



4K OR HDR, THE NEXT BIG THING?

Television influences much of our daily lives and viewers have always been captivated by television's power to bring us global Events into our homes. For example, one of the earliest major televised occasions was the Coronation of Queen Elizabeth II (of the UK) in 1953. On that day, as well as much cheering and waving of flags, people celebrated by dressing up as televisions! And the power to draw us to the small screen is still strong today.

But today, the small screen is not so small anymore. The mass-market of High Definition video and advent of flat panel displays has seen screen size grow enormously in recent years. 4k, Ultra High Definition seems perfectly placed to capitalise on the dominance of the small screen.

So, is 4k TV in your home now? And if not is it because it is not available? Is it because the price point is not right? Is it because it doesn't captivate you enough, or perhaps there is another reason?

It is unlikely that 4k TV is not available to you. The format has launched across the globe on multiple platforms - from On Demand services such as Netflix to Satellite Direct to Home platforms. And it is all but impossible now to purchase a new display that is not 4k capable.

To captivate the viewing population enough for them to buy-in (literally) to a technology shift, the experience has to appear more immersive and more true-to-life than what they currently experience. Think of the successful changes - Black and white to colour was a dramatic change. So much so that after the introduction of colour TV the number of people dreaming in black and white fell from 25% to 7% ! Think of the introduction of HD TV - Even octopi were scientifically proven to prefer that format.

As both consumers and technologists, we should be aware of the commercial situation behind migrating to a new TV format and consider if the new TV presentation is a compelling enough proposition to warrant that change.

There is an increased cost to producing 4k content. Producers would ideally shoot 4k content in a different way to how HD content is shot - More wide-angle views where the viewer is encouraged to simply focus their attention on an area of the screen where the action is taking place - and is comfortably able to because the native resolution is there. Would this lead to 2x production teams at a live event - one producing for HD, another for 4k? Or would there be an artistic compromise to save costs.

There is the infrastructure cost to consider too. We know that the raw data rate of 4k is 12Gbit/s - 4x that of 1080p HD, 8x that of 1080i. That means re-wiring a broadcast centre to handle the new format and becomes a large up-front cost for any broadcaster. Then there is the cost to the broadcaster to deliver higher bit rate to your home. Currently, platform operators are running 4k channels at 2x to 3x the bit rate of HD channels - That means carriage costs are 2x to 3x that of HD channels.

So how will broadcasters recover this cost? As a consumer you would be expected to pay. Organisations would be expected to pay more too, to show their commercials - but only if there are viewers, because, for most countries in the world, TV programs are a vehicle to make you watch the commercials.

For most of the population, statistics show that 4k TV is not yet dominant in most people's homes. Sports and Movie channels are leading the charge – where there is a strong history of consumers paying top-dollar to view quality content. In general, however, the argument to trigger a consumer refresh has not yet been won. But waiting in the wings is new technology – High Dynamic Range.

Take a visit to your local electrical store – where this technology is on show. It is clear that this new development adds something special to the TV image. Content looks more real, it has a greater impact. Many in the industry consider HDR to be the key piece of technology that makes Next Gen TV compelling enough to finally trigger that consumer shift.

But examine the broadcasting commercials one more time. If you consider 4k HDR content compelling enough to make you buy a new TV, pay your satellite provider more money or take out a Netflix subscription, will your national broadcaster giving you general entertainment programming be making the switch to 4k HDR content too? Possibly not. Their finances are being squeezed in the battle for viewers against the new on-demand, binge viewing content providers and they are bandwidth limited on their terrestrial transmissions. They may decide to shoot and produce 4k HDR content for the archive and for international resale but you as a viewer may never see it over terrestrial transmissions.

Having looked into our crystal ball at the future of 4k TV and 4k HDR TV, we can foresee a possible 3rd way – HD HDR! High Dynamic Range is, at most viewing distances, nearly as compelling as 4k HDR video and can be delivered to the consumer for a similar cost to today's standard HD content. It could be that whilst movies, sport and high value drama channels are offered in 4k HDR, that next generation viewing experience comes to many in the form of HD HDR. And as for the HD TV loving octopus... Well, with the ability to predict the outcome of soccer matches he may already know what the future will bring.

Vislink's HCAM and UltraReceiver wireless camera is capable of providing go-anywhere, mobile camera views across all formats – be they standard HD, 4k, 4k plus HDR or HD plus HDR – providing the perfect solution for flexible Events coverage now and in the future.



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