

**FOR IMMEDIATE RELEASE**

January 9, 2013

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**Panasonic Develops 56-inch 4k2k OLED Panel**

**Osaka, Japan** - Panasonic Corporation has developed a 56-inch organic light-emitting diode (OLED) panel with 4k2k resolution (3,840 x 2,160 resolution, 8.29 million pixels), the world's largest OLED panel produced through the "RGB all-printing method."<sup>1</sup> Prototype panels will be exhibited at the 2013 International CES in Las Vegas, Nevada, from January 8 to 11, 2013.

*The new panel is the world's largest OLED panel produced by the RGB all-printing method.*

In the printing method of production of OLED panels, OLED materials are applied to the substrate through a printing technique to form an electroluminescent (EL) layer. Due to the simplicity of the production process, it is expected that the technology will be easily adaptable to the production of OLED panels in a variety of screen sizes. Through the printing method, it is also possible to apply just the right amount of organic material to where it is needed, reducing waste material and shortening production lead time, making the printing method of production more economical.

In the production of the OLED panel, Panasonic is utilizing the RGB all-printing method, which allows for the separate application of the red, green and blue OLED materials by means of printing, and has developed the equipment and process technologies to apply the materials uniformly to a large substrate.

In addition, with Panasonic's proprietary top emission structure with a transparent cathode, which can extract light more efficiently, it has been possible to achieve the world's largest 56-inch RGB all-printing method-based 4k2k OLED panel with excellent color reproduction and a wide viewing angle.

As OLED panels are self-illuminating devices, they deliver superb picture quality with high contrast, high color reproductivity and a fast response rate. They also combine the advantages of plasma and liquid crystal display (LCD) panels, such as an ultra-thin profile, light weight and low power consumption. Due to these characteristics, OLED is considered

as a promising option for next-generation displays that will create new applications in a broad range of fields, for use not just in the home, but in medical, broadcasting and aircraft applications. With the advancement of display technologies, which may enable sheet-type or flexible displays, OLED panels will find more applications in a wider range of industries.

Panasonic has been carrying out its own research and development in OLED technology. The company is exploring ways to capitalize on the characteristics and potential of OLED devices to the fullest extent, taking advantage of its know-how in manufacturing and achieving high picture quality it has cultivated in its development of PDP and LCD flat-panels. Panasonic is also collaborating with Sony Corporation to develop mass-production printing-based technology for OLED panels.<sup>2</sup> The thin-film-transistor (TFT) substrates used in the prototype panels were supplied by Sony as part of the collaborative efforts.

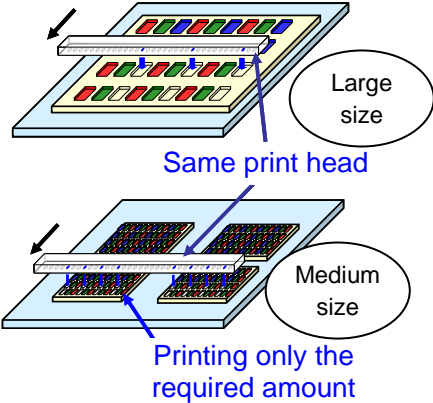
Panasonic will continue to accelerate innovations in display device technologies and further strengthen its R&D activities, with the aim to create customer value.

**[Main features of the new OLED technology]**

**1) The RGB all-printing method suitable for large panels**

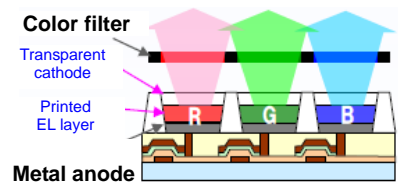
In the printing method, the same print head can be used regardless of the panel size during the process of forming the EL layer, and the production process is simple and does not require a vacuum environment or a high temperature process, it is considered highly scalable and suitable for producing large panels.

Panasonic has developed printing equipment and process technologies that enables the separate application of the RGB OLED materials by color, while applying the materials evenly on a large panel. As a result, the company has succeeded in producing OLED panels as large as 56 inches, the world's largest all RGB all-printing method-based panel, with 4k2k resolution.



**2) The combination of the RGB all-printing method and the unique top emission structure with a transparent cathode achieves excellent color reproduction and a wide view angle**

Through utilizing the RGB all printing method, in which red, green and blue light-emitting materials are applied individually in each sub-pixel, and a color filter, which tunes the color of the emissions, it has been possible to achieve high color purity and superb color reproduction on the 56-inch OLED panel. The OLED panel also has a wide viewing angle, thanks to Panasonic's own top emission structure with a transparent cathode, which improves the light extraction efficiency by extracting light in the upward direction through a transparent cathode from the EL layer without multiple reflections.



**[Main Specifications]**

Screen size	56 inches (55.6 inches)
Screen measurement (width x height x diagonal)	1233 x 693 x 1414 mm
Resolution	3,840 (RGB) x 2,160
Peak luminance	500 cd/m <sup>2</sup>
Gray-scale	10 bit
Contrast	3,000,000:1
Color gamut	NTSC (u' v'): 100%
Thickness(at thinnest part)	8.9 mm
Weight	12.4 kg

**Notes:**

- 1 As of January 9, 2013 for OLED panels produced through the RGB all-printing method. (Panasonic data)
- 2 Announced on June 25, 2012

**About Panasonic**

Panasonic Corporation is a worldwide leader in the development and manufacture of electronic products in three business fields, consumer, components & devices, and solutions. Based in Osaka, Japan, the company recorded consolidated net sales of 7.85 trillion yen for the year ended March 31, 2012. Panasonic's stock is listed on the Tokyo, Osaka, Nagoya and New York (NYSE:PC) Stock Exchanges. The company has the vision of becoming the No. 1 Green Innovation Company in the Electronics Industry by the 100th year of its founding in 2018. For more information on Panasonic, its brand and commitment to sustainability, visit the company's website at <http://panasonic.net/>.

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