

Press Release

Epson Introduces e-Paper Platforms for Industrial Applications

- Platforms enable e-paper developers to reduce turnaround while raising quality and productivity -



S1D13T03 electronic paper timing controller



Pervasive Displays Inc. e-paper product
(electronic price tag)

Munich, January 16, 2012:

Seiko Epson Corporation ("Epson," TSE: 6724) today announced that it has begun shipping industrial electronic paper display platforms. These platforms consist of electronic paper ("e-paper") display microcontrollers with integrated firmware that controls the basic device functions. Customers can combine these platforms with an electronic paper display to easily develop their own industrial e- paper products, even if they lack advanced information about the unique driving schemes used for e-paper.

Epson's e-paper platform series now consists of the S1C17F57, a microcontroller for small segmented displays, and the new S1D13T03, a timing microcontroller for small, active-matrix e-paper displays^{*1}. Samples of the S1D13T03 will begin shipping in late January 2012. Epson plans to continue expanding the lineup and, in March, will begin shipping samples of a new microcontroller for medium-sized active-matrix e-paper displays.

Electronic paper displays (EPDs) are superior to other display technologies in several important respects: they display text that is as sharp and easy to read as print on paper, they use no power while displaying an image, and, because they do not need a backlight, they are thin and lightweight. Given these advantages, e-paper displays are expected to rapidly supplant current electronic shelf tags, digital signage, advertising displays, and point of purchase displays, most of which use either paper or liquid crystal technology. However, e-paper driving requires specific technical knowledge for optimizing the display control for individual applications. The need for e-paper-specific technical understanding multiplies the difficulty of product development and implementation for product planners and engineers not familiar with e-paper. Epson has vast experience and resources that it will make available to its customers to significantly support the integration of its electronic paper solution.

"Epson has a storehouse of knowledge and technology from a decade's worth of e-paper research and development," explains Masayuki Morozumi, executive vice president at Epson. "We have accumulated business experience, know-how, and intellectual property as a market share leader^{*2} in EPD microcontrollers for e-readers and are drawing on these to provide customers with the industrial e-paper platforms they need to maximize the performance of their e-paper displays,



whatever their application and environment.”

Epson can recommend the best platforms for any e-paper application based on strong partnerships with electronic paper display manufacturers and industry leaders, such as E Ink Holdings, Inc. and Pervasive Displays, Inc. (PDI). Now customers who shied away from developing e-paper products in the past because of concerns over the time and labor needed to develop and integrate e-paper driving waveforms can use Epson's e-paper platforms and extensive knowledge and documentation to efficiently and quickly develop effective electronic paper products and solutions for the industrial sector.

“Epson’s new EPD controller products help to bring E Ink’s revolutionary e-paper displays to applications where the easy readability and ultra-low power of E Ink displays is the key to unlocking new markets,” said Sriram Peruvemba, chief marketing officer at E Ink Holdings.

“Pervasive Displays is excited to partner with Epson to expand their offering of electronic paper solutions,” said Damon Hess, business development vice president for Pervasive Displays. “We’ve created and perfected the world’s leading low-power electronic paper display module and work with select worldwide partners, such as Epson, to expand the applications for electronic paper and to create reliable, innovative and effective electronic paper solutions.”

Epson is committed to using its expertise in e-paper driving schemes and other e-paper technologies to rapidly respond to customers' needs and problems, with an extensive line of e-paper products and strong customer support.

¹ Segmented displays are often in digital watches and calculators. They are used when certain fixed segments of the display contain characters or digits. They are generally superior in terms of energy consumption, response speed and thinness compared to the active matrix-type displays that use fine dots to show detailed images. Both methods are likely to be used with e-paper displays, with the usage increasingly dependent on the type of application.



Segmented display



Active-matrix display

² Epson is the No. 1 supplier of microcontrollers for market leader E Ink’s electronic paper displays based on calculations taking into account market research company estimated e-reader shipments in 2010 and Epson's 2010 display microcontroller unit shipments.

Epson's lineup of industrial electronic paper display platforms

Platform for segmented displays

1. 16-bit microcontroller for 64-segment displays (S1C17F57) and e-paper driving waveform firmware
This platform can support up to 320 segments when combined with the optional S1D14F57 low-power driver.

For further details, please see the following link:

<http://www.epson.jp/device/semicon/product/mcu/16bit/index.htm#ac06>

Platforms for small active-matrix displays

2. S1C17564 general-purpose microcontroller and e-paper timing control firmware

For further details, please see the following link:

<http://www.epson.jp/device/semicon/product/mcu/16bit/index.htm#ac02>

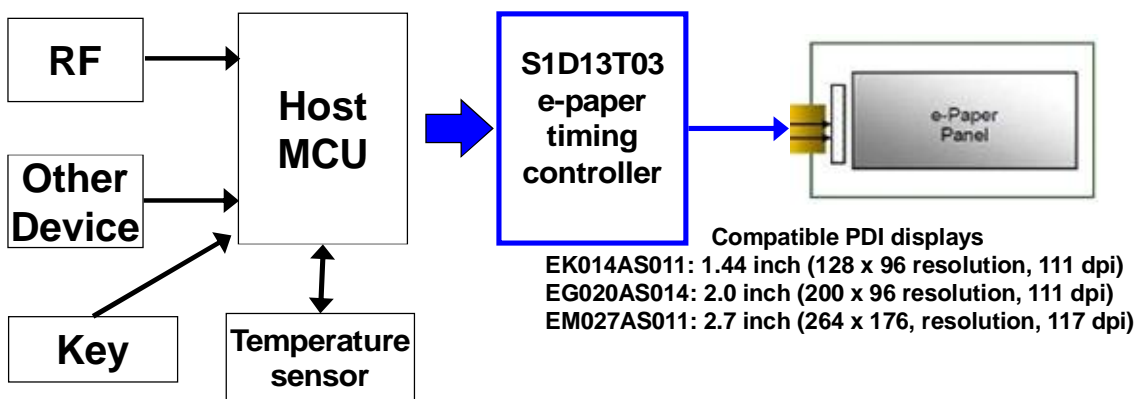
3. S1D13T03 e-paper timing controller and e-paper timing control firmware
(Samples to begin shipping in January 2012)

This platform enables developers to create e-paper products without changing the CPU of an existing LCD or other system.

For further details, please see the following link:

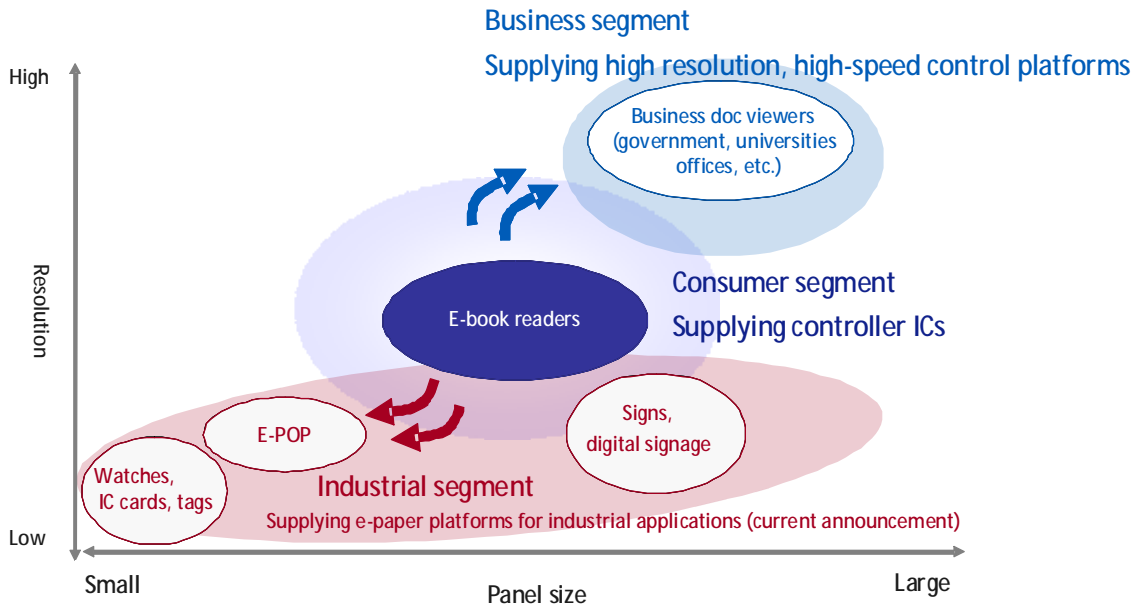
http://www.epson.jp/device/semicon_e/product/lcd_controllers/index.htm#ac08

■ Block sample using the S1D13T03 e-paper timing controller



It's easy to display images on PDI e-paper modules (1.44 - 2.7 inch) displays by simply connecting the e-paper timing controller to the customer's existing system (MCU). The controller also greatly reduces the workload for developing e-paper driving waveform.

■ Epson's e-paper business



Epson's aim is to increase the scope of e-paper applications and increase the popularity of e-paper by optimizing its expertise in developing controller ICs for e-book readers.

About Epson Europe Electronics GmbH

Epson Europe Electronics GmbH is a marketing, engineering and sales company and the European Headquarters for Electronic Devices of the Seiko Epson Corp., and Epson Toyocom Corp., Japan.

Since 1989 headquartered in Munich/Germany with 60 employees, Epson Europe Electronics GmbH has several European sales representatives and has a European-wide network of distributors. Epson Europe Electronics provides value added services for Semiconductors and Quartz Devices targeted to the mobile communication, automotive and home visual market. Epson products are recognised for energy saving, low power, small form factors and rapid time to market.

Information about Epson Europe Electronics GmbH is available in the Internet under www.epson-electronics.de.

About Epson

Epson is a global imaging and innovation leader that is dedicated to exceeding the vision of customers worldwide through its compact, energy-saving, high-precision technologies, with a product line-up ranging from printers and 3LCD projectors for enterprise and the home, to sensors and other microdevices.

Led by the Japan-based Seiko Epson Corporation, the Epson Group comprises more than 78,000 employees in 99 companies around the world, and is proud of its ongoing contributions to the global environment and the communities in which it operates.

<http://global.epson.com/>

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