

Mek to Showcase latest range of AOI Technology at Amper



Mek (Marantz Electronics), with distributor [PBT Roznov](#), will showcase a range of AOI systems at this year's Amper, the biggest and most prestigious event in electronics and automation in Czech Republic. The Mek team will be on hand at booth F3.02 in Brno, 19-22 March, to

answer any questions and walk prospects through demonstrations.

One of the greatest challenges in programming AOI, (Automatic Optical Inspection) systems is the detection of all non-conforming placements, especially those related to solder joints, without creating a long list of "False Calls"- detected issues that are NOT true errors. The industry has always faced this problem and has had to accept that the more accurately you wish to measure, the more false judgements a system will make. It commonly results in long debugging time and complex programming.

Usually, implementing a new AOI system takes several months and the ongoing creation of new programmes to increase its reliability is very labour intensive. A programmer can override programs and instruct a machine to accept all boards or reject all components and solder joints, depending on the settings in the program.

Mek offers a complete line of inspection equipment for maximized defects coverage, with minimum human interaction, at the lowest cost. The main exhibit at Amper, the ISO-Spector M1A, will change the AOI scene completely:

- Engineer independent, exceptionally fast, automatic programming

- Self-learning algorithms for solder-joint inspection using Artificial Intelligence
- Dramatically reduced programming time
- Far fewer “false calls” and less debugging time
- More reliable inspection results

The full 3D ISO-Spector M1A delivers a self-learning algorithm for solder joint inspection that will detect any deviation outside the expected standard appearance of a solder joint. A proprietary solution with Artificial Intelligence is continuously and centrally monitoring production and adjusting hundreds of tolerance values where needed to maximize detection and minimize false calls.

The programmer does not have to specify the specific inspection locations, light settings or acceptance criteria. This not only reduces programming time, but more importantly removes the often-unpredictable human variable to ensure that the inspection results are more reliable. Those that wish to overrule the machine settings can still do so, but experience has proven that this is very rarely needed. Typically programming a new part number requires only 1 to 2 minutes and part numbers can be stored in the library to reduce programming time for future NPI's.

Also being demonstrated at the show is the [desktop PowerSpector GTAz 520](#) which is designed for maximum defect coverage whilst maintaining short programming times. It is the only desktop AOI in the market that can be equipped with [9 cameras](#): 1 top and 8 side cameras. For maximum flexibility, the optical unit is configurable to fit your needs today while providing upgrade possibilities for the future.

Completing the line up of AOI solutions on display is the [SpectorBOX GTAz 550 “Bottom Up/Top Down” system](#). SpectorBOX is uniquely engineered to accommodate solder frames on return and/or feed conveyors. The system offers bottom side, top side or simultaneous dual side inspection, deploying up to 18 cameras, Z axis positioning and auto-focus. The design is optimized for the inspection of THT components to identify defects such as presence/absence, wrong polarity, colour, type, and bent pins. Various integration alternatives are greatly enhanced by its slim, compact mechanical design.

For more information on Mek and the entire range of products visit www.marantz-electronics.com, or visit us at booth F3.02 where we can discuss your application requirements.

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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 7000 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 in Las Vegas.

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