New Technologies on Display at CES 2008

The eyes of the consumer electronics world were on Las Vegas last week as the 2008 International Consumer Electronics Show (CES) drew over 130,000 attendees with exhibits from over 2,700 companies spanning 1.85 million net square feet of exhibit space. As usual, broadcasting-related technologies, in particular HDTV and HD Radio, were very much a part of the show; given below are some of the highlights as noted by NAB staff who were in attendance:

Smart antennas – Terk (now a division of Audiovox, www.audiovox.com) received a "CEA Innovation Award" for its HDSA1 Omni-Directional Indoor Smart Antenna. Shown in the photo is the indoor HDSA1 (at left below) along with an outdoor smart antenna HDSA2 (at right below). These antennas comply with the CEA 909 smart antenna standard – for more information on that standard go to the CEA Web page at http://www.ce.org/print/Standards/browseByCommittee_2784.asp. The CEA Innovation Award program recognizes technologies, applications, products, and services judged to be the most unique in design and engineering and beneficial to the consumer electronics industry. The winning products are selected by a panel of independent industrial designers, engineers and trade press editors based on "engineering and design qualities, uniqueness, user value, contributions to consumers' quality of life and the impact on the manufacturer's business." A list of all the Innovation Award winners for 2008 may be found online at http://www.cesweb.org/attendees/awards/innovations/rd_2008honorees.asp.

Coupon-eligible converter boxes – A number of companies showed ATSC DTV-to-NTSC converter boxes, including the one shown below from Chinese manufacturer Shenzen AMTC Co. (http://www.szmtc.com.cn/en/). The current list of NTIA certified coupon-eligible converter boxes is located on the NTIA's DTV Web page at http://www.ntiadtv.gov/cecb_list.cfm.

• **Display technology** – many display vendors were offering similar innovations at this year's show including 120 Hz refresh rates, "ultra-thin" LCD displays (though none were as thin as the Organic LED displays, see below) and LED backlighting of LCD panels. Panasonic unveiled a 150-inch plasma display (see photo) which was characterized as an "engineering prototype" but which the Panasonic representative in the photo says is headed for production (he also said the biggest problem is figuring out "how to get it in the house"). It has a resolution of 2,000-by-4,000 pixels resolution and is 11 feet wide (equivalent to nine 50-inch plasma screens). Previously Panasonic has manufactured a 103-inch plasma set and reportedly sold 3,000 units (retail price of the 103-inch model is $70,000).

Also on display was an example of Texas Instrument's "Dual View" technology which uses a TI DLP device for two-player gaming applications and provides each player independent full screen views on the same display. According to TI, all 3-D ready DLP HDTVs are capable of DualView and can simultaneously display two content sources, including DVD movies, video games and TV programming. TI says that this has been achieved by the combination of advancements on the DLP chipset and compatible eyewear. DLP Products collaborated with ColorLink/RealD (www.colorlink.com) and others for these suppliers to develop a customized DualView eye-wear control solution. The key to a ghost-free picture quality of DualView is the coordination of the DLP chip's extremely fast 8 microsecond switching speed with high-contrast shutter glass operation. The DLP prototype eye-wear controller synchronizes the glasses' shutters by decoding a proprietary signal embedded in the DLP image stream. The result is a view for each gamer that is independent from the other and allows for a more competitive, enjoyable game experience by eliminating the ability to cheat at the other players screen, which currently is a limitation of split screen two-player game displays. To use DualView, the DLP HDTV is connected to a compatible source and each gamer wears compatible DualView glasses. Select Samsung and Mitsubishi DLP HDTVs are shipping with 3-D ready and DualView capabilities. A press release from TI on DualView can be seen here.

The XEL-1 Organic Light Emitting Diode (OLED) TV was being shown in the Sony booth, and is the first commercialized, with an 11-inch display and integrated ATSC tuner OLED TV (see photo). Sony indicated that the XEL-1 is now available for about $2,500. Initially, it will be in limited supply at Sony Style® retail stores nationwide. Additional information is available on at http://www.sony.com/ces/index.html?XID=O:hero:sonydotcom&ref=http%3A//www.sony.com/index.php. Sony also showed a 27" OLED prototype and Samsung showed a 31" OLED prototype.

• **HD HomeRun** – this device (see photo at left), which is available on-line for about $170, includes two ATSC DTV tuners and plugs into an Ethernet network, allowing the user to watch one channel while recording another. For more information go to www.silicondust.com/.

• **Wireless HD** – in the opening keynote address at last week's show, Panasonic AVC Networks Company President Toshihiro Sakamoto unveiled a new a wireless 1080p full HD transmission system. WirelessHD or WiHD™, is a wireless high definition digital interface standard operating in the unlicensed (and globally available) 60 GHz frequency band. Involved in the development of this technology are Intel Corporation, LG Electronics, Panasonic, NEC, Samsung, SiBeam, Sony and Toshiba. The WirelessHD specification defines a wireless protocol that enables consumer devices to create a wireless video area network (WVAN) with the following characteristics: stream uncompressed audio and video at up to 1080p resolution, 24 bit color at 60 Hz refresh rates; deliver compressed A/V streams and data; advanced A/V and device control protocol; unlicensed operation at 60 GHz with a typical range of at least 10 m and data rates up to 4 Gbps. For more information go to www.wirelesshd.org.

NAB Seeks Nominations for 2008 Engineering Achievement Awards

NAB is looking for nominees to consider for the prestigious NAB Engineering Achievement awards. Separate awards will be given for achievements in radio and television at the Technology Luncheon at the NAB Show on April 16, 2008 in Las Vegas, Nevada. The qualifications for nominating someone and the nomination form are downloadable on NAB's technology resources Webpage. You may also request a nomination form by calling NAB Science & Technology at (202) 429-5346. The deadline for nominations is January 15, 2008.