3D TV in the Home

an industry op-ed by Steve Wright

Not so fast.

The entertainment community is all a-twitter over stereo 3D movies and are in a headlong rush to crank out as many as they can. So what about the 3D TV in the home? How soon will it be here? What will be the technology? How much will it cost? Will you have to wear those silly glasses?

Right now there are several brands of 3D TV's on the market, and while pricey, they are not outrageously expensive at less than twice as expensive as a regular TV. You can even buy one today from Samsung for under $1000 (model #PN50C490 is now available for pre-order). Of course, the inexorable march of technology and mass production will bring these prices down to where in just a few years 3D will be as natural a part of the TV as the remote control.

Standards

At the moment the obstacles to 3D TV in the home are technology, price, standards, lack of programming, and those silly glasses. In the natural order of things technology and price will take care of themselves over time. There is even a solution for the silly glasses which we shall see here later. The real obstacle is the standards. We are confronted with the spectacle of several brands of 3D TV being offered today without any 3D TV standards for the industry. But they are coming. Soon. We promise.

Dateline: July 27, 2010 - SMPTE convened a standing room only conference in NY to see presentations on the latest 3D technologies and proposed standards. One of the key presenters was the SMPTE 3D Home Master Working Group which is chartered to define the home 3D television standards for the entire industry. They plan to finalize the standards - *later this year*. So we are all to run out and buy 3D TV's, then, later this year, figure out how they are supposed to work?

To add to the confusion and disarray, there other groups throwing their standards' hats into the ring. (Consumer Electronics Association, 3D@Home Consortium, ITU, Entertainment Technology Center at USC's School of Cinematic Arts, the Digital TV Group in the UK, etc.). The bottom line is that the home TV industry does not have its standards act together yet, but that hasn't stopped them from shipping product.

Programming

Incredibly, there have actually already been a few TV episodes broadcast in 3D. Some examples - an episode of 3rd Rock from the Sun, the crime drama Medium, a comedy called Chuck, and Arrested Development, a Fox sitcom. One wonders who watched them … and how? Clearly this sparse fare is not going to drive sales of 3D TVs at nearly twice the purchase price of regular TVs. There have been a couple brave cable companies in the UK and China offering 3D service, but that's a bit far to travel for TV.

What is widely perceived to be the driving force behind propagating 3D TV is sports. And for two good reasons. First, sporting events are actually improved when seen in 3D. You can actually tell if the receiver's toes were in bounds or if the tennis ball hit the line. Second, sports fanatics are willing to spend silly money to see their favorite jocks work up a sweat. And there are a lot of sports fanatics. If you only knew how much money

golfers spend annually to improve their game. Just Google “improve golf game” and see how many pages of videos, classes, books, tips, workshops, psychiatrists, hypnotists, psychic healers, shamans, and scientologists you hit.

There have already been some premiere sports events slated for the 3D treatment. The 92nd PGA Golf Championship in August on Time Warner Cable and the 2010 FIFA World Cup in July from DirectTV come to mind.

The other compelling force for 3D TV will, of course, be 3D movies on 3D blu-ray players. Samsung, Sony, LG, and Panasonic all offer 3D players today at very reasonable prices ranging from $200 to $400. But without those pesky standards, how will my “3D Ready” TV talk to my 3D blu-ray?

“3D Ready”

So what makes a TV set “3D Ready”? Two things, actually. First is display speed - a 120Hz refresh rate or better. Second, input bandwidth - the HDMI 1.4 interface, which supports stereo formats. Watch out, here comes the fine print: when the 3D TV says it is “3D Ready” it means that it will display 3D pictures after you connect a 3D settop box and purchase the 3D glasses. If you buy a Samsung 3D TV and a Samsung 3D blu-ray player they will likely play nice together (how embarrassing if they didn’t!). But what if you have a Sony TV? You gotta get the box. These boxes are in the $400 to $500 range. So the interoperability between brands is a serious obstacle. Where are those darn standards? This is going to take time to shake out, so I don’t see the 3D TV boom happening nearly as fast as the 3D movie boom.

Those Darn Glasses

So what about those darn glasses? There are two basic technologies for 3D glasses - active and passive. Active glasses use electronically synced LCD “shutters” to rapidly display one eye after the other. They are the highest quality, but expensive, at around $150 a pair. OK for the living room, not so good for a theater seating 1000. The passive glasses use polarizing filters to separate the views to each eye. They are the lowest quality (ghosting and dimming the picture) but are cheap ($1.98). This is the method of choice for theatres for obvious economic reasons.

I could be wrong, but I don’t think TV viewers across America want to sit around the living room looking goofy in 3D dark glasses. I see this as a serious impediment to acceptance of the whole 3D TV thing. Fortunately, technology is coming to the rescue with “autostereoscopy” TV displays that require no glasses. You can even buy one today from TCL, a Chinese LCD TV manufacturer for only $20,000. You might want to wait for the cheap American knockoff, however.

Steve Wright