

World's First 10.1" Flexible Electronic Paper Display

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LG.Philips LCD and E Ink have built a 10.1" flexible electronic paper display. Less than 300 microns thick, the paper-white display is as thin and flexible as construction paper. With a 10.1" diagonal, the prototype achieves SVGA (600x800) resolution at 100 pixels per inch and has a 10:1 contrast ratio with 4 levels of grayscale.

The display will be shown at the FPD International trade show in Japan, attended by over 60,000 visitors each year.

E Ink Imaging Film is a novel display material that looks like printed ink on paper and has been designed for use in paper-like electronic displays. Like paper, the material can be flexed and rolled. As an additional benefit, the E Ink Imaging Film uses 100 times less energy than a liquid crystal display because it can hold an image without power and without a backlight.

LG.Philips LCD and E Ink selected a steel foil material that could be supplied by Sumitomo Corporation in high volume and which was developed by Nippon Steel Corporation, the leading steel company in Japan. The flexible foil is a super-thin, extremely flat, high-performance steel that can easily withstand the high temperatures of a TFT production process.

LG.Philips LCD combined both materials to manufacture the display panel at an existing pilot TFT line in Korea. LG.Philips and E Ink jointly designed the display electronics and produced the final prototype to

achieve the world's largest high-resolution flexible electronic paper display.

"We all need flexible displays," said Russ Wilcox, CEO of E Ink, "They are 80% thinner and lighter than glass displays, and they do not break like glass displays. You can roll them up and put them in your pocket. You can curve them around the outside of a cellphone. Or you can throw them in your briefcase like a newspaper. As Galileo famously told us, the world is not flat."

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