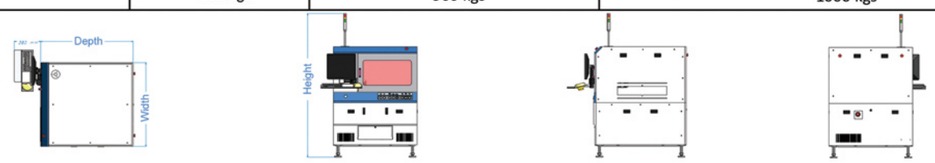
Specification

Software System	
Operating environment	Windows® XP SP3 / Windows® 7 operating system with easy-to-use GUI and password-protected user levels
Vision algorithms	Parametric component models, self learning classifiers, color learning, geometric pattern matching, auto pre assignment
Data transfer interface	DVD/CD-RW, USB drives, and Ethernet
License Dongle Key	Dongle Key
Software Option	Network Offline Programming , Centralized Library Distribution, ViTrox Database Statistical Process Control and ViTrox Verification Tool Solution
Functionality	
Post-reflow inspection	Coverage: Missing, offset, skewed, polarity, billboard, tombstone, lifted/bent leads, excess/insufficient solder, bridging, wrong part, and traceability
Pre-reflow inspection	Coverage: Missing, offset, skewed, polarity, billboard, wrong part inspection, extra part inspection, and traceability
Inspection Speed	Post reflow: 5.5 in^2/sec (35.5 cm^2/sec) Pre-reflow: 6.9 in^2/sec (44.5 cm^2/sec)
Board level and component level traceability	External barcode reader configured; Camera-read barcodes; OCR capability with batch code logging
Hardware System	
Computer system	Workstation; Intel® Processor ; 2 GB RAM; 1 x 500GB SATA HDD; 19 inch flat screen Dell monitor
Host protocols	10/100/1000-BaseT Ethernet; TCP/IP or MS Network (and other common XP supported networking protocols)
Camera system	4 mega pixel digital camera. 19 µm per pixel resolution (scalable from 21 to 12 µm for 01005 inspection) Field of view: 44.7 mm x 32.8 mm
Lighting system	Multiple color, multiple angle, multiple segment LED lighting head, auto-calibration
Board conveyor	In-line SMEMA conveyor; Auto-width adjust; Bottom-up clamping
XY robot system	Gantry robot systems with linear motors and linear magnetic encoders; Repeatability: < 8 µm ; Encoder resolution: 1 µm
Supplies	Electricity 100-120 V, 16A; 200-240 V, 8A
Hardware Option	Board buffering kits (For V510 Standard only)
Temperature	Operating temperature 5°C to 40° C, maximum board temperature : 80°C

Board Dimensions	**V510**	**V510XL**	**V510XXL**
Maximum board	510 mm by 510 mm (20 inch by 20 inch)	610 mm by 610 mm (24 inch by 24 inch)	690 mm by 620 mm (27.2 inch by 24 inch)
Minimum board	50 mm by 50 mm (2 inch by 2 inch)	50 mm by 50 mm (2 inch by 2 inch)	50 mm by 50 mm (2 inch by 2 inch)
Maximum board size for dual lane conveyor	216 mm by 510 mm (8.5 inch by 20 inch)	N/A	Max. equally width for XXL Dual Lane :315mm X 620mm XXL Dual Lane Conveyor (2nd & 3rd Rail Independently Adjustable) - Max. Board size:580mm X 620mm - Front and Rear Fixed Rail (686mm) XXL Flexi Dual Lane Conveyor (Front Fixed and 3 Independent Adjustable Rails) -Max. Board Size:580mm X 620mm
Maximum board thickness	4 mm (0.16 inch)	6 mm (0.24 inch) ** Upgradeable to 15mm (0.59 inch)	4mm (0.16 inch)
Minimum board thickness	0.5 mm (0.02 inch)	0.5 mm (0.02 inch)	0.5 mm (0.02 inch)
Board weight	Up to 3 kg (6.6 lb)	Up to 7 kg (15.4 lb) ** Upgradeable to 15kg (33 lb)	Up to 3 kg (6.6 lb) - Dual lane Up to 15kg - Single lane
Maximum inspected area	503 mm by 510 mm (19.8 inch by 20 inch)	603mm by 610mm (23.7 inch by 24 inch)	573mm by 620mm (22.6 inch by 24.4 inch)
Clearance			
- Top side of board	41 mm (1.61 inch)	41 mm (1.61 inch)	41 mm (1.61 inch)
- Bottom side of board	50 mm (1.97 inch)	50 mm (1.97 inch)	50 mm (1.97 inch)
- Minimum edge clearance	3.5 mm (0.14 inch)	3.5 mm (0.14 inch)	3.5 mm (0.14 inch)
- Conveyor height range	821 mm to 965.2 mm (32.4 inch to 37.9 inch)	842 mm to 965 mm (33.1 inch to 37.9 inch)	821 mm to 965.2 mm (32.4 inch to 37.9 inch)
System Dimensions			
Footprint			
Width	1000 mm (3.3 ft)	1195 mm (3.9 ft)	1240 mm (4.1 ft)
Depth	1245 mm (4.1 ft)[1]	1315 mm (4.3 ft)[1]	1390 mm (4.6 ft)[1]
Height	2015 mm (6.5 ft)[2]	2015 mm (6.5 ft)[2]	2015 mm (6.5 ft)[2]
Weight	~ 750 kgs	~ 900 kgs	~ 1000 kgs



Note :

1. Excluding keyboard, monitor, arm, isolator and hood handles
2. Including lighting tree and adjustable feet

ViTrox ...innovating Vision

V510

Advanced Optical Inspection (AOI)

A One Stop Solution for SMT Line.

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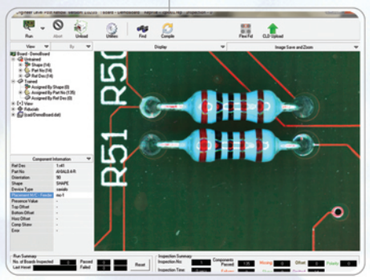
ViTrox Technologies, a solutions provider of innovative, advanced and cost-effective automated vision inspection system and equipment for the semiconductor and electronics packaging industries, has introduced powerful V510 Advanced Optical Inspection (AOI) solution.

V510 AOI system offers great performance with fast inspection and high throughput productivity for SMT line production. The system features low power consumption with a brilliant LED monitor display and improved ergonomic adjustment to increase viewing comfort (sit-stand operation). Additionally, options are available to upgrade V510 with the new multi-core processing technology and multi-shot imaging technology which enables the system to capture up to 180 frames per second. These definitely enhance inspection time significantly.

The V510 Advanced Optical Inspection solution has a reputation for providing the ultimate synergy in inspection coverage, flexibility, support, and programming methodology. V510 now offers an assortment of new features including Optical Color Inspection (OCI), Color Pattern Matching (CPM) and Network Offline Programming (NOLP), as well as enhanced features like Flexible Universal Fiducial, Pad Overhang Detection (VPOD), and Centralized Library Distribution (CLD) to further expand the test coverage and call accuracy of PCA inspection requirement.

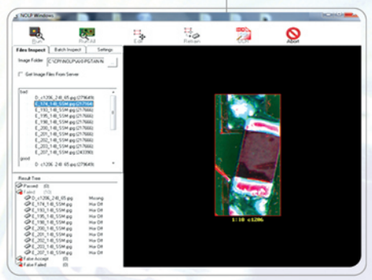
With availability of motorized Z-height option, V510 has expanded its test coverage especially on tall components and backplane connector pins. Ultimately, the system will also evolve into a one stop AOI inspection solution in early 2013 that is able to support 3D and conformal coating inspection. These new features will be field upgradable on existing V510 AOI and Agilent SJ50 system.

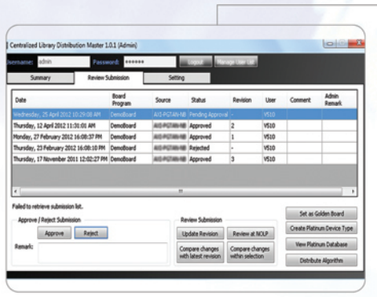
Key Technologies



Optical Color Inspection (OCI)
Optical Color Inspection is a newly invented feature which provides more flexible and robust color detection for devices with color.

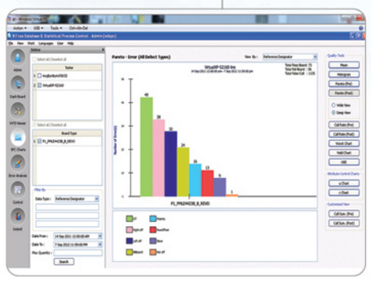
Network Offline Programming (NOLP)
An advance offline programming technique where images can be collected from various test programs inspected by various databases. This creates an easy, flexible and effective offline fine tuning than ever!

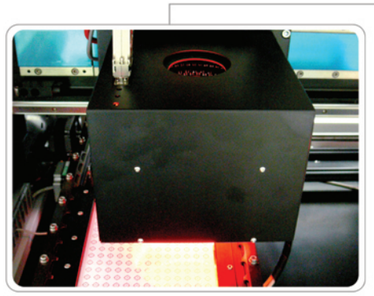




Centralized Library Distribution (CLD)
This new feature allows program downloading and uploading on the fly. In addition, it allows user to manage databases in a very efficient fashion.

ViTrox Database SPC (VDSPC)
A tool for acquiring data from multiple ViTrox optical inspection systems and processing the data collected into meaningful statistical process control (SPC) information and charts from a centralized location, for the use of various management functions.





Structured Segmented Lighting
Structured lighting with multiple color LEDs provides the richest image options in the market.