SCREEN

NEWS RELEASE

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Dainippon Screen Announces Release of Transparent Electrodes Monitor for Touch Panels

Effective Identification of Defect Locations Improves Yield Rates

Kyoto, Japan – April 21, 2014 – Dainippon Screen Mfg. Co., Ltd. has announced the upcoming release of its new TM-1C transparent electrodes monitor, developed specifically for the touch panels used in smartphones and tablet computers. The TM-1C's optical system enables effective visualization of circuit patterns, providing rapid identification of defect locations and measurement of line widths. The system is expected to significantly improve yield rates for touch panels as they become progressively thinner and more precise. Sales of the TM-1C are scheduled to begin in September 2014.

TM-1C Transparent Electrodes Monitor

Please download the photo from
www.screen.co.jp/eng/press/nr-photo_2014-2015.html

Expected start date for sales	September 2014

In recent years, the evolving functionality of smartphones and tablet computers has both spurred demand for these devices and created a need for ever thinner and more precise touch panels. To meet these requirements, touch panel manufacturers have worked to develop transparent electrodes with increasingly fine circuit patterns as well as panels with enhanced transparency. However, there have only been two methods available for defect inspection of transparent panels, either a pass/fail judgment performed after circuit formation using conductivity inspection or the time-consuming identification of error locations using laser microscopy. For this reason, it has become increasingly difficult to determine the source of defects as circuit patterns have grown in fineness and transparency. Unsurprisingly, to ensure the continuing stable supply of touch panels, the industry urgently needs to find a balanced solution that will allow the improvement of both production efficiency and yield rates.

In 2012, Dainippon Screen's research led to the creation of an optical technology for visualizing the circuit patterns of transparent electrodes on touch panels. This development makes it possible to identify defect locations and also measure line widths. In addition to introducing the concept at domestic and overseas exhibitions, Dainippon Screen has engaged in technical cooperation with touch panel and materials manufacturers to bring this technology to market. These efforts have now

culminated in the upcoming release of the TM-1C, a monitoring system for transparent electrodes that combines Dainippon Screen's new visualization technology and accumulated experience and knowhow. The TM-1C provides quick and easy visualization of circuit patterns, boosting yield rates and resolving the quality control bottleneck created by defect inspection and sampling in each stage of processing. For a 7 inch tablet (W170 x H120 mm), scanning procedures that require around 100 minutes using conventional laser microscopy can be executed in as little as 15 seconds.* It is also now possible to perform previously difficult quality control procedures for PET films laminated with cover glasses, and detection of ultra-fine cracks, highlighting the TM-1C's outstanding functionality.

Dainippon Screen plans to begin sales of the TM-1C in September 2014 and intends to accelerate its business expansion in the touch panel industry, an area where strong continuing growth is expected. Dainippon Screen is already working to develop other applications that will improve the manufacturing process for any device that uses transparent electrode circuits. By successively meeting the needs of manufacturers in this way, Dainippon Screen hopes to drive the expansion of the entire electronic device industry.

* According to Dainippon Screen's research. Results will vary according to the reflectance and other conditions.

Note: The TM-1C will be exhibited at the International Electronic Circuits Show, KPCA Show 2014, to be held at the KINTEX Exhibition Center in Goyang City, South Korea from April 22 (Tuesday) to 24 (Thursday), 2014.