

○ Daktronics Considers CyberOptics SQ3000-CMM™ the Best in the Industry for Inspection and Metrology

Daktronics, founded in 1968, is the world's industry leader in designing and manufacturing electronic scoreboards, programmable display systems and large screen video displays. It is the company's passion to continuously provide the highest quality standard display products as well as custom-designed and integrated systems.



Example of Daktronics video board at the stadium in Los Angeles. Source: Daktronics

Challenge

Daktronics needed a high resolution, high accuracy solution for measuring and inspecting anything from a board size of 150mm x 150mm with a tolerance of +/- 20um, to a Mini LED pixel with features (LEDs, solder deposit, PCB features) that are less than 50um. The boards and LEDs are ultimately integrated into various video displays.

Daktronics sought a solution to replace a manual microscope method in their metrology lab. Although the microscope system works well for small parts, it is limited in the size of substrate it can handle and it is not very automated.

Solution

After a full, extensive evaluation to ensure it would meet Daktronics stringent requirements, the company installed a CyberOptics 3D SQ3000-CMM (Coordinate Measurement Machine) in their lab testing environment for inspection and metrology. The system is powered by Multi-Reflection Suppression (MRS) sensor technology that meticulously identifies and rejects multiple reflections caused by shiny components and surfaces. Effective suppression of multiple reflections is critical for highly accurate measurements.

The system is also equipped with a comprehensive coordinate measurement software suite, CyberCMM™, making it easy to attain critical measurements and pinpoint defects. The company is using the CMM functionality every day.

The ease-of-use and automation are other advantages over their alternate method. For example, the lab technician can set up a program for board size verification, then let the system take-over. The Operators can run the inspection with very little training.

The versatility and flexibility of the system are also highly valued, as the system can be used for automated optical inspection (AOI), solder paste inspection (SPI) and coordinate measurements (CMM). The SQ3000 all-in-one system can identify critical defects and measure critical parameters, providing a superior process control solution to improve yields, quality and operational efficiencies in manufacturing facilities and in lab environments.

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Example of Daktronics video board at the Minnesota Vikings TCO Performance Center in Minneapolis. Source: Daktronics

Benefit Summary

Daktronics considers the SQ3000-CMM the best in the industry for their application needs based on the high resolution, high accuracy, comprehensive coordinate measurement software suite, versatility, automation and ease-of-use. It provides the highest quality inspection and metrology data to meet their commitment to the highest quality standard.

About Daktronics

Daktronics helps its customers to impact their audiences throughout the world with large-format LED video displays, message displays, scoreboards, digital billboards, audio systems and control systems in sport, business and transportation applications. Founded in 1968 as a USA-based manufacturing company, Daktronics has grown into the world leader in audiovisual systems and implementation with offices around the globe. Discover more at www.daktronics.com.

About CyberOptics

CyberOptics Corporation® is a leading global developer and manufacturer of high-precision 3D sensing technology solutions. CyberOptics' sensors are used for inspection and metrology in the SMT and semiconductor capital equipment 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. Discover more at www.cyberoptics.com

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