

A Taste of Heaven

Toshiba's amazing HD DVD Player

Here are the three most important things you should know about Toshiba's much anticipated HD-XA1, the world's very first high-definition optical disc player:

1. It's not just a DVD player — it's a computer. Really — Pentium and everything.

2. Like any computer — especially one with a new, unproven operating system — it performs well on some functions, but not others.

3. If you can get past the "not others," then you're in for one very serious ride.

By now, you've probably figured out that this groundbreaking device is far from the perfect package. Even so — and regardless of what the rival Blu-ray format may bring to the table later — I'd say that HD DVD is a giant success. If my experience with the HD-XA1 proves anything, it's that we've

crossed a big line in picture and movie sound quality for the home, and there will be no going back.

There have been some reports questioning the improvement offered by HD DVD over standard DVD, sometimes by folks plugging this player or its \$499 sibling, the HD-A1, into an inappropriate display. Let me state clearly that on our affordable 1080p bigscreen HDTV, the differences between the first six HD DVD movies that were released and their DVD counterparts were nothing short of astonishing, as long as the player was properly configured. The HD DVDs crushed the standard-def every time, whether the DVDs were viewed at 480p resolution or upconverted to 1080i by the Toshiba or our reference player. And the HD DVDs were better than virtually every HDTV broadcast of film-based content I could find on our Dish satellite and Time Warner cable systems. Now, let's get on with the show.



By Rob Sabin

Photos by Tony Cordoza

Special test report

\$799 / 17¼ x 14 x 4½ IN / 19½ LBS / WWW.TACP.TOSHIBA.COM / 800-631-3811



THE MAIN EVENT

There are many ways to extract different video and audio formats from the HD-XA1. I wired our sample for the best signals it could deliver, and used a display and surround processor that could take advantage of them. This meant feeding a 1080i HDTV signal and uncompressed multichannel PCM audio from the player's digital HDMI output to the HDMI input of a Yamaha RX-V2600 receiver (reviewed on page 67). The receiver readily decoded the PCM and sent it to Revel Concerta speakers. The Yamaha (with its video scaler turned off) passed the video through its HDMI output to our HP 65-inch DLP 1080p rear projection HDTV. Note that watching HD DVD movies encoded in 1080p (as these titles were) demands setting the HD-XA1's default resolution to its maximum 1080i, regardless of your display type. The player's internal 720p scaler proved substandard, and setting the player for 720p output resulted in greatly diminished picture quality on both the HP and a new 50-inch Samsung 720p plasma. The image could easily have been mistaken for regular DVD, or worse. When the Samsung was fed a 1080i HD DVD signal, HD-quality detail returned, though the picture never fully captured the magic I saw on the well-tuned HP. This player wants — needs — a 1080p display.

I also tried running analog component video from the player straight to the TV.

WHAT WE THINK

You'll experience spectacular picture and sound — and a few operational quirks — with this groundbreaking player.

And guess what? The HD-XA1 delivered full-resolution HDTV from the component output — neither Warner nor Universal flipped the dreaded Image Constraint Token to down-rez component video on any of the six initial HD DVD titles we received (*The Last Samurai*, *The Phantom of the Opera*, and *Million Dollar Baby* from Warner; *Apollo 13*, *Doom*, and *Serenity* from Universal). Component video looked only a touch less sharp than the HDMI video, a difference that's probably mostly attributable to the TV.

So, what does an HD DVD picture look like? The first key improvement over DVD was an obvious gain in detail and a reduction of digital compression artifacts, most notably mosquito noise — the little halos of sparklies that can hug the edges of objects on regular DVDs viewed on large screens. Together, these advancements contribute to a superclean, more film-like image that makes even the best DVD transfers seem fuzzy by comparison. On the HD DVDs, for example, I could quickly see the difference between the grainy film stock that gives *Million Dollar Baby* its gritty look and the finer stock used to shoot the gorgeous, flowing landscapes in *The Last Samurai*. It was as though a window onto the movies had been cleaned, and I was able to see into their texture in a way that's impossible with DVD.

There was also a huge difference in color and contrast.

Colors were *much* more saturated on the HD DVDs; they had the characteristic pop of film, but without seeming cartoonish or overdone. Whites were noticeably whiter and brighter than on DVD, as in the pure and vibrant images of the mighty Saturn V rocket in *Apollo 13* and the flight suits of the astronauts in their capsule. And the fireball of the launch went from being almost animated on DVD to looking richer, brighter, and more convincingly “fire-like” in its colors.

Reproduction of greens appeared greatly improved in HD DVD. The mountain valleys in *Samurai* were exceptionally natural compared to the regular disc — again, just like film — as was the tropical island backdrop from the *King Kong* trailer on an HD DVD demo disc supplied by Toshiba. The extra resolution in the HD DVD transfer also brought out the incredibly fine hairs in a close-up of Kong's face as he peered at his love interest, Ann Darrow (Naomi Watts).

Scenes featuring both bright and dark areas had a far greater range of contrast on HD DVD. This was obvious in one sequence near the beginning of *The Phantom of the Opera*, where the Vicomte de Chagny (Patrick Wilson) pulls into the courtyard of the



Opera Populaire in Paris on a horse-drawn carriage. In this wide shot, the courtyard is drenched in shadow and light fog while the white brick building at the rear reflects the morning sun. On the regular DVD there was little detail in objects in the shadowed area, and the building didn't stand out much against the more subdued foreground. But on the HD DVD, I could clearly see the vapor in the air; the bright building suddenly came to life and demanded notice, and all kinds of detail became evident in the foreground shadows. This experience was repeated on the after disc — the regular DVDs were not only less detailed, but also much softer and less lifelike.

It seems apparent that HDTV should trump a DVD every time, but the HD DVDs were also noticeably better than a typical HD broadcast on satellite or cable. While I wouldn't do an A/B comparison with any of the HD DVD titles, looking at a variety of movies and filmed shows made some differences obvious. While the broadcasts occasionally competed on overall detail, they, like the DVDs, offered less saturated colors and dynamic "punch" than the HD DVDs. And they were very often plagued by mosquito noise and other compression artifacts. There's an explanation: Most cable and satellite systems top out at bit rates around 8 to 12 megabits per second (Mbps) for their HDTV transmissions. By comparison, HD DVDs pump out data at around 18 to 20 Mbps, with peaks that can hit 40 Mbps if the program demands it. The MPEG-4 or VC-1 compression schemes used for HD DVD are also more efficient at a given bit rate than the MPEG-2 still used by most broadcasters.

SOUNDS GOOD

The HD DVDs proved to also have superior sound compared with the traditional Dolby Digital track found on most DVD and HD broadcasts. All the new titles I looked at were encoded with Dolby Digital Plus — a higher-bit rate enhancement of Dolby Digital — which I listened to as uncompressed PCM or as PCM downconverted to a DTS stream for the player's optical output. The format specs give manufacturers the option of downconverting to DTS or Dolby Digital for output on the coax and optical ports, and Toshiba chose DTS.)

Both the straight PCM and the DTS offered big dynamics, clear dialogue,

and a satisfying fullness and musicality. By comparison, the standard Dolby Digital soundtrack on the DVDs sounded strained, thin, and edgy against the more data-rich sonics of HD DVD. *Phantom's* musical numbers and orchestral score didn't stand a chance on DVD; the stridency of massed strings was a dead

giveaway of the bit-challenged encoding from which the sound emerged. And there were moments when the HD discs just blew me away. The launch sequence in *Apollo 13* rattled the room so hard that the vibration-sensitive backlight in the HD-XA1's remote flickered. And Universal put so much dynamic juice and

CRUTCHFIELD



The do-it-yourself home theater that looks like a pro installation

Planning a new home theater? Want to enjoy music in every room? Want to conceal the speakers and wires behind your walls? Need some advice?

Visit crutchfield.com/DIYHT. Use our audio/video design form to tell us about your goals and your rooms. One of our experts will take the info you supply and craft customized, room-specific recommendations, free of charge.

We'll guide you through the installation or help you find a professional installer in your area.



Detailed information on our website and in our catalog.



Easy-to-follow guides written by our own audio/video experts.



Free tech help available 16 hours a day, 7 days a week.

Free catalog

Call 1-800-319-8843
or visit crutchfield.com/DIYHT

low-end energy into the hyper-suspenseful soundtrack to *Doom* that it had me leaping from my chair more than once.

Beyond the picture and sound, much has been made of the high level of interactivity these new HD DVD discs will provide. None of the titles I tried had anything remarkable in their Extras menus. But the Warner discs, particularly, impressed me with their onscreen menus and ease of use. Load a Warner HD DVD and it plays automatically — no stopping at the menu screen. When you do call up the menu, it rises from the bottom in layers as you go deeper and deeper, all with optional button sounds and all while the movie continues to play in the background. Selecting chapters was quick work, and the Warner discs allowed bookmarking. Just hit the B button on the remote at any point in the movie, and the bookmark is saved in the player's non-volatile flash memory. From then on, it'll always remember your bookmarks for each disc until you delete them (even after a power outage), and you can select them at any time from the Chapter menu. Awesome!

WALK, DON'T RUN

Okay, with the good comes the bad — though not too bad. Just the kind of bad you get with a misbehaving child who drives you crazy but you still love anyway.

I wasn't kidding about the HD-XA1 being a computer, and you'll know that the minute you turn it on. If you're used to watching your PC boot up, your experience with this player will be about the same. Many functions that are hard-wired in a regular DVD player are in firmware here, which gets reloaded whenever the piece goes live. If there's a disc in the drawer, the time from power-on to seeing it onscreen is a brutally long 1 minute, 20 seconds. Disc-load times when the player is already running vary from 50 to 70 seconds. These delays become exceptionally trying after a while, as was the generally sluggish and slow response to other commands. Fortunately, Toshiba says that upcoming firm-

ware revisions (through the player's Ethernet port) will streamline things somewhat. Some other glitches, such as the Resume Play function working only for DVDs but not HD DVDs, turned out to be related to the early disc-mastering practices.

Also irksome was the supplied remote control. On the plus side, it's got a sleek metal body and the cool vibration-sensitive backlight mentioned earlier that turns on when you give the remote a little jerk or hit a button. On the other hand, it relies on a kludgy eight-position navigation rocker to move about the Setup or disc menus. Frequently, I'd press the up/down/left/right buttons and the onscreen cursor wouldn't respond. A feather-light touch on the rocker improved its hit rate, but I still had to crawl through menus to avoid cursor freeze. Toshiba has acknowledged the bug and is correcting the problem for future production. Meanwhile, I programmed the nav keys into a cheap universal learning remote, and much to my shock, the HD-XA1 ran like a thoroughbred. I was suddenly able to navigate the internal menus and discs at warp speed with nary a hiccup.

BOTTOM LINE

I've got plenty more to say about the HD-XA1 — so much that I can't include it all here. So if you want a full description of this zaftig 20-pound, rack-width beast, go to soundandvisionmag.com/hddvd_toshiba. There, you'll find a recitation of all its fancy features, such as the graphically endearing menu system (three different skins!), plus a rundown of all the player's inputs and outputs and the wacky ways you can configure them.

THE SHORT FORM

PLUS

Stellar picture and sound quality.
Great interactive disc menus.

MINUS

Slow start-up and disc booting.
Sluggish response to commands.
Kludgy remote control.
Poor 720p conversion.



Apollo 13's blastoff sequence shook the house on HD DVD.

key features

- Plays high-definition HD DVDs
- 480i, 480p, 720p, or 1080i output
- Ethernet port for upgrades and Internet
- 5.1-channel internal decoder
- **outputs** HDMI, component video, S-video, composite video, SPDIF digital audio (optical and coax), 5.1-channel analog, 2-channel analog
- **inputs** 2 USB, 1 RS-232C, 1 Ethernet
- **Price** player, \$799; discs, \$29 to \$49

Full lab results on S&V Web site



The back of the HD-XA1 hosts a bevy of jacks — and a reasonably quiet cooling fan.

It ended up taking very little time for me to become accustomed to the stellar picture and cleanest, more open sound of HD DVD. Basically, I'm ruined — I'll never again be able to watch a regular DVD with an uncritical eye. Granted, it's too early to take sides in the high-def disc war, and we'll have to see if the first Blu-ray Disc players can do a better job out of the gate. And Toshiba's bold first attempt at HD DVD has the definite potential to drive you a little buggy. But I can assure you that from the moment a movie starts till the roll of the final credits, all will be forgiven. And that's the time that really counts.