

TV's Next Target: 4K Displays

Cable Industry's Move to Ultra HD Formats Remains Years Off

By Todd Spangler -- Multichannel News, 1/30/2012 12:01:00 AM

The next big leap in high definition TV is so eerily realistic, watching it is almost like looking out a picture window.

Amid the thousands of screens at the 2012 International Consumer Electronics Show, so-called 4K displays — which provide four times the resolution of today's HDTVs — were the most breathtaking for the clarity and sharpness of their picture.

LG Electronics and Toshiba are expected to introduce the first 4K-capable sets this year, with LG teeing up an 84-inch LCD unit. The catch: There's nothing available to watch in 4K at home, yet. All the canned demonstrations at CES used specially commissioned content.

"It's a gorgeous screen image," Parks Associates principal analyst Kurt Scherf said. "It's something that's nice to demo at a trade show like CES. But in terms of being a market reality, this isn't crossing into the five-year horizon."

ESPN and Discovery Communications — two of cable's first movers on HD a decade ago — are paying close attention to the development of 4K television.

"The reason Discovery got in so early in HD is why we're getting interested in 4K now: The content that we own and produce is enhanced so much by the viewing experience," Glenn Oakley, executive vice president of Discovery's Media Technology, Production and Operations group, said. "It is perfect for what we do."

But TV's move to 4K will require another massive investment in equipment, infrastructure and engineering, akin to the years-long adoption of HD.

Right now, the cameras and other production equipment that are able to handle the new format are not available commercially. When they do hit the market, they are likely to be very expensive, ESPN chief technology officer Chuck Pagano said.

"We are experimenting with shooting 4K and understanding the nuances associated with this new viewing experience, but right now it is a science experiment," he said.

ESPN's new production facility in Bristol, Conn., dubbed Digital Center 2, will be equipped for 4K production, according to Pagano. The four-story, 193,000-square-foot building is slated to be online in 2014, housing four studios, six production control rooms and 26 editing rooms.

Reflective of 4K's infancy, industry standards for video formats haven't been established yet, with as many as five different resolutions being used to capture 4K images. "There's a lot of places on the chain where you have missing links," Michael Bergeron, strategic technology liaison for Panasonic North America, said.

Different vendors are coming up with their own formats and standards. Eventually, Oakley said, "there will be an inevitable alignment of the industry — that will be the key step."

The question on the consumer front, is what will drive people to shell out a premium for 4K sets, particularly as millions have bought new HDTVs (or 3D sets) in the past few years?

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“You have a replacement cycle that is going to be a challenge, because HD has not been around that long in the grand scheme of things,” Marty Shindler, an independent entertainment technology consultant based in Los Angeles, said. “Only in the last couple of years has the cost of flat-screen TVs come down and become really affordable.”

Movies and sports are the likely first candidates for what will motivate people to purchase ultra high-resolution 4K sets. Some Hollywood films are now being produced with 4K resolutions (and a few theaters are equipped with 4K projectors), which is a potential starting point for home entertainment. Panasonic’s Bergeron said the H.264 codec in the existing Blu-ray Disc specification could handle 4K video.

The video game industry also should take advantage of brilliant 4K screens for ultra-realistic games, Oakley said. “Initially I think it will be gaming consoles and the game producers moving to 4K,” he said. “It’s going to be *Grand Theft Auto 4K* or *Call of Duty 4K*.”

But again, it’s early days. The next milestone Discovery is monitoring is how the first 4K sets fare in the marketplace. “We’ll be watching the CE space for delivery of new sets— are they going to move in volume or is it just something for the CES floor?” Oakley said.

EVEN HIGHER DEFINITION

What it is: 4K television provides four times the resolution (4096 by 2160 pixels) of today’s 1080i/p HDTVs; some manufacturers are pushing for slightly different resolution depths.

How much bandwidth it would use: Compressed with MPEG-4 AVC, a 4K video stream would be 17 to 24 Mbps, roughly four times current HD signals.

When it will arrive: 4K-capable TVs are set to debut at retail this year, but experts predict it will be five or more years before the category starts to go mainstream.

SOURCE: *Multichannel News* research