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TV TechCheck

The Weekly NAB Newsletter for TV Broadcast Engineers

NAB LABS

Display Technology Takes Center Stage at 2013 International CES

It wasn't all that long ago when the hot item making news at the annual International Consumer Electronics Show (CES, January 8-11, 2013, Las Vegas, Nev.) was 1080-line high-definition TV (HDTV) display technology, now a staple of CE devices with widespread adoption in U.S. households. This year's show has kicked things up a notch with 4k display technology, so-called "Ultra HDTV," boasting four times the pixel count of a 1080-line set. Given below is some information on these super-high resolution set offerings as well as an overview of other hot technologies at this year's show.

Ultra HDTV displays – Every major flat-panel display manufacturer had demonstrations of 4K Ultra HDTV displays, ranging in size from 20 inch up to the "world's largest" 110 inch offerings. An array of products are shown in the photos below. In addition to 4K panels, Sharp was also demonstrating an 8K panel (photo below) which has 16 times the pixel count of 1080 line HDTV. In the photo, notice how close the attendees are getting to the set – they were looking up close to see how sharp this display really is.

Careers in the NAB Technology Department

Advances in technology are giving local broadcasters opportunities to find better, more innovative ways to deliver the high-quality programs and services that local communities expect and deserve. The NAB Technology department helps broadcasters stay relevant and informed in an ever-changing media landscape and supports the development of new technology.

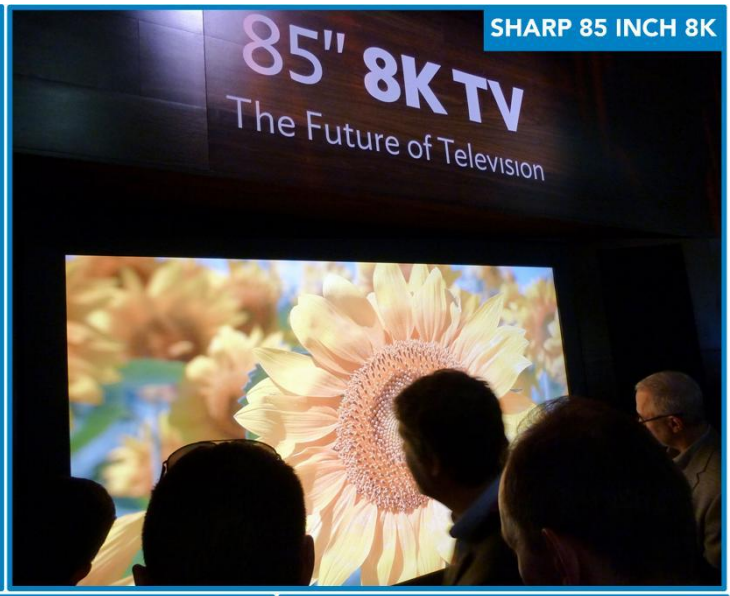
NAB is now accepting resumes for the following positions in the Technology department:

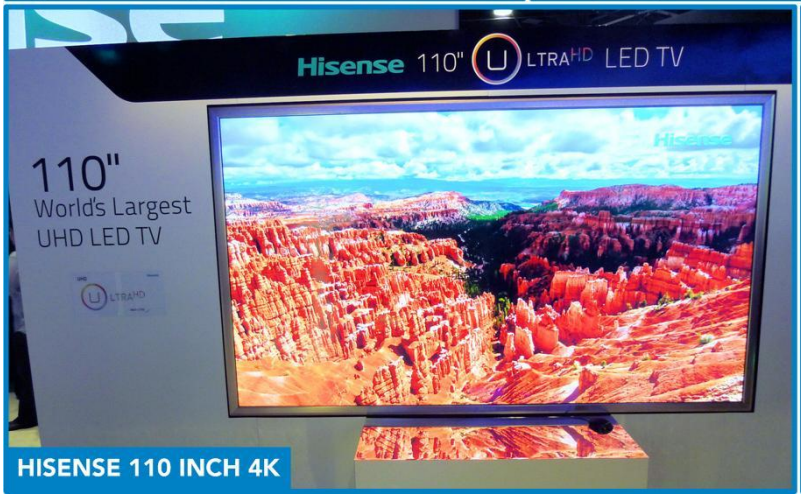
Vice President, RF Technology

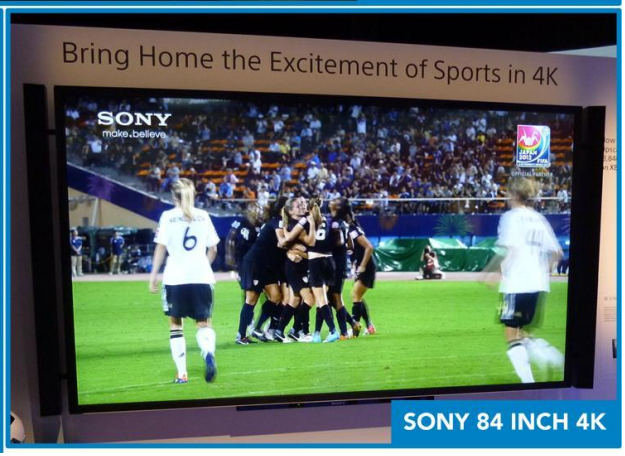
Director, Application Systems

Additional information on the specific duties and job skill requirements for each position is available on NAB's website.

Submit your resume and cover letter via fax to (202) 775-2983 or email hr@nab.org.







While all of these sets display a spectacular image, the fact remains that for now, content and delivery options to 4K sets remains a challenge. In the LG booth, there was information on an experimental terrestrial broadcast delivery of 4K content done in conjunction with the Korean Broadcasting System (KBS). A demonstration of this technology in South Korea utilized HEVC video encoding to and broadcast a compressed 4K signal (35 Mbps) in a 6 MHz channel (UHF channel 66, 782-788 MHz).

Organic LED (OLED) displays – Somewhat less prevalent but equally exciting, many manufacturers at this year's show were demonstrating large OLED displays. OLED technology has been previously demonstrated at CES on much smaller devices and by fewer companies; this felt like more of a "break-out" year for OLED, which offers extremely high contrast ratios and the ability to support products with curved displays by virtue of its inherent flexibility (see the pictures below).

Another exciting OLED product, also by Samsung, is the 55-inch multi-view display, which can *simultaneously* show two separate 3D high-definition programs. This capability, being demonstrated in the Samsung exhibit, requires the use of active glasses which also have built-in headphones (without using the glasses, both images are seen simultaneously as shown in the photo). A switch on the glasses enables the viewer to switch between program “A” and program “B.” This multi-view capability is enabled by the extremely high contrast ratio and fast switching time inherent in the OLED display. Samsung indicated that this multi-view set would be available for consumers in the second quarter of 2013.

Touch-screen computing – Tablet and touch-screen computing also appeared to have a breakout year at CES, fueled primarily by the advent of the Windows 8 operating system. A 24-inch touch computer monitor was being shown by Samsung (see photo) which included a tilting stand that adjusts from vertical to nearly flat, making it possible to easily use a touch keyboard. Panasonic debuted a 20-inch tablet computer with a 4K resolution display (see photo). This device was demonstrated during one of the keynote presentations at CES (featuring the CEO of Panasonic, Kazuhiro Tsuga) as having significant new applications in architectural design and photography.

Mobile DTV – At this year's show attendees were able to learn about mobile DTV at the Mobile TV Tech Zone, a special technology exhibit located in the central hall of the Las Vegas Convention Center (see photo below). This exhibit included new products and demonstrations from Dyle TV, the Mobile Emergency Alert System, the Mobile500 Alliance, and the ETRI research center from Korea.

On the receiver front, CE manufacturer RCA introduced the Model DDA850R mobile DTV tablet with an 8” display. This tablet features a high-definition touchscreen and is the first tablet enabled with both an ATSC digital TV receiver and Dyle mobile TV receiver. The DDA850R is a fully-functional Android device that includes front and rear cameras, Wi-Fi for easy Internet browsing, email and access to Google Play. According to RCA, this tablet has a suggested retail price of $299, will be available in the first quarter of 2013, and is developed by small-screen RCA TV licensee Digital Stream.

The next issue of *TV TechCheck* will be on January 28, 2013.

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