

QX150i™ 2D AOI

High Value, Flexible Inspection for all Applications

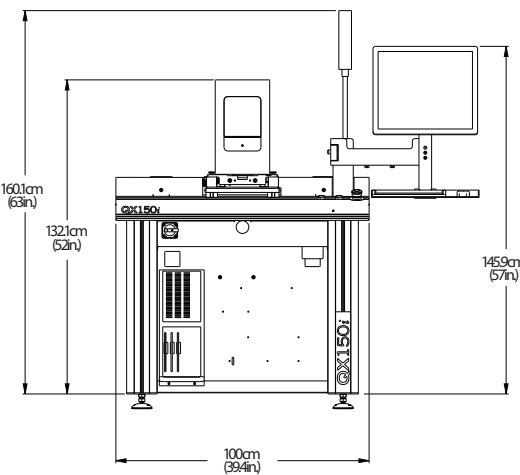
INSPECTION CAPABILITIES	
Typical Scanning Speed	150 cm²/sec (23.25 in.²/sec)
Minimum Component Size	0402 mm (01005 in.)
Board Length	Min: 50 mm (2 in.) / Max 457 mm (18 in.)
Board Width	Min: 50 mm (2 in.) / Max 308 mm (12 in.)
Component Height Clearance (max)	35 mm (1.378 in.)
Board Edge Clearance (min)	3.0 mm (0.125 in.) – bottom side only
Components 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
Image Transfer Protocol	PCIe
Lighting	Strobe White Light (with dark/bright field)
Resolution	12µm 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.,)

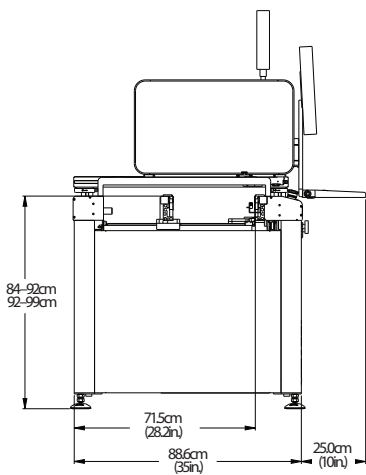
SYSTEM SPECIFICATIONS	
Conveyor Height	Adjustable to 835 – 990 mm (33 – 39 in.)
Machine Interface	SMEMA, RS232 & Ethernet
Alarms	Light pole and audible alarm
Power Requirements	100-120V, 15 Amp max or 220-240V, 10 Amp max, 50/60Hz
System Dimensions	100 x 88.6 x 132.1 cm
Weight	~219 kg (483 lbs.)
Machine Installation	<1 hour

OPTIONS	
SPC Software, Offline Defect Rework Station, Sensor Alignment Target, Barcode Readers (1D/2D), Dual Side Inspection Kit, Right-to-left Configuration Kit	

FRONT



SIDE



Ideal for
Selective Solder and
Pre-Reflow Applications



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*On standard parts only (excludes conveyor belts and other consumables); 1 year warranty on service

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High Value, Flexible Inspection for all Applications
Revolutionary AOI Technology, Unbelievable Speed

www.cyberoptics.com

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**BEST
PERFORMANCE
FOR BEST
VALUE**

- All-new High Resolution (12 µm) SIM with Enhanced Illumination
- Production Ready in <13 minutes* with AI²
- 01005 Inspection Capability
- Easy Wedge-in Replacement of Existing Conveyor
- Lowest False Call Rate and Zero Escapes

*For pre-defined parts

INTELLIGENT SENSING TECHNOLOGY

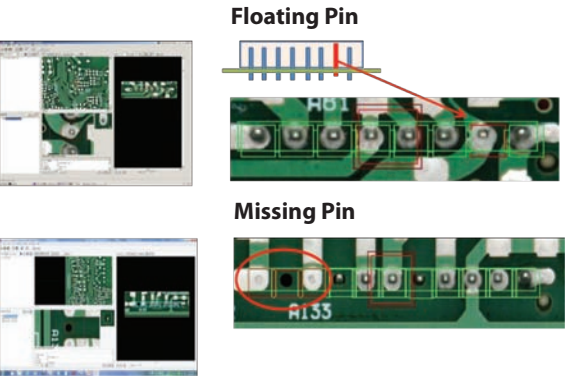
The SIM (Strobed Inspection Module) is the core engine behind every QX150i™ system enabling ‘on-the-fly’ high performance inspection. Designed and manufactured exclusively by CyberOptics, the SIM is absolutely calibration-free and illuminates only when needed – reducing cost of ownership and power consumption.

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.

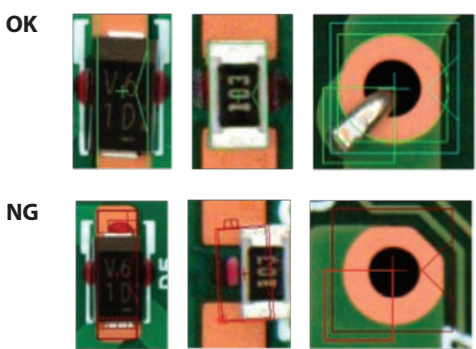


SIM (Strobe Inspection Module)

Selective Soldering Inspection



Pre-Reflow Inspection

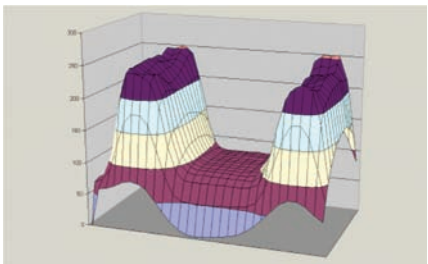


INSPECT ‘ANYTHING’

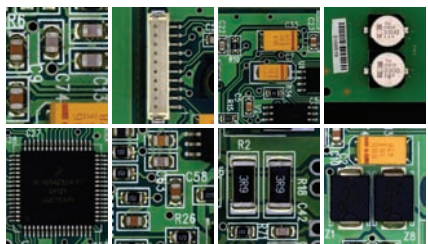
CyberOptics' AI² (Autonomous Image Interpretation) technology is a complete refactor of our proven Statistical Appearance Modeling techniques. AI² is all about keeping it simple - no parameters to adjust or algorithms to tune. And, you don't need to anticipate defects or pre-define variance either – AI² does it all for you.

Just draw a box, show a few good examples and you are ready to inspect just about anything. Add more images to the model and watch false call rates get even lower.

Measurement Technique	Inspection Performance	Programming Simplicity
CyberOptics' AI² Software	Lowest False Call Rate Reliable and Repeatable Discrimination Robust	No complicated algorithms Faster Programming Lesser Examples
Algorithm Based	✓	✓
Pattern Matching		✓



AI² Software:
Unique Image Processing Technique



Components Inspected/ Detected

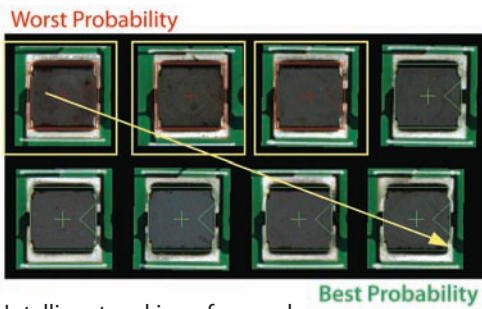
AI² – FASTER, SIMPLER AND SMARTER

With AI² technology, programming gets even faster – with a 90% reduction in examples required – so you get 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!

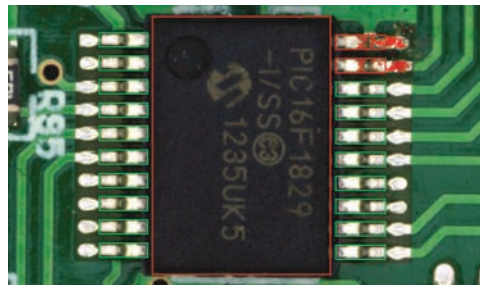
With its unique ability to ‘ignore’ bad examples in a model, AI² offers precise discrimination even with excessive variance and minimizes effects of outlier examples.

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



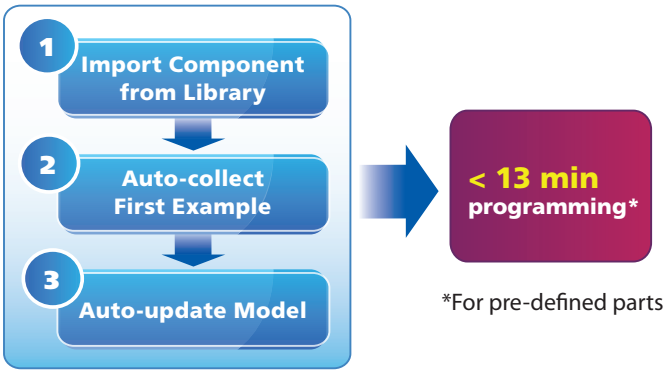
Active Pixel Marking

Scan to know about achieving Near-to-zero Setup Times using Modeling Techniques



3-EASY-STEPS PROGRAMMING

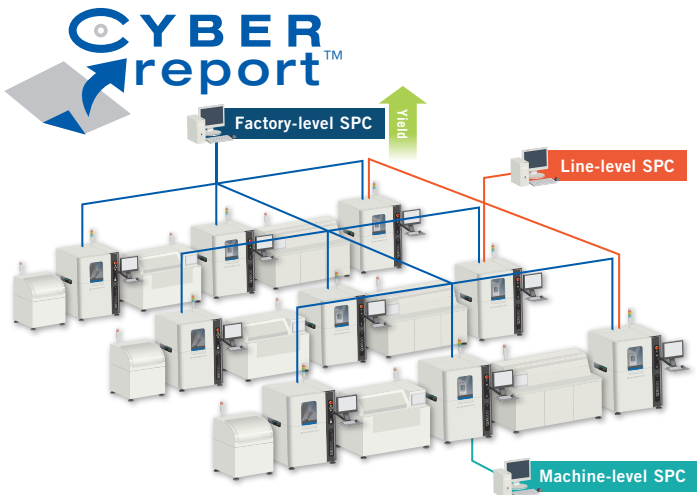
Our latest software improvements take programming to a whole, new level – zero to production ready in **less than 13 minutes!** All this is made possible, with an all-new data-rich, pre-loaded library and automated scripts that collect examples and update models – all on their own.



Simplified Programming Process

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.



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