



From SMT to Semiconductor: ViTrox's V510i AOI Redefines Automated Optical Inspection With Extended Inspection Capabilities!

Get ready for a trailblazer in the electronics manufacturing industry. ViTrox, one of the pioneer solution providers of Advanced Optical Inspection (AOI), is thrilled to unveil the latest V510i 3D (AOI) Solution for Advanced Packaging.

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The electronics manufacturing industry is continuously evolving, and with it comes the demand for innovative solutions that cater to hybrid and mixed manufacturing processes. In this fast-paced and competitive market, manufacturers are seeking AOI systems that can handle diverse manufacturing processes.

Introducing the latest V510i 3D AOI Solution for Advanced Packaging, ViTrox's latest cutting-edge optical inspection system. It's designed to cater to the ever-changing needs of the electronics manufacturing industry, offering a comprehensive range of inspection capabilities for both Surface Mount Technology (SMT) and Advanced Packaging. By seamlessly combining hardware and software, the latest V510i 3D AOI Solution excels efficiently and accurately detecting defects early in the production process.

All-inclusive 3D AOI Solution for Back-end Semiconductor Industry

The V510i 3D AOI for Advanced Packaging is innovated to inspect highly reflective die and components, catering to both the semiconductor and the SMT industry. This latest V510i 3D AOI Solution covers a wide range of inspections, including the inspection of LED die and inspections of leadframes/substrates with a high component density. Designed to bridge the gap between a traditional AOI and a coordinate-measuring machine (CMM) for metrology applications, the latest V510i 3D AOI Solution offers consistent inspection results, full data traceability with defect classification, and seamless Industry 4.0 connectivity. This combination of features makes the latest V510i 3D AOI Solution a valuable investment for electronics manufacturers, empowering them to deliver high-quality products with confidence.

Here are more exciting benefits you will experience with our latest V510i 3D AOI Solution:

V510i 3D AOI Solution Redefines Automated Optical Inspection for Advanced Packaging

Extensive Test Coverage

Automated & Smart Inspection Process with A.I. Integration

Unmatched Accuracy That Boosts Production Quality

 Smart Programming

1. Extensive Test Coverage

What sets the latest V510i 3D AOI Solution apart is its remarkable full-segment lighting system. This advanced lighting setup ensures thorough test coverage across all surface types. With this powerful feature, no defect can escape detection, making it an invaluable tool for manufacturers seeking precise and reliable inspections. Another significant advancement is the inclusion of the Surface Defect Inspection (SDI) algorithm. With this powerful algorithm, the latest V510i 3D AOI Solution offers extensive inspection coverage, including die placement, die coplanarity, die chip-off/crack, die polarity, surface defects on die (such as scratches and contamination), gold pad surfaces, foreign material, and distance measurement. This comprehensive coverage ensures thorough defect detection throughout the advanced packaging process, leaving no room for compromises when it comes to product quality.

2. Unmatched Accuracy That Boosts Production Quality

The latest V510i 3D AOI Solution also plays a pivotal role in improving product quality in the SMT PCBA industry. At the heart of the latest V510i 3D AOI Solution lies its Smart Measurement technology, empowering the system with extensive 2D and 3D measurement capabilities to deliver accurate results with a flexible datum set-up. Its ability to generate high-quality 2D and 3D images of complex and high-density SiP boards ensures the accurate detection of defects that may go unnoticed by human operators. Additionally, the system's clear inspection images are vital in identifying even minor defects in reflective components, guaranteeing the integrity of the final product assembly. With its accurate measurement capabilities and swift fault identification, the latest V510i 3D AOI Solution enhances production quality control, enabling manufacturers to deliver only high-quality products to their customers.

3. Automated and Smart Inspection Process with A.I. Integration

The integration of A.I. in this solution is what makes it a leader in the market. One of the features would be the A.I. Smart Programming, which simplifies the inspection process by providing autonomous programming capabilities to users. This feature, ideal for manufacturing processes that handle surface mount devices (SMDs), and streamlines the inspection process significantly. Another unique feature will be the A.I. Reclassification, which is able to differentiate detected abnormalities as "OK" or "true defects". This helps to reduce false call rates and minimise escapees. Additionally, the latest V510i 3D AOI Solution can be integrated with our very own **A.I. VVTS**, which will automate the buy-off processes of every inspection. Our V510i 3D AOI Solution's A.I. VVTS has an A.I. coverage of over 80% for both

common and challenging defects. Hence, this solution allows the user to automate buy-off in production with up to 50% yield improvement and significant operating cost reduction!

Key Takeaway

This cutting-edge solution provides manufacturers with the tools they need to streamline the PCB inspection process, delivering accurate and precise results. By investing in the latest V510i 3D AOI Solution, manufacturers can enhance their competitiveness, elevate customer satisfaction, and solidify their position in the market.

Prepare for a new era in advanced packaging inspection with the ViTrox latest V510i 3D AOI Solution. Stay ahead of the curve, boost your productivity, and ensure exceptional product quality with this groundbreaking solution from ViTrox.

Contact us at [**enquiry@vitrox.com**](mailto:enquiry@vitrox.com) to find out more about the latest V510i 3D AOI Solution!

Contact Us

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