

3D IS COMING TO YOUR CINEMA. YOUR HOME. YOUR MALL AND YOUR POCKET. MINUS THE GOOFY RED AND BLUE GLASSES

BY HAILEY EISEN



ENTERING THE THIRD DIMENSION



If you had the chance to chat about 3D technology with Hollywood bigwigs Jeffrey Katzenberg, James Cameron or Stephen Spielberg, you'd hear that the new generation 3D technology is going to be as significant to the cinematic experience as was the shift from silent films to "talkies" or from black and white to colour.

DreamWorks Animation premiered its first 3D film, *Monsters vs. Aliens*, and the Cannes film festival opened with Pixar's 3D animated film *UP*. By the fall, hype will likely have spread in anticipation of the December release of Cameron's *Avatar*, a live-action 3D film currently in post-production.

And as Hollywood gears up for a year of 3D firsts, advancements are also underway to extend the third dimension into your home viewing experience through the development, production and distribution of 3D-ready televisions, monitors and mobile devices. For gamers, 3D potential has already been realized. California-based Nvidia has rolled out a 3D-ready display equipped with software able to transform hundreds of PC games into full stereoscopic 3D.

"The younger digital audiences of today consume media in a very different way, and are ready for a new experience," said DreamWork's head of production development Jim Maynard. "We've always looked to immerse audiences in our films and 3D is another way to bring them into that environment."

While 3D is not a new phenomenon, Maynard said "technology finally got out of the way." In the past, the experience—built on two out-of-sync projectors rolling 35mm film, and red and blue cardboard glasses—often resulted in nausea and dizziness. The 3D films of the 1950s through 1980s were "in your face" and gimmicky, not the type of work you'd imagine premiering at a film festival. But it's this reputation filmmakers are hoping to leave behind. The intention, Maynard said, is for 3D to become a subtle element, like a soundtrack, which contributes to the film rather than defining it.

Today, digital technology and advanced software make high-quality 3D filmmaking possible. A computer file is played through a single digital projector, resulting in a seamless viewing experience.

Cinagoers swap flimsy cardboard glasses for polarized ones made of high-quality recyclable plastic.

The 3D of today is immersive rather than distracting. Demonstrating their confidence in this new technology, DreamWorks Animation will only produce 3D films from now on. "We are retraining our artists and providing them with the techniques necessary to transform great stories with compelling characters into 3D movies," Maynard said. And Katzenberg is busy spreading the digital 3D gospel throughout Hollywood and beyond.

Commercial 3D

Katzenberg, it turns out, is not the only one to have caught the 3D bug. Canada's evangelist is James Stewart, producer/director and owner of Toronto-based Geneva Film. He is focused on the corporate use of stereoscopic 3D in advertising. We are, at present, experiencing only the leading edge of 3D technology, he said. "There is a huge opportunity here for early marketing adopters, as 3D is set to have a sig-



JIM MAYNARD
DreamWorks Animation



JAMES STEWART
Geneva Film



PAT MARSHALL
Cineplex Entertainment



CHARLOTTE JONES
Screen Digest



CHRIS CHINNOCK
Insight Media

nificant impact on cinema and eventually television and mobile devices.”

On the set of his most recent production, Stewart demonstrated how the stereoscopic 3D filmmaking process works. He was commissioned by the Tema Conter Memorial Trust, a national charity that helps emergency service personnel understand and cope with the effects of Acute Post Traumatic Stress Disorder (PTSD), to direct and produce the world's first public service announcement (PSA) in 3D.

Using two digital cameras mounted on top of one another with a mirror rig, Stewart is able to shoot identical images, one representing the left eye, and one the right. Camera A shoots through a one-way mirror while camera B captures the same image reflecting from the mirror. While a 3D film can also be shot with two cameras side-by-side, the mirror rig allows the cameras to be much closer together, mimicking the approximately six-centimetre distance between human eyes.

Stewart's PSA will guide viewers through the nightmare of PTSD as seen from a child's perspective. Currently in post-production, the piece is being transformed into a stream of 3D data. “First you do a creative edit with one eye and then conform the second eye to the first,” Stewart explained. Utilizing a Quantel Pablo 4K stereoscopic editing system, both eyes can be seen in 3D and the editor manipulates where the image lands on the Z-axis—that is, how far behind the screen or into the audience the subject will appear. “The first time I saw the Pablo, I was blown away by

its ability to work in real-time 3D just like you would in 2D on a regular edit suite.”

This commercial spot will gain cross-media exposure in cinemas, on the Web and on 3D-enabled mobile devices and will also be made available in 2D format. The project follows the world's



Gary Lee of DreamWorks in the 3D Capture room

first 3D television commercial break, which aired during the Super Bowl and featured a trailer for *Monsters vs. Aliens* followed by a commercial for PepsiCo's SoBe Lifewater.

“We are literally at the tipping point of 3D content and this technology offers advertisers an incredible leap forward in terms of intimacy and the ability to connect the consumer with the product,” Stewart said.

With other live-action 3D commercials still in production and a long-form commercial for a major Japanese automotive manufacturer yet to be released, Stewart is leading the way. And, with the scheduled release of more than a dozen 3D films in 2009 and 2010, it only makes sense that commercial content will follow.

No-glasses advertising

For the time being, commercial and entertainment content developed by Stewart and others can only be viewed through special glasses. But developers such as Toronto-based Spatial View are in the process of changing that. Imagine walking through an airport or convention centre and seeing an ad literally jump off a large LCD screen.

This scenario has already been realized with Spatial View's 46-inch multiple viewer display, which provides full HD-quality

3D effects and is being promoted for digital signage. Since 2005, Spatial View has developed glasses-free displays and the accompanying software, now used for marketing, engineering, scientific and medical purposes. It has also developed the Wazabee 3DeeFlector, a monitor that will take gamers into the third-dimension, no glasses required.

Updating silver screens

One problem, though, is not all cinemas support 3D. “There seems to be an assumption out there that everything is already digital,” said Pat Marshall, vice-president, communications and investor relations, with Cineplex Entertainment. “But this is not the case.”

Currently, movie exhibitors across North America and Europe are moving to convert 35mm film projectors to digital projectors, the first step in the process of making theatres 3D-ready. “Digital projection costs are currently in the range of \$65,000 to \$75,000 per unit, with REALD 3D technology an additional \$25,000 per projector,” Marshall said. At the time of writing, Cineplex had 106 digital projectors across Canada, of which 70 were 3D capable. And, while Marshall expects this number will grow, the economic downturn has significantly slowed progress. “We have 1,331 screens from British Columbia to Quebec, and

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—James Stewart

our goal is to have 15 to 20 per cent of those screens 3D capable,” she said. “But I can't say when, as we're highly dependent on the credit markets.”

Cineplex currently charges a premium of three dollars per ticket for a 3D movie but “people love the experience and we find that 3D movies outperform 2D movies by as much as four times,” Marshall added.

Cineplex has partnered with REALD, a California-based company that provides the stereoscopic projection system for digital cinema along with REALD eyewear, passive polarized glasses that complete the 3D experience.

According to industry analysts, at the end of 2008 there were 2,500 3D screens in cinemas across the world, with that number expected to double in 2009 alone. “The 3D experience is superior and it helps a film stand out in a crowded blockbuster season,” said Charlotte Jones, a senior analyst



Intrigued?

Here is the list of 3D films for 2009 and 2010. Grab some glasses and enter the third dimension.

01.16.09	Lionsgate	<i>My Bloody Valentine 3D</i>
02.06.09	Focus Features	<i>Coraline</i>
02.27.09	Disney	<i>Jonas Brothers Concert Movie</i>
03.27.09	Paramount	<i>Monsters vs. Aliens</i>
05.29.09	Disney	<i>UP</i>
07.01.09	Fox	<i>Ice Age: Dawn of the Dinosaurs</i>
07.24.09	Weinstein	<i>Piranha 3D</i>
07.24.09	Disney	<i>G-Force</i>
08.21.09	Warner Bros.	<i>Final Destination 4</i>
10.02.09	Disney	<i>Toy Story (re-release)</i>
11.06.09	Disney	<i>A Christmas Carol</i>
11.20.09	Sony	<i>Planet 51</i>
12.18.09	Fox	<i>Avatar</i>
12.25.09	Disney	<i>The Princess and the Frog</i>
01.15.10	Sony	<i>Cloudy with a Chance of Meatballs</i>
02.12.10	Disney	<i>Toy Story 2 (re-release)</i>
03.05.10	Disney	<i>Alice in Wonderland</i>
03.26.10	Paramount	<i>How to Train Your Dragon</i>
04.16.10	Lionsgate	<i>Alpha and Omega</i>
05.21.10	Paramount	<i>Shrek Goes Fourth</i>
06.18.10	Disney	<i>Toy Story 3</i>
07.23.10	Warner Bros.	<i>Guardians of Ga'Hoole</i>
11.05.10	Paramount	<i>Master Mind (working title)</i>
TBD	Disney	<i>Rapunzel</i>
TBD	Universal	<i>Despicable Me</i>
TBD	Disney	<i>Beauty and the Beast (re-released)</i>



James Stewart of Geneva Film uses two digital cameras mounted on top of one another with a mirror rig to shoot identical images, one representing the left eye, the other the right

with Screen Digest in London, England. "3D films are bringing more people to the cinema, performing better over time and maintaining numbers at the box office week after week," she said.

"The Miley Cyrus 3D concert that was released last year was the catalyst for Cineplex to expand 3D in a more meaningful and rapid manner," Marshall said. "That film was only scheduled to be in theatres for one week, but it sold out and we ended up adding more showtimes and continued to extend its run."

Bringing 3D home

With 3D content gaining momentum in the cinema, the next step is to bring the experience home. "There are a broad range of products that will be 3D enabled and widely distributed within the next five years," said Chris Chinnock, president of Insight Media and a member of the 3D at Home Consortium. "These include TVs and monitors, followed by portable gaming consoles, cell-phones, cameras, camcorders and electronic picture frames."



Spatial View's 46-inch multiple viewer display, which provides full HD-quality 3D effects

3D in your hand: The Wazabee 3DeeShell for the Apple iPhone

\$59.99, www.spatialview.com

With 3D movies popping up rapidly and the potential to create 3D content easier than ever before, consumers are looking for ways to access this third dimension outside cinemas. The potential to view 3D images, games and movies on the Apple iPhone has arrived, courtesy of Toronto-based Spatial View. And you don't have to walk around wearing glasses to experience this effect. The 3DeeShell is composed of a protective skin and a removable lenticular lens, which allows you to see 3D content without glasses.

The 3DeeShell shell works with:

- > 3DeeCamera: take your own stereo pictures using your iPhone camera
- > 3DeeVusion: manipulate and create stereo images
- > 3DeeLoader: store and work with your 3D images on Flickr




There are currently 3D-ready televisions on the market but with little to no content consumers aren't realizing their potential. "It's a bit of a chicken-and-egg scenario right now," said Chinnock, who has been involved with the consortium since its inception a year ago. "The content creation guys are saying, 'We'd love to push this into the home, but where are the TVs?' and the TV manufacturers are saying, 'We'd love to sell 3D TVs but where is the content?'"

According to Stewart, the Super Bowl may be successful in kicking off consumer demand for 3D-ready televisions. "If the Super Bowl airs in 3D, either next year or in 2011, that could be what pushes 3D televisions into the home," he said. In December 2008 the production studio 3ality broadcast a live 3D NFL game between the San Diego Chargers and the Oakland Raiders to theatres in Los Angeles, New York and Boston. "Watching live sports in 3D is better than sitting in the front row," Stewart said. "It's like being in the game. You feel every pass, every punch and every touchdown. It's like HD on steroids."

While many questions remain as to how 3D television will be broadcast into the home, some small advances are being made. The Japanese station BS 11 is currently broadcasting limited 3D TV segments to homes in Japan using Hyundai monitors, while the UK's Sky Broadcasting has shot some tests and publicly said it will provide live satellite 3D TV by Christmas.

The majority of 3D-ready TVs on the market, including those from Samsung and Mitsubishi, are sold with active 3D glasses, Chinnock said. Unlike passive glasses (which are used in cinemas in North America) active glasses are more expensive and contain switching liquid crystal shutters that provide rapid, invisible stereoscopic shutter action to deliver right and left eye images. These images are displayed sequentially in sync with the refresh rate of the screen.

"I believe we are building slowly toward the critical mass point which will either be 2010 or 2011," Chinnock said. "3D will be a part of the tapestry of movie storytelling and we are working to speed the adoption of 3D into the home." 

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