QX150i™ 2D AOI

High Value, Flexible Inspection for All Applications

Inspection Capabilities	QX150i	QX100i
Typical Scanning Speed	150 cm²/sec (23.25 in.²/sec)	
Minimum Component Size	0402 mm (01005 in.)	
Board Length	Min. 50 mm (2 in.)/ Max. 457 mm (18 in.)	
Board Width	Min. 50 mm (2 in.)/ Max. 308 mm (12 in.)	
Component Height Clearance (max)	35 mm (1.378 in.)	
Board Edge Clearance (min)	3.0 mm (0.125 in.) – bottom side only	
Component Types Inspected	Standard SMT (chips, J-lead, gull-wing, BGA, etc.), through-hole, odd-form, clips, connectors, header pins, and others	
Component Defect Categories	Missing, polarity, tombstone, billboard, flipped, wrong part, gross body and lead damage, and others	
Solder Joint Defects Categories	Solder bridge, opens, lifted leads, wettability, excess and insufficient solder, debris, and others	
Other Items Detected	Gold-finger contamination, pin-in-hole, bent pins, debris, and many others	
Component Measurement Categories	Component X, Y position and Rotation	
Measurement Gage R&R	< 10% (down to 0402 mm components)	
Vision System		
Imagers	80 Megapixel Sensor	40 Megapixel Sensor
Image Transfer Protocol	PCIe	
Lighting	Strobe White Light (with dark/bright field)	
Resolution	12 µm pixel size	17 µm pixel size
Image Processing	Statistical Appearance Modeling (SAM™) Technology. Option: Autonomous Image Interpretation (AI²) Technology	
Programming	Simple inline or offline	
CAD Import	Any column separated text file (Standard information required – ref. designator, XY, Angle, Part no.,)	
System Specifications		
Conveyor Height	Adjustable to 840 – 990 mm (33.1 – 38.9 in.)	
Machine Interface	SMEMA, RS232 and Ethernet	
Power Requirements	100-120 VAC or 220-240 VAC, 50/60 hz, 10-15 amps	
System Dimensions	100 x 88.6 x 132.1 cm (W x D x H)	
Weight	~219 kgs (483 lbs.)	
Machine Installation	<1 hour	
Options		
SPC Software, Offline Defect Rework Station, Sensor Alignment Target, Barcode Readers (1D/2D)		

SMT China Vision Award
for QX150i

Ideal for
Selective Solder and
Pre-Reflow Applications

CYBEROPTICS®

Contact CyberOptics today for more information
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QX150i™
## Intelligent Sensing Technology

The SIM (Strobed Inspection Module) is the core engine behind every QX150i™ system enabling 'on-the-fly' high performance inspection. Designed and manufactured exclusively by CyberOptics, the SIM is absolutely calibration-free and illuminates only when needed – reducing cost of ownership and power consumption.

An all-new SIM on the QX150i™ is designed with enhanced illumination - delivering the best 01005 and solder joint inspection performance ever. With an 80 Megapixel sensor and higher resolution (12 μm), you get crisp, perfect quality images for more accurate defect review.
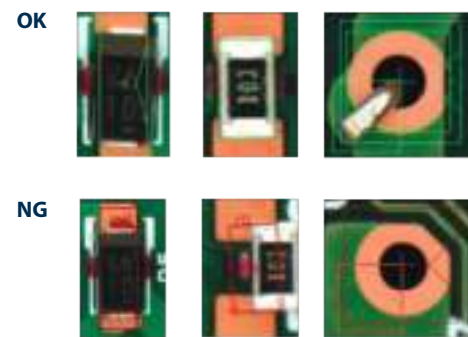
SIM (Strobe Inspection Module)

Selective Soldering Inspection

Floating Pin

Missing Pin
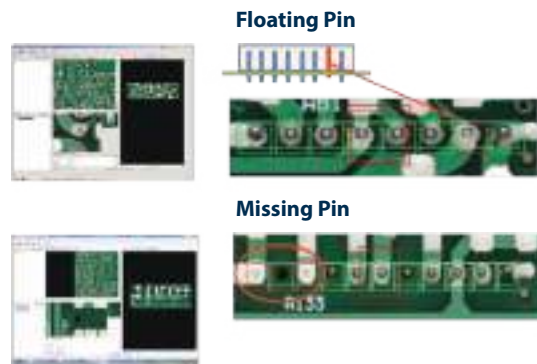
Pre-Reflow Inspection

OK

NG

Inspect 'Anything'

CyberOptics' AI² (Autonomous Image Interpretation) technology is designed for both low volume high mix, and high volume low mix Applications, and builds on the proven success of our Statistical Appearance Modeling technology. AI² is all about keeping it simple - no parameters to adjust or algorithms to tune. And, you don't need to anticipate defects or pre-define variance either – AI² does it all for you.

Just draw a box, show a few good examples and you are ready to inspect just about anything. Simply add good examples to the Ai² model and the false call rates reduce significantly providing a very robust inspection solution.
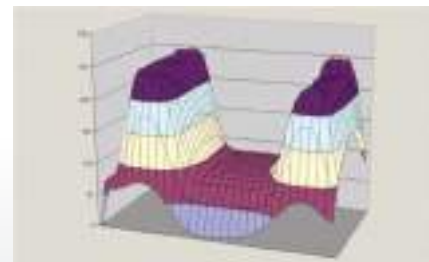
AI² Software:
Unique Image Processing Technique

Components Inspected/ Detected

AOISOFTWARE

3-Easy-Steps Programming

Our latest software improvements take programming to a whole, new level – zero to production ready in **less than 13 minutes!** All this is made possible, with an all-new data-rich, pre-loaded library and automated scripts that collect examples and update models – all on their own.

Simplified Programming Process

AI² - Faster, Simpler, and Smarter

With AI² technology, programming gets even faster – with a 90% reduction in examples required to create a complete production ready programme – you will achieve superior defect detection and low false call rates even with just **one example**. This means significantly lower tuning time and quality results with one panel inspection. Perfect for those high-mix or low volume applications!

With its unique ability to 'ignore' bad examples in a model, AI² offers precise discrimination even with excessive variance and minimizes effects of outlier examples. Plus, it is a lot simpler with full support for unsupervised and semi-automatic model training. And, examples are pre-sorted so you can select and clear the ones you don't need – very quickly. The pixel marking feature highlights defective spots, so you can identify genuine defects instantly.
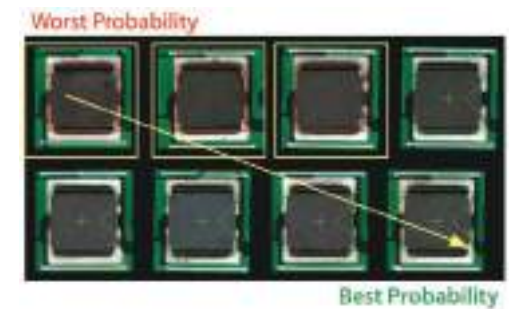
Intelligent Ranking of Examples

Active Pixel Marking

Fast, Scalable SPC Solution

CyberReport™ offers full-fledged machine-level to factory-level SPC capability with powerful historical analysis and reporting tools delivering complete traceability for process verification and yield improvement. CyberReport™ is easy to setup and simple to use while providing fast charting with a compact database size.

CYBERREPORT

Factory-level SPC

Line-level SPC

Machine-level SPC