

News Release

Yamaha introduces latest upgrades to its 3D AOI systems

New features now available boost speed, accuracy, and ease of use

Yamaha Robotics SMT Section has revealed performance-boosting upgrades for the YRi-V 3D AOI system, including faster board handling, multi-component alignment checking, and enhanced LED coplanarity measurement.

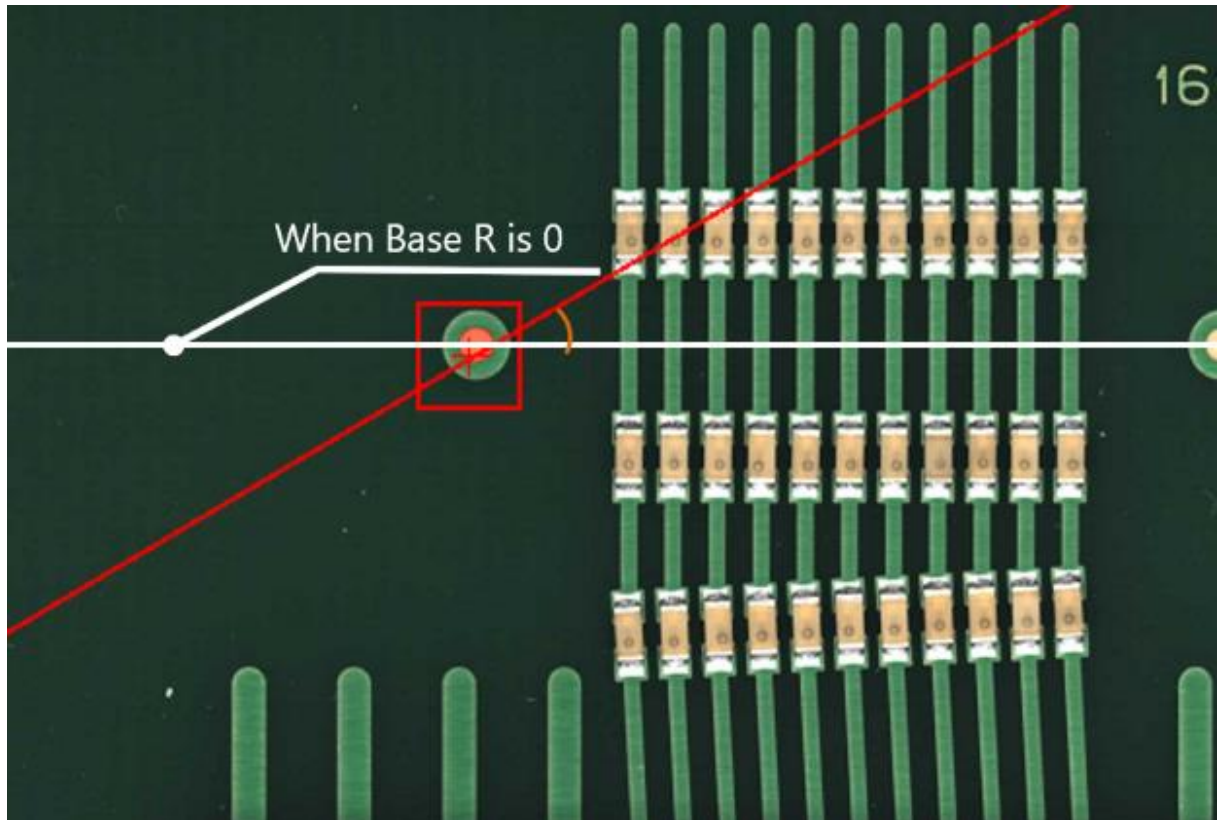


Yamaha YRi-V

The new stopperless transfer system brakes and stabilises each board electronically after entering the machine, cutting the time to position the assembly ready for inspection. The cumulative time saving accelerates the completion of every batch and significantly increases overall productivity.

The new multi-component alignment check simplifies programming the YRi-V to measure the distances between arrayed parts such as LED emitters in automotive or general lighting. When building automotive headlamps, users can leverage the

captured AOI data to individually optimise the placement of beam-focusing lenses for maximum lighting performance. The alignment check can be used to verify the spacings between many other types of components, such as Hall sensors for precision motion control.



The multi-component checking feature helps setup the YRi-V to measure alignment and spacing, for applying corrections or recording positions

The upgraded height measurement system, using a blue laser, ensures accurate and repeatable height assessment for components that are difficult to capture with standard equipment, such as transparent LED packages. Now offering superior capabilities, the YRi-V helps lighting manufacturers ensure greater product reliability with superior optical performance and visual appearance. In addition, the YRi-V can be now equipped with a 25-megapixel top-camera system, which significantly expands the inspection area that can be imaged at one time.

“Our latest upgrades further extend the YRi-V’s ability to maximise quality assurance, addressing cutting-edge automotive, industrial, and consumer applications,” said Daisuke Yoshihara, General Sales Manager. “Our customers benefit from ongoing enhancements to their YRi-V systems as we continue to make new features available enabled by advancements such as new machine-vision technologies, motion control, and AI.”

Yamaha's YRi-V 3D AOI system is built on a high-rigidity frame, shared with the advanced YRM high-speed mounters, as the foundation for super-sharp image capture operating at the maximum line rate. With multiple camera-resolution options, an 8-direction 3D projector, and state-of-the-art image-processing engine, the system achieves extremely high throughput and detects elusive defects such as chips and cracks in wafer-level packages. Offline editing tools and AI-assisted auto library matching accelerate inspection program generation to help minimize new-product introduction time. There are also tools to facilitate data creation, conversion, and tuning. When operating, M2M communication with other equipment in the line instantaneously shares defect information to aid analysis and troubleshooting.

As a part of the 1 STOP SMART SOLUTION concept, the YRi-V connects with Yamaha's full lineup of SMT equipment that includes solder paste printing and inspection, high-speed component mounting, and smart-factory software to ensure a high level of integration and coordination. The latest stopperless transfer, alignment checking, and advanced laser height checking features are available now with all new machines and to upgrade existing systems in the field.

About Yamaha Robotics SMT Section

Yamaha Surface Mount Technology (SMT) Section, a subdivision of Yamaha Motor Robotics Business Unit in Yamaha Motor Corporation, produces a complete selection of equipment for high-speed inline electronic assembly. This 1 STOP SMART SOLUTION includes solder paste printers, component mounters, 3D solder paste inspection machines, 3D PCB inspection machines, flip-chip hybrid placers, dispensers, intelligent component storage, and management software.

Bringing the Yamaha way to electronics manufacturing, these systems prioritize intuitive operator interaction, efficient coordination between all inline processes, and modularity enabling users to meet the latest manufacturing demands. Group competencies in servo-motor control and image recognition for vision (camera) systems ensure extreme accuracy with high speed.

The current product line includes the latest YR equipment generation, with advanced automated features for programming, setup, and changeovers, and new YSUP management software with state-of-the-art graphics and built-in data analytics.

Combining design and engineering, manufacture, sales, and service competencies, Yamaha SMT Section ensures operational efficiency and easy access to support for customers and partners. With regional offices in Japan, China, Southeast Asia, Europe and North America, the company provides truly global presence.

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