

Electronics Assembly Solutions

About Us

Orbotech is a world leader in providing advanced technology solutions used by electronics manufacturers to facilitate the highest quality production of printed circuit boards (PCBs), flat panel displays (FPDs) and electronics assemblies.

The Company's innovative automated optical inspection (AOI), imaging and computer-aided manufacturing (CAM) technologies enable customers to achieve the increased yields and throughput essential to remaining at the forefront of electronics production.

Of Orbotech's over 1,500 employees, more than one third are scientists and engineers, who integrate their multi-disciplinary knowledge, talents and skills to develop and provide hi-tech solutions and technologies designed to meet customers' long-term needs.

Orbotech maintains its headquarters and its primary research, development and manufacturing facilities in Israel, and more than 50 offices worldwide. The Company's extensive network of marketing, sales and customer support teams throughout North America, Europe, the Pacific Rim, China and Japan deliver its knowledge and expertise directly to customers the world over.

For more information visit www.orbotech.com.

Trion-2000™ AOI Series



Automated Optical Inspection Series for Electronics Assembly



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The Trion-2000™ AOI Series offers you optimized detection, superior throughput and comprehensive yield management.

Trion-2000 customer-driven solutions cover every stage of inspection, reducing your production costs and boosting your yields.

Trion-2000 offers you:

Exceptional Inspection Versatility

- Maximized performance for all inspection stages
- Detection methods for pre- and post-reflow defect types
- High-speed and high resolution inspection modes

Optimal Detection

- Scalable 2-D and 3-D image acquisition & multi-directional lighting
- Statistical modeling-based image processing
- AutoVerify™ high-resolution classification of suspected faults

Uncompromising In-Line Throughput

- Advanced system architecture for full line speed
- Real-time optimization of inspection parameters
- Efficient repair cycle

Easy Operation

- Straightforward setup & adaptation
- Automatic CAD data conversion & performance optimization
- High uptime with low maintenance



High-Speed AOI – Trion 2000 Xpress™
Trion-2000 Xpress helps you build PCBs faster without compromising on quality.



High-Density AOI – Trion-2000 HD™
Trion-2000 HD offers you high performance for even your most complex PCBs.

The Trion-2000 series gives you accurate, cost-effective performance at all PCB assembly line inspection stages – post-paste, post-component placement and post-solder.

Exceptional Inspection Versatility

The Trion-2000 series gives you accurate, cost-effective performance at all PCB assembly line inspection stages – post-paste, post-component placement and post-solder.

These systems provide defect data at each stage of the assembly process to eliminate defective board processing and optimize rework. This valuable information helps you reduce costs and boost product quality.

Utilizing different detection techniques specific to each inspection task, Trion-2000 systems identify all SMT process defect types and significantly improve the yields of even the most complex SMT, through-hole and mixed technology assemblies.

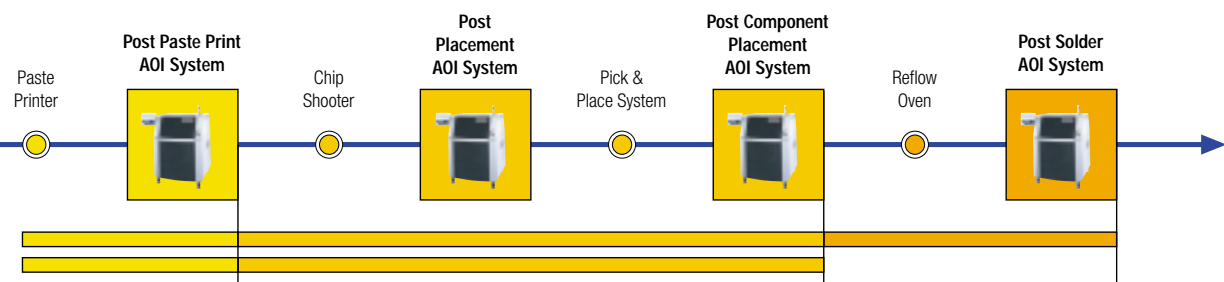
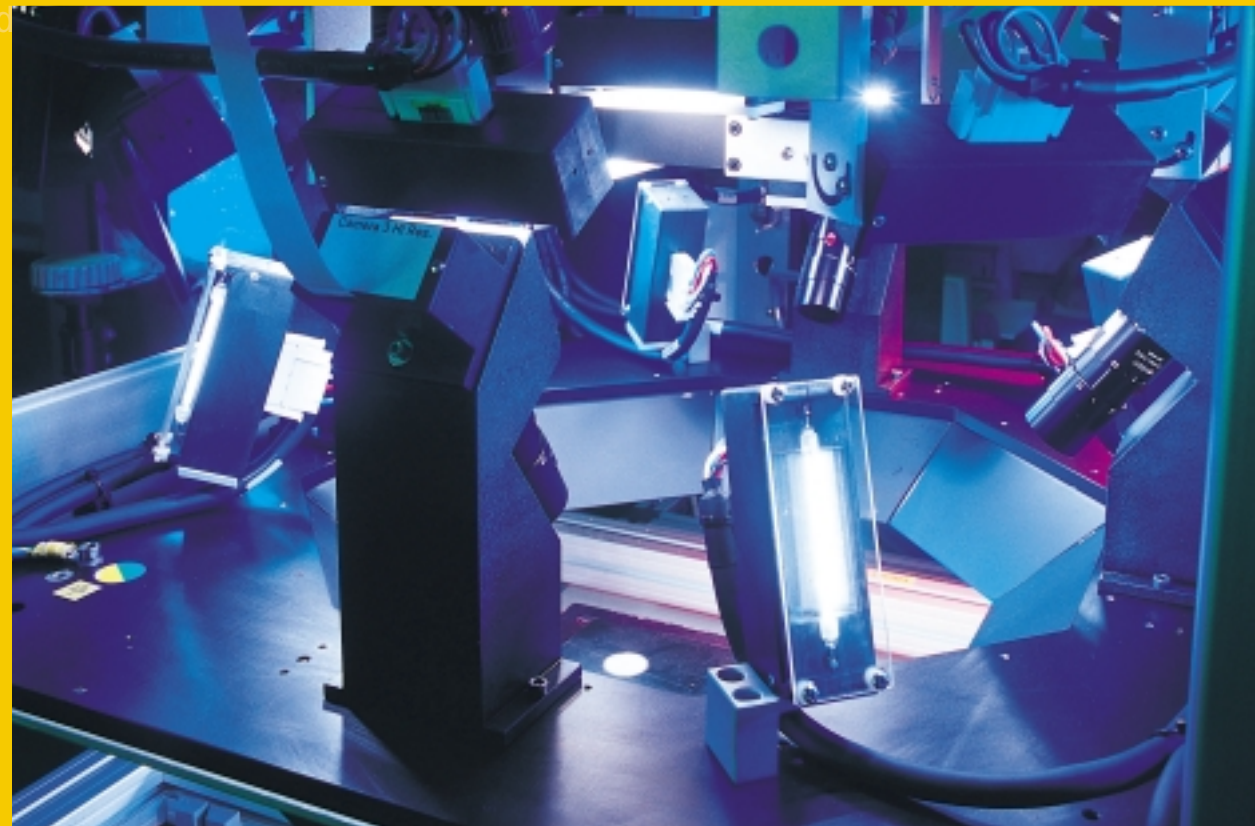
In addition, Trion-2000's modular design is easily upgradable to meet both your current and future needs.

Optimal Detection

You can choose among Trion-2000's variety of scalable configurations that incorporate innovative 2-D or 3-D image acquisition techniques to ensure maximum fault coverage without compromising throughput.

Trion-2000's highly developed optics employ as many as 13 CCD cameras and 18 illumination directions from 24 Xenon flashes to acquire clear images of each board segment. This ensures comprehensive image data for precise defect classification.

Trion-2000 systems provide highly accurate data processing by employing sophisticated statistical modeling-based image processing algorithms. Orbotech's unique AutoVerify™ re-tests suspected faults using high-resolution cameras, resulting in an exceptionally low false call rate.



Uncompromising In-line Throughput

Trion-2000 systems inspect complex PCBs fast without compromising on production quality, safely eliminating bottlenecks and providing valuable process control data. These fully automated systems operate in-line, saving valuable operator time. The integrated Repair Station provides a flexible, user-friendly, and highly accurate operation for fast, effective repair cycles.

Easy Operation

Trion's straightforward system set-up eases operation. Trion-2000 systems automatically generate inspection programs that combine information from the CAD system or pick-and-place machines' data files and the standard and customized component libraries. OptiMate™ automatically optimizes inspection programs to gain maximum system performance with minimum fine-tuning time. Acquired images can be stored to enable off-line programming to maximize system utilization.

Trion-2000™ systems are SMEMA compatible. They integrate seamlessly into your existing assembly manufacturing operation, bringing maximum uptime and minimum maintenance to your AOI operations.

Beyond Fault Detection to Defect Prevention

Our Trion Advisor™ Yield Management Solutions use Trion-2000 inspection results and data from production line machines to pinpoint defect causes and variances in process parameters. This innovative approach using Orbotech's breakthrough software products – **PC²M™**, **QPC™** and **OptiGraf™** - boosts your AOI process beyond fault detection to defect prevention to help you achieve highly effective SMT quality control.

Trion Advisor™ Yield Management Solutions

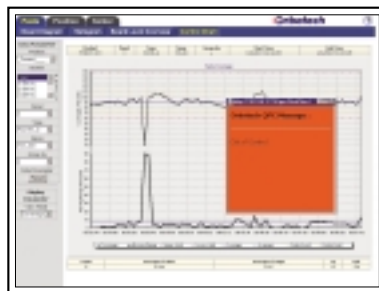
PC²M™:

Automated Tool for Machine Capability Analysis and Process Tuning



QPC™:

Advanced Quality Process Control Software



OptiGraf™:

Line Quality Monitoring and Reporting Software



PC²M • QPC • OptiGraf

