Press Releases

eMagin Unveils New Active Matrix OLED Microdisplay

WUXGA OLED-XL is World's Highest Resolution, Full-Color Microdisplay Enabling Development of Next Generation Industrial, Commercial and Consumer Products

Editor's Note: A photograph of eMagin's new microdisplay technology, embedded in a prototype headset, as well as other images, are available upon request.

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BOSTON, June 5, 2012 – Attendees at this week's Society for Information Display conference here are being offered a view of the future courtesy of **eMagin Corporation (NYSE Amex: EMAN)**, which is unveiling the world's highest resolution, full-color microdisplay.

The new WUXGA OLED-XLTM microdisplay is being shown in a prototype head-mounted unit in eMagin's booth (#539); it has also been selected for display and demonstration in the conference's Innovation Zone exhibit area. Attendees donning the headset will be able to view full-stereo, 1920 x1200 high resolution images offering a high definition 3D immersive reality experience.

eMagin is a leader in Organic Light Emitting Diode (OLED) microdisplays and virtual imaging technologies used in military and commercial applications. It developed the WUXGA OLED-XL in order to serve the needs of product developers and original equipment manufacturers seeking to design next generation diagnostic equipment, medical devices, simulation and training systems, equipment for homeland security and first responders as well as a diverse range of systems and devices for the aviation, industrial and augmented reality markets.

"Our new WUXGA OLED-XL microdisplay represents a continuing refinement of our proprietary core technology," said Andrew G. Sculley, president and CEO of eMagin Corporation. "The images we're now able to produce are so high quality and lifelike that we believe the technology will enable the product design community to unlock a broad range of new devices and applications in everything from still and movie camera viewfinders, security equipment, high-end gaming systems and personal entertainment applications to industrial and commercial applications."

Product Detail

The WUXGA OLED-XL microdisplay from eMagin is an active-matrix organic light emitting diode (AMOLED) microdisplay intended for near-to-eye applications that demand high resolution, high image quality, compact size and very low power. Combining a total of 7,138,368 active dots, the WUXGA display is built on a single crystal silicon backplane and features eMagin's proprietary thin-film OLED XL technology offering extended life and luminance performance.

The active array is comprised of 1944 x 1224 square pixels with a 9.6-micron pitch and a 71 percent fill factor. An extra 24 columns and 24 rows (beyond the 1920 x 1200 main array) are provided to enable the active WUXGA display to be shifted by steps of 1 pixel in the X and Y directions for optical alignment purposes. Each full pixel is laid out as three 3.2 x 9.6 micron identical sub-pixels, which together form the 9.6-micron square RGB color group. Three primary color filter stripes are applied in alignment with the sub-pixels on a white-emissive OLED layer to form the color display.

The WUXGA design features eMagin's proprietary "Deep Black" architecture that ensures off-pixels are truly black, and automatically optimizes contrast under all conditions. In addition to its flexible matrix addressing circuitry, the WUXGA includes an internal 10-bit DAC that ensures full 256 gamma-corrected gray levels, an on-chip set of look-up-tables for digital gamma correction, and a novel pulse-width-modulation (PWM) function that, together with the standard analog control, provides an extended dimming range. The PWM function also enables an impulse drive mode of operation that significantly reduces motion artifacts in high-speed scene changes.

The WUXGA includes a very low-power, low-voltage-differential-signaling (LVDS) serialized interface for video data transport that minimizes the number of board interconnections and connector size, reduces electromagnetic emissions (EMI), and enables a lightweight and flexible cable link to a remote video source. Compatibility with standard LVDS drivers simplifies the system integrators task.

For more information about the WUXGA OLED-XL microdisplay contact Bruce Ridley at bridley@emagin.com or 425-284-5212.

About eMagin Corporation
A leader in OLED microdisplay technology and personal display systems, eMagin integrates high-resolution OLED microdisplays with magnifying optics to deliver virtual images comparable to large-screen computer and television displays in portable, low-power, lightweight personal displays. eMagin microdisplays provide near-eye imagery in a variety of products from military, industrial, medical and consumer OEMs. More information about eMagin is available at www.emagin.com.

Forward-Looking Statements
This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, including those regarding eMagin Corporation's expectations, intentions, strategies and beliefs pertaining to future events or future financial performance. Actual events or results may differ materially from those in the forward-looking statements as a result of various important factors, including those described in the Company's most recent filings with the SEC. Although we believe that the expectations reflected in the forward-looking statements are reasonable, such statements should not be regarded as a representation by the Company, or any other person, that such forward-looking statements will be achieved. The business and operations of the Company are subject to substantial risks which increase the uncertainty inherent in forward-looking statements. We undertake no duty to update any of the forward-looking statements, whether as a result of new information, future events or otherwise. In light of the foregoing, readers are cautioned not to place undue reliance on such forward-looking statements.

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