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**Is Sony's 70" Qualia the Best TV Ever?**

**Top 10 iPod Upgrades**

**Plasma Spotlight**  
4 HDTVs Reviewed

**Yamaha's Bold One-Speaker Surround Solution**

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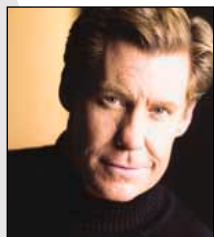
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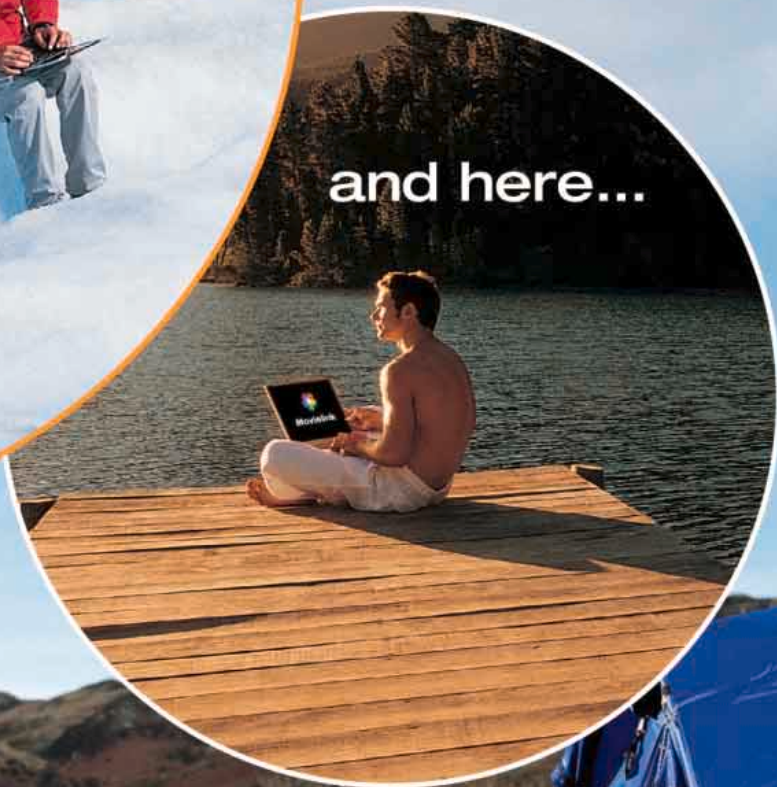




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BOB ANKOSKO

# A Double-Edged Sword

It's all too easy to lose sight of sound quality in the age of the iPod.

**Y**ou love your iPod. I love my iPod. My boss loves his iPod. My kids love their iPods. iPod is great.

Even Ken Pohlmann loves his iPod, for crying out loud. Ken Pohlmann? Mr. Digital Audio, champion of all that sounds good, noted columnist, author, professor, and director of the University of Miami's Music Engineering Technology program. *He* loves his iPod? But he's such a stickler when it comes to sound quality. As he put it in his April "Digital Horizons" column: "For me, poorly reproduced music sounds like fingernails on a chalkboard. . . . Given the choice between silence and music played over a mediocre sound system, I'll choose silence."

There's no question that the iPod is the coolest electronics toy to hit the scene since Sony's Walkman liberated a generation of homebound music lovers way back in 1979. And then somewhere along the way Apple stole the rug out from under Sony, which by all rights should have been the company to capture everyone's imagination with a Walkman for the digital music era. How Sony could have missed the boat . . . well, that's a subject for another article.

Anyway, I'll never forget the first time I was introduced to the Walkman. Hearing a full-bodied orchestra in stereo over headphones tethered to a "small" paperback-book-size box was mind-blowing. Before then, a noisy transistor radio with a cheesy mono earphone was about the best you could do if you wanted to take your tunes with you.

Today, as millions of us carry jukeboxes around in our pockets — yes, even owners of non-Pod jukeboxes, like Creative's Zen — the challenge is not to let our quest for convenience and coolness make us indifferent to sound quality. That's why we asked one of **S&V**'s toughest sound-quality critics to explore ways in which the average Joe can get better sound out of his portable music player — and have more fun along the way.

In "Pump Up Your Pod" (page 69), Ken offers helpful advice on things like protecting your little gem (who hasn't dropped his player?) and a handful of practical tips

on how to make your on-the-go music experience the best it can be. Cymbals that sound like pie tins, vocals that sound like RoboCop, pianos that sound like they're from Toys R Us — these are the kinds of musical degradations you can get with overly compressed audio files, inferior encoding, or both.

Few know better than Ken what goes into the making of a great recording — from microphone to hard disk and everything in between. And like all of us who write for this magazine, Ken appreciates — maybe even worships — the subtleties of an awesome recording, the kind that give you goosebumps and make the hair on the back of your neck stand up. That's a feeling you want to come back to again and again.

**M**oving over to the vision part of the equation, we're thrilled to be one of the first magazines to get our hands on Sony's new statement HDTV, the gorgeous Qualia 006. (Think I'm exaggerating? Take another look at the cover.) So what exactly do you get for your 13 grand besides a gigantic 70-inch screen? Turn to page 64 for David Katzmaier's feature test report, which includes a look behind the screen at the SXRD technology responsible for the great picture.

If you're ready to join the ranks of HDTV owners but were thinking you'd spend a little less — maybe a couple of grand or so — check out "Big-Screen Bargains" (page 73). Pete Pachal tells you what you can expect to find in the popular under-\$3,000 price range and gives you some valuable shopping tips. Then it's up to you to use our Buying Guide, which lists more than 100 models with screen sizes 32 inches or larger, to narrow the field and find the model that's right for you. When you finally get your new HDTV home and watch your first show in high-def, you'll thank us.

Bob Ankosko, Editor in Chief



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Photo by Jayme Thornton.  
Model: Taylor Hannah/Click.  
Hair/makeup: Jason Hayes/  
Hot House Flowers.  
Stylist: Jean-Marie Kearney.  
Bikini from Lauren by  
Ralph Lauren





# "Incredible ... Definitive Has Yet Again Set a New Standard"

— Jeff Cherun, *DVD ETC.*

Meet Definitive's new ProCinema 60 ... it's tiny, it's powerful, it sounds incredible, and at \$699 it's simply a steal!

"You won't find anything else that will perform as well at this price point." — *DVD ETC.*

Our amazing new ProCinema 60 System proves that you can get Definitive's high-end cutting-edge technology and world-class sound quality at an incredibly affordable price. How do we do it? We hear very well and we care. The ProCinema 60 was developed at DTARF, our new multi-million dollar R&D facility, with the same meticulous attention to quality and detail that we lavished on our top-of-the-line BP7000SC. Plus signature quality components like our Linkwitz-Riley crossovers, pure aluminum dome tweeters, PolyStone® cabinets, and 150-watt PowerField® subwoofers combine together for stunning music and movie perfection which literally puts you right in the concert hall or into the film itself. You must experience all four of our ProCinema high-performance sub-sat systems. Remember, don't buy speakers without hearing Definitives! Your ears will thank you.



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EDITED BY KEN RICHARDSON

## HDTV WATCH

## Movies à la Carte

Video-on-demand (VOD) movies that you watch on your own schedule rather than your cable company's pay-per-view schedule are now being offered in high-def. Although they represent a small fraction of the number of standard-definition (SD) choices, a year ago there were virtually none. If you get your high-def channels through Comcast, Time Warner, or Bright House and use a cable box, there's a good chance you can order some VOD in HD.

Comcast offers about ten such movies a month. Presented in 5.1-channel surround sound, its HD choices this spring include *Anchorman*, *Shark Tale*, and *Collateral* (with Tom Cruise, below left). The movies cost \$5.99 (versus \$3.99 for the SD version in stereo), but prices vary by cable system. Like other VOD movies, an HD title can be paused, fast-forwarded, and replayed within 24 hours.



**Pick of the Month:** ABC's *Lost*, besides being genuinely scary, is easily the best new drama on HDTV this season. The series is downright cinematic, with natural lighting and 5.1-channel sound. Take the sunset epilogue to the episode "In Translation": The camera sweeps from the burnt ruins of a raft to the crestfallen man who built it. The non-English-speaking Korean erroneously accused of destroying it brings bamboo for a new raft. Now we see an overweight dude with headphones listening to Damien Rice's "Delicate" (the scene's soundtrack). The camera moves to a young couple starting a romance . . . the Korean's oppressed wife (above right) shedding her shawl as she steps into the surf . . . another couple on the beach. The dude looks on longingly — as his CD player's batteries peter out. He utters an expletive. Fan alert: Season 1 comes to DVD on September 6. — Michael Antonoff



## Sirius Action

It resembles the never-ending battle of the top two car-rental companies. XM, with its 3 million subscribers, may be the Hertz of satellite radio. But Sirius, having passed 1 million at the end of last year, seems to be trying harder, just like Avis.

It's certainly showing some spunk, especially after making deals with the likes of **Eminem** and **Howard Stern**. Now that the uncensored hip-hop Channel 45 is already on the air as Shade 45, co-created by Eminem and Interscope chairman **Jimmy Iovine**, Sirius has tapped Iovine as a creative adviser for developing future projects with the label. And Stern? Well, his mug is appearing on [siriusradio.com](http://siriusradio.com) even though he won't start beaming up until January 1, 2006.

In the meantime, Sirius has landed other personalities who, though considerably safer, are no less intriguing in their fields. **Bruce Lundvall** hosts *The Blue Note Hour* on Fridays at 6 p.m. (ET) on Channel 72, Pure Jazz. Lundvall runs EMI Jazz & Classics, the home of Blue Note Records, where one of his recent successes is (perhaps you've heard of her?) Norah Jones.

And hey, **Lance Armstrong**, now that you've announced

you're going to compete for a seventh Tour de France title, what *else* are you going to do? Why, play music and talk on Sirius! *Lance Armstrong's Live Strong Radio* can be heard Sundays at 9 p.m. (ET) on Channel 28, the Faction Channel.

Moving from bike races to car races: **NASCAR** has announced it will be moving from XM to Sirius. Currently, events are heard on XM's NASCAR Radio and NASCAR Radio 2 (Channels 144 and 145). But beginning in 2007, Sirius will get exclusive rights to all Nextel Cup, Busch, and Craftsman Truck events on a new 24-hour NASCAR channel — for those who like to "watch" races on the radio!

**NASCAR (above) will move from XM. Already on Sirius: Armstrong (below) and Lundvall (right).**



NASCAR: JOHANNAN FERREY/GETTY IMAGES FOR NASCAR



# 15 Minutes with Joe Perry

As for gear in regular cars, **Toyota** is now offering Sirius as a dealer-installed option in nine vehicles, including the Camry and three Lexus models. And factory-installed options are coming to 21 **Ford** models (including the F-150 and the Explorer), **Volkswagen**'s 2005 Jetta and 2006 Passat, and several **Mitsubishi** vehicles (in a Sirius exclusive).

Meanwhile, what's up at **XM**? (Besides its basic subscription fee, that is — which now matches Sirius's \$12.95 a month.) Well, expanding from car, home, and portable applications, it's literally up in the air now that **AirTran** has become the first airline to offer satellite radio. Twenty of its jets are currently equipped with XM, to be followed by more installations through the summer.

XM has also launched new shows with **Dr. Laura Schlessinger** (weekdays at 3 p.m., Channel 45) and **G. Gordon Liddy** (weekdays at 1 p.m., Channel 152) as well as a 24-hour baseball channel, **MLB Home Plate** (Channel 175). And maybe to anticipate filling the hole left by the coming loss of NASCAR, XM will be broadcasting the IMS Radio Network's live coverage of **IndyCar Series** events on Channel 152. — Ken Richardson

## Super-Remote Control

A new type of TV box may soon let you access the cable box, satellite receiver, or hard drive in, say, your New Jersey home and control it from your California hotel room. That's the idea behind the **Slingbox Personal Broadcaster**, which leverages the Internet so that you can remote control live or recorded TV in your home and redirect it to wherever you are.



*So much for taking some time off. Joe Perry's initial 2005 "inaction" plan soon turned into a busman's holiday as the Aerosmith guitarist immersed himself in completing his fourth solo album, the modestly titled but mostly hard-hitting Joe Perry (Columbia). "Not being part of the big machine is nice," muses Perry, who will be back on the road with Aerosmith possibly as early as September. "Joe Perry reflects the journey I took to rediscover my roots for Honkin' on Bobo. That album was a reset button. This one was a lot of fun." Ah, nothing like being back in the saddle again.*

— Mike Mettler

**How much of Joe Perry's Rock Your World hot sauce was used in the making of this record?**

(laughs) Well, it was all over the place. There are always bottles of it around.

**You're mixing a surround version of the album, right?**

Yes, and I've got my fingers crossed that it'll come out that way. I just heard that Sony may not even put out any more multichannel releases. No more SACDs, no more DualDiscs in surround. They say they're not getting any response to it — not negative feedback or positive feedback, just none. But sometimes if people like something, they take it for granted and don't say anything about it.

**Well, we love music in surround. You'll have to change Sony's mind.**

Believe me, that's my mission now. I don't think they've given it enough of a chance yet. I would vote, as a fan, for them to keep putting it out.

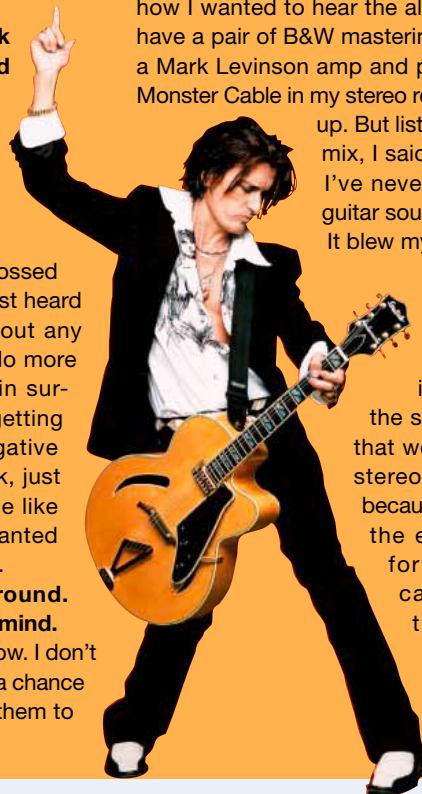
**Why do you like surround so much?**

At first I thought it was going to be a gimmick, but there's a richness to the instruments that you just don't get in stereo. Basically, in rock & roll, you're all in a certain frequency range — vocals, guitars, organ. All that stuff is in the mid-to-upper range, fighting with each other, which is why it's so hard to get a good stereo mix. By doing it *right* in surround, you still have the power. And you get something new.

I had Paul Caruso, my drummer and engineer on this project, set up a Pro Tools surround mix in the Boneyard [Perry's home studio] so we could blueprint how I wanted to hear the album. Now, I have a pair of B&W mastering speakers, a Mark Levinson amp and preamp, and Monster Cable in my stereo reference set-up.

But listening to that mix, I said, "Holy shit, I've never heard that guitar sound like that." It blew my mind.

And now we're going back again and adding tracks to the surround mix that we left off the stereo mix — just because we've got the extra space for them. You can hear the tone of the guitars that you can't in a stereo mix.



According to the manufacturer, Sling Media (slingmedia.com), there's no subscription to use a Slingbox (\$249). Look for it this summer.

Similarly, if your home is networked with SkipJam's iMedia system, you can now control it from anywhere in the world. **SkipJam's HomeView for iMedia** allows you to access your home-entertainment and security systems through any broadband Internet connection. The service is free to iMedia users and can be downloaded as an update to an existing installation (see skipjam.com).

— Michael Antonoff

## Halcro HT: Phone Home

Don't you hate calling around for service on your gear? Wouldn't it be cool if your gear could do it all by itself? That's exactly what the **Halcro Logic Series** of home theater amplifiers can do. If something goes wrong with one or more of the channels, the amp — via an Ethernet connection to your computer — will automatically send an e-mail message to Halcro or a local dealer, which will then contact you to schedule repairs. For details on Halcro's Reliability Assurance Service program, check out [www.halcro.com](http://www.halcro.com).



COURTESY RALPH H. BAER

## Got Videogame?

It's a long way from *Pong* to *Prince of Persia*, from *Mario* to *Mercenaries*. To follow the history, check out **The Video Game Revolution**, a documentary first broadcast on PBS and now out on DVD (KCTS). Included are interviews with *Super Mario Brothers* and *Donkey Kong* creator Shigeru Miyamoto, *Sims* creator Will Wright, and engineer Ralph H. Baer (above), who pioneered the concept of playing games on a TV set.

Gamers will find the DVD fascinating. Boomers may be intrigued if a bit mystified. The generation gap between the two is the premise of the book **Got Game: How the Gamer Generation Is Reshaping Business Forever** (Harvard Business School Press). Authors John C. Beck and Mitchell Wade have found that "gaming is not a time sink but an amazingly effective training camp for critical business skills." And they include a chapter called "Gamers on Top: What to Expect from Gamers as Executives."

## A/V News Bytes

- **TiVo** doubled its subscription base last year to 3 million users.
- **DTS** has acquired **Lowry Digital Images**, founded by John Lowry — celebrated for his restoration work on classics like *Citizen Kane* and *Casablanca* as

well as the James Bond, Indiana Jones, and *Star Wars* series. (See "The Lucas Interview" and "Creating the Video Future," October and November 2004, both available on the **S&V** Web site.)

• **Noise Tips for Apartment Dwellers** is a free pamphlet offered by **Sound Outfitters**, a company started by a couple of sound experts from the film industry. E-mail your snail-mail address to [pamphlet@speakerfloats.com](mailto:pamphlet@speakerfloats.com).

• **eBay** is launching the Rethink Initiative to help battle the problem of "e-waste." About 133,000 PCs per day are being replaced, but only 10% of them are being recycled. Working with companies (like Intel and Apple) and agencies (like the EPA), eBay has set up [ebay.com/rethink](http://ebay.com/rethink) to help educate individuals and businesses on disposing of computers.

**S&V**

## SNAPSHOTS

Don't have an iPod yet? Got one but find it a little cumbersome at times? A flash-memory portable may be playing your song. Unlike the iPod and other hard-disk portables, flash players

### JET AUDIO iAudio G3

2½ x 1¾ x ⅝ in., 6 oz.  
\$119 (256 MB), \$149  
(512 MB), \$199 (1 GB)  
[iaudio.com](http://iaudio.com)

### APPLE iPod shuffle

1 x 3⅝ x ⅜ in., 2 oz.  
\$99 (512 MB),  
\$149 (1 GB)  
[apple.com/ipodshuffle](http://apple.com/ipodshuffle)

stopped with the Apple-influenced name of the former.

**FIRST TAKES** Like most current PC-compatible players, the iAudio plays MP3, WMA, and WAV music files. But that's just one of its myriad abilities. This little guy carries a grab bag of features, including an FM tuner and a voice recorder. You also get five equalizer presets that actually do a decent job of enhancing music play-

## Flash Dancing

back. There's even a minijack input so you can record — analog-style — from an external audio source, such as a CD player.

At the other extreme, the iPod shuffle keeps things absurdly simple — it does nothing other than play digital music files (MP3, AAC, or WAV). But Apple's spin turns what you'd expect to be a weakness into a strength. By building a shuffle setting right into the on/off switch, Apple takes the pseudo-philosophical stand that you should try mixing things up a little. And it works. It got me, a guy who hits "random play" on his CD player about as often as he goes to the dentist, to shuffle my music like a deck of cards. Of course, there's also a setting for playing tracks in order.

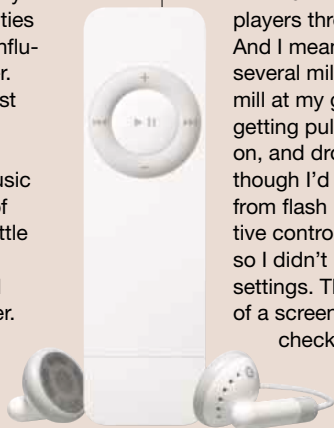
**WEIGHTY MATTERS** I ran both players through a stress test. And I mean literally: each clocked several miles with me on the treadmill at my gym. They withstood getting pulled, shaken, sweated on, and dropped several times, though I'd expect nothing less from flash players. Their intuitive controls weren't too sensitive, so I didn't have to use the "lock" settings. The iPod shuffle's lack of a screen or any other way of checking what's playing can get annoying, especially in — ironically — shuffle mode.



I was really disappointed that neither player came with an armband. I tried using my own with the G3's transparent plastic carrying sleeve, but the plastic irritated my (admittedly sensitive) skin. At least the sleeve is there to complain about; the iPod shuffle doesn't come with anything except earphones and a lanyard. Other accessories are extra — including an armband for \$29. On the other hand, the G3 not only has earphones and a lanyard but also includes a battery (the shuffle's is built-in), a minijack cable, and a USB cable. And its optional armband is \$7.

**BOTTOM LINE** The iAudio G3 impressed me as a package. While it would be easy for a manufacturer to slap together all of its many functions without any thought, the design really blends together well. Then again, how often do you want to use a voice recorder or FM radio, anyway? If it's all about the music for you, then the iPod shuffle — with its cute design and even more attractive price — leads this race.

— Peter Pachal





*“... sound was sweeping ... clear ... well defined ... you would be hard pressed to find a better speaker system in its class.”*

— Roger Kanno, Home Theater & Sound on the Cinema™ 70 system



## *Cinema™ Series*

### **When Size and Sound Matter**

While it's true that there are tiny speakers aided by small subwoofers that can be virtually hidden in many living spaces, when it comes to great audiophile sound these systems have simply not delivered ... until Cinema™. Award-winning Paradigm Cinema™ speakers deliver the seamless music and home theater soundstage that is the hallmark of every Paradigm system.

### **Beyond HTiB ...**

Cinema™ Compact Theater (Cinema™ 70, Cinema™ 90 and Cinema™ 110 CT) deliver performance and value like no conventional HTiB can!

Buyer beware! HTiB systems are all about price, not sound. Or even worse, marketing hype, and still not sound. Cinema™ CTs, on the other hand, are all about performance. They're just as affordable as inexpensive HTiB systems, but when it comes to performance they leave HTiB stuck in the box!

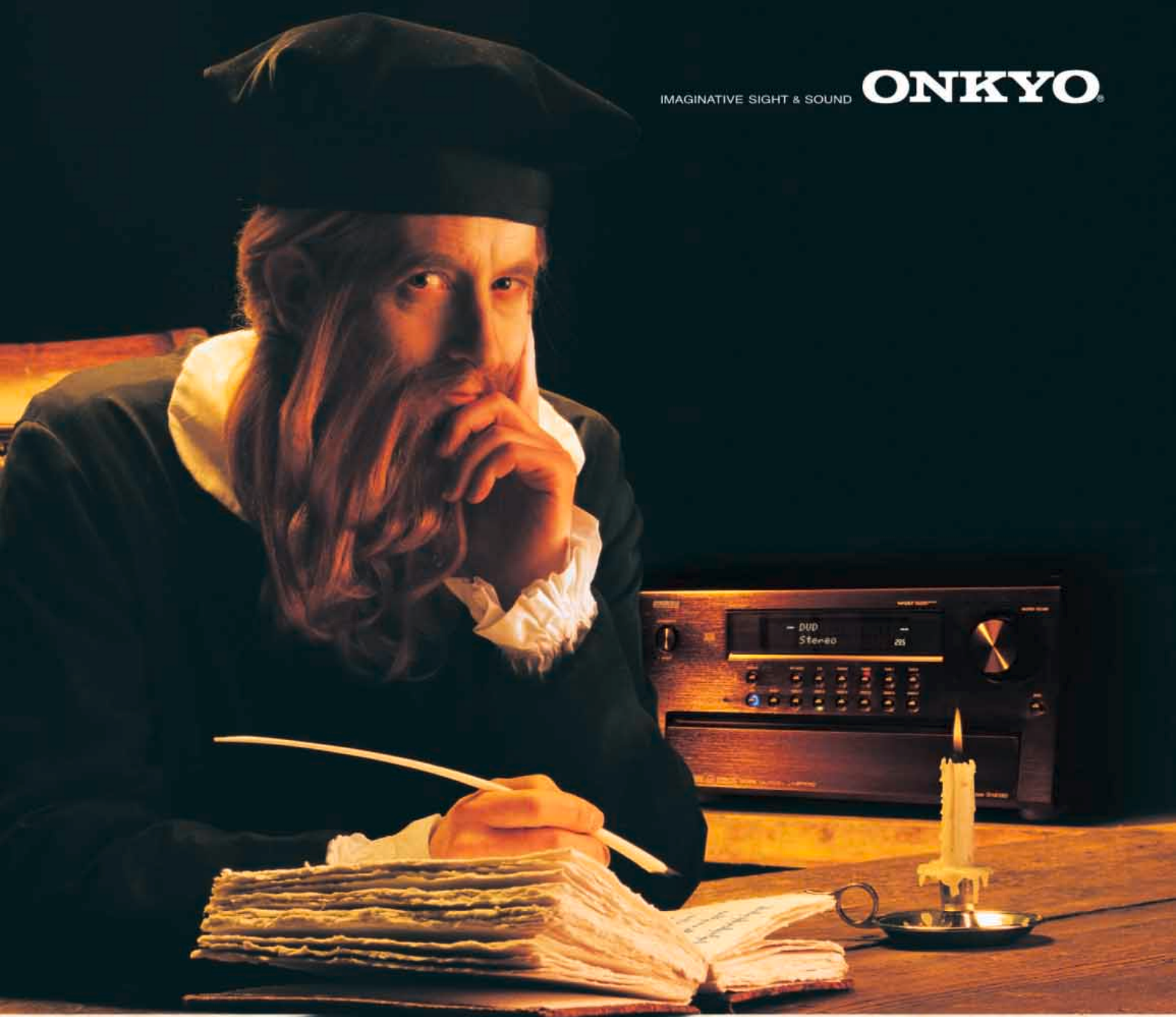


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*Modular Ability.*

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## More Human Error

I'm the project coordinator for a custom-installation company in Panama, and I deal with cases all the time like the ones John Sciacca wrote about in "To Err is Human" ("Custom Installer," February/March). One day a few years ago, a young couple came to us and said that the volume on their audio system was too low no matter how high they turned up the amp. My first guess was that the speakers' woofers were blown out, but I told them we would have to come out to their house to see what was happening. When we did check out the system, I saw the LED blinking on the volume knob of an old Yamaha DSP-A1000 receiver. So I asked for the remote, hit the mute button, and solved the problem — which took all of 15 seconds. Of course, we had to send them a bill for the house call. **Félix Vega**  
**Panama City, Panama**

About two months ago, the woofer in one of my speakers started sounding like it was damaged. I switched the connections to see if the problem was in the speaker, which it was.

When I disconnected the speaker and removed the grille to take a look, I heard something rattling inside. So I gave the speaker a shake — and a piece of dry cat food came out of the port. More shaking produced more food. When I removed the woofer to see what was going on, I found that there was so much cat food inside the cabinet that it reached up to the woofer, causing it to act up. Looking in the other speaker, I found more food — though not as much. Altogether, I removed over two and a half pounds of cat food from the two speakers. It turns out that the field mice that invade the house each fall decided to use my speakers to store their food. (In case you're wondering, my cat isn't a mouser).

**Ed McGittan**  
via e-mail

I'm not sure if this qualifies as human error — maybe Ripley's *Believe It or Not* would be more appropriate. I recently used *Pirates of the Caribbean* to demonstrate my home theater to my in-laws. The sound was big and dynamic, especially during the pirates' attack on Port Royal. We felt like we were right in

the middle of the action — until the sound of the last cannonball hitting its target shattered the top glass shelf of the TV stand. Shards of glass flew out in every direction, landing inches from our seats. The TV wobbled drunkenly and finally slumped down precariously atop the center speaker on the second glass shelf.

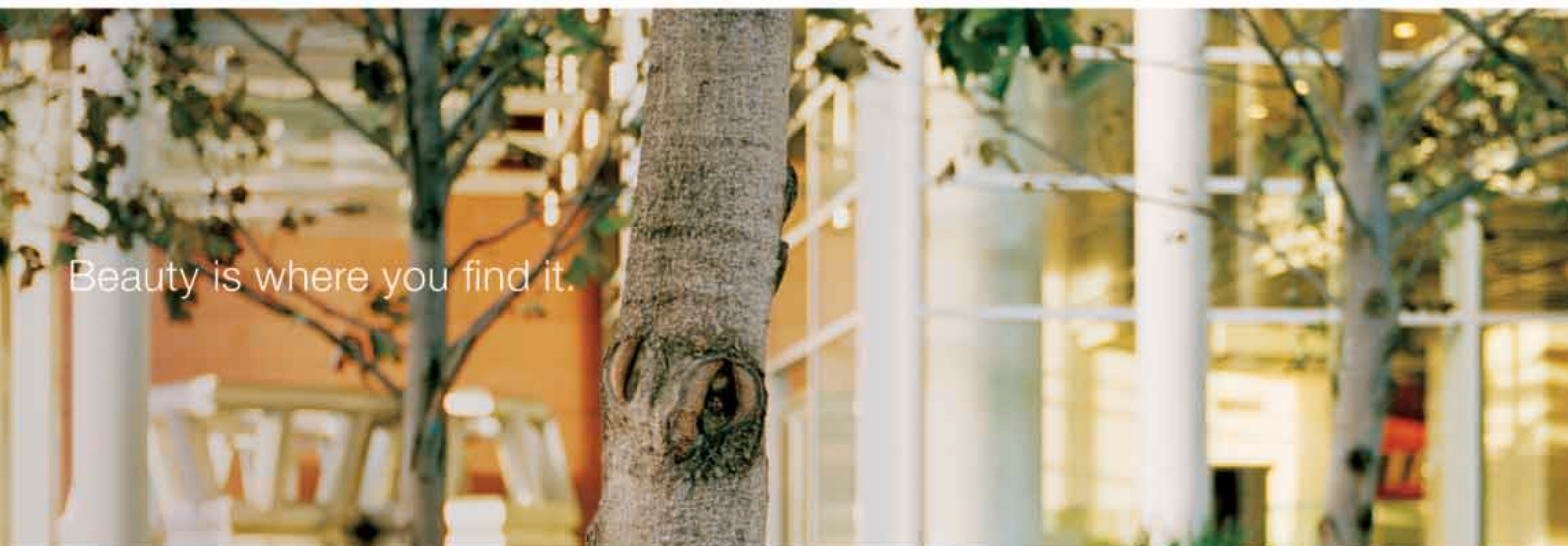
I have a theory that the glass was weakened by months of pounding from the center speaker's subwoofer, which fired upward about two inches from the top shelf. One of those explosions apparently had just the right amount of acoustical energy to finish off the glass.

Anybody want to come over and watch *Alien vs. Predator* with us tonight?

**James W. Belekevich**  
**Madison, WI**

## No More Format Wars

When is the A/V industry going to learn that people are tired of format wars? The differences between HD DVD and Blu-ray don't amount to a hill of beans compared with the advantages of having one format. The only big difference seems to be playing time, but even



Moda 16:9

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the lower-capacity HD DVD gets hours of high-def material on a single disc. It's hard to escape the conclusion that this isn't about technological superiority but corporate greed.

**Dennis E. Tamburello**  
Loudonville, NY

## All-Digital Dilemma

I plan to buy an HDTV system built around a DirecTV high-def receiver/TiVo recorder

when prices come down. That receiver has an HDMI output, while most other gear has component-video and DVI outputs. But the only A/V receiver with HDMI connections is the Onkyo TX-NR1000, which lists for \$4,999 — too steep for me.

**Marvin Thomas,**  
Gilroy, CA

*For \$499, you can get Panasonic's HDMI-equipped SA-XR70 receiver (reviewed in April), so you can have your cake and eat it, too.*

## Capitols Are Still Capital!

Concerning Ken Richardson's review of the Beatles' *The Capitol Albums, Vol. 1* ("Music," February/March): "Phony Beatlemania"? Long-faced, saddened Beatles because of Capitol's tampering with their artistic intent? I think not — at least, not in 1964, when the Beatles were pining to get any of their records sold in the States. The Capitol releases are how *Americans* remember the Beatles. Phony or not, they bring back good memories. So "yeah yeah yeah," I get your point. But even so, I like 'em.

**George Ross**  
Sterling Heights, MI

Ken Richardson's review certainly brought back memories. "Laughably primitive," "all din and clash," "unlistenable" — these are the same things we heard from our elders back in 1964! But seriously, I'm thrilled these treasures are available on CD at long last. These are the albums I grew up with, and I cherish every "primitive" moment. Bring on Vol. 2!

**Patricia M. Persons**  
St. Louis, MO

*Ken Richardson replies: I have no problem with nostalgia — hey, I've still got every Capitol album on vinyl. But I do have a problem with tapes being "given more echo" by a record company without permission. Doesn't it just make more sense to hear the recordings the way the artists wanted them to be heard?*

## Where's My 1080p TV?

I'm about to invest big bucks in my A/V system, and I've been waiting for Samsung to release its 1080p HDTV with the xHD3 chip, which was supposed to be out last November and then this March. Now I'm getting conflicting information about whether it's supposed to be June or September of this year. What have you heard about when it'll be available?

**Jim Lynch**  
via e-mail

*We're as eager as you are to get our hands on one of Samsung's new 1080p-resolution xHD3 DLP TVs, but it looks like we'll both have to wait a bit longer. At CES 2005, Samsung stated that its first 1080p model, the 56-inch HLR5688W, would be coming out in February. That date has been pushed back to June, as you've since learned. We checked, and Samsung offers no further updates.*

**S&V**

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**PV1** SUBWOOFER



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Ever seen a square bubble? No, can't say we have, either. And there's a good reason. Flat sides and corners can't cope with air that's under extreme pressure. If bubbles were box-shaped, they'd burst. That's why the pounding air pressures trapped inside the average compact subwoofer produce so much extra, unwanted vibration, resulting in distortion of music and movie soundtracks.

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For more information on the B&W PV1 please visit our site, or call +1 978 6642870



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# NEW PRODUCTS

Hot gear from the world of home entertainment



**Samsung** > The latest DLP big screens from Samsung are led by the HLR5688W, which measures 56 inches (diagonal) and boasts a native resolution of 1,920 x 1,080 pixels. Yep, that's enough for ultra-high 1080p (progressive-scan) resolution, folks. All video signals — whether from the built-in digital and analog tuners, your cable box or satellite receiver, your DVD player, or another external source — are scaled up to 1080p. Despite its hefty specs, the set's only 22 inches deep with the integrated stand. Connections include two HDMI inputs, which guarantee the best possible picture from the new breed of HDMI-equipped DVD players. Price: \$4,999. [samsung.com](http://samsung.com), 800-726-7864



**JVC** > One push of a button is all it takes to transfer your old VHS tapes to DVD with the JVC DR-MV5S. You don't have to worry about disc space since the recorder automatically checks the tape speed and selects the right recording mode to fit the program on the DVD. It'll also insert chapter markers and capture thumbnail images for the disc menu, and it even ignores blank stretches of tape. The double deck records on DVD-R/RW or DVD-RAM discs and — if you want to go retro — VHS. Price: \$450. [jvc.com](http://jvc.com), 800-526-5308

**Belkin** > A road trip can turn into a mobile musical adventure when you have tunes from your iPod mini playing through the car stereo. But if you put the player on the dash, you risk losing it under the seat when you hit the gas, plus you're back to dreary FM when the battery runs out. With Belkin's TuneBase, your iPod mini stays close at hand and powered up for as long as you're in the car. Plug the TuneBase into the cigarette-lighter socket, and the flexible steel neck holds the player within easy reach. You'll need a separate cassette adapter or FM modulator to jack it into the audio system. Or you could go for the TuneBase FM (not shown), which has a built-in modulator, for 30 bucks more. Price: \$50. [belkin.com](http://belkin.com), 800-223-5546





**Energy** > You can't put just any speaker beside a plasma TV. Well, you could, but if it's thicker than the TV itself, what's the point? The new line of Take speakers from Energy will keep your system slim and trim. Despite its sleek profile, the Take SAT (shown, the line's smallest model) still has room for a 3½-inch woofer mounted in Energy's patented elliptical cone surround, which helps the tiny driver go deeper than it could otherwise. All Take speakers are available in either black or silver, and mounting hardware is included. Price: Take SAT, \$175 each; other models, \$250 to \$500 each.

energy-speakers.com, 416-321-1800



## Boston Acoustics

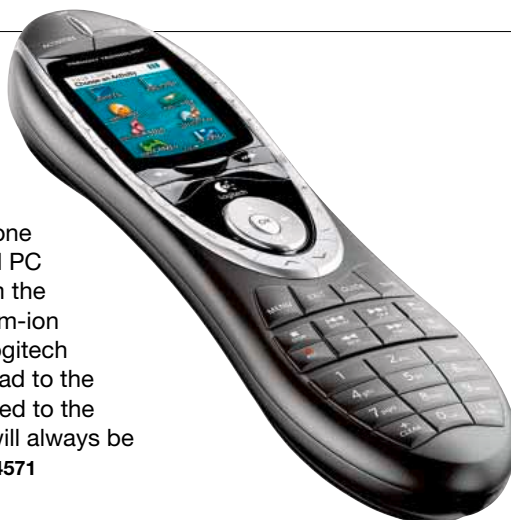
> For its first digital surround receiver, Boston Acoustics made user-friendliness the top priority. Every video input is converted to component-video format so you can run only one set of video cables to your TV. To set up the receiver, all you have to do is plug in the provided microphone and hold it up — a processor will tweak the settings to make sure all seven 120-watt channels are balanced properly. The AVR7120 can even accept a multimedia input from your PC through its USB port. Price: \$2,999.

bostonacoustics.com, 978-538-5000



**Logitech** > Controlling your DVD player, video hard-disk recorder, sound system, and HDTV typically means juggling a bunch of remotes. But the Harmony 880 universal remote lets you watch live or recorded TV, play a DVD, or listen to music with one press of a button. Setup requires an Internet-connected PC or Mac but is quick and easy: you run a USB cable from the remote's docking station (which also recharges its lithium-ion batteries) to your computer and fill out a form online. Logitech then creates customized programming that you download to the remote. Though the 880 is fully backlit, once you get used to the distinctive sizes and shapes of the buttons, your eyes will always be on the show. Price: \$249. [logitech.com/harmony](http://logitech.com/harmony), 905-273-4571

**NOTE** All prices and product information are supplied by the manufacturers. Dealer prices may vary.





## Richard Gray

> Household electricity is subject to dips and surges from breaker boxes and interference from appliances — all of which can degrade the performance of your home-entertainment system, according to Richard Gray's Power Company. The RGPC 400 Pro is a surge protector and power-line filter/enhancer that cleans up your power supply. With four AC outlets hooked up in parallel using 12-gauge wiring, the 30-pound box — about the size of a ream of office paper — has a 6-foot power cord with a 20-ampere fast-blow fuse. The 400 Pro is said to be most effective when used with power amplifiers, preamps, and front projectors. Price: \$795. [richardgrayspowercompany.com](http://richardgrayspowercompany.com), 800-880-3474

**Proview** > You can't pick one up at the drug store yet, but high-def-ready plasma TVs are becoming more affordable. Take Proview's 42-inch (diagonal) MH-422HU, which costs \$3,500. It's only 3¼ inches deep (not counting the stand) and comes with detachable stereo speakers. To watch high-def programs, you'll need to hook up an external digital tuner to the set's component-video, VGA, or DVI input. [proview-usa.com](http://proview-usa.com), 877-532-8176



## Tributaries

> The new HDMI digital connector lets you transmit high-definition video and 5.1-channel digital audio through a single cable — extremely convenient if you have HDMI connectors at both ends. But what if your new DVD player has an HDMI output and your two-year-old HDTV has only a DVI input, or vice versa? With a Tributaries DVI-to-HDMI or HDMI-to-DVI adapter, you won't have to settle for an analog video connection, though you will have to hook up your audio separately since DVI is video-only. Price: \$50. [tributariescable.com](http://tributariescable.com), 800-521-1596

**Onkyo** > How about a complete home theater package to go with that flat-panel TV, sir? Onkyo's HT-L970 system will turn your TV room into a home cinema with a six-disc DVD changer, a 6.1-channel digital surround receiver, a powered subwoofer, and six wall-mountable aluminum satellite speakers — all finished in silver. The heart of the system is the 65-watt-per-channel TX-LR552 receiver, which can process all your audio for surround sound, including stereo music thanks to Dolby Pro Logic IIx and DTS Neo:6. All of the speakers are 3½ inches thick — perfect for mounting alongside a flat-panel TV. The ported subwoofer has an 8-inch driver and a 150-watt amplifier. Price: \$1,000. [onkyousa.com](http://onkyousa.com), 800-229-1687





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was previously possible.

QUALIA 010 also uses a porous baffle to permit airflow and reduce resonance, creating the optimum listening environment.

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They feature a strong, yet extraordinarily light-

weight magnesium-alloy



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disperses the weight of the headphones across a greater area. And the ear pads are made of soft, natural sheepskin. The headphones can be further customized for headband size, cable length and color. Taken as a whole, the unique QUALIA design concept serves a single purpose: to deliver an unparalleled listening experience in luxurious comfort.

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Q U A L I A



## LG

> Whether wall mounted or on a pedestal, a plasma TV exudes slenderness, so who wants to saddle it with a bulky cable box and a photo-card reader? LG's 42PX4D 42-inch plasma HDTV has a CableCARD slot that lets you skip the box, plus a built-in memory-card reader for viewing images stored on removable media from most digital cameras. The set includes LG's fifth-generation HDTV tuner, which receives digital cable as well as off-air broadcasts. The built-in TV Guide On Screen program guide comes in handy when using a CableCARD, since the card's one-way interface prevents you from using your cable company's guide. Screen resolution is 1,024 x 768 pixels. Price: \$5,000. [www.lgusa.com](http://www.lgusa.com), 800-243-0000



## Toshiba

> If you use your Windows XP or 2000 notebook PC to play music, movies, or games, you can enhance the experience by sending the audio to your home theater setup via Toshiba's Multimedia Center Audio/USB Hub. Or you can hook powered computer speakers directly to the Hub, which decodes Dolby Digital 5.1 surround soundtracks. About the size of a VHS cassette, the Hub includes a sound card, four USB ports, an Ethernet jack, and both analog stereo and coaxial digital audio outputs. The supplied remote can do things like select the type of sound processing or shut down your computer. Price: \$130. [tacc.toshiba.com](http://tacc.toshiba.com), 800-867-4422



## Griffin Technology

> Macintosh computers have always been head turners. Now the sound coming from your Mac will get some attention, too, with Griffin's FireWave. It hooks up to the computer's FireWire port and provides connections for five speakers and a subwoofer as well as an extra FireWire port. Besides decoding surround sound DVDs, FireWave includes Dolby Virtual Surround processing to expand the sound field for any stereo source — including iTunes, QuickTime, and streaming audio. Price: \$100. [griffintechnology.com](http://griffintechnology.com), 615-399-7000

## Philips

> A boombox once had to be balanced on a shoulder to be carried, a real feat if you were on rollerblades. But the Philips Personal Sound System (PSS110) is just 7 inches long. Besides stereo speakers, the PSS110 contains 256 megabytes of flash memory for holding up to 8 hours of music in MP3 format or 16 hours in WMA. It's also an FM/clock radio, and it comes with rechargeable batteries good for 10 hours of play plus a travel case. Price: \$150. [usa.philips.com](http://usa.philips.com), 800-531-0039







Where did they hide all the speakers?



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### Dolby Digital vs. DTS

**Q.** *If my system can decode both Dolby Digital and DTS, and if a DVD gives the option of listening in one or the other, is DTS better? Is there any downside?*

**Rudi Schmid**  
Berkeley, CA

**I.G.M. answers:** This remains a subject of debate in the world of home theater. There's no downside to DTS, and many enthusiasts believe it's the superior system. Technically, DTS signals are encoded at a slightly higher bit rate than Dolby Digital, making it less compressed but also less efficient. The engineers who wrote the compression algorithm for each format also used somewhat different, and somewhat subjective, criteria in deciding what parts of the original signal could be eliminated to save bits without sacrificing sound quality. Finally, the Dolby Digital and DTS mixes of any given soundtrack have been known

to vary in their apparent frequency and channel balance, effects that may or may not be related to the digital encoding. Since you have the option, give both a listen and decide for yourself if you can hear a difference.

### Dim Observation

**Q.** *I've just started shopping for a DLP television. While a DLP set gives an excellent picture, it seems that the screen darkens if I move either vertically or horizontally off-center. Does this have to do with the lighting in stores, or is my observation correct?*

**John Roman**  
Wilmington, DE

**A.G. answers:** The phenomenon you're seeing is called "hotspotting," and it's caused not by store lighting but by the screen covering the front surface of the TV. The screens used in rear-projection TVs like the DLP model you checked out all have a certain amount of something called

gain, which preferentially directs light forward in order to create a brighter image as viewed from the front. That's generally a good thing, but it also can produce side effects like color shifts and a darkening of the image at off-center viewing angles. Virtually all rear-projection TV screens — DLP models included — have some gain, which means they're prone to hotspotting to some degree. Check for this when shopping for a big-screen TV.

### Signal Separation Anxiety

**Q.** *I used to receive the classical FM station in nearby Cleveland clearly, but since its transmitter was moved farther away and its power reduced, I only hear it sporadically. Part of the problem is a rock station whose transmitter is closer to my house and whose signal is right beside the classical station's on the dial. I've tried a rooftop antenna and a narrow-band indoor amplified*



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Rotel's new RSX-1067 is the definitive Home Theater surround receiver. It is replete with all of the features a video fanatic could ever desire including: High Definition video switching, video transcoding, multi-zone, multi-source audio capability and seven channels of amplification. The RSX-1067 provides outstanding audio and video performance along with exceptional versatility. Hear it along with all of our other superb components at your authorized Rotel dealer.





antenna, but neither helped much. Is there a way to pick up the distant, weak station without its being drowned out by the aggressive rock signal? **Lawrence J. Schreiber**  
Mayfield Village, OH

**I.G.M. answers:** It's hard to imagine a more difficult reception situation than yours, and there may be no solution. The first thing you need is a tuner with excellent *adjacent-channel selectivity*, since you're dealing with channels that are right next to each other on the dial. Few receiver or tuner manufacturers specify this, so it may take some digging to find what you need.

A highly directional, high-gain antenna would help, especially if the two stations are in different directions. But if the weak one is directly behind the unwanted strong transmitter, about the only thing you can do is try to find a nice, clean reflection of the classical signal that's coming from a different direction than the rock signal — a long shot, at best. You may have to bite the bullet and get the signal from your local cable-TV company, if it carries it, or via the Internet, if the station offers a live stream and you have Net access (preferably broadband).

### HDTV Hookup Options

**Q.** Can an HDTV receiver hooked up to a TV via a component-video connection still deliver HDTV signals, or do you need to use either a DVI or HDMI connection for true high-def?

**Anthony Sumabat**  
Fremont, CA

**A.G. answers:** Component-video connections were used to relay HDTV signals long before DVI and HDMI jacks appeared on high-definition tuners and TVs, and they still remain viable for HDTV. There's been some talk about cable and satellite providers "downrezing" HDTV movies on premium channels like HBO and Showtime to the standard-definition 480p (progressive) format when a component-video connection is used. But no move has been made to implement this, and high-def tuners, cable boxes, and satellite receivers continue to provide full-resolution HDTV signals via component video.

### Long Runs

**Q.** To play MP3s, I want to connect my computer to my A/V system, which is about 30 feet away in another room. What's the

least expensive way to do this without a significant loss in sound quality?

**Rodney B. Bullard**  
Glenolden, PA

**I.G.M. answers:** You want cheap? I'll give you cheap! Run a line from the headphone output of your PC to a line-level input on your A/V system. The signal will have relatively low impedance, which means minimal line loss and distortion at the other end, and the level will be comparable to that of "conventional" audio sources, which should keep it well above hum and interference. If your computer's sound facilities include a line-level output, you can use that instead of the headphone output.

With such a setup, it's often a good idea to set the computer output relatively high (turn its volume control way up, perhaps even all the way), and add a simple volume control at the receiving end to cut the signal to a level that matches other sources. This also guards against overload at the inputs of your A/V system. You'll undoubtedly have to experiment to get levels right, and of course you'll have to turn down the computer volume when you're sitting at it.



Moda 16:9  
Widescreen Furniture: Discriminating Design



But I've used variations on this unorthodox scheme a number of times, and they usually work. You'll also have to select tracks or playlists at the PC. If that's a problem, the other option is to use a media receiver.

With a media receiver connected between your home network (wired or wireless) and your entertainment center, you'll be able to choose songs or playlists stored

on the PC in another room from the comfort of your couch. For use with a Wi-Fi network, I'd recommend Creative's Sound Blaster (\$200), which connects to a pair of stereo inputs on your receiver. Instead of being displayed on a TV, song titles are shown on a two-way LCD remote. If you want to view menus on a TV, though, I'd try Hauppauge's MediaMVP wireless (\$149)

or MediaMVP (wired) receiver (\$99). They also show photos and videos from a computer on your home network.

### Defining High-Def

**Q.** *I have a 48-inch rear-projection CRT HDTV. I checked the manufacturer's Web site and called its support line, but I can't get a definite answer to two questions: What's the set's native resolution? And what is its horizontal and vertical resolution? They said the horizontal resolution is "1,200," which seems low.*

**Dale Lutz**

**Pottstown, PA**

**A.G. answers:** Plasma, LCD, and DLP TVs all have a fixed number of pixels, and the product of their horizontal to vertical pixels is called their "native resolution." But with CRT (cathode-ray tube) TVs like yours, resolution is quoted in terms of scan lines, or the number of lines that an electron beam traces on the face of the tube to create a video frame. When displaying HDTV, your set is capable of displaying 1,080 horizontal scan lines in interlaced format (every other line is skipped on the beam's first pass and then filled in during a second pass). So to answer part of your question, its vertical resolution is 1,080 lines.

Horizontal resolution (a poorly understood concept) is supposed to be characterized as the maximum number of vertical lines that can be distinguished over a width of the screen equal to its height. So the maximum theoretical horizontal resolution for a 1080i signal is  $\frac{1}{16} \times 1,920$  pixels, which *also* equals 1,080 lines of resolution. A set's actual horizontal resolution, measured as above, is likely to be less than this figure, particularly if it's based on CRT technology. But a "common-sense" measure of horizontal resolution — the number of vertical lines that can be distinguished across the *entire* width of the screen — might indeed come out somewhere in the neighborhood of 1,200.

**Have a question about audio, video, or home theater? Send e-mail to [soundandvision@hfmus.com](mailto:soundandvision@hfmus.com) (put "Q&A" in the subject line) or regular mail to Q&A, Sound & Vision, 1633 Broadway, New York, NY 10019. Please include your name, street address, and phone number for verification; only your name, city, and state/country will be printed. Sorry, but only questions chosen for publication can be answered, and all letters are subject to editing at our discretion.**

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DAVID RANADA

# Progressive Movement

A few lines about DVD-player resolution.

To keep up with the insane pace of technology, we have to revise our test procedures from time to time. Case in point: the progressive-scan component-video inputs on many recent TVs and monitors. Since connecting a DVD player to the component input usually provides the best possible DVD picture quality, switching our DVD-player resolution tests from looking at a player's interlaced (480i) composite-video output to its progressive-scan (480p) component-video output is a no-brainer — almost.

Like most video parameters, resolution is a more complex matter to the eye than it is to test gear or a spec sheet. For example, if you're sitting too far away, your eye's own resolving power will limit the amount of detail you'll be able to see in the image, regardless of the resolution of the screen.

When it comes to characterizing the resolution performance of a DVD player or recorder, we print two sets of numbers. The "onscreen horizontal resolution" is the finest detail we can see on a screen when playing a standard "wedge" or "monoscope" test pattern (found on the *Avia* test DVD or **Sound & Vision's** own *Home Theater Tune-Up* disc). Nearly every DVD player we've tested has performed up to the DVD format's maximum resolution, which is 540 lines.

The other set of numbers is a "horizontal luminance response," given in tabular form. "Luminance" is the black-and-white part of a video signal, and it carries all the fine detail. A drastic high-frequency rolloff of luminance, where the response falls by several decibels, can have a visible effect on picture detail (and on our onscreen-resolution result). But here's where some subtlety creeps in — two players that have identical onscreen resolution as well as the same luminance response at high video frequencies can appear different in image "sharpness."

In audio, the "presence" of the music isn't affected much by high-frequency response deviations but is strongly influenced

by what happens at slightly lower frequencies in the "presence" region (roughly between 2 and 8 kHz). Likewise in video, the apparent sharpness of an image is most affected by deviations in the video *midband*, not at the highest frequencies. Adjust the "sharpness" control of a DVD player — or a TV for that matter — and the response of the midband is usually altered. You don't have to change things much to notice a difference — usually about 1 dB or even less, depending on the image.



So for the most *accurate* images from a DVD player, you want as *flat* a response in the video midband as possible, though small rolloffs through the midrange are common and normally benign. We've been publishing response measurements in DVD-player tests, including the midband video frequencies, precisely so you can gauge this.

None of this will change as we switch (starting with the Humax DVD/TiVo recorder report on page 53) from measuring a player's composite output to measuring its component output set to progressive-scan (480p) mode. What *will* change are the frequencies in our measurements — they will double.

The high-frequency limit of the DVD format will change from 6.75 to 13.5 MHz, while the crucial midband luminance-frequency span will no longer be 3 to 5 MHz but 6 to 10 MHz.

It's another video subtlety that even though using the 480p mode doubles the luminance frequencies, the image won't look like it has twice the detail — at least not horizontally. The maximum theoretical horizontal resolution for a DVD player will remain 540 lines for a 4:3 image because the maximum number of horizontal pixels in a player's output remains the same in either interlaced or progressive mode. But

in progressive mode, those pixels must appear on the screen twice as fast, since a complete 480p video frame must be displayed every  $\frac{1}{60}$  second, compared with every  $\frac{1}{30}$  second in 480i operation.

What can improve in 480p mode, sometimes markedly, is the *vertical* resolution, especially when there's motion in the image. On many screens, a static image may not look any different when you switch from 480i to 480p operation, although many fixed-pixel displays (LCD, plasma, and DLP) actually look better when fed a progressive signal because they are inherently progressive-scan, meaning the TV doesn't have to perform a conversion. Regardless of where it's performed, if progressive conversion is done well, the picture will be "smoother" and more filmlike, with scan lines that are much less visible.

So resolution is not nearly the simple parameter that a spec sheet would have you believe. Coming up with visually meaningful test and measurement techniques for resolution requires some understanding of how the eye responds to images. Other video parameters are no less demanding, which will become evident in the coming months as we introduce some new measurements for TVs and monitors.

S&V

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# Getting It Loud and Clear

Tweaks and technology that help seeing and hearing.

**M**y grandmother, Thelma Perkins, passed away at the end of December. I was her eldest grandchild, and we were very close. I believe that the time I spent with her helped make me the person I am today. My Gram spoiled me, keeping her house stocked with my favorite junk food, taking me on trips, and staying up all hours playing cards with me.

We also shared a love for TV and movies. Growing up, I routinely spent Friday nights at Gram's, where we watched *The Dukes of Hazzard* and *Dallas*, and baseball and football. We'd also visit the cinema at the nearby mall.

Sadly, as my grandmother's health deteriorated, her vision fared particularly poorly, and it became all but impossible for her to watch television. Knowing that my job involved TVs, Gram asked if there was anything I could do to help her out. She had a fairly typical viewing environment — TV in the corner, drapes drawn in the front and sides of the room, light coming from a lamp on the end table and from a fixture in the kitchen, which was located behind the couch where she sat.

These are harsh viewing conditions even for someone with good vision. When a TV is nestled in a dark corner, the bright screen acts like a flashlight, making you want to squint as the iris in your eye opens and closes dramatically to compensate for the changes from bright to dark scenes. Having lights on anywhere in front of the TV causes glare on the screen, which in turn causes eye fatigue. Conditions like these can make long-term viewing very uncomfortable.

To help my grandmother out, I brought the TV closer to her and placed a dimmable lamp in the corner behind the set, bathing the wall with light. Having a "bias" light in back of the TV reduces the iris muscle's range of motion, resulting in more relaxed viewing. Dimming the light behind where she sat cut down screen glare, while raising the TV's brightness control allowed her to see more detail.

Using the biggest possible screen defi-

nately makes viewing easier for someone with poor eyesight. Also, sets using new technologies like DLP, LCD, and plasma produce large, incredibly bright pictures. But when a large screen isn't practical, moving the TV closer offers similar results. Some LCD sets are so small and light that you can easily hold them in your lap.

Even people with significantly impaired vision can still enjoy movies. For instance, the audio cues in a surround soundtrack can give a strong sense of the on-screen action. Another terrific option is the Descriptive Video Service. Produced by the Media Access Group at Boston PBS station WGBH, this is like closed captioning for the visually impaired, offering a complete description of the program without covering the dialogue. A list of encoded movies and documentaries can be found at [main.wgbh.org/wgbh/pages/mag/resources](http://main.wgbh.org/wgbh/pages/mag/resources) by clicking on the "dvs-home-video-catalogue" link. DVS titles have been available only on VHS tape, but one of the first DVS-enhanced DVDs is *Ray*, starring Oscar-winner Jamie Foxx. How appropriate!

If hearing is the problem, modern technology has a few things that can help. Everyone is familiar with closed captioning, and the necessary decoders have been standard in all TVs sold in the U.S. since 1993. Also, practically every DVD includes subtitles. But beyond just reading the movie, using a subwoofer can help you *feel* it as well. By adding the tactile sensation of floor- and chest-rattling bass, a sub can make the experience far more entertaining.

Another great solution is wireless headphones. Since they focus the sound right into the ear, headphones allow someone with limited hearing to watch a movie or TV show loud enough so he can hear while

others in the room watch at a lower volume.

Even people with normal hearing often complain that they can't hear dialogue. Nearly every receiver carrying the Dolby Digital logo lets you independently adjust the volume for each speaker channel. While you would normally set all the speakers to the same level, you can use this feature to



boost the volume for the center speaker, which usually carries the dialogue.

But boosting the center channel might not suffice if you watch a lot of movies and shows that have quiet dialogue. Here a Dolby Digital feature called Night Mode or Dynamic Range Control could be useful. Found on many receivers and DVD players, it reduces loud sounds and raises quiet ones so that they're at a more uniform volume.

Nearly everybody likes watching movies and TV shows, and these experiences can help bring together people of all ages. I cherish the times I spent sitting next to my Gram watching a show and sharing a bowl of Cheetos (her favorite snack). Hopefully, future medical and technological breakthroughs will put an end to *all* disabilities, but for now, I hope these tips will make life more enjoyable.

S&V

**John Sciacca** is lead designer at Custom Theater & Audio in Murrells Inlet, SC. E-mail him at [soundandvision@hfmus.com](mailto:soundandvision@hfmus.com)



KEN C. POHLMANN

# How Cool R U?

Take this simple test to determine if you're ahead of the curve or a total dork.

**H**ey kids! Super good morning to you! Let's dig into a bowl of Munchies, your favorite breakfast cereal! A brimming-full tablespoon of refined sugar in every bite! What a great way to start the day! Let's play America's favorite cereal-box game: How Cool R U? You remember the rules: The higher the score, the cooler you are! So grab something to keep track of your score, and let's get started!

Ha! That was a trick question! Did you grab a pencil and paper? That is *sooooo* 20th century. Deduct 50 points! Did you grab a PDA? Give yourself 20 points. Did you log onto an online calculator in Australia? Give yourself 30 points!

Right now, while your parents are speaking to you, and you're pretending to listen, are you jacked into an iPod? Wow — 30 points! And add a bonus point for every illegally downloaded song you have, up to a limit of 100,000 points. Is there a hardwired phone in your kitchen? Sorry, those suck. Deduct 20 points. Are you talking on a cell right now? Add 20 points! Do you have anyone on call waiting? Add 10 points for each caller! Have you downloaded a ringtone within the last 5 minutes? Treat yourself to 10 more points! Are you eating cereal, taking this quiz, playing Tetris, talking on a cellphone, and driving a car — all at once? Way to go! You're multitasking! Add 100 points! Legal disclaimer: the manufacturers of Munchies Breakfast Cereal no longer offer bonus points for hitting pedestrians. And we deeply regret that incident in Terre Haute.

Now, measure your TV's dimensions. Deduct 10 points for every inch of thickness, and add 10 points for every inch of diagonal. Is your TV thicker than it is wide? Then consider running away from home. Ha! That was a joke. Seriously though, try to

be as moody as possible until your mom or dad caves in and buys you a decent TV. Speaking of which, add 30 points if your set is LCD or plasma, and add a whopping 50 points if it's high-def. Wait a minute! Is the TV currently showing *The Today Show*? Deduct 40 points. Can you find an online video of Katie Couric's colonoscopy? Add 30 points! Did you find it in less than 10 seconds? That's fast! Add another 20 points! Did you use Google? Add 5 points. Yahoo? Deduct 5 points.

Okay! What kind of sound system do your parents have? If it's a stereo, deduct a morale-busting 1,000 points. (And seriously, some of the shelters that take in run-aways are pretty nice. Some even give you your own room.) If they own a surround sound system, add 40 points. But if the subwoofer isn't powered, deduct 10 points. If you couldn't figure out how to hook up the sub, deduct 50 points. You must not be very cool!

If your sub is powered with more than 500 watts, that's really cool! Add 40 points. Is the sub in a place where it's "out of the way?" Lamé! Deduct 30 points! Is the sub right in the middle of the hallway or wherever your brother determined that it gives

the best kick-ass bass? Add 30 points. Oh, give yourself 5 points for every DVD in the house. Sorry — you can add only 4 points for NetFlix rentals, or 2 points for Blockbuster discs.

What's the computer situation in your house? Is there only one computer? Deduct 40 points. Is it in the living room? Yikes! Deduct another 40 points. Now, add 20 points for every desktop and 30 points for every laptop. Are you sitting in a Wi-Fi hotspot? Cool! Add 50 points! Are you logging on using the Wi-Fi in your neighbor's house? That saves money! Add 30 points. Are you also reading his e-mail without his knowledge? Add 70 points! Can you find any incriminating JPEG files on his hard drive? Add 50 points for each one.

Now, what about the family car? Add 20 points for each of the following: 1) XM satellite radio, 2) Sirius satellite radio, 3) a head unit that plays MP3s, 4) an in-dash DVD player, 5) rear-seat entertainment. Deduct 20 points for each of these: 1) AM/FM radio with cassette player, 2) a six-disc CD changer in the trunk, 3) less than 1,000 watts of amplifier power. Finally, add 10 points for every inch of wheel diameter. If you don't understand why wheel diameter is profoundly important, deduct 200 points. Actually, if you don't understand wheel diameter, just stop reading and reflect on why your life has gone so terribly wrong.

Okay! That's the quiz! Tally up your score! If you got more than 10,000, you are a cool dude! Congratulations! Be sure to mention it in your blog! If you scored less than 5,000, then you just aren't very happenin'. Try to spend more time file sharing and driving down streets at night with your laptop looking for unsecured Wi-Fi hotspots. If you scored less than 1,000, just return this box to the grocery store. We don't want your kind eating our cereal.

Have a fun day, kids! And don't forget your Ritalin! **S&V**

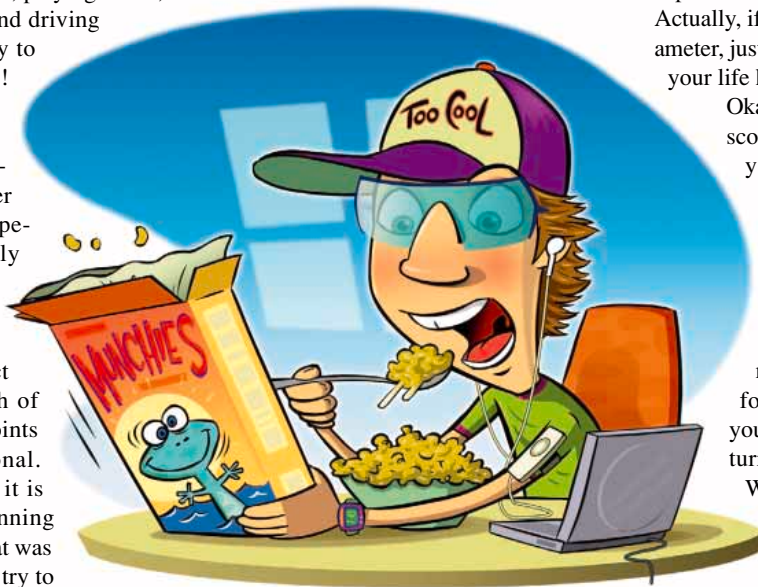


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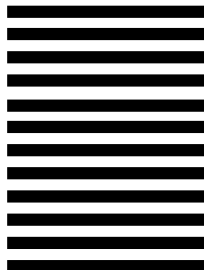
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# Plasma Panorama



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## Four 42-inch plasma HDTVs show there's a flat-panel set for just about every budget

BY AL GRIFFIN

PHOTOS BY TONY CORDOZA

**F**or a long time, flat-panel TVs were linked with the future in the popular imagination. And when they finally became a reality, they were still out of reach for most people, costing ten grand or more. But these days it's a different world. For less than \$3,000, you can bring home a 42-inch plasma HDTV. And for a bit more cash — say, five or six grand — you can get a swanky model with extras like a digital

tuner that'll also deliver high-def cable channels.

To get a better view of the plasma-HDTV landscape, we selected four 42-inch models at a range of prices. We started with V, Inc.'s Vizio P42HDe (\$2,499), a budget HDTV monitor — meaning you have to add a tuner — that's sold exclusively through Costco and Sam's Club outlets nationwide. Stepping up in price a bit, we chose HP's PL4245N (\$4,000), which the

company touts as the perfect monitor for its Media Center PCs, although it also works fine as a standalone TV.

Moving into fat-wallet territory, we rounded out our test group with Pioneer's PDP-4350HD (\$5,500) and Panasonic's TH-42XVS30U (\$6,500), both packed with high-tech features and the latest in digital A/V connections. Turn the page for the details on each set, and see page 40 for a comparison table of features as well as lab results. ➤



## Vizio by V, Inc.

### Plasma bargains in Aisle 18

**T**ake a left turn down Aisle 18 of your local Costco, past the pyramid of paper-towel 12-packs, and you'll encounter a wild sight — a \$2,499 plasma HDTV. The Vizio P42HDe comes from V, Inc., a small company that's also responsible for the DVI-equipped Bravo D2 DVD player, another video bargain that has earned respectful nods from the reviewing staff at **Sound & Vision** (see "DVD Distinctions" in September 2004, available on the **S&V** Web site). The Vizio's status as a plasma price-buster is undeniable. But does it hold up its end of the bargain with DVD movies and HDTV?

There's nothing fancy about the Vizio's looks. It has a slim, black frame and comes with detachable matching speakers. The TV's streamlined table stand provides stur-

dy support without adding much apparent bulk. A video-input box protruding from the back gives the set slightly greater depth than the Pioneer or Panasonic TVs reviewed here — a point to consider if you want to hang the Vizio on the wall using its optional \$249 mount.

The remote control is similarly basic, with no backlighting. Watching TV in a dark room, I found it difficult to select among its many small buttons without my pocket flashlight. On a positive note, the keypad's six direct-input buttons allowed me to switch easily between video sources.

**SETUP** The Vizio's minimal picture adjustments made setup easy by default. Colors looked pretty unnatural with the Normal color temperature selected, so I needed to make tweaks in the User setting to get the image up to par (see "in the lab"). Watching DVDs using the set's S-video input revealed no 2:3

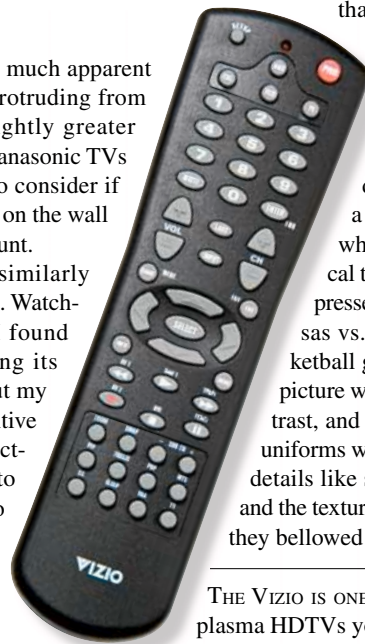
pulldown — a form of processing that reconciles the different frame rates of video and film to produce smooth pictures with movies on TV or DVD. For this reason, I recommend using either a progressive-scan DVD player or one that offers high-def up-conversion via a DVI or HDMI output, like the company's own Bravo D2.

**PICTURE QUALITY** Watching *Sky Captain and the World of Tomorrow* with a Bravo D2 hooked up to the Vizio, I saw deep, dark blacks and plenty of detail. The film's "vintage" colors also looked reasonably rich and clean. But in a dark scene where Polly Perkins (Gwyneth Paltrow) meets the scientist Dr. Jennings at a movie theater, I also noted false contours — an effect that shows up as flat bands instead of a fine gradation from dark to light tones. The problem was also visible in a few bright scenes, like one where *Sky Captain* (Jude Law) zooms his airplane through a patch of fluffy clouds.

The same strengths and weaknesses that I observed with DVDs were also evident with

HDTV. Faces looked coarse and grainy in *Deadwood* on HBO-HD, and the walls of a doctor's dark office had a patchy texture in a scene where a woman gets medical treatment. I was more impressed with the look of a Kansas vs. Oklahoma college basketball game on ESPN-HD. The picture was bright, with good contrast, and the Kansas players' blue uniforms were vivid. I could see fine details like scuff marks on the court and the textures of the coaches' suits as they belled from the sidelines.

THE VIZIO IS ONE OF THE LEAST EXPENSIVE plasma HDTVs you can buy. Unfortunately, in this case that means some compromises in picture quality. On the other hand, sports programs like the game I watched on ESPN-HD looked clear as a bell, so depending on what you watch, this TV could still be a bargain.



#### VIZIO P42HDE

**DIMENSIONS** (WxHxD) 41 x 25½ x 5 inches (without stand and speakers)

**WEIGHT** 85 pounds (with stand and speakers)

**PRICE** \$2,499; wall mount, \$249

**MANUFACTURER** V, Inc., vizioce.com, 714-668-0588

#### PLUS

- Affordable
- Crisp HDTV picture

#### MINUS

- Noisy picture with dark images
- Poor performance with standard TV







# HP

## A computer company goes HDTV

**F**irst came the Media Center PC, which computer makers positioned as an all-in-one bridge between a home office and a home theater system. Now those same companies are also selling TVs. HP recently joined Gateway and Dell in offering a line of flat-panel sets. The PL4245N is its lone HDTV-ready plasma model, one that's priced to move and to capture some of the traditional TV makers' market share.

Like the Vizio, the HP has a stripped-down feature set and is low on frills — but it sure looks nice, with a glossy black frame and a silver table stand that doesn't take up too much space. Unlike the Vizio's stand, though, the HP's seems kind of flimsy and forward leaning. After setting it up on my table, I was worried that the TV might fall over (it didn't). If you prefer to hang it on your wall, HP's mount will run you \$400,

although the TV's thicker-than-usual 5¼-inch depth may make you reconsider.

The HP's remote control is essentially the same as the Vizio's. Aside from a few key assignments, the only real differences are that the HP's buttons are black instead of gray and you have to repeatedly press the DVI/VGA key to toggle between those inputs. Unlike other TVs, the HP doesn't make switching sources an instantaneous process — a graphic overlay pops up in the bottom right corner to tell you the TV is “searching for a signal.” Bizarre.

**SETUP** The HP doesn't have many picture adjustments beyond the basic options you'd find on any TV, so first-time setup didn't take much work. I was surprised that only a brightness control is provided for the DVI input — with no other controls, I had to make most picture tweaks using the DVD player's adjustments. Testing out the set's burn-in-prevention mode, I was also surprised to see the picture making dramatic shifts every few seconds. It was actually jumping around the screen! Normally, the process is more subtle.

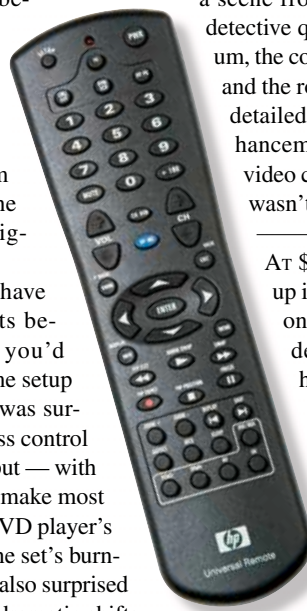
Standard TV images (through

the analog video inputs) had fairly severe edge enhancement, or a faint “halo” on transitions from dark to light. The effect was visible even with the sharpness control set to minimum but disappeared when I switched to the DVI input. With the Warm color temperature selected, I still needed to make some more advanced adjustments (see “in the lab”).

**PICTURE QUALITY** Watching *Sky Captain* with the Bravo player's DVI output hooked up to the HP, I found picture quality a mixed bag. The near-monochrome images — inspired by old movie serials — looked crisp, and the shadows reached down to a deep shade of black. But the same false contouring that I saw on the Vizio was also visible on the HP. Shadows falling on Polly's face in the movie-theater scene were divided into a coarse ramp of flat bands, and the walls and curtains in the background also looked patchy.

False contours weren't as much of a problem when I watched HDTV programs, although they did show up fairly regularly. Watching *CSI*, I was impressed by a scene where Grissom, his supervisor, and a young lab tech walk together through the lab's winding hallways. The HP conveyed the subtle details in their dark clothing as they passed in and out of shadows. And in a scene from ESPN's drama *Tilt* where a detective questions a suspect in an aquarium, the colorful exotic fish looked vibrant, and the rocks and coral were realistically detailed. There was still some edge enhancement when I used a component-video connection to the TV, although it wasn't as noticeable with high-def.

At \$4,000, HP's PL4245N is a step up in price from the Vizio but is still one of the more affordable high-def plasmas. But then again, its hit-or-miss video performance and limited setup options actually make it less of a bargain than the Vizio. HP has hinted that a price drop is imminent for the PL4245N. When that happens, this 42-inch plasma HDTV may be worth a second look.



### HP PL4245N

**DIMENSIONS** (WxHxD) 40¾ x 25½ x 5¼ inches

**WEIGHT** 77 pounds

**PRICE** \$4,000; wall mount, \$400

**MANUFACTURER** HP, hp.com, 888-999-4747

#### PLUS

- Crisp HDTV picture
- Good performance with standard TV

#### MINUS

- Noisy picture with dark images
- Limited picture adjustments when using DVI input



## Pioneer

### Great package, improved price

**A**lthough Pioneer is widely known for A/V receivers and DVD players, its main focus over the past few years has been plasma TVs. It does an impressive job with them, too, which is why Pioneer plasmas often cost more than competing brands. But at \$5,500, the new PDP-4350HD is reasonably priced — at least for a Pioneer. And look at all the stuff you get: a digital cable-ready HDTV tuner with CableCARD, multiple HDMI and FireWire (i.Link) connections, and oodles of fancy video processing modes for both standard- and high-def pictures. You also get a pair of slim speakers.

The Pioneer's sleek design heightens its already considerable appeal. A glossy black frame surrounds the 43-inch screen

— an inch bigger than the other TVs here — and the whole thing rests on top of a sturdy metal stand (Pioneer also offers a couple of different optional wall mounts for \$500 and \$250). The flexible stand not only has the ability to swivel left or right, but it can be pivoted forward or backward during installation. All audio and video connections are made to an external media receiver (back only shown below) that links to the TV via a 10-foot cable.

The PDP-4350HD's remote control is another design high point. It has a fully backlit keypad, and the buttons dotting its surface are organized by function into easily located blocks. There are seven direct-input keys for fast A/V source switching plus four favorite-channel buttons. Pressing one of the latter calls up a menu listing ten cable or broadcast TV channels that you store in memory.

**SETUP** Fine-tuning the Pioneer's picture didn't require much effort, although it took me a while to figure out that turning on the cryptically named DRE adjustment was important to getting the best possible high-def performance. After I selected the Warm color temperature and made the standard picture tweaks, the set's color rendition was

pretty much perfect. I also found that the DNR and MPEG NR (noise-reduction) controls helped smooth out grainy-looking programs — both analog and digital — without reducing detail.

The Channel Setup menu provides a number of helpful options for pulling in and organizing local digital TV broadcasts, including an onscreen signal-strength meter. But the digital tuner's reception was relatively weak compared with the one in the Panasonic, prompting me to experiment with a number of different indoor-antenna placements. Unlike the other TVs in this test, the Pioneer gives you a stretch mode for watching HDTV, which can be used to fill the screen when 4:3 programs are shown on high-def channels.

**PICTURE QUALITY** The Pioneer's clean, natural color rendition was evident on every DVD that I watched. Even the "colorized" images of *Sky Captain* (the movie was originally shot in black-and-white and then tinted via computer in postproduction) looked appealing. Watching a scene in a cavernous hangar, I could make out fine details in the spindly frame of a Zeppelin under construction, and subtle gradations of light and shadow came through clearly. Most important, I saw virtually no trace of the false-contour effects that bothered me with the Vizio and HP sets.

Tuning in INHD on digital cable, I was happy to see the stoner classic *Cheech and Chong's Up in Smoke*. But even more surprising was how good the high-def transfer of this movie looked. The suntanned skin of the cannabis-loving comedians looked natural, and I could easily see the differences between Cheech's bright red wool cap and suspenders and Chong's paler red bandana. And I saw loads of fine detail in the furry pastel-covered material lining the car's interior. It looked so plush that I resolved to do up my own ride in the same style the very next day.

PIONEER'S PDP-4350HD ISN'T THE PRICE KING of this group, but its high style, great features, and excellent out-of-the-box performance make it the best overall value. As Pioneer's newest plasma TV proves, choosing something you're good at and sticking with it makes a lot of sense.



### PIONEER PDP-4350HD

#### DIMENSIONS (WxHxD)

TV 44 $\frac{1}{8}$  x 25 $\frac{3}{4}$  x 3 $\frac{3}{4}$  inches

Media receiver 16 $\frac{1}{2}$  x 3 $\frac{1}{2}$  x 11 $\frac{5}{8}$  inches

#### WEIGHT

TV, 59 pounds; media receiver, 12 $\frac{3}{4}$  pounds

**PRICE** \$5,500; wall mount, \$500 or \$250

**MANUFACTURER** Pioneer,  
pioneerelectronics.com, 800-421-1404

#### PLUS

- Excellent overall picture quality
- Great styling
- Complete suite of features and video inputs

#### MINUS

- Weak over-the-air HDTV tuner







## Panasonic Onyx

### High performance with high style

**T**he TH-42XVS30U 42-inch plasma HDTV is the entry-level model in Panasonic's Onyx series, a line that also includes 50- and 65-inch sets. In this case, the "entry-level" price is \$6,500, a big chunk of change even for a flat-panel TV. On the plus side, Panasonic cuts no corners with its Onyx TVs, tossing in all the up-to-the-minute technologies you could ask for: a digital cable-ready tuner with CableCARD, an SD/MMC card slot for viewing digital snapshots and video clips, and a PC Card slot that, with an optional adapter, will handle almost any other flash media you can think of, all in an external media receiver (back shown below).

Onyx series HDTVs are among the best-looking plasmas you can buy — an evolu-

tionary design leap over Panasonic's previous models. The front is virtually all glass, with a half-inch thin black metal frame running along the border. A sturdy, curvilinear base gives ample support, and with the lights dimmed, the effect is of a widescreen picture floating in the air (the optional wall mount costs \$600 — ouch!). All A/V connections to the TV are handled by an external media receiver that connects via a supplied cable.

The matching black remote control has a fully backlit keypad and neat button layout that's organized around a central joystick for changing channels and navigating menus. One thing I missed was direct-input buttons for switching video sources — you need to toggle inputs by pressing the TV/Video button. Fortunately, you can streamline this process by deactivating unused inputs via the setup menu.

**SETUP** The options are surprisingly basic, but the set looked very good right out of the box (see "in the lab"). One key thing that I found lacking was a custom picture memory for each video input. The workaround: modify the factory presets and remember which one to use when you

switch sources — for example, the Movie preset for DVD. The TV also couldn't display native 720p-format high-def programs through either its component-video or HDMI input. With ABC, ESPN-HD, and Fox all producing programs in 720p (as opposed to the more common 1080i format), a high-end TV like this should handle it — especially since 720p excels with sports and other fast-action programs.

**PICTURE QUALITY** Watching *Sky Captain*, I was impressed with the Panasonic's ability to deliver deep blacks and a decent range of shadow detail — something you don't often see on plasma TVs. For example, in a scene set in Dr. Jennings's dark laboratory, I could make out the intricate array of lab equipment in the background. The Panasonic's picture also looked smooth and clean with most sources. In the earlier scene where Dr. Jennings and Polly meet in the movie theater, the glow emanating from her face came across as a smooth gradation of dark-to-light tones. Movies looked a bit rougher when I used an S-video cable to connect my DVD player. Since the set has no 2:3 pull-down processing, diagonal edges in some scenes tended to break up into stair-stepped lines. My advice: use a good progressive-scan DVD player with this TV.

HDTV programs looked extremely good. The brightly colored garments of the Tibetan actors were stunningly rich in *Seven Years in Tibet* on Showtime-HD, with the red robes of the young Dalai Lama and his attendant monks looking particularly intense. But even with this outpouring of color, skin tones remained natural. In a scene where Brad Pitt and David Thewlis's characters skate on a frozen lake, their pink faces stood in stark contrast to the brownish skin of the Tibetans. High-def picture detail was also impressive, with the ornate textiles in the Dalai Lama's chamber coming through with excellent clarity.

WITH ITS TH-42XVS30U, PANASONIC has given us a plasma TV to drool over. The set's sculptured looks and high-end video performance make it a top contender in the 42-inch-plasma TV race. At \$6,500, the price



### PANASONIC TH-42XVS30U

#### DIMENSIONS (WxHxD)

TV 42 $\frac{3}{8}$  x 25 $\frac{1}{2}$  x 3 $\frac{3}{8}$  inches

Media receiver 17 x 3 $\frac{1}{2}$  x 14 $\frac{3}{4}$  inches

#### WEIGHT

TV, 76 pounds; media receiver, 13 $\frac{1}{4}$  pounds

**PRICE** \$6,500; wall mount, \$600

**MANUFACTURER** Panasonic,  
panasonic.com, 800-211-7262

#### PLUS

- Excellent overall video performance
- Great looks

#### MINUS

- Noisy picture with standard TV
- No custom picture settings for each input
- No native 720p display via HDMI and component inputs (VGA only)



## features checklist

	VIZIO P42HDE (\$2,499)	HP PL4245N (\$4,000)	PIONEER PDP-4350HD (\$5,500)	PANASONIC TH-42XVS30U (\$6,500)
<b>VIDEO FEATURES</b>				
<b>Native resolution</b> (pixels)	1,024 x 768	1,024 x 768	1,024 x 768	1,024 x 768
<b>Digital TV format compatibility</b>	480i/p, 720p, 1080i	480i/p, 720p, 1080i	480i/p, 720p, 1080i	480i/p, 1080i
<b>Display modes</b> (SDTV/HDTV)	3/—	6/—	5/2	4/—
<b>Presets</b> (picture/color temperature)	—/2	3/4	5/3	4/3
<b>Custom memory for each input</b>	✓	✓	✓	—
<b>Film mode with 2:3 pulldown processing</b>	—	✓	✓	—
<b>CableCARD slot</b>	—	—	✓	✓
<b>VIDEO INPUTS</b>				
<b>HDMI</b>	—	—	2	1
<b>DVI</b>	1	1	—	—
<b>VGA</b>	1	1	1	1
<b>FireWire</b> (i.Link)	—	—	2	—
<b>Component-video</b>	2	2	3	2
<b>Composite/S-video</b>	2/2	2/1	4/4	3/3
<b>RF</b> (antenna) or cable	1	1	2	2
<b>AUDIO FEATURES</b>				
<b>Includes speakers</b>	✓	✓	✓	✓
<b>Total amplifier power</b>	30 watts	20 watts	26 watts	16 watts
<b>Digital audio output</b>	—	—	✓	✓
<b>CONVENIENCE FEATURES</b>				
<b>External media receiver</b> (with built-in HDTV tuner)	—	—	✓	✓
<b>Backlit remote control</b>	—	—	✓	✓
<b>Picture-in-picture/split-screen</b>	✓/—	✓/—	✓/✓	✓/✓
<b>Flash-media slot</b>	—	—	—	✓

is steep, but once you've shelled out the bucks, expect to smile every time you turn on the TV.

## Bottom Line

Flat TVs with screens 60 inches or larger are cool, but at the end of the day models in the 42-inch range are what most folks are looking to buy. After living with this moderate-size foursome of flat TVs for a couple of weeks, here's my take on them:

If you're tight on cash and seek an all-purpose TV for watching sports, reality TV, or whatever, the Vizio P42HDe's \$2,499 price makes it an attractive option. With its \$4,000 price tag and only marginally better video performance, HP's PL4245N isn't as sweet a deal.

Both Pioneer's PDP-4350HD and Panasonic's TH-42XVS30U TVs combine topnotch video performance with attractive styling and features, so serious home theater enthusiasts will be hard pressed to choose between them. But with its \$5,500 price tag, the Pioneer is the better bargain. Now the question is, are you ready to bring your TV-watching into the 21st century? **S&V**

## in the lab

	VIZIO	HP	PIONEER	PANASONIC
<b>COLOR TEMPERATURE</b> (before/after calibration)	(Normal/User)	(Warm/User)	(Low/Low)	(Warm/Warm)
Low window	9,814 K/6,606 K	9,558 K/7,478 K	6,449 K	6,334 K/6,444 K
High window	9,970 K/6,442 K	8,027 K/6,614 K	6,331 K	6,814 K/6,594 K
<b>BRIGHTNESS</b> (after calibration)	35.3 fTL	37.3 fTL	36.4 fTL	34.8 fTL

The Pioneer and Panasonic TVs measured very close to the standard 6,500-K grayscale spec with their Low and Warm color temperatures, respectively. Grayscale tracking on the Pioneer was accurate enough that calibration wasn't required. After calibration, the Panasonic's grayscale tracking measured within a very respectable  $\pm 300$ -IRE window. The Vizio and HP, meanwhile, measured within a  $\pm 1,000$ -K window — relatively poor performance. (Calibration needs to be performed by a qualified technician with specialized equipment, so discuss it with your dealer before purchase, or call the Imaging Science Foundation at 561-997-9073.)

Color-decoder error varied slightly among the four TVs, with the Vizio's — 10% red being the largest deviation. Picture overscan also varied consider-

ably. The HP measured 0% on its DVI input but 4% on all other inputs. On the Vizio, overscan averaged around 3%. The same applied to the Panasonic, while the Pioneer averaged around 2%.

Sequences on a Silicon Optix test DVD also showed a wide variance in 2:3 pulldown, or the sets' ability to handle standard 480i images originally shot on film. The HP and Pioneer performed best, measuring in the 10° to 20° range on a Jaggies test pattern and showing good performance on one of the Detail tests. The Pioneer showed occasional progressive-scan upconversion hiccups with movie DVDs, however. Performance of both the Panasonic and Vizio was well below that of the other two TVs on these tests. — A.G.



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TLFeBOOK





# Yamaha

## YSP-1 Digital Sound Projector

**A**lthough many manufacturers claim their products are revolutionary, the truth is that most audio/video components are fairly generic. DVD players, surround receivers, and even speakers tend to be interchangeable parts of your system. It's rare — very rare — that a truly unique product comes along, one that radically departs from the norm. These products are generally works of genius or else colossal failures.

The Yamaha YSP-1 Digital Sound Projector is a speaker unlike any you, or I, have ever seen. At first glance, it looks like a king-sized center speaker. While it should be placed, like a center speaker, just above or below your TV, the YSP-1 is designed to deliver not just the center channel, or even stereo, but a full five channels of surround sound. It even incorporates all of its own electronics, including Dolby Digital and DTS decoding, Dolby Pro Logic II and DTS Neo:6 surround processing, plus built-in digital amplifiers for each of the 42 drivers (yes, that's right — 42!) behind the grille. In other words, no receiver required! Just plug in a multichannel digital audio feed from a DVD player or HDTV tuner, and the YSP-1 does the rest.

That's an attractive proposition, because one of the nagging obstacles to conventional surround sound is placing and wiring the surround speakers. While a single speaker is hardly ideal for surround sound, this is an exciting alternative for dorm rooms, bedrooms, an office, the International Space Station, or anywhere you demand surround sound but otherwise can't get it because of limited space, inflexible décor . . . whatever.

How can one speaker create a surround sound field? Digital signal processing in the YSP-1 individually varies the level and timing of its drivers to create several distinct sound beams. In the same way that stereo speakers create phantom-center images between them, these beams bounce off your room's walls to give the impression that sound is coming from all around you. More so than with other speakers, the success of the YSP-1 depends on the shape and acoustic characteristics of your room. So consider your space before you buy — this speaker craves nearby reflective surfaces to perform at its best.

Naturally, the YSP-1's complement of connections is unusual. Instead of a banana plug or a spring-loaded clip, it has multichannel digital and stereo analog audio inputs, a subwoofer output, and a composite-

video output for the onscreen menus. And unlike most other speakers, the YSP-1 has its own remote control. In addition to more conventional controls, four Beam Mode buttons are used to select different sound fields:

### fast facts

**DRIVER COMPLEMENT** 40 1½-inch tweeters, 2 4¾-inch woofers  
**POWER** 2 W x 40 and 20 W x 2  
**FINISH** silver  
**DIMENSIONS** (WxHxD) 40½ x 7¾ x 4½ inches  
**WEIGHT** 28¾ pounds  
**PRICE** \$1,500  
**MANUFACTURER** Yamaha Electronics USA, [yamaha.com/home](http://yamaha.com/home), 800-492-6242

### key features

- Front-panel display
- Onscreen menus
- 5.1-channel Dolby Digital, DTS, Dolby Pro Logic II, and DTS Neo:6 processing
- 3 user memory presets
- 3 Beam modes plus manual settings
- Night Listening mode
- Wall-mountable using optional brackets
- Remote control
- **inputs/outputs** coaxial and 2 optical digital audio inputs; 2 analog stereo audio inputs; subwoofer output; composite-video output (for onscreen menus); RS-232C port



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[LGusa.com/PlasmaDVR](http://LGusa.com/PlasmaDVR)



\*For the 50" model based on watching 4 hours of Television each day. 60" model is 45,000 hours. Model Shown: PY2DR available April 2005

## TEST REPORT



### MUSIC PERFORMANCE I

started in stereo mode, listening to a number of CDs including Lenny Kravitz's *Baptism*. First, I wanted to make sure that the speaker's tonal quality was up to snuff. Could it reproduce the full frequency range without coloration? I listened to a lot of music, but it was the acoustic piano on *Baptism* that finally convinced me. It's tough to reproduce an acoustic piano, but the YSP-1 pulled it off without sounding tinny, clinky, boomy, harsh, or muffled.

Nonetheless, playing full-range music like this through the YSP-1 with the sub-woofer off revealed its lack of bass. With the sub switched back in, the music had the foundation it needed.

Second, I wanted to make sure that this lone speaker could reproduce a convincing stereo panorama. Would there be a solid center image and good left/right separation? In the ballad "Calling All Angels," the piano is recorded with a slight delay to create a wide image, which was realistically reproduced. In contrast, the vocals and snare drum were solidly locked to a tight center image. When the strings came in, they completely filled the stereo soundstage with a balanced spread. In other words, the YSP-1 created the same panorama I'd expect from a normal pair of speakers. Even at moderately loud levels, the speaker showed no signs of stress or strain in this mode — at least in my small room.

I moved on to multichannel music and loaded up the Dolby Digital mix of Seal's *Seal IV*. (Since the YSP-1 lacks six-channel analog inputs, I couldn't listen to the high-resolution mixes on DVD-Audio discs or SACDs but was able to play the Dolby Digital or DTS versions.) The music was firmly placed across a wide arc before me. On "Love's Divine," lead vocals were clearly front and center, flanked by piano, brass, and backup vocals, while reverberated vocals, piano, and strings appeared at either side of my shoulders and slightly behind

Stereo, Stereo+3, 3-Beam, and 5-Beam.

In the Stereo mode, the woofers on each end of the array are combined with half of the tweeters to simulate conventional left and right speakers. In the Stereo+3 mode, which is said to be more effective than the others when the YSP-1 is placed in a corner, the left (L) and right (R) stereo channels are augmented with virtual left surround (Ls), right surround (Rs), and center (C) channels. The 3-Beam mode produces, naturally, three beams — L+Ls, R+Rs, and C — for a limited surround effect. In the 5-Beam mode, all five channels (L, R, C, Ls, Rs) are produced by beaming, each with its own orientation. Only the 5-Beam mode claims to yield truly enveloping surround sound.

**SETUP** Hooking up the YSP-1 was a whole lot easier than setting up a conventional surround sound system. First, I placed the speaker on a shelf beneath my 50-inch, wall-mounted Samsung DLP TV, leaving a little clearance so the amps could breathe easy. I ran an optical digital audio cable from my DVD player to the YSP-1 and a composite-video cable to the TV.

Once I powered up, I selected a preset that corresponded to the shape of my listening room (square or rectangular) and then indicated the size of the room and where I had placed the speaker. There's also a manual setup mode to fine-tune each of the sound beams or virtual speakers. This allowed me to adjust horizontal and vertical angles, focal length, and image location of the beams as well as the bass or treble.

Over the course of a week, I spent considerable time experimenting to get the best sound quality and most convincing surround field. Unlike most surround speaker systems, the YSP-1 doesn't include a sub-woofer. So I added my own, taking pains to set the optimal crossover frequency, level, and time delay for the line-level sub output. Setup complete, I put on my ears.





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Built-in Program Guide

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## TEST REPORT

### PLUS

Unique all-in-one design eliminates need for separate speakers.  
Simple, two-cable connection.  
Good sound quality (with subwoofer).

### MINUS

Takes time to dial in optimal settings.  
Surround sound less effective than with regular surround speakers.  
Amplifiers not upgradable.  
Subwoofer not included.

— as if out of thin air. Seal's vocals had a smooth and natural sound, with just a bit of distortion at loud volumes. Sound quality, like the artist himself, was earnest and refined, and the surround mix was surprisingly expansive.

**MOVIE PERFORMANCE** Next, I loaded in *Dodgeball*, a goofy Ben Stiller comedy that's funny in a low-IQ sort of way. In stereo mode, dialogue was intelligible, and sound effects were realistically placed in the panorama. When a car drove out of a scene, I could clearly hear it move across the front and exit right.

The 3-Beam mode provided a much wider soundstage without seeming exaggerated or unnatural, and 5-Beam opened up the soundstage even more and occasionally even gave a hint of sound from behind me. In the film's finale, shouts of approval and dismay from a crowd of spectators join other sound effects in the surround channels. The YSP-1 gave the impression that there

were surround speakers on the sides, just not as far back as they should be. It wasn't as enveloping as true surround sound, but it was still engaging.

Looking for the ultimate stress test, I loaded up the *Master and Commander* DVD. Being hit by a dodgeball might be humiliating, but at least it's not as painful as a cannonball. In the battle scenes, you have cannonballs, musket balls, ship's rigging, and body parts flying through the air. The 5-Beam mode really let this movie rip, conveying all the terrifying sound effects that accompany the visuals. The YSP-1 created a realistic sense of sonic space around me, though it only put me three-quarters of the way into the field compared with the total immersion I get from true surround.

I pushed the YSP-1 to its volume limit, and I must admit it played loud enough to make even this naval mayhem seem pretty real. Nonetheless, its total output of 120 watts can't compete with a steroid-pumping 500-watt receiver. And unfortunately, there's no way to upgrade the amplifiers to get more power.

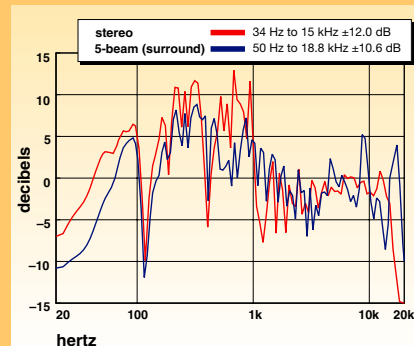
**BOTTOM LINE** Keeping in mind its limitations, Yamaha's YSP-1 is an excellent solution for some challenging situations. Are you after a very clean, minimalist installation with your on-wall flat-panel TV? Is your room too small to accommodate lots of speakers, or does its design prohibit a traditional setup? Or maybe you're just looking for that all-in-one package for watching movies in bed? If any of these apply, check out the YSP-1. This is *not* another me-too product. And it does border on genius. **S&V**

## in the lab

**Bass limits** (lowest frequency and maximum SPL with limit of 10% distortion at 2 meters in a large room)  
all modes .....80 Hz at 81 dB

All measurements were taken at 2 meters directly in front of the YSP-1 in a large room with bare walls and an 8-foot ceiling. The speaker parameters were optimized for the space. The Stereo curve indicates the speaker's basic response characteristic, showing limited bass and reasonably uniform overall response up to 1 kHz and a 10-dB drop above that. The 3-Beam (not shown) and 5-Beam curves indicate more evenly balanced response. All speaker systems designed to use reflections from room surfaces will have a downward-sloping response in the far field because treble drops off more quickly with distance than lower frequencies. The typical comb filtering caused by room reflections and

the interaction of multiple channels are also apparent in the graph curves. — *Tom Nouraine*



A full lab report with extended comments and additional response curves is available on S&V's Web site.



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# Denon

## AVR-5805 Multiroom A/V Receiver

**D**on't buy this receiver if you have a bad back, a rickety rack, or a bulging credit limit. Because Denon's latest flagship, the AVR-5805, is as tall as many receivers are deep, as deep as many are wide, as heavy as a *pair* of many other flagship models — and as expensive as a two-year-old Kia. But among A/V receivers, it's uniquely powerful, flexible, and capable — and I do mean *uniquely*.

Indeed, the THX Ultra2-certified AVR-5805 is all that and more — much more. You'll find some of its attributes listed in the "key features" box on page 50 — but even there we don't have space for everything. Let's focus here on the big stuff, such as the Denon's *ten 170-watt channels*, which you can configure any way you like. And I do mean *any*.

For instance, you can wire a 6.1-channel home theater and still have enough extra channels for not just one but two remote-room stereo setups (the Denon provides *four* independent zones of source selection and volume control). Or set up two fully inde-

pendent 5.1-channel surround systems, one in the main room and one upstairs, running them simultaneously with different surround modes. Or install a full-bore, 7.1-channel theater, a stereo "extension" room, and a *mono* zone with ganged ceiling speakers in the basement gym. And if that's not enough for you, the AVR-5805's *twenty-two* preamp-level audio outputs can be pressed into service any way you like. In short, what Denon has created is as much a multiroom A/V controller as it is an A/V receiver.

I must also mention the auto-EQ (equalization) system, which is even more sophisticated than the one on Denon's AVR-2805, which I reviewed last December (available on **S&V's** Web site). Using proprietary MultiEQ/xt technology licensed from Audyssey Labs, the AVR-5805 performs similar auto-setup and calibration chores (speaker size, distance, and level) but also establishes the best subwoofer crossover frequency *for each individual main channel*. It can then equalize its output signals to achieve "flat response" among all your speakers — or if you prefer, to match the response of the

surround and center speakers with the front left/right pair.

What's special is that the EQ process incorporates corrections to reduce the impact of room acoustics on the sound for *all* listeners. That's no small feat. Typically, trying to use EQ to correct room-based frequency-response errors is like trying to squeeze out a big bubble when you're hanging wallpaper: you can usually move the problem around to different spots, but you can't get rid of it. The MultiEQ/xt room corrections actually work, though — and not for just one listener with his head in a vise. ➤

### fast facts

**RATED POWER** 170 W x 10 into 8 ohms from 20 Hz to 20 kHz with maximum 0.05% THD (channels driven individually or in pairs)

**DIMENSIONS** (WxHxD) 17½ x 12 x 20½ inches

**WEIGHT** 97 pounds

**PRICE** \$6,000

**MANUFACTURER** Denon Electronics, [usa.denon.com](http://usa.denon.com), 973-396-0810

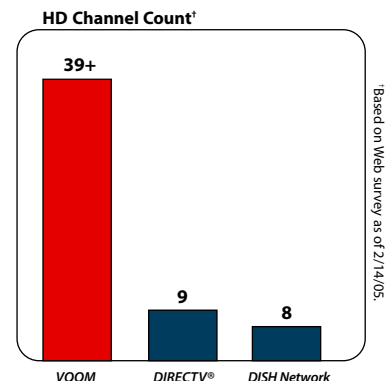




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TLFeBOOK

One more feature in the feature-laden Denon flagship cannot go without comment: it provides *three* digital connection options for multichannel DVD-Audio or SACD music playback. A Denon Link connector (a dedicated, Ethernet-style RJ-45 jack) accepts a digital DVD-Audio or Dolby Digital/DTS signal from compatible Denon players like the DVD-3910 (the January **S&V** review is on the Web site). Two IEEE 1394 (FireWire) connectors do the same but also accept digital signals from multichannel SACDs. There are three HDMI digital A/V inputs, which for now pass only two-channel DVD-A/SACD or multichannel Dolby Digital/DTS audio signals. Denon hopes to provide a firmware update once multichannel standards are ironed out.

**SETUP** Aside from the sheer physical effort of wrestling the 97-pound beast onto my rack, most of the setup was typical. The exceptions: running the auto-EQ routine and setting up a second home theater system in my home to test the receiver's special multiroom capabilities.

To run the auto-setup and auto-EQ routines, you begin by placing the microphone at the listening position. Denon's hockey-puck-shaped DM-S305 test mike is a \$100 option that the company lent me for our

test. Sure, you can use any measurement mike, and in most cases the dealer will set up the receiver for you, but it seems kind of chintzy not to include the mike when less-expensive models supply one.

Once the mike is in place, you just cue auto-setup on the remote and brace yourself for a series of swooping chirp sequences from each speaker. Go have a cup of joe and read the paper in another room for 15 minutes — and restrain your dog, which I guarantee will go postal. Auto-EQ involves a shorter chirp sequence but requires moving the mike and repeating the routine at each listening position, allowing the Audyssey software to collect data from each one to create an average response curve. I averaged three spots — you can do as many as six, but the more you average, the less ideal the correction will be at any one, including your primary listening spot.

A bit more challenging was the task of running a bundled umbilical of five long speaker wires plus RCA patch cords from my studio's home theater into our TV room some 40 feet down the hall. One of the AVR-5805's myriad setup menus (which in their multitudes are actually very straightforward) let me assign five speaker outputs to the remote room's front and surround speakers. The long RCA cable from the remote subwoofer went to the SW jack in the Denon's Zone 2 preamp-out grouping.

Of course, running two 5.1-channel sys-

tems like this occupies all ten powered channels and precludes having back surround speakers in either room for a 6.1- or 7.1-channel system. You could add a power amp and drive it from the preamp outs, but most owners will more likely use the Denon's capacity for multiple stereo or mono zones rather than a second home theater. A three-zone system of 6.1 + 2.0 + 2.0 seems to me a good deployment of forces.

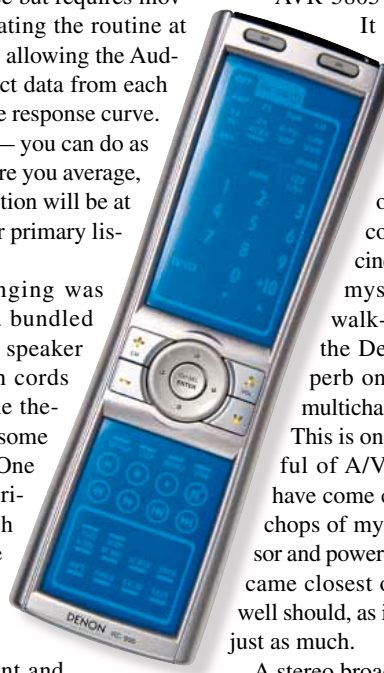
**PERFORMANCE** Let me say this upfront: judged purely on sound quality, the Denon AVR-5805 really delivers the goods.

It had *plenty* of power for my moderately low-sensitivity 6.1-channel speaker layout. After watching *Friday Night Lights* and replaying some of the more violent gridiron collisions a few times at true cinema levels, I had to restrain myself from stopping by the walk-in clinic for X-rays. And the Denon sounded equally superb on whatever I sent its way: multichannel music, stereo, movies. This is one of a three-fingered-handful of A/V receivers I've tried that have come close to equaling the sonic chops of my reference preamp/processor and power-amp setup. And the Denon came closest of all — which it damned well should, as it costs (and nearly weighs) just as much.

A stereo broadcast of *Austin City Limits* I surfed across on PBS HD, featuring the ebullient Jamie Cullum's trio (think Ben Folds meets John Mayer), caused me to stop and listen through the entire set thanks to the AVR-5805's stellar multichannel Pro

## key features

- Amplifier channels assignable in any combination to up to 4 independent zones
- Extensive surround-mode options including Dolby Digital EX and DTS-ES; Dolby Pro Logic IIx and DTS Neo:6; THX and THX Surround EX for all Dolby and DTS modes; Dolby Headphone; 9 proprietary DSP surround modes
- Multiple DSP engines allow different surround modes in two zones simultaneously
- 192-kHz/24-bit analog-to-digital and digital-to-analog converters on all channels
- Proprietary Audyssey MultiEQ/xt automatic setup and room-correction EQ
- Faroudja DCDi scaling (480p, 720p, 1080i)
- Video up/downconversion for all sources
- 12-component preprogrammed/learning system remote control
- AM/FM tuner with 56 presets
- A/B surround-channel outputs
- DVI and HDMI digital video inputs/outputs
- 6 component-video inputs, 2 outputs
- 9 A/V inputs, 7 outputs, all with S-video
- 6 optical, 6 coaxial digital audio inputs (optical on front panel); 3 optical outputs
- Denon Link (RJ-45) and 2 IEEE 1394 (FireWire) inputs for single-cable digital connection to multichannel audio sources
- 2 sets of multichannel analog inputs (10-channel and 6-channel)





## PLUS

State-of-the-art performance.  
Unprecedented flexibility.  
Powerful auto-setup, auto-EQ,  
and auto-room correction.  
Simple yet powerful remote control.

## MINUS

Big, heavy, expensive.  
Setup microphone not included.

Logic IIx playback. The clarity, depth, and presence were *that* good.

I was even more impressed when I engaged the Denon's auto-calibrated room EQ. The AVR-5805 offers three EQ settings besides manual (do it yourself): Flat, Front (normalized), and Audyssey (a full room-correction setting), among which the last clearly gave the most accurate results. Audyssey made all sources sound noticeably brighter — which took a bit of getting used to — but it did so without the added “edge” or “spittiness” you often get when you turn up a treble control. And the improvements were obvious: enhanced definition, less bass heaviness, and improved spatial clarity. De-



non's new room EQ is something serious listeners should definitely check out.

My temporary second home theater worked fine, too. This was just a test, though: because I didn't have the optional Denon remote-control-extender components on hand, I used “sneaker net” to make selections and adjustments, running from room to room. Obviously, in a real installation, a remote link — whether Denon's or a third-

party equivalent — would be a key part of the setup.

Speaking of remotes, the RC-995 Denon supplies with the AVR-5805 is a preprogrammed/learning model that handles up to 12 components and 3 zones. The membrane-switch “keys” are behind a flat luminescent panel. Only the labels you need light up at any one time, drastically reducing visual clutter. Though it was hard to read in bright sunlight, I liked it a lot. Still, Denon's failure to bundle its premium RC-8000 touchscreen remote with this statement piece may be seen as a snub by some of its six-grand-a-pop customers.

Really, Denon has made the AVR-5805 about as easy to operate, and to live with, as you can reasonably expect for so intricate a product. The menu structure is logical, and the manual is generally clear and concise for all its 191 pages. And the portly powerhouse is itself a blast to listen to and use.

**BOTTOM LINE** Don't buy the Denon AVR-5805 if you're not going to exploit at least a good part of its special abilities. If you don't need its multiroom expertise, if you're not going to bother with the Audyssey auto-EQ and auto-setup, if you don't care about video scaling and upconversion, HDMI, or digital connections for DVD-Audio and SACD, then keep on walking. On the other hand, if you can truly use ten 170-watt channels, if you honestly relish drilling down into menus and features to get the full yield of techno-functionality, if you have more than good intentions about finally setting up a whole-house media layout — and if you're the type who routinely finds a \$6,000 bill in your wallet — go for it. You will *not* be disappointed.

S&V

## in the lab

### DOLBY DIGITAL PERFORMANCE

**Output at clipping** (1 kHz into 8/4 ohms)  
1 channel driven .... 205/344 W (23.1/25.4 dBW)  
5 channels driven (8 ohms) .... 121 W (20.8 dBW)

**Distortion at 1 watt** (THD+N, 1 kHz)  
8/4 ohms ..... 0.02/0.03%

**Noise level** (A-wtd) ..... -75.5 dB

**Excess noise** (with sine tone)  
16-bit (EN16) ..... +0.1 dB

**Frequency response**  
20 Hz to 20 kHz +0, -0.12 dB

### MULTICHANNEL PERFORMANCE, ANALOG INPUT

**Distortion**  
(THD+N, 1 kHz, 8/4 ohms) ..... 0.004/0.006%

With one important anomaly, the Denon AVR-5805 performed at or near historic levels for A/V receivers: power, noise, and distortion measurements were all record-setters on my test bench. The anomaly was frequency response, which on first measurement rolled off by 6 dB per octave below roughly 100 Hz in all modes and on all digital inputs. Analog inputs were only affected when a DSP surround mode was engaged, suggesting a DSP error as the culprit. Denon later confirmed an operating-software glitch that failed to

**Noise level** (A-wtd) ..... -101.3 dB

**Frequency response**  
<10 Hz to 124 kHz +0, -3 dB

### BASS-MANAGEMENT PERFORMANCE

**Subwoofer-output frequency response**  
(crossover set to 80 Hz)  
24 dB/octave above -6-dB rolloff point of 81 Hz

**High-pass-filter frequency response**  
(crossover set to 80 Hz)  
12 dB/octave below -3-dB rolloff point of 80 Hz

**Maximum unclipped subwoofer output**  
(trim at 0) ..... 9.9 volts

**Subwoofer distortion**  
(from 6-channel, 30-Hz, 0-dBFS signal;  
subwoofer trim set to 0) ..... 0.05%

defeat the THX Boundary Compensation curve even for “large” speaker channels unless you manually “uncheck” it on the setup menu. Doing so returned response to within 0.1 dB at 20 Hz. Denon assured us that the corrected software will be carried by all subsequent production units.

Bass management was provided and was consistent for all inputs and all media — analog and digital, multichannel and stereo. —D.K.  
(Full lab results, including PCM stereo, are on the S&V Web site.)

*"Of the under-\$600 subwoofers I have heard, however, not one has come close to the Outlaw LFM-1. As usual, the Outlaws are one step ahead of everyone else."*

Kevin Hunt, Chicago Tribune

*"The LFM-1 is simply the biggest, baddest, and best-performing mid-priced subwoofer we've ever heard... In addition to delivering pants-flapping, feel-it-in-your-guts deep bass, this subwoofer maintains a firm grip on low-frequency pitch definition—an unusual combination in a \$579 model."*

Steve Guttenberg, C-Net

*"Acoustic bass sounded superb, with natural tone and a good sense of stage depth... An outstanding value."*

Tom Nounsaine, Sound and Vision

*"To say that this sub is impressive is a serious understatement... The LFM-1's output has an exceptionally tight, taught quality that makes it wonderfully musical"*

Darryl Wilkinson, Home Theater Magazine

*"The LFM-1 is a stellar value performer... Outlaw Audio has managed to apply optimum engineering to the LFM-1 and eek out a performance worthy of a standing ovation."*

Clint DeBoer, Audioholics

*"The bass that can be felt in the depth of my belly was clearly the substance. Outlaw is certainly setting themselves up for customer retention, and have succeeded in winning at least one over."*

Aaron Hodges, Secrets of Home Theater and High Fidelity

*"...the Outlaw LFM-1 really kicked butt when I cued up some DVDs. ...the LFM-1 should be at the top of your list. This is far better performance than I'd expected, especially at this price."*

Vince Hanada, HomeTheater Sound

*"Righteous extension and output... I have not a heard a better subwoofer at this price."*

Neil Gader, Perfect Vision

*"Outlaw has another winner on its hands... Well-built, attractive and capable of deep, detailed bass, the LFM-1 is an outright bargain at \$579."*

Greg Robinson, DVD-Etc

# We're not making this stuff up!

When designing the Outlaw Audio LFM-1, our goal was to create the best value in a high performance subwoofer. Judging by the reviews, we succeeded. No other subwoofer we know of combines foundation-shaking bass, distortion free driver control and furniture grade cabinetry all for well under \$600.

The LFM-1 uses a 325 watt BASH amplifier to ensure precision control of a specially designed 12" long throw woofer. Offering a virtually ruler flat frequency response to 25Hz, this subwoofer is as musical as it is powerful. Whether your priority falls with movies or music the LFM-1 has the tools that deliver.

See for yourself. We invite you to audition the LFM-1 risk free in your own living room. Maybe we'll be quoting you next.



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# Humax

## DRT800 DVD/TiVo Recorder

**T**he latest DVD recorders have so many advanced features that they can be daunting to use. Just pick up the instruction manual, and you'll likely find yourself slogging through pages of editing commands as well as countless rules for recording on different disc formats. Then there's the Humax DRT800.

Although Humax calls it a DVD recorder, the DRT800 takes a different approach. Rather than boasting extensive editing options, the Humax engineers focused on building a video hard-disk recorder using TiVo's proven graphical user interface. They also added a DVD burner for making "keeper" discs of programs recorded on the hard drive. Here, the DVD recorder is really an accessory to the TiVo recorder.

Of course, you have to give up something to get something, and the DRT800 is distinctly limited compared with a typical DVD/hard-disk combo recorder. For one thing, you can't record directly onto DVD. You first have to capture your program onto the 80-gigabyte hard drive by dubbing off the air or from a camcorder or other source. And you can't copy an existing DVD — with or without copy protection — from the internal DVD drive. There's also no way to edit your recorded programs other than to delete them or to specify the order in which they're copied to a DVD.

But to compensate for the stripped-down DVD recorder, you get one very big, very important feature — TiVo. Humax has extended the intuitive, elegant menu system used to operate TiVo's wonderful program guide and hard-disk recorder to include both DVD playback and DVD recording.

Your high-tech household will love the ability to hook up the Humax to a home network and, through it, to the Internet. After downloading a server program from TiVo to your computer, you can use the home network connection to stream MP3 music from the computer through the DRT800, providing an easy way to get tunes from your "ripping station" PC into your home theater. The DRT800 can also show JPEG images from the PC (or from a picture CD) through its video outputs.

You can use the Internet connection further to download TiVo program-guide in-

formation, which can be a lot faster than a phone connection. (But you still have to program the DRT800 initially through a phone connection.) The TiVo service also offers some music programming for streaming (but not recording) through the Humax — a taste of things to come? Very cool.

**SETUP** Getting any TiVo device up and running is time-consuming but pretty straightforward. First off, you need a phone jack and a credit card. You call TiVo and subscribe to the service, then connect the

### fast facts

**DIMENSIONS** (WxHxD) 16 x 3 x 12 $\frac{7}{8}$  inches

**PRICE** \$499; plus TiVo service, \$12.95 a month or \$299 for lifetime of recorder

**MANUFACTURER** Humax USA, humaxusa.com, 866-486-2987

### key features

- TiVo programming guide and 80-gigabyte hard-disk recorder
- Dubs from hard disk to DVD-R/RW
- USB 2 connection to home network or other TiVo devices
- **inputs/outputs** i.Link (FireWire) input; 2 composite/S-video inputs (1 on front panel), composite/S-video and component-video outputs (switchable between interlaced and progressive-scan), all with stereo analog audio; coaxial digital audio output; RF input/feedthrough output; telephone connector; 2 USB ports; output for supplied IR blaster

### playback compatibility

<b>DVD-R/RW</b> (Video mode)	✓/✓
<b>DVD-RW</b> (VR mode)	✓
<b>DVD+R/RW</b>	✓/✓
<b>DVD-RAM</b>	—
<b>DVD-Video/Audio</b>	✓/—*
<b>CD-Audio/SACD</b>	✓/—**
<b>CD-R/RW</b>	✓/✓
<b>MP3/WMA</b>	✓/✓
<b>JPEG/Kodak Picture CD</b>	✓/—
<b>Video CD</b>	—

\* will play Dolby Digital tracks on DVD-Audio discs

\*\* will play CD layer on hybrid SACD/CDs

AK- Alaska A/V: Juneau.  
AL- Audio Insight: Huntsville• Cohen's Electronics: Montgomery• Hooper's: Birmingham• Kincaid TV: Tuscaloosa• Fidler HiFi: Mobile• Tennessee Valley Protection: Huntsville.  
AR- Custom Audio Video: Little Rock.  
AZ- Audio Plus: Prescott• Jerry's Audio Video: Phoenix, Scottsdale• The Specialists: Tucson• Ultimate Electronics: Glendale, Phoenix Metro Area, Scottsdale.  
CA- Access to Music: San Rafael• Accurate A/V: Lake Tahoe• Ahead Stereo: Los Angeles• Audio Concepts: Long Beach, San Gabriel• Audio Video City: San Luis Obispo, Santa Maria• Boots Camera: Fresno• Century TV: Garden Grove• Convoys Big Screens: San Diego, San Marcos• Creative Stereo: Santa Barbara• David Rutledge Audio: Rancho Mirage• Discoson: Vero Beach• Magnolia A/V: Colma, Costa Mesa, Emeryville, Palo Alto, Sacramento, San Francisco, San Ramon, Santa Clara, Santa Monica, Santa Rosa, Torrance, Woodland Hills• Paradyne Audio/Video: Roseville, Sacramento• Performance Audio: San Francisco• Systems Design: Redondo Beach• Visual Sound: La Habra.  
CO- Advantage Sight & Sound: Montrose• Axis Audio: Durango• Central Electronics: Steamboat Springs• Pro Home Systems: Grand Junction• Soundtrack: Boulder, Colorado Springs, Denver & Suburbs, Ft. Collins• Summit Electronics: Frisco.  
CT- Audio Etc.: Orange• Carstons Stereo/Video: Danbury• Planet TV: Stamford• Roberts Audio Video: New London• Stereo Shop: Hartford• Westair TV: Fairfield, DC & Washington Suburbs• Myer-Emco.  
DE- Hi-Fi House: Wilmington.  
FL- Absolute Sound: Winter Park• Audio Center: Deerfield Beach• Audio Connection: Ft. Myers• The Audiohouse: Vero Beach• AV in Paradise: Key West• Bill's A/V Innovations: Vero Beach• Bob's TV: Ocala area• Hoyt Stereo: Jacksonville• Palm Audio: Destin• Seagull Electronics: Juno Beach• Sound Components: Coral Gables• Sound Ideas: Gainesville• Sound Insights: Jensen Beach• Sounds & Cinema: West Palm Beach• Stereotypes: Daytona Beach• Tropical Video: Rockledge.  
GA- Audio Warehouse: Savannah• Evolution Home Theater: Atlanta• Georgia Home Theater: Atlanta• Merit TV: Columbus• Stereo Connections: Valdosta• Stereo Shop: Martinez.  
HI- Elite Electronics: Honolulu.  
IA- Audio Vision: Sioux City• Nielsens: Spencer• Sound World: Mason City• Ultimate Electronics: Cedar Rapids, Davenport, Des Moines.  
ID- Ultimate Electronics: Boise.  
IL- Abt Electronics: Glenview• Barretts Home Theater: Algonquin, Naperville• Sherman's: Normal, Peoria, Peru• The Shoppe: Bradley• Sound Forum: Lake in the Hills• Sound Living: Chicago• State Line Satellite: Rockford• Sundown A/V: Springfield• Ultimate Electronics: Fairview Heights.  
IN- Classic Stereo: Ft. Wayne• Kings Great Buys: Evansville• Ovation Audio: Clarksville, Ft. Wayne, Indianapolis, Lafayette.  
KS- Accent Sound: Overland Park• Advance Audio: Wichita• Audio Junction: Manhattan• Kansas Audio Video: Topeka• Ultimate Electronics: Wichita.  
KY- King's Great Buys: Owensboro• Oxford Audio: Lexington, Louisville.  
LA- Acadiana Security Plus: Broussard• Altman Audio: Metairie, Metairie• Home Theater Concepts: Slidell• Mike's Audio: Baton Rouge• Wright's Sound Gallery: Shreveport.  
MA- Cameras Inc.: Arlington (Boston)• Home Smart Home: North Attleboro• Nantucket Sound: Hyannis• Percy's: Worcester• Pittsfield Radio: Pittsfield.  
MD- Gramophone: Baltimore, Columbia• Myer-Emco: Bowie, Frederick, Gaithersburg, Rockville• Soundscape: Baltimore.  
ME- New England HiFi: Scarborough.  
MI- Contemporary Audio: East Lansing• Court St. Listening Room: Saginaw• Hod's Home Theater: Waterford• Paragon Sound: Ann Arbor• Perc's: Troy (Detroit)• Superior Sound: Grand Rapids• Today's Audio: Flint.  
MN- Audio Designs: Winona• Audio King: Minneapolis & Suburbs, Rochester, St. Cloud• Dostal Electronics: Hutchinson.  
MO- The Entertainer: Jefferson City• Independence A/V: Independence• Q-Audio & Video: Cape Girardeau• Ultimate Electronics: Ballwin, Brentwood, Bridgeton, Fenton, Independence, Kansas City, St. Peters.  
MS- Ideal Acoustics: Starkville• McLelland TV: Hattiesburg• Something Southern: Oxford.  
MT- Rocky Mt. Hi-Fi: Great Falls• Vann's Inc.: Billings, Bozeman, Hamilton, Helena, Kalispell, Missoula.  
NC- Anderson Audio: Morehead• Audio Designs: Raleigh• Audio Unlimited: Jonesville• Audio Visions: Wilmington• Comtec: Asheville• Elite A/V: Lewisville• Freeman's Stereo Video: Charlotte• Intelligent Electronics: Raleigh• Sound Systems: Charlotte• Tri-City Electronics: Conover.  
NE- Custom Cinema & Sound: Horace (Fargo).  
NE- Custom Electronics: Omaha.  
NH- State Street Disc: Portsmouth.  
NJ- 6th Avenue Electronics: East Brunswick, Jersey City, Livingston, Paramus, Springfield, West Long Branch, West Paterson, Woodbridge• Atlantic Stereo: Freehold• Camera and TV Stop: Medford• Monmouth Stereo: Shrewsbury.  
NM- Ultimate Electronics: Albuquerque.  
NV- Ultimate Electronics: Las Vegas.  
NY- Aarrington Audio: Poughkeepsie• Audio Breakthroughs: Manhasset• Audio Den: Lake Grove• Clark Music: Latham, Syracuse• Hi Way HiFi: Hightstown• JSG Audio Video: Binghamton• Listening Post: Pittsford• Palmer Audio: Park Avenue• Park Audio & Video: Albany, Dutchess, Putnam, Westchester• Stereo Barn: Wyomissing (Reading)• Stereo Shoppe: Selinsgrove, Williamsport• Stereoland: Natrona Heights• Studio One: Erie• Wee Bee Audio Video: Lancaster.  
RI- Stereo Discount Ctr.: Providence.  
SC- Audio Warehouse: Beaufort, Bluffton• Custom Theater & Audio: Murrells Inlet• Upstairs Audio: Columbia• Whole House Audio & Video: Aiken.  
SD- Audio King: Sioux Falls• Sound Pro: Rapid City• Sound Pro's: Mitchell.  
TN- College HiFi: Chattanooga• Hi-Fi Buys: Nashville• Modern Music: Memphis• Sound Room: Johnson City.  
TX- Audio: College Station• Bion's: San Antonio• Bunkley's Sound Systems: Abilene• Don's TV: Tyler• Home Theater Store: Arlington, Austin, Dallas, Friendswood, Houston, Southlake• Krystle Video: Dallas• Marvin Electronics: Ft. Worth• Matt's Home Theater: Waco• Metatec: Laredo• Mike's Music, Inc.: Odessa• Sound Perfection: Frisco• Soundquest: El Paso• Ultimate Electronics: Arlington, Austin, Cedar Hill, Cedar Park, Dallas, Fort Worth, Frisco, Hurst, Lewisville, Mesquite, Plano, Southlake.  
UT- Crazy Bob's: Cedar City, St. George• Next Audio Video: Logan• Ultimate Electronics: Layton, Murray, Orem, Salt Lake City.  
VA- Audio Connection: Virginia Beach• Audio Video by Design: Williamsburg• Audiotechnics: Roanoke• Home Media Stores: Richmond• Myer-Emco: Arlington, Fairfax, Falls Church, Sterling, Tyson's Corner.  
WI- Toner's Satellite: Milton.  
WA- Bunch-Finnegan TV: Kennewick• Magnolia A/V: Seattle & Suburbs, Silverdale, Tacoma• Pacific Sight & Sound: Wenatchee.  
WI- Audio Video Pros: Onalaska• Flanner's A/V: Milwaukee• Hi-Fi Heaven: Green Bay• Sound World: Wausau• Suess Electronics: Appleton• Team Electronics: Manitowoc.  
WV- Mack & Daves: Huntington.  
Puerto Rico- Precision Audio: San Juan.  
Canada- Adrenalin Audio: Edmonton, Alb. • Advance Electronics: Winnipeg• Audio Express: Saskatoon, SK• Audio Video Innovations: Dartmouth, N.S. • Bay Bloor Radio: Toronto• Canadian Sound: Brampton, Ont. • Environment Electronique: Westmount, Que. • K&W Audio: Calgary• Kebecson: Montreal• La Boutique Electronique: Montreal• Lipton's Elect.: Newmarket, Ont. • Stereo Plus: Ottawa, Ont. • StereoLand: Windsor, Ont. • The Sound Room: Vancouver, B.C.  
Mexico- Contact Productos Exóticos S.A.: Mexico City.

## TEST REPORT

### PLUS

Easy-to-use onscreen menu system.

TiVo program guide.

Fine recording quality on

both hard disk and DVD.

Network connectivity.

### MINUS

No editing features whatsoever.

Lengthy TiVo setup procedure.

recorder to the phone jack, direct it to dial up TiVo, and wait for it to download the program guide — an unusual procedure for home theater gear. But the process is nearly idiot-proof thanks to the guided setup menus and the plain-English manual.

Connecting the Humax to a home network can be easy or hard, depending on whether you use a wired or wireless hook-up and whether your computer can automatically recognize the DRT800 and perform the setup routine for you. Using a \$30 TiVo-recommended USB-to-Ethernet adapter, I had no problems getting our office network to recognize the Humax for music playback and photo viewing. But the recorder couldn't download program data from TiVo, possibly because of firewalls.

**OPERATION** The Humax works like every other TiVo-equipped DVD recorder I've tested: with blissful simplicity. TiVo is easily the best thought-out system for selecting and scheduling live TV programs to be recorded, and the DRT800 supplies all the familiar and formidable TiVo tools. You can search for specific types of programs to re-

cord (such as all karate matches) or obtain a Season Pass to automatically record all the episodes of, say, *Alias*, regardless of when and where they air. You also get a choice of four modes that trade off recording time on a blank DVD for improved picture quality: Basic (6 hours), Medium (4 hours), High (2 hours), and Best (1 hour).

Humax's extension of the TiVo menu system and remote control to DVD makes dubbing and even playing movie DVDs more enjoyable. Dubbing from the hard disk, especially, worked like a charm. Copying is done at high speed, with the processing time dependent on the quality of the hard-disk recording and whether you're using a blank DVD-R or DVD-RW.

Even if you use a DVD-RW, the recording will be a "finalized" disc in the widely compatible Video format, not the editable VR format. And for any shows originally recorded using TiVo's program guide, the DRT800 will automatically place an impressive menu system on your recorded DVD using TiVo graphics and including a short synopsis, the original air date, a program rating, and program categories. For example, a dub of *Nova* from PBS was labeled "Anthology, Science" and rated TV-G. This feature is likely to be very helpful if you amass a lot of keeper discs.

**BOTTOM LINE** Humax might have sacrificed some editing features in the DRT800, but it was a smart move since studies show that most people *never* edit their programs, either on hard disk or when they transfer them to DVD. If you're one of them, the DRT800's elegance and ease of use should make it pretty much irresistible. **S&W**

## in the lab

### DVD-VIDEO PERFORMANCE

#### Maximum-white level error

(composite).....0/0 IRE

Setup level (composite).....0 IRE

Onscreen horizontal resolution.....540 lines

#### Horizontal luminance response

(progressive-scan, re level at 2 MHz)

6/8/10 MHz.....+0.25/+0.25±0 dB

12/13.5 MHz.....-1.1/-2.5 dB

In-player letterboxing.....good

The Humax DRT800's performance was in line with what we've come to expect from well-designed DVD players and recorders. Resolution was fine for DVD movies, as was progressive-scan performance for material that originated as film, with no color smearing or jagged diagonals. As often happens, material from video sources — like concert videos — looked a bit rougher in progressive-scan playback, especially on diagonal edges.

In recording, I got essentially identical performance from the TiVo hard drive and DVDs dubbed from hard-disk programs. The

Humax, like every other DVD recorder I've tested, halves its horizontal resolution (from 540 lines to approximately 270 lines) in its two "slowest" recording modes (Medium and Basic). But unlike many other recorders, the Humax preserved *vertical* resolution even in Basic mode, with no jerkiness on moving objects. Of course, the tradeoff is the increased visibility of encoding artifacts like "mosquito" noise (a fuzzy "busyness" around the borders of objects). Humax recommends using the Basic mode only for recording talk shows.

—D.R.

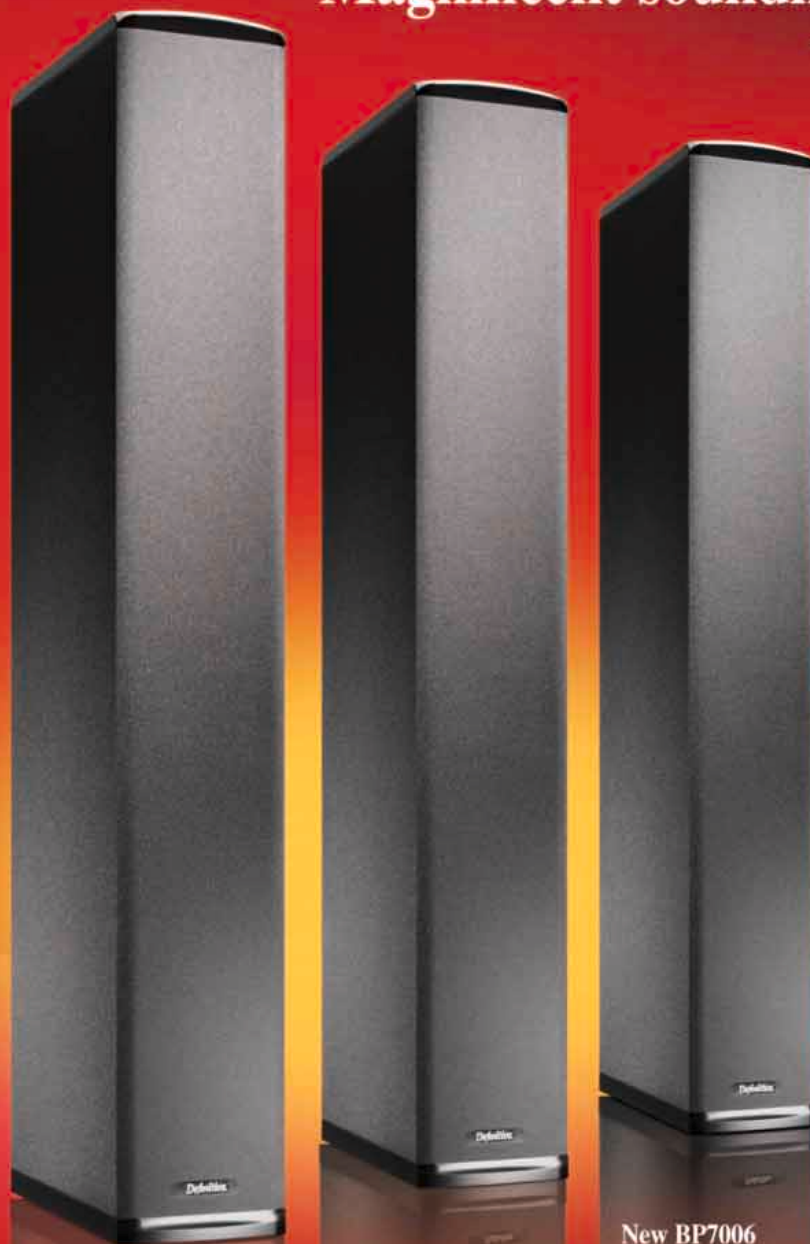


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## Canton

### LE 100 Series Home Theater Speaker System

**R**ecently, a friend pointed me to an interesting Web site called [youhavebadtasteinmusic.com](http://youhavebadtasteinmusic.com). Apparently, they send a strangely dressed guy with a megaphone out to the concerts of some popular bands to harangue attendees about their musical taste.

As far as I know, no such service exists for speaker buyers, who are frequently lured first to the best-known brands. Though these companies may produce great-sounding speakers for the money, a handful of superb if unheralded speaker manufacturers end up being overlooked by prospective buyers who fail to dig deeper.

Canton is one of those companies — the kind that's just not on the radar for average shoppers. Given that it shares its name

with a town in Ohio best known as home to the Pro Football Hall of Fame, you'd think it was an American company. But Canton is actually a German business, and a damn big one at that. As Germany's largest speaker manufacturer, it has produced highly regarded speakers since Nixon was in the White House — though it apparently waited for the Clinton era to start actively promoting in the U.S. In the interim, it built a state-of-the-art design and production facility and began manufacturing all of its own drivers and crossovers in house.

With its LE 100 line, Canton targets customers looking to step up in performance from basic entry-level speakers, but who may not be quite ready to take that heart-jolting leap into full-fledged audiophilia and the attendant high prices. Although the LE

line was launched nearly five years ago, the speakers I reviewed are all new models that incorporate several design and component upgrades. We put together a \$2,346 home theater system comprising a pair of LE 170 tower speakers for the front left/right, an LE 150 CM center speaker, a pair of LE 120 bookshelf speakers as surrounds, and an ASD 220 SC powered subwoofer. The system's total price puts it well above most entry-level sub/sat speaker systems, but still at the lower end of midprice home theater speaker systems that include front towers.

The Cantons are unusually attractive for a system at this price. All the speakers were finished in a woodlike cherry vinyl laminate (other finishes are available), and the compact cherry-and-graphite powered sub won a look of approval from my wife — always a good start. The speakers sport graphite lacquer faceplates and black metal grilles, which, thanks to UPS's rough handling, I found were removable (if one hadn't come loose in shipping, I wouldn't have had the guts to pry them off).

The LE 170 tower has two 7-inch graphite-reinforced polypropylene woofers flanking the tweeter plus a 2-inch front-firing port. While metal-dome tweeters are sometimes seen in speakers in this price range, Canton employs a 1-inch silk dome. The company maintains that fabric tweeters can sound better than metal ones in this price range. Build quality of the MDF cabinets was exemplary, much better than average.

**SETUP** I connected the speakers to my everyday home theater rather than my high-end music system, mating them with a \$1,200 Denon receiver and a Pioneer universal DVD/SACD player. They were arranged in standard 5.1-channel configuration, with the surround speakers located to the sides and slightly behind my listening position. The tower speakers were about 2 feet out from the front wall flanking my 55-inch HDTV, facing directly forward per Canton's recommendation, and the center speaker rested on the TV.

**MUSIC PERFORMANCE** It quickly became clear that the Cantons' performance com-





plemented their sharp good looks. The LE 170s revealed themselves to be impressively transparent and neutral for speakers at their price, especially compared with my usual front L/R home theater speakers, a pair of similar-size Energy XL26s. The Energys' slightly warm but pleasing coloration in the upper midrange and low treble made the Cantons seem a bit cold at first, but I soon came to appreciate their straightforward presentation of music. For example, on Patty Griffin's live CD/DVD combination, *A Kiss in Time*, the LE 170s accurately revealed the brassiness of Griffin's voice and acoustic guitar without ever devolving into brittleness or unwelcome brightness. The song "Christina" — a challenging track with very little bass and fairly hot vocals — never became strident even at over-the-top volumes. And the sound of the vocals and acoustic guitar tailed off in a lifelike fashion.

The DTS 5.1/DVD-Audio version of Porcupine Tree's *In Absentia*, a highly produced and layered progressive-rock album, called upon the Canton system's full musical surround capabilities. Harmony vocals and keyboards are frequently sent to the surround channels, where the smaller LE 120s



**When the Witch King's army attacked Minas Tirith in *The Return of the King*, the Cantons conveyed every impact — from thunderous battering rams to sleets of arrows.**

ably conveyed the lush textures of the recording with far more precision and dynamics than my usual dipole surrounds. And the Cantons served up the heavy electric guitars of the opening track, "Blackest Eyes," in all their powerful, overdriven glory. Similarly, the system delivered the punch and snap of the kick and snare drums. The 9-inch ASD 220 SC subwoofer offered a tightly focused bottom end, though it lacked the oomph and deeper presence of my more powerful 12-inch reference sub.

"Our Prayer/Gee," the lush opening *a cappella* track of Brian Wilson's *SMiLE*, further underscored what I liked about the Cantons: their overall transparency, smooth and dynamic midrange and upper bass, and tight bass. I'm used to a little more airiness and slightly more accurate imaging from my reference system, but the Cantons' mid-range accuracy was seductive.

**MOVIE PERFORMANCE** Blue Man Group's

## fast facts

	LE 170 (left/right front)	LE 150 CM (center)	LE 120 (surround)	ASD 220 SC (subwoofer)
<b>TWEETER</b>	1-inch silk dome	1-inch silk dome	1-inch silk dome	—
<b>MIDRANGE</b>	7-inch cone	—	—	—
<b>WOOFER</b>	7-inch cone	two 6-inch cones	6-inch cone	9-inch cone
<b>ENCLOSURE</b>	ported	sealed	ported	ported
<b>POWER</b>	—	—	—	70 watts
<b>INPUTS, OUTPUTS, AND CONTROLS</b>	screw-clamp terminals with banana-plug connectors	screw-clamp terminals with banana-plug connectors	screw-clamp terminals with banana-plug connectors	speaker- and line-level inputs; level and crossover knobs; on/standby/off and 0/180° polarity switches
<b>DIMENSIONS (WxHxD) and WEIGHT</b>	8½ x 35½ x 11½ inches; 33 pounds	17½ x 6¾ x 12¾ inches; 14½ pounds	7 x 11½ x 10¾ inches; 10 pounds	10 x 15 x 15¾ inches; 27½ pounds
<b>FINISH</b>	cherry/graphite, beech/silver, black ash/black, or silver matte/silver with black, graphite, or silver grille	cherry/graphite, beech/silver, black ash/black, or silver matte/silver with black, graphite, or silver grille	cherry/graphite, beech/silver, black ash/black, or silver matte/silver with black, graphite, or silver grille	beech or silver with silver lacquer top; cherry with graphite lacquer top
<b>PRICE</b>	\$2,346	\$899 a pair	\$449	\$449 a pair

**MANUFACTURER** Canton, cantonusa.com, 612-706-9250

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— Wes Phillips, *onhometheater* on the AVM 30

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# TEST REPORT



**PLUS**  
Musical transparency.  
Balanced, dynamic sound.  
Great looks.  
Affordable price.

**MINUS**  
Slightly subdued high end.  
Limited deep bass.

*Complex Live DVD* contains everything from a full-on rock band to the blue-hued men pounding on PVC pipes and tinkling a 1981 Casio keyboard. The Cantons delivered the group's sonic eccentricity with aplomb. The DVD's B-side offered a taste of what is now included on *The Complex*, a multichannel DTS/DVD-Audio disc. On "Sing Along," guest vocalist Dave Matthews came through with his well-known huskiness intact, and the immersive if odd atmosphere of the remixed surround tracks was admirably conveyed.

The Canton system was also up to snuff delivering the terrific sound effects and swashbuckling score of *Pirates of the Caribbean: The Curse of the Black Pearl*. The center speaker made even Johnny Depp's oft-slurred dialogue perfectly intelligible, although the direct-radiating surround

speakers couldn't match my dipoles' more enveloping sound field. Still, the Cantons' articulation and focused dynamic capabilities were evident when the gentle ship creaks and rigging sounds gave way to whizzing musket shots and the deep resonance of cannon blasts.

The tour de force DTS soundtrack of *The Lord of the Rings: The Return of the King*, which contains some startling directional effects, also highlighted the Cantons' prowess with movies. Despite the thunderous concussions when the Orc army batters open the gates of Minas Tirith, you could still distinctly hear the more subtle effects, such as the archers' arrows raining down on the attackers. I'd have liked a slightly wider soundstage up front, a more pronounced and defined treble, and more authority from the small subwoofer. But the Cantons beautifully presented Howard Shore's expansive musical score.

**BOTTOM LINE** I was favorably impressed with the Canton speakers' build and performance. Movie lovers may yearn for dipole surrounds, a bigger sub, and a little more shimmer on the highs. But that's a tradeoff. In a system where music playback — both stereo and multichannel — is the top job, the overall balance, transparency, and dynamics of the good-looking Cantons should earn them an audition.

S&V

## BOLTZ COMPONENT STANDS

Our solid steel Component Stands are modular, expandable, and built to allow air flow to cool those hot components. Select a pre-configured unit (like the CS4 shown above) or, start with a base & build your own from 7, 10, & 14" high shelf packages. Add optional casters or sound spikes to finish it off properly.



### Sensitivity (SPL at 1 meter)

front left/right	88 dB
center	88 dB
surround	87 dB

### Impedance (minimum/nominal)

front left/right	3.0/5 ohms
center	3.5/6 ohms
surround	3.4/6 ohms

### Bass limits (lowest frequency and maximum SPL with limit of 10% distortion)

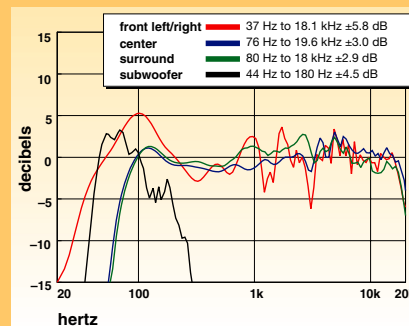
front left/right	40 Hz at 89 dB
center	80 Hz at 91 dB
surround	80 Hz at 91 dB
subwoofer	25 Hz at 69 dB SPL
89 dB average SPL from 25 to 62 Hz	
103.8 dB maximum SPL at 62 Hz	
bandwidth uniformity 86%	

All graph curves are weighted to reflect how sound arrives at a listener's ears with normal speaker placement. The LE 170 front left/right tower had a buildup of energy at 100 Hz, a shallow sag immediately above that, and a fair degree of roughness between 800 Hz and 4 kHz. The horizontal LE 150 CM center speaker had excellent dynamic capability and flat on-axis response above 80 Hz but limited low-frequency extension. The LE 120 surround shared the center speaker's on-axis spectral balance, with tightly controlled directivity.

The ASD 220 SC subwoofer's bass limits were measured with it set to maximum bandwidth and placed in the optimal corner of a 7,500-cubic-foot room. In a smaller room users can expect 2 to 3 Hz deeper extension and up to 3 dB higher sound-pressure level (SPL).

It had healthy output at 62 Hz, but dynamic capability fell rapidly (by 21 dB per octave) below that.

— Tom Nounsaine



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## ReQuest

### VideoReQuest Digital Video Controller

**T**he problem with DVDs is they're just too damn cool. With their pristine pictures, multichannel digital sound, and cheap prices, what's not to love? Storing and managing your collection, however, can be a problem. Though I don't consider myself a huge collector, I have amassed close to 100 DVD movies. My current storage solution is a trunk my wife picked up at a yard sale for \$3. When I want to watch a movie, I rummage through the trunk — totally *uncool*, plus inconvenient and low-tech.

A year ago, I had the guilty pleasure of living with the Kaleidescape Movie Server (the February/March 2004 review is available on the **S&V** Web site). The Kaleidescape remains a breakthrough product that

stores a large library of DVD movies on a hard drive, providing nearly instant access through a well-designed user interface. Having it on loan was what I imagined dating a supermodel would be like: an exhilarating experience, though deep down you know it just ain't gonna last.

Returning the Kaleidescape left a technological hole in my life. Sure, I could fork over the \$27,000 asking price, but I'd be setting myself up for a divorce. Fortunately, I've found a viable compromise: the VideoReQuest digital video controller. Hook this up to one or more Sony 400-disc DVD changers (\$700 each), and you'll have a movie jukebox that's both easy and fun to use. (The Sony DVP-CX777ES is the only model currently available that supports an RS-232 serial connection, which is neces-

#### fast facts

**DIMENSIONS** (WxHxD) 17 x 3½ x 14½ inches  
**PRICE** \$2,500  
**MANUFACTURER** ReQuest, request.com, 800-236-2812

#### key features

- Can manage DVDs in a 400-disc Sony changer (or up to 1,600 DVDs in four changers with additional hardware)
- Automatically retrieves disc data from Web
- Sorts collection by title, genre, director, actor, and rating
- **inputs/outputs** composite-, component-, and S-video outputs with stereo audio; 2 USB inputs; IR and PS/2 (keyboard) inputs; RJ-45 (Ethernet) and FireWire (i.Link) input/output; 5 RS-232 ports; VGA output

# USER'S REPORT

## PLUS

Puts large DVD library at your fingertips.  
Remarkably simple basic setup.  
Intuitive interface.

## MINUS

Spotty disc cataloging.  
No automatic cover display.

sary to transfer control data and the table of contents for each disc.)

**SETUP** The first thing I noticed when unpacking the VideoReQuest was its weight, nearly 16 pounds. It's a very serious piece of electronics, with a thick, brushed-aluminum faceplate.

Installation for a single-changer system is remarkably straightforward. The changer connects to your system as usual, with video and audio running to your A/V receiver or directly to the TV. You then connect one end of the supplied RS-232 cable to the changer and the other to one of the controller's four serial ports.

The VideoReQuest requires two more connections: an active Internet link through the supplied RJ-45 Ethernet cable and a connection to your TV so you can see the onscreen menus.

The box includes all manner of outputs, though not all can be active simultaneously. Your choices are composite and S-video, composite and interlaced component video (480i), progressive-scan component video (720p), or VGA. Since the VideoReQuest does no video switching, you might have to switch inputs on your TV or A/V receiver to view the ReQuest's menus and then switch again to go back to watching DVDs.

One VideoReQuest can control as many as four changers at once, but you'll need third-party hardware in the form of a home automation system or a standalone video switcher that accepts RS-232 control signals. ReQuest recommends any of three switchers from Key Digital, Zektor, and Sima, priced from \$500 to \$700.

**OPERATION** To accommodate 400 DVDs, the slot spacing on the Sony changer is very

tight, requiring near-surgical precision to load or remove discs. I loaded it with a variety of new and old discs to test the VideoReQuest's recognition abilities, including some concert DVDs and multidisc sets.

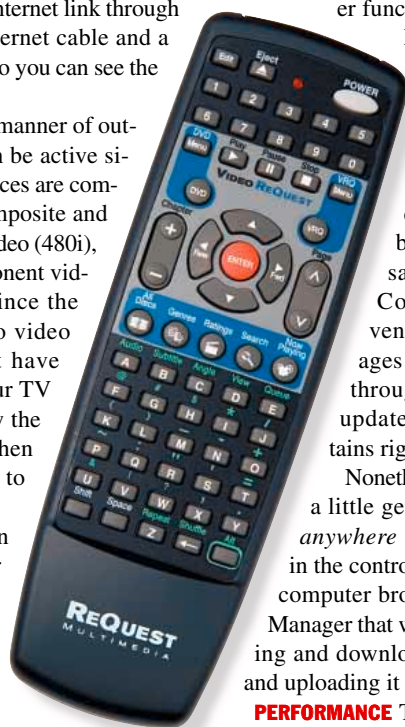
Once the changer door closes, the carousel takes a spin around to check which slots are populated. The changer reads the discs' TOCs and sends the information to the VideoReQuest, which then goes online to the AllMovieGuide.com database and downloads things like title, director, actors, rating, genre, and a synopsis of the action. A second display page for each movie lists individual chapters. Lookup takes about 40 seconds per disc and requires zero effort on your part. Information is automatically collected until all DVDs in the changer are cataloged.

The real fun begins once you start browsing. Finding a disc in my collection was never so easy. In the mood for a comedy? Search by genre. Want to find all movies starring Jack Black? Sort by actor. You can also sort by directors or ratings, or just scroll through your movies. After a disc is selected through the VideoReQuest, the changer functions just like a regular DVD player.

I was a little disappointed that the controller didn't load any cover art with the movies. Instead, every disc displayed a large, black rectangle that said, "Video ReQuest." Company founder Steven Vasquez says the images will become available through automatic software updates as the company obtains rights.

Nonetheless, I stumbled across a little gem that isn't mentioned *anywhere* in the manual. Typing in the controller's IP address on my computer brought up a DVD Image Manager that walked me through finding and downloading cover art online and uploading it to the VideoReQuest.

**PERFORMANCE** The VideoReQuest got a perfect score retrieving movies, always pulling the correct disc. Time elapsed from pressing the play button to getting a movie onscreen was about 25 seconds, and the disc often jumped *right* to the film, bypassing FBI warning, previews, and menu screens — a nice touch.



There were a few hiccups, though. For one, a pair of fairly loud fans run all the time. This never bothered me during movie watching, but if you're sensitive to noise, check it out before buying.

Information was frequently missing from the All Movie Guide downloads. Blockbusters like *Finding Nemo* and *The Shawshank Redemption* returned no information whatsoever on director, cast, or plot. And many DVDs returned spotty information on chapters, or none at all. This was particularly annoying on concert discs where I wanted to select a specific song. Multiple-disc sets featured their own information gremlins. The *Star Wars Trilogy*, for instance, returned no information on the films, and all three movie discs were identified as "Star Wars Trilogy [4 Disc] Disc 1." ReQuest assured us that all these information problems had been addressed in a software update scheduled to be released shortly (it should be incorporated in any products purchased after this review appears).

Early in my evaluation I had a couple of problems that inexplicably cleared up while the VideoReQuest was shut down during a two-week vacation. First, I encountered repeated lock-ups while trying to update disc information. Then I had a problem getting the VideoReQuest to find discs again after they'd been removed from the changer and later reinserted. After I returned from vacation and rebooted the system, both problems failed to recur during dozens of hours of use. I can't say whether the fix resulted from an automatic software update or whether the hard power cycling managed to clear whatever had been hanging it up before.

**BOTTOM LINE** If your shelf space is being overrun by shiny plastic discs and you spend more time *looking* for movies than actually watching them, VideoReQuest is an attractive solution. While the Kaleidescape has it beat in many areas — lightning-fast access time, the ability to stream multiple movies at once, built-in parental controls, and so forth — it costs more than ten times as much. For those with the means, Kaleidescape is the way to go. For the other 99% of us, VideoReQuest has a lot to offer.

SAW



MICHAEL ANTONOFF

# One Channel Serves All

## Akimbo Player and Broadband Service

Conventional TV broadcasting, whether over the air or by cable or satellite, sends out multiple channels all at once, and it's up to the viewer to tune in a particular one at a set time to watch or record a show. Akimbo is promising the next step: speedy interactive delivery of video directly from the Internet to a hard drive connected to your TV. If all goes as promised, this sleek silver and black box could bring into question the very need for conventional broadcasting.

While cable companies are already offering services that let us start and pause programs at will, selections are limited compared with what you can find in a video store. By early 2005, Akimbo was offering more than 500 programs, ranging from 1-minute trailers to feature-length films. Most can be downloaded "free" as part of a \$10 basic monthly subscription. Some movies cost as much as \$3.99 to download and are automatically deleted after 7 or 30 days whether you watch them or not.

The Akimbo service is organized into channels such as Turner Classic

Movies, the BBC, the Luxury Channel, Green Cine, and Cartoon Network's Adult Swim. Programs are also sorted into categories like Music, Movies, Kids, and Foreign Language. If you choose certain premium subscriptions, Akimbo will automatically download selected programs for you on a daily, weekly, or monthly basis. Premium subscriptions will include Latelelatina (Spanish-language arts, culture, and news for \$1.99 a month), GolfSpan (golf instructions for \$2.99 a month), and Studio 4 Networks (educational programs for very young children, \$1.99 a month).

**SETUP AND BASIC OPERATION** The Akimbo player comes with a composite-video/stereo cable — you can use your own S-video and optical digital audio cables — and a remote control that can stand upright. I connected my own Ethernet cable between the player and my home network router, adjacent to my TV. If your router is in another room and you have a wireless network, you can buy a Wi-Fi adapter such as the Linksys Wireless-B (\$70 from Akimbo).

Powering up the player for the first time, I was prompted to go to any Internet-connected computer to activate the service. This is the only time you need a computer to use Akimbo. Back at



PHOTOS BY TONY CORROZZA





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## THE CUTTING EDGE

the TV, the player's Home screen offered me a list of programs available from the service (Guide). I chose the iFilm channel, which listed 46 films, including trailers, ranging from 1 to 14 minutes in length.

You won't find a power button on the Akimbo player or remote because the player stays on. It polls the service every 5 minutes to check for new program listings, downloading instructions from a computer, or — if you have a premium subscription — new content that the service is ready to push your way. The Akimbo handset offers minimal controls. You can jump back 9 seconds and fast forward or reverse at one speed. An Info button pauses the video image and overlays a short description.

**PERFORMANCE** Since you can watch a program only after it's fully downloaded, Internet congestion can't degrade playback quality. In fact, it's impossible to tell that a program from the Akimbo player was delivered via a broadband connection rather than a conventional cable feed or over the air. The picture and sound quality are as good as anything you'd expect on an analog TV.

The major difference from conventional broadcasting is that you can't simply tune to an Akimbo channel to start watching a show. It must be downloaded first, so unless you have a premium subscription doing that for you automatically, you'll need to queue up your selections ahead of time.

According to Akimbo, all programs are encoded as Windows Media Video (WMV) files with an average bit rate of 1.1 megabits per second, though some content may



## PLUS

Easy to set up and use.

Convenient pause and replay.

Quality as good as standard TV.

## MINUS

Limited programming.

No slow-motion or multiple scan speeds.

Can't watch until download is done.

be as low as 700 kilobits per second. Using a cable modem in my home that delivers about 1.4 megabits per second, I found that downloading a program from the Akimbo service was always faster than actually playing it. For example, it took 40 minutes to transfer *Sore Losers* ("Hot-rod juvenile delinquents and Amazons from outer space come to Memphis to kill hippies"); the movie was 81 minutes.

Navigating through a movie isn't as flexible as you'd expect from using any other hard-drive recorder or a DVD player. Also, fast-forward and reverse scan consists of rapid-fire stills sampled at 5-second intervals or so. Lacking smooth scanning, multiple scan speeds, slow motion, quick skip, scene access, or elapsed-time access, most users will feel control-deprived.

**BOTTOM LINE** The Akimbo system has great potential if you believe that on-demand viewing is the future of TV. It's far simpler to operate than a computer and, given its home theater perch, much more comfortable to use. As download speeds continue to increase, transfer time will become less of an issue. The real question, though, is whether there's enough compelling content on the Akimbo service to make it worth your while.

Today, most people will probably say no. Still, I did download an action film, *Silver Hawk* starring Michelle Yeoh, that wasn't out on DVD yet. And I did find a bunch of entertaining shorts to watch. But having set up the system on a Friday, by Sunday night I'd already seen everything I might enjoy.

Akimbo may appeal to some foreign-language or golf-playing audiences. But until the service signs up more mainstream content providers (which it has started to do), offers open access to the multitude of videos available on the Internet, or becomes accessible from a general-purpose TV recorder like a TiVo, Akimbo is more promise than delivery.

S&V

## fast facts

**DIMENSIONS** (WxHxD) 17 x 3 x 11 inches

**PRICE** \$230 for player, including 3 months of service; \$10 a month, or \$199 for lifetime service, for "free for all" programs; pay programs and premium subscriptions extra

**MANUFACTURER** Akimbo Systems, [akimbo.com](http://akimbo.com), 650-292-3330

## key features

- Requires broadband (cable modem or DSL) Internet connection
- Select programs from TV or remote computer
- Player stores 200 hours of video on 80-gigabyte hard drive
- **outputs** composite and S-video; stereo analog and optical digital audio; Ethernet and 2 USB ports



# Wireless Surround Made Easy

## Kenwood RFU-6100 Adapter

The biggest challenge facing most people installing a surround system (after approval from the spouse!) is the wiring. Getting wire from your component stack to the surround speakers in the back of the room can be especially challenging.

As a custom installer, I get asked repeatedly if there's a wireless speaker that will solve the problem. The sound quality of most wireless speaker systems is better suited to background listening, and they really aren't designed for home theater. But the Kenwood RFU-6100 900-MHz transmitter/receiver combo is designed for home theater and lets you use your own speakers.

**SETUP AND BASIC OPERATION** Installation is about as easy as it gets: you connect the transmitter to your A/V receiver and the even smaller RFU-6100 receiver to your surround speakers. The transmitter trails a pair of nearly 4-foot speaker wires that connect to your A/V receiver's left and right surround-channel outputs. (It's too bad the cabling can't be upgraded, because it's very thin — 20-gauge.) The transmitter is powered by a supplied 15-volt DC power supply that plugs into any wall outlet. The receiver, which incorporates a 50-watt-per-channel stereo amplifier to drive the surround speakers, plugs directly into an AC outlet. It has spring-clip speaker terminals that accept bare wire as thick as 14-gauge.

The manual suggests using an A/V receiver rated around 100 watts per channel, but not exceeding 120 watts, so I used a Denon AVR-3805 rated at 110 W x 7. It lets you switch between two separate pairs of left/right surround speakers, so I connected the Surround A terminals directly to the speakers and the B terminals to the Kenwood transmitter. This allowed me to adjust and match levels and quickly switch between the receiver and the Kenwood. Balancing the speakers — two pair of B&W DM601s — on both amps proved that the receiver was the obvious power champ. The Denon-powered

channels had to be set 2.5 dB lower than the Kenwood's.

**PERFORMANCE** While Kenwood specs the transmitter range as 100 feet, real-world results will vary, and as with any wireless device, placement is crucial. I first connected the system at the showroom where I work, with the units about 20 feet apart, and had no real issues. At my home, however, with about a 30-foot spread, I had to deal with quite a bit of interference, moving the transmitter and receiver until the loud pops and static disappeared. Unfortunately, interference wasn't the only noise I heard. Driven by the receiver without a program signal, the B&W speakers were virtually silent, but under the same conditions the Kenwood produced a clear hiss from the tweeter and a hollow ear-to-seashell sound from the woofer with my ear up close to the drivers. The noise was inaudible from the listening position and would never distract from actual listening, but it suggests the amplifier's or transmitter's overall quality.

For my first listening test, I popped in DTS's DVD-Audio disc of the Blue Man Group's *The Complex*. Nearly every track offers a full-out audio assault, and in addition to the aggressive surround mix, tons of percussive instruments are mixed into the discrete surround channels, giving them a real workout. The Kenwood accurately conveyed the swirling surround effects.

Next, I cued up DTS's *Demo Disc #7* and enjoyed some movie clips. Again, the Kenwood system kept up — the sirens and screeching tires of the car chase from *The Bourne Identity* blared from all around me,

perfectly following the action onscreen. It didn't take much listening, though, to confirm that the receiver's amplifiers far outperformed the Kenwood's. Sound was fuller and more detailed, making the Blue Man Group's instruments sound more "live." The differences were most noticeable in the low end, where the bass was tighter and punch-

### the short form

**DIMENSIONS** (WxHxD): **transmitter**, 7¾ x 2½ x 7¾ inches; **receiver**, 4⅞ x 1½ x 5 inches

**PRICE** \$300

**MANUFACTURER** Kenwood, kenwoodusa.com, 800-536-9663

#### KEY FEATURES

- wirelessly sends surround-channel signals from one side of the room to the other
- 900-MHz transmission frequency
- 50-watt-per-channel stereo amp
- **inputs/outputs** hard-wired speaker input cables on transmitter; bare-wire speaker terminals on receiver

#### PLUS

- Easy setup
- Allows surround speakers to be added to any setup without long wire runs

#### MINUS

- Location-sensitive reception
- Still need some wiring at each end for power and speaker connections

ier. But given that the receiver was set up to route deep bass to my subwoofer and that many movies use the surround channels mainly for ambient sounds like wind, rain, and crowd noise, the Kenwood's limitations didn't seriously detract from my enjoyment.

**BOTTOM LINE** If you *can* run wire from your receiver or amplifier to your surround speakers, do so. But in situations that don't demand the very highest performance,

Kenwood's RFU-6100 system is an excellent solution to the hassle of getting wire to surround speakers. If you've been thinking about upgrading your 5.1-channel system by adding back surrounds but haven't found a practical way to run cable, this could be an easy and effective approach. **SAV**

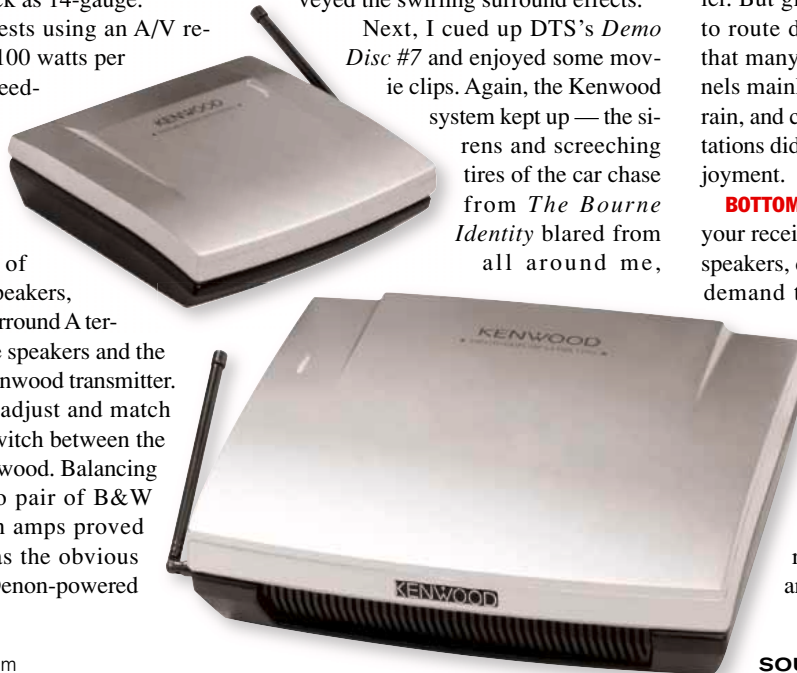


PHOTO BY TONY CORDOZA





# OBJECT OF DESIRE

**Is Sony's 70-inch, \$13,000 Qualia 006  
the world's best HDTV?**

by David Katzmaier

**N**ew TV technologies crop up almost as often as new reality-TV shows, but among all the *Celebrity Fear Factors*, *Obnoxious Bosses*, and *Strange Loves*, there's only one *American Idol* — the kind of show that can save a network and bury the competition. Fox could air it every night and still have a large audience, but that would kill the anticipation and turn the screaming-teen joy into a commodity.

Is SXRD (Silicon Crystal Reflective Display) Sony's *American Idol*? The Japanese giant is positioning its newest HDTV technology as the best yet. And so far, the SXRD logo appears only on a \$30,000 front projector and this \$13,000 rear-projection TV (RPTV), the 70-inch Qualia 006.

SXRD is a variant of LCoS (liquid crystal on silicon) technology that numerous manufacturers — most recently Intel — have abandoned. The problem has been “poor yield”: too many of the chips are flawed. Sony claims not only to have conquered this with SXRD but to have added a number of enhancements as well (for more on the technology, see “SXRD: Behind the Screen,” page 66). If it has indeed solved the yield problem, Sony should be able to begin producing chips cheaply enough to get the prices of SXRD sets in line with those using DLP (Digital Light Processing) and other technologies.

But until then, SXRD will command a serious premium. To put it in perspective, you can buy Sony's 70-

inch KDF-70XBR950, an LCD rear-projection TV, for around \$5,000. Whether SXRD is worth the price difference isn't the point. Shoppers in this bracket want something special, and the Qualia 006 definitely qualifies.

This much was obvious from the moment the 006 showed up at **S&V**'s test studio accompanied by a small entourage of Sony technical experts, who were there to brief us on the technology and bless the picture. Out of the box, the Qualia looked impressive. Every bit of the set's native resolution of 1,920 x 1,080 pixels — well above the minimum for high-definition — seemed to be evident in the picture. But lots of displays fall apart when you start running test patterns and spend time looking critically at DVDs and high-def material. Could the Qualia 006 possibly live up to its price tag and the inevitable Sony hype? In short: could this really be the world's best standalone HDTV?

## **Features Gone Wild**

The massive 006 is one imposing TV, but it's almost all picture. The 70-inch screen is surrounded by a black frame — which helps make the picture pop — and is covered by a nonremovable, half-inch-thick pane of clear acrylic. While this tends to cause more room glare than you'll see on an RPTV without protective glass, Sony's engineers explained that it's an integral part of the display and serves to protect the delicate lenticular screen.

Most such screens are designed to increase the

PHOTOS BY ANNE THORNTON

horizontal viewing angle — or how far you can move to either side and still get a bright, clear image. But Sony's screen also increases the vertical viewing angle, so you don't have to be sitting down to get a good picture. In fact, the Qualia's screen was both brighter and more uniform than those on other mi-

crodisplays I've seen whether I looked at it standing up or lying on the floor.

You get some serious user features for your 13 grand. Unfortunately, a backlit remote isn't one of them. The slim, metal wand that *is* included is a holdover from past high-end Sony TVs, and I'm not its

biggest fan. Its high points include good looks, a large, friendly cursor control, and an economical button selection, but the similarity of the keys can make it hard to use.

I have no complaints about Sony's on-screen menu system. Despite a remarkable number of options, it also provides an un-

## SXRD: BEHIND THE SCREEN

The SXRD chip's architecture isn't radically different from other LCoS devices we've seen. The two biggest achievements are Sony's refinements of that design and advances said to allow SXRD chips to be manufactured in quantity.

To date, TV manufacturers have made few attempts at consumer displays capable of full HDTV resolution of 1,920 x 1,080 pixels. That's about to change — several companies announced models at this year's Consumer Electronics Show (see "CES Showstoppers" in April, now on the *S&V* Web site). Among the three prominent microdisplay technologies, Texas Instruments' DLP has shown promise but has been limited to 1,280 x 720 pixels — about 33% less detail than the highest-quality HDTV signal. Only recently has TI released a chip for consumer TVs capable of full HD resolution, and we expect to evaluate HDTVs with that chip in future issues.

Between the remaining technologies, LCD and LCoS are both based on liquid crystals and have been used for 1,920 x 1,080 chips or panels. LCDs use backlighting that shines through transparent pixels to make the picture, but they require dark areas *between* the pixels, usually to hide each pixel's electrical connections. The wasted space requires a larger chip to achieve any given resolution compared with a typical DLP or LCoS device, and this in turn contributes to the "screen door" effect of a visible grid structure when the image is viewed close up. The required thickness of the liquid-crystal layer in a typical LCD TV also affects response time, creating the potential for blurring or for trails on fast-moving objects when the display can't keep up with changes in the signal.

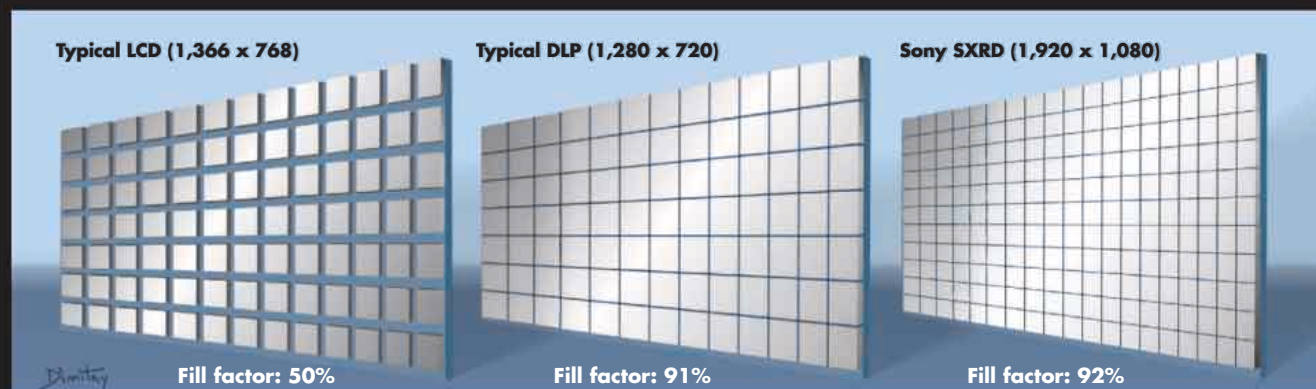
By comparison, LCoS panels are reflective. Light passes through a liquid-crystal layer sandwiched between a pair of alignment layers before hitting a "backplane" that bounces it back through the same trio of layers and on toward the

screen. Since no backlighting is required, electrical connections are hidden behind the backplane, and the pixels can be placed closer together. In fact, Sony claims to have reduced the dead space between pixels on its SXRD chips to 0.35 micrometer — one-tenth of the space on its own LCD displays. The pitch, or distance from the middle of one pixel to that of the next, measures just 9 micrometers (about 1/8 the width of a human hair).

Each SXRD chip has 1,920 x 1,080 pixels, for full 1080p resolution — something few TVs can claim. The chips themselves are tiny — about 3/4 of an inch across — and according to Sony the pixels are packed tighter than on any microdisplay to date. It's this high density, not just the number of pixels, that's unique and contributes to a more filmlike display.

Also, since the light in an LCoS chip passes through the same layers *twice*, the thickness of the liquid-crystal layer can be reduced compared with an LCD device. This allows faster response time and less light loss, which improves contrast. Sony attributes SXRD's quick response time — claimed to be 5 milliseconds, much faster than other liquid-crystal technology — to a very thin liquid-crystal layer of just 2 micrometers. This is said to be even thinner than a traditional LCoS chip. The inherent boost in contrast is further enhanced by Sony's use of Vertically Aligned, or untwisted, crystals, which naturally display black and therefore make it easier to achieve deeper blacks onscreen. Most LCD displays use Twisted Nematic crystals, which begin in a twisted state and naturally display white.

Sony declined to explain the details behind its proprietary processes for getting the crystals so thin or for overcoming the manufacturing difficulties that plagued previous LCoS designs. But the result, the best rear-projection microdisplay image I've seen yet, is no secret. — D.K.



High pixel density — a measure of how many pixels can be packed into a given space — is the hallmark of a great display technology. This diagram shows the relative pixel density and inter-pixel gaps of typical LCD, DLP, and SXRD chips shown at

equal magnification. The "fill factor" refers to the percentage of total panel size used for reproducing the image. LCD panels sacrifice the most image for a given chip size because electrical leads are hidden between the pixels. (Source: Sony)



common degree of comfort. For instance, when you highlight an option, a brief text explanation appears. There is also an extensive array of picture adjustments, some of which are described below.

The Qualia's hefty 100-watt audio system uses a pair of attractive removable column speakers on either side of the screen and a built-in powered subwoofer. Still, it lacked sonic impact for such a large TV. You'll want to use a bona fide surround sound system for watching movies.

## Tweak City

The Qualia 006 takes about 45 seconds to reach full brightness every time you turn it on. There are three picture presets, including an excellent Pro mode that comes amazingly close to ideal image quality. I can't begin to cover all of the picture tweaks, but a few are worth mentioning. Setting Color Space to Wide expands the image's color gamut, producing deeper hues. Cinema Black Pro controls a mechanical iris, and when this was on, it increased the depth of blacks, but at the expense of some brightness.

On the other hand, in my quest for image purity, I left a few controls turned off. These included Clear White, which gave whites a blue tinge; Detail Enhancer, which added artificial edge enhancement; Black Corrector, which limited detail in dark areas once brightness was calibrated; and Color Corrector, which threw off the color balance.

Setting up my inputs was a breeze, especially since the 006 has two HDMI inputs (I used one for our satellite receiver and one for D-VHS) and I could program the setup

## FAST FACTS

**DIMENSIONS** (WxHxD) 75 x 47 x 24¾ inches  
**WEIGHT** 273 pounds  
**PRICE** \$13,000; optional SU-SX10 stand, \$1,500  
**MANUFACTURER** Sony, [sony.com/qualia](http://sony.com/qualia), 877-782-5423

## KEY FEATURES

- 70-inch (diagonal) 16:9 screen
- Native 1,920 x 1,080-pixel resolution
- SXRD light engine with 3-chip design
- User-replaceable 200-watt bulb (\$300)
- **Front inputs** composite/S-video with stereo audio; i.Link (FireWire); Memory Stick/Duo/PRO Duo
- **Rear inputs** 2 HDMI and 2 i.Link (FireWire); 2 wideband component video and 2 composite/S-video, all with stereo audio; 2 RF antenna/cable
- **Rear outputs** fixed/variable stereo audio; optical digital audio



The rich colors and highly detailed action scenes in the *Spider-Man 2* DVD revealed the Qualia 006's vibrant image and fast response time.

menu to skip unused jacks. The 006's digital tuner grabbed more stations than our Dish 921 satellite receiver, and the TV is also equipped with a CableCARD slot for direct connection of digital cable. Cycling through the various aspect ratio (screen-shape) selections, I really appreciated the ability to switch display modes with high-def material, but I'd have liked to see a 4:3 choice for viewing upconverted HDTV.

## The Big View

I figured it would be appropriate to embrace as much of the Sony Entertainment universe as I could, so I evaluated the Qualia 006 using the *Spider-Man 2* DVD from Sony-owned Columbia TriStar. This excellent DVD looked outstanding on the big screen.

One of the first things I noticed during calibration (see "In the Lab," page 68, for more), and again during the movie, was the 006's vibrant colors. The set uses three SXRD chips for the red, green, and blue primary colors, thus avoiding distortions that can occur with a single-chip microdisplay that uses a color wheel to separate the primary colors. As noted earlier, selecting the Wide Color Space option broadens the image's color gamut, especially in reds, which Sony says results in deeper colors and better overall saturation. I saw nothing in *Spider-Man 2* to make me doubt that claim.

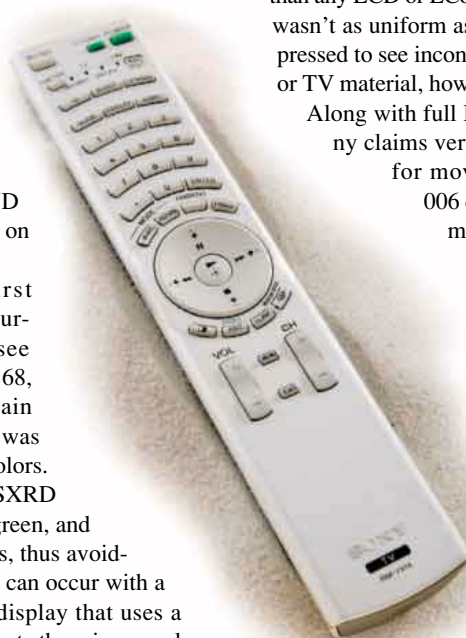
Early in the movie, there's a shot looking down on Columbia University's quad, and the green of the grass appeared lush yet perfectly natural in the sun. Tight closeups of

Mary Jane Watson (Kirsten Dunst) not only accurately rendered her shock of orange hair but also revealed her delicate pinkish skin tones. While color depth was greater, the colors never seemed cartoonish — aside from Spidey's costume, of course — just more natural and lifelike.

Right after the opening credits, the camera zooms out from a white billboard. The large swath of white demonstrated the Sony's good uniformity compared with other LCD and LCoS sets, but the white tended to be a little dimmer toward the edges than in the center. The 006 had greater consistency than any LCD or LCoS display I've seen but wasn't as uniform as DLP. You'd be hard-pressed to see inconsistencies with movies or TV material, however.

Along with full HDTV resolution, Sony claims very fast screen response for moving images, and the 006 didn't miss a beat. The menacing silver hands at the ends of Doctor Octavius's shiny, segmented tentacles were rendered to the tiniest detail. I noticed no signs of image lag or slowness as the camera traced the tentacles' lightning-quick attacks. A typical LCD TV would have struggled with this scene.

Night scenes also looked very good. For example, when Peter stakes out the playhouse where Mary Jane is performing or when Spidey afterward soars through the New York streets to shake off his disappointment at seeing her with her boyfriend, the night sky and the shadows between buildings looked suitably dark. No, the



Qualia 006 can't reproduce the inky black of a CRT, but its darkest areas appeared as close to black as I've seen on the best plasmas and rear-projection DLPs, and darker than on any LCD or LCoS set I've seen.

A weakness did appear when I compared the depth of black from two different shots of a night sky, one showing a brightly lit Empire State Building, and one without the skyscraper. With the building present, the sky appeared a little brighter, and the stars a little dimmer, than without it. I confirmed that this problem was in the TV and not the movie by looking at some half-white vs. fully dark test patterns. The dark areas became slightly brighter when part of the image was

patterns confirmed that whenever a bright patch or object appeared anywhere, a faint, corresponding blue patch appeared in the opposite section of the screen.

After checking it out, Sony's engineers determined that the blue ghost was the fault of a damaged SXRD light engine. Sony shipped us another Qualia 006 that showed no evidence of this problem and noted that any customers who identify this issue within the three-year parts-and-labor warranty period can have it fixed.

### High-Def Delights

To check out the 006's high-definition capabilities, I caught the NASCAR Bush Series



**"IT'S HARD TO OVERSTATE JUST HOW GOOD HDTV LOOKS ON THE QUALIA 006. THIS IS HOW HIGH-DEF WAS MEANT TO BE SEEN."**

bright. This can obscure some shadow detail when you're watching movies.

Toward the end of *Spider-Man 2*, a street-light fades smoothly into darkness as it illuminates the cop cars coming to investigate the drowning of the fusion sun. It was on this frame that I noticed some unusual ghosting in the picture. Running through a dark area at the bottom of the image was a faint patch of blue that exactly mirrored the size, shape, and relative position of a very bright strand of Spidey's web at the top of the frame. Test

race on Time Warner Cable. The 70-inch screen really put me in the driver's seat. The colors of the stock-car logos sparkled brilliantly under the Florida sun, and I particularly enjoyed the stop-motion shots of the cars passing out of pit row and over the start line, which let me look through the roll cages and into the interiors. The Sony was so big and revealing that it even disclosed occasional softness or blurring caused by compression in the high-def cable feed.

Naturally, I wanted to see what the best

**PLUS**

Full detail with HDTV sources.  
Wide Color Space setting.  
Deep blacks with good shadow detail.  
No visible pixel structure.

**MINUS**

Expensive.  
Some fluctuation in the brightness of blacks.

high-def material looked like, so I turned to the *Digital Video Essentials* D-VHS tape in 1080i, delivered to the TV via an HDMI connection. The space-shuttle sequence looked spectacular, with every girder, wire, and tile visible as the shuttle sat on the launch pad. Pixel structure was essentially invisible unless I sat closer than 4 feet from the screen — a distance even the most immersion-centric viewer couldn't tolerate.

When I looked at the same images (and test patterns) using a component-video connection, I noticed a slight drop in sharpness at 1080i. The Sony could still display every pixel of a 1,920 x 1,080 image, but the most detailed parts looked slightly softer with slightly fainter lines. For that reason alone I recommend using the HDMI input for high-def and an HDMI-equipped DVD player.

It's hard to overstate just how good HDTV looks on the Qualia 006. The detail and hypersharpness in the computer-animated sections of *Digital Video Essentials* — from the bubbles in the waving grassy objects — was breathtaking, and the live-action sections looked real enough to dive into. This is how high-def was meant to be seen: larger-than life, and finally with all 2 million-plus pixels visible.

### Picture Perfect

It's still anyone's guess whether a new generation of 1,920 x 1,080-pixel DLP projectors waiting just around the corner can give SXRD a run for its money. But in the meantime, Sony has made a powerful statement with SXRD, and the Qualia 006 takes a special place in the world. Is the image quality significantly better than any large-screen plasma, single-chip DLP, standard LCD, or LCoS microdisplay I've seen? Yes. Will subsequent, lower-priced SXRD products look as good? Maybe. But whether or not SXRD comes to dominate TVs the way *American Idol* rules the airwaves, deep-pocketed videophiles will scream in glee like teenage girls — on the inside, at least — when they see the Qualia 006 in person. **S&V**

**Color temperature** (Warm color temperature and Pro mode before/after calibration)  
Low window (20-IRE) ..... 6,780/6,487 K

Prior to calibration, the Qualia 006 came close to the standard color temperature of 6,500 K in its Warm preset and Pro picture mode, varying by an average of only 63 K from 20 to 100 IRE. Afterward I got it somewhat closer, using only the user-menu color-temperature controls, achieving an average variation of 22 K. That's the best grayscale tracking I've seen on any microdisplay.

Peak brightness was a bit high for a completely dark environment before calibration but should be fine for moderate ambient light. Viewing angle was better than on any other rear-projection TV I've seen.

Color decoding was excellent, showing no

High window (80-IRE)..... 6,468/6,538 K

**Brightness** (100-IRE window before/after calibration)..... 53.3/33.8 fTL

red push and only a 5% error in green with the Wide color space engaged. Edge enhancement was negligible with sharpness reduced to zero. Hotspotting was minor — the best I've seen in a rear-projection set — but still visible in the brighter middle and dimmer edges. Uniformity was slightly worse than DLP, with minor color variations across the screen on gray fields. Only minor geometry errors were visible. The 006 did a mediocre job of maintaining a consistent level of black; after calibration, the PLUGE stripe disappeared on half-gray patterns. Resolution was superior to any other microdisplay I've seen, measuring a full 1,080 lines with any HD feed. — D.K.



# Pump Up Your Pod!

## The **Top 10** ways to get the most from your portable player

by Ken C. Pohlmann

**O**ver 10 million of them have been sold, and it seems like everybody has one. Some are pink, some are green, some are blue, some are black, but most are white. Owners caress them, lovingly running their fingers back and forth across “my precious.” Some can hold 10,000 of your favorite songs, and they’ll follow you wherever you go.

They’re iPods, and they’re the first cultural icon of the 21st century. Nearly every computer and electronics company makes portable digital audio players, but Apple does it best. The iPod is the Mona Lisa, the Porsche, the Shaquille O’Neal of portable music playback. But just as Mona Lisa’s face might contain elements of Leonardo’s self-portrait (yikes!), a 911 needs a better-sounding horn, and Shaq can’t shoot free throws, iPods aren’t perfect.

That’s a radical statement. But once you get over the heresy, you’ll realize that half the fun of an iPod is personalizing it and finding even more ways to enjoy it. So with the utmost humility, and with a tip of the hat to David Letterman, here are the Top 10 ways to improve your iPod experience. (You’ll find a list of manufacturers’ Web sites on page 71.)

### **10** Baby Needs New Shoes

Cover up the most beautiful example of industrial design since the Hula Hoop? Yes, that’s right. The iPod is a fashion statement, but do you really want yours to look like everyone else’s? And cases protect against dings and scratches or worse. So accessorize, baby, starting with a new case. • I like RadTech’s Podsleevez (\$20). It envelops the player but doesn’t get in your way, and it helps keep you from accidentally jostling the controls. • If you ever drop your iPod, you’ll immediately wish you hadn’t. But if it’s inside Speck Products’ ToughSkin (\$35), it stands a good chance of surviving. The case is bulky, but its bumpers might save the day. • Can’t live

without your tunes when scuba diving or water skiing? H2O Audio’s SV iPod and SV iMini (\$149 each) give your player a completely waterproof skin. • And if you like to skydive and listen to music at the same time, invest in Matias’s aluminum iPod Armor (\$50), which fully encapsulates the player and cushions it with foam. It won’t do you much good if your chute doesn’t open, but at least your grieving girlfriend will get a functioning iPod out of the deal.

### **9** Back It Up!

No one likes to be nagged, so I’ll keep this short and sweet. Pretty please, back up your computer. Buy an outboard hard drive from a company like Seagate or Maxtor (most come with backup software), and let it do its thing overnight. That way, if some creep breaks into your crib and steals your computer and iPod, you won’t lose your entire music collection. Back in the old days, it was way too expensive to have a spare copy of your LP or CD collection, but today it’s pretty cheap. (You’ll pay only about \$250 for a massive 250-giga-byte drive.) Sooner or later, all security systems fail and hard disks crash, so back up. You’ll thank me.

### **8** Begin Your Podcasting Day

Can’t stand the bubble-gum mediocrity of mass-produced pop music? Tired of Don Imus? Tune into podcasts. Your dentist, your neighbor’s wife, and your buddies are all podcasting — plugging a microphone into their laptops and recording their rants and musings so they can post the MP3 files on their Web pages. You can download their sonic blogs for free and play them on your iPod (or any MP3 player) at your convenience. You’ll hear people’s innermost thoughts on wine, bicycling, politics, religion, sex, sports, music, and of course, iPods. Get a utility like those at [ipodder.org](http://ipodder.org), [ipodderx.com](http://ipodderx.com), and [dopplerradio.net](http://dopplerradio.net), and you can get a free subscription



to podcasts. Each time a new edition is posted, it's automatically downloaded and saved in iTunes. And let's not forget companies like audible.com that offer downloadable audio versions of best-selling books, magazines, newspapers, radio programs, and more. What? You want to podcast, too? Excellent! I'll be listening.

## 7 Read the Manual, Dummy!

Whenever you buy a piece of gear, you thoroughly read the owner's manual and carefully memorize every feature, right? Yeah, sure. If you're like me, you ignore the manual and just fool around until the damn thing starts to do stuff. You also avoid strange-looking menus like the plague because you have no idea what they do and are afraid you might never be able to get back to a menu you recognize. The problem with this is that you miss out on cool features. For example, iPods have fixed EQ presets for things like classical, dance, jazz, and small speakers. The paper version of the owner's manual is often simplistic, so check for a CD-ROM disc or go online and download the manual.

## 6 Go Wireless, Young Man

Your dumb old phone is wireless, so why is there a wire hanging off your iPod? Consider transmitting your tunes to a nearby FM radio in your house. Yes, sound quality will suffer — but sometimes, convenience is just more important. •

There are all kinds of transmitters, but Sonnet Technologies' PodFreq (\$100) is specially designed for iPods. Your player rests in a docking station that has a telescoping antenna for wringing out the best possible transmission. • Instead of FM, try Bluetooth. The plug-in module in Ten Technology's naviPlay (\$199) uses Bluetooth wireless technology to send the audio signal to the nearby receiver module. I also like Ten Technology's naviPro eX (\$50), a neat way to remotely control your iPod. A small module plugs into the player and receives IR commands from its companion remote. This lets you kick back and enjoy the music library at your fingertips from across the room.

## 5 Hit the Road, Jack

You still bring along CDs when you travel? Why not connect your iPod to your car's sound system instead? • The most convenient way to do this is to hook up a transmitter and broadcast into your car radio on an unused FM frequency. One fine example of this is the Griffin iTrip (\$36). • But FM transmitters aren't ideal. They sound

okay in your driveway, but a few blocks later the reception conditions change and interference can corrupt the signal. A wired solution is better. JVC's KS-IF200 wired FM transmitter (\$40) gets better reception by inserting the broadcast signal directly into your antenna. If your head unit has an auxiliary input, just plug in the iPod.

• Even better are the increasing number of iPod-savvy head units. Jack your player into an adapter and you'll see its text information on the head unit's display so you don't have to fumble around while driving. Check out Clarion's VRX775VD DVD player (\$1,600), for instance. Its touchscreen makes it a snap to control your iPod.

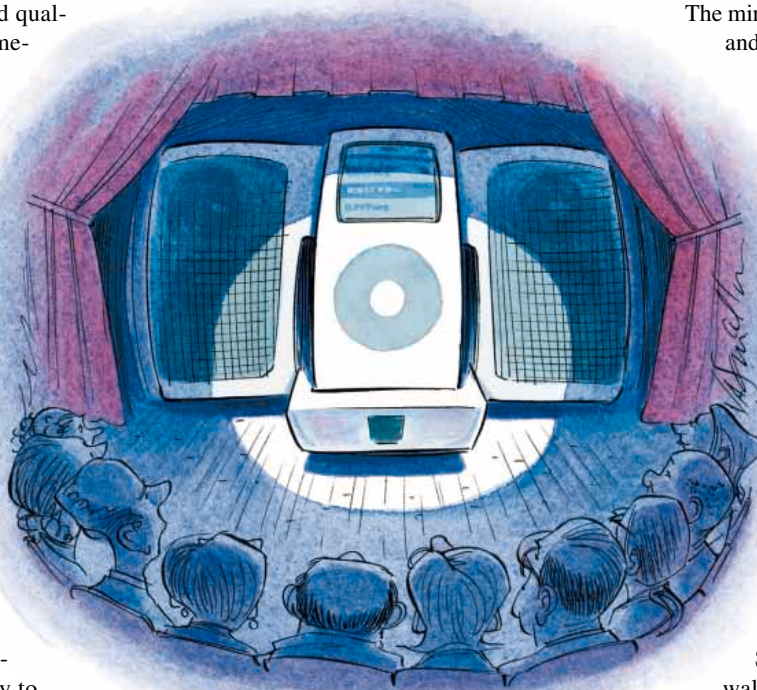
## 4 Make a Bigger Noise

An iPod is all about portability, but it works just fine at home, too. And there are many desktop playback systems ready and willing to mate with your player. • Altec Lansing's inMotion iM3 (\$180) unfolds and very spiffily accepts your iPod, playing your tunes through stereo speakers. It comes with a remote, and it even charges the player while you're listening. Also check out Altec Lansing's cool-looking and good-sounding three-piece FX-6021 (\$300). •

I'm fond of the Klipsch iFi (\$399), which includes two Reference Series RSX-3 satellite speakers, a subwoofer with a built-in amplifier, a remote, and of course, an iPod docking station. • The Bose SoundDock (\$300) is cool.

The minimalist design of its white body and gray metal grille complements the player's styling, and it provides good sound quality as well as a remote control. •

The JBL OnStage (\$160) is also pretty neat. Its diminutive round base has both a docking station and stereo speakers. • At the high end, Speaker-Craft's naviPod and MZC-66 controller (\$2,450) lets you jack your iPod into a multiroom music system that can also handle tunes from your DVD player, satellite radio receiver, or whatever else is in your system. And Sonance's iPort (\$598) is an in-wall iPod cradle that sends audio and, if you use an iPod photo, pictures all around your house. I bet even Steve Jobs never envisioned that.



## 3 Expand Your Horizons

The iTunes Music Store is just about as cool as the iPod itself. It's expertly designed, easy to use, and as comfortable as a La-Z-Boy. There's even a decent selection of free music. But the iTunes store caters to big labels — and it uses Digital Rights Management, which means you can only play the encrypted songs on your player. • As big as the iTunes database is, there's a lot more music out there, so explore the other download services. Sites like eMusic are terrific storehouses of independent artists, and you'll also find great tunes at 3hive, Real's Music Store, epitomic, and GarageBand.





## 2 Jack Up the Bit Rate

Once upon a time, everyone listened to CDs, and the format's standards ensured that the sound quality on discs was fairly consistent. But download sites and portable players rely on audio compression schemes like AAC and MP3, whose sound quality can vary a lot. With these, how good your music sounds depends largely on the bit rate the files were encoded at. (The higher the bit rate, the better.) While a lot of people are happy listening to AAC files encoded at a rate of 128 kilobits per second (kbps), which sound better than MP3 files encoded at the same rate, they still don't sound as good as CDs. For better sound, move up to at least 192 kbps, which can approach CD quality.

Using a higher bit rate means having less room on your player for

songs, but how much music do you really need to have with you? One alternative is to keep a big library of high-quality files on your computer and then move a week's or month's quota to your player as needed. And if your player has a large 20- or 40-gigabyte hard drive, there's no excuse for using a low bit rate — you have plenty of room for all the music you could listen to. Wouldn't you rather have 7,000 great-sounding songs than 10,000 cheesy ones?

But most download services force one, usually low, bit rate on you. For example, the songs at iTunes are all 128 kbps. But not all services are created equal. A song from iTunes might be available somewhere else as an AAC file at 164 kbps. Shop by bit rate, not price. And here's a political aside: we can't complain about poor-sounding downloads if we keep buying them! If you buy songs at higher bit rates, companies will get the message and start offering better-quality files. End of rant.

## 1 Get Better Ears

Drum roll, please. The best way to upgrade your iPod is . . . buy better earphones. The earbuds that come with iPods are actually decent, and they're much better than what you normally get with portable gear. But there are far better-sounding options out there. • I've used the Bose Quiet Comfort 2 (\$299) and its predecessor for years, and they're excellent. I particularly like them on flights because their cups provide noise isolation and they have noise-cancellation processing. But they're bulky headphones that fit over your ears. • When packing light, I use earphones like the Shure E5c. At \$499, they're hardly cheap, but they sound terrific and offer excellent isolation. They're designed to fit deep inside the ear canal, though, which might bother some people. If you're on a budget, Shure's E3c (\$179) is an excellent alternative.

Earphone performance varies widely from person to person. Since they rest inside the ear canal and everyone's canals are shaped differently, how the earphones fit can have a *tremendous* impact on how they sound. So in your quest for the perfect earphone, be prepared to do some trial-and-error listening. My E5c came with a variety of isolating sleeves, and I'm in the middle of figuring out which ones provide the best sound and the most comfortable fit.

**T**he iPod has changed the way we listen to music. It creates an almost perfect listening experience by providing a huge library in a conveniently small package. And the sound can be excellent. But don't settle for the basic setup. Take advantage of the expanding universe of options and opportunities for music lovers to download, rip, listen, and explore. **S&V**

## Links to Explore

### Car Accessories

clarion.com  
griffintechology.com  
jvc.com

### Cases

matias.ca/ipodarmor  
radtech.us  
speckproducts.com

### Backup Drives

maxtor.com  
seagate.com

### Earphones

bose.com  
koss.com  
www.sennheiser.com  
shure.com  
sonystyle.com

### Podcasting

dopplerradio.net  
ipodder.org  
ipodderx.com  
podcastalley.com  
podcastbunker.com

### Home Systems

alteclansing.com  
bose.com  
jbl.com  
klipsch.com  
sonance.com  
speakercraft.com

### Home Wireless Transmitters

sonnettech.com  
tenttechnology.com

### Music Downloads

apple.com/itunes/  
download  
emusic.com  
epitomic.com  
garageband.com  
musicstore.real.com  
3hive.com

### Owner's Manuals

www.info.apple.com/  
support/manuals  
.html#ipod



## The Proof is Performance

We could talk your socks off telling you about our cool new driver technologies, our passionate engineering and design team, how well the unbelievably versatile **Fresco** fits every lifestyle, and even its shockingly stellar sonic performance... but we don't want to bore you.

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TLFeBOOK





What kind of HDTV  
can you get for  
less than \$3,000?

# Big-Screen Bargains

Listings compiled  
by Michael Riggs

by Peter Pachal

**W**hen people are asked what's holding them back from getting an HDTV, cost is one of the main reasons. Another is complexity. While both fears have some basis, HDTVs are actually a lot cheaper and simpler than most people think. For less than \$3,000 — sometimes a lot less — you can get a high-def set with a huge screen. While diving into HDTV might not be as easy as plugging in an antenna . . . wait a minute — if you have the right set and live in the right area, it *is* that easy!

To help you out, we've boiled down the essential facts you need to pick out the best set for your budget and compiled listings of currently available HDTVs from major brands that cost \$3,000 or less and have screens 32 inches or larger. And remember, these are list prices — you'll typically find them selling for a lot less. Now, what was your excuse again?

*(listings start on page 75)*

## HDTV vs. HDTV Monitor

Most big-screen HDTVs now have built-in digital tuners and are known as "integrated" HDTVs, while those without tuners are called "HDTV-ready" or "HDTV monitors." A monitor usually costs a few hundred bucks less than the same-size integrated set. With a built-in tuner, all you have to do is connect an antenna, and you're cookin' in high-def. With a monitor, you'll have to buy a separate tuner box. But if you're going to be getting *all* your high-def programming from either cable or satellite, you won't need a separate over-the-air tuner box, and you might want to save some coin and get a monitor. And if you can't stand the idea of adding another box at all, look into a set with a CableCARD slot (see next page).

ILLUSTRATION BY BILL VILLARREAL

## EDTV Alert! *(IT'S NOT HIGH-DEF)*

You've probably seen a few big-screen plasma TVs going for two grand or even less at your local Best Buy, Circuit City, or Costco. As tempting as they look, they're probably only EDTVs (enhanced-definition TVs), which typically max out at 480 lines of vertical resolution — enough to display every pixel in a DVD movie, but not the 720 or 1,080 lines in high-def signals. You might want to keep your credit card holstered until you spot a high-def set, which has at least 720 lines from top to bottom (which matches the 720p HD format). Anything less just isn't high-def, and to save you the trouble we've purged all EDTVs from our listings.



## What's with the Code?

In our listings — and with HDTV in general — you're going to see the numbers "1080i" and "720p" come up a lot.\* Every HDTV broadcast is in one of these two formats, but don't worry — you don't have to keep track. Your TV or tuner will convert all HDTV broadcasts to a format the set can display. A tube-based TV may have several display formats, while so-called fixed-pixel displays — plasma, DLP, LCD, and so on — have only a single native resolution, corresponding to the actual pixel layout on the screen or chip (usually something like 1,280 x 720 pixels).

\* **Advanced reading:** The "i" stands for "interlaced," and the "p" stands for "progressive-scan." Interlaced signals first display every other scan line in a video frame (1, 3, 5, . . .), then the ones in between (2, 4, 6, . . .), all in  $\frac{1}{60}$  of a second. Progressive signals display every line sequentially (1, 2, 3, 4, 5, 6, . . .) in  $\frac{1}{60}$  second. Both can deliver outstanding pictures, but progressive-scan is usually better with fast motion (as in sports).

## What's Out There?

The kinds of HDTVs you can choose from for less than \$3,000

	Direct-View CRT*	Rear-Projection	Plasma	LCD
<b>What Is It?</b>	classic picture tube — the same kind of TV your dad, his dad, and his dad's dad had	your typical big-screen behemoth, though newer techs like DLP and LCD can shave off some bulk**	sleek, sexy big-screen set that you can hang on a wall	sleek, sexy smaller-screen set that you can hang on a wall
<b>Screen Size</b>	36 inches and less	40 inches and more	37 inches and more	45 inches and less
<b>Pros</b>	<ul style="list-style-type: none"> <li>• cheap</li> <li>• great picture with deep contrast</li> </ul>	<ul style="list-style-type: none"> <li>• big screen</li> <li>• cheap (if it uses CRTs)</li> <li>• DLP and LCD sets are immune to burn-in</li> </ul>	<ul style="list-style-type: none"> <li>• big screen</li> <li>• slim profile</li> <li>• "DAAAAAMN!" factor</li> </ul>	<ul style="list-style-type: none"> <li>• slim profile</li> <li>• immune to burn-in</li> </ul>
<b>Cons</b>	<ul style="list-style-type: none"> <li>• screens not very big</li> <li>• heavy</li> <li>• can suffer from "burn-in" (see below)</li> </ul>	<ul style="list-style-type: none"> <li>• typically big and heavy</li> <li>• CRT sets can suffer from burn-in</li> </ul>	<ul style="list-style-type: none"> <li>• can suffer from burn-in</li> </ul>	<ul style="list-style-type: none"> <li>• screens not very big under \$3,000</li> <li>• contrast not as good as other sets</li> </ul>

\* **Advanced reading:** CRT stands for "cathode-ray tube," after the venerable technology, which is why we refer to "picture tubes."

\*\* DLP (Digital Light Processing) is a recently developed display technology that produces pictures by reflecting light off hundreds of thousands of microscopic mirrors on a tiny chip. LCD (liquid-crystal display) TVs use tiny crystals whose light-filtering abilities change as electrical fields change around them. LCD sets can have a flat-panel or rear-projection design.

## What Is Burn-in?

If a static image is left on a CRT or plasma TV screen for a long time, it may become "burnt" into the screen as a permanent "ghost" image. But before you run screaming from these two excellent display technologies, remember that burn-in is easily preventable. Many new sets have features like zooms, screensavers, and slowly "drifting" images to help avert it, and simply turning down the contrast control can help, too.

## Hot HDTV Hookups

As more and more video goes high-def, more and more of your gear will want a crack at your TV's high-def inputs. You already have your HD feed and progressive-scan DVD player taxing those connectors, and when the high-def Blu-ray Disc and HD DVD formats arrive, they're going to want some of that wide-bandwidth action, too. Depending on the capabilities of your A/V receiver — assuming you have one — you'll want to take an inventory of your new set's back panel, which the TV listings summarize. Here's a short guide to the alphabet soup of HDTV connectors:



### Component video

Common triple-ended RCA-style connector that carries high-def video in analog form. All HDTVs have at least one component input, and most A/V receivers from the past few years have HD-compatible component switching. But it's now old school.



### DVI (Digital Visual Interface)

An 18-pin D-shaped connector for digital high-def video. Popular with content providers because of its compatibility with HDCP (High-bandwidth Digital Content Protection) copy protection. Quickly being replaced by HDMI.



### HDMI (High Definition Multimedia Interface)

An evolution of DVI that can carry high-def digital video and 5.1-channel audio through a single connector. Incorporates HDCP. Many new sets have HDMI inputs, and smart money says it'll soon become the *de facto* standard. Backward-compatible with DVI using an adapter.



### FireWire (a.k.a. IEEE 1394 or i.Link)

This can deliver digital HDTV signals in *both directions*, enabling simple hookup of high-def recorders and equipment needing two-way control feedback. Uncommon as yet on HDTVs.



### VGA (a.k.a. D-sub-15)

A 15-pin D-shaped connector mainly used for computer monitors but also found on many HDTVs.



### RGB+H/V

A five-jack connector for red, green, and blue signals plus horizontal and vertical sync controls; typically found on high-end gear like front projectors. Few sets in the sub-\$3,000 range have it.

## And CableCARD?

For most of us, the fewer black boxes cluttering our TV rooms, the better. Enter CableCARD, whose purpose is to eliminate the box you'd lease from your cable company. Instead, you rent a credit card-size CableCARD, assuming your TV has a slot for it. So what's the catch? The card's a one-way interface, which means you won't be able to get on-demand programs or use your cable provider's electronic program guide (a CableCARD-ready TV will usually have a built-in guide). A two-way CableCARD is in the works but probably won't be available until next year at the earliest.



# HDTVs for \$3,000 or Less

Red = high-definition input

Model	Price	Type	Screen size (inches diag.)	Widescreen	Display formats or pixel resolution	2:3 pull-down processing	HDTV tuner	Digital cable tuner/CableCARD slot	HDMI	DVI	FireWire	Standard/wideband component-video	VGA (D-sub 15 pin)	Composite/S-video	RF	Dimensions (WxHxD, inches)	Weight (pounds)	Additional features/notes
<b>Audiovox • audiovox.com</b>																		
FPE3705	\$2,800	LCD	37	✓	1,920 x 1,080	✓	-	-/-	*	1	*	* / 2	1	1 / 1	1	44.7 x 23.7 x 3.8	72	7-in-1 media card reader; mounting bracket included; RGB+H/V input
FPE3205	\$1,699	LCD	32	✓	1,366 x 768	✓	-	-/-	*	1	*	* / 2	1	1 / 1	1	37 x 22.2 x 4	38	Mounting bracket included; RGB+H/V input
<b>BenQ • benq.com</b>																		
DV3250	\$2,299	LCD	32	✓	1,366 x 768	✓	-	-/-	-	1	-	2 / 2	1	3 / 3	1	39.3 x 23.3 x 4.9	44	12-millisecond response; 800:1 contrast ratio; Faroudja chipset for de-interlacing
<b>Epson • epson.com</b>																		
Livingstation LS47P2	\$2,899	LCD RPTV	47	✓	720p	✓	✓	-/-	-	1	-	2 / 2	1	4 / 4	2	45.7 x 34.6 x 14.8	106	Can be used to view, print, and store digital photos; built-in sublimation printer produces borderless 4 x 6-in prints; CD-R/RW drive for archiving
<b>Hitachi • hitachi.us</b>																		
50V710	\$3,000	LCD RPTV	50	✓	720p	✓	✓	✓ / ✓	1	-	-	2 / 2	-	5 / 3	2	54.6 x 35.5 x 16.4	114	Adjustable color decoder; USB port
50V715	\$3,000	LCD RPTV	50	✓	720p	✓	✓	✓ / ✓	1	-	-	2 / 2	-	5 / 3	2	54.6 x 35.5 x 16.4	114	Adjustable color decoder; USB port
50V500A	\$2,800	LCD RPTV	50	✓	720p	✓	-	✓ / ✓	*	1	*	*	*	*	2	54.6 x 35.5 x 16.4	114	*
42V710	\$2,500	LCD RPTV	42	✓	720p	✓	✓	✓ / ✓	1	-	-	2 / 2	-	5 / 3	2	47.8 x 30.4 x 15	79	Adjustable color decoder; USB port
42V715	\$2,500	LCD RPTV	42	✓	720p	✓	✓	✓ / ✓	1	-	-	2 / 2	-	5 / 3	2	47.8 x 30.4 x 15	79	Adjustable color decoder; USB port
57S715	\$2,400	CRT RPTV	57	✓	1080i	✓	✓	✓ / ✓	1	-	-	2 / 2	-	5 / 3	2	54 x 54.3 x 23.3	205	Adjustable color decoder; USB port
42V515	\$2,300	LCD RPTV	42	✓	720p	✓	-	✓ / ✓	1	-	-	2 / 2	-	5 / 3	2	47.8 x 30.4 x 15	79	Adjustable color decoder; USB port
57F710	\$2,200	CRT RPTV	57	✓	1080i	✓	✓	✓ / ✓	1	-	-	2 / 2	-	5 / 3	2	54 x 54.6 x 23.6	205	Adjustable color decoder
51S715	\$2,100	CRT RPTV	51	✓	1080i	✓	✓	✓ / ✓	1	-	-	2 / 2	-	5 / 3	2	48.8 x 50.3 x 21.7	188	Adjustable color decoder; USB port
51F710	\$1,900	CRT RPTV	51	✓	1080i	✓	✓	✓ / ✓	1	-	-	2 / 2	-	5 / 3	2	48.8 x 50.2 x 21.4	188	Adjustable color decoder
57F510	\$1,900	CRT RPTV	57	✓	1080i	✓	-	✓ / -	1	-	-	2 / 2	-	5 / 3	2	54 x 54.6 x 23.6	205	Adjustable color decoder
51F510	\$1,700	CRT RPTV	51	✓	1080i	✓	-	✓ / -	1	-	-	2 / 2	-	5 / 3	2	48.8 x 50.2 x 21.4	188	Adjustable color decoder
46F500	\$1,500	CRT RPTV	46	✓	1080i	✓	-	✓ / ✓	-	1	-	2 / 2	-	5 / 3	*	*	*	*
46F510	\$1,500	CRT RPTV	46	✓	1080i	✓	-	✓ / -	1	-	-	2 / 2	-	5 / 3	2	44.5 x 46.9 x 24.4	160	Adjustable color decoder
<b>Kreisen • kreisen.com</b>																		
KR-400T	\$2,999	LCD	40	✓	1,366 x 768	✓	-	-/-	-	1	-	2 / 1	1	1 / 1	1	42.5 x 26.8 x 4.5	*	*
KR-370T	\$2,699	LCD	37	✓	1,366 x 768	✓	-	-/-	-	1	-	2 / 1	1	1 / 1	1	43 x 25 x 4.5	*	*
KR-320T	\$1,600	LCD	32	✓	1,366 x 768	✓	-	-/-	-	1	-	2 / 1	1	1 / 1	1	34.5 x 25.8 x 4	*	*
<b>LG Electronics • www.lgusa.com</b>																		
52SX4D	\$2,999	DLP RPTV	52	✓	720p	✓	✓	✓ / ✓	1	1	1	2 / 2	1	3 / 2	1	55.7 x 35.3 x 15.7	88	RGB+H/V input
RU-52SZ51D	\$2,999	DLP RPTV	52	✓	720p	✓	-	-/-	-	1	-	2 / 2	1	3 / 2	1	48.6 x 35.1 x 15.3	79	Dual NTSC tuners; 0.155mm fine-pitch screen; RS-232C port; air-bearing color wheel
RU-44SZ63D	\$2,699	DLP RPTV	44	✓	720p	✓	-	-/-	-	1	-	2 / 2	1	3 / 2	1	42.5 x 30.1 x 13.9	64	Air-bearing color wheel
RU-44SZ80L	\$2,599	LCD RPTV	44	✓	720p	✓	-	-/-	-	1	-	2 / 2	1	3 / 2	1	39.9 x 29.2 x 14.3	71	Dual NTSC tuners; 0.098mm fine-pitch screen
<b>Mitsubishi • mitsubishi-tv.com</b>																		
WD-52327	\$2,899	DLP RPTV	52	✓	720p	✓	-	-/-	-	1	-	3 / 3	-	3 / 3	2	49.6 x 37.2 x 17.4	118	RGB+H/V input
WS-55615	\$2,699	CRT RPTV	55	✓	1080i	✓	✓	✓ / ✓	1	-	3	2 / 2	-	3 / 3	2	50.7 x 50.5 x 28	215	*
WS-65515	\$2,699	CRT RPTV	65	✓	1080i	✓	✓	✓ / ✓	1	-	3	2 / 2	-	3 / 3	2	58.9 x 62 x 28	330	*
WS-65315	\$2,499	CRT RPTV	65	✓	1080i, 480p	✓	-	-/-	-	1	-	2 / 2	-	3 / 3	2	58.9 x 62 x 28	325	RGB+H/V input
WS-55515	\$2,199	CRT RPTV	55	✓	1080i	✓	✓	✓ / ✓	1	-	3	2 / 2	-	3 / 3	2	50.5 x 50.5 x 25.6	215	*
WS-55315	\$1,999	CRT RPTV	55	✓	1080i, 480p	✓	-	-/-	-	1	-	2 / 2	-	3 / 3	2	50.5 x 50.5 x 25.6	245	RGB+H/V input
WS-48515	\$1,899	CRT RPTV	48	✓	1080i	✓	✓	✓ / ✓	1	-	3	2 / 2	-	3 / 3	2	44.5 x 49 x 24	175	*
WS-48315	\$1,699	CRT RPTV	48	✓	1080i, 480p	✓	-	-/-	-	1	-	2 / 2	-	3 / 3	2	44.5 x 49 x 24	175	RGB+H/V input
WT-42315	\$1,599	CRT RPTV	42	✓	1080i, 480p	✓	-	-/-	-	1	-	2 / 2	-	3 / 3	2	38.8 x 34.3 x 25.1	110	RGB+H/V input
<b>Nikada • nikada.com</b>																		
LD1321	\$2,250	LCD	32	✓	1,366 x 768	✓	-	-/-	1	1	-	1 / 1	1	1 / 1	1	36.5 x 19.3 x 3.8	44	1-year on-site exchange warranty service; PIP; 400:1 contrast ratio
<b>Optoma • optomausa.com</b>																		
RD-65	\$2,999	DLP RPTV	65	✓	720p	✓	-	-/-	-	1	-	2 / 2	1	1 / 1	1	59.5 x 51.7 x 22	215	RGB+H/V input
RD-50	\$2,068	DLP RPTV	50	✓	720p	✓	-	-/-	-	1	-	2 / 2	1	1 / 1	1	46 x 35.5 x 14.8	90	RGB+H/V input

\* Manufacturer did not supply data. RPTV = rear-projection TV

# HDTVs for \$3,000 or Less

Model	Price	Type	Screen size (inches diag.)	Widescreen	Display formats or pixel resolution	2:3 pull-down processing	HDTV tuner	Digital cable tuner/CableCARD slot	HDMI	DVI	FireWire	Standard/wideband component-video	VGA (D-sub 15 pin)	Composite/S-video	RF	Dimensions (WxHxD, inches)	Weight (pounds)	Additional features/notes
INPUTS																		
<b>Panasonic • panasonic.com</b>																		
PT-50LCX64	\$2,999	LCD RPTV	50	✓	720p	✓	✓	✓/✓	1	–	–	4/4	2	4/3	1	55.7 x 35.3 x 15.3	85	2-tuner PIP with split-screen display
PT-52LCX65	\$2,800	LCD RPTV	52	✓	720p	–	✓	✓/✓	*	*	*	3/*	*	*/3	*	*	*	2-tuner PIP with split-screen display
PT-50LC14	\$2,799	LCD RPTV	50	✓	720p	✓	–	–/–	1	–	–	4/4	1	3/3	1	55.7 x 35.3 x 15.3	84	2-tuner PIP with split-screen display
TC-32LX50	\$2,500	LCD	32	✓	1,280 x 768	–	✓	✓/–	1	*	*	*	*	*	*	*	*	2-tuner PIP with split-screen display
PT-43LCX64	\$2,499	LCD RPTV	43	✓	720p	✓	✓	✓/✓	1	–	–	3/3	2	3/3	1	49.6 x 31.3 x 12.8	71	2-tuner PIP with split-screen display
PT-44LCX65	\$2,300	LCD RPTV	44	✓	720p	–	✓	✓/✓	*	*	*	3/*	*	*/3	*	*	*	2-tuner PIP with split-screen display
PT-43LC14	\$2,299	LCD RPTV	43	✓	720p	✓	–	–/–	1	–	–	4/4	1	3/3	1	49.6 x 31.3 x 12.8	68	2-tuner PIP with split-screen display
PT-53TWD64	\$2,230	CRT RPTV	53	✓	1080i, 540p	✓	✓	✓/✓	1	–	–	2/2	–	4/3	2	56.5 x 53.6 x 25.3	223	2-tuner PIP with split-screen display
PT-47XD64	\$1,900	CRT RPTV	47	✓	1080i, 540p	✓	✓	✓/✓	1	–	–	2/2	–	4/3	2	46 x 49.1 x 25.5	147	2-tuner PIP with split-screen display
PT-53TW54	\$1,800	CRT RPTV	53	✓	1080i, 540p	✓	–	–/–	1	–	–	2/2	–	4/3	1	56.5 x 53.6 x 25.3	221	2-tuner PIP with split-screen display
CT-34WX54	\$1,400	CRT	34	✓	1080i, 480p	✓	–	–/–	1	–	–	2/2	–	4/3	1	39.4 x 24.7 x 23.7	160	2-tuner PIP with split-screen display
CT-36HL44	\$1,400	CRT	36	–	1080i, 480p	✓	–	–/–	1	–	–	2/2	–	4/3	1	38.6 x 29.9 x 24.1	211	2-tuner PIP with split-screen display
PT-47X54	\$1,400	CRT RPTV	47	✓	1080i, 540p	✓	–	–/–	1	–	–	2/2	–	4/3	1	46 x 49.1 x 25.5	147	2-tuner PIP with split-screen display
CT-32HL44	\$900	CRT	32	–	1080i, 480p	✓	–	–/–	1	–	–	2/2	–	4/3	1	35 x 27 x 22.5	166	2-tuner PIP with split-screen display
<b>Philips • philipsusa.com</b>																		
32PF9630A	\$2,199	LCD	32	✓	1,280 x 768	✓	✓	✓/✓	2	–	–	2/2	–	2/1	1	*	*	RGB+H/V input
60PP9100D/37	\$1,899	CRT RPTV	60	✓	1080i	✓	–	–/–	*	*	*	*	*	*	*	*	*	*
51PP9100D/37	\$1,499	CRT RPTV	51	✓	1080i	✓	–	–/–	*	*	*	*	*	*	*	*	*	*
32PT9100D/37	\$799	CRT	32	–	1080i	✓	–	–/–	*	*	*	*	*	*	*	*	*	*
<b>Proton • proton-usa.com</b>																		
LG-32	\$3,000	LCD	32	✓	1,366 x 768	✓	✓	–/–	*	1	*	2/*	1	2/2	1	37.8 x 23.8 x 4.7	57	3 color-temperature settings; antiglare screen; built-in 5-in-1 memory card reader
DT-32H	\$999	CRT	32	–	1080i, 480p, 480i	✓	✓	–/–	*	*	*	2/*	*	3/3	1	34.8 x 27.4 x 22.8	170	Color-temperature adjustment; component input auto-detection; 3-way speaker system with powered subwoofer; detail enhancement; aspect ratio correction; SVM mode selection; vertical edge enhancement
<b>Proview • proview-usa.com</b>																		
MH-463HU	\$3,000	plasma	46	✓	1,280 x 768	✓	✓	–/–	1	–	*	1/1	1	2/2	2	44.8 x 29.4 x 3.9	91	Faroudja DCDi deinterlacing; burn-in prevention modes
MH-422HU	\$2,800	plasma	42	✓	1,024 x 768	✓	–	–/–	–	1	*	2/2	1	2/2	1	40.9 x 25.4 x 3.2	89	Detachable side-mount speakers; burn-in prevention modes
MH422HUB	\$2,800	plasma	42	✓	1,024 x 768	✓	–	–/–	–	1	*	2/2	1	2/2	1	40.9 x 25.4 x 3.2	89	Detachable side-mount speakers; burn-in prevention modes
HX-329	\$1,700	LCD	32	✓	1,366 x 768	✓	–	–/–	1	–	*	1/1	1	2/1	1	37.4 x 19.8 x 4.6	53	Virtual surround sound
RX-326	\$1,700	LCD	32	✓	1,366 x 768	✓	–	–/–	1	–	*	1/1	1	2/1	1	37.4 x 19.8 x 4.6	53	Virtual surround sound
<b>RCA • rca.com</b>																		
HD50LPW52	\$2,899	DLP RPTV	50	✓	720p	✓	✓	✓/✓	1	–	–	2/2	–	3/3	2	46.9 x 39.2 x 16	85	7-band equalizer; digital audio output
HD56W58	\$2,499	CRT RPTV	56	✓	1080i	✓	✓	✓/✓	1	–	–	2/2	–	3/3	2	52.2 x 55.2 x 22.8	162	7-band equalizer; digital audio output
HD52W58	\$2,199	CRT RPTV	52	✓	1080i	✓	✓	✓/✓	1	–	–	2/2	–	3/3	2	48.8 x 51.8 x 22.8	149	7-band equalizer; digital audio output
HD52W56	\$1,999	CRT RPTV	52	✓	1080i	✓	✓	✓/✓	1	–	–	1/1	–	2/2	2	48.8 x 51.8 x 22.8	149	7-band equalizer; digital audio output
HD52W55	\$1,899	CRT RPTV	52	✓	1080i	✓	✓	✓/✓	1	–	–	1/1	–	2/2	2	48.8 x 51.8 x 22.8	149	7-band equalizer; digital audio output
<b>RCA Scenium • rca.com</b>																		
HD44LPW165	\$2,799	DLP RPTV	44	✓	720p	✓	✓	✓/✓	1	–	2	2/2	–	3/3	2	41.7 x 35 x 16.3	72	Built-in Web browser; 7-band equalizer; digital audio output; touch-sensitive front controls
HD50LPW164	\$2,799	DLP RPTV	50	✓	720p	✓	✓	✓/✓	1	–	–	2/2	–	3/3	2	46.9 x 39.2 x 16	85	7-band equalizer; digital audio output
<b>Samsung • samsung.com</b>																		
HL-P4663W	\$2,700	DLP RPTV	46	✓	720p	✓	–	–/–	1	1	–	2/2	1	3/3	2	43.1 x 32 x 13.3	69	SRS TruSurround XT virtual surround sound
LN-R328W	\$2,600	LCD	32	✓	1,366 x 768	–	–	–/–	1	–	–	2/2	1	2/1	1	31.4 x 25.6 x 3.9	39	SRS TruSurround XT virtual surround sound
TX-P3271H	\$1,000	CRT	32	–	1080i, 480p	✓	✓	–/–	–	1	–	2/2	–	4/2	2	35.8 x 27.2 x 23	150	Flat screen
TX-P3275H	\$1,000	CRT	32	–	1080i, 480p	✓	✓	–/–	–	1	–	2/2	–	4/2	2	35.9 x 27.7 x 22.8	148	Flat screen
TX-P3264	\$900	CRT	32	–	1080i, 480p	✓	–	–/–	–	1	–	2/2	–	4/2	1	35.9 x 27.7 x 22.8	148	*

\* Manufacturer did not supply data. RPTV = rear-projection TV



# HDTVs for \$3,000 or Less

Model	Price	Type	Screen size (inches diag.)	Widescreen	Display formats or pixel resolution	2:3 pull-down processing	HDTV tuner	Digital cable tuner/CableCARD slot	HDMI	DVI	FireWire	Standard/wideband component-video	VGA (D-Sub 15 Pin)	Composite/S-video	RF	Dimensions (WxHxD, inches)	Weight (pounds)	Additional features/notes
Inputs																		
Sharp • sharpusa.com																		
LC-32GA5U	\$3,000	LCD	32	✓	1,366 x 768	✓	-	-/-	1	1	-	2/2	-	3/1	1	38.6 x 18.9 x 4.3	45	*
Sony • sonystyle.com																		
KLV-32M1	\$3,000	LCD	32	✓	1,366 x 768	✓	-	-/-	1	-	-	1/1	-	3/3	1	32.9 x 26.5 x 4.4	43	*
KDF-50WE655	\$2,999	LCD RPTV	50	✓	1,386 x 788	✓	✓/✓	✓/✓	1	-	-	2/2	-	4/4	2	54.1 x 36.5 x 15	86	*
KDF-42WE655	\$2,499	LCD RPTV	42	✓	1,386 x 788	✓	✓/✓	✓/✓	1	-	-	2/2	-	4/4	2	47.3 x 32.3 x 12.3	72	*
KDP-57WS655	\$2,399	CRT RPTV	57	✓	1080i	✓	✓	✓/✓	1	-	-	2/2	-	4/3	2	52.3 x 54.3 x 27.3	176	SRS TruSurround virtual surround sound
KD-34XBR960	\$2,199	CRT	34	✓	1080i	✓	✓	✓/✓	1	-	3	2/2	-	4/3	2	39.1 x 25.6 x 23.9	195	JPEG, MPEG-1, and MP3 playback from Memory Stick Pro and Pro Duo flash-memory cards
KDP-51WS655	\$2,099	CRT RPTV	51	✓	1080i	✓	✓	✓/✓	1	-	-	2/2	-	4/3	2	47 x 50.5 x 26.3	204	SRS TruSurround virtual surround sound
KD-34XS955	\$1,999	CRT	34	✓	1080i	✓	✓	✓/✓	1	-	-	2/2	-	4/3	2	39.1 x 25.8 x 23.8	198	As KD-34XBR960
KP-57WS520	\$1,999	CRT RPTV	57	✓	1080i	✓	-	-/-	1	-	-	2/2	-	4/3	2	52.3 x 54.3 x 27.3	194	*
KD-36XS955	\$1,699	CRT	36	-	1080i	✓	✓	✓/✓	1	-	-	2/2	-	4/3	2	39.1 x 30.6 x 25	234	As KD-34XBR960
KP-51WS520	\$1,699	CRT RPTV	51	✓	1080i	✓	-	-/-	1	-	-	2/2	-	4/3	2	47 x 50.5 x 26.3	170	*
KV-34HS420	\$1,599	CRT	34	✓	1080i	✓	-	-/-	1	-	-	2/2	-	4/3	1	39.1 x 25.8 x 23.8	194	SRS TruSurround and SRS WOW virtual surround sound
KP-46WT520	\$1,499	CRT RPTV	46	✓	1080i	✓	-	-/-	1	-	-	2/2	-	4/3	2	42.8 x 40 x 24	135	*
KV-36HS420	\$1,499	CRT	36	-	1080i	✓	-	-/-	1	-	-	2/2	-	4/3	1	39.1 x 30.6 x 25	230	As KV-34HS420
KD-32XS945	\$1,199	CRT	32	-	1080i	✓	✓	✓/✓	1	-	-	2/2	-	4/3	2	35.4 x 27.5 x 23.5	179	As KD-34XBR960
KV-32HS420	\$999	CRT	32	-	1080i	✓	-	-/-	1	-	-	2/2	-	4/3	1	35.4 x 27.5 x 23.5	168	As KV-34HS420
Toshiba • tacp.toshiba.com																		
46HM94	\$2,999	DLP RPTV	46	✓	720p	✓	✓	✓/✓	1	-	2	2/2	-	3/3	2	53.1 x 31.3 x 15.3	75	HD2+ DLP chip
52HM84	\$2,999	DLP RPTV	52	✓	720p	✓	-	-/-	1	-	-	2/2	-	3/3	2	58.4 x 35.1 x 15.3	85	HD2+ DLP chip
32HL84	\$2,799	LCD	32	✓	1,366 x 768	✓	-	-/-	-	1	-	2/2	-	3/2	2	32.3 x 22.6 x 5.1	53	SRS TruSurround and SRS WOW virtual surround sound
46HM84	\$2,699	DLP RPTV	46	✓	720p	✓	-	-/-	1	-	-	2/2	-	3/3	2	53.1 x 31.8 x 15.3	75	HD2+ DLP chip
57HX84	\$2,599	CRT RPTV	57	✓	1080i	✓	-	-/-	1	-	2	2/2	-	3/3	2	52.8 x 55.8 x 23.9	230	*
51HX94	\$2,399	CRT RPTV	51	✓	1080i	✓	✓	✓/✓	2	-	2	2/2	-	3/3	2	50.5 x 47.6 x 22.5	169	*
57H94	\$2,299	CRT RPTV	57	✓	1080i	✓	✓	✓/✓	1	-	2	2/2	-	3/3	2	52.8 x 55.8 x 23.9	204	Split-cabinet design; SRS WOW virtual surround sound
65H84	\$2,199	CRT RPTV	65	✓	1080i	✓	-	-/-	1	-	-	2/2	-	3/3	2	59.9 x 59.9 x 26	240	As above
57H84	\$1,899	CRT RPTV	57	✓	1080i	✓	-	-/-	1	-	-	2/2	-	3/3	2	52.8 x 55.8 x 23.9	204	As above
51H84	\$1,699	CRT RPTV	51	✓	1080i	✓	-	-/-	1	-	-	2/2	-	3/3	2	50.5 x 47.6 x 22.5	169	SRS WOW virtual surround sound
34HFx84	\$1,599	CRT	34	✓	1080i, 540p	✓	-	-/-	2	-	-	2/2	-	4/3	2	36.8 x 24.6 x 23.8	162	SRS WOW virtual surround sound
34HF84	\$1,399	CRT	34	✓	1080i, 540p	✓	-	-/-	1	-	-	2/2	-	4/3	2	36.8 x 24.6 x 23.8	162	SRS WOW virtual surround sound
46H84	\$1,399	CRT RPTV	46	✓	1080i	✓	-	-/-	1	-	-	2/2	-	3/3	2	40.5 x 43.4 x 21.9	143	SRS WOW virtual surround sound
Vizio • vizioce.com																		
RP56	\$2,999	DLP RPTV	56	✓	720p	✓	-	-/-	-	1	-	2/2	1	3/3	1	54.4 x 43.1 x 18.9	130	2-tuner PIP; POP; Faroudja NTSC video decoding; SRS and BBE virtual surround sound
P42 HDe	\$2,499	plasma	42	✓	1,024 x 768	✓	-	-/-	-	1	-	2/1	1	2/2	1	41 x 25.5 x 5	69	PIP; POP; gamma correction; SRS and BBE virtual surround sound; detachable speakers and stand
Zenith • zenith.com																		
Z52S280	\$2,999	DLP RPTV	52	✓	720p	✓	✓	✓/-	1	-	1	2/2	1	2/1	1	40.4 x 33.8 x 16.1	53	SRS TruSurround virtual surround sound
Z44S280	\$2,499	DLP RPTV	44	✓	720p	✓	✓	✓/-	1	-	1	2/2	1	2/1	1	39.9 x 29.2 x 14.3	71	SRS TruSurround virtual surround sound
R57W47	\$2,299	CRT RPTV	57	✓	1080i	✓	✓	✓/-	-	1	-	2/2	-	4/3	1	52 x 56.7 x 22.4	154	Built-in high-contrast protective shield
Z32LZ5R	\$2,099	LCD	32	✓	1,280 x 768	-	-	-/-	-	1	-	1/1	-	1/1	1	36.7 x 23.2 x 4.5	46	176° viewing angle; RGB+H/V input
R50W47	\$1,999	CRT RPTV	50	✓	1080i	✓	✓	✓/-	-	1	-	2/2	-	4/3	1	45.9 x 53 x 19.9	121	Built-in high-contrast protective shield
C34W37	\$1,799	CRT	34	✓	1080i, 480p, 480i	✓	✓	✓/-	-	1	-	2/2	-	3/3	2	41.7 x 24.7 x 23.2	188	PIP; color-temperature control; MTS stereo with SAP; SRS TruSurround virtual surround sound
R45W47	\$1,499	CRT RPTV	45	✓	1080i	✓	✓	✓/-	-	1	-	2/2	-	4/2	1	48.2 x 42 x 19.2	143	*
C32V37	\$1,099	CRT	32	-	1080i, 480p, 480i	✓	✓	✓/-	-	1	-	2/2	-	3/3	2	35.4 x 27 x 22.4	158	As C34W37
C32V46	\$899	CRT	32	-	1080i, 480p	✓	-	-/-	-	-	-	2/2	-	3/1	1	36.4 x 27 x 22.4	147	Color-temperature control; MTS stereo with SAP

\* Manufacturer did not supply data. RPTV = rear-projection TV

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- The Bose® patented waveguide speaker technology inside delivers lifelike music reproduction, producing subtle nuances in your music you may never have heard before. Only Bose has this technology.
- Upon its introduction, its technology received the Invention of the Year award.
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- You can order it together with the optional 5-CD Changer to enjoy hours of music without interruption. And you’ll save \$150 if you order them today.
- Listen to your favorite vocalist – the true test of any sound system. Your ears may find it hard to believe your eyes.
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- *Macworld* reported, “Don’t let this system’s small size fool you – when we say great sound, we mean it.”
- You can easily move it from room to room, or even outside – wherever you want to enjoy music.
- Our risk-free, 30-day in-home trial guarantees your satisfaction. If you’re not delighted, return it for a full refund.
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  2. Press ON.
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- Available accessories like a portable power case and microphone can make it even more versatile.
- The challenging sounds of the acoustic bass, or low piano notes, are delivered with the power and elegance the composer intended.
- Higher-pitched sounds – like the violin and the upper reaches of the human voice – have a convincing presence that owners tell us sound like a live performance.
- Our engineers considered the most precise details to deliver the best sound possible from the system – even the grille louvers are designed to minimize audio distortion.
- Be sure to ask about the new Bose payment plan, which lets you use your own major credit card to make 12 easy payments, with no interest charges from Bose.\*
- It’s available in Platinum White or Graphite Gray to complement almost any décor.



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TLFeBOOK



# Blu-ray

## HD DVD

### How They Work

**N**o home-entertainment technology in years has been as eagerly anticipated as the upcoming Blu-ray and HD DVD high-definition disc systems. In fact, the last time we techie types were this excited about something new was when the CD was introduced. That marvel, which banished all the analog noise and distortion listeners had gotten used to over the decades, finally brought audio technology to its peak of development.

Likewise, Blu-ray Discs (BDs) and HD DVDs have the potential to provide the highest resolution that the current high-def video standard allows. They could even provide unprecedented audio performance by using various advanced capabilities, but these still weren't finalized as of this writing (height channels, anyone?). Both systems also promise seamless integration with the Internet and extensive new capabilities for videogame producers.

All these new powers stem from two breakthroughs. First is

an increase in the maximum data rate for streaming information off the discs — 36 megabits per second (Mbps) for both BD and HD DVD compared with 11 Mbps for standard DVD — which allows these discs to provide even better picture quality than current high-definition TV broadcasts. They'll also be able to handle several applications simultaneously, letting you do things like call up background audio and video commentaries without interrupting the movie or choose from multiple camera angles on the fly for the scene you're watching.

The second breakthrough is far greater storage capacity than DVD. While a single-sided, single-layer DVD can hold 4.7 gigabytes (GB), a single-sided, single-layer HD DVD can hold 15 GB, and a comparable Blu-ray Disc can hold 25 GB (see the table on page 81 for detailed technical comparisons

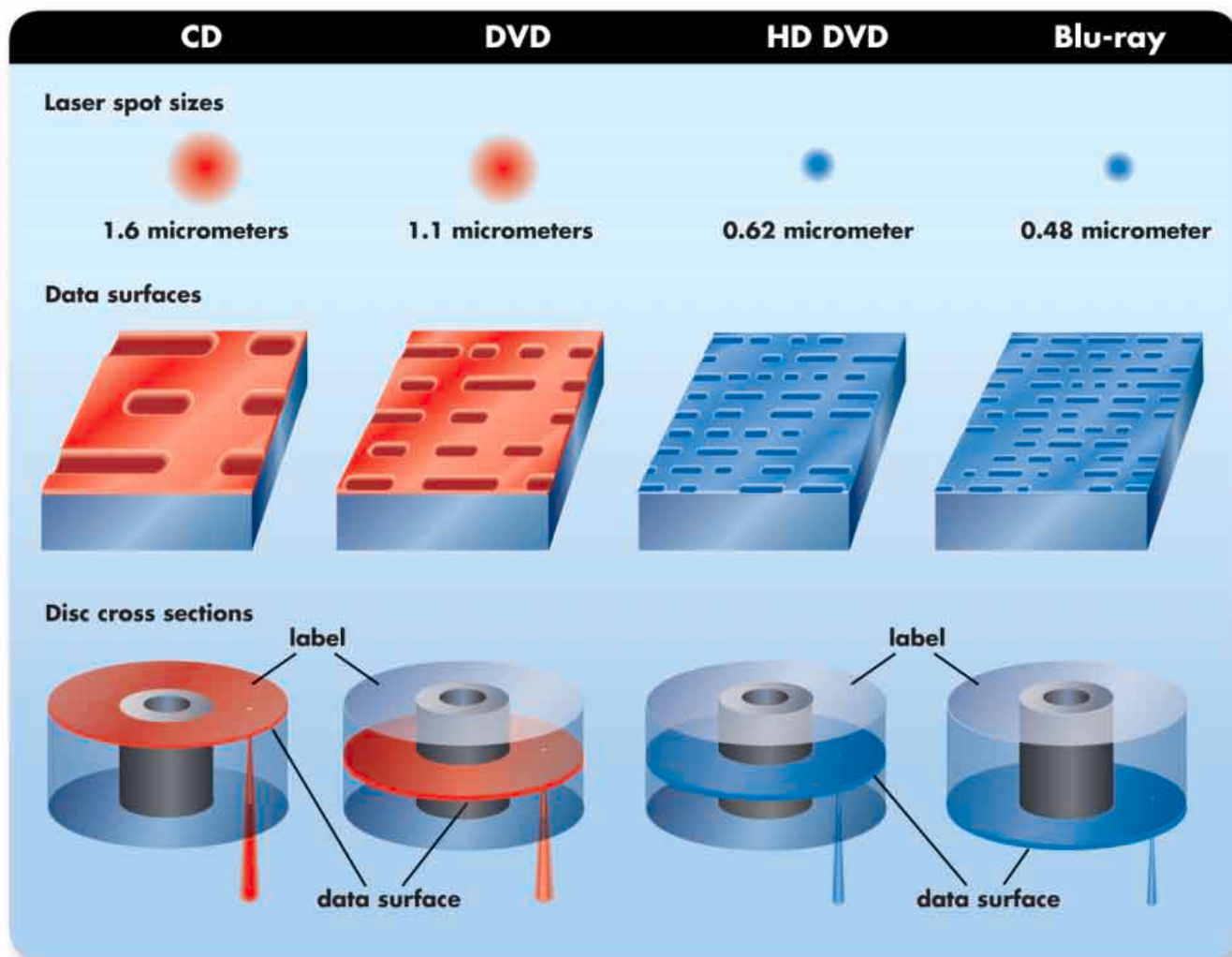
between the four formats). While each high-def format starts with a new blue laser to achieve these breakthroughs, they follow radically different paths from there.

#### Honey, I Shrunk the Pits

The key technology behind both HD DVD and Blu-ray is the blue laser, an evolutionary development of the infrared and red lasers used in CD and DVD players. The wavelength of the light coming from the blue lasers in both high-def disc formats is 405 nanometers (*billionths* of a meter), which is shorter than the DVD wavelength of 650 nanometers (a pure red) and nearly half the CD wavelength of 780 nanometers (in the near-visible infrared). Using a shorter laser wavelength allows a much smaller spot to be focused onto the reflective data layer (see "Laser spot sizes" in the diagram on the next page).

Using a smaller spot lets you shrink everything on the disc pro-

By David Ranada



Top, the red and blue laser spots used to read the four optical-disc formats are shown to scale, though greatly enlarged. Middle, the data surfaces are shown to scale in simulations of atomic-force-microscope scans of the pit layers. Bottom, vertically to-scale renditions of the disc layers used by the four formats.

portionally to increase the amount of data you can pack in. This happened once before with the move from the CD's infrared laser to DVD's shorter-wavelength red laser. The data-carrying pits and the spacing between revolutions of the pit trail (the "track pitch") are both substantially smaller with Blu-ray and HD DVD than they were with DVD. (See the table on the facing page and the "Data surfaces" diagrams above. It's a delicious historical irony that some of the atomic-force microscope photos on which the diagrams are based were made by dragging a microscopic stylus over the disc — shades of the phonograph!)

Optically, the HD DVD system was arrived at by taking a standard DVD and shrinking the dimensions of the data layer as much as the new laser wavelength allows. DVDs and HD DVDs have the same diameter, and both use the same sandwich

construction made up of two 0.6-mm substrates, only one of which usually carries data, bonded with an adhesive to create a disc 1.2-mm thick (same as a CD). DVDs and HD DVDs have the same thickness as CDs to retain compatibility with current disc-loading mechanisms. Otherwise, DVDs and HD DVDs could be half as thick.

## Small Size, Big Problems

But having a disc that thin would have compounded a problem that arises when you shrink both the laser spot size and the width of the data tracks: the thinner the disc, the more sensitive it is to "tilt" and other optical imperfections that can distort or redirect the laser beam. Rather than use a diagram to illustrate this problem, I'm going to ask you to try an experiment.

Take the bottom side of a DVD or CD,

hold it up *at arm's length*, and adjust its position so that you're looking straight on at the reflection of your eye. This represents the ideal disc-scanning geometry, where the laser beam hits the disc at right angles and is reflected directly back into the scanning lens (your eye).

Now, with the disc still at arm's length and with you still looking straight ahead, slowly turn or tilt the disc until you can no longer see your eye's reflection. Remember the angle at which you lose the reflection. You've just simulated what happens to a player's scanning mechanism when a disc is tilted with respect to the laser.

Disc tilt can come from many sources, such as a mechanical misalignment — one reason you don't want to have to redesign a properly working disc mechanism. A more likely source of deviations from perfect flatness is poor disc molding during manufac-



ture or warping from poor storage afterward. In the worst cases, disc tilt can cause a laser to lose track of the trail of data pits completely, just as you lost view of your eye when you tilted the mirror.

In milder cases, slight disc tilt and other misalignments cause the laser spot to change from a circle to an ellipse. The problem with ellipse-shaped laser spots is that they can pick up more than one track of disc data at a time. Auxiliary elliptical spots are sometimes used, in fact, to help center the main reading beam on the data track.

In any case, a deformed reading spot probably won't be able to register the shape of the passing pits precisely, causing the scanner's electronics to produce a misshaped waveform in which it's difficult to tell a recorded "1" from a "0." This makes disc error rates go up, possibly beyond the point where the player's error-correction systems can compensate. And this is only with DVDs — things get even more dicey when you're using the reduced laser spot, pits, and track pitch of the new high-def formats.

There are two ways to combat disc tilt. You can tighten manufacturing tolerances for disc flatness (for instance, HD DVD's limits for disc tilt are a few percent tighter than for DVDs), or you can move the reflecting surface closer to the laser. Pick up your disc again. This time, hold it only 6 inches or less from your face. While looking straight at the surface, tilt it again. You'll notice this time that the angle at which you can hold the disc before you lose the reflection of your eye is *much* greater than before.

You've just experienced what a DVD player's scanning mechanism encounters when you switch from playing a CD, in which the laser has to shine through a 1.2-mm substrate to get to the reflective data surface, to playing a DVD or HD DVD, where the

data surface is only 0.6 mm beneath the disc's surface — a huge change of optical distance. While the pits and track pitch are smaller on a DVD than a CD, having the reflecting surface closer to the lens reduces the system's sensitivity to tilt. In fact, both DVDs and HD DVDs use a sandwich construction to address the optical necessity of moving the reflecting surface closer to the lens and the mechanical necessity of making a disc as thick as a CD.

## So Near and Yet So Far

To achieve an even higher data capacity than HD DVD while using the same laser wavelength, Blu-ray lasers produce an even smaller spot, allowing for an even smaller pit size and track pitch. But to do this the reflecting layer has to be even closer to the lens. And to focus so closely, you have to use a considerably different lens design than the one in DVD players. The data layer in a BD is only 0.1 mm underneath the disc surface — one-sixth the distance of the same layer in a DVD or HD DVD (see "Disc cross sections" in the diagram on the facing page).

Aside from considerably increasing data capacity, Blu-ray's more radical approach to a high-def format has several notable consequences. The first is that most dreaded of consumer-electronics words: incompatibility. The problems begin at the factory. The equipment for manufacturing DVDs and HD DVDs is designed to handle separate, 0.6-mm-thick disc layers, which are then glued together for the final disc. But BDs use a single, 1.1-mm-thick substrate and a 0.1-mm protective layer through which the laser shines. This requires an expensive change-over to all-new disc-pressing and manufacturing processes and machines.

Also, DVD optical-scanning mechanisms are optimized for focusing on the deeper

data layers in DVDs and HD DVDs. The laser-pickup mechanisms in Blu-ray players and recorders also need to be able to read CDs and DVDs as well, and possibly even HD DVDs. So laser pickups that can handle a number of disc formats are likely to be more expensive than ones optimized just for BD.

Bringing the data layer closer to the disc surface also increases Blu-ray's sensitivity to surface defects like scratches, dust, and fingerprints. With CDs, DVDs, and HD DVDs, the defects are out of focus by the time the laser spot hits the data layer inside the disc, minimizing interference. The first Blu-ray prototype discs had disc cartridges to guard against surface contamination, but recent prototypes have had a "hard-coat" layer (which TDK uses on some of its recordable DVDs) that reduces data-corrupting disc damage. Nonetheless, for reliable operation, it'll probably be important to keep BDs as clean and scratch-free as possible (not a bad idea for *any* optical format).

**W**hile the impending format war between Blu-ray and HD DVD stems from their incompatible optical systems, the only thing audio- and videophiles really care about is what's recorded on the discs. In the months leading up to the new formats' launches, we'll run articles and columns examining the substantially improved video and audio expected from the use of advanced encoding systems that are being standardized even as I write. We'll also look at the new worlds opened up by the extensive game, menu, and Internet interactivity that's being designed into these systems from the start. For years, the differences between products and even formats have been insignificant. But now the excitement is back. Whatever Blu-ray and HD DVD prove to offer us, it's *not* going to be "same old, same old." **S&V**

OPTICAL-DISC FORMAT SPECIFICATIONS

Prerecorded formats	CD	DVD	HD-DVD	BLU-RAY DISC
Maximum data rate, in megabits per second (Mbps)	1.4 Mbps	11 Mbps	36 Mbps	36 Mbps
Data capacity (single-side, single-layer), in gigabytes (GB)	0.74 GB	4.7 GB	15 GB	25 GB
Laser wavelength, in nanometers (nm)	780 nm	650 nm	405 nm	405 nm
Diameter of laser spot on data layer, in micrometers (μm)	1.6 μm	1.1 μm	0.62 μm	0.48 μm
Track pitch	1.6 μm	0.74 μm	0.4 μm	0.32 μm
Minimum pit length	0.83 μm	0.40 μm	0.204 μm	0.15 μm
Overall disc thickness	1.2 mm	1.2 mm	1.2 mm	1.2 mm
Distance from disc surface to data surface	1.1 mm	0.6 mm	0.6 mm	0.1 mm



SKATEBOARDING  
LEGEND TONY HAWK  
TAKES HIS HOME  
THEATER SYSTEM  
BACK TO BASICS

by Doug Newcomb

**T**ony Hawk became the world's most famous skateboarder by "going big" and performing maneuvers no one else had even thought of. But when it came to his new home, the avowed "electronics nut" decided that less is more.

It's easy to figure out which house on a quiet street in Encinitas, California, belongs to the extreme-sports legend and videogame icon — the mound of skateboards and backpacks by the front door is a dead giveaway. And when Hawk answers the door at 8 a.m., bleary-eyed and barefoot, his tall, wiry frame wrapped in wrinkled jeans and a T-shirt, it's just as easy to tell he's a hard-core gear guy.

Although he's just rolled out of bed (thanks to our pounding on his door), Hawk politely escorts us over to his den, where we find a gorgeous 61-inch Sony plasma HDTV floating above a busy equipment rack. He apologizes as he clears away his kids' toys, saying that he *had* been expecting us — just not so early. Then the still-drowsy Hawk launches into a detailed explication of his system — until I interrupt to tell him it's okay to grab a cup of coffee first. "All right," he says, "I think I'll go take a shower."

### Early Adopter

Unlike some of his young-celebrity peers, who've just discovered gadgets and stockpile them as a symbol of living large, Hawk is a long-time technophile. "Since I was a kid, I had to have the calculator watch and all that sort of stuff," he confirms after returning with a wet mop of hair and dressed in a fresh T-shirt and jeans.

"As I became successful, I could afford fancier toys, so I went crazy with technology," he says. "But it got to be a little too much. The system in my previous house was much more elaborate and complicated. This one, though, has everything I use regularly, it's less flashy, and it takes up less room. I mean, you can spend whatever you want on equipment, but how often do you really use it?"

For Hawk, the answer is, not as often as he'd like, since he spends a lot of time on the road. "I travel so much that I usually watch DVDs on my Apple PowerBook," he concedes. "Only once in a while do I get to have a movie night at home, so I make sure it's really good. The last DVD we watched was [the Jet Li martial-arts epic] *Hero*. Everyone said it was so visual I wanted to watch it at home."

One thing Hawk *has* to be at home to enjoy is HDTV. "It's mesmerizing," he says. "I find myself looking at programming I would normally not even consider watching because the picture is so brilliant." As if on cue, he flips the plasma set to a vivid high-definition program showing hot-air balloons hovering over the green, undulating Vermont countryside. And we're — mesmerized. When I snap out of a high-def-induced daze a minute later to ask what we're watching, Hawk also takes awhile to reply. "I don't know — whatever," he says. "Discovery HD, I think? But the picture is unbelievably sharp."

Hawk's only complaint about HDTV is that there just isn't enough programming. "Even when you go to the movie channels, it's hard to find," he says. A DirecTV high-def hard-disk recorder is



an essential part of the system, since it lets Hawk catch up on shows he's missed. "I had to find one on eBay since they were in such short supply," he says.

## The Game's the Thing

Hawk does almost all of his music listening on an Apple iPod. "I have over 10,000 songs in my iTunes library," he says, adding that he listens to "all kinds of music, from the Beatles to the Buzzcocks." His current playlist includes The Killers, Radiohead, Mars Volta, Dr. Dre, 999, Pixies, Le Tigre, The Cure, and Beck.

Apple's AirPort Express wireless hub feeds tunes from his PowerBook into the den system, which Hawk operates from a Crestron touchpanel remote. Scoping out the gear in Hawk's rack, we spot a sleek Sony DVD player and the beastly (140 W/ch!) Marantz SR9300 receiver, which feeds four Snell ceiling speakers for the left/right front and surround channels and a Snell center speaker in the wall above the TV. An NHT subwoofer in a cabinet next to the gear stack pounds out the bass.

Hawk also uses the den system for R&D on the phenomenally successful *Tony Hawk Pro Skater* series. "I mostly do that on a PlayStation 2 development kit, a modified unit specifically designed for testing games," Hawk explains. Gaming on a full-blown home theater setup brings "total immersion in what you're playing," he says. "It helps you appreciate how far the graphics have come." The PS2 console sits in the component stack along with a Sirius Sportster plug-and-play satellite-radio receiver. Hawk can claim that the Sportster is also for R&D since he hosts his own weekly show, *Tony Hawk's Demolition Radio*, on Sirius's extreme-sports Faction channel.

"Satellite radio has so much more clout now," Hawk says. "Before, it was, like, 'Satellite radio? What's that?' But now people say, 'Oh, that's where Howard Stern is going.' That makes it a lot easier to get celebrities on the show. A couple of weeks ago we had a Metallica show, and [drummer] Lars Ulrich called in. That was huge." Hawk reflects on his opportunity to bounce his musical tastes off satellites. "The most surprising aspect is how quickly an hour goes by when you have guests like Tom Green."

## Family Guy

Up an open stone stairway that wraps around one side of the two-story living room and down a hall lined with Dr. Seuss paintings ("I enjoy reading his books to my kids, and I like his art," Hawk says) is the master bedroom. The system here is anchored by a Sony 42-inch plasma HDTV and is fed by a Sony A/V receiver, a Sony high-def satellite receiver, and a Pioneer DVD recorder resting in a Salamander Designs stand. The TV's speakers provide stereo sound, while another Crestron touchpanel controls the components.

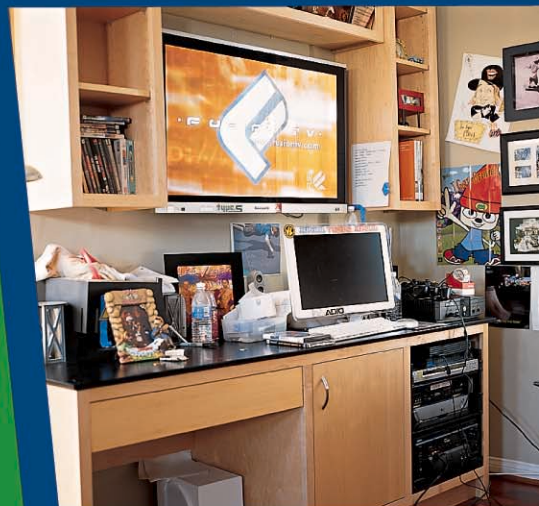
At the other end of the second story is the bedroom of Hawk's 12-year-old son Riley, who inherited his dad's 42-inch Panasonic plasma TV and, based on all the posters on the walls, his love of skateboarding, too. The rest of Riley's system consists of a Sony A/V receiver, DVD player, and satellite receiver/hard-disk recorder along with a JVC VCR, a Creative I-Trigue 5.1-channel multimedia speaker system, and, of course, PS2 and Xbox game consoles. Hawk's other sons — Spencer, 5, and Keegan, 3 — each make do with a Sony 27-inch TV and DVD player.

Hawk's obvious devotion to his family and the frustrating experiences he had with the whole-house system in his previous home both played a major role in how he set up the systems in his new house. Simplicity is especially important to Hawk considering his hectic life — what with journalists and photographers barging into his home in the early morning hours. And since home entertainment plays a huge role in his relationship with his sons, even a self-proclaimed electronics nut doesn't want to waste time fussing with an overly complex system. "I try to spend most of my free time with my sons," Hawk says. "And they're heavily into movies and videogames. *SpongeBob* is our common ground."

S&V

## TONY HAWK'S HOME THEATER

- ✗ Sony KDE-61XBR950 61-inch plasma HDTV
- ✗ Marantz SR9300 A/V receiver
- ✗ Sony DVP-NS725P DVD player
- ✗ JVC HM-DH3000U D-VHS recorder
- ✗ DirecTV HR10-250 HDTV receiver/hard-disk recorder
- ✗ Sony DHR-1000 DV-editing VCR
- ✗ Sony PlayStation 2 game console
- ✗ Sirius Sportster satellite-radio receiver
- ✗ Monster Cable HTS-5100 PowerCenter
- ✗ Crestron 1700 color touchpanel remote control
- ✗ Snell AMC 650r ceiling speakers (left/right front and surround)
- ✗ Snell AMC 460 center speaker
- ✗ NHT SW10ii subwoofer



Facing page, Hawk in front of his home theater system. Top, the system in the master bedroom features a 42-inch plasma HDTV. Middle, Hawk supervises construction of a skateboarding park in his backyard. Bottom, the home-entertainment gear in the bedroom of Hawk's son Riley.









by  
Frank  
Doris

## How to Set Up a DVD Player or DVD Recorder

It won't be long before expressions like, "Honey, don't forget to tape *American Idol* for me!" and "Let's go to the videotape" fade as disc- and hard-drive-based recording triumphs over the trusty VCR. And while DVD recorders are more complicated to set up and use than VCRs, they're getting easier — really!

DVD *players* are even easier to hook up because they only have to send signals without receiving any. Since every DVD recorder can also be used as a player, we'll begin with player hookup before going through the options for connecting your recorder.

### Time for Some Playback

Basic setup is the same whether you're using a player or a recorder for watching DVDs. Begin by hooking up the audio. To enjoy Dolby Digital or DTS surround sound, you'll need to run a coaxial, optical, or HDMI (High Definition Multimedia Interface) digital cable from the player or recorder to your A/V receiver or preamp/processor. (An HDMI cable will also carry your video signals.) If your machine also plays DVD-Audio discs or Super Audio CDs and you

want to experience the high-resolution mix, you'll need to run six cables — five for the main speakers and a sixth for the subwoofer — from the player's multichannel analog output to the receiver's corresponding input. A few high-end players and receivers let you do this through a single digital connection.

Next, hook up the video using the best-quality connection you can. The lowest-quality video you can get from a DVD player is through the composite-video output — the familiar yellow RCA jack found in a trio with red and white analog stereo jacks. Instead, use either the S-video output, which has a four-pin connector, or the component-video output, which has three RCA connectors, usually color-coded red, green, and blue. Both will give you much better image quality than composite video, with component being an improvement over S-video.

Progressive-scan video can provide a noticeably smoother image than conventional scanning. If you have a digital TV and a progressive-scan player or recorder, you *must* use the player's component-video output, switched to its progressive-scan mode (see "Tech

Talk,” page 29). But you might be able to make an even higher-quality *digital* video connection. While DVI (Digital Visual Interface) is the most common digital connection, we’re starting to see models with the newer HDMI. But you can’t use a digital video output unless your A/V receiver or TV has a corresponding input.

To make the video connection, run the appropriate cable (or trio of cables for component video) from your player or recorder’s video output to the corresponding input on your receiver. You could make this connection directly to your TV, but if you have a number of A/V sources — say, a DVD player/recorder, a cable box or satellite receiver, a VCR, and a hard-disk recorder — connecting them all through your receiver will let you easily switch between them.

## From Recorder to TV

While many people route all their audio and video signals through a receiver, some still prefer to hook up their DVD recorders directly to their TVs, just like they did with their VCRs. We’ll consider this most basic type of recording setup before moving on to more flexible options.

First, disconnect all the cables from your VCR since the DVD recorder is going to take its place. (You can reconnect the VCR later.) If you plan to use the recorder’s tuner for switching TV channels, next connect the antenna (RF) output from your cable box or satellite-TV receiver to the recorder using a standard coaxial cable (the twist-on kind used in all TV installations). Sometimes this is the only kind of connection to the recorder a cable box or satellite receiver will let you make.

But all recent models give you the option of using

either the standard RF connection *or* separate audio and video outputs. If yours has separate A/V outputs, use them since they’ll give you better picture and sound. Depending on your equipment, you might even have a number of alternatives for these connections.

If your cable box or satellite receiver has only composite-video and stereo-audio outputs, connect these to the corresponding inputs on the DVD recorder. But more and more TV source components also have S-video and component-video outputs. As with connecting a plain DVD player, use component video if you can, S-video otherwise — most DVD recorders have a component-video *output* but, at best, only an S-video input. Similarly, while most DVD recorders have an optical or coaxial digital audio output, no current model has any kind of digital audio *input*. That means your recorder will accept only analog stereo, and you’ll need to connect the receiver’s stereo output to the recorder’s audio input.

Even if you don’t use the antenna output to connect your cable box or satellite receiver to your DVD recorder, you’ll still want to make an RF connection from the source component to the TV so you can watch one live program while recording another. If you’re *not* using a cable box or satellite receiver, you’ll need to run the an-

You have many options when you connect a DVD recorder to your system.

Here is one typical setup, where the recorder is routed through an A/V receiver. The receiver allows you to switch between your various source components — like a cable box (shown) or a VCR — and send their signals to the DVD recorder for recording. In this arrangement, you use the tuner in the cable box to change channels rather than the one built into the DVD recorder.

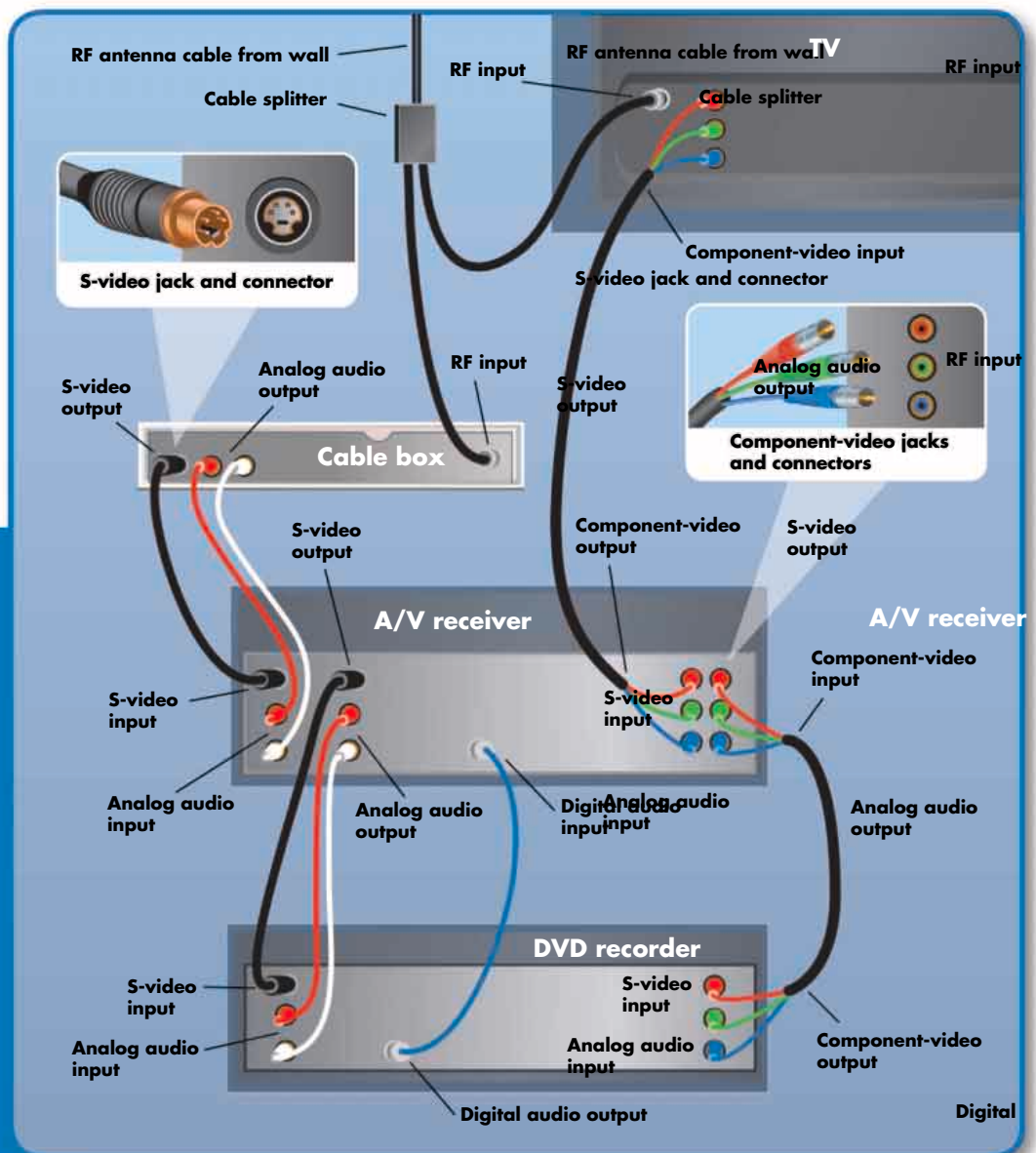


DIAGRAM BY DMITRY SCHLODINSKY





tenna cable directly to the DVD recorder's RF input so you can use the recorder's tuner to switch channels.

**Important note** While none of the current DVD recorders can record HDTV signals with full resolution, you *can* record HDTV to DVD at standard resolution. (Disc-based recorders that can handle high-def signals are on the horizon, but for now you need one of the few hard-disk recorders that can record high-def.)

**Another important note** You *can't* connect your VCR between a DVD recorder and your TV the way you used to connect it between your cable box and TV. If you send the signal from a DVD player through a VCR on the way to the TV, the copy protection on most commercial DVDs will make the VCR think you're trying to make an illegal copy — even if you haven't hit record! — and render the picture unwatchable. If you want to be able to record the same program on both DVD and videotape recorders, you can use an RF splitter to feed the same signal to both decks and then connect their outputs to separate A/V inputs on your A/V receiver or TV.

### Are You Receiving Me?

I noted earlier that it can be more convenient to connect your DVD player to an A/V receiver rather than directly to your TV. The same applies to DVD recorders, only more so. Not only can the recorder double as your main DVD player, supplying excellent picture quality and surround sound to your home theater, but you'll be able to make recordings from all the other source components hooked up to the receiver — a cable box or satellite receiver, a VCR, a game console, whatever. The only things you won't be able to record are copy-protected discs played on another DVD player or copy-protected videocassettes played on a VCR. Again, be sure to make the best possible video and audio connections between the recorder, the other source components, and your receiver.

### So Many Options

As infomercial king Ron Popeil likes to say, "But wait — there's

more!" DVD recorders can offer more features than a Veg-O-Matic. My favorite is front-panel A/V inputs, which let you easily plug in a camcorder or a VCR for dubbing tapes to DVD. Most recorders can also accept an IEEE 1394 (a.k.a. FireWire or i.Link) output from a digital camcorder, and this all-digital connection can yield very high-quality video and audio. Cue Ron again: "Isn't that *amazing*?"

More and more DVD recorders also have hard drives, which let you take advantage of all kinds of useful functions — like watching a program from the beginning while it's still being recorded, recording a program to DVD while you watch another you've previously recorded to the hard drive, setting up future recordings by making selections on an electronic program guide, and convenient video editing. Instead of a hard disk, some DVD recorders also have a built-in VCR for easy tape-to-disc dubbing. And some models even have an Ethernet connection for linking the recorder to a home network and the Internet.

### Set 'Em Up, Joe

Once you've connected the DVD recorder, you need to use the remote control and onscreen menus to go through a one-time set-up procedure. While this varies somewhat from model to model, most step you through a series of menus for things like onscreen language, tuner and channel setup, the shape of your TV picture (widescreen or standard), and audio setup. The menus will also provide options for controlling recording and playback ranging from simple, VCR-like timer recording to advanced functions like disc titling, playlist creation, and scene editing.

**W**hen all is said and done, installing and setting up a DVD recorder is a lot less complicated than you might think — not like, say, assembling a kids' bike or trying to figure out what to get your wife for her birthday! The first time I tried a DVD recorder, I was hooked — and I know you will be, too.

**SAV**

EDITED BY JOSEF KREBS

# The Man Ray

Foxx finds the spirit of the Genius



## RAY

Universal

Movie ★★☆☆ DVD★☆☆

**B**iopics of great 20th-century musicians almost never hurt for drama. The life of a passionately dedicated, incessantly touring artist is always rife with trouble: conflicts with loved ones and collaborators, personal demons, and the mounting pressures of fame and fortune. The hard part of making a decent movie from all this promising raw material is usually the music itself. Too often, even talented actors come off as mere lip-syncers.

In the case of *Ray*, however, Jamie Foxx not only nails the music of Ray Charles but gives a performance that rescues the film from falling into mediocrity, as he truly earns his Best Actor Oscar. A classically trained pianist himself, Foxx aces 96 separate music cues while continuously capturing Charles's singular musical spirit. It's quite a thrill to see the legend's youthful genius brought so vividly to life, since most of us were too young to witness it for ourselves.

Sadly, the rest of *Ray* is far less compelling. Writer/director Taylor Hackford and co-writer

James L. White reduce Charles's relatively complex artistic achievements to a simple formula (gospel + R&B = soul) and dwell too long on his admitted womanizing and heroin addiction. In its worst moments, the film displays the empty sheen of a high-budget made-for-TV movie. But then the camera moves in on Foxx at the piano, and it's magic time again.

The playing and singing sound just as they should, thanks to a powerful multichannel mix (which also won an Oscar). Charles's original recordings from the 1950s and '60s now have new depth and clarity. Picture quality is equally first-rate. Throughout the many turns in Charles's life — from the dive bars of his early days to the grand concert halls of his middle career — images remain sharp and detailed, with vivid yet realistic colors.

The extras on the single-disc edition don't match the scale of the film itself. Yes, you get a commentary by Hackford and full-length versions of two of the musical numbers. But there's a scant 15 minutes worth of documentary footage (even if it does include Charles playing alongside Foxx). And the centerpiece of the extras is a half-hour of thankfully deleted footage.

These 14 outtakes are polished to the same technical standards as the rest of the film, but

since they focus even more on Charles's worst traits, had they been included they would have left the movie hopelessly out of balance. The scenes are available as a group on Side 2 of the DVD, but they can also be viewed inserted, on-the-fly, into the theatrical cut of the film to create an extended version. This doesn't work at all: with their rough transitions and repetition of moments already just seen, the inserts are disorienting and only upset the flow.

For a better DVD experience, you'll need the elegantly packaged two-disc edition. It adds seven more extended musical scenes (each introduced by Foxx), featurettes on the women in Charles's life and the making of the film, and a half-hour documentary on the man himself. **[PG-13] English and French, Dolby Digital 5.1; letterboxed (1.85:1) and anamorphic widescreen; one two-sided and one dual-layer disc.**

Ken Korman

## I ♥ HUCKABEES

20th Century Fox

Movie ★★☆☆ DVD★☆☆

Co-writer/director David O. Russell's movie gallops with blinding speed. It has to, because it takes on New Age idealism, Orwellian corporate branding, midlife angst, and unrepentant nihilism — all outsized and played for laughs by Dustin Hoffman (in rare form), Lily Tomlin, Jude Law, Mark Wahlberg, and Isabelle Huppert. Russell's world is full of unfathomable absurdities, but the filmmaker is no satirist; he's a surprisingly positive humanist. Accordingly, *Huckabees* has a lustrous glow to it. Colors are bright and bouncy, with particularly vibrant reds. But the surround channels are used sparingly, almost to the point of nonexistence — odd, given the film's intense look and relentless pace.

Extras on the single-disc edition are limited to a commentary by the director and another where he's joined by stars Wahlberg, Naomi Watts, and Jason Schwartzman. The two-disc edition adds

## STAR SYSTEM

Stellar ★★★★★

Excellent ★★★★

Good ★★★

Fair ★★

Poor ★

Movie refers to the original film.  
DVD refers to the film's presentation on disc, including picture and sound quality as well as extras.



extended and deleted scenes, a *Charlie Rose Show* interview, a gag reel, Jon Brion's "Knock Yourself Out" music video, and two production featurettes. **[R] English, Dolby Digital 5.1; Spanish, Dolby Surround; pan-and-scan, letterboxed (2.35:1), and anamorphic widescreen; two dual-layer discs.** *Marc Horowitz*

## VERA DRAKE

New Line

Movie ★★★★★ DVD ★★★★★

*Vera Drake* tells the unlikely tale of a sweet, middle-aged, working-class woman who also happens to be an abortionist. And in 1950s London, abortion was only "legal" for those who could afford it. Writer/director Mike Leigh (*Secrets & Lies*, *Topsy-Turvy*) wisely forgoes overt social commentary, instead emphasizing the human side of the story to great dramatic effect. In doing so, he scales another peak in his distinguished career.

The fine-grained picture is bright, sharp, and detailed, and the sound is equally impeccable, its clarity making the dialogue easy to understand despite thick English accents. All of this only emphasizes the bleakness of the tenement interiors and the often desperate voices within. No extras are included, which is a shame because this isn't the sort of film that will likely get a special edition, three major Oscar nominations notwithstanding.

**[R] English, Dolby Digital 5.1, DTS 5.1, and Dolby Surround; letterboxed (1.85:1) and anamorphic widescreen; dual layer.** *Ken Korman*

## EASTER PARADE

Warner

Movie ★★★★★ DVDs ★★★★★

## THE BAND WAGON

Warner

Movie ★★★★★ DVDs ★★★★★

At long last, these two Fred Astaire classics are on DVD! *Easter Parade* (1948), directed by Charles Walters and written by Frances Goodrich and Albert Hackett, is a joyous showbiz romance bursting with 17 Irving Berlin standards. And *The Band Wagon* (1953), directed by Vincente Minnelli and written by Betty Comden and Adolph Green, is a fabulous potshot at Broadway — and possibly the best musical ever.

Both films have been given the profound benefits of the same Digital Ultra-Resolution process that was most recently used in the Technicolor restoration of *Gone with the Wind*. Aside from their now extraordinary color quality, these landmark MGM crowd-pleasers are razor sharp. And they both have marvelously buoyant, booming mono soundtracks. *The Band Wagon* also offers a meticulous 5.1-channel remix as a fine alternative. It subtly underlines the fantastic arrangements of the Metro musical maestros.

Each of the two-disc special editions is packed with extras. *Easter Parade* has a commentary by Astaire's daughter Ava, helped out by Judy Garland biographer John Fricke. *The Band Wagon's* commentary is by Minnelli's daughter Liza, accompanied by Michael Fein-



Imelda Staunton, Phil Davis (in the background), and Helen Coker in *Vera Drake*

stein. New documentaries uncover much fascinating behind-the-scenes machinations, and there are wonderful trailer galleries for Astaire and Garland.

*Easter Parade* also includes the riveting feature-length *American Masters* biography *Judy Garland: By Myself*, a radio adaptation played by the stars, and Garland's endless retakes of one scene, revealing the often grueling toil involved in creating an effortless musical number (ironically, "Mr. Monotony"). *The Band Wagon* includes the Minnelli episode of the acclaimed 1973 series *The Men Who Made the Movies*, a rare Vitaphone short film featuring co-star Jack Buchanan, and a wisely excised Cyd Charisse number, "Two Faced Woman." **Both: [NR] English, Dolby Digital 5.1; full frame (1.33:1). *Easter Parade*: French, Dolby Digital 5.1; two dual-layer discs. *The Band Wagon*: English and French, Dolby Digital mono; one dual-layer and one single-layer disc.** *Mel Neuhaus*

## BEING JULIA

Sony

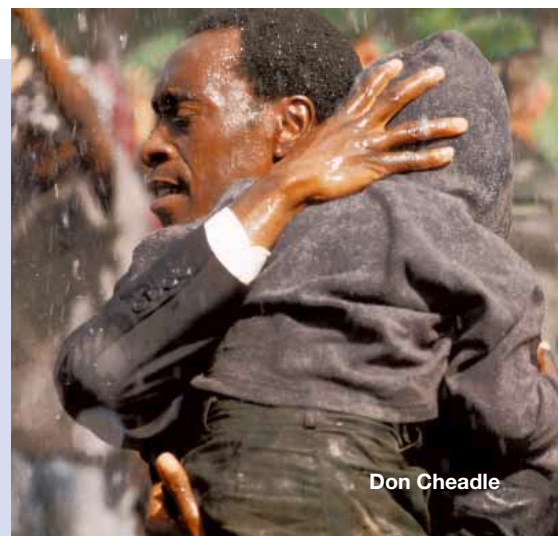
Movie ★★★★★ DVD ★★★★★

In this charming adaptation of W. Somerset Maugham's novel *Theatre*, Annette Bening plays a London stage star who deals with her midlife crisis by cheating on her producer/husband (Jeremy Irons) with a younger man. It's more a "smile" comedy than a laugh-out-loud one, but it gives Bening her best role in years (for which she earned an Oscar nomination). And it gives director István Szabó a much-needed break from his usual heavyweight political dramas like *Mephisto* and *Colonel Redl*. The picture is all radiant lighting and fine detail, even in night scenes. The many period songs from the 1930s are nicely integrated in the 5.1-channel soundtrack, which also offers decent ambience. There's an amiable commentary by Szabó, Bening, and Irons (who serves

## Grace Under Pressure

**H**otel Rwanda (MGM; Movie

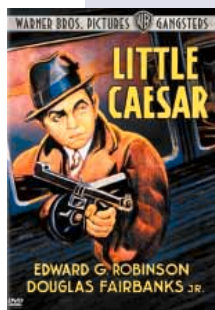
★★★★★, DVD ★★★★★), writer/director Terry George's solid account of how hotel manager Paul Rusesabagina saved 1,200 lives during the Rwandan genocide of 1994, achieves its emotional impact with a careful mix of accuracy and restraint. (We don't see people hacked to death with machetes, but we don't need to.) This extends to the dignified and passionate acting of the Oscar-nominated Don Cheadle and the rest of the cast, including Sophie Okonedo and Nick Nolte. The 2.35:1 widescreen transfer is brightly lit and crisply detailed, even in day-for-night shots, and the Dolby Digital 5.1 soundtrack has palpable ambience and precisely placed effects, though dialogue is sometimes a little obscured. The commentary is actually George's interview of Ruse-



Don Cheadle

sabagina, which alone makes the DVD extraordinarily valuable. Selected scenes come with Cheadle's commentary, and you also get a couple of decent making-of documentaries. *Sol Louis Siegel*

# Hoods in the Hood



Warner Bros. virtually created the gangster flick, and the tough, uncompromising classics in the six-disc **Gangsters Collection** (Warner; Movies ★★★★★, DVDs ★★★★★) display all the characteristics of the famed studio at its peak: lightning pace, fast talk, raunchy situations, gallows humor, and violence. They also made superstars out of contract players James Cagney, Humphrey Bogart, and Edward G. Robinson.

Mervyn LeRoy's *Little Caesar* (1931) and William Wellman's *The Public Enemy* (1931), two benchmark examples of sociopaths rising to mob royalty, helped ignite the genre and are the highlights of this collection. Archie Mayo's *The Petrified Forest* (1936) portrays the fear of a deserted diner's denizens who are terrorized by escaped killers. The modern racial intermingling is unlike anything from that era, but it's Bogart's powerhouse performance that understandably carries the show.

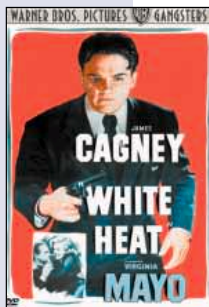
Michael Curtiz's lavish *Angels with Dirty Faces* (1938) and Raoul Walsh's *The Roaring Twenties* (1939) both pit Cagney against

Bogie in almost nonstop, dizzying action. And Walsh's *White Heat* (1949) remains

one of the all-time greats, with Cagney's raging psychotic ascension to his hellish "top of the world."

The restored look on DVD is aces — stark, crisp black-and-white with glossy expressionist lighting (only *White Heat* purposely uses a grittier approach). *Little Caesar* and *The Public Enemy* are especially outstanding. After decades of videos made from inferior 16mm prints, these two discs have been created from original 35mm film elements, with previously excised material from *Enemy* now restored (notably a breakfast-in-bed scene and an extended encounter with a gay tailor). The Dolby Digital mono soundtracks have remarkable buoyancy and clarity for their age. Curiously, it's the main title music from later works (*Angels*, *Twenties*) that carries signs of wear in some slight crackle, but this is a minor complaint.

The films come with bountiful extras, including commentaries by noted film historians and new making-of documentaries. Each also gets the "Night at the Movies" treatment, with vintage shorts, cartoons, newsreels, and galleries of trailers from the year of production. *Angels* and *The Petrified Forest* further include radio productions with the films' original stars. *Mel Neuhaus*



ping, quality entertainment of the sort that used to be reserved for movie theaters.

They share a tough, harsh realism, heightened by natural-looking images that are sharp enough to reveal every detail. They also have excellent Dolby Digital 5.1 soundtracks with intelligent use of surround effects to enhance and complement the action onscreen. And the music in *The Wire* has exceptional presence. Sadly, the only extras accompanying this show are two fluffy commentaries. *The Grid* not only has commentaries by director Mikael Salomon and co-writer/executive producer Tracey Alexander for Episodes 3 and 4 but also includes 19 mini-commentaries on certain scenes by the actors. In addition, there are 13 deleted scenes and three production featurettes.

**Both:** [NR] English, Dolby Digital 5.1. **The Wire:** English, French, and Spanish, Dolby Surround; full frame (1.33:1); five dual-layer discs. **The Grid:** letterboxed (1.78:1) and anamorphic widescreen; two dual-layer discs. *Rad Bennett*

## BUNNY LAKE IS MISSING

Sony

Movie ★★★★★ DVD ★★★★★

Director Otto Preminger's bizarre, mesmerizing 1965 psycho thriller — a noirish tour of the fringes of swinging London — remains one of his greatest late works as well as one of the decade's most

intriguing artifacts. The tale of child abduction, depravity, and mental disintegration is told with the help of a precise script, an expert cast (headed by Laurence Olivier), and brilliantly creepy British locations. The pristine black-and-white 2.35:1 Panavision picture is sinister and shadowy. The dark, velvet images combine with the director's bravura camera moves to make for one goose-bumpy ride. The standout crisp and clean mono sound allows you to appreciate co-screenwriter John Mortimer's sardonic barbs while savoring the pleasures of specially composed songs by the Zombies. [NR] English, Dolby Digital 2-channel mono; letterboxed (2.35:1) and anamorphic widescreen; single layer. *Mel Neuhaus*

as moderator) plus behind-the-scenes featurettes and deleted scenes. [R] English, Dolby Digital 5.1; letterboxed (1.85:1) and anamorphic widescreen; dual layer. *Sol Louis Siegel*

## SHARK TALE

DreamWorks

Movie ★★★★★ DVD ★★★★★

Here's another computer-animated underwater adventure, replete with the requisite double entendres, pop-culture references, and A-list voiceovers — including Will Smith, Renée Zellweger, and Angelina Jolie. Even Robert De Niro and Martin Scorsese join in the fun. It's not as joyous or involving as *Finding Nemo*, but there are plenty of giggles, many of which are prompted by the reliably zany Jack Black as a misfit vegetarian shark.

Nominated for Best Animated Feature, *Shark Tale* looks dynamite on disc, with a big, well-defined color palette and none of the smearing or outlining of images that sometimes shows up in digital animation. The 5.1-channel mix shines as well: the fish really sound like they're moving through a liquid environment that encircles you, an audio-engineering feat that is tough to sustain through an entire flick. Voluminous extras include a commentary by directors Vicky Jensen, Bibo

Bergeron, and Rob Letterman as well as numerous making-of featurettes, multiple cast-and-crew interviews, a slew of interactive games for kids, and a collection of technical bloopers. You also get the "Car Wash" music video by Christina Aguilera and Missy Elliott, characters demonstrating their dance moves at Club Oscar, and actor auditions. [PG] English, Dolby Digital 5.1 and Dolby Surround; French, Dolby Digital 5.1; Spanish, Dolby Surround; letterboxed (1.85:1) and anamorphic widescreen; dual layer. *Marc Horowitz*

## THE WIRE: SEASON 2

HBO/Warner

Series ★★★★★ DVDs ★★★★★

### THE GRID

20th Century Fox

Series ★★★★★ DVDs ★★★★★

Here are two thrilling, suspense-laden stories about surveillance and police work. The dozen hour-long episodes in the second season of the TV series *The Wire* (on a five-disc set) involve the capture of a criminal ring moving drugs through the docks of Baltimore. *The Grid*, a six-episode, five-hour miniseries spread across two discs, focuses on the search for international terrorists in the post-9/11 world. Each offers grip-

## TOUT VA BIEN

The Criterion Collection

Movie ★★★★★ DVD ★★★★★

The collaboration between Jean-Luc Godard and the younger leftist Jean-Pierre Gorin stars Jane Fonda and Yves Montand as a couple who get caught up in a factory strike in 1972 — three years after the French upheavals of May '68 have ended. It's actually one of the most democratic films ever shot, as its makers give voice to all the working-class characters who are fed up with the orthodoxies of their bosses, the government, unions, and even the Communists but who haven't found an alternative. The picture is as crisp and vividly colored as if it had been shot



yesterday. The mono sound handles the innumerable layers that Godard throws in, especially during the virtuoso megastore riot scene near the end. *Letter to Jane*, the hour-long Godard/Gorin film essay on a photograph of Fonda in North Vietnam, is included along with new and vintage interviews and a 40-page booklet. **[NR] French (with English subtitles), Dolby Digital mono; letterboxed (1.66:1) and anamorphic widescreen; dual layer.** *Sol Louis Siegel*

## DEADWOOD: SEASON 1

HBO

Series ★★★★★ DVDs ★★★★★

The 12-episode first season of the TV series *Deadwood* (here in a six-disc set) is a gritty, unglamorous portrait of the town that was spawned by the gold strike of 1876. Although compelling drama, it's tough going until the show hits its stride and you begin to catch glimpses of beauty in a place that otherwise might pass for hell on earth. The detailed picture makes you aware of all the grime, dirt, and rough-hewn construction, while the soundtrack balances clean dialogue and crowd ambience.

Extras are singularly involving: in addition to four informative cast-and-crew episode commentaries, they include an interview of creator David Milch by star Keith Carradine, a revealing featurette on the lives of Wild Bill Hickok and Calamity Jane, and another featurette on the special language of *Deadwood*, more profane than any heard in a western to date. **[NR] English, Dolby Digital 5.1 and Dolby Surround; French and Spanish, Dolby Surround; letterboxed (1.78:1) and anamorphic widescreen; five dual-layer discs and one single-layer disc.** *Rad Bennett*

## Shedding Light on *Darko*



Jake Gyllenhaal

If cult movies come in many flavors, **Donnie Darko: Director's Cut** (20th Century Fox; Movie ★★★★★, DVDs ★★★★★) may constitute an entire cuisine unto itself. The story involves a troubled

adolescent who can't escape a demonic six-foot rabbit, though he has found the secret to time travel (or not, depending on one's interpretation). This cut, created and released in theaters after the original version's DVD brought the film new acclaim, incorporates 20 minutes of deleted footage. Adding it back, writer/director Richard Kelly aims to enhance the sci-fi and comic-book sensibilities of the film, and he certainly succeeds.

Image quality is a little too grainy to rank with the best, but the intricate, dynamic soundtrack underscores the movie's creepy vibe. A wonderfully chatty commentary by Kelly and his pal, fellow director Kevin Smith, adds to the fun, and on Disc 2 there are storyboard-to-screen comparisons and an hour-long production-diary video. Other extras examine the movie's cult following with a featurette on the phenomenon and a short film by the winner of the "Donnie Darko #1 Fan" contest, who seems to cross the line into stalkerhood. *Ken Korman*



Rebel without a cause (yet): Bernal and De la Serna in *The Motorcycle Diaries*

## THE MOTORCYCLE DIARIES

Universal

Movie ★★★★★ DVD ★★★★★

*The Motorcycle Diaries* is a Spanish-language film about the formative years of controversial revolutionary icon Ernesto "Che" Guevara (Gael García Bernal) and his pal Alberto Granado (Rodrigo de la Serna). It's also the kind of art movie that's easy to love. Jose Rivera's Oscar-nominated screenplay focuses on the pair's 5,000-mile motorcycle journey in 1952 going up through South America from Argentina to Venezuela, and it offers a fresh, passionate, and joyous look at a time of life (and an era) in which everything seemed possible. Image quality is both lush and crisp — a special treat given the breathtaking landscapes in Eric Gautier's cinematography.

The 5.1-channel mix is fairly subdued but serves the material well, especially in the music and the Oscar-winning song, "Al Otro Lado

Del Río," by Jorge Drexler. Extras include deleted scenes, conversations between Bernal and composer Gustavo Santaolalla, and a half hour's worth of documentary segments highlighted by a still-thriving 80-something Granado, whose presence sweetly connects the film back to real life. **[R] Spanish (with English subtitles) and French, Dolby Digital 5.1; letterboxed (1.85:1) and anamorphic widescreen; dual layer.**

*Ken Korman*

## HERO

Miramax

Movie ★★★★★ DVD ★★★★★

## THE BLIND SWORDSMAN: ZATÔICHI; SONATINE

Miramax

Movies ★★★★★ DVDs ★★★★★

Zhang Yimou's *Hero* is a true epic — not because of its extravagant sets and costumes but for its grand storytelling and rich themes. The tale of a heroic assassin (Jet Li) and three enemies of the King of Qin — the warlord who would unite China — is told and retold from different perspectives, *Rashômon*-style, with the truth getting more complex and ambiguous. The staggering visuals and *Crouching Tiger*-like action scenes are elements in a satisfying, integrated whole. Images are spectacular: colors are bold and beautiful, shades of gray and black are well defined, and there is a feast of detail, from suspended raindrops to the reflections in a lake. The 5.1-channel sound places you right in the center of storms and battles, with Itzhak Perlman's violin in the Tan Dun score somewhere behind your left ear. Extras include a making-of puff piece, storyboards, and a Quentin Tarantino interview with Li.

With the dark but entertaining *The Blind Swordsman: Zatoichi*, writer/director/star Takeshi Kitano reinvents the classic Japanese character. The story of a warrior defending villagers from local thugs is nothing new (see Akira Kurosawa's *Yojimbo* or Sergio Leone's version, *A Fistful of Dollars*), but the fractured narrative and explosive, stylized violence are pure Kitano. *Zatoichi* appears here in a two-film, two-disc set with the director's *Sonatine* (1993), a strange, dreamlike gangster movie most notable for its spasms of intense, poetic violence. Both mov-

# The Clean Dozen

Filmmakers and TV producers often talk about getting a documentary look in order to suggest the immediacy and raw honesty of real life (or at least the news). And by this, they usually mean shooting gloomy, overgrainy, shaky, and sloppily composed images, which are then chopped together somewhat arbitrarily. These people should take a look at the dozen films in the 13-disc **The Academy Documentary Collection** (Docurama; Movies ★★★★★, DVDs ★★★★★). All were nominated for an Oscar (and some won), and together they represent a range of looks and subject matters that are hard to pigeonhole.

Some of the films use a variety of styles for different effects. In *Paul Taylor: Dance-maker* (1998), there are flowing, handheld, medium-size shots in black-and-white to show the creation of new pieces. But there are also static, distant, and smooth color images for live performances and modeled-lighting closeups for interviews and meetings. In one marvelous sequence, the rehearsals of a young man doing the solo in *Aureole* are intercut with the exact same moment and movement of Taylor himself dancing onstage in both the 1962 premiere and a later performance.

There isn't room here to detail each of the 12 movies — 13 if you count *Best Man*, the 20-years-later follow-up to *Best Boy* (1979), whose study of a mentally retarded man living all his life with his parents won an Oscar. But *Paul Taylor* and *Best Boy* alone show the scope of the subjects covered in this collection. There are four main topics, though, and one is social issues. Here, *Best Boy* is joined by *Children Underground* (2000), about homeless kids in Bucharest, and *Sound and Fury* (2000), which focuses on the surprisingly controversial issue of whether to give deaf children implants that may help them to hear.

Three of the titles deal with various reactions to the Vietnam War, from the protest and violence of *The Weather Underground* (2002) to the design of the Vietnam Veterans Memorial in Washington, D.C., by a 21-year-old Asian-American architecture undergraduate in *Maya Lin: A Strong Clear Vision* (1994). The latter, which also covers Lin's other brilliant works, is my favorite in this group and is also one of the Oscar winners. But *Regret to Inform* (1998), following a war widow's visit to the place her husband fell, is very moving, too — particularly when you see and hear vintage footage of the horrific life of the Vietnamese in the years of what they call The American War.

Two Oscar-winning crime-and-punishment movies are both scary and eye-opening. *Murder on a Sunday Morning* (2001) follows a defense attorney as he methodically gathers evidence to take apart the police and prosecutor's manufactured case against an innocent 14-year-old. *Scared Straight!* (1978) tells of a program in which juvenile lawbreakers are taken into a prison, where life-terms intimidate and educate them about how they'd be treated if they were locked up for real.

*Nadja Salerno-Sonnenberg: Speaking in Strings* (1999), like *Paul Taylor*, is a portrait of a captivating performer, but this one is more straightforward. *Genghis Blues* (1999) and the Oscar-winning *From Mao to Mozart: Isaac Stern in China* (1980) both follow musicians to distant lands, where we're vividly reminded that music is the universal language.

The visuals in this set are, for the most part, sharp and detailed, with color that is both rich and wide-ranging in tones. The development of good-looking high-def video means that images are also bright and crisp, even in low-light conditions. And the advent of digital restoration means that old footage has been cleaned up so that scratches, dirt, and excess grain are absent and contrast levels are corrected. The sound in all films is crisp, hiss-free Dolby Digital stereo, often with nice separation of instruments.

The only film that looks its age and conforms to the usual view of documentaries is *Best Boy*. It was shot in the purest fly-on-the-wall, on-the-fly tradition, with endlessly long, uncomposed, and often soft-focused takes. The rest of the documentaries here use all the language and techniques of mainstream filmmaking. And they're as fascinating as any recent fictional movies, if not more so.

Josef Krebs



ies have pictures that are admirable for their muted colors and critical dark details. The crisp soundtracks are equally impressive, especially the barroom shootout in *Sonatine*. *Zatôichi* has a making-of piece, and both titles include interview featurettes. **All:** anamorphic widescreen; dual layer. **Hero:** [PG-13] Mandarin (with English sub-

titles), Dolby Digital and DTS 5.1; **English and French,** Dolby Digital 5.1; **letterboxed (2.35:1).** **Zatôichi and Sonatine:** [R] **letterboxed (1.78:1); two dual-layer discs.** **Zatôichi:** Japanese (with English subtitles) and English, Dolby Digital 5.1. **Sonatine:** Japanese (with English subtitles) and French, Dolby Surround.

Sol Louis Siegel

## MIAMI VICE: SEASON 1

Universal

Series ★★★★★ DVDs ★★★★★

## LAS VEGAS: SEASON 1

Universal

Series ★★★★★ DVDs ★★★★★

Although separated by 20 years, these two hit TV series successfully played the same winning combination of beautiful women and crime-busting casanovas, flashy clothes and fast cars, all wrapped up in a wailin' rock-hits score. Yes, there are serious topics covered in the 23 episodes of each debut season (each on three double-sided discs), but they've been smoothly turned into the trend-setting, family-friendly fluff that gets the high ratings. Compared with recent grittier cop shows like *CSI: Miami*, the crime in *Miami Vice* (1984) looks like something out of *The Hardy Boys*, and *Las Vegas* (2003) makes gambling and its attendant immoralities and intrigues seem like good, clean fun.

Although *Miami Vice* is dated, its production values are excellent, resulting in picture-postcard images that look as fine as those in current shows. This means you get bright colors, sharp focus, and wide contrast range. The sound for the pilot is remixed into compelling Dolby Digital 5.1, but the remaining episodes are largely front-and-center and dull by comparison. Extras consist of breezy featurettes discussing the music, style, vibe, and influence of the show.

*Las Vegas* has a softer look — not at all like *CSI's* Vegas or any other contemporary series. Sound is full bodied, and the 5.1-channel mix provides ambience in the casino scenes. Four of the episodes have commentaries, and there are commercials and a short documentary taking a historical look at Sin City. **Both:** English, Dolby Digital 5.1; three two-sided discs. **Miami Vice:** [TV-14] full frame (1.33:1). **Las Vegas:** [NR] letterboxed (1.78:1) and anamorphic widescreen.

Rad Bennett

## MY ARCHITECT

New Yorker

Movie ★★★★★ DVD ★★★★★

Documentary filmmaker Nathaniel Kahn's examination of the life and career of his father, Louis I. Kahn — considered the most important architect of his time when he died in 1974 — is both urgent and enthralling. The urgency comes from the son's struggle to reconcile the man's imposing achievements with his turbulent personal life. What's enthralling? Louis I. Kahn's creations themselves — and the passion he still rouses from those who worked with him. Shot in a mix of film and video, *My Architect* often has a lush quality unusual in documentaries, particularly in the lovely shots of Kahn's buildings that have delicate shades of light falling on them. Such scenes are frequently accompanied by a score that is emotional almost to a fault, but the dialogue is always clear. There's a decent Q&A with the director, though each segment must be accessed separately. **[NR]** English, Dolby Digital stereo; full frame (1.33:1); dual layer.

Sol Louis Siegel



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EDITED BY DREW THOMPSON

**MVP Baseball 2005**

★★★★★

(EA; all consoles) EA's *MVP* series will be R.I.P. come 2006 — when Take-Two takes away the MLB license — but this last gasp is true baseball, from the bat cracks up front to the hawking vendors who will test your surround channels. The animations are smoother than Todd Helton's swing, and the players and stadiums are as sharp as a Pedro changeup. While only the Xbox version supports widescreen, it makes little difference since the focus is all on the pitcher's release. Like no other game before it, *MVP Baseball 2005* teaches the value of dominant pitching and the work that goes into a 10-K performance.

Todd Zuniga

**Gran Turismo 4**

★★★★★

(Sony; PS2) How to describe *GT4*? "Tricked-out" would be an insult. Try *jammed and bulging*. After all, hyper-realism is its calling card — from the picture-perfect sunsets to the speedometer-melting cars that cram each of the 100 tracks. The meticulousness is obsessive: all 650-plus actual rides were test-driven and rigged with microphones to capture even the slightest engine purr. Handling is down to the millisecond, and the cars' mirrorlike sheen is displayed in brag-worthy 1080i (a stunning feat for PS2). Really, the game is choking on excess (be that bad or better). It almost overwhelms the rush of, you know, driving.

Jon M. Gibson

**Brothers in Arms: Road to Hill 30**

★★★★★

(Ubisoft; PS2, Xbox) As Sgt. Matt Baker, you're having one bad day. Anti-aircraft fire has scattered you and your parachuting squadmates across hostile German territory — and D-Day is an a.m. away. You're lost, trembling, and being battered from 360°. It's an aural hurricane: bullets whiz past at 200 m.p.h., and grenade blasts are so explosive, they rumble in your gut. Unlike other first-person shooters, *Road to Hill 30* requires you to command your brothers, too, often sending them to their death. Gritty, indeed. This is war served raw, or at least as realistically as technology allows.

J.M.G.

**Fight Night Round 2**

★★★★★

(EA; all consoles) The height of virtual pugilism, *Fight Night Round 2* makes a battered nose look beautiful. There's exceptional visual detail here, from the beads of sweat dripping off the combatants' chiseled bodies to the spurts of blood after a jaw-shattering haymaker. Take it on the chin one too many times, and you'll have to rely on the expertly conceived cutman system that puts you in control of fixing up your fighter's face between rounds. And when you get cuffed with a concussive, knockdown blow and your knees go Jell-O, the shuddering sound of man meeting mat will encourage you to step down.

T.Z.

**Star Wars Republic Commando** ★★★★★

(LucasArts; Xbox) Stop clowning around and start cloning around. In this grim and gritty first-person shooter, which leads directly into the coming *Revenge of the Sith* movie, you'll see the *Star Wars* universe like never before — through the visor of a clone trooper. But you're no standard-issue carbon copy. Instead, you'll don the battle-worn body armor of a highly trained super-soldier who's charged with leading an elite three-man squad of commandos against fearless battle droids and reptilian mercenaries. Other squad-based shooters may intimidate you with their complex controls, but here it takes only the touch of a button to bark out orders.

Reconnaissance, hostage rescue, and other intense missions take you to eight breathtaking backdrops. One is the harsh, rocky planet of Geonosis, where your total immersion is guaranteed by peripheral sights (fighter crafts battling in the skies above) and sounds (clanking machinery, crumbling rocks, and the flapping wings of insectoid warriors in the distance). Depending on whether you're fighting outdoors or underground, the environments will sound distinctly different, making you feel like you're actually part of the battle instead of just playing soldier.

You won't hear familiar themes like the main title or the "Imperial March" on the soundtrack. But the designers at LucasArts have done a masterful job of mixing some of John Williams's more obscure music from the films with a haunting, choral-heavy score — written especially for the game — that heightens the militaristic atmosphere and keeps you grounded in the *Star Wars* universe. And even amidst all of the robust music, thunderous explosions, and exciting directional effects, you'll never miss a single line of your squadmates' entertaining and informative chatter. Targeting can be tricky, and the multiplayer modes are only so-so (no online co-op play). But you'll want to step sharply, soldier, and add *Republic Commando* to your arsenal of reference discs.

Drew Thompson



EDITED BY KEN RICHARDSON

# Beck's Bolero

Play that doomsday music, white boy



## BECK

**Guero** Interscope

Music ★★★★★ CD ★★★★★

**S**ome bloggers are bummed that *Guero* doesn't rock the house with the playful high spirits of *Midnite Vultures* and *Odelay*. It's admittedly a tougher listen, furthering the more serious turn that Beck began with *Sea Change*. But unlike so many front-loaded and overlong CDs, *Guero* only gets better the deeper you delve into it.

Whereas *Sea Change* was driven by a personal sense of loss, the new album casts a somewhat dyspeptic eye on the slipshod modern world. Depending on how dark you feel about matters, you might detect a death rattle in the percussive frenzy of "Black Tambourine" and "Broken Drum" and hear an apocalyptic tolling of the bell in sobering pieces like "Missing" and "Emergency

Exit." In "Black Tambourine," a tribal bass-and-drums workout set to a Bo Diddley beat, Beck sings, "I know there's something wrong / Might take a fire to kill it / Might take a hurricane." The album's centerpiece, "Earthquake Weather," welds a moody Brazilian guitar motif to a mod rhythm track as Beck describes a desolate interior landscape with an unlikely lilt in his voice: "I push, I pull, the days go slow / Into a void we fill with death and noise."

Co-produced by the Dust Brothers, *Guero* suggests a more hip-hop-savvy take on Tom Waits's clattery, kitchen-sink way of evoking social disarray. Beneath the low-fi brouhaha of grungy guitar riffs, undulating bass lines, and Beck's reportorial mumble, the artist seems to portend an imminent reckoning for a world skidding out of control. Still, he does make it possible to dance (or at least stomp) in the ruins. "Girl" is easily the catchiest tune, boasting a summery singalong chorus. There's wit and a mechanical throb to "Hell Yes," "Go It Alone," and "E-Pro."

And on "Que Onda Guero" ("What's Up, White Boy?"), a bleating synth sounds like honking horns while shouting, ribbing, and street noise plant you squarely in a teeming L.A. barrio. It's the only song in rock history that name-checks Michael Bolton, James Joyce, and Yanni.

A "Beat It"-like bass line drives "Scarecrow" as Beck's wandering eye takes note of "miles and miles of junkyard piles" and other decaying sights. "Farewell Ride" is a fatalistic modern blues with steely slide guitar and percussion that sounds like a chain gang at work. "Rental Car" is a joy ride built on a trip-hop chassis. It all leads to the fitting closer, "Emergency Exit," another slow, slamming track. Its mordant musings could pass for the work of a time-traveling Delta bluesman given access to a computer-equipped studio in the new millennium. Put *that* in your blog and post it.

Parke Puterbaugh

## 50 CENT

**The Massacre**

Shady/Aftermath/Interscope

Music ★★★★★ CD ★★★★★

## THE GAME

**The Documentary**

Aftermath/G Unit/Interscope

Music ★★★★★ CD ★★★★★

As I write this, 50 Cent and his former protégé, The Game, have just declared a truce. But how do their current albums measure up against each other? Sounds like a draw.

On 50's follow-up to *Get Rich or Die Tryin'*, the street-hardened flow and gunshot-riddled beats might have you slipping into some Kevlar. But amidst all the spent shells and sleazy language, *The Massacre* gets deep under the skin of gangsta-land with banger arrangements (courtesy of Dr. Dre and Eminem) and the rapper's vocal heft. And Fitty is suddenly a lover now, as he talks about ass and thongs in "Candy Shop"

## STAR SYSTEM

**Stellar** ★★★★★

**Excellent** ★★★★★

**Good** ★★★

**Fair** ★★

**Poor** ★

**Music or Performance** refers to the main content alone.

**CD, DualDisc, DVD, DVD-Audio, or SACD** refers to its presentation on disc, including sound quality as well as multichannel mix and extras.



and delivers some unremarkable though fun party tunes. Yet it's the disturbing, revealing tales (the piano-enriched "Gunz Come Out," the guitar-tinged "Ski Mask Way") that make *The Masacre* so bloody good.

The Game's nasty, artful debut, *The Documentary*, has him melding gruff vocals with dazzling production (by Dre, Kanye West, and others). He scores big on the soulful "Dreams" and the funky, bass-quenched "Hate It or Love It" (featuring Fitty). He aims for the heart as well: during "Like Father, Like Son," he celebrates the birth of his child. But overall, there's too much bragging here, as when he likens his album to *Ready to Die*, *Reasonable Doubt*, and *Doggy-style* all in one. Then again, this Game's just getting started. *Jeff Perlah*

## THE SOUNDTRACK OF OUR LIVES

**Origin Vol. 1** Republic/Universal  
Music ★★★★★ CD ★★★★★

How do they do it? How do these Swedes conjure the poignance of a verse like "There goes my childhood / There goes all I thought was true" and the eloquence of a chorus like "Sha la la" to make the English language their own? How do they range from the *Tommy* guns of "Transcendental Suicide" to the Stones-down-cold of "Mother One Track Mind" to make their fourth album, *Origin Vol. 1*, sound so poppin' fresh and original? Granted, now that the band has visited America, some of its aura of mystery is gone. And yes, more than anything, the new disc just wants to rock even harder than the last one, *Behind the Music* — which leaves the wide panorama of the band's early music farther behind. But this album is still so melodically *right*, so inventively *on*, that after the raveup-to-surf's-up in "Age of No Reply," the two U.S. bonus tracks are actually superfluous. And for all of us music fans who dig guitar bands (backed by killer bass, drums, and keyboards), one thing is clear: We may not know how they do that thing they do, but we're certain that these Swedes are, in fact, The Soundtrack of Our Lives.

*Ken Richardson*

## THE DECEMBERISTS

**Picaresque** Kill Rock Stars  
Music ★★★★★ CD ★★★★★

Not many albums begin with a line like "Here she comes in her palanquin" and from there recite "phalanx," "folderol" and "chaparral." But Colin Meloy's quirky quintet — with an arsenal of special guests on strings and horns worthy of a late-1960s Donovan LP — are determined to create an alternate reality. The Decemberists' third album, *Picaresque*, recorded over three weeks in a former Baptist church in Portland, Oregon, features songs about double suicides, failed athletes, and military wives. Yet for all of Meloy's fancy ambition, he knows how to wring pathos from simple, universal moments. "Mr. Postman, do you have a letter for me?" Indeed. *Rob O'Connor*

## THE MARS VOLTA

**Frances the Mute** GSL/Universal  
Music ★★ CD ★★★★★

*Frances the Mute* will likely be the bravest and most complex album to hit the charts this year. It's also incredibly annoying. Odds are, The Mars Volta would take that as a compliment, since this CD practically dares you to get through it. For every nice instrumental bit (like the Zeppelin-esque riff-spree halfway through the 32-minute "Cassandra Geminni"), there's a punishment (like the 10 minutes of bad avant-jazz that follow). Cedric Bixler Zavala never sings in anything but a strangled yelp, which suits his lyrics — equal parts bad-trip psychedelia and adolescent gross-out. There's a lot of showing off with tricky time signatures, jarring changes, and stretches of electronic squiggles. But that still doesn't make The

Mars Volta a progressive-rock band in the classic sense, since the result is too little beauty, hardly any tunes, and definitely no fun. *Brett Milano*

## LOS SUPER SEVEN

**Heard It on the X** Telarc

Music ★★★★★ CD ★★★★★

On its third release, Los Super Seven is more a studio all-star project than a real band. And sad to say, *Heard It on the X* sounds more like a Starbucks compilation than a real album. The theme this time is border radio and Tex-Mex R&B — from conjunto and mariachi to Doug Sahm, Bobby Fuller, and Buddy Holly. You may notice that psychedelic legend Roky Erickson isn't on that list, and that's the problem in a nutshell: the greatest Texas rock is grittier and more eccentric

## R.E.M.: Rad Elliot Mixes

**T**he release of R.E.M.'s entire Warner Bros. catalog in surround sound might sell a few more universal players.

It *should* sell a lot, because the sonics are stunning. Fans will be in a dream world, as the multichannel mixes bring a fresh dimensionality and an aural shimmer to every one of these albums.

Of course, three of them have already appeared as standalone DVD-Audio discs: *Automatic for the People*, *Reveal*, and *In Time: The Best of R.E.M. 1988–2003*. But now all nine Warner titles from 1988's *Green* to last year's *Around the Sun* have been given the two-disc CD+DVD treatment — each DVD being fully DVD-A. And the gold-standard guru of surround mixing, Elliot Scheiner, has returned to finish the series with assistant engineer Jamie Candeloro, providing welcome continuity in both approach and basic sound quality. The results are never less than four-star caliber.

There aren't any bonus tracks, but you do get thoughtful liner-note essays for all but *Around the Sun* as well as modest video material — usually a 15-minute promotional documentary filmed when the album was made, sometimes a video or two, occasionally both. The promo flicks range from low-fi chats like the one for *Green* (you can hear wind rustling through the interviewer's cheap microphone) to more professional sales aids like the one for *New Adventures in Hi-Fi*. There's no documentary for *Up* — the diminished trio probably didn't want to discuss drummer Bill Berry's early retirement — while *Around the Sun*'s clocks in at a skimpy five minutes. Throughout, however, the musicians are smart and circumspect, and vocalist Michael Stipe is surprisingly straightforward. What you'll come away with

is an appreciation for how hard these guys have worked to break new ground and make amazing records over the years.

Still, the real lure here is the surround sound. Scheiner's mixes are airy, potent, and enlightening. Although the left and right front channels have primacy, he lets music (not just ambience) flow from every corner. The first three albums — *Green*, *Out of Time*, and *Automatic for the People* — particularly sparkle, fully realizing what R.E.M.'s longtime producer/engineer, Scott Litt, caught on tape. (*Green*'s upbeat nuggets will stop you in your tracks with their power and detail. Check out the cicadas in "You Are the Everything" and the toy piano in "Stand.") These peak-form albums are, to my thinking, the must-owns. But even the smeary, lurching *Monster* roars fiercely now. Surround also does wonders for the maligned *Up* and the undervalued *Reveal*.

Want to dip your toe? Get *In Time* and go from there. You won't be disappointed.

*Parke Puterbaugh*



# TRACKING SURROUND

**F**irst, from the news desk: the first Grammy for Best Surround Sound Album goes to Ray Charles's *Genius Loves Company* (Concord), mixed for SACD by Al Schmitt. And the Telarc albums we featured in "Heavenly Surround" (January) got Grammys for their CD editions. The Atlanta Symphony Orchestra and Chorus's take on the Berlioz *Requiem*, with conductor Robert Spano and choir director Norman MacKenzie, was named Best Choral Performance, and the Los Angeles Guitar Quartet's *Guitar Heroes* was named Best Classical Crossover Album.

The rest of the surround news ain't great. Except for a big series like the R.E.M. reissues (see previous page), Warner's DVD-Audio program has stalled. The SACD project at Sony Music, now part of Sony BMG, has collapsed into a black hole. (Read what Aerosmith's Joe Perry says about that on page 11.) And what does it tell you when Sony Electronics' big SACD player introduction at CES is the *stereo-only* Qualia 007 at \$12,500?

It tells you, "So much for the mass market!" No wonder the Lincoln Center store of Tower Records has banished SACDs and DVD-A's to the farthest reaches of the second floor.

Instead, Sony BMG is pushing the DualDisc, though not always in surround — and never in high-resolution DVD-A sound on the DVD side. Another DualDisc backer, 5.1 Entertainment, does include DVD-A for its Silverline and other releases. Says president John Trickett: "DualDisc is going to do for music what DVD-Video has already done for movies." We'll see.

After we ran our "Launch or Lunch?" piece in "Random Play" (February/March), two more companies issued advisories on DualDisc compatibility: JVC and Philips. And two of the nine brands we originally listed issued updates. Lexicon and Mark Levinson did "limited testing" of DualDiscs on their equipment and found "no issues when playing either side." Meanwhile, discs are now appearing with a legend that says, "The audio side of this disc does not conform to CD specifications, and therefore not all DVD and CD players will play [that side]."

But whether DualDisc flies, whither surround? As *Billboard* puts it, "The growth in MP3 players indicates that consumers are more interested in bringing large chunks of music with them in compact form than they are in hearing the highest-quality versions of those songs." Or as John Schwartz writes in *The New York Times*, "What do we want from music? A response from Apple, and its millions of iPod customers, is that music is a kind of ambient grace, which blocks out the cellphone jabber on the train." Sad, but not surprising at a time when we're seeing the shuttering of Quantegy (the last U.S. maker of analog tape), audiophile labels Dorian and Reference, and studios like the Hit Factory and Muscle Shoals — and when Frank Filipetti is driven to help form the Music Engineering & Technology Alliance "to increase the awareness of high-end audio."

Still, a note from reader Robin Loebel is heartening: "The Berlioz *Requiem* is spectacular in surround. I and many others need help to find the best releases." We remain happy to oblige...

**THE CARPENTERS.** Karen and Richard have been mixed in six channels — *why?* Do we really need high-resolution surround sound for their simple songs? Prepare to be amazed: mixed by Al Schmitt and Richard Carpenter himself, *Singles 1969–1981* (A&M; Music ★★★★★, SACD ★★★★★) now has these 21 pop daisies blossoming like never before. The surround channels



are full but not busy, the subwoofer is warm and deep — and to hear Karen's freshly rich voice across the three front channels is to know that, for her, these earliest days were indeed happy times. If you've only listened to "(They Long to Be) Close to You" and "We've Only Just Begun" on the radio, you'll have new respect for Richard's arranging skills. And you'll feel like it's yesterday once more. *Ken Richardson*

**VARIOUS REGGAE ARTISTS.** The big news here is that Silverline has dropped its old multichannel method — sounding like mono × 3 with faint, turgid ambience in the rear — and instead tapped Chris Haynes to make a truly discrete, truly involving mix of *Is It Rolling Bob? A Reggae Tribute to Bob Dylan* (Silverline; Music ★★★★★, DualDisc ★★★★★). And the DVD side of this DualDisc is DVD-Audio, lending extra clarity to these joyful takes (tokens?) by the likes of Toots Hibbert ("Maggie's Farm") and Don Carlos ("Blowin' in the Wind"). You also get liner notes, a making-of short, dub bonuses, and a fun remake of Dylan's cue-card "video" of "Subterranean Homesick Blues." *K.R.*

**LOS LONELY BOYS.** The big news *here*, unfortunately, is that Sony BMG has adopted Silverline's old multichannel method — that's right, sounding like mono × 3 with faint, turgid ambience in the rear! — for one of its few DualDisc mixes that hasn't already appeared on SACD, the Boys' self-titled debut (Epic; Music ★★★★★, DualDisc ★★★★★). Done by original producer John Porter, the mix is barely surround, and the merely DVD-Video sound does the music no favors either. And that music? Well, the new Bee Gees (Brothers Garza) may have a solid guitarist in Henry, but despite their Grammy for "Heaven," they seem too slick to be outta the clubs of Austin. Maybe *that* explains their Grammy. *K.R.*

**N.E.R.D.** EMI kicks off its DTS Signature Series of DVD-Audio discs, where the DTS team creates surround titles for EMI from the major label's catalog. And the first title, 2002's *In Search of . . .* (Virgin; Music ★★★★★, DVD-A ★★★★★), kicks ass. In their N.E.R.D. guise, the Neptunes (Pharrell Williams and Chad Hugo) and their pal Shay are bawdy but clever. In his cranks' mix, Brant Biles jacks up the immediacy of the live band, Spymob. The drums are delirious, leaned heavily to the center channel so that they're genuinely in your face. And dig when they crisscross the room in "Baby Doll." Extras include three videos. Bummer: you can't view the lyrics while hearing the music. *K.R.*

**TURTLE ISLAND STRING QUARTET.** This jazz-leaning ensemble joins with the classically inclined Ying Quartet on *4 + Four* (Telarc; Music ★★★★★, SACD ★★★★★). Some may find it neither here nor there, but I find it an absolutely fitting expression of the blurring of lines in modern music. In *Variations on an Unoriginal Theme*, a Haydn-like melody moves through two centuries of music until ending up as funk. Appropriately, this is a natural and well-balanced four-channel recording. *Robert Ripps*

**MUSSORGSKY.** Regarded as demonstration-quality stereo since its 1958 vinyl release, Fritz Reiner and the Chicago Symphony Orchestra's powerhouse version of *Pictures at an Exhibition* (RCA Living Stereo; Performance ★★★★★, SACD ★★★★★), here with other Russian showpieces, can now be heard in the original three-track stereo. Yes, "Tracking Surround" fans, this isn't technically *surround*. But the center channel adds depth and breadth as it places the mighty Chicago brass at center stage. *R.R.*

**RIMSKY-KORSAKOV.** In the late 1950s, Antal Dorati and the London Symphony Orchestra were at the top of their game — which you can hear clearly in this program of the *Capriccio Espagnol* and other works by Rimsky-Korsakov and Borodin (Mercury Living Presence; Performance ★★★★★, SACD ★★★★★). Like the RCA disc above, this one is in the original three-track stereo. And what emerges — the full panoply of the orchestra without gimmickry — is spectacular despite some surface noise. *R.R.*



than this disc would allow. The two Sahm classics here, sung by John Hiatt and Raul Malo, are just cleaner copies of the originals. Joe Ely has probably done Fuller's "Let Her Dance" a thousand times, and he does it well enough here. Ruben Ramos's treatment of the ZZ Top title track misses the original's slinky groove. With Rodney Crowell, Lyle Lovett, and the band Calexico also aboard, the lineup is just too good to waste on great but obvious covers. *Brett Milano*

## ROKY ERICKSON I Have Always Been Here Before: The Roky Erickson Anthology *Shout! Factory* Music ★★★★★ CDs ★★

Roky Erickson, Syd Barrett, and Sky Saxon are the holy trinity of acid casualties — and Erickson's parched visions may be the most disturbed of them all. *I Have Always Been Here Before* is a mesmerizing two-disc summary of his fitful career, which erupted in the 1960s with the Texas-based 13th Floor Elevators. Erickson is a garage-psych pioneer with a voice that could peel the paint from the walls of your mind, but the Elevators' recordings sound like they were cut inside a cardboard box. Still, you haven't tasted the '60s in all their fullness until you've heard "You're Gonna Miss Me," "Splash 1," and "Slip Inside This House."

Resurfacing in the punk-rock era with Roky Erickson & the Aliens, he served up the sort of unhinged anarchy that others could only pantomime. Some of his more memorable far-side trips included "Red Temple Prayer (Two Headed Dog)" and "Don't Shake Me Lucifer." While his band tended toward generic hard rock, as if someone actually believed these sides had commercial potential, Roky ranted and raved about his demon-filled world in a still-powerful voice. You really want to believe the guy when

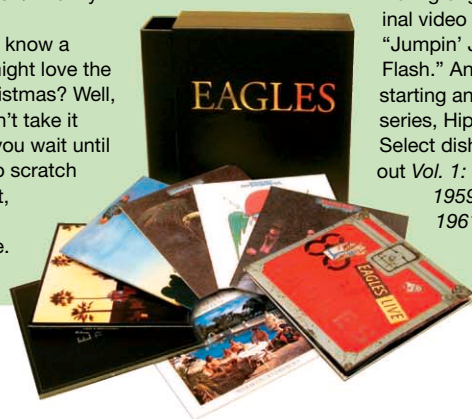
he sings, "I never had the bloody hammer," or when he makes the point, "If you have ghosts, then you have everything." *Parke Puterbaugh*

## THE PINK FLOYD AND SYD BARRETT STORY NBD/Voiceprint

Program ★★★★★ DVD ★★★★★  
Original Pink Floyd auteur Syd Barrett is, of course, one of the poster boys of Tragic Rock Burnout, but to its enormous credit, this made-for-the-BBC documentary is a clear-eyed look at his precipitous rise and fall. Director John Edginton illustrates the story with remarkable, seldom-seen 1960s footage, including the Floyd in full psychedelic glory at a London club — not

because only 20,000 copies are being made of this limited-edition box. Each disc, by the way, is housed in a replica of the original vinyl album, complete with gatefolds and the posters for *Border*, *Hotel*, and *Live*.

You might also want to get in the fast lane for a couple of other limited-edition boxes. **The Rolling Stones' Singles 1968–1971** finishes ABKCO's series with nine CD singles, various inserts, and a bonus DVD that includes the riveting original video for "Jumpin' Jack Flash." And just starting another series, **Hip-O Select** dishes out Vol. 1: 1959–1961 of



## Box o' Birds

Yes, there's a new boxed set in town, simply called **Eagles** (WSM/Elektra). Nestled here is the band's entire 1970s studio catalog: the self-titled debut, *Desperado*, *On the Border*, *One of These Nights*, *Hotel California*, and *The Long Run*. Also included are the double-disc *Eagles Live* and, appearing on CD for the first time, the bonus single "Please Come Home for Christmas" / "Funky New Year."

Think you know a home that might love the box this Christmas? Well, shopper, don't take it too easy: if you wait until December to scratch it off your list, it might be already gone. That's

## REBUTTAL: Smile Away!

After reading Billy Altman's ho-hum review of **Brian Wilson's SMILE** (December 2004), I kept my silence.

Altman, a self-proclaimed "lifelong Beach Boys fan," obviously missed something. For many of us who have followed the saga for almost 40 years — hearing each and every little piece of the puzzle dribble out of the vaults — *SMILE* has nearly been a religion, a divine mystery. I expected to be disappointed by the album's final release. Instead, I'm ecstatic. But I was saddened that some *S&V* readers might pass on it because of Altman's review.

Then came your piece on **The Breetles' Don't Smile** (January 2005) — an album that I'm just sure will endure as a classic (note sarcasm) — complete with a red "No SMILE" stamp. This bit of stupidity will be recalled when I'm asked to renew my subscription for another year. *Jim Gray*

### Strife with Brian?

Breetles aren't actually in Brian Wilson's (breetles.com), much less, really, at, after you've listened enough times, you for don't? "Smile" to the "Smile" and plays so well up: dar a pr

### Uncertain Smile

Brian Wilson, you've done it again: a new, relevant 21st-century music and reimagined an eclectic, experimental was unveiled—unfaded and offbeat—with the Windermere's, has earned another today: the HIGH LAMAS have released their 1998's "Smile" for 2005. Anyway, now as an artist, voice, her R. speak (facing on, vibration) last.

where the word is made

**Editor's Note:** Jim Gray is from Atlanta, Georgia. And today, he's having the last smile, since Wilson's opus went on to be named Album of the Year in our *S&V* Entertainment Awards (February/March) after

we polled all of our music critics. Hey, majority rules! And Jim wrote us a postscript recognizing the award: "I'll renew just because of that!"

Meanwhile, the saga keeps on keepin' on. *SMILE: The DVD* (Rhino), two discs of documentary and concert footage, will be issued on May 24. And Wilson will resume touring the States in August.

As for that "No SMILE" stamp, a month after our Breetles piece hit the stands (top), the same poke appeared in *The Village Voice*. It seems that great satiric minds think alike! Don't think alike with one of our reviews? Send a "Rebuttal" to [soundandvision@hfmus.com](mailto:soundandvision@hfmus.com). You get \$75 if we run it — some of which you can use to renew your subscription! *Ken Richardson*

to mention Syd swanning around a friend's garden on his first acid trip (!). There are also contemporary interviews with ex-girlfriends and bandmates, who contribute moving and occasionally funny reminiscences. Then there's the excellent soundtrack, including tracks from the band's debut, *The Piper at the Gates of Dawn* (and later tracks like the inevitable "Wish You Were Here"). It's all remixed in 5.1 channels — although to these purist ears, the original stereo versions (included here) are still better. Among the terrific extras are extended versions of the interviews with Roger Waters and David Gilmour. For my money, though, Robyn Hitchcock's acoustic performances of a couple of songs from Syd's solo albums are worth the price of admission all by themselves. *Steve Simels*

**The Complete Motown Singles**, available only from [hip-oselect.com](http://hip-oselect.com). You get every A- and B-side (155 tracks total) on six CDs. Vol. 2 is expected in May — and there will be ten more boxes appearing through 2009, the 50th anniversary of Motown.

**Eagles, circa 1974 (left to right):** Bernie Leadon, Glenn Frey, Don Henley, Randy Meisner, and Don Felder





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## BackTalk

### JOHN MADDEN

**Football season's over, but you'd never know it from the legions of gamers who've made EA's *Madden NFL* a year-round obsession. Jamie Sorcher recently talked to the man behind the videogame about his Sirius talk show, the shortcomings of TV football, and what he does for fun in the Madden Cruiser.**

**Do videogames and TV broadcasts do a good job of capturing the reality of a football game?**

We're still in the dark ages when it comes to the sounds of football. I remember what it sounded like from when I was coaching. The biggest adjustment I had to make when I went into broadcasting was being detached from the game. When I got to spend some time back on the field, I said, "Holy Moley! We're missing the whole deal here." If you go stand on the sidelines, you'll be amazed by how it feels and sounds. On TV, we can get any picture we want — we can look at the hair in a guy's nose — but we just can't capture the sounds.

**Will interactive TV — letting the viewer choose what he wants to see — heighten the experience of watching a football game?**

Yeah, yeah, yeah! If we want to get younger people really involved in watching football, it has to be interactive because that's the way everything is for them now. Their thumbs just keep going all the time, whether it's at a game controller or typing up e-mails or using an iPod. We can't tell these kids to put all their stuff away and just sit down and watch TV. The day is definitely coming when you're going to be able to watch the game the way you want to.

**It's well known that you're afraid to fly, so you travel the country in the 45-foot Madden Cruiser. How is it set up for entertainment?**

Well, I have three plasma screens — one in the bedroom and two in the living/dining-room area.

**What do you watch in your downtime?**

I usually watch tapes of the most recent game of whichever two teams we'll be covering on the next *Monday Night Football* broadcast. And I watch a lot of ESPN.

**So it's all sports, all the time?**

Yeah, that's it. I never take a break from it.

**What's the best football movie ever made?**

It hasn't been made yet.

**Where do they go wrong?**

Well, the closer you are to something, the more you realize that the way it's portrayed in the movies isn't real. Football has been my life — it's all I've ever done. So when I see it portrayed in a movie, I just don't buy it.

**What have you done to make *Madden NFL* more realistic?**

We started on this before there even were videogames. It was going to be a computer program for teaching football at high schools and colleges. So the first thing was that the game had to be real — 11 guys on each team and 22 players out on the field. I didn't want five guys playing against five guys.

**What was it like hosting the tailgate show on Sirius's NFL Radio?**

The great thing about Sirius is that you get all the games. So, when someone has the freedom to pick any game, you can talk about which ones will be good and help people decide what to listen to. Maybe someone doesn't know much about Pittsburgh or their rookie quarterback. So I talk a little bit about it, and they think, "Geez, maybe I want to listen to a little of the Pittsburgh/New England game" even though they're from, say, Dallas.

**Do you have a Sirius radio?**

I have two in the Cruiser — one up front and one in back.

**Last question: "Just win, baby" or "Commitment to excellence"?**

Commitment to excellence. Your whole life should be about committing to be the best. Just win? Well, you're not going to win every game or in everything that you do. But you can commit to being the best all the time.

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