



CyberOptics to Present Technical Paper ‘Extending 3D MRS Technology to Address Challenging Measurement and Inspection Applications’

Minneapolis, MN— September 2018 — CyberOptics® Corporation (NASDAQ: CYBE), a leading global developer and manufacturer of high precision 3D sensing technology solutions, announces participation in a technical session focused on Multi-Reflection Suppression (MRS) sensor applications at SMTA International at the Donald E. Stevens Convention Center in Rosemont, Ill on Thursday, Oct. 18, 2018.

John Hoffman, PhD, Senior Image Process Research Engineer at CyberOptics, will present the paper ‘Extending the 3D MRS Technology to Address Challenging Measurement and Inspection Applications.’

There is an increasing need for highly accurate 3D inspection and measurement capabilities for various challenging applications in SMT, semiconductor and metrology markets. 3D Multiple Reflection Suppression (MRS) sensor technology has been effectively used for 3D Automated Optical Inspection (AOI) for several years and is now effectively being utilized for 3D Solder Paste Inspection (SPI) applications such as microelectronics and sub-100 micron solder paste deposits and other challenging applications such as packaging, socket metrology, automotive, medical and others with stringent requirements.

In addition to inspection, there is an increasing need to capture coordinate measurements in-line. MRS sensors can attain highly accurate measurements in seconds compared to hours with traditional Coordinate Measurement Machines (CMMs). MRS sensor technology provides significant advantages in speed, accuracy and resolution over alternate technologies.

Using multi-view 3D sensors and parallel projection, it is possible to capture more of the assembly or object at a faster rate as compared to serial image acquisition, which is more time consuming. Precise 3D image representation can then be generated using sophisticated fusing algorithms that take the multiple captured images and fuses them into one precise 3D image. The result is highly accurate, high-speed 3D inspection.

Multi-reflection suppression (MRS) technology enables highly accurate 3D measurement by meticulously identifying and rejecting reflections caused by shiny components and reflective solder joints. MRS algorithms use a very rich data set from multiple cameras at every location. Combined with sophisticated algorithms that fuse the image data from multiple cameras, multiple reflections are effectively suppressed.

About CyberOptics

CyberOptics Corporation (www.cyberoptics.com) is a leading global developer and manufacturer of high precision sensing technology solutions. CyberOptics’ sensors are used in SMT, semiconductor and metrology markets to significantly improve yields and productivity. By leveraging its leading edge technologies, the company has strategically established itself as a global leader in high precision 3D sensors, allowing CyberOptics to further increase its penetration of key vertical markets. Headquartered

in Minneapolis, Minnesota, CyberOptics conducts worldwide operations through its facilities in North America, Asia and Europe.

Statements regarding the company's anticipated performance are forward-looking and therefore involve risks and uncertainties, including but not limited to: market conditions in the global SMT and semiconductor capital equipment industries; the timing of orders and shipments of our products, particularly our 3D MRS-enabled AOI systems; increasing price competition and price pressure on our product sales, particularly our SMT systems; the level of orders from our OEM customers; the availability of parts required to meet customer orders; unanticipated product development challenges; the effect of world events on our sales, the majority of which are from foreign customers; rapid changes in technology in the electronics markets; product introductions and pricing by our competitors; the success of our 3D technology initiatives; the market acceptance of our SQ3000 3D CMM system, mid-end semiconductor inspection sensors and CyberGage360 product; costly and time consuming litigation with third parties related to intellectual property infringement; and other factors set forth in the company's filings with the Securities and Exchange Commission.

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