

Japanese company builds 9.6-inch 4K x 2K LCD panel

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(Phys.org)—Japanese firm Ortus Technology Co., Ltd. has revealed its development of what the company is calling the world's smallest LCD display panel that meets the 4K standard. At just 9.6 inches with a resolution of 3,840 x 2,160 pixels, the new display will be small enough for use in handheld devices.

The current high-definition standard for television, known as [HDTV](#), is based on a 2K resolution and has saturated the market to the extent that new higher-resolution standards have been proposed. Currently, the leading contenders are 4K and 8K, both proposed by NHK Science & Technology Research Laboratories as defined by the International Telecommunication Union. Thus far, devices built with such technology are still in the research and development phase. However, the 8K version has been approved by the UN's communication standards setting agency, which paved the way for NHK to showcase examples of broadcast television based on this technology at the recent summer Olympic Games.

More recently, Sony began selling an 84-inch television that adheres to the 4K standard. Larger television sets show the most improvements over

HDTV when implementing the new standard, as more [pixels](#) result in a sharper image when viewed from a distance. More pixels on a small screen, on the other hand, have been described as unnecessary due to the human eye's inability to discern the difference in size of the ultra-small pixels. In its announcement describing the new ultra-high-definition panel, Ortus says the focus will be on selling the new screen to developers who require high resolution in a small device, such as those used for video editing, medical equipment, or broadcasting monitors.

To build this small panel with such a large number of pixels, Ortus says it used special liquid crystal alignment technology based on the HAST [Hyper Amorphous Silicon TFT (Thin Film Transistor)] standard in its microfabrication process: a technology the company developed itself. In addition to its high resolution, the company says the panel has a 160 horizontal-and-vertical degree viewing angle.

The new panel is to be on display at the electronica 2012 trade fair being held in Munich next month.

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