paternoster's roots are in audio, so he believes the best home-theater systems must not only provide excellent surround-sound playback of movie soundtracks but also reproduce plain two-channel music recordings with finesse. This dual-capability requirement led to his selection of Rotel electronics.

Going the separate route, Paternoster recommends putting the Rotel RTC-970 A/V preamp/tuner to work as the system's control center. The heart of the RTC-970 is an analog Dolby Pro Logic surround processor, which Paternoster says sounds warmer than its digital counterparts. Highlights include a proprietary Cinema Mode, which tones down excessive brightness in movie soundtracks, and seven music modes that provide varying degrees of spaciousness. The preamp has four video and two audio inputs and has provisions for two-room playback. The inclusion of a multipin DB-25 connector, which provides a one-cable upgrade path for an outboard Dolby Digital or DTS surround decoder, and Rotel's five-year parts-and-labor warranty are icing on the cake.



Paternoster turned to Magnepan for the speaker array, citing the natural, accurate sound delivered by the signature Magneplanar design and its thin-panel architecture, which helps overcome the No. 1 obstacle for most home-theater installations: finding room for all those speakers. The MGLR1 quasi-ribbon/planar-magnetic speaker he selected to handle front left- and right-channel duties is just over 4 feet tall and 15 inches wide but only 1 3/8 inches deep, and it's supported by a base that occupies only a tiny bit of floor space.

The MGCC1 center speaker is sonically matched to the MGLR1 and uses a continuously curved diaphragm to improve horizontal dispersion. Although the nearly 3-foot-wide speaker is a true widebody, Paternoster says that anyone who's serious about home theater should be looking for a TV big enough to accommodate this speaker. In fact, for a system of this caliber he would recommend one of Pioneer's 60-inch projection TV's.

The tall, slender MGSS1 dipole surround speakers that complete the Magnepan lineup are so inconspicuous that they're easy to miss on the first pass — they're designed to be mounted on hinged brackets on the back wall of the room. The 12 1/2-pound panels are available with black, unfinished, or natural

oak trim and off-white, black, or gray grille cloth to complement a variety of room decors.

Of course, the only drawback of planar speakers is their relative lack of woof, which is why Paternoster rounds out the speaker lineup with a Paradigm PS1000 powered subwoofer. Sporting a bandpass enclosure with a 10-inch tag wood put him over the already expanded budget. To keep the ticket under five big ones, he recommends the Pioneer Elite CLD-59 CD/laserdisc combi-player, which he says delivers cutting-edge audio and video performance. But for technophiles who want to be able to play the new DVD movies now trickling into stores *in addition to* the thousands of available laserdiscs, Pioneer's regular-line DVL-700 DVD/laserdisc combi-player, also listing for \$900, is a distinct possibility. Of course, both the CLD-59 and DVL-700 play ordinary music CD's.

Since a classy A/V system demands a classy control device, Paternoster caps off his masterpiece with the Rotel RR990 learning remote. Featuring a back-lit LCD touchscreen, the RR990 provides a one-remote solution to coffee-table clutter as well as macro capabilities, which let you execute a whole string of commands by pressing just one "button" on the touchscreen.

Power is supplied by the beefy Rotel RB-985THX amplifier, which is rated to deliver 100 watts continuous to each of five channels. The amp's toroidal power transformer and high-current design assure Paternoster that it can handle the wide dynamics of contemporary movie soundtracks and music cleanly and effortlessly. As for the THX moniker, Paternoster views it as a sort of insurance policy that more or less guarantees the amp's robustness.

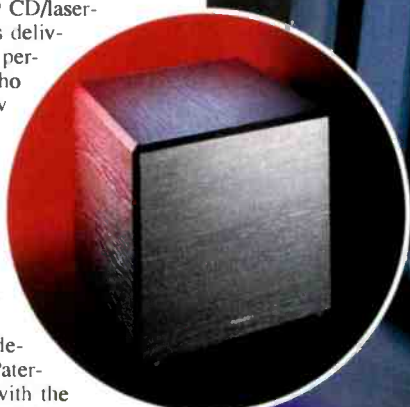
## \$5,500 HOME THEATER SYSTEM

### DEFINITIVE AUDIO (Seattle, WA)

- Pioneer Elite CLD-59 combi-player (\$900)
- Rotel RTC-970 A/V preamplifier (\$800)
- Rotel RB-985THX power amplifier (\$1,000)
- Rotel RR990 remote control (\$200)
- Magnepan MGLR1 speaker (\$850/pr)
- Magnepan MGCC1 center speaker (\$750)
- Magnepan MGSS1 surround speakers (\$425/pr)
- Paradigm PS1000 powered subwoofer (\$520)

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PHOTO BY DAN WAGNER; DIGITAL IMAGING BY CHRIS GOULD; BELFIORETTI AB-790 A/V RACK; SCREEN IMAGE FROM LAWRENCE OF ARABIA (COLUMBIA TRISTAR)





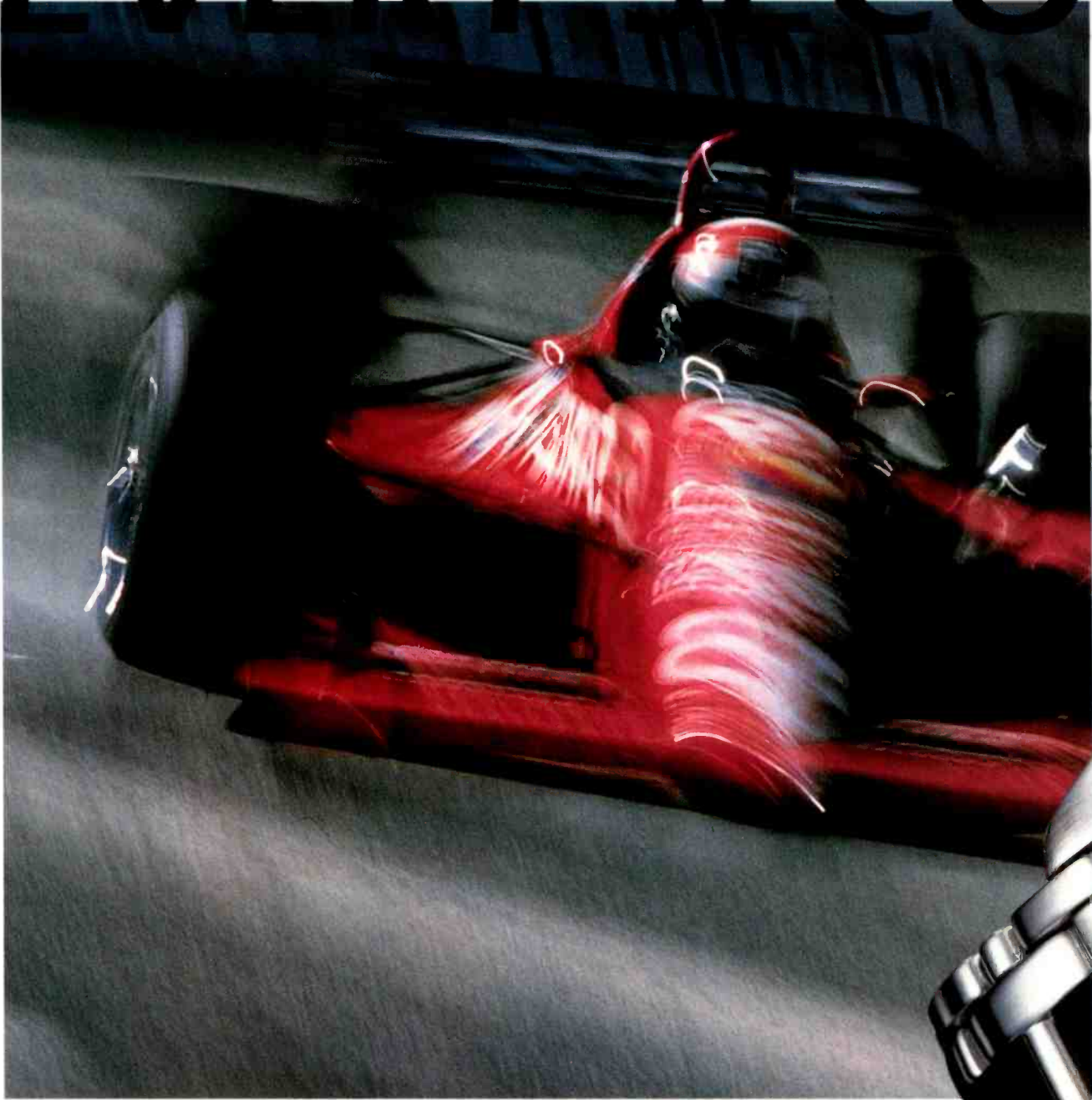
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# A Separates Approach To Home Theater



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# ESQ®

SWISS

# LISTENING ROOM ACOUSTICS FACT & FANTASY

BY FLOYD E. TOOLE

THE LISTENING ROOM is the final link in the audio chain leading to the musical and cinematic pleasures of a home theater. To maximize their satisfaction, serious listeners can go to considerable trouble and expense in customizing their rooms acoustically. But how do you know just what to do in your specific circumstances? There are many, many variables and combinations of variables in speakers and rooms that can affect what we hear.

Some *parts* of the speaker/room acoustical equation are well understood, but the subject has resisted complete definition. As a consequence, opinions abound and definitive statements are rare. In this atmosphere, audiophiles are exposed to truths, partial truths, genuine remedies, and bogus trinkets in almost equal measure. Let's take a look at some of the common assumptions about room acoustics and try to separate fact from fantasy.

## **Fact or Fantasy? A good speaker is a good speaker, and a good room is a good room.**

*Fantasy.* All rooms will alter the sound from all speakers. An inappropriate room setup can seriously compromise the sound quality of a good speaker. It is unlikely, however, that any room can improve a seriously flawed speaker. It is the combination of speakers and room that we listen to; they cannot be separated.

As speakers have become better, and more similar to each other in the way they sound, their room interactions pose a serious problem in product evaluations. It has been scientifically proved, in controlled listening tests of high-quality speakers, that listeners' opinions of a speaker can be changed as much (or more) by simply relocating it in the room as by substituting a completely different speaker.

This phenomenon obviously makes

life more complicated than we might like. It helps if you start with a *room-friendly* speaker. What is that? In simple terms, a speaker that has a smooth and flat on-axis frequency response, with constant directivity, so that there's a chance the direct sound, the early reflected sounds, and the reverberant sounds arriving at listeners' ears have similar timbral signatures.

## **Fact or Fantasy? A perfect room would be one with no reflections or resonances.**

*Fantasy.* In order for a room not to have acoustical resonances, it would have to be free from reflections. In order for it to be free from reflections, it would have to be anechoic — that is, all surfaces in the room would need to absorb all sounds completely. Acoustically *dead* anechoic chambers are unpleasant places in which to spend time, much less to enjoy music or home theater. The brain has come to expect a sense of acoustical ambience from music. When it is not there, as in a perfectly anechoic chamber, many people react with the perception of a kind of *pressure* on the ears. The ideal room for listening is one with enough reflected sound, or reverberation, to provide comfort for conversation, but not so much as to degrade the spatial information in recordings.

Two-channel stereo recordings have limited spatial capabilities, and they tend to be mixed so as to sound *right* in a room with a "normal" amount of reverberation. In technical terms, this means a uniform reverberation time of about 0.3 second through at least the midrange frequencies, and it can be achieved in normally furnished rooms with little difficulty. A clipped-pile carpet with felt or foam padding, lined drapes (not just sheer fabric), upholstered furniture, bookcases, pictures, and other common paraphernalia usually suffice, though some placement fine-tuning may be necessary.

At low frequencies, below about 300 Hz, reflections between and among the room boundaries result in standing-wave resonances at discrete frequencies. Standing waves very substantially influence the audibility and timbre of bass sounds. They cannot be eliminated in practical rooms, so the best we can do is to learn how to work with them to minimize their effects.



### **Fact or Fantasy? Room dimensions can be optimized for perfect sound.**

*Fantasy.* While it is true that a perfect cube or a long corridor make poor listening rooms, between those two extremes are many satisfactory shapes. Underlying the traditional evaluations of room dimensions is the assumption that all room resonances, or modes, have equal importance. In real rooms with real audio systems, that is patently not the case, because the speakers do not deliver their energy equally to all modes and the listener is not in a location to interact equally with all modes. Real rooms also differ from the ideals used in calculations in that the walls are not necessarily perfectly flat and perfectly reflecting. Archways, fireplaces, windows, furniture, and the like disrupt the tidy assumptions that make the math simple.

The good news is that almost any room can be made to sound good with the right kind of arrangement and treatment. The better news is that multichannel systems are less sensitive to room acoustics than conventional two-channel stereo. The center image is now real, not a phantom, and the sense of space and envelopment is delivered by the surround channels. The separation of subwoofers from the satellite speakers is also a real bonus, since it permits the subwoofer to be located optimally for bass performance and the satellites to be positioned to produce a realistic soundstage.

### **Fact or Fantasy? Large rooms tend to sound better than small rooms.**

*Fact.* Large rooms have a higher density of resonances in the audio frequency range. Therefore each one is less obvious, and the overall sound tends to be generally smoother. Reflecting surfaces can also be farther away from the speakers and listeners, improving potential imaging quality.

### **Fact or Fantasy? Nonparallel walls are essential in a good listening room.**

*Fantasy.* At low frequencies, where room resonances are a problem, nonparallel walls have very little influence, except that they make it very difficult to calculate the frequencies at which resonances occur and the opti-

mal locations in the room where listeners and speakers should be located.

### **Fact or Fantasy? Acoustically treating a room means adding absorbing material.**

*It depends.* If a room is found to be too reverberant after it has been furnished, additional absorption will be needed to improve sound quality. This can take the form of more absorbent — or simply *more* — drapes or carpeting. You can also use any of several commercially available absorbing devices. Sculptured acoustical-foam devices give a high-tech look, while fabric-covered rigid fiberglass boards are more sedate. Both work very well. You can make your own fiberglass devices. Just be certain to use a fabric cover that is acoustically transparent — polyester double-knit, grille cloth, or any fabric that you can easily blow air through. The thicker the acoustical material, the more effective it is at low frequencies. Don't try to handle room-mode problems in this manner, however. At 100 Hz, for example, the wavelength is about 10 feet, which means an effective absorber would need to be more than a foot thick.

To have serious impact on reverberation, large areas have to be covered. Small cushion-like devices are of little value unless used in large numbers.

### **Fact or Fantasy? If you can clap your hands and hear flutter echo, the room has a problem.**

*It depends.* This favorite exercise of "knowledgeable" audio people can be very misleading. They walk in the door, clap their hands, listen intently, frown their brows, and pronounce the room hopelessly out of control. Rubbish. Flutter echo exists when a transient sound reflects back and forth between two or more reflecting surfaces and the listener's ears are in the path. If the source of the transient sound and the listener's ears are not in the reflecting pathway, then there is no problem. Moving around a room looking for a place where flutter echo is audible might make an interesting techie party game, but it doesn't have much to do with audio. A more meaningful test is to sit in the listening chair and have another person clap hands close to each speaker, which will permit you to hear problems (if they exist) in each

acoustical transmission path through which the reproduced sound travels. That is what matters, and I bet it will sound a lot different from what you'd hear if you stood just inside the door.

Ironically, even very dead rooms can exhibit audible flutter under some circumstances. I have experienced it with only two small reflecting surfaces in the entire room. Eliminating flutter is not the objective. Reducing it to a level that is not annoying is what realistic room treatment is about. In practice, reflections and reverberation in the recordings go a long way toward masking many in-room effects that could be heard in isolation. Solutions are usually simple, since the effects occur at high frequencies. Placing a thin absorber, like cloth, over one of the opposing reflectors is often enough, or, if possible, just reorienting one of the reflecting surfaces (for instance, changing the hang angle of a picture).

### **Fact or Fantasy? A good room will make any speaker sound better.**

*Fantasy.* I wish it were so, because life would be so much simpler. Dipole (bidirectional and out of phase), bipole (bidirectional and in phase), and conventional forward-facing speakers are fundamentally different in the way they radiate sound toward reflecting surfaces of a room. A room arrangement that suits one type of speaker may be unsuitable for another. The speaker is an integral part of the sound-delivery system, and its design is a major factor in optimizing the room.

### **Fact or Fantasy? A good room for stereo is a good room for home theater.**

*Maybe, maybe not.* In part it depends on how fussy you are. Two-channel stereo is usually enhanced by a room with a noticeable, but not excessive, amount of reflective sound. Most listeners like the sense of envelopment that such a room adds to stereo mixes. The popularity of wide-dispersion and multidirectional speakers is further support for the notion that listeners like an energetic reflected sound field. Although there are absolutely no standards, most stereo recordings tend to be mixed for this kind of playback.

Movies are a different matter. In that industry there are standards, and

the standard requires that the room be relatively dead so that the sense of ambience is provided by the soundtrack, which is reproduced through multiple speakers. The essence of great home theater is the dynamic range of the spatial experience. In purist stereo, the listener strives to be transported to a concert hall while seated in a living room. In home theater — or, more generally, multichannel sound — the aim is to be transported to a cave, a closet, a car, a corridor, a stadium, wherever the script dictates, including a jazz club or a concert hall. In addition, one can be a voyeuristic witness to intimate whispers with no ambience whatsoever. For all these simulations to be effective, the listening-room reverberation must not dominate.

If a room is optimized for home theater, does that mean it is less good for stereo? Perhaps slightly, if you listen through only two speakers. But we are learning how to process two-channel stereo source material and present it through multiple speakers. I am not referring to the simplistic DSP effects in some consumer products and car systems, which can be laughably bad, but to the sophisticated processing, optimized for music, that is currently being done in some relatively expensive surround processors. Their results are so good that I find it difficult to go back to old-fashioned stereo. In time such advanced processing will make its way down the price ladder. Meanwhile, try experimenting with Dolby Pro Logic. Even though it was not designed for music, it can be interesting for noncritical listening, and a few CD's are encoded in Dolby Surround.

**Fact or Fantasy? Since low frequencies are nondirectional, a subwoofer can be placed almost anywhere.**

*Fact and fantasy.* From conventional sealed-box or vented-box subwoofers, frequencies up to about 100 Hz radiate essentially nondirectionally, equally in all directions. This does not mean, however, that the subwoofer can be placed anywhere. Why? There are two reasons:

The first has to do with the perception of direction. If the subwoofer radiates much energy above about 80 Hz, it is likely that listeners will be able to localize where the sound is coming from. If the subwoofer is close

to the front speakers, that is not a problem. If not, it can be a significant distraction to hear rumbles and thumps coming from the corner beside you, separated from the soundstage in front. If the satellite speakers in the sub/sat system are very small, the crossover frequency will likely be 100 Hz or higher. Such systems work very well if the subwoofer is near the front soundstage. In sub/sat systems employing satellites with better bass performance, or when subwoofers augment existing full-range speakers, the crossover frequency can be set low enough to allow virtually complete freedom in subwoofer placement. Try putting it close beside or behind you, thus almost entirely eliminating low-frequency room problems. Obviously, some level adjustment will be needed.

The second reason has to do with room resonances and how the subwoofer and listener acoustically couple to them. In many rooms an initial setup will result in problematic bass — too much, too little, too boomy. But don't just blame the subwoofer. It probably isn't at fault. Move it around the room while listening to a few repetitious passages of music with good bass. Use more than one selection to avoid biasing your decision.

**Fact or Fantasy? Commercial acoustical devices are necessary for a really good-sounding room.**

*Possibly.* If the commercial acoustical devices — absorbers, diffusors, and so on — are well designed and effective at their intended tasks, the only issues are price and appearance. The price issue must be decided on the basis of alternative solutions. For every commercial device there is a do-it-yourself alternative if you are willing to spend some time on homework and fabrication. In a home situation it is possible, but not always practical, to achieve good sound with a combination of conventional furnishing materials. If something needs fixing when normal furnishing is complete, you may need to consider buying a solution. If the problem is too much reverberation, be prepared to buy many square feet of absorbing material. An especially stubborn low-frequency resonance problem might require several expensive cylindrical bass absorbers. Diffusion in the listening room is not normally a

problem, yet special diffusing surfaces can help to alleviate an annoying reflection by redirecting the sound energy. Irregular surfaces and objects can reflect and scatter sound so that it repeatedly encounters absorbing surfaces, thus making better use of whatever absorbing material there is.

Don't make the mistake — one I have seen several times, even in recording-studio control rooms — of covering the wall behind the listener with diffusors. The result is the loss of precise stereo imaging. Good stereo imaging requires clean, reliable acoustical paths from each of the speakers. The sounds arriving at the ears must be highly coherent. Placing diffusors behind the listener can, if they are too close or too numerous, cause the incoherent sound reflected from the diffusors to swamp the sounds arriving from the front. The result is fuzzy imaging. To test for this problem, simply play some monophonic pink noise, available on several test discs, sit midway between the left/right front speakers, and listen. You should hear a compact phantom image floating midway between the speakers. In some cases I've seen, there was simply no center image at all. Good money was spent badly. Unless the wall is several feet behind the listener, it is usually better just to place some absorbing material there. In any event, the pink-noise test should be done to see whether everything is working as it should.



If all this advice, the overriding recommendation is to be patient. Make small changes, and listen for a while before doing more. In the end, every room and every system will have its own character. That is a given. The human brain is a wonderfully adaptive organ, and with a little time we adjust to the complex acoustical filter that a room amounts to. But some things, in some situations, may be worth trying to fix. Good luck, and happy listening. □

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# Get Back!

## TURNTABLES REVISITED

BY DANIEL KUMIN

After a busy Saturday spent waxing the Terraplane and running laundry through the mangle, I often like to turn down the gaslight and relax by playing LP records on my turntable. Okay, vinyl isn't quite so antiquated as all that, but in this

age of the Internet it sometimes seems so. Those of us whose audio roots go back to the height of the LP era (1965-1985) may find it hard to accept that there is now a whole generation of hi-fi fans who are completely innocent of the joys of antistatic treatments, half-speed mastering, and vertical-tracking-angle calculations.

Don't get me wrong — I love LP's, and I still own well over a thousand of the bulky black discs — but excuse me if I don't shed too many tears over the medium's decline. Playing LP's is

a demanding discipline that requires care, dedication, patience, and more than a little expertise and expenditure to extract the best possible performance. Yes, there are still quite a few audiophiles who maintain that analog discs sound intrinsically "more musical" than CD's, and if you're willing to substitute the word "different" for

**Teac's P-595 (\$129) is a basic semi-automatic belt-drive turntable that can play LP's or 45's and includes an Audio-Technica moving-magnet cartridge.**

"more musical" I'm ready to agree. Yet I prefer to look at the big picture. Nowadays any neophyte with \$149 in his jeans can buy a CD player that, sonically speaking, will blow away most real-world turntable setups, and using it takes no more care and expertise than you need to punch the drawer open/close and play buttons.

Despite that, or perhaps at least partially because of it, the analog LP is not only still with us but showing distinct signs of life. Well over two dozen major companies still offer an array of



turntables, and many are continuing development with newly refined models. Similar numbers apply to makers of phonograph cartridges and styli, the all-important point (pun intended) where diamond meets vinyl. And my quick canvas suggested that perhaps half of the country's audio specialists, and at least some of the super-stores, are still actively selling the gear.

A bit more scientifically, the 1996 year-end figures compiled by the Recording Industry Association of America show a surprising trend: LP sales in the U.S. have actually been on the rise for three straight years. Unit sales of compact discs first surpassed those of LP's a decade ago, and since then the digital discs have dwarfed the analog ones. In 1996 about 780 million CD's were sold (nearly 70 percent of total prerecorded-music sales — cassettes accounted for most of the rest) versus about 3 million LP's (only about 0.3 percent of the whole pie). While that sales figure wouldn't make you run out to buy stock in a manufacturer of vinyl-pressing machinery, it does represent an astonishing 150 percent increase over 1993's 1.2 million LP's. And that figure doesn't include any used LP's, sales of which could well equal or even exceed sales of new LP's.

We're not entirely sure about all the implications of these numbers, but one thing seems certain: Some people are playing, or at least buying, more LP records today than they were three or four years ago. In any case, there are at least three good reasons why you still might want to add a turntable to your hi-fi shelf today:

*First*, because you have dozens, hundreds, or even thousands of LP's gathering dust (somehow, you've never quite gotten around to transferring them to cassette or MiniDisc), and the turntable you've had since college is ancient, worn out, or flat busted.

*Second*, because you're becoming a denizen of the used-record stores sprouting up in the neighborhood of college campuses everywhere, stores where you can buy old, obscure, odd, or imported music on vinyl that you can't find or can't afford on CD. Used LP's can range in price from as little as a quarter at flea markets and yard sales to hundreds of dollars. On average, they're probably not much of a bargain compared with used CD's,



**The BES-2 turntable for LP's and 78's from Esoteric Audio features a low-torque belt-drive motor, straight tonearm, and high-density platter. Price: \$665 (without cartridge).**

though you might save two or three dollars on a title that's commonplace in both formats; obviously, collectible LP's will cost much more if the seller knows the value of what he's offering.

*Third*, because for whatever reason you simply prefer vinyl playback to CD, or you want to complement one with the other, and you are ready to begin collecting the new and reissued audiophile LP's. There is undeniable satisfaction in getting an LP to sound its best because it requires attention to detail, fastidious habits, and excellent gear, as well as an ear for when everything's right.

#### **What You Need**

Whatever your rationale, the basic requirements for LP playback will be similar. You'll need a phonograph cartridge to convert mechanical motion induced by the record's wavy grooves to a tiny electrical signal (quaint, eh?). A

good cartridge demands a good turntable/tonearm setup, the essence of which is simply to permit the cartridge to deliver the most accurate signal possible. Of course, you will also need a receiver, preamplifier, or amplifier equipped with the appropriate "phono" input circuitry, which is omitted these days from a growing number of A/V receivers and preamps.

If your receiver or preamp lacks a phono input, several manufacturers still offer stand-alone phono preamps. While many of these are high-price esoteric models, affordable stand-alone phono-preamp modules are available from Audio Alchemy, dB Systems, Parasound, Rotel, and others.

Of all the elements in the LP playback chain, the phono cartridge has the greatest potential sonic impact. It is a transducer, a gizmo that converts mechanical energy to electrical energy or vice versa. And, just like loudspeakers and microphones, the other two transducers common in audio, phono cartridges all tend to sound slightly different.

A bit surprisingly, dozens of cartridges are still being manufactured, and your options will range from \$30 or so to well over \$1,000. If you view the phono cartridge as the audiophile's equivalent of the recording engineer's microphone, this price range makes more sense — recording studios routinely spend several thousand dollars

**Sumiko's Pro-Ject 1.2 manual belt-drive turntable (\$395) plays LP's and 45's and features a straight tonearm and a factory-mounted/adjusted Sumiko Oyster cartridge.**





on a single mike even though you can buy one that seems "perfectly good" for a tenth as much. Happily, there are some very fine-sounding cartridges in the under-\$100 range, and several in the less-than-\$300 class can give the kilobuck models a serious run for their money.

There are two main types of cartridges: moving-magnet (MM) and moving-coil (MC). Most MC cartridges require extra gain (amplification) because of their very low output, so they are usually deployed in high-end systems that include a dedicated "pre-preamp" (or transformer) to provide it. There is really no consistent advantage to one type over the other, though selecting a cartridge that complements your turntable's tonearm is an excellent idea. You can get a fair notion of this by looking at the cartridge's recommended tracking force, the weight applied where the stylus meets the record groove. Most modern cartridges are designed to track at between 1 and 3 grams, with 1.25 to 1.75 grams the most common range.

A cartridge that has a very low tracking force usually won't perform at its best in a high-mass, high-friction arm like those found on most entry-level (less than \$200) turntables; such arms tend to work best with cartridges that track in the 1.5-gram to 2.5-gram range. Conversely, mating a high-tracking-force cartridge with an expensive, ultra-low-mass tonearm may not make sense. As most old analog hands will advise you, it's generally better to run a cartridge at the upper end of its "recommended" tracking-force range. Paradoxically, a bit too *much* force is better for your records (and sounds better) than too little, as it reduces the likelihood of mistracking.

Spending \$40 to \$80 on a good cartridge is by no means unreasonable, even if you plan to mount it in a turntable that doesn't cost all that much more. Doing so is akin to using speakers that are more expensive than the amplifier powering them — a common practice.

The principal issues in turntable design are precise, steady rotational speed and freedom from vibrations caused by motor and platter bearings. Speed variations cause wow and flutter, or audible pitch changes during playback; most people will not detect wow and flutter below a measured value of 0.1 percent (DIN-weighted), though some individuals are more sensitive. Excess vibration induces "rum-

ble" that is picked up by the cartridge; better tables tend to keep rumble at -70 dB or lower, below the noise level inherent to LP records.

Turntables come in two principal varieties: belt-drive and direct-drive. Belt-drive tables use a flexible rubber belt — essentially a glorified rubber band — to apply motor rotation to the platter, while direct-drive tables mount the platter directly on the motor shaft. There's no clear advantage to one system over the other, though many engineers favor belt-drive tables because the belt provides additional isolation from motor vibrations. On the other hand, direct-drive turntables usually

feature very fast start-up times, whereas most belt-drive units require a couple of rotations to get up to speed. Direct-drive tables tend to be heavily favored by DJ's and in other professional applications — not surprising since that's what the technology was originally developed for.

It's probably fair to say that it is easier to design a relatively inexpensive belt-drive table for low rumble and good sound than a direct-drive one. Consequently, most of the turntables in the high-value/high-performance ranks tend to be belt designs. Either way, most turntables today provide only two speeds: 33 $\frac{1}{3}$  rpm (revolu-

## Needle in a Haystack

**R**esurrecting a neglected record-playing system usually requires no more than a thorough cleaning and possibly a stylus replacement. Phonograph cartridges come in a wide variety of shapes and types, but the most popular by far is the moving-magnet design, virtually all of which feature replaceable styli. The stylus is a tiny, machined jewel, usually a diamond or sapphire, at the end of a minuscule arm called the cantilever. The record groove moves the stylus, wiggling the cantilever, which in turn moves magnets through the field of tiny coils inside the cartridge to produce sound. The stylus must contact the record surface at a very precise angle and depth, and as it inevitably wears, this relationship changes. At best, a worn stylus will audibly increase distortion and compromise high-frequency accuracy. At worst, it can dramatically accelerate record wear.

There's no hard-and-fast rule, but between 1,000 and 2,000 hours of play is typical service life for a well-maintained stylus. To judge stylus condition reliably, you need a special zed microscope and a book of stylus photographs for comparison. Many high-end audio shops, and some dedicated new-and-used LP establishments, have such equipment on the premises.

Where the age of the cartridge and condition of the stylus are unknown it's probably best simply to replace it. Some of the materials employed in stylus suspensions can harden and lose resiliency over the

years, and to a certain extent this also applies to the elastics and adhesives in the magnet structure found inside the cartridge itself. In some cases, replacing the entire cartridge may be the wisest route — especially one more than a dozen years old.

Either way, before you can replace it you have to find it, and therein lies the rub. Though a few of the major cartridge companies have folded their tents altogether, most are still in business and actively supplying replacements for their most popular models of the past twenty years or so. Your local audio specialist may or may not still stock some of these. Don't give up until you've checked the big-chain CD/record stores and the biggest used-record shops in your area; many are currently selling cartridges and styli as well.

Finally, there are a number of mail-order houses worth investigating. One of the most visible is a Minneapolis outfit, Jerry Raskin's Needle Doctor (1-800-229-0644; [www.needledoctor.com](http://www.needledoctor.com)), that claims to stock or to be able to order nearly all of the familiar brands and models as well as most of the esoteric, high-end ones. Both complete cartridges and replacement styli are stocked, and retip/exchange is available for many moving-coil models, which usually do not have replaceable styli. The Doctor also sells turntables, turntable parts (such as belts), phono preamps, and a vast array of cables, racks, and accessories ranging from the sensible to the certifiable. —D.K.

## Clean Sweep

tions per minute) for LP's and 45 rpm for singles. If you want to play antique 78-rpm records, you'll still have some excellent tables to choose from, but you'll also need a specialized, large-radius cartridge or alternate stylus to play such records optimally and without undue wear.

### Turning the Tables

Today's turntable ranks can be subdivided quite handily into three groups. The entry-level (\$150 to \$300) models still offered by many of the big Asian brands number two dozen or so basic belt-drive machines with simple, lightweight tonearms that offer reasonable trackability, usually in the 1.5- to 2.5-gram range. Kenwood, Onkyo, Pioneer, Sony, Teac, and Technics are all still active in this field. Denon also remains committed to the LP, but with an array of somewhat more expensive direct-drive models. Fortunately, the LP changer seems to have gone the way of the dodo: Stacking and dropping vinyl records, fragile and prone to wear to begin with, was never a good idea.

Many entry-level models are semi-automatic, meaning that they return the tonearm, or at least pick it up from the record surface, after playing a side. Though not tremendously sophisticated, most of today's budget turntables are nevertheless surprisingly capable record-playing machines, well up to the task of playing a casual collection with good sound quality and reasonably low disc wear. Another \$30 to \$100 will usually buy you an appropriately matched cartridge.



**Thorens's TD-280 Mk IV semi-automatic belt-drive turntable for LP's and 45's (\$540) features shock-absorbing feet and includes a Stanton cartridge.**

Vinyl records that have been handled properly and stored carefully should come out of the sleeve in the same condition they entered it, whether the interval was a few days or more than a decade. It's a fact of life, however, that records do get dirty, and we're not all as disciplined as we'd like to be (or think we are) when it comes to caring for our music.

The universal routine-maintenance record cleaner is the Discwasher, a wooden-handled velvet-brush that's been around since the 1970's. This and similar devices can usually be found at analog-aware hi-fi shops, and at big-city, big-chain music stores such as Tower Records or HMV. Allsop has brought back its Orbitrac cleaning system, upgraded to the Orbitrac 2 (available direct, 1-800-426-4303). There are also other everyday devices some enthusiasts will swear by, such as the London/Decca brush, a carbon-fiber antistatic gizmo.

Resurrecting a disc that's further gone requires more drastic steps.

Next comes a somewhat less populous segment, \$300 to \$750 turntables aimed at the serious LP fan. Among the leading manufacturers here are NAD, Rega Research, Denon, Rotel, Esoteric Sound, Sota, Sumiko, and Thorens. Compared with the entry-level tables, these are usually somewhat heavier-duty, with more sophisticated,

low-noise motors and precisely machined, low-vibration bearings designed to reduce rumble. The platters used in this price range are often fashioned of low-resonance materials, while the tonearms tend to be engineered for lower resonance and less pivot friction to yield maximum trackability with minimum coloration. Turntables in this segment usually work well with either a fine moving-magnet cartridge or with one of the more affordable moving-coil cartridges; either way, plan on spending \$100 to \$250 for the cartridge.

Last comes the truly esoteric category, armless belt-drive turntables for which you must buy a separate tonearm. Each element can cost from a

Repeated Discwasher and Orbitrac passes will help, but a handheld cleaner can only do so much. Most serious used-vinyl stores now set out a record-cleaning machine (VPI and Nitty Gritty are the most common types) that customers can use for a per-disc fee. These machines usually do excellent work with more seriously soiled platters, and you can even buy your own machine for several hundred dollars if you develop an uncontrollable vinyl addiction.

Finally, in really desperate cases, you can give them a bath. Use lukewarm running water, ordinary mild, unscented dishwashing liquid, and a very soft-bristled vegetable brush, applied in a circular motion (just the opposite of the way you clean CD's!). Hand washing produces excellent results. Once they're washed and rinsed, avoid handling the discs, and let them air dry — a dish-draining rack works great. However tempting it may seem, do *not* put them in the dishwasher! It'll make the labels fall off. —D.K.

few hundred to several thousand dollars. The measurable performance advantages of these ultra-high-end components may be hard to pin down, but adherents claim ineffable but valuable sonic refinements. Among the leaders in this field are Linn, VPI, Well-Tempered Labs, Sota, and Sumiko.

In this high-end field you could easily spend \$5,000 on a separate table, tonearm, and cartridge while choosing only from the lower ranks of the leading makers' lines. This sort of expenditure clearly is best reserved for the lifelong vinyl freak seeking the finest playback and gentlest treatment of a cherished collection. But it's far from the limit. As you move still higher you encounter some wacky . . . er, sophisticated stuff like air bearings and vacuum platters, which may yield some real benefits to those prepared to spend \$10,000 and up for a record player.

If you've been thinking about resurrecting that classic vinyl collection or exploring some of the new LP releases, today is an excellent time to check out your record-playing options. For now, there's a surprising variety of new turntables and cartridges to choose from, but just how long they'll last is anybody's guess. □





# Rhythmic ROMinations

Jazz and Ragtime on CD-ROM by Chris Albertson

When Warner New Media issued a three-disc CD-ROM set of Mozart's *The Magic Flute* in 1989, the medium was new, but that release still stands as a model production designed to entertain as well as educate. In addition to containing a complete recording of the opera, it included an overwhelming amount of pertinent information and "sidebars" that were easy to

navigate. As I explored this remarkable set, I imagined the possibilities of CD-ROM technology applied to jazz. It took a few years before such discs began to appear, and when they did, they were generally disappointing. But that is changing as the market grows and more effort (and money) goes into design.

In a recent search for jazz-related CD-ROM's, I came across two titles devoted to ragtime — one very good, the

other superb. *Total Joplin — The Complete Works of Scott Joplin* (Sunhawk; 7720 39th Ave. N.E., Seattle, WA 98115; www.sunhawk.com), with an introduction by ragtime authority Trebor Tichenor, celebrates the king of the idiom. The nearly seventy works range from two-steps, waltzes, and rags to the opera *Treemonisha*, and selections can be played in MIDI format as well as printed out as high-quality sheet music (more than 500 pages of it). Augmented by newspaper clippings of the day, photos, and other illustrative material, the well-researched text provides background on each composi-

tion and a visually pleasing account of Joplin's career. The disc also features more than sixty colorful sheet-music covers and delightful Williams and Walker prints. Unfortunately for Macintosh computer users, *Total Joplin* is available only in a Windows 95 format — but don't be too quick to get out your handkerchiefs, for the best is yet to come, and it runs beautifully on both Windows and Mac.

*Robert Winter's Crazy for Ragtime* (Calliope; Heifetz Communications, 1875 Century Park E., Suite 1495, Los Angeles, CA 90067; e-mail, info@heifetz.com) is a state-of-the-art CD-

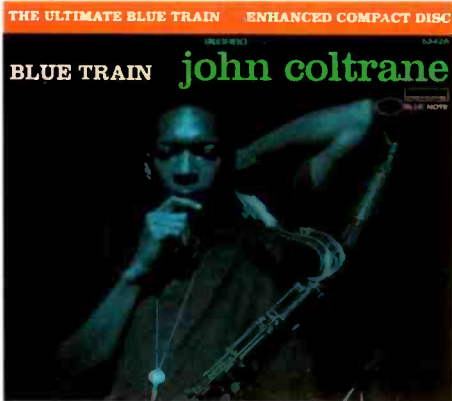
ROM in conception, design, and presentation, with myriad nooks and crannies to explore. There's a wealth of information to be derived from Winter's on-camera talks and the visuals that accompany them. He speaks with a sense of humor and an engaging informality on a subject that he obviously loves and knows thoroughly, leading us through the history of ragtime, its principal players, the dances it inspired, and the historical era it continues to characterize. There are hundreds of illustrations, not to mention wonderful film footage of concurrent events: the Wright brothers taking to

## Take the ECD Trane

A recent offspring of CD and CD-ROM, the enhanced CD (or ECD) can be played like a standard music disc on your audio system but can also be slipped into your computer's CD-ROM drive for a multimedia show. An excellent example of a jazz ECD is the new reissue of John Coltrane's *Blue Train*, the

and including extra takes of "Lazy Bird" and the title track, but there is lots more to explore. In a 1995 interview, Fuller, the sextet's sole survivor, remembered the session and gave fascinating details; here, that material becomes an interactive sight-and-sound experience with Francis Wolff's superb photos from the session, as you decide which of several topics to run. That also goes for a segment on Rudy Van Gelder, who engineered some of the most remarkable jazz sessions of the past forty years. He recalls how he made early recordings in a living room shared with his parents, and how he decided to build his famous studio when the bands grew bigger and the demand for his services increased.

The menu-driven disc also contains a snippet from a 1960 interview with Coltrane, a clip from a 1959 television performance with the Miles Davis Quintet, an essay by Bob Blumenthal (illustrated with album covers and musical excerpts), and reminiscences by Tommy Flanagan, John Tchicai, Johnny Griffin, Roy Haynes, Andrew Hill, Kenny Burrell, and Archie Shepp. The album covers of seven records on which Coltrane appeared, and excerpts from them, can be summoned at the click of a mouse. *The Ultimate Blue Train* is an enhanced CD well worth boarding. C.A.



classic 1958 album with the tenor saxophonist backed by trumpeter Lee Morgan, trombonist Curtis Fuller, pianist Kenny Drew, bassist Paul Chambers, and drummer Philly Joe Jones. Now titled *The Ultimate Blue Train* (Blue Note 53428), it almost becomes an A/V documentary on your PC or Mac.

The old album is here intact, remastered with Super Bit Mapping

the air, the opening of the 1904 St. Louis Exposition, the first choreographed dance ever filmed, San Francisco after the 1906 earthquake, and elegant cakewalkers.

The music is in two formats. MIDI (with an array of instruments to choose from) and digital audio. You can also view sheet music and follow it on the screen. There is even a "Make Your Own Rag" feature that allows you to create an arrangement (by selecting and combining components from hundreds of musical phrases), transpose the result, and play it back at a tempo of your choice. My own "Hachette Bouquet Rag" won't win any prizes, but I had a lot of fun putting it together.

When not creating a semi-original, you can check out the composer gallery, view any of the fifteen film clips in the movie arcade, browse

through more than 200 sheet-music covers (complete with informative text), read any of 248 pertinent articles published between 1892 and 1925, or just lean back and listen to the glorious music, both vocal and instrumental. And you can hear two singers, Dale Franzen and Nmon Ford-Livene, relate the vocal ragtime experience from a performing point of view. Is there a downside to all this? No.

Another interesting disc is *Herbie Hancock Presents Living Jazz* (Graphix Zone; 42 Corporate Park, Suite 200, Irvine, CA 92714; www.gzone.com), an imaginative, cleverly conceived exploration of jazz evolution from Storyville beginnings to the current "New Jazz." The strength of this Windows/Mac CD-ROM lies in its elaborate production, which combines superbly rendered 3D graphics with animation

and film. There is even a small cast of dancers who, choreographed by Donald McKayle, interact with graphics in a series of surrealistic scenes that illustrate poet Quincy Troupe's *The Big Beat That Jammed a Nation*. With music by Hancock, it's the story of Sidney, a jazz spirit who travels through time from old Africa to modern-day America, and it's very well done.

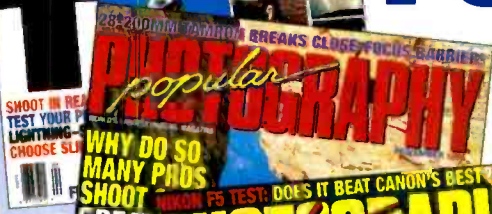
The disc does have some inaccuracies, however. Bessie Smith's career, for example, never took her "across the nation and around the world," and the explanation of Storyville's closing is not factual. Then, too — and here I blame the art department — there are prominent misspelled names (Cannonball "Adderly," "Joseph" Zawinul), and who should pop up when we click on "Sarah Waller" but, you guessed it, Fats. Still, *Living Jazz* is a remarkable production that, like the music itself, is full of happy surprises (when you put your mouse to work) — for example, footage from a fascinating, recently surfaced film of Coleman Hawkins and Charlie Parker performing together. I bought *Living Jazz* (as opposed to receiving a review copy), and, inaccuracies aside, I got my money's worth.

There is a different kind of program in *Jazz Tutor, Featuring Phil Woods* (MasterClass; P.O. Box 304, Ridgewood, NJ 07451; www.masterclass.com). This is a new approach to music education, a powerful learning tool that offers what amounts to private lessons with one of today's finest players. Containing 130 step-by-step lessons with spoken guidance, the disc takes the student from basic skills to advanced improvisation. You can print out a lesson plan, practice with adjustable MIDI accompaniments, and — when you feel ready for it — play with the Phil Woods Quintet rhythm section. *Jazz Tutor* has already elicited high praise from the professional community, and it is the perfect release for players of E-flat, C, or B-flat instruments who have Windows 3.1 or higher. (MasterClass hopes to have a Macintosh version available eventually.)

To sum up, CD-ROM technology has come a long way since I first slipped Mozart into my Mac. Of the titles here, *Crazy for Ragtime* gets my nod for being as authoritative as it is entertaining. The often dazzling visual effects of *Living Jazz* bring it in a close second. And the Phil Woods master class is simply in a class of its own. □



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# PROFESSOR HOLMAN'S

# HOME THEATER QUIZ

THINK YOU KNOW A LOT about home theater? Try this quiz on for size! It was prepared for us by Tomlinson Holman, professor of film and television sound at the University of Southern California. There he teaches a rigorous course for budding film directors and technicians, but here he's lightened things up considerably. Despite its brevity, the test manages to address most of the important technical points and common misconceptions about home-theater equipment and techniques.

Instructions: As in a college-entrance exam, always choose the *best* answer from *all* the choices. Answers, with some *Cliff's Notes*-style commentary, are on the next page. Get out your No. 2 pencils and have fun!

—David Ranada

## SOURCES

1. Pre-recorded VHS tapes are commonly recorded with four soundtracks, although not all machines will play all four tracks. The tracks are:

- A. Dialogue, music, effects, and laughs.
- B. Left and right linear, left and right hi-fi.
- C. Two pre-recorded tracks, two overdub tracks.
- D. Two original tracks, two dubbed tracks.

2. VHS Hi-Fi soundtracks are recorded:

- A. Using frequency-modulation techniques.
- B. Digitally.
- C. Via standard analog means, as on an audio tape deck.

3. Laserdiscs now have several alternative soundtrack formats recorded on them. The alternatives *do not* include:

- A. Left and right analog FM pair with CX companding noise reduction.
- B. Left and right linear PCM pair with 16-bit resolution, sampled at 44.1 kHz.
- C. 5.1-channel AC-3-encoded multichannel audio, replacing the right analog FM channel.
- D. 5.1-channel DTS-encoded multichannel audio, replacing the linear PCM pair.
- E. 5.1-channel linear PCM.

4. Dolby Stereo using left and right tracks

to carry four channels of program content is a \_\_\_\_\_ (1) \_\_\_\_\_ technology, while Dolby AC-3 is a \_\_\_\_\_ (2) \_\_\_\_\_ technology.

- A. (1) matrix, (2) discrete
- B. (1) analog, (2) digital
- C. (1) audio-frequency, (2) radio-frequency

5. Multichannel digital sound can be transmitted between two pieces of equipment:

- A. As an RF signal from a laserdisc player to a controller capable of decoding first the RF carrier, then the 5.1-channel audio.
- B. As 5.1-channel compressed digital audio data over one coaxial or optical cable using the SPDIF digital audio interface.
- C. Over multiple SPDIF coaxial or optical cables, each carrying two channels of linear PCM data.
- D. As multiple analog signals over standard audio cables.
- E. All of the above.

6. The best names for the five main channels of 5.1-channel audio are:

- A. Left front, center front, right front, left surround, right surround.
- B. Left front, right front, left rear, right rear, subwoofer.
- C. Left front, center front, right front, left rear, right rear.

7. The “.1” channel of 5.1-channel audio refers to:

- A. The subwoofer channel.

- B. The low-frequency effects (LFE) channel.
- C. A channel that reproduces only frequencies below 120 Hz.
- D. Both B and C.

## A/V PREAMPS

8. Dolby Pro Logic decoders:

- A. Separate left and right inputs into left, center, right, and surround outputs.
- B. Separate left and right inputs into left front, right front, left rear, and right rear outputs.
- C. Decorrelate mono source signals for stereophonic reproduction.

9. The “narrow/wide” switch on A/V preamps (controllers) refers to:

- A. The width between the front left and right loudspeakers.
- B. The width between the left and right surround loudspeakers.
- C. The frequency range of the center-channel loudspeaker.

10. The bass-management circuitry in an A/V controller may have several modes of operation. Which of the following is *not* one of the modes?

- A. Extract the low bass from the five main channels, sum it with the .1-channel signal, and send the sum to a subwoofer.
- B. Extract the low bass from the center and surround channels, sum it with the .1-channel signal, and sum the composite signal with the left and right channels to direct the bass to two main left and right stereo speakers.
- C. Extract the low bass from the left and right front channels and supply it to the center channel.
- D. Play all five main channels wide-range over five wide-range speakers and supply the .1 channel to a dedicated subwoofer.

11. Which of the following explains why there is a time delay of 15 to 30 milliseconds (ms) applied to the surround channel in Dolby Pro Logic?

- A. When a mix designed for a large room is played in a small one, the surrounds arrive too early, so they must be delayed.
- B. A matrix process is imperfect, so to help prevent hearing incorrect sounds from the surrounds they are delayed relative to the screen sound. The precedence effect of hearing is used to give directional preference to the front sound by having the surround sound arrive some 15 to 30 ms after the screen sound.
- C. The surround sound is delayed so that it will arrive at precisely the same moment as the screen sound for a sound panned midway between them, enabling sonic images to be formed between front and surround.

12. Which of the following is the right way to set up the various delays in a discrete 5.1-channel system?

- A. For equal time of arrival of each of



the channels at the primary listening location.

- B. It doesn't matter.
- C. So the surrounds are delayed relative to the screen channels to duplicate the effect used in Pro Logic.

**13.** The low-frequency effects (LFE) channel is a separate, bandwidth-limited channel provided to improve the headroom of low-frequency sounds for a better match with human hearing characteristics. Which of the following is *not* true about the LFE channel?

- A. The signal is designed to be optionally reproduced.
- B. The LFE channel has 10 dB more headroom than any of the main channels.
- C. The bandwidth of the LFE channel is limited to 120 Hz.
- D. LFE is the subwoofer channel.

**14.** The sequencing noise source in a home theater is set for equal loudness from each of the loudspeakers in turn. In a motion-picture theater, the level is set such that the *sum* of the two surround channels equals one screen (front) channel. The result is a potential 3-dB discrepancy between theater and home playback levels, with the surrounds louder in home playback. This is cured by:

- A. Changing the level of the surrounds in transferring the program material to video to compensate for the different calibration methods.
- B. It's not. People like more surround at home, so they just leave the error in place.
- C. In controllers that play the left and right surround channels separately when the noise source is on, the level of the generator is internally adjusted by 3 dB, so that while you calibrate at home for equal level all around, in fact you are doing it just like the theater because the controller *fixes* the discrepancy.

**15.** Since the LFE channel has 10 dB more headroom than the main channels, its level should be set 10 dB higher when playing the sequencing noise source.

- True.
- False.

#### LOUDSPEAKER SETUP

**16.** Two-channel stereo loudspeakers can be set up wherever they sound best, often well away from room surfaces. Home theaters have one major additional constraint. It is:

- A. Within reason, the sonic image produced by the front speakers should match the picture. It would make little sense for the screen sound to be coming from a different wall from where the picture is, for instance.
- B. Standing waves from all of the speakers that are operating make the bass smoother and therefore the position of each speaker less subject to constraints.
- C. The decor requirements of home theater dictate where the loudspeakers go, because there are so many of them

and it is best to conceal them to preserve the sonic illusion.

**17.** The best subwoofer placement to achieve the smoothest response is usually:

- A. Well away from room surfaces.
- B. In a corner.
- C. Halfway along the longest wall.

**18.** In two-channel stereo systems, the front speakers have to provide the optimum balance between imaging and envelopment, as they are all that is available to do both.

In a multichannel system, the speaker channels can be more specialized, with the fronts providing greater imaging and the surrounds greater envelopment. What directional characteristic is more desirable for imaging with front-channel speakers?

- A. Somewhat greater directionality than normal stereo speakers.
- B. Somewhat less directionality than normal stereo speakers.
- C. The same directionality as normal stereo speakers.

**19.** There are two approaches to the design of surround speakers: principally direct-radiating or principally diffuse-radiating. Each type produces a direct as well as a diffuse field, however, so each can produce both imaging and envelopment, but to different degrees. Which of the following is *not* true?

- A. Diffuse-radiating surround speakers are good at reproducing ambience and reverberation.

- B. Direct-radiating surround speakers produce a sharper surround image.
- C. Direct-radiating surround speakers can produce the optimum envelopment.
- D. When used in a 5.1-channel system, diffuse-radiating surround speakers can provide a sense of left and right surround.

**20.** Besides the choice of loudspeaker, which of the following has the most influence on timbre in typical listening setups?

- A. The first floor reflection.
- B. The first ceiling reflection.
- C. The first side-wall reflections.
- D. Reverberation.

**21.** For the most theater-like reproduction, the surround speakers in a home-theater system should be placed:

- A. To the *rear* of the main listening position at ear level.
- B. Directly to the *sides* of the main listening position and elevated *above* ear level.
- C. Directly to the *sides* of the main listening position at ear level.
- D. To the *rear* of the main listening position and elevated *above* ear level.

**22.** THX refers to:

- A. Tomlinson Holman's eXperiment.
- B. George Lucas's first theatrical feature film, *THX 1138*.
- C. Both of the above.
- D. Neither of the above.

## ANSWERS

COMMENTS BY DAVID RANADA

**1 B.** The linear (also called longitudinal) tracks are recorded conventionally along one edge of the tape (just like audio cassette tape, for instance), while the hi-fi tracks (also called AFM) are recorded *underneath* the video by the scanning drum. **2 A. 3 E. 4 A. 5 E. 6 A.** Equipment manufacturers are among the most frequent abusers of this naming convention, often using "rear" when they should be saying "surround." **7 D.** Depending on which documents you read, the "E" can stand for Effects or Enhancement. It's a common misconception that the LFE channel is intended for reproduction only by a subwoofer.

**8 A. 9 C.** Selecting "narrow" redirects the bass from limited-range center speakers into left and right front speakers or a subwoofer. **10 C. 11 B. 12 A.** Equal delays help achieve a smoother subwoofer-response "blend" with the main channels and improve interchannel imaging — for instance, between left and center. A Dolby Digital AC-3 decoder chip is also capable of performing Dolby Pro Logic decoding for older, non-Dolby Digital soundtracks. When it does so, even though the system speakers may be time-

aligned for Dolby Digital playback, the chip will apply an additional Pro Logic delay to the surround channels; see Question 11. Not all equipment will allow the setting of time alignment on all channels, including a subwoofer output, and very little equipment allows time alignment of the center speaker when it is more distant from the listener than the front left and right speakers. **13 D.** The LFE channel should not contain essential storytelling content, as it is not required to be reproduced by all playback systems because not all systems are capable of reproducing high levels of low bass without distortion. **14 C. 15 False.** A 10-dB greater headroom does lead to 10 dB more sound-pressure level because the bandwidth of the LFE channel is much smaller (only two octaves) than those of the other five channels (eight octaves when a subwoofer is used). Alignment test tones are supposed to be generated with levels that will lead to equal readings for all speakers when measured by a sound-level meter.

**16 A. 17 B. 18 A. 19 C. 20 A. 21 B.** At home, side placement of a pair of dipole surround speakers improves the sense of envelopment, which is obtained in a movie theater by having multiple side-placed surround speakers. This is an area of controversy, however. **22 C.**

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# BEST OF THE MONTH

**STEREO REVIEW'S  
CRITICS CHOOSE THE OUTSTANDING  
CURRENT RELEASES**



ANNETTE AURELI/ATLANTIC

## Jill Sobule Gets Happy?

**H**appy Town is Jill Sobule's coming-out party, and I don't mean in the Ellen DeGeneres sense. Whereas Sobule's self-titled album of 1995 drew attention for the novelty of its lesbian tease song, "I Kissed a Girl," the new record is a clever, compelling, and confessional work about more serious subjects — the elusive search for happiness, in particular. And she undertakes an audacious hybrid of pop and hip-hop that sounds as fresh as it is improbable, blending tuneful sincerity and a grab bag of sampled rhythms in songs like "Bitter" (which she's trying

hard not to become) and "I'm So Happy" (not!). The pop-hop collage reaches a peak in "When My Ship Comes In," a swinging tune with a party-in-the-ruins spirit worthy of Beck's "Where It's At."

Sobule is a clear-eyed realist who nonetheless dreams of better things — hence the emotional push-pull of "Bitter," where she sings, "I don't wanna get bitter / I don't wanna turn cruel / I don't wanna get old before I have to." A gorgeous, yearning vocal melody is set over a chugging hip-hop foundation, and the result is both funny and poignant, a real-world mix of human vulnerability and

hardened street beats. The same effect is achieved in the title track, which is part Sixties pop, part Sub Pop-style noise splattered like black specks on a rainbow. There's something sadly ironic in the song's contention that emotional equilibrium requires the downsizing of dreams and expectations to the point where life becomes a soporific stupor more to be muddled through than savored. But that, in a nutshell, is the sort of Gen X mindset that Sobule rues, resists, and sometimes succumbs to in *Happy Town*.

Another theme is the singer's refusal to pander to the male ego, and the consequence is the gulf between the sexes that makes long-term relationships so difficult. Sobule uses quasi-jazz settings and droll, bluesy intonations to paint fragmented scenarios in "Half a Heart" and "I'm So Happy." Having found someone she can get along with, she spills her guts in the second song: "We're two peas from the same pod / Bowing down to the same God we're not sure exists / We both walk with heavy souls / Bullet holes, and a backpack full of bad affairs and fears." As if to make clear she has no illusions, she adds a kicker: "I'm happy when you're here . . . kinda."

Jill Sobule has come up with an album that feels like a real breakthrough in songwriting and self-expression. Her biggest achievement is that her songs speak frankly without losing their humanity or their sense of humor. In other words, she's not bitter. *Parke Puterbaugh*

### **JILL SOBULE: Happy Town.**

*Bitter; Happy Town; Barren Egg; Half a Heart; When My Ship Comes In; Clever; I'm So Happy; Little Guy; Underachiever; Love Is Never Equal; Soldiers of Christ; Atic; Sold My Soul; Super 8.* LAVA/ATLANTIC 82991 (46 min).

## Chopin with Poetry and Power

**M**aria João Pires's stunning disc of Chopin's Op. 28 preludes and his Second Piano Concerto (with André Previn conducting), issued by Deutsche Grammophon the year before last, made me eager for more Chopin from the Portuguese pianist. With admirable restraint, DG did not follow up with a Complete Chopin, not even an announcement of such a project, and is only now bringing out her set of the complete nocturnes. It's every bit as full of poetry and power as the earlier disc.

Again the performances are a good deal more gutsy than what has been the prevailing norm, taking these intimate works well outside the limited expressive dimensions of the traditional image of the

# BEST OF THE MONTH

salon with its muted candelabras and reticent, whispering utterances. While Pires never lacks subtlety or delicacy — and indeed seems as constitutionally incapable of playing below the level of poetry as she is of yielding to sentimentality or confusing hysteria with the intensity of genuine emotion — she is not reluctant to confront the dramatic substance of each piece on its own terms. Moreover, she succeeds remarkably in demonstrating how different these pieces are from one another despite their structural similarities.

Her instinctive poetry never deserts her, even in making the most of the contrasts between the intimacy of the opening section and the demonstrativeness of the middle one in this or that nocturne. We are not likely to hear anything surpassing the pianistic elegance and beautiful tone she achieves in the F-sharp Major Nocturne, Op. 15, No. 2. The prevailing dark sobriety of Op. 48, No. 1, in C Minor doesn't require a further overlay of monumentalism and doesn't receive one, but it has enormous impact here through Pires's insistence on an unfeigned simplicity and directness, clearing every non-essential or threatening distraction from the steady path to the inevitable resolution.

There have been other truly distinguished recordings of the nocturnes before this one. Arthur Rubinstein's is still current on RCA, though only as part of an

eleven-disc set, and Abbey Simon's current Vox Box may be an underpriced gem. I recall with profound admiration Ivan Moravec's version on Connoisseur Society and wonder at Sony's failure to reissue Eugene Istomin's unforgettable set from the Fifties. I won't indulge in comparisons or make foolish declarations regarding one or another's being "the best," but Pires does take her place in this august company. Like Simon, she gives us all twenty-one of the nocturnes (all the other pianists mentioned recorded only the nineteen that used to be regarded as the complete cycle), and DG has given her a recording that complements her playing with exceptional realism.

Richard Freed

## CHOPIN: Nocturnes (complete).

Maria João Pires (piano). DEUTSCHE GRAMMOPHON 447 096 (two CD's, 109 min).

## Mark Eitzel's Melodic Melancholia

One of the greatest whiners in modern rock, Mark Eitzel has a winning way with torchy pop tunes and lyrics that get away with pure, unashamed self-pity. With his lonesome howl of a voice, he can be mesmerizing when he has a good band behind him. For years that band was American Music Club, a creative San Francisco outfit in perfect sync with his mood swings. But it broke up two years ago, and Eitzel's solo debut, last year's *60 Watt Silver Lining*, threatened to take his torch/cabaret tendencies to extremes.

With *West* he makes a cleaner break from the old AMC approach. Co-producer Peter Buck of R.E.M., who also plays most of the guitars and co-wrote all but one of the songs, gives him an uncharacteristically raw sound; Buck may be the first producer to record Eitzel's voice without layers of echo. Although the arrangements have a spur-of-the-moment feel, loud electric guitars and drums are used sparingly; more often vibes are the unlikely lead instrument. There are echoes of R.E.M.'s left-field side — "Old Photographs" has the droning intensity of their "Country Feedback" — but there's also a stronger pop touch. The waltz-time "Stunned & Frozen" and the opening "If You Have to Ask" take Eitzel's usual melancholia to new melodic heights.

He's also lightened up a bit lyrically, adding some romance to his angst. "Fresh



Eitzel (left) with collaborator Peter Buck

Screwdriver" and "Three Inches of Wall," among other tracks, take place in his favorite setting — a dim-lit, late-night bar somewhere on the wrong side of town. But there are hints that Mark Eitzel has become happier with his lot: In his world, "I got a fresh screwdriver just before closing time" sounds like the most hopeful of sentiments.

Brett Milano

## MARK EITZEL: *West*.

*If You Have to Ask*; *Free of Harm*; *Helium*; *Stunned & Frozen*; *Then It Really Happens*; *In Your Life*; *Lower Eastside Tourist*; *Three Inches of Wall*; *Move Myself Ahead*; *Old Photographs*; *Fresh Screwdriver*; *Live or Die*. WARNER BROS. 46602 (54 min).

## Ruth Ann Swenson: *Songs From the Heart*

The prodigiously talented American soprano Ruth Ann Swenson has finally recorded a disc that fully captures her exquisite, golden voice and assured artistry. Her previous solo album, a collection of coloratura arias, never caught fire, but her new collection, a carefully thought-out song recital called *i carry your heart*, is a beauty (no, the proofreaders haven't gone blind — the title song is based on a poem by e. e. cummings). The programming is ambitious, comprising ornate Italian Baroque and early Romantic songs, one of Schubert's most difficult masterpieces, perfumed fluff from turn-of-the-century Paris, and contemporary American art songs. Swenson and her fine accompanist, Warren Jones, have created a collection that tells a story of "love lost, love mourned, love restored" — which pretty



CHRISTIAN STEINER/DC

Maria João Pires



much covers the whole range of Western song.

It's traditional to begin a vocal recital with florid Italian songs, and Swenson has chosen a solid set by four composers who are all better known as opera composers: Cavalli, Bellini, Rossini, and Verdi. The opening numbers, Cavalli's "Speranze" ("Hopes") and "Vaghe Stelle" ("Wandering Stars"), are quiet, reflective pieces that allow Swenson to reveal the charms of her voice in a natural, almost conversational way. The Rossini songs, "L'Invito" ("The Invitation") and "La Promessa" ("The Promise"), are recital staples that Swenson has embellished with just a tasteful touch of ornamentation. The pair of songs by Verdi, "La Seduzione" ("The Seduction") and "Stornello" ("Refrain"), although remarkably simple in construction, glow with the passionate intensity of his finest arias.

The most grandiose selection on the disc is Schubert's "Der Hirt auf dem Felsen" ("The Shepherd on the Rock"), one of his most famous lieder. Swenson makes light work of the demanding coloratura passages, the metal in her voice glinting deliciously throughout the range, but the diction is a bit muffled. Likewise, in the two songs by the Andalusian composer Fernando Obradors (1897-1945), "Con Amores, la Mi Madre" ("With Love to My Mother") and "Del Cabello, Mas

Sutil" ("Delicate Tresses"), the Spanish words roll forth a bit too blandly, without the characteristic trilling of the r's that you hear in performances of this repertoire by native speakers. Yet these are, on balance, fine performances. Any vocal



Ruth Ann Swenson

collection in five different languages is bound to have moments that are less than perfectly idiomatic.

No quibbles about her French: The pair of songs by Reynaldo Hahn (1874-1947), a salon composer who was closely associated with the novelist Marcel Proust, are

simply perfect. These self-consciously pretty tunes, setting poems by Victor Hugo ("Si Mes Vers Avaient des Ailes," or "If My Poems Had Wings") and Paul Verlaine ("L'Heure Exquise," or "The Exquisite Hour"), teeter on the verge of saccharinity, but Swenson's shapely interpretations rescue them. Her voice trembles with emotion, delicately coloring every phrase with a breathy tone that flirts and teases without overdoing it.

Some of the most memorable selections on this intimately miked recording come from very obscure composers. Alfred Bachelet (1864-1944) was a name completely unknown to me, but the song included here, "Chère Nuit" ("Precious Night"), matches a lovely lyric to a rapturous melody. The final set of songs, "Little Elegy," "Aubade," "The Bird," and "I carry your heart" by the American John Duke (1899-1984), are jewel-like miniatures. The last one, the CD's title song, tossed off delightfully by Swenson, is as bright, bouncy, and sweetly affecting as anything to come from the Broadway stage.

Jamie James

**RUTH ANN SWENSON:**

**i carry your heart (Songs by Bachelet, Bellini, Cavalli, Duke, Hahn, Obradors, Rossini, Schubert, and Verdi).**

Ruth Ann Swenson (soprano); Warren Jones (piano). EMI 56158 (65 min).

**NOW ON CD**

**POPULAR**

**VICTOR FELDMAN: Audiophile.**

JVC 0016. This 20-bit XRC D (Extended Resolution Compact Disc) from JVC Music combines *Secret of the Andes* and *Soft Shoulder*, two early-1980's albums by the English jazz pianist and Steely Dan/Joni Mitchell sideman.

**GRYPHON: Red Queen**

**to Gryphon Three/Raindance.**

TRANSATLANTIC/CASTLE 460 (352 Park Ave. S., 10th floor, New York, NY 10010). The classic 1974 *Red Queen* by the British electric-folk/progressive-rock band, coupled with the follow-up.

**KRONOS QUARTET: The Complete Landmark Sessions.**

32 JAZZ 32011 (two CD's). Producer Joel Dorn's new imprint brings together *Monk Suite* (1985) and *Music of Bill Evans* (1986), influential crossover recordings by Kronos. Budget price.

**TEN YEARS AFTER: Ssssh/Cricklewood Green.**

MOBILE FIDELITY SOUND LAB 687. The British



blues-rockers' 1969 and 1970 LP's, now on one Ultradisc II gold CD. Tracks include "Bad Scene," "Good Morning Little Schoolgirl," "Love Like a Man," and "50,000 Miles Beneath My Brain."

**THE WASHINGTON SQUARES: From Greenwich Village — Complete.**

RAZOR & TIE 2128. The postmodern beatniks' two late-1980's albums (self-titled debut, *Fair and Square*) plus two previously unreleased tracks.

**CLASSICAL**

**BEETHOVEN: Piano Concertos No. 3 and No. 5 ("Emperor").**

Alexis Weissenberg (piano); Berlin Philharmonic,

Herbert von Karajan cond. EMI 66091. The performance of the "Emperor" Concerto is "... big, bold, and genuinely symphonic in concept" (February 1975).

**BRAHMS: Symphonies Nos. 1-3; Academic Festival and Tragic Overtures.**

London Philharmonic, Eugen Jochum cond. EMI 69515 (two CD's). "... fluid tempos and lyrical underlinings" (June 1978).

**EILEEN FARRELL SINGS VERDI.**

Eileen Farrell (soprano); Columbia Symphony, Max Rudolf and Fausto Cleva cond. SONY 62358. Arias and duets with tenor Richard Tucker recorded by the great American dramatic soprano in the early 1960's.

**TCHAIKOVSKY: Piano Concerto No. 1; The Nutcracker (excerpts).**

Emil Gilels (piano); Chicago Symphony, Fritz Reiner cond. RCA VICTOR 68530. Late-1950's "Living Stereo" Chicago Symphony recordings of the popular piano concerto, with an eminent Russian pianist, and 40 minutes of music from the beloved ballet.



# POPULAR MUSIC

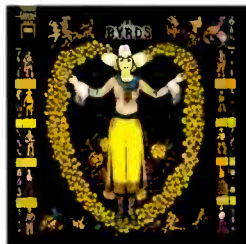
NEW RECORDINGS REVIEWED BY CHRIS ALBERTSON, FRANCIS DAVIS,  
WILL FRIEDWALD, PHYL GARLAND, RON GIVENS, BRETT MILANO,  
ALANNA NASH, PARKE PUTERBAUGH, KEN RICHARDSON, & STEVE SIMELS

**AN AMERICAN IN PARIS**  
(original motion-picture soundtrack).  
TURNER/RHINO 71961 (two CD's, 114 min).

★★★  
For a classic movie musical, *An American in Paris* is an almost criminally unbalanced piece of work. The first 90 minutes are taken up by a rather modest, even intimate little musical with Gershwin songs and a love-triangle plot in a postwar Parisian setting. Then, for the final 17 minutes, it explodes into the most ambitious dance number ever attempted on celluloid. This climactic ballet, in fact, is so spectacular that it overwhelms everything that came before.

Here's a case where a soundtrack, splintering off in all kinds of directions, works even better than the movie itself. In addition to the full-length *American in Paris* ballet, the Rhino set offers what amounts to a 10-minute jazz suite of Gershwin tunes by sax great Benny Carter, as well as almost an LP's worth of solo Gershwiniana by that genre's pre-eminent master, pianist and curmudgeon Oscar Levant. The shame is that not one of the movie's principals — Gene Kelly, Leslie Caron, Levant, and French *chant-et-danseur* Georges Guetary — could really sing. The stars of the soundtrack are actually MGM's remarkable staff

of musical directors, including Saul Chaplin, Conrad Salinger, Johnny Green, and Skip Martin. Their many instrumentals are the meat of the matter here, with Martin, in particular, giving these George-and-Ira arias the impact they deserve. *W.F.*



**THE BYRDS:**  
**The Notorious Byrd Brothers.**  
COLUMBIA/LEGACY 65151 (59 min).  
★★★★★  
**Sweetheart of the Rodeo.**  
COLUMBIA/LEGACY 65150 (59 min).  
★★★★★  
**Dr. Byrds & Mr. Hyde.**  
COLUMBIA/LEGACY 65113 (52 min).  
★★★  
**Ballad of Easy Rider.**  
COLUMBIA/LEGACY 65114 (57 min).  
★★★★★

In case you hadn't noticed, Columbia/Legacy's rollout of the refurbished Byrds catalog is continuing apace. Four more titles are available, each in 20-bit remasters and with fascinating bonus tracks, and two of the albums, both from 1968, are certified masterpieces: *The Notorious Byrd Brothers*, their most ambitious studio creation, and *Sweetheart of the Rodeo*, on which Gram Parsons helped Roger McGuinn and company invent country rock. The other two collections, 1969's *Dr. Byrds & Mr. Hyde* and *Ballad of Easy Rider*, may not be as memorable, but the late Clarence White's guitar playing is breathtaking on both, and the bonus tracks are great showcases for him, particularly the gorgeous extended

solos in the alternate takes of "Nashville West" and "Ballad of Easy Rider." Oh, and did I mention that all four of these albums sound better than ever? Miss them at your peril. *S.S.*

**COLLECTIVE SOUL:**  
**Disciplined Breakdown.**  
ATLANTIC 82984 (47 min).

★★★  
Collective Soul strikes me as the Nineties equivalent of Foreigner: a radio-friendly band whose songs sink their hooks into your eardrums but rarely go deeper. Granted, the group is a lot more willing to embrace U2-style guitar sounds and contemporary dance beats than the balky dinosaurs of yesteryear, and its songs are well-crafted. On *Disciplined Breakdown*, a tune like "Full Circle" — with its Peter Gabriel-like vocal, controlled guitar histrionics, and upbeat chorus ("I do believe that love goes round and round") — is what critics refer to as a guilty pleasure. "Link" is an ought-to-be hit with a toe-tapping naturalness and an indelible, alliterative chorus that's well-nigh irresistible. And there's real kineticism in the cross-cutting rhythm-guitar work of "Blame" and "Forgiveness."

The band loves its ham-handed riffing a tad too much, though, veering dangerously close to Aerosmith's "Walk This Way" in "Precious Declaration" and undermining its own seriousness with meat-and-potatoes ax-grinding in the title track and "Crowded Head." In the end, these guys make too much like a rock-and-roll metronome, burying their collective soul in a somewhat airtight and oldfangled presentation. Even so, *Disciplined Breakdown* does have its moments and makes good cruising music. *P.P.*

**DINOSAUR JR.: Hand It Over.**  
REPRISE 46506 (48 min).

★★★  
Just when he seemed destined for a permanent position as the king of slacker rock, Dinosaur Jr. mainman J Mascis gets serious again, and not a minute too soon. The band's last album, *Without a Sound*, took the casual approach to extremes; there wasn't a song on it that sounded like it had gotten past the first draft. And last year Mascis released a live solo-acoustic album that only proved solo-acoustic shows aren't his strong point.

*Hand It Over* is an overdue reminder of how good he can be, and it's easily the best Dinosaur Jr. album since its original lineup (with future Sebadoh leader Lou Barlow) split up ten years ago. As usual lately, Mascis plays most of the instruments, but this time he builds a warm, garagelike band sound out of his wall of overdubs. Best of all, the songs are real songs instead of ex-

## STAR SYSTEM

Excellent ★★★★★  
Very good ★★★★  
Good ★★★  
Fair ★★  
Poor ★



STEPHAN ARCELA-HITCHCOCK/REPRISE

Dinosaur Jr.: comeback time



cuses for guitar solos. "Nothin's Goin' On" and "I Don't Think" make good use of a boppier radio-friendly sound; the second tune even draws on the Bo Diddley beat. The one extended track, the eight-minute "Alone," gives his Neil Young-inspired chops a proper workout and throws a haunting hook into the bargain.

The result is the best alterna-rock comeback since last year's *car button cloth* by Evan Dando's new Lemonheads. Let's just hope Mascis will fare better commercially than his old buddy Dando did. *B.M.*

**MARIANNE FAITHFULL:**

**20th Century Blues.**

RCA VICTOR 38656 (54 min).

★★★★

Primarily a celebration of the music of Kurt Weill, *20th Century Blues* is a thrilling throwback to the time and style of Marlene Dietrich. Accompanied only by pianist Paul Trueblood in this live recording at the New Morning cabaret in Paris, Marianne Faithfull reaches full dramatic power in "The Ballad of the Soldier's Wife," where she's simultaneously compassionate and pathetic. Her ravaged, resonant alto dips, cracks, and throbs with emotion in "Pirate Jenny," and she makes "Alabama Song" far more scary and menacing than the Doors did. Here you get a true sense that the inmates are running the asylum, perhaps with a switchblade pressed firmly to the ribs of the administrator.

Weill fans may quibble with some of the interpretations and phrasing, as well as with the inclusion of Noel Coward's title song, Harry Nilsson's "Don't Forget Me," and the hoary Thirties show tune "Boulevard of Broken Dreams." But when Faithfull sings "I walk along the street of sorrow" with a world-weary ache, elongating the words in her throaty rasp, she makes the song as genuinely spooky as Elvis Presley's classic performance of "Heartbreak Hotel."

In relying on poignancy more than parody, artistry more than artiness, Faithfull delivers in *20th Century Blues* a compelling and memorable performance. *A.N.*

**NANCI GRIFFITH:**

**Blue Roses from the Moons.**

ELEKTRA 62015 (49 min).

★★

Back when she made folkabilly, Nanci Griffith was a commanding writer and performer. Her music was real, rough-edged, and thoroughly Texas, filtered through the eyes of a poet. Since then, she has taken it to Ireland and back, enjoying a popularity in Great Britain that she has never equaled in the States. And, apparently, celebrity has gone to her head to such a degree that she is an *artiste* now, with her once-simple music smothered in synthesized strings and her lyrics increasingly self-conscious and sappy.

*Blue Roses from the Moons*, recorded live in the studio with her Blue Moon Orchestra, is quite possibly Griffith's worst effort. A reworking of "Gulf Coast Highway," one of her finest songs, is desecrated by her strained live vocal, not to mention the needless and painful duetting of Hootie and

the Blowfish's Darius Rucker. And Griffith makes a fool of herself in two songs she never should have tried. "I Fought the Law," written by the Crickets' Sonny Curtis, may have been a personal hoot for her since Buddy Holly's old buddies support her here, but her attempt to replicate Holly's hiccupping style isn't something she needed to foist off on the rest of us. Likewise, in "Maybe Tomorrow," her phrasing is completely wrong for the song's old-fashioned country shuffle.

The closing number is a cover of Guy Clark's "She Ain't Goin' Nowhere," a song that takes her back to her folk-country roots, and it's one of the better things on the album. In the case of this Texas gal who has gone around the globe, sometimes you really can make a silk purse out of a sow's ear. But, you know, that ol' pig's ear had a lot of unfettered charm all by itself. *A.N.*

**IGGY AND THE STOOGES:**

**Raw Power.**

COLUMBIA/LEGACY 66229 (34 min).

★★★★★

**R**aw Power is generally conceded to be the most badly mixed great album in rock history (second choice being the Rolling Stones' *Exile on Main St.*), and that was just the LP. The first CD version, mastered (like so many CD's in the early digital days) from a second- or third-generation source, was even tinnier. Now Columbia/Legacy, inspired apparently by several

semi-bootleg CD's of alternate mixes, has reissued the thing and done it right: a digital remix from the original multitracks, supervised by Iggy Pop himself. The result is a gloriously upgraded album.

The big change — in fact, the rationale for the whole thing — is that it now has a bottom end. Ron Asheton's bass lines, often inaudible on the original, now have a palpable presence throughout, and suddenly the songs have the anchor they always needed. In addition, tracks that once faded now end (my favorite being "Gimme Danger"), and James Williamson's brutal guitar is much more in your face; you really hear the layered overdubs that original co-mixer David Bowie managed to obscure. The music, of course, remains brilliant — the sonic template for what seems like a million punks that followed — but, believe me, it has never kicked like it kicks here. *S.S.*

**ROYAL WADE KIMES:**

**Another Man's Sky.**

ASYLUM 61967 (32 min).

★★★

**A**rkansan Royal Wade Kimes got his first name when his daddy, sitting in an eatery, looked up and saw a sign for Royal Crown Cola. Kimes jokes that he's glad it wasn't a sign for Nehi — but the truth is that he's just as refreshing as anything you'd get out of a bottle.

A Nashville songwriter for more than a decade (he co-wrote "We Bury the Hatchet"

**NEVER TRUST AN ALBUM OVER 30?**

**T**hat's right, it was *thirty* years ago this month — June 1, 1967, to be exact — that the Beatles released *Sgt. Pepper's Lonely Hearts Club Band*.



STEREO REVIEW called it a "Recording of Special Merit" and gave it a Record of the Year award. As our critic Peter Reilly wrote back then, the album "is a stunning updating of the traditional music hall in contemporary terms." And when it was transferred to CD ten years ago, contributing editor Steve Simels was prompted to reflect, "These guys deserve their legend, and if *Sgt. Pepper* now seems more an encapsulation of a particular moment in time than the great phonographic work of art the legend

enshrines, that takes away not one whit from the magnitude of the accomplishment. You can't listen to it today without, on some level, being moved, and nostalgia has little to do with it."

For my part, I am to this day completely disarmed when, after (Sir) Paul McCartney quips "and I went into



a dream" in the landmark "A Day in the Life," John Lennon effortlessly sings the most glorious *ahhh* I have ever heard. It is a passage that always reminds me, Rock Is Good. *Ken Richardson*

## POPULAR MUSIC

with Garth Brooks), Kimes comes to his singing debut with a passel of left-field originals and a producer (Michael Clute of Diamond Rio fame) who knows how to frame them. He's also confident in his vocals, with a forthrightness that says, "Hey, I'm a forty-something country boy, I've been around a little bit, and if you don't like what I've got to say or how I say it, just mosey on." The thing is, it's almost impossible not to like him. The title track of *Another Man's Sky* is a thoughtful ballad in which the singer says he'll leave the love of his life alone because she's married to a guy who'd curl up and die if she left. You don't see many country songs concerned with decency and respect anymore. Nor do you hear anything outside of Junior Brown that's as oddball as "Has Anybody in Here Seen My Wife?," a swing number in which a barroom patron goes in search of the woman of his dreams.

Kimes loves the sound of Hank Williams, Sr., especially clear in the starkly mournful "Stay Tuned" with its prominent steel guitar and answering fiddle. But my

### THE LOMAX FILES

Many years ago, the humorist/raconteur Jean Shepherd would spellbind his New York radio audience by reading the lyrics to "The Hellbound Train." I had to have those words — and there they were in *Folk-songs of North America*, a book of music and verse

compiled by Alan Lomax. If you are similarly drawn to the power of American ballads and blues, both secular and sacred, you'll be intrigued by Southern Journey, a series of Rounder CD's (the first six of which are now available) comprising field recordings

Lomax made in 1959 and 1960. It's the first of ten series to come, which will span more than 100 individual discs in drawing from the folklorist's entire archives, encompassing not just his American material but also his pioneering world-music recordings. The curious may want to first check out *The Alan Lomax Collection Sampler* (Rounder 1700), nearly forty tracks on a 70-minute CD. The booklet has a full reprint of "Saga of a Folksong Hunter," an article that Lomax, who is now 82, wrote for *STEREO REVIEW* in May 1960. *K.R.*



DAVID GARH

favorite here is a song about some nasty name-calling by a wife who's tired of her husband's errant ways. Backed by tinkling piano and stuttering guitars, the singer shouts back: "You can tell me where to go or what to kiss," but, as the song title says, "leave my mama out of this." You have to love a guy like that. *A.N.*



**ALISON KRAUSS & UNION STATION: So Long So Wrong.**  
 ROUNDER 0365 (47 min).  
 ★★★★★

At first glance, the term "progressive bluegrass" would appear to be an oxymoron. Yet Alison Krauss & Union Station deliver contemporary-sounding material that both embraces and breaks with tradition. In other words, this is not your father's bluegrass. There's as much balladry as flat-out "grass attack on *So Long So Wrong*. For a genre that can get downright obsessive about the speed and technique of its practitioners, Krauss and company are willing to slow down the tempo and focus on the song. Using bluegrass as a base, the group wanders into country, folk, and pop pastures of plenty.

More of a group-oriented effort than previous discs, *So Long So Wrong* finds Krauss's male bandmates assuming lead vocals here and there. From the delicate fingerpicking and understated mood-weaving of "Happiness" to the jaunty fiddle-led gypsy tale of "The Road Is a Lover," the album is expertly crafted. Krauss's dulcet-toned soprano is as lovely as they come; just listen to her nuanced, bittersweet vocal in "Find My Way Back to My Heart."

At times the collection seems a bit too heavily tilted toward lachrymose ballads. One more bluegrass breakdown like "Little Liza Jane" and one fewer slow-moving weeper like "It Doesn't Matter" might have redressed the imbalance. That complaint aside, *So Long So Wrong* is one honey of a record. *P.P.*

**JOHN PRINE: Live on Tour.**  
 OH BOY 015 (71 min).  
 ★★

A storyteller to the core, John Prine made his reputation with cinematic ballads about romantic loners — permanent hitchhikers on life's lost highway. In concert, however, he proves he's just as adept at entertaining, turning his goofy between-song prattle into almost profound ruminations on the absurdity of life. Instead of being a "greatest hits" collection, his second live record is a true reflection of his show, as he moves from his band to a three-piece ensemble to solo acoustic guitar. The album

also has three studio tracks, the best of which is the feel-good "If I Could," as well as a cute (if not especially clever) previously unreleased live song, "Space Monkey."

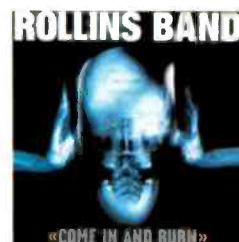
The record's real merit is showing how songs can metamorphose from one thing into quite another. "Quit Hollerin' at Me" becomes almost as menacing as Billy Bob Thornton's Karl of *Sling Blade*, and "Lake Marie," newly pumped with churning electric guitars and organ, seems filled with nearly Biblical prophecy. And if you're looking for laughter, try his delivery of "Jesus, the Missing Years."

A lot of entertainers make live albums when they've run out of new material. Prine, that mischievous bad boy with a heart of gold, seems to use them as proof of evolving artistry. *A.N.*

**ROLLINS BAND: Come In and Burn.**  
 DREAMWORKS 50007 (52 min).

★★★★

Heavy metal doesn't have an overload of great lyricists, but it does have Henry Rollins, the ex-Black Flag frontman whose words pack a stronger punch than a wall of Marshall amps. He gets deep into the psyches of his underdog characters, connecting with their loneliness, rage, and alienation. As modern rock goes, none of these topics is unique, but the intensity of Rollins's writing and vocal delivery is.



After a decade on the fringes, he made a left-field commercial breakthrough with his band's last album, 1994's *Weight*. But he hasn't softened any for the follow-up, *Come In and Burn*, which sports some of his more dramatic material since Black Flag days. There are songs about urban angst ("During a City"), the death of a friend ("Saying Goodbye Again"), and desperate love affairs ("All I Want") and the failure of same ("The End of Something"). It sounds like heavy going and often is, but Rollins's work nowadays is less about nihilism and more about hard-won strength and survival.

The same feeling comes through in the band's performances. Using an outside producer (Metallica associate Steve Thompson) for the first time, Rollins and company build on the streamlined direction of *Weight*. Lengthy grunge dirges are out, short metallic blasts are in. Lead guitarist Chris Haskett gets the biggest and chunkiest tones he's had, and recently added bassist Melvin Gibbs funkifies the sound. Most surprisingly, Rollins's vocals are almost subtle, and the nuanced approach often works better than the screaming outbursts of old.

*Come In and Burn* is commerciality without compromise. *B.M.*



**CHRIS SMITHER: Small Revelations.**  
HIGH TONE 8077 (36 min).

★★★★

Playing a blue Alvarez-Yairi guitar, miking his foot for percussion, and singing way down in his chest like a man who has lived too long under a dark bridge, Chris Smither is, quite simply, a wonder. Anyone who hasn't found at least one of his previous seven albums will want to dash out for *Small Revelations*, perhaps the most accessible of his roots blues-and-folk records. Bonnie Raitt calls him "my Eric Clapton," and he delves into an underworld of hypnotic, gauzy melodies, which he often marries to almost Zen-like lyrics about life, philosophy, and psychic survival.

There's a kind of optimistic outlook on this record that's missing from the others, even in Smither's choice of three Mississippi Delta-style covers, including "Sportin' Life." Producer Stephen Bruton, no slouch as a writer/performer himself, may have encouraged that attitude, and it's a welcome distraction. On the other hand, Smither may have spent so much time under that bridge that just coming up again lifts his spirits. Just think what it'll do for yours. A.N.

**SON VOLT: Straightaways.**

WARNER BROS. 46518 (40 min).

★★

In the three years since their breakup, Uncle Tupelo managed to get canonized as the great lost country-rock band of the Nineties. In truth, it was an earnest, hit-and-miss outfit whose ability never quite caught up to its ambitions. To different extents, the same problem still dogs the two bands led by Uncle Tupelo's former frontmen, Jeff Tweedy's Wilco and Jay Farrar's Son Volt.

Based on the two albums that each has released, it seems that Tweedy got the old band's rough-edged honky-tonk side, while Farrar got the diehard country earnestness. It also seems that Tweedy got the better end of the deal. Wilco's *Being There* is the best thing to emerge from Uncle Tupelo so far, a creative sprawl of lowdown acoustic and garagey rock material. By comparison, Farrar's writing on Son Volt's *Straightaways* isn't memorable, and the sound is so somber that you'd think he was avoiding any sign of a hook. The album is half over before the band starts working up steam (in the mid-tempo rocker "Cemetery Savior") — and, as if to make amends, that's followed by four oblique, deadly slow acoustic numbers.

Farrar's vision of country music comes off as too academic, not to mention dull. Even Gram Parsons and Hank Williams knew the value of a cheap thrill. B.M.

## Collections

**THE BLUESVILLE YEARS, VOL. 6 — BLUES SWEET CAROLINA BLUES.**

PRESTIGE 9914 (70 min).

★★★★

Prestige's Bluesville imprint released numerous albums in the late Fifties and early Sixties. Volume 6 in the current CD reissue series *The Bluesville Years* is a

representative collection of performances by six diverse artists.

Pink Anderson wasn't strictly a blues singer, but he handled the idiom masterfully, claiming he had learned to do so from Charles "Baby" Tate, who was about 16 years his junior. Both men were compelling artists who expertly fused voice and guitar, and their Bluesville recordings — eight here by Anderson, seven by Tate — capture them better than any others I have heard.



Unlike Anderson and Tate, Sonny Terry and Brownie McGhee never really became obscure. Best known as a team, they appear together here on three tracks, though not as co-leaders. Terry, a harpist with a mean whoop, demonstrates his highly rhythmic style in "Callin' My Mama," then gets down to a vocal blues in "Ida Mae"; McGhee's "One Thing for Sure," with Terry's harmonica obbligato, leaves one wanting for more (try Volume 5, which has seventeen tracks by the team). There are also three selections by guitarist Larry Johnson, who sings and plays with an authority belying the fact that he was still in his twenties. His mentor, Reverend Gary Davis (also known as Blind Gary Davis), rounds out the disc with two tracks that first appeared on Prestige's Folklore imprint.

As you may have gathered, *Blues Sweet Carolina Blues* is not totally devoted to blues, but it is an important slice of American folk music. Didn't Big Bill Broonzy say that it's all folk music? He did, adding that horses don't sing. C.A.

**THE SUGAR HILL RECORDS STORY.**

RHINO 72449 (five CD's, 360 min).

★★★★

Forget music history, forget cultural significance: The first thing to remember about Sugar Hill, the first full-time rap label, is that its records were enormous fun. The first two CD's of *The Sugar Hill Records Story* — beginning with the Sugarhill Gang's classic "Rapper's Delight" and ending with "It's Nasty," Grandmaster Flash & the Furious Five's salute/takeoff of the Tom Tom Club's "Genius of Love" — are a nonstop kick, with a star cast of rappers, a killer house band, and the party sound effects that turn up on most every track.

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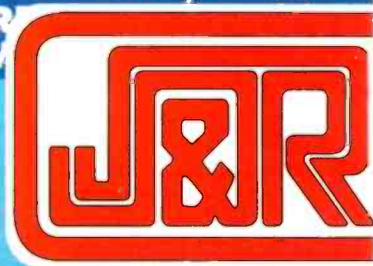
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CIRCLE NO. 10 ON READER SERVICE CARD



# POPULAR MUSIC



by current standards, its gritty realism and righteously miffed tone still pack a punch. Flash and company continued releasing topical records, notably the double-edged drug testimony "White Lines (Don't Don't Do It)," while the West Street Mob and the Treacherous Three kept the Goodman spirit going. Unfortunately, Sugar Hill's failure to sign and develop new acts led to the label's demise by late 1985.

Only about half the songs in this boxed set were hits, but there's enough gold in the Sugar Hill vaults to justify the five CD's, especially since the label released relatively few albums. Many of its singles haven't been reissued before, and some have been reissued in the wrong form — notably "Rapper's Delight," which finally appears here in its full, 15-minute version. Unearthed treasures include Melle Mel's 1984 campaign endorsement "Jesse," Wayne & Charlie's hilarious "Check It Out" (a parody of Kurtis Blow's "The Breaks"), and the label's solitary swing to old-style soul, the Moments' "Baby Let's Rap Now (Part 2)." The only drawback is the skimpy booklet text that fails to give the kind of track-by-track breakdown that distinguished recent Motown and Stax/Volt boxes. *B.M.*



**JAZZ**

## LOUIS ARMSTRONG: The Complete RCA Victor Recordings.

RCA VICTOR/BMG CLASSICS 68682  
(four CD's, 243 min).

★★★★★

I can think of no American artist whose music has had as widespread an impact on the entertainment world as Louis Armstrong, and now his entire output for RCA Victor has been reissued in a four-CD set, arranged chronologically and with alternate takes wisely placed at the end of each disc.

Armstrong first signed with Victor in 1932 (following a fruitful eight years with Okeh), and the association lasted less than a year, but he was already established as an extraordinary communicator, and these Victor months cover a great artistic period for him. Among the memorable recordings are "Hobo, You Can't Ride This Train" and the two-part extended medley from Victor's experiments with 33 $\frac{1}{3}$ -rpm recording. The next period begins some 146 Decca sides later in 1946 — when Armstrong made two

sides with the *Esquire* All-American Award Winners — and continues for almost two years. Included is the wonderful 1947 New York Town Hall concert, where the seemingly rejuvenated "Pops" had Jack Teagarden at his side. The chronology skips again to conclude with a couple of 1956 selections featuring a big band. The booklet contains a detailed discography and informative notes by Dan Morgenstern.

Just why Victor held on to Louis Armstrong for only short periods at a time is inexplicable when one considers what a powerhouse talent he was, but this is only one



slice of the Satchmo pie, an essential one that belongs on your shelves along with the Okeh's, the Deccas, the subsequent Columbia's, and his work for Norman Granz. *C.A.*

## CHET BAKER: The Prestige Sessions — Lonely Star.

PRESTIGE 24172 (67 min).

★★★

## Stairway to the Stars.

PRESTIGE 24173 (67 min).

★★★

## On a Misty Night.

PRESTIGE 24172 (70 min).

★★★

These three discs from two marathon sessions in 1965 are among the most curious in Chet Baker's discography, and also among the most revealing. The trumpeter, who plays flugelhorn exclusively here, was then attempting a comeback between drug busts, and his manager, the late Richard Carpenter (no, not Karen's brother), probably wanted to stockpile material. The sessions were originally issued on five LP's with titles that were meant to ring a bell with that day's jazz record buyers: *Smokin' with the Chet Baker Quintet*, *Groovin' with the Chet Baker Quintet*, and so on. At the time, he was being dismissed as a Miles Davis imitator, but Davis had long since ventured beyond the style of hard bop offered here. Baker had won fame a decade or so earlier as a high priest of West Coast cool, the trend against which hard bop was perceived to be a reaction. These albums were a sign that the vogue for cool was over, and that Baker was without a direction.

Or maybe not. Heard some thirty years later, they suggest that he was unfairly stereotyped. He phrases with more bite than he was usually given credit for, and his resemblance to Davis is slight. The muscular tenor saxophonist George Coleman is an ideal foil, and the rhythm section (pianist Kirk Lightsey, bassist Herman Wright, and drummer Roy Brooks) shows a fine sense of dynamics, especially on the ballads.

The material is unusual enough to warrant special comment. Jimmy Mundy is represented as a composer, as is Tadd Dameron, the most unabashedly lyrical of the composers to emerge from the bebop movement of the Forties. Many of the originals, however, are jointly credited to Carpenter and a fellow identified only as "Bruce." They sound like Dameron's; he was as strung out and in need of ready cash as Baker was during this period (he died a few months before these sessions). Could the Carpenter/Bruce tunes be his? Even if they're not, the discs include a wealth of Dameron material not recorded elsewhere. That alone would justify adding them to your shopping list. But Chet Baker cast against type and in crackling good form should be justification enough already. *F.D.*

## JOHN BUNCH/PHIL FLANIGAN: Struttin'.

ARBORS JAZZ 19157 (67 min).

★★★★

Pianist John Bunch started his career in Dixieland bands and went on to the big ones: Woody Herman, Benny Goodman, Maynard Ferguson, Buddy Rich. But perhaps he is best known for the six years he spent as musical director for Tony Bennett. Bunch himself has never had a hit, but he has recorded extensively and always with the good taste and breezy swing that permeates his latest release, *Struttin'*. Superbly assisted by bassist Phil Flanigan, he brings his eclectic experience into play in a diversified program that begins with a rarely heard pop item, "On a Slow Boat to China," swings gently and imaginatively through Chopin's Prelude in C Minor, and ends with Lil Armstrong's lively classic "Struttin' with Some Barbecue." A true joyride. *C.A.*

## EVERETTE HARP: What's Going On.

BLUE NOTE 53068 (45 min).

★

## FAREED HAQUE: Deja Vu.

BLUE NOTE 52419 (49 min).

★

## CHARLIE HUNTER QUARTET: Natty Dread.

BLUE NOTE 52420 (43 min).

★★

The aim of the Blue Note Cover Series is to "reinterpret pop classics," but, judging from the first three releases, "misinterpret" would be a better description. Never mind that the jazz value is minimal to zero — this isn't even good pop fare.

Everette Harp aims his saxophone and synthesizer paraphernalia at Marvin Gaye's album *What's Going On* and shoots it down in listless Kenny G-cum-Najee fashion, abetted by George Duke, Kirk Whalum, and, yes, Najee. Other guests include Kenny Loggins, who sings "Mercy Mercy Me," and Arsenio Hall, who mumbles through "Save the Children." Crosby, Stills, Nash, and Young's *Deja Vu* gets a slightly better treatment by Chilean guitarist Fareed Haque, but it, too, is a yawn; vocals might have helped this vapid Haque job. Guitarist David Onderdonk hits a nice groove in "Carry On," but then it's back to a let's-get-



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# QUICK FIXES



## BLUR.

VIRGIN 42876 (60 min). ★★★★★

Having perfected its native Britpop on *Parklife* to the point where *The Great Escape* seemed anticlimactic, Blur now shuffles its exquisite hooks with droning but no less attractive cuts that nod to U.S. influences like Pavement and Beck. It's a new dawn for this true musical oasis. *K.R.*

## BING CROSBY AND THE ANDREWS SISTERS:

**Their Complete Recordings Together.**

MCA/DECCA 11503 (two CD's, 153 min).

★★★★★

Here was one of the pre-eminent teams in all of popular music, with a canon of topical tunes notable for its wide geographic range: proto-R&B, cowboy and quasi-folk songs, real and pseudo South American items, yodels and polkas. The fifty-two tracks include seven never-legitimately-issued breakdown takes, some slightly off-color (oh, Father O'Malley!). *W.F.*

## FARMER NOT SO JOHN.

COMPASS 4239 (48 min). 117 30th Ave. S., Nashville, TN 37212. ★★★★★

Alt-country band Farmer Not So John hovers around a melancholic, lyric-driven, and raw-boned Southern roots-rock sound, fit for long brooding weekends. Actually, it's smart stuff, tempered with kitschy humor. Fairly irresistible. *A.N.*

## ROSIE FLORES AND RAY CAMPI: A Little Bit of Heartache.

WATERMELON 1059 (45 min). ★★★★★

In 1990, Flores and Campi took time out from their own careers to record this album of old-time country songs and duets, aiming for a Fifties honky-tonk sound and largely nailing it. There's also a new tune or two, including Flores's wistful ballad "Bandera Highway." *A.N.*

## CHAKA KHAN: Epiphany — The Best.

REPRISE 45865 (73 min). ★★★★★

Always a vocal powerhouse and never boring, Chaka Khan defies you to doze through her hits. And there are five new songs, all captivating — especially "Never Miss the Water," a collaboration with Me'Shell Ndegéocello. *P.G.*

## LIVE: Secret Samadhi.

RADIOACTIVE 11590 (53 min). ★★

Live's pretentious streak cuts even wider than usual here, making the band's modest strengths (a sense of melody, a nice guitar sound) that much more difficult to appreciate. The best moments still take hints from R.E.M., but the difference is that Live is apparently convinced that its songs are significant enough not to need tunes. *B.M.*

## MARIAN McPARTLAND: Silent Pool.

CONCORD JAZZ 4745 (60 min). ★★★★★

A good-sized gang of strings often overpowers McPartland's keyboard in this program of her own compositions. She's at her best when she solos ("Melancholy Mood" and "There'll Be Other Times"). That's what I think of the record with my jazz hat on. Removing it, I hear a lush mood album that might bring a lump of nostalgia to the throat of anyone whose candles flickered to the sound of Jackie Gleason and Bobby Hackett. Marian, I still love you. *C.A.*

## KIM RICHEY: Bitter Sweet.

MERCURY 534 255 (49 min). ★★★★★

The singer/songwriter cuts through country's plastic heart to usher in the genre's new realism — and to announce herself as a genuine tour de force. With one foot firmly planted in Linda Ronstadt's *Heart Like a Wheel* and the other in her own private galaxy, she proves to be among the best of Nashville's new breed. *A.N.*

## BRADY SEALS: The Truth.

REPRISE 46258 (37 min). ★★

Seals, former keyboardist for Little Texas, is the nephew of Troy Seals and a cousin of Jim Seals and Dan Seals. On his debut, though, the star is producer Rodney Crowell, who gives this more-pop-than-country set a crisp framework of Fifties-for-the-Nineties rock-and-roll. Take that away, and you've got testosterone-pumped vocals and pedestrian lyrics. Disappointing. *A.N.*



## BEN WEBSTER: The Warm Moods.

REPRISE ARCHIVES 2001 (36 min). ★★★★★

Dating from 1960, *The Warm Moods* has the tenor saxophonist teaming up with string arranger Johnny Richards. Even thirty-seven years ago, a string production was a relatively expensive proposition, which is probably why this session yielded only 36 minutes of music. But Webster's smooth readings of twelve familiar ballads are still worth the price. *C.A.*

this-session-over-with feel. At least in the Charlie Hunter Quartet's version of Bob Marley's *Natty Dread* there is a semblance of jazz, thanks in large measure to tenor saxophonist Kenny Brooks's robust statements. But I hear nothing to support Hunter's statement on Blue Note's Web site. "It's culturally the duty of the younger generation to help the music evolve." The label should put a lid on its Cover Series. *C.A.*

## CHARLIE PARKER: Yardbird Suite — The Ultimate Charlie Parker Collection.

RHINO 72260 (two CD's, 123 min).

★★★★★

Too much great music is missing for *Yardbird Suite* to qualify as the "ultimate" Charlie Parker collection, but it has the advantage of being more portable and consumer-friendly than the complete collections of Parker's recordings for various labels, and it's the set I would recommend to anyone on a budget or seeking an introduction to Parker. The alto saxophonist's most classic performances under his own name are included, along with a handful of the early items he recorded with Dizzy Gillespie and a generous selection of nightclub and concert airchecks. There's nothing by Parker with Red Norvo or Jay McShann, though, nor from his summit meeting with Gillespie and Bud Powell at Massey Hall in 1954. The sound isn't all it could be; there are fluctuations in pitch on a few performances that I don't recall from earlier releases. The booklet includes a serviceable biography by coproducer Bob Porter, along with a personal essay by Ira Gitler that tells us much about Parker's mystique.

As for the music, modern jazz started here, and so should any modern jazz CD collection. But I have a feeling that anyone who springs for this set is going to find himself buying more Parker and duplicating much of the material here. *F.D.*

## JACK TEAGARDEN: The Complete Capitol Fifties Jack Teagarden Sessions.

MOSAIC 168 (four CD's, 222 min).

Available only by mail order, 203-327-7111.

★★★★★

## J.J. JOHNSON: The Complete Columbia J.J. Johnson Small Group Sessions.

MOSAIC 169 (seven CD's, 474 min).

★★★★★

## CURTIS FULLER: The Complete Blue Note/UA Curtis Fuller Sessions.

MOSAIC 166 (three CD's, 192 min).

★★★★★

Trombones are wild in this batch of retrospectives from Mosaic, with multidisc boxed sets devoted to Jack Teagarden and J.J. Johnson, the two most influential trombonists in the history of jazz, and another devoted to Curtis Fuller, one of the most perennially underrated of slide men.

The Teagarden box spans 1955 to 1958, a period during which Capitol didn't always present him in the most ideal of settings. Even so, there's plenty of his lustrous trombone amid all the spirituals, strings, and played-out Dixieland tunes. And Teagarden's unhurried vocals remind us that he was also one of the finest jazz vocalists.



Johnson's box begins in 1956 and takes him up to 1961, omitting the sides he made during those years with fellow trombonist Kai Winding to focus on Johnson's own underpraised small groups, which at various points included Nat Adderley, Clifford Jordan, Tommy Flanagan, and Elvin Jones. Although Johnson is usually credited with translating Charlie Parker to the slide instrument, the shadow hovering over these performances is that of Miles Davis, whose influence is especially discernible in Johnson's uptempo ballads and overall group conception. It almost goes without saying that his solos are masterfully constructed — perfect examples of the art of improvisation at its most professional level.

As a young man, Fuller was one of the many trombonists in Johnson's shadow. Yet his early work has held up surprisingly well, as demonstrated by Mosaic's reissue here of his three Blue Note LP's from 1957, a 1958 encounter with fellow trombonist Slide Hampton previously available only in Japan, and a 1959 date for United Artists. Though he's occasionally upstaged by such stellar sidemen as Lee Morgan, Hank Mobley, Art Farmer, and Sonny Clark, Fuller displays wit, imagination, and flashes of individuality that his reputation as a Johnson disciple wouldn't lead you to expect.

All three sets have been produced with Mosaic's customary attention to detail, and though I have heard them only on CD, all are also available on audiophile vinyl. *F.D.*

**KENNY WHEELER/LEE KONITZ/  
DAVE HOLLAND/BILL FRISELL:**

**Angel Song.**  
ECM 1607 (70 min.)

★★★★

Trumpeter Kenny Wheeler is first among equals on *Angel Heart*, a quietly devastating album of lyrical group improvisations also involving bassist Dave Holland, guitarist Bill Frisell, and alto saxophonist Lee Konitz. It shows that collective improvisation needn't be brawling and tumultuous; the lion's share of the credit for the album's coherence goes to Wheeler for supplying his colleagues with such strong thematic material. The level of ideas being exchanged is as uniformly high as the musicianship, and the mood is one of unbroken rapture. Despite the absence of drums, the music swings forcefully at times — thanks as much to each player's sense of rhythm as to Holland's propulsive bass lines. *F.D.*

**Collection**

**SWING TRUMPET KINGS.**

VERVE 533 263 (two CD's, 155 min.)

★★★

On its two CD's, *Swing Trumpet Kings* comprises three LP's: *Harry Edison Swings Buck Clayton and Vice Versa*, Roy Eldridge's *Swing Goes Dixie*, and *Red Allen Plays King Oliver*. Red Allen, you say? I also wondered what this New Orleans-style trumpeter is doing in a swing collection. I still don't know, but let's forget the album title and just think of four fine trum-

peters, each of whom is heard to advantage.

My favorite tracks are the Edison/Clayton performances, which stem from a 1958 session, include two alternate takes ("Come with Me," "Memories for the Count"), and swing to a fare-thee-well. Eldridge was indeed a swing trumpeter, but the 1956 *Dixie* album was somewhat of a departure for him, a Southern trek that may be a bit too retro for most of his fans. Still, it *does* swing, and Little Jazz comes through as big as ever. The Allen set is from 1960, a time

when he and his traditional crew held forth at the Café Metropole in New York. The band romps through a King Oliver repertoire of Crescent City favorites, but I must confess that — with the exception of "Bourbon Street Parade" — the "Dixie Medley" makes me cringe. Otherwise, this is Allen at his growling, sobbing best.

All in all, a bunch of wonderful performances but a rather odd mix. Verve has enough material in its vaults not to have to resort to this kind of hodgepodge. *C.A.*

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# CLASSICAL MUSIC

NEW RECORDINGS REVIEWED BY ROBERT ACKART,  
RICHARD FREED, DAVID HALL,  
JAMIE JAMES, GEORGE JELLINEK, AND ERIC SALZMAN

## BEETHOVEN: Piano Sonatas Nos. 5, 6, and 7.

Alfred Brendel (piano). PHILIPS 446 664 (59 min).

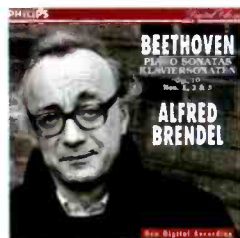
★★★★★

## BEETHOVEN: Piano Sonatas No. 4, No. 15 ("Pastoral"), and No. 20.

Alfred Brendel (piano). PHILIPS 446 624 (66 min).

★★★★★

As Alfred Brendel makes his way through his third integral recording of the Beethoven piano sonatas, he continues to re-explore, reconsider, and in a real sense rediscover aspects of them within a basically consistent interpretive framework. Some of



the most striking rediscoveries are in the early sonatas, which have never enjoyed the widespread popularity of the later ones that the world quite understandably regards as masterworks.

While the Sonatas Nos. 5-7, Op. 10, might not be terribly effective if presented together in a live recital, they make a great deal of musical sense on a single CD. The middle movement of the Sonata No. 6, in F Major, without being inflated beyond what

might reasonably be framed by the witty, ingratiating outer movements, comes across with unexpected drama and poignancy, having something of the same tension and drama that are conveyed in more urgently animated terms in the almost operatic finale of the preceding Sonata No. 5, in C Minor. The set's concluding Sonata No. 7, in D Major, seems, when heard in this context, to combine and sum up various elements of its more modestly scaled companion works, and at the same time to open on new vistas of expressivity. Brendel now brings out a more nervous kind of energy in the outer movements, surrounding an extended largo that is not merely poignant but uncontrivedly tragic.

Sonatas Nos. 5 and 6 were recorded live in Frankfurt two years ago, and Philips has gratuitously preserved the applause before as well as after these performances. But it does not run on too long, and the sound of the piano has been captured with exemplary realism throughout.

The next installment of the cycle begins with the Sonata No. 4, in E-flat Major, Op. 7, composed in 1797, the first one Beethoven presented on its own rather than as part of a set of two or three. He labeled it a *grande sonate*, and it happens to be the longest of his thirty-two with the single exception of the much later "Hammerklavier." What makes No. 4 truly grand, however, is not its half-hour-plus playing time but its broad gestures and expressive power, summed up in a sense by the phrase "*con gran espressione*" in the heading of its slow movement. It seems to look forward directly to the similarly proportioned sonatas of Schubert, in its surprising depth as well as its openhearted lyricism.

The slightly more familiar Sonata No. 15, in D Major, Op. 28, has been subjected to still more extensive rethinking in much the same vein. Brendel now takes a decidedly more deliberate approach in its two outer movements than he did before, revealing levels of drama as unarguably convincing as they are unexpected while still preserving, in the inner movements, the wistful charm that must have caused the publisher August Cranz to come up with the sobriquet "Pastoral" in the first place.

Finally, as a charming conclusion to a fascinating hour, there is the Sonata No. 20, in G Major, Op. 49, No. 2, whose labeling is doubly misleading in that it is actually the earlier in a pair of two-movement sonatas that preceded both of the other works on this disc. It was not conceived in terms of expressiveness, but apparently for didactic purposes, and here Brendel is more enlivening than in either of his earlier recordings of it, with particular benefit to the concluding movement, which Beethoven was to adapt for his Op. 20 Septet for Winds and Strings. The recording itself is most agreeably realistic, with every strand clearly delineated in all three works. R.F.

## BERG: Wozzeck.

Franz Grundheber (Wozzeck), Waltraud Meier (Marie), Mark Baker (Drum Major), Graham Clark (Captain), others; Chorus of the Deutsche

## Name That Neeme

Conductor Neeme Järvi is celebrating his 60th birthday on June 7, and the city of Detroit is ready to party.

The Estonian-born Järvi, the Detroit Symphony Orchestra's music director since 1990, is one of the world's most-recorded conductors, with more than 300 listings in his discography (a complete version of this can be found on the orchestra's World Wide Web page, [www.detnews.com/dso](http://www.detnews.com/dso)). The local radio station will join in the festivities

with an all-day contest called "Name That Neeme" in which listeners can win a prize by identifying the Järvi selection being played.



Neeme Järvi

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Recent releases by Järvi and the DSO, all on the Chandos label, include Volume 10 in their distinguished "American Series," comprising the Third Symphonies of Aaron Copland and Roy Harris, as well as CD's of works by Franz Schmidt, Richard Strauss, and Tchaikovsky.

## STAR SYSTEM

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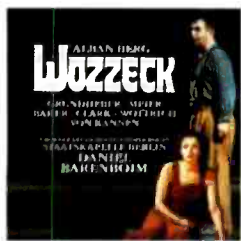


Staatsoper Berlin; Staatskapelle Berlin, Daniel Barenboim cond. TELDEC 14108 (two CD's, 94 min).

★ ★ ★

Considered almost unperformable not so many years ago, Berg's *Wozzeck* is now virtually a staple in the world's opera houses, and it has a substantial discography. This largely derives from its being a great — possibly the greatest — post-Wagnerian showpiece for the conductor. Not surprisingly, many of the major conductors of the last two or three generations have taken up the challenge, and this is Daniel Barenboim's turn.

The recording stems from the Patrice Chéreau production a few years ago at the Deutsche Staatsoper in Berlin, and it was either done live or, more probably, compiled from recordings of several performances in that venerable house. The "liveness" of the recorded performance is its strong feature. Barenboim and the German musicians convey the immediacy as well as the through line and big architecture that lie behind the extraordinary scene painting of this opera. The live conditions also generate a certain level of freedom and, well, sloppiness that in some ways undermine the rich, complex, and severe precision of Berg's score. In addition, the balance of the instruments is not always ideal. These are relatively minor blemishes. More important is that the performance is well cast, with solid interpretations, though except for Waltraud



Meier's intense Marie, they are all far back from the edge where this piece wants to play.

With the passage of time, performers have a much easier time with the technical problems of this difficult work but find it harder and harder to deliver the punch, the bite, the anguish, the fear and trembling of this masterpiece of between-the-wars German expressionism. Only the orchestra, inspired by Barenboim's expressive skill, holds on to the *Angst* — and a very beautifully anguished *Angst* it is, too. E.S.

**BRUCKNER: Mass No. 3; Te Deum.**

Jane Eaglen (soprano); Birgit Remmert (contralto); Deon van der Walt (tenor); Alfred Muff (bass); Linz Mozart Choir; London Philharmonic, Franz Welsler-Möst cond. EMI 56168 (79 min).

★ ★ ★ ★ ★

Anton Bruckner's major contributions to the sacred-music repertoire comprise the three large-scale Masses he composed between 1864 and 1868 and the colossal *Te Deum* of 1883-84. The Masses presage the mature mastery that gave rise to the major

symphonies — Nos. 3 through 9 (1873-1894) — and without question it is the Mass No. 3, in F Minor, that represents the



glorious culmination of his contributions to the genre. On one level it picks up from the lyrical dramatic language of Schubert's final Mass, in E-flat Major (D. 950), and on another it catches some of the fire of Beethoven's mighty (and sometimes ungainly) *Missa Solemnis*. At all events, it adds up to a deeply stirring listening experience. The *Te Deum* is a blockbuster comparable in its fashion to that extroverted masterpiece, Berlioz's *Te Deum*, the difference being that Bruckner speaks from the very depths of his soul with no thought of impact on an audience.

Franz Welsler-Möst hit the Bruckner jackpot for me with his 1993 live recording of the cyclopean Fifth Symphony in Vienna with the London Philharmonic, and he does it again with this marvelous CD. There are any number of treasurable moments — the lovely Schubertian vocal interweaving in the *Kyrie* of the Mass, the fierce choral affirmations of the *Credo*, the fine solo vocal writing in the *Benedictus*. The *Te Deum* is shattering in its impact right from the start, and it reaches a peak with the wild outburst at the "*Aeterna fac cum Sanctis tuis in gloria numerari*." As always, the quotation from the Seventh Symphony's slow movement in the final pages is unforgettable.

Welsler-Möst galvanizes his choral-orchestral forces, together with his excellent team of soloists, to a pitch of fiery alertness and, at the climaxes, elemental passion. A major plus in the equation is the acoustic surround of London's All Saints Church, Tooting. This CD should not be missed by anyone devoted to choral art and to the masterpieces of the sacred repertoire. D.H.

**KNUSSEN: Flourish with Fireworks; The Way to Castle Yonder; Two Organa; Horn Concerto; Music for a Puppet Court; Whitman Settings for Soprano and Orchestra; "... upon one note."**

Barry Tuckwell (horn); Lucy Shelton (soprano); London Sinfonietta, Oliver Knussen cond. DEUTSCHE GRAMMOPHON 449 572 (51 min).

★ ★ ★

Oliver Knussen is one of the quirkiest and most inventive composers of our time, and that quirkiness is evident in his two big Maurice Sendak operas as well as in the short works that make up this charming CD. *Flourish with Fireworks* is a conscious homage to Stravinsky's *Feux d'Artifice*, *The Way to Castle Yonder* is based on interludes from the Sendak opera *Higglety Pigglety Pop!*, *Music for a Puppet Court*

consists of four "puzzle pieces" based on sixteenth-century puzzle canons, and the other pieces derive from Purcell ("*... upon one note*") and medieval music (*Two Organa*). Even the Horn Concerto, written for Barry Tuckwell, is really focused on its central movement, "Fantastico," which is surrounded by a short introduction, cadenza, and coda.

Brevity, fantasy, and wit are all here. There are no long build-ups, endless repetition, or long-winded departures in these pieces, which are extremely rich in color. They strike the ear, make their points gracefully and wittily, and, having said what they have to say in the most beguiling manner, depart. Only the four Whitman settings don't work; Knussen seems to have no feeling for the poet's language, and these high-tessitura, high-art settings are as off the mark as everything else is dead on.

Knussen is also a skillful conductor, and the performances with the expert London Sinfonietta bring out the full tonal range of the music. Hornist Barry Tuckwell is, as always, impressive, and the American soprano Lucy Shelton does her best with the difficult Whitman settings. E.S.

**MAHLER: Symphony No. 5.**

Vienna Philharmonic, Pierre Boulez cond. DEUTSCHE GRAMMOPHON 453 416 (72 min).

★ ★ ★ ★ ★

Pierre Boulez's passion for clarification does not by any means leave us with bloodless X-rays of Mahler's works or rob the music of its emotional thrust. On the contrary, as demonstrated in his recent recordings of the Symphonies No. 6 with the Vienna Philharmonic and No. 7 with the Cleveland Orchestra, the emotion — the mystique, if you will — is all the more effective for emerging unforced through a structural and harmonic design made so clearly and strikingly apparent. As in those recordings, the level of orchestral playing in this new version of the Fifth is a joy in its own right, and the great Vienna orchestra has never been more handsomely recorded.

While Boulez took a fairly brisk approach in Nos. 6 and 7 (his are among the too few recordings of those symphonies to fit on one CD each), his pacing in No. 5 is somewhat more expansive and a bit closer



to what seems to have become today's norm. It is, in fact, a fairly conservative reading in its broad outlines, the difference being that we simply hear more of the music in it. Boulez again appears to be removing obstacles rather than imposing his own will on the score, and that means no gratuitous underscoring of the obvious. Otherwise there

# CLASSICAL MUSIC

is little that might be considered controversial here, and a good deal that is subtly illuminating.

The whole reading flows with naturalness and spontaneity. Though the famous *adagietto* is spun out to 11 minutes, it is absolutely not allowed to sound like the dirge Mahler did not mean it to be (the huge central scherzo having by this point effectively transformed the mood of the work from that of its opening funeral march), nor is it in the slightest degree earthbound. If the burlesque character of the finale seems a bit muted, and the "revelatory" aspect in general is somewhat less pronounced this time out, this is nonetheless another very distinguished offering in what is shaping up to be an altogether outstanding cycle. *R.F.*

**MUSSORGSKY: Pictures at an Exhibition; Khovanshchina, Prelude; The Capture of Kars; Scherzo in B-flat Major.** Toronto Symphony, Jukka-Pekka Saraste cond. FINLANDIA 14911 (57 min).

★★★★

There are numerous orchestrations of Mussorgsky's *Pictures at an Exhibition* besides the familiar Ravel arrangement, and for his performance here with the Toronto Symphony, the conductor Jukka-Pekka Saraste divided the various episodes between two arrangements, one by the Slovenian-born Finnish conductor-violinist Leo Funtek and the other by the Russian Sergei Gorchakov. Funtek undertook his version in 1922, the same year as Ravel but with no prior knowledge of the French composer's project; both worked from Rimsky-Korsakov's edition of the piano score. Gorchakov's transcription dates from the mid-1950's and is based on Mussorgsky's original, which makes a big difference — for



example, in the "Bydlo" episode, where the ox cart bursts on the scene *forte* instead of approaching from a distance. Both Funtek and Gorchakov retain the extended "Promenade" that comes between "Two Jews" and "Limoges." Having listened to complete recordings of the Funtek and Gorchakov versions as well as Saraste's Funtek-Gorchakov "sandwich," I confess myself perfectly happy with the good old Ravel, save for the omission of the extended "Promenade" and the glutinous saxophone in "The Old Castle."

The performance here of *Pictures* and of the shorter pieces are good mainstream readings. I liked the sensitive treatment of the *Khovanshchina* prelude, and I enjoyed *The Capture of Kars*, which uses the same tune Tchaikovsky drew on for the finale of his String Serenade, though some other re-

cordings of these and the Scherzo in B-flat Major have been more spirited. Toronto's Roy Thomson Hall yields comfortable and wide-ranging sonics. *D.H.*

**ROSSINI: Tancredi.**

Vesselina Kasarova (Tancredi), Eva Mei (Amenaide), Ramón Vargas (Argirio), others: Bavarian Radio Choir; Munich Radio Orchestra. Roberto Abbado cond. RCA VICTOR 68349 (three CD's, 209 min).

★★★★

Rossini's first important opera, *Tancredi* already shows the elements that were to constitute his musical signature. Based on a tragedy of Voltaire, the story involves suspected infidelity, groundless jealousy, and avowed retribution, and Rossini wrote two endings, a happy one for the Venice premiere and a sad one, in which Tancredi dies, for the later Ferrara performance. This recording includes both endings plus two arias no longer given in stage performances.

All the soloists bring to their roles not only the staggering vocal technique the music requires but also the expressivity to make their characters' plights moving. Mezzo-soprano Vesselina Kasarova, as the warrior Tancredi, and soprano Eva Mei, as Amenaide, his betrothed, sing gloriously. Their voices are true, enforced, and of breathtaking liquidity in florid passages. Tenor Ramón Vargas, as the heroine's father, Argirio, and bass Harry Peeters, as her unwanted suitor, Orbazzano, are equally well suited to their roles.

The chorus sings crisply and with conviction; the orchestra plays as if born to the Italianate tradition. Conductor Roberto Abbado brings all his forces together to create a well-paced and absorbing ensemble performance of this luminous opera. *R.A.*

**STRAVINSKY: Pulcinella, Suite; Two Suites for Chamber Orchestra; "Dumbarton Oaks" Concerto.**

Chamber Orchestra of the Teatre Lliure. Josep Pons cond. HARMONIA MUNDI 901609 (51 min).

★★★★

Barcelona's Chamber Orchestra of the Teatre Lliure has been establishing itself as a leading proponent of a Mediterranean style of chamber orchestra, recording mostly Hispanic or Latin works. Although Stravinsky's popular *Pulcinella*, the composer's first essay in Neoclassicism, based on music by (or purportedly by) Pergolesi, is a logical extension of its repertoire, the leisurely performance here (of the suite only and not the complete ballet, which tends to be favored nowadays) is the least successful item on the disc. It's on the sweet and idyllic side, a bit lacking in bite and picking up real excitement only toward the finish.

The star attraction is a lively reading of the wonderful and ultra-Neoclassical "Dumbarton Oaks" Concerto, named for an estate near Washington, DC. Equally notable are the two early and quirky Suites for Chamber Orchestra, which the composer himself orchestrated from piano miniatures; unlikely as it seems, they are transitional between

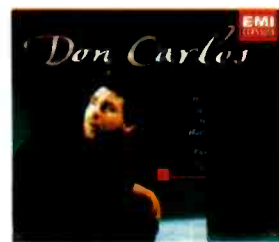
the worlds of *Rite of Spring* and of Neoclassicism. *E.S.*

**VERDI: Don Carlos.**

Roberto Alagna (Don Carlos), José Van Dam (Philippe), Thomas Hampson (Rodrigue), Karita Mattila (Elisabeth), Waltraud Meier (Eboli), Eric Halfvarson (Grand Inquisitor); others: Chorus of the Théâtre du Châtelet; Orchestre de Paris. Antonio Pappano cond. EMI 56152 (three CD's, 206 min).

★★★★

An international cast of front-rank singers was assembled at the Théâtre du Châtelet in Paris in the spring of 1996 for a historic *Don Carlos* in the original French, the language of the opera's first production



back in 1867. The five-act version was used, as it had been 130 years ago, but conductor Antonio Pappano exercised a number of options from among the various possibilities included as an appendix to Claudio Abbado's 1985 Milan recording on Deutsche Grammophon, the only previous full-length recording of this monumental work in French.

The new set is clearly more "French" in spirit than its predecessor, although Abbado, immersed in the long tradition of performing this opera in Italian (which Verdi fully sanctioned), provided an Italianate grandeur missing here. The presence of such French-language stylists as José Van Dam and Roberto Alagna, and also Thomas Hampson, whose French sounds immaculate, underlines the production's Gallic essence even if I have some reservations as to the vocal aptness of these artists for their roles. Alagna's lyric tones are strained to the limit by his music's demands, but he sings with deep involvement and tonal security most of the time. Both he and Hampson are best in Act IV, the latter particularly poignant in Rodrigue's Death Scene. Van Dam is every inch the monarch tormented by personal suffering and political strife, giving a portrayal lacking only the imperial gravity of secure low notes.

Karita Mattila's Elisabeth stands out without any reservation: exquisite in both her arias, shining in the ensembles, she creates a touching characterization of vulnerability caught in a maelstrom of historical forces. In terms of vitality and unbridled passion, Waltraud Meier captures the essence of Eboli, but vocally she is uneven. Likewise, Eric Halfvarson captures the Inquisitor's dogmatic implacability, but while the voices are well contrasted in his tremendous confrontation with the King, Van Dam's always clearly focused delivery emphasizes Halfvarson's unsteady tone. Ex-



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# CLASSICAL MUSIC

cept for Donna Brown's silvery Heavenly Voice, the minor roles are merely routine.

The new set has the advantage of theatrical realism, yet noises are minimal and applause is limited to scene changes. There are some imprecisions and occasional international flaws unavoidable in live-recording conditions. If you love this magnificent opera, you should have both French versions, to say nothing of an Italian alternative — which is my own preference. *G.J.*

**VILLA-LOBOS: *Bachianas Brasileiras* Nos. 4, 5, 7, and 9; *Chôros* No. 10.**  
Renée Fleming (soprano); BBC Singers; New

World Symphony, Michael Tilson Thomas cond. RCA VICTOR 68538 (78 min).

★★★

**M**usic poured out of Villa-Lobos, and the pieces on this attractive CD, titled "Alma Brasileira" ("Brazilian Soul"), have all the fluency and geniality of his seemingly endless inspiration. The *Bachianas Brasileiras*, famous for the single aria movement of No. 5, actually consists of nine very different sets of primarily instrumental pieces in which Brazilian street music, folk tunes from the countryside, and music of Native American inspiration are treated in symphonic and neo-Bachian style.

The Fourth is one of the composer's most suave and compelling works, using Baroque sequences in a highly expressive manner. Its title, *Canto do Serto*, means simply "Song of the Wilderness." The araponga, or bellbird, whose repeated notes are heard throughout the second movement, is a forest bird, and its sounds are some of the loudest in nature, audible for miles around. Villa-Lobos scores it hauntingly for xylophone and glöckenspiel behind the rest of the orchestra, with the effect of its being heard at a great distance.

The Seventh, the most symphonic of the set, climaxes in the brilliant fourth-movement toccata and fugue finale. The Ninth is a low-key prelude and fugue containing allusions to other works in the series but with no sign of the wordless chorus mentioned in the notes. Of course, there is the wordless vocal seduction of No. 5, gorgeously and seductively sung here by Renée Fleming. The often omitted second movement, a *martelo* or hammer dance, is also included here, but the "larger ensemble" mentioned in the notes sounds to me like nothing more than the usual eight cellos.

Another series of Villa-Lobos pieces, the *Chôros*, named for the roving bands of Brazilian street musicians, is even more explicitly folk-derived. No. 10, written in 1926, brilliantly combines a colorful modern orchestra, a chanting chorus, and urban dance rhythms with elements inspired by the human and natural musics of the great Brazilian beyond. Here is an evocative use of both orchestra and chorus, in this case the BBC Singers, in a vigorous and colorful performance that should have been first on the CD.

The New World Symphony is a youth orchestra based in Miami and directed by Michael Tilson Thomas. Not surprisingly, the players have a lively approach to musical life. *E.S.*

## RUSSIAN CELLO

**P**rokofiev's *Sinfonia Concertante* — or, as he preferred to call it, *Symphony-Concerto* — for Cello and Orchestra grew out of the Cello Concerto that he began in Paris in 1933 and finished at the time of his return to the Soviet Union in 1938. The concerto was never much of a success, but in 1950, though in poor health, he resolved to recast the music for the young cellist Mstislav Rostropovich. The revision had its première on February 18, 1952, little more than a year before the composer's death.

In contrast to the rather thin substance of the original concerto, the *Sinfonia Concertante* not only challenges the skill of the soloist to the limit but also contains music whose richness and subtlety in many respects equal Prokofiev's Fifth and Sixth Symphonies.

The first movement, in his best lyrical manner, is relatively brief, the thematic material well defined and clearly contrasted. The middle movement, rich in dramatic contrasts and ferocious in its demands on the soloist, is the heart of the piece, nearly twice as long as the outer movements. The finale might be considered a sonata-variations movement, by turns lyrical and sardonic. There are no dull moments in it anywhere.

The touchstone has been Rostropovich's recording of this work — after all, it was written for him — but on a new Deutsche Grammophon CD the cellist Mischa Maisky is fully his match, and he has the benefit of

magnificent support from Mikhail Pletnev and his Russian National Orchestra. The disc is filled out with a very different kind of music, the Cello Concerto of Nikolai Miaskovsky, who was a close personal friend of Prokofiev's over many years.

A late work (1944-45) contemporaneous with the last three of the composer's twenty-seven symphonies, the Miaskovsky concerto has just two movements. The soft-spoken *lento ma non troppo* that opens it is succeeded by a more assertive movement, initially in tarantella style, reined in from time to time by lyrical matter that gradually works into a passionate outburst. The solo-cello writing is singularly grateful for the instrument, and the music as a whole is hauntingly beautiful. As in the Prokofiev, Maisky gives his all, and Pletnev's orchestral support is clearly heartfelt.

Recording quality?

In a word, this is the best sound I have heard from the Great Hall of Moscow's State Conservatory. The CD is fittingly dedicated by Maisky "to my great teacher, Mstislav Rostropovich, with all my admiration and gratitude." *David Hall*

**PROKOFIEV:**  
*Sinfonia Concertante for Cello and Orchestra.*

**MIASKOVSKY:**  
*Cello Concerto.*  
Mischa Maisky (cello); Russian National Orchestra, Mikhail Pletnev cond. DEUTSCHE GRAMMOPHON 449 821 (70 min).

★★★★★

Mischa Maisky



## Collections

**EOS ENSEMBLE: *Music for Merce.***

Eos Ensemble. Jonathan Sheffer cond. CATALYST/BMG 68751 (55 min).

★★★

**J**ust as Stravinsky will always be associated with Diaghilev, so John Cage was pre-eminently Merce Cunningham's house composer (literally — they lived together). Cunningham also commissioned other composers, however, and it was Jonathan Sheffer and the Eos Ensemble's genial idea to create an album of music by Cage and others as a tribute to our pre-eminent modern dancer/choreographer.

*Credo in Us* is vintage early Cage: percussion music in which tin cans, tom-toms, an electric buzzer, and a prepared piano rudely but charmingly accompany and interrupt a Shostakovich symphony. The original score simply called for turning on the radio, but Sheffer has, instead, slyly worked Shostakovich and a bit of boogie-woogie into the performance. The result, undoubtedly more calculated than Cage originally intended, is delightful. Cage's *The Seasons*,



although dating from 1960, was a return to an earlier style dominated by mystical numerology, Indian rhythmic modes, prepared piano, and the influence of Satie. As with a lot of early Cage, this is music with grace and a profundity that is very lightly worn.

Lou Harrison's *The Open Road*, dating from 1947, is a pleasant piece of Coplandesque Americana, and *Princess Zondida and Her Entourage* (!) from 1946 has a Neoclassical score by Alexei Haieff, an unjustly forgotten Russian-American composer who had a good measure of both style and wit. Finally, Morton Feldman's *Ixion*, written for Cunningham's *Summerspace* of 1958, is a piece that is essentially improvised by the musicians from a graphic notation. It is fascinating to observe how much this music has changed over time. Back then it sounded like modern music — dissonant, twitchy, severe, angular; this contemporary realization is, on the contrary, quite flexible, smooth, and colorful. *E.S.*

#### GREAT HUNGARIAN MUSIC FOR CELLO AND PIANO.

Antony Cooke (cello); Armin Watkins (piano).  
PRODIGAL 7192 (54 min).

★★★

Ernst von Dohnanyi's early works are all imbued with a lyrical Brahmsian spirit, yet their melodic content and elegant craftsmanship make for beguiling listening experiences. The Cello Sonata offered here is a biggish four-movement piece with cyclic elements that contrasts ruggedness in the first movement with charm in the middle movements. The variations-finale works its way to a virtuosic close that challenges both the soloist and his keyboard partner. The performance by cellist Antony Cooke and pianist Armin Watkins is full-bodied and muscular.

Bartok is represented by the sequence of Six Romanian Folk Dances, familiar in the violin-piano arrangement by Zoltan Sekely but here offered in Luigi Silva's cello adaptation. The performance is rather on the stiff side. The prize of the album in terms of both performance and content is Zoltan Kodaly's Three Chorale Preludes (1924), which are not transcriptions in the common sense of the word but rather intense and deeply moving meditations on works of Bach. The performers rise superbly to the occasion, especially Watkins. The attractive program ends with a bit of fluff from the turn-of-the-century virtuoso violinist-composer Jenő Hubay, No. 5 of his Hungarian Csardas Scenes, as adapted by the performers. The recording is good, though some may find the studio miking a bit too close for comfort. *D.H.*

#### JENNIFER LARMORE:

Call Me Mister.

Jennifer Larmore (mezzo-soprano); Welsh National Orchestra, Carlo Rizzi cond. TELDEC 10211 (71 min).

★★

On this archly titled CD, we hear mezzo-soprano Jennifer Larmore in twelve "trouser role" arias, selections sung by a female artist portraying a young man. Lar-

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# QUICK FIXES

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("Choral").

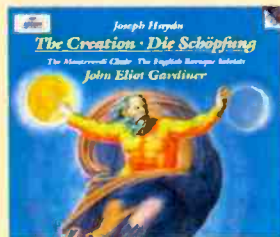
Jane Eaglen (soprano), Waltraud Meier (mezzo), Ben Heppner (tenor), Bryn Terfel (bass-baritone); Choruses: Berlin Philharmonic, Claudio Abbado cond. SONY 62634 (66 min). ★★

In respect to pacing and all-round structural logic, this live recording from last year's Salzburg Easter Festival is a vast improvement over Claudio Abbado's distended, ungainly Ninth Symphony with the Vienna Philharmonic, issued by Deutsche Grammophon some ten years ago, and the solo quartet in the finale could hardly be better. And yet, the performance is frustratingly uneventful rather than insightful or moving. The Ninth, for all its familiarity, demands — and contains — a great deal more than this. *R.F.*

**DEBUSSY: Vasnier Songbook; Forgotten Melodies; Five Poems of Charles Baudelaire.**

Dawn Upshaw (soprano); James Levine (piano). SONY 67190 (74 min). ★★

Here is the first complete recording of thirteen songs Debussy wrote very early in his career for a soprano named Marie-Blanche Vasnier. These youthful works have their sprightly charms but seem featherweight compared with the *Ariettes Oubliées* (*Forgotten Melodies*) and the Baudelaire songs, dating from just a few years later, that fill up the disc. Dawn Upshaw shapes the melodies of the early songbook seductively, bringing out their pop affinities, and penetrates deeply into the mysteries of the later works. James Levine accompanies her brilliantly. *J.J.*



**HAYDN: The Creation.**

Sylvia McNair (Gabriel), Michael Schade (Uriel), Gerald Finley (Raphael), Donna Brown (Eve), Rodney Gilroy (Adam); Monteverdi Choir; English Baroque Soloists, John Eliot Gardiner cond. DEUTSCHE GRAMMOPHON ARCHIV 449 217 (two CD's, 101 min). ★★

John Eliot Gardiner has a great deal going for him here in respect to both musical and dramatic momentum, overall choral and orchestral sonority, and some fine contributions from various instrumental

soloists. The vocal soloists hold up their end rather less well, however, with little joy in their contributions, or even much awareness of the words they sing, till we get to Adam and Eve in Part III. *R.F.*



**RAVEL: Le Tombeau de Couperin; Pavane pour une Infante Défunte; Ma Mère l'Oye (ballet); Une Barque sur l'Océan; Alborada del Gracioso.**

Lyons Opera Orchestra, Kent Nagano cond. ERATO 14331 (69 min). ★★

Kent Nagano has the material well in hand and his players on their toes in these strikingly evocative performances, in which nothing is allowed to sound like a mere "vehicle." Pacing, phrasing, and internal balances are almost invariably right on the mark, the woodwinds are elegant in their numerous exposed passages, and the recording is well tailored to the music; the strings, however, do tend to thin out at points that call for fuller body. *R.F.*

**BARBARA HENDRICKS:**

**Sings Disney.**

Barbara Hendricks (soprano): London Voices; Abbey Road Ensemble. Jonathan Tunick cond. ANGEL 56177 (50 min). ★★

Barbara Hendricks chose seventeen Disney melodies, some familiar and others less so, for this CD, which she says was conceived for the enjoyment of her children. She sings with a silken tone and a winning and unaffected simplicity. I especially enjoyed "When You Wish Upon a Star," "All in the Golden Afternoon," "With a Smile and a Song," "I'm Late," and "Feed the Birds." The chorus of London Voices and the Abbey Road Ensemble, under Jonathan Tunick's skillful direction, provide appealing accompaniments. *R.A.*

**GIL AND ORLI SHAHAM:**

**Dvorak for Two.**

Gil Shoham (violin); Orli Shoham (piano). DEUTSCHE GRAMMOPHON 449 820 (52 min). ★★

Kid sister Orli at the piano is a perfect partner for big brother Gil Shoham, who is now one of the top fiddlers in the business. From Dvorak's workshop we get the rather seldom heard but lovely Violin Sonata in F Major, decidedly Brahms-flavored until the finale; the four beguiling Romantic Pieces, Op. 75; and the G Major Sonatina. It's all charming listening, elegantly played and brightly recorded — though with the piano just a bit too bright and close at times. Warmly recommended. *D.H.*

more's voice is warm, evenly produced, and capable of flights of *fioratura* when called for. She is not, however, an especially communicative artist. Gluck's Orfeo, Mozart's Cherubino, Rossini's Tancredi, and Bellini's Romeo, to name some of the roles interpreted here, are dissimilar personalities, and their arias would be more interesting if greater dramatic individualization were afforded them. Among the more successful offerings are "Lieto del dolce incarco . . . La tremenda" from Bellini's *I Capuleti e i Montecchi*. Smeton's air from Donizetti's *Anna Bolena*, and Siebel's gathering of flowers from Gounod's *Faust*. Perhaps the most effective singing is in the recitative and aria "Adieu, forêts" from Tchaikovsky's *Maid of Orleans* (though Joan of Arc hardly qualifies as a trouser role). The least effective moments are devoted to Orlovsky's celebrated "Chacun à son goût" from *Die Fledermaus*, sung first in German and then repeated in a self-consciously "witty" English version made incomprehensible by Larmore's attempt at a Russian accent. *R.A.*

**PIAZZOLLA BY PIAZZOLLA.**

Hernán Salinas. Fito Páez (vocals); Daniel Piazzolla Octet. MILAN/BMG 35782 (61 min).

★★★

Amidst the flood of recordings of Astor Piazzolla's music that followed his death in 1992, none is more touching, more apt, or more in the vein than this one by his son, Daniel Hugo, whose octet includes his son, the drummer Daniel Astor Piazzolla. The presence of drums and their high level of activity is significant: At the opposite end of the spectrum from the classical artists who have jumped onto the dance floor, the Daniel Piazzolla Octet uses jazz and rock elements in their tango performances (Fito Páez is a well-known rock artist in Argentina). But the tango basis is so strong that the results have a more authentic feel than many more traditional and respectful performances. *Mi Viejo Piazzolla*, a tribute from son to father, with words by Piazzolla's old colleague Horacio Ferrer, is an uncanny evocation of Piazzolla Senior. This is the best kind of tribute — an entire CD suffused but never intimidated by the master's spirit. *E.S.*

**AWADAGIN PRATT:**

**Live from South Africa.**

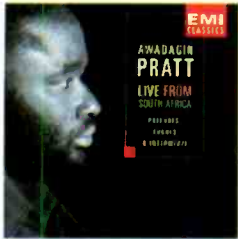
Awadagin Pratt (piano). EMI 55293 (72 min). ★★

Awadagin Pratt, who has given some impressive live performances of big concertos but has so far recorded only solo material, unquestionably has a fine pair of hands and a sound musical mind. This CD, recorded at a recital he gave in Cape Town in December 1995, suggests that he has some curious ideas about programming as well, and an unexpected uniformity of approach to the four composers he has selected. The sequence is: Franck's Prelude, Fugue, and Variation, Op. 18; Bach's chorale prelude "Nun komm der Heiden Heiland"; a *Moment Musical* and two preludes by Rachmaninoff; more Bach, a prelude and fugue from *The Well-Tempered Clavier*;



Brahms's Three Intermezzos, Op. 117; and still more Bach, another prelude and fugue, another chorale prelude ("Ich ruf' zu dir"), and — the biggest piece on the program — the Chromatic Fantasy and Fugue in D Minor. The Franck organ work (which the composer himself arranged for two pianos) is heard in Harold Bauer's transcription, the Bach organ preludes in transcriptions by Busoni.

While each item is played agreeably enough, the whole seems a bit less than the sum of its parts because there is neither any clearly suggested relationship between them nor sufficient contrast from one to the next



to provide focus or continuity. Whether it's the way Pratt really approached the dozen numbers, or the way EMI recorded his piano — rather persistently and aggressively close up, with very little in the way of dynamic contrast in particular — everything tends to sound pretty much like everything else. R.F.

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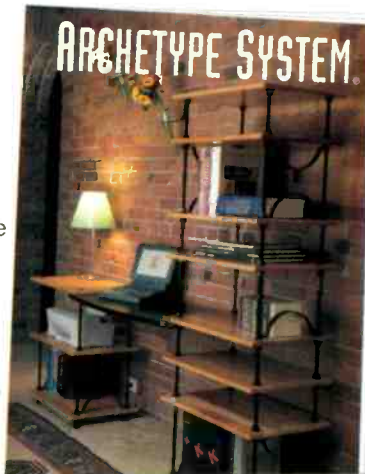
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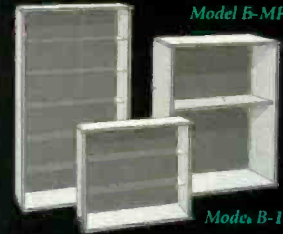
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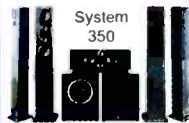
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## A Perfectly Flat Loudspeaker

**Q**uick, count off all the attributes of the perfect loudspeaker. It should be free of audible distortion, that much we know. It should cover the entire audible range from the lowest bass vibrations to the highest harmonics. In terms of accuracy, it should track the amplifier's output signal exactly, starting in an instant and coming to rest just as quickly. And, above all, it should have a perfectly flat frequency response, without even the slightest peak or dip in the bass, midrange, or treble ranges to color its sound.

When can we expect to see such a loudspeaker? Probably never — after all, we're talking about a shuddering scrap of paper, plastic, or metallic alloy. But if Verity, the British parent company of Mission, Quad, and Wharfedale, keeps its word, 1997 will see the introduction of the world's first perfectly flat loudspeaker. Perfectly flat in *shape*, that is. Picture a rectangular sheet of rigid material about a quarter-inch thick with a small disc-shaped transducer glued to the back of it. That's it. There's no supporting frame or box of any kind. You can hang it on the wall like a picture, stick it on the ceiling, even use it as a video projection screen. Verity calls it NXT, and it is so fundamentally different from conventional loudspeaker technology that it poses the question, "Is everything we know about high fidelity *wrong*?"

To appreciate just how different NXT is, consider the way a regular speaker works. Whether we're talking conventional dynamic cone'n'dome speakers or panel-type speakers like electrostatics, their job is the same. A diaphragm moves back and forth in response to the audio signal from the amplifier, in as linear a fashion as possible, to reproduce the original musical waveform. Ever since Rice and Kellogg's prototype dynamic driver in the early 1920's, the thrust of loudspeaker development has been toward greater linearity — that is, a speaker that doesn't add any resonance of its own to the motion prescribed by the input signal. In basic design, modern speaker drivers differ surprisingly little from Rice and Kellogg's prototype, but over seventy years of innovation and refinement have made it possible for today's best speakers to perform at an astonishingly high level of linearity

and with vanishingly low levels of spurious resonance and coloration.

NXT throws all that out the window. Instead of the whole panel moving back and forth as one piece, the NXT panel is literally the loudspeaker equivalent of a gong being struck by a mallet. A small dynamic or piezoelectric motor is mounted near the corner of a thin, rigid panel, and its vibrations set the panel into random, chaotic vibration. Whereas a conventional dynamic driver moves back and forth in a relatively coherent manner, the NXT panel says it loud. "I'm incoherent and I'm proud!" And lest you think the words "random," "chaotic," and "incoherent" might stick in Verity's craw, its technical director, Henry Azima, will proudly tell anyone who's listening that random, chaotic, and incoherent loudspeakers are the wave of the future.

Wild, wacky stuff. Everyone knows that speakers sound better when they're *more* coherent, not less. You know, "high fidelity"? Azima begs to differ, explaining that because the NXT panel's output is so incoherent, it neatly circumvents many of the acoustic problems associated with conventional speakers. Among Verity's claims: NXT's front and rear radiation add together to increase the driver's overall output, instead of being out of phase and canceling each other out as with a conventional driver in free space; the subjective volume level of an NXT speaker remains constant over a great distance, as opposed to conventional drivers whose output falls off quite rapidly as you move away; NXT's frequency response isn't affected by room modes the way conventional speakers are. Azima credits all of these benefits to NXT's incoherency and resulting highly diffuse radiation pattern.

But, make no mistake, an NXT panel does not — cannot — reproduce the original audio waveform as accurately as a high-quality conventional dynamic driver. Even Verity admits this. So why are they so high on NXT? Because they believe strongly that *none of this matters*, that NXT's unique sound character matches up better with the human hearing process, in which we pay attention to certain sonic characteristics and ignore others.

Intrigued by all the publicity surrounding NXT, I recently visited Verity's headquarters outside London to hear this

strange new technology for myself. I toured both the Mission factory and the new NXT offices, and I got a chance to talk to Azima and his engineers and to audition NXT in a variety of settings.

So how does it sound? In its current state of development, I'd have to say pretty good, but not quite high-end. Certainly much better than I expected given all the talk about incoherent and chaotic vibrational modes, but even a good pair of budget bookshelf speakers will sound better in every way that's important to an audiophile.

On the plus side, the NXT speakers produced a big, spacious sound, with good clarity and a wide, boundless "sweet spot" — you really can sit anywhere in the room and the sound quality stays the same. This attribute alone, coupled with the allure of a thin, flat panel you can hang right against the wall, could make NXT a better-sounding alternative to other "lifestyle" speakers that trade off sonic presentation for unobtrusiveness.

**T**he audiophile, however, will find NXT wanting. I heard quite a bit of coloration from the panels, as well as a strained-sounding distortion when the system was turned up moderately loud. But to my ears, NXT's biggest weakness was the speakers' inability to produce a coherent, three-dimensional soundstage. The NXT presentation is more like a big, diffuse cloud of sound than a detailed, focused window on the recording. If you're one of the many who prefer the spacious, softly defocused sound of bipolar speakers, you'll like the NXT sound. If, like me, you place a high value on speakers that reproduce a recording's intended sound field with a high degree of accuracy and realism, you'll be much happier with Verity's conventional high-end designs, like Mission's excellent line of dynamic loudspeakers and Quad's legendary ESL-63 electrostatics.

Ironically, the most impressive demonstration I heard during my visit was of an NXT panel in the shape of a ceiling tile and installed in the ceiling of the office lobby. A recording of a public-address announcement was played, and the sound quality was vastly better than from any conventional ceiling-mounted PA speaker I've heard, with greater intelligibility and a much wider reach throughout the office. It's possible, probable even, that NXT's ultimate success will come from outside the home hi-fi arena, in such applications as PA systems, portable multimedia speakers that fold up inside a handheld computer, "talking" signs, etc. These are all areas in which NXT's unique abilities give it a dramatic edge over conventional loudspeaker technology. Even if you never hear NXT speakers in your home, I'm sure you'll be hearing them soon enough everywhere else you turn. □





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*...into a different and more complex form.*



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