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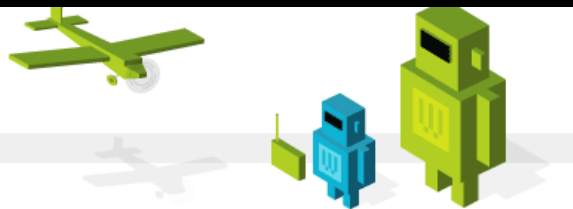
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How I Stopped Worrying and Learned to Love 3D

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By Jason CranfordTeague ✉ May 31, 2012 | 6:00 am | Categories: Armchair Geek, Electronic Geek

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3D is the Future in Ridley Scott's *Prometheus*, just one of the movies that 3ality Technica has helped bring onto (and off of) the big screen this summer. © 2012 - Twentieth Century Fox Film Corporation. All rights reserved.

I am not afraid to admit it: I'm a fan of 3D movies. At its best, 3D can add a texture and laying to the visual narrative that a skilled director and editor can spin into magic. At its worst, though, 3D is annoying and painful. I admit that I have seen some horridly bad 3D movies recently, but the technology is still growing, and getting better all of the time. After a recent tour of 3D cinema equipment manufacturer 3ality Technica's headquarters and an interview with their CEO Steve Schklair, I've seen where that future of 3D is headed, and it's looking very bright.

With the coming 2012 summer blockbuster movies is also coming the rise of 3D movies as the standard for more and more moviegoers. Although once a fad you had to actively seek out (assuming you even liked it), 3D movies are progressively becoming the norm, and not just for superhero movies like the radically popular *The Avengers* movie and the forthcoming *Batman: The Dark Knight Rises* either.

3ality Techica is in the business of creating the equipment to capture three dimensional images for movies, sports and live

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events. Their high-end equipment is being used on everything from horror sci-fi flicks like the highly anticipated *Prometheus* to the fantasy classic *The Hobbit* to the literary drama of *The Great Gatsby*, bringing a more textured feel to the moving images, adding nuances not possible in a mere two dimensions.

During my tour of 3ality Technica's facilities, I was give the opportunity to preview some impressive new footage of *U2* performing on stage, using the very best in projection technology. I was totally blown away. I have never been particularly impressed by 3D that claimed to "jump off the screen," but there were moments that I swear I forgot that Bono was not in fact in the room with us.

3D technology has a dubious past. I remember the first 3D movie I saw in a movie theater was the unremarkable *Spacehunter: Adventures In The Forbidden Zone*, which used the same blue/red technology that had been around for decades. The 3D effects were as flat and unconvincing as the acting by Peter Strauss and Molly Ringwald. However, 3D technology has come a long way since the 20th century, although attitudes about it may not have.

A painful experience. (Colulmbia Pictures)

Modern 3D movies do not have a particularly good reputation on the U.S. This is true even amongst geeks — especially amongst geeks — whom you might think would naturally be attracted to any new technology that promises to bring about a more virtual reality. Instead, the consistent opinion I hear from most of my friends is that 3D is just a cheap parlor trick by the movie industry to get butts into theater seats again. They argue that it adds little to the movie experience, and often detracts from it by reducing the brightness of picture. Even more compellingly, they argue there are people who can't even see the 3D effect (around 6–7%). New technology on the horizon will fix the projection issue and while the second issue is true, around the same percentage of people suffer from some form of color blindness, but no one would suggest that we shouldn't make color movies.

I have to admit, 3D can be hit or miss. Some 3D I have seen was uninspired, or just didn't seem to work. Despite the fact that it was a post-process 3D job, I enjoyed the last *Harry Potter* far more in 3D than I did in 2D. The claymation in *The Pirates! Band of Misfits* defiantly benefited from the 3D effects. However, the 3D effects in *John Carter* were atrocious — no jokes here, I actually liked the movie itself — and, although it added some interesting effects to *The Avengers*, the 3D gave me a bit of a headache.

What I learned during my tour of 3ality Technica, though, enlightened me as to why some movies work with 3D while others (excuse the pun) fall flat. It comes down to two different factors: how the film was created (filmed in 3D or converted) and how it's projected (active or passive).

Projection is the front line of 3D technology. Most theaters are still using light bulb–based technology, but new and much brighter laser-based projectors are available. According to Schklair the new laser projectors will be cheaper to upgrade to than buying new bulbs over an older projector's lifetime. This not only solves the the brightness issue, the brighter projectors will increase the 3D quality and reduce eyestrain-inducing flicker.

Active 3D — Glasses only Morrissey could love. (Viewsonic)

Additionally, the new projectors will allow theaters to move away from *active* 3D projection and use *passive* 3D technology instead. What's the big difference? With active 3D, the heavy lifting of rendering the 3D effect is with the glasses. They are much bulkier, much more expensive, and much more likely to go out of synch than passive 3D, thus ruining the stereo effect. With passive 3D, on the other hand, the work is done by the projector, and simple polarized lenses like sunglasses are all that have to be worn by the viewer. These glasses are cheaper and cause less eye-strain than their active counterparts.

Which system you are viewing, though, has nothing to do with the film print, but on the technology used by the specific theater you are sitting in. I saw *Harry Potter* with passive glasses and enjoyed it greatly. I saw *John Carter* and *The Avengers* in active, and was less than impressed.

"My opinion… active is on the way out," says Schklair. "Many of the manufacturers are dropping it, because the heavy lifting of 3D is done by the glasses and not the projector or TV. If you want your friends over to watch TV, you have to buy more of those very expensive glasses." By comparison, glasses for passive technology are relatively inexpensive to buy, much lighter, and don't have the synching problem.

So, the projection problem will soon be solved. But many of the films that are put out as "3D" today have been converted from 2D — their dimensionality added in post-production. From a filming stand point, this has made sense: filming in 3D was not only costly, but added a whole new level of complexity to the already complex filming process. However, this is, in effect, like colorizing a black and white film — you are adding information to the image that was not captured live. No matter how skillfully the post-production is done, it simply can never be as realistic as if it were captured during the original event. It might add some depth, but most of the complaints I hear about flat 3D are about movies that were converted.

Stereo Image Processors™ (SIP™) — A little device with a big job. (3ality)

The big problem with filming in 3D was needing to constantly synch the 3D cameras and then being able to view the 3D picture on set. It's like filming in color, but only previewing it in black and white. To fix this problem, 3ality Technica developed the Stereo Imaging Processor (SIP) technology that adjusts every frame in real time, keeping them in synch and aligned, so that manual realignment is faster and needed less frequently. More importantly, the 3D can be viewed in real time, without needing post-production to adjust the stereo image. This takes a lot of the pain and expense out of filming directly in 3D.

Schklair notes that while shooting *The Great Gatsby*, "the Director, Baz Luhrmann, was determined to use [3D] to help tell a story. You can't do that in 2D, even if you know you are going to convert, because he was looking at the 3D monitor on set and re-staging to make a better story in 3D."

This also means that the technology is here to allow us to broadcast live events in 3D. The majority of TVs being shipped today are 3D ready, using the preferable passive technology. In fact, that was the biggest surprise to me during my tour: 3ality Technica's work is now being used in live broadcast of events, coming down in glorious 3D. All you need is the glasses. Oh, and, of course, the programming.

In the US, 3D TV programming is a novelty at best. In the UK, however, BSkyB is experimenting with live 3D sporting events, and broadcasting them in the pubs of London. They have sponsored 3D nights, with free glasses provided, and according the Schklair, they are constantly sold out: "They even have an iPhone app that lets you locate the closest 3 pubs playing your game in 3D based on the GPS data."

There are still a lot of 3D haters out there, and I'm not saying they have no reason to distrust 3D. It's off to a shaky start, mostly because the technology needed to properly render it has lagged behind the medium's true capabilities. But the point of 3D is not just to bring a sense of depth, but to bring us along into the movie, to feel a part of it in us. Bad 3D makes this feel like a hollow goal, but when you get the good stuff, you'll never forget it. I'm looking to a summer full of the good stuff.

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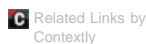
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