

Interacting with HD

*Authoring tools will combine the best of sees
a future rich in content*

As high definition moving imagery celebrates its 110th anniversary (35mm movies date to 1895), High Definition (HD) video is starting to gain traction in the consumer marketplace. HD programming is on the rise, and millions of homes now own HD-ready digital televisions. Now, the advent of HD content on disc is here.



Richard Diercks is a pioneer in DVD production and integration of DVD and the Internet. The Richard Diercks Company, Inc. (RADCO) is the first U.S. HD DVD beta site for authoring developer Sonic Solutions, which also named it first non-Hollywood beta site for DVD. Diercks has authored more than 2,000 DVD titles, from feature films and special interest to corporate communications and marketing, including the first DVD-18 (Aquaria) and The Ultimate DVD Demo Disc. For more information: rdiercks@diercks.com; 952-920-2000; www.diercks.com.

HD-DVD is the proprietary designation adopted by the DVD Forum, which controls the "DVD" trademark. Blu-ray, technically not a DVD, is designated BD. To avoid confusion, the generic terms we use regardless of format is high-def disc and HD content.

By the end of 2005, HD recorders and players are expected to trickle onto shelves, with HD content not far behind.

In the mid 1980s, as VHS was becoming a TV fixture, I created the best selling Kathy Smith fitness videotapes. Beyond popular entertainment, HD disc features hold unique appeal for similar niche markets and business uses. Especially if Hollywood is slow to feed the market with marquee titles during the early adopter phase, HD content developers and distributors will have the same opportunity as I did 20 years ago to cultivate special interest markets.



HD menus will feature continuous video backgrounds, motion animation and HTML/Flash options as translucent text panels. Access will be immediate and overlay the menu and video. The current highlight and color limitation will be a thing of the past. Esthetics and design will conform to contemporary standards.

put the disc in any current DVD player and watch the program. Inserted in an HD DVD or BD player, the HD-authored program will be fully functional as HD video and HD audio.

While most of the HD focus is naturally on the video image, the most dramatic impact will be in the authoring options HD discs offer. The HD players themselves will function more like computers.

Our company is ready with HD extensions of our successful plasma art titles, as soon as final HD disc specifications are set. We are not alone. One of our distribution customers, BCI-Eclipse, a division of Navarre Corporation, is building a critical mass of HD DVD titles so it can hit the ground running when that format is introduced.

Playback and Forth

The transition to HD disc for a typical consumer can be eased with hybrid, backward-compatible discs that contain the program in both standard DVD and HD DVD or BD. The viewer can

The picture and audio specs and elements appear to be set for both HD DVD and BD: MPEG2, MPEG4 and VC1 (formerly known as WMV HD, for Windows Media Video, and VC-9).

I suspect VC1 will dominate. MPEG2 is great, but its bandwidth is too fat. MPEG4 works extremely well for what it was designed for, i.e. Internet video with acceptable picture at the lowest bandwidth. VC1 is similar to MPEG4, but its compression algorithm is highly efficient and yields excellent HD imagery at bandwidths comparable, in some cases, to standard DVD.

Today's DVD players have sixteen 32 kilobyte memory registers. While designed primarily for internal system management (e.g., what frame was paused on, which language track to use), the registers could be used for programming. We have created a whole series of multiple-player trivia games. They run on any DVD set-top player and track scores for up to four players.

However, all standard DVD memory is volatile, so when you take out the disc or turn off the player, all the game data disappears. HD disc players will have much more memory and it will not be volatile. It stays in the player.

HD-DVD authoring is expected to have three levels of capability:

- 1 **Content Type I** - same as current DVD, but with HD pictures and sound.
- 2 **Content Type II** - similar to web or multimedia; highly interactive; built with tools similar to Java script, Flash, Director, C++ programming; no limits.
- 3 **Content Type III** - same as Type II, but with Internet connection and interface.

BD will have a similar authoring scheme:

- 1 **BD MV** - similar to HD DVD's Content Type I.
- 2 **BD J** - similar to Content Type II and Content Type III ("J" presumably stands for Java script).

While authoring tools will resemble current multimedia languages or applications, it is assumed all tool makers, such as Sonic Solutions and Panasonic, will create format-specific and proprietary authoring software.

HD Authoring Tools at NAB

Content Type I and BVD MV probably will be used for the first HD movie releases. Authoring presumably will be built around current DVD authoring software, such as Sonic Solutions' Scenarist. Those tools will first appear at the April 2005 convention of National Association of Broadcasters (NAB).

Content Type II or BD J is the breakthrough event. Menus and navigation will burst through the confines of current DVD authoring. The flexibility and navigation of today's Internet is what you will experience with HD disc, only the pictures will be spectacular.

Video menus and picons will no longer have to loop. The video can be continuous. Viewers will be able to simply back through navigation just like on a CD-ROM multimedia program. Advanced HD disc authoring tools such as these should become available in late 2005 or early 2006.

The video itself can be interactive. For example, if you are looking at our HD Aquaria program on the exotic Blue Dot ray, and "click" on the ray swimming around, up pops a window with all sorts of information on the fish.

Internet flexibility and navigation is what you will experience on HD disc ... with spectacular pictures.

Menu designers will appreciate that it is a true pop-up over the running video, not a new video segment as we now must use to finesse our way through the authoring process. The HD pop-up is instantaneous.

On Content Type III (presumably BD J), the video is still active, with the set-top player connected to the Internet. A viewer of our kayaking instruction video could click on a boat to link to the website of Old Town Canoe Company, where he learns about the product, including where to buy it, or purchases it directly online.

Profitable Product Placement

For Hollywood content, BD J adds virtually cash value to product placement, potentially for the film distributor as well as the product provider. For an e-tailer like The Sharper Image, having one of its leading-edge technologies showcased in a hit movie on HD DVD or BD could translate quickly into incremental sales as disc viewers order the product after, or even during, the movie, from the company's website.

Highly interactive, video-based corporate training will become more popular thanks to HD disc players that eventually are commonplace and low cost. Training is not only more effective using video, but more affordable to create than multimedia. HD media's high level of interactivity also means nothing is sacrificed when using video. Internet connection at the end of a training session facilitates compliance and certification.

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Making HD-DVD Possible

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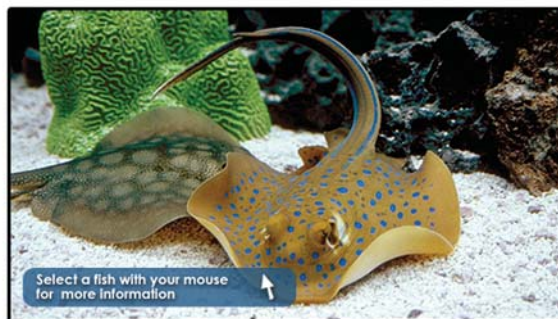
Even multi-session and interrupted training sessions can be managed both within the HD player and on the Internet, since HD DVD or BD can be seamlessly integrated with a website. The website can be constantly updated so the program on the disc stays current.

A website even can control a disc. Rich content and video are on the disc. Basic data such as cost, availability, and product options are online. The integration is totally transparent to the user.

Content can be packaged the same way high-end software sys-

tems are. An entire series of programs or movies can be on one disc. The consumer buys the disc for the price of one movie. If the viewer wants to see more, a simple credit card transaction unlocks the next program. Right management software will be developed to both protect the rights holder, while providing the user with sufficient flexibility.

HD optical media can provide an exceptional visual and audio experience combined with all the flexibility on the Internet with and without the umbilical cord. – **R.D.**



HD video itself can be interactive within the disc. Click on the video and a genuine, integrated pop-up window appears with additional information on the video subject, such as this Blue Dot ray.



The active video, or any other screen object, can connect to the Internet. In this case, www.followthru.com is a site owned by the author's company that steers viewers to various other web sites of special interest.



The same Internet-enabled power also allows HD DVD and BD direct access to e-commerce sites. If you see something in the movie or special interest video just click and buy it. A beautiful and informative video on canoeing, golf or trout fishing can take you directly to buying equipment and booking your vacation. When you're done go back to viewing the program.