QX600™ 2D AOI

Automated Optical Inspection

Nordson
Test & Inspection

Nordson Test & Inspection

Founded in 1954, Nordson Corporation is a market leading industrial technology company with annual revenues of over $2.1 billion and more than 7,500 employees worldwide.

Nordson Test & Inspection offers its SMT & Semiconductor customers a robust product portfolio, including Acoustic, Optical both Manual and Automated X-ray Inspection systems, X-ray Component Counting systems and Semiconductor measurement sensors. Nordson Test & Inspection is uniquely positioned to serve its customers with best-in-class precision technologies, passionate sales and support teams, global reach, and unmatched consultative applications expertise.

and

HQ

Exceptional support
from Nordson's worldwide network

AOI Products	WS Products	AMI Products	BT Products	AXI Products	MXI Products	AXM Products	CC Products	XRT Products
Proprietary Advanced Technology	**Improve Your Yields**	**Qualify Your Design**	**Test Your Design**	**High Speed High Flexibility**	**Making the Invisible, Visible**	**Measuring the Invisible**	**Maximize Efficiency**	**High Speed High Resolution**
Optical Inspection & Metrology	Semiconductor Metrology Sensors	Acoustic Inspection	Bondtesters	Automated X-ray Inspection	Manual X-ray Inspection	Automated X-ray Metrology	X-ray Component Counting	X-ray Technologies

Ultra Fast, Ultra Versatile

Inspect 'Anything'

The QX600™ is the Best in Class 01005 and up component and Solder Joint Inspection. Powered by an all-new SIM (Strobed Inspection Module) with enhanced illumination - designed to give you the best 01005 and up component size and solder joint inspection performance ever. With a higher sensor resolution (12 μm), you get to see crisp, perfect quality images for more accurate defect review. And, as always, the SIM is calibration-free. The QX600-D™ and QX600-L™ are also available for dual lane and large board capabilities.
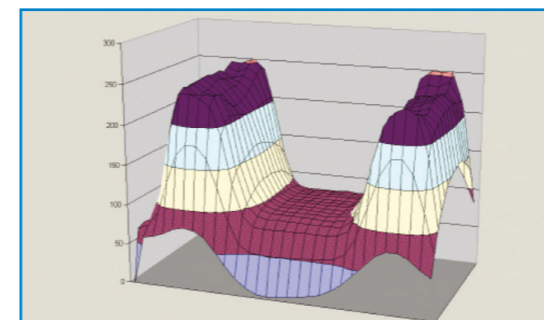
Nordsons' AI^2 (Autonomous Image Interpretation) technology is designed for both low volume high mix, and high volume low mix Applications, and builds on the proven success of our Statistical Appearance Modeling technology.

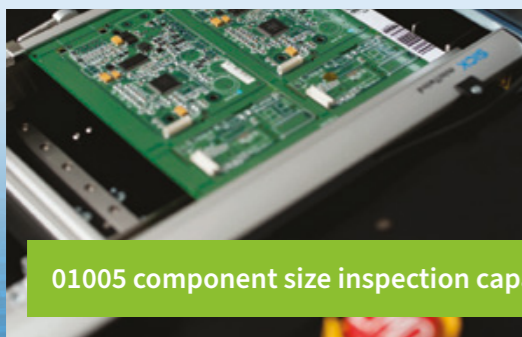AI^2 Software's unique image processing technique.

AI^2 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 – AI^2 does it all for you.
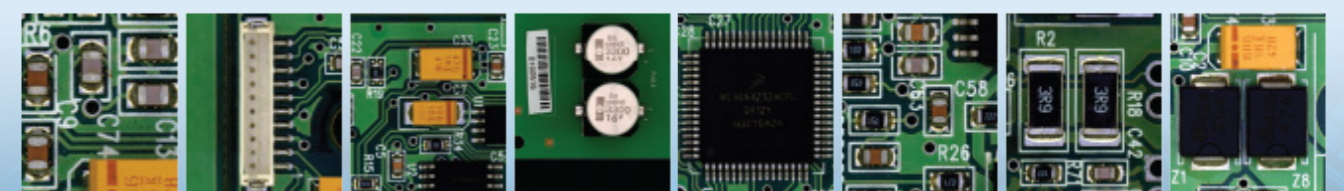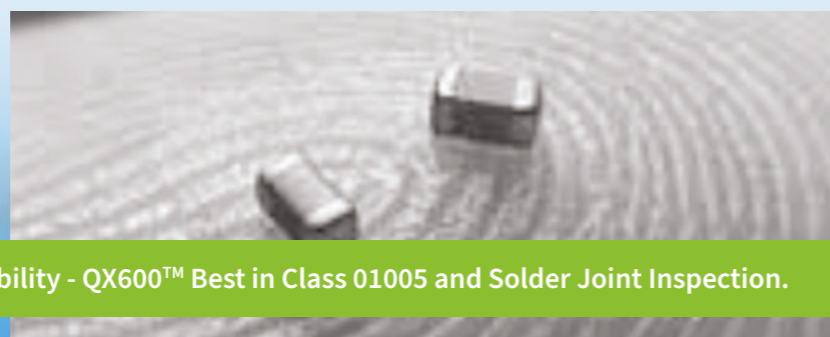
Just draw a box, show a few good examples and you are ready to inspect just about anything. Simply add good examples to the AI^2 model and the false call rates reduce significantly providing a very robust inspection solution.

Flexibility At Its Best

The QX600-D™ dual lane - dual sensor system maximizes flexibility catering to varying PCB widths. This unique design provides the ability to inspect high volume assemblies, the convenience of inspecting different assemblies and board sizes simultaneously on different lanes, or even switching from dual lane to single lane mode to inspect very large boards. The QX600-L™ expands the standard QX600™ to support large board inspection of up to 590 x 510mm sizes.
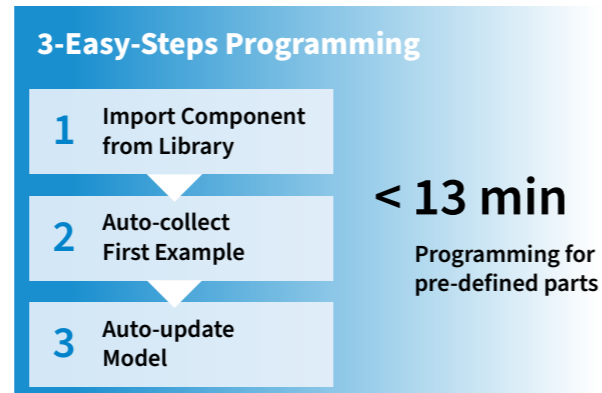
QX600-D Dual Lane Dual Sensor.

QX600-L Large Board Capability.

SIM (Strobe Inspection Module).

01005 component size inspection capability - QX600™ Best in Class 01005 and Solder Joint Inspection.

Components Inspected / Detected
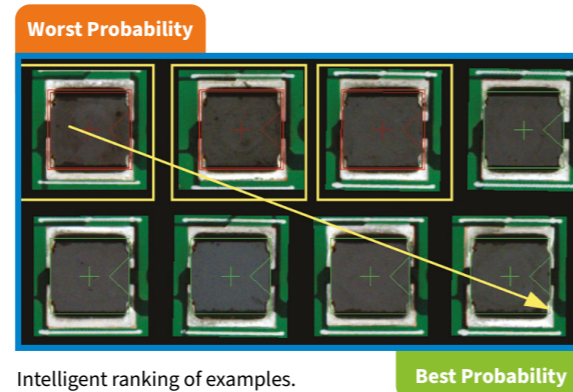
AOI Software

Fast, Scalable SPC Solution

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.
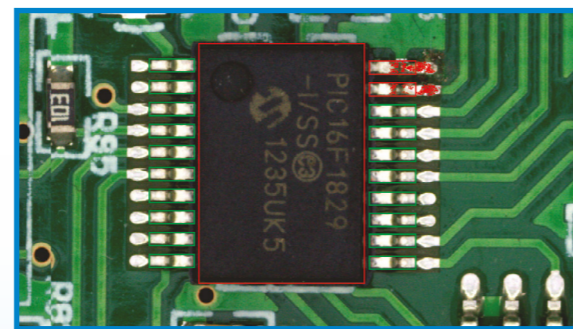
3-Easy-Steps Programming

1 Import Component from Library

2 Auto-collect First Example

3 Auto-update Model

< 13 min

Programming for pre-defined parts

Simplified programming process.

AI^2 - Faster, Simpler, and Smarter

With AI^2 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!
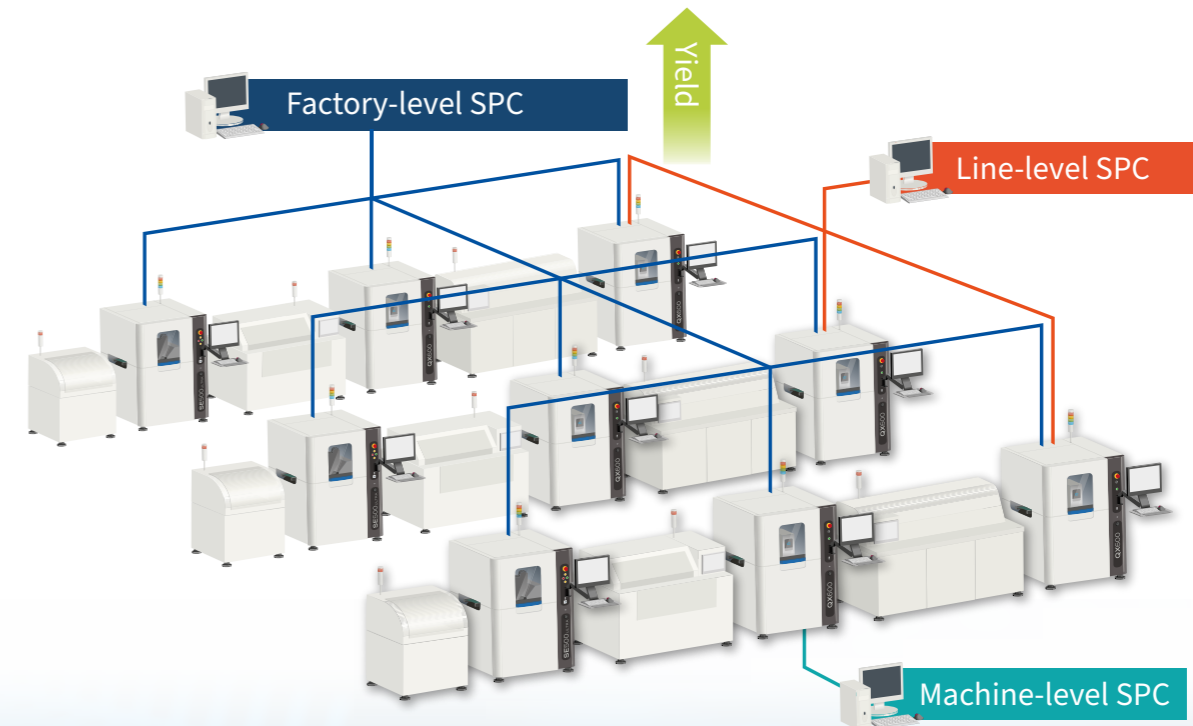
With its unique ability to 'ignore' bad examples in a model, AI^2 offers precise discrimination even with excessive variance and minimizes effects of outlier examples. Plus, it is a lot simpler with full support for unsupervised and semi-automatic model training. And, examples are pre-sorted so you can 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.

Just draw a box, show a few good examples and you are ready to inspect just about anything. Simply add good examples to the AI^2 model and the false call rates reduce signi!cantly providing a very robust inspection solution. You can share components in the central model library and reuse them when you create new programs - so much lesser programming and so much more consistency.

Worst Probability

Best Probability

Intelligent ranking of examples.

Active pixel marking.

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

Yield

Factory-level SPC

Line-level SPC

Machine-level SPC

Specifications

Inspection Capabilities	QX600	QX600-L	QX600-D
Inspection Speed	200 cm2/sec (31in.2/sec)		
Minimum Component Size	0402 mm (01005 in.)		
Board Length	(Without re-inspection) Min. 50 mm (2 in.)/ Max. 400 mm† (15.7 in.)	(Without re-inspection) Min. 50 mm (2 in.)/ Max. 470 mm†† (18.5 in.)	Dual Lane: 520mm (20.4 in.) • Single Lane: Boarder up to 520 mm (20.4 in.)
Board Width	Min. 50 mm (2 in.)/ Max. 308 mm (12 in.)	Min. 50 mm (2 in.)/ Max. 510 mm (20.0 in.)	Dual Lane: Min. 50 mm (2 in.)/ 300 mm (11.8 in.) Single Lane: Boarder up to 510 mm (20.0 in.)
Component Height Clearance (max)	Top: 35 mm Bottom: 25 mm	Top: 35 mm Bottom: 25 mm)	Top: 35 mm Bottom: 35 mm
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 in sufficient solder, debris, and others		
Other Items Detected	Gold-finger contamination, pin-in-hole, bent pins, debris, and many others		
Component Position Categories	Component X, Y position and Rotation		
Measurement Gage R&R	<10% (down to 0402 mm components)		

Vision System			
Imagers	80 Megapixel Sensor on each SIM module		
Image Transfer Protocol	PCIe		
Lighting	Strobe White Light (with dark/bright field)		
Resolution	12 µm pixel size		
Image Processing	Statistical Appearance Modeling (SAM™) Technology. Option: Autonomous Image Interpretation (AI²) Technology		
Programming	Simple online or offine		
CAD Import	Any column separated text file (Standard information required – ref. designator, XY, Angle, Part no.,)		

System Specifications			
Conveyor Height	Adjustable to 832 – 990 mm (33 – 39 in.)		
Machine Interface	SMEMA, RS232 and Ethernet		
Alarms	Light pole and audible alarm		
Power Requirements	100-120V 60Hz or 220-240V 50Hz, 10 Amp max		
System Dimensions	100 (W) x 127 (D) x 139 (H) cm	140 (W) x 147 (D) x 139 (H) cm	100 (W) x 127 (D) x 139 (H) cm
Weight	~ 410 kgs (904 lbs.)	~ 712 kgs (1570 lbs.)	~ 605.2 kgs (1334 lbs.)
Machine Installation	<1 hour		

Options
SPC Software, O'ine Defect Rework Station, Sensor Alignment Target, Barcode Readers (1D/2D), High Speed PC Kit, Dual Side Inspection Kit, Right-to-left Configuration Kit

† With re-inspection support, the board length can be extended to 550 mm (21.6 in.) using conveyor extension kit

†† Board length can be increased to 770 mm (30.3 in.) with integrated conveyor extension. With this set up, the line length will be 1700 mm (66.9 in.)

CERTIFIED ISO 9001

UKAS MANAGEMENT SYSTEMS 001

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