

AOI & X-Ray solutions  
you can count on.



## M1 Series AOI

M-size in-line automated inspection

Nordson YESTECH's advanced megapixel technology offers high-speed PCB inspection with exceptional defect coverage. With high resolution and telecentric optics, M1 Series inspects solder joints and verifies correct part assembly, all within a footprint less than 1 meter wide, enabling users to improve quality and increase throughput.

Programming the M1 Series is fast and intuitive. Operators typically take less than 30 minutes to create a complete inspection program including solder inspection. The M1 Series utilizes a standard package library to simplify training and insure program portability across manufacturing lines.

Newly available image processing technology integrates several techniques, including color, normalized correlation and rule-based algorithms, to provide complete inspection coverage with an extremely low false failure rate.

Configurable for all line positions, the M1 Series is equally effective for paste, pre / post-reflow or final assembly inspection. Off-line programming maximizes machine utilization and real-time SPC monitoring provides a valuable yield enhancement solution.

### Features:

- Quick set-up
- High defect coverage
- High speed
- Low false failure rate
- Smaller footprint
- Best price performance

### Automated Inspection for:

- Solder defects
- Lead defects
- Component presence and position
- Correct part / polarity
- Through-hole parts
- Paste

# M1 Series AOI M-size in-line automated inspection

## Specifications

### Model

**M1** Multi-function system with top-down viewing,  
3 megapixel camera

### Inspection Capabilities

Throughput: > 3550 sq. mm second (> 5.5 sq. in / second)  
Maximum Board Size: 350mm x 250mm (14 x 10 in.)  
Minimum Board Size: 50mm x 50mm (2 x 2 in.)  
Topside Clearance: 25mm (1 in.)  
Bottomside Clearance: 50mm (2 in.)  
Minimum Component Size: 01005  
Defects Detected:  
Part: position, missing, wrong, polarity, skew  
tombstone, etc.  
Lead: bent, lifted, bridging  
Solder: open, insufficient, short, solder balls

### Software

Algorithms: Color, OCV, OCR, barcode recognition, both image and  
rule-based algorithms  
Data Requirements: ASCII Text, X-Y position, part #, ref. #, polarity  
CAD Translation Package: Aegis, Unicam, Fabmaster, YESTECH CAD Utility  
Programming Skill Level: Technician or operator  
Operating System: Windows XP Professional  
Off-line Software: Optional - Rework, Review and Program Creation  
SPC Software: Optional - Real-time local and remote monitoring of  
first pass yield, defect trends, and machine utilization.

### Hardware

Material Handling: SMEMA, dual direction auto width conveyor,  
pass / fail signals, board clamping  
Conveyor Length: 876mm (34.5 in.)  
Conveyor Height: 950mm + /- 35mm (37.5 + /- 1.3 in.)  
Lighting: Proprietary Fusion Lighting™ multiangle LED  
Imager: 3 megapixel color camera  
Resolution 2048 x 1536; 20 or 12.5 micron pixel size  
Optics: Telecentric lens (eliminates distortion for more accurate  
and repeatable measurement and inspection results)  
Optional  
Warpage Compensation: Optional  
Bottomside Barcode Reader: Optional

### Facilities

Power: 100-240 VAC, 50/60 Hz, 10 amps  
Air input: 60 to 90 PSI (0.4 to 0.6 Mpa), 2 CFM  
Footprint: 876mm x 1010mm x 1400mm (34.5 x 40 x 55 in.)  
Weight: 770 kg (1700 lbs)  
Machine Installation: < 1 hour

### Nordson YESTECH

USA Headquarters:  
2762 Loker Ave. West  
Carlsbad, CA USA 92010  
+1.760.918.8471 **Phone**  
+1.760.918.8472 **Fax**

Asia:  
#137 Guoshoujing Road  
Zhangjiang Hi-Tech Park  
Pudong,  
Shanghai 201203, P.R.China  
+86.21.3866.9166 **Phone**  
+86.21.3866.9199 **Fax**

Europe:  
Bergerstraat 8  
6226 BD Maastricht  
The Netherlands  
+31.352.4466 **Phone**  
+31.352.7722 **Fax**

UK  
Charwell House  
Wilsom Road, Alton  
Hampshire, UK GU34 2PP  
+44 (0) 1420 540254 **Phone**  
+44 (0) 1420 544098 **Fax**

