

## Mek (Marantz Electronics) Launches ISO-Spector M2 Inline Full 3D Artificial Intelligence AOI



The ISO-Spector M2 is a new full 3D AOI system with Artificial Intelligence for high-end electronics assembly. A true, full range, no compromises, fast to program 3D AOI, ISO-Spector M2 features the electronics industry's highest hardware specifications and introduces an exceptionally convenient

fast automatic programming method while achieving production ready inspection results with very short cycle times.

The ISO-Spector M2 AOI system builds on the bestselling Mek M1 AOI. Inspection performance and speed has been greatly improved while advancing previous levels of convenience and functionality. By adopting a completely redesigned chassis the M2 can accommodate larger boards, (510mm x 460mm / 20" x 18") including optional angular camera in a significantly smaller machine footprint. The newly developed conveyor system with pneumatic drives minimizes PCB transport, reducing handling times by 27%.

Hardware and software optimizations deliver 20% faster inspection times with the optical unit featuring high resolution 25MP camera with advanced lens optics, large FoV 69mm x 69mm (2.72" x 2.72") and 4x multi frequency Moiré projectors. With the optional 8 micron lens the system is able to reliably inspect 0201mm (008004") components and solder joints.

The programming of the ISO-Spector M2 is exceptionally fast, easy, and programmer-independent. Programming takes just half the time of the systems' predecessor thanks to

changes to the way the data is imported and enhanced automatic component package recognition. ODB++ files can now be loaded in a single step.

The Artificial Intelligence learns the production process values of assembled and reflowed PCB's and then recognizes defects based on hundreds of pre-set parameters. This is particularly significant in the inspection of solder joints, which are typically the most difficult and time consuming to program in AOI's. Offline programming is possible. A new auto debugging function minimizes programmer intervention during production.

Smart factories demand that all systems in the production line are connected not only "horizontally" but also "vertically" through data management centers (servers, cloud etc.) and communicate with each other via MES or ERP systems, to improve operations. The ISO-Spector M2 integrates fully with Industry 4.0 specifications via the FIBER system for classification, repair, traceability and SPC and is compatible with integrated line management systems such as Panasonic iLNB and FUJI Nexim and Next-Gen Standards support like IPC-CFX, allowing users to analyze information from the inspection machine and entire production line to inform when to perform predictive maintenance.

All ISO-Spector M2 systems are equipped with sophisticated computer backup systems which guarantee that combined with the reliable, 100% Japanese built hardware, high volume production can continue without interruption.

[www.marantz-electronics.com](http://www.marantz-electronics.com)

#### **About Mek (Marantz Electronics Ltd)**

A former division of Marantz well known for its high quality Audio/Video products, Mek Japan (Marantz Electronics Kabushiki Kaisha), developed its first AOI system in 1994. Developed to inspect PCB assemblies for correct component placement and soldering, the company's original AOI system was designed for use in Marantz factories. Proving to be a highly successful, cost-effective alternative to traditional human inspection, Mek developed its first-generation commercial system in 1996. With a steadily growing installed base, MEK Japan and its European/American headquarters, Mek, have sold over 8000 units worldwide to date. Now well established as a leading force in AOI technologies, the company also manufactures a 5D post-print SPI system which combines 3D and 2D image processing methodologies to deliver unprecedented defect detection. At the beginning of March 2014, the company opened US offices.

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