

3D cinema tech taking on a starring role

By Daniel Terdiman

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When the Hollywood elite descends on Cannes, France, this week for the city's famous film festival, one of the most anticipated debut showings will be *U2 3D*, a feature-length U2 concert movie shot in 3D.

But don't worry: the glitterati at the *U2 3D* screening will not have to risk being seen in those awful red and blue glasses traditionally used to watch 3D movies. Instead, they'll be sporting sleek black glasses that are one piece of a new generation of digital 3D stereoscopic cinema technology that is taking the film industry by storm.

The technology is the work of two companies: Beverly Hills, Calif.-based **Real D** and Burbank, Calif.-based **3ality**. And it's clear that audiences are on board. When Disney's *Chicken Little* was released in 3D last fall, there were only 100 screens in the United States that could show the film. By the time the studio's *Meet the Robinsons* hit theaters this spring, there were 720 screens nationwide, and the companies expect more than 1,000 screens nationwide by fall.

In fact, as Real D and 3ality move forward with their technology, they are seeing broad interest from the studios. In addition to the Disney films already released, Sony put out *Monster House* in 3D last fall, Paramount is releasing *Beowulf* in 3D this fall and Dreamworks Animation in March said it would begin releasing all its films in 3D beginning in 2009.

Currently, some films are being released in both 2D and 3D formats, and audiences are seemingly clamoring to catch the latter and even pay more to do so.

"People will happily pay a premium to see the movie in 3D," said Tom Stephenson, president and CEO of Rave Motion Pictures, a Dallas-based theater chain. "The only frustration they have is if you're out of 3D seats and they have to see it in 2D."

Stephenson said that Rave theater customers are paying about \$2 more to see films in 3D than they are for the same movies in 2D. And Dick Westerling, the vice president of marketing for Regal Entertainment Group, which operates 6,340 screens nationwide, says customers at his company's theaters are paying between \$2 and \$2.50 more to see films in 3D.

There are two sides to the technology: the content side, which is created by 3ality, and the exhibition side, which comes from Real D.

3ality CEO Steve Schklair said that his company has created 3D tools designed to "perfectly align" images taken from two separate motion-controlled digital cameras that are placed side by side--as the "left eye" and "right eye"--and used to shoot films in 3D.

The idea, Schklair said, is to efficiently take the images from the two cameras and manipulate them after they're shot so they match.

The technology is also designed to help easily blend the shot-by-shot depth of scene so that as a film cuts from one scene to another, viewers are not taken on a roller coaster ride of perception as was the case with the 3D films of old.

"On a cut-to-cut basis in the past, the depth of each shot was different," said Schklair, who added that watching such a film was tiring on the eyes after around 15 minutes. "But now, we're using these new tools that hand off the depth for each shot. So we transition the depth from shot to shot, so your eyes are led though the movie. So your eyes don't even notice."

Once 3ality's systems have processed the footage, it's up to Real D's systems to project it onto specially upgraded screens in the growing number of theaters using the technology.

Real D's systems process the images sequentially, projecting them at 144 frames per second--as compared with traditional 2D films being shown at 24 frames per second--making for what Real D CEO Michael Lewis says is a more comfortable experience than traditional analog 3D films.

The projectors display the image on specially designed screens that let the polarized images reflect toward moviegoers' eyes. The audience will still have to wear 3D glasses, but instead of the red and blue glasses so familiar to people of a certain age, they are more attractive circular polarized black glasses.

"We think the technology is really, really good," said Stephenson. "It's a transforming technology. It completely changes the experience. It sort of envelopes the (viewer). You're not watching it. You're almost in it."

Schklair said that making a film in 3D raises production budgets by between 5 percent and 20 percent, with the additional costs being more extreme for lower budget films.

Similarly, the theater installation of Real D's 3D technology--a software and digital hardware upgrade to the projectors, as well as to the screens--adds what has been reported to be around \$25,000 to \$30,000 a year in licensing fees.

Best of all, said Lewis, the upgrade takes only about an hour, and once done, theaters can switch back to 2D films in about five seconds.

Schklair thinks there will still be a market for 2D films looking forward--particularly smaller, dialogue-driven movies. But Lewis said he thinks that most films will be in 3D before too long.

"We believe that once you see something in this new format, it's kind of hard to go back," said Lewis. "It's like black and white. Once you've seen color, you don't want to go back."

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