

Samsung Goes Brave New World With 40-Inch OLED Panel

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Samsung's 40-inch OLED TV. Via Nikkei Electronics/Tech-On

(PhysOrg.com) -- Samsung showed off its 40-inch OLED panel at FPD International in Yokohama, Japan. It is a work in progress with a full HD resolution of 1920 x 1080, a contrast ratio of a million to one and a color gamut of 107-percent NTSC. The 40-inch OLED panel has a peak luminance of 600 cd/m². The jaw-dropper is the 8.9mm depth of this pilot line model.

Samsung is currently limited to OLED panels up to 31-inches on its production lines. The show-stopping 40-inch panel was created on a pilot-line. The driver board is a low temperature poly-Si TFT. It is made by the super grain silicon technology without the use of lasers. The current

mass production line is not tooled for the 40-inch panel.

Nikkei Electronics reporter Takuya Otani, quotes a Samsung staffer saying, the RGB organic light emitting materials are formed by vapor deposits. A fine metal mask is employed. Fluorescent materials are used for red and green and phosphorescent materials are used for the color blue.

In order to reduce variations in luminance, the panel incorporates a circuit that equalizes the current on the screen. The Samsung 40-inch OLED panel is a bottom emission type with a microcavity structure to improve the color gamut, added the staffer.

In other news, Samsung showed off its 14.1-inch OLED TV and a 31-inch OLED TV during GITEX Technology Week in Dubai. According to Bo Joong Kim, General Manager of the AV Division of Samsung Gulf Electronics LTD, the finished products on display weigh 40-percent less than conventional HDTV LCD models. Moreover, the contrast ration is one million to one with a color gamut of 107-percent and brightness of 550 cd/m². Samsung hopes to have mid-to-large size OLED TVs available to the consumer by 2010.

Mr. Kim says, "OLED TVs represent greater technology innovation and set a new standard for TV sophistication." Currently, the significant cost to consumers for small screen OLED TVs presents a barrier to average consumers. The Sony EXL-1, an 11-inch OLED is priced in the neighborhood of \$2500. LG and others have joined the OLED bandwagon.

A great deal can happen in the next couple of years which may influence the high cost of producing the OLED TVs. Prices have a way of adjusting to market conditions and fluctuating production costs.

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