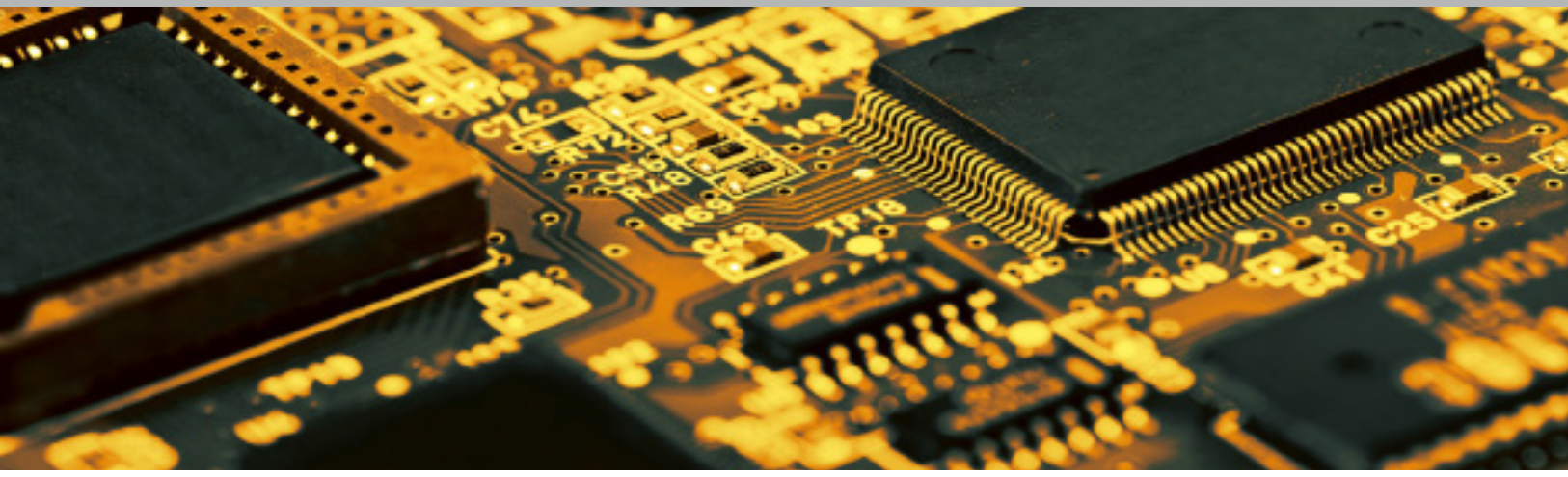
MIRTEC

3D AOI Series

ART (Anti-Reflection Technology)



- 75 Megapixels 5-Camera System
- 12 Projection Moiré Technology
- 8-Phase Coaxial Color Light
- Internal Flipper (Option)

3D AOI Series

ART [Anti-Reflection Technology]

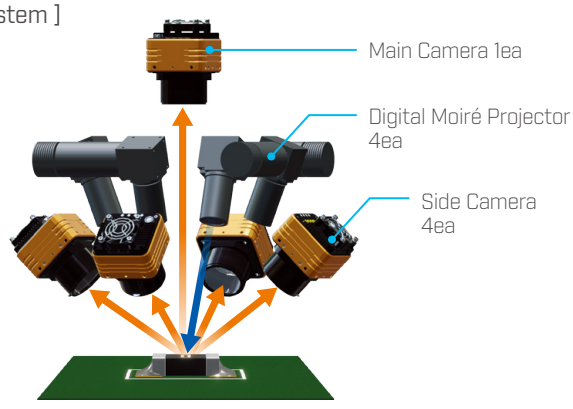
ART was developed to meet the solder inspection performance requirements of high-end electronics manufacturing processes such as automotive electronics, aerospace/defense, and industrial equipment.

The combination of a 5 main camera with a total of 75 megapixels and a Full HD digital moiré projector enables inspection based on 100% actual measurements using five times more 3D raw data compared to conventional 3D AOI systems.

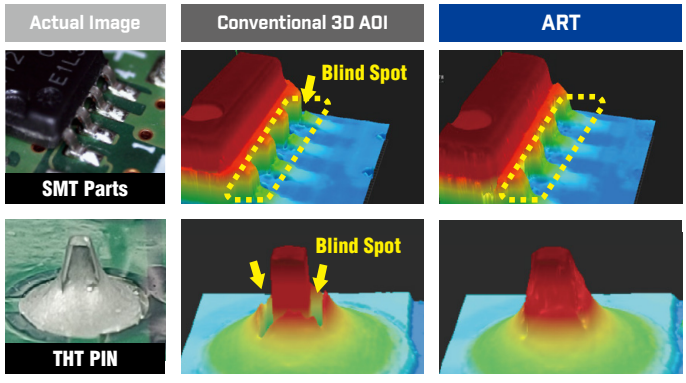
75 Megapixels 5-Camera System

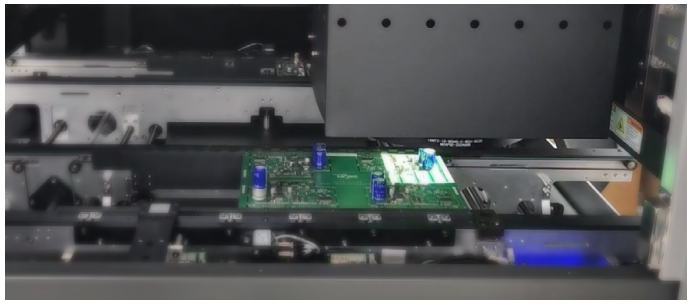
To overcome the limitations of conventional 3D AOIs, ART captures 3D data from five directions by integrating four high-resolution side cameras alongside the existing top-down camera, creating a 5-camera system.
While conventional 3D AOIs struggle to accurately measure solder wetting at the joint between the component and solder fillet, ART ensures precise inspection by leveraging multi-angle 3D data acquisition.

[Optical System]



[Inspection Image]

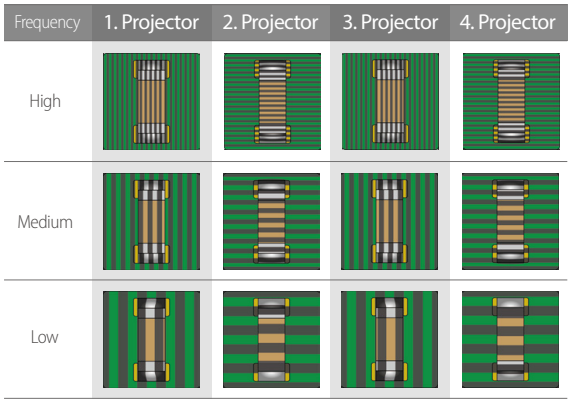


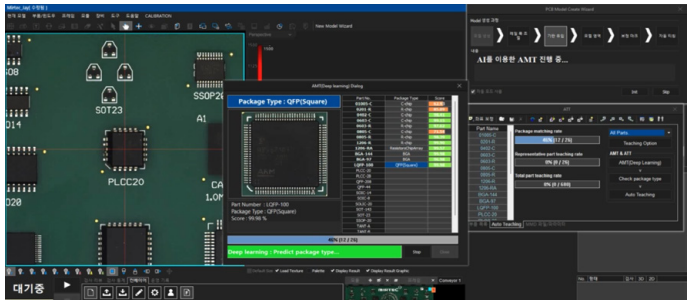


Digital 12 Projection Moiré Technology

Moiré Projection Unit measures a component in EWSN 4 directions to obtain 3D image for failsafe and high-speed defect detection.

- Obtain 3D image without blind spots using 4(four) 3D projections
- Various component height inspection with the combination of high, medium and low frequency moiré pattern
- Linkage with the main camera to apply Full 3D inspection to detect various defects flawlessly

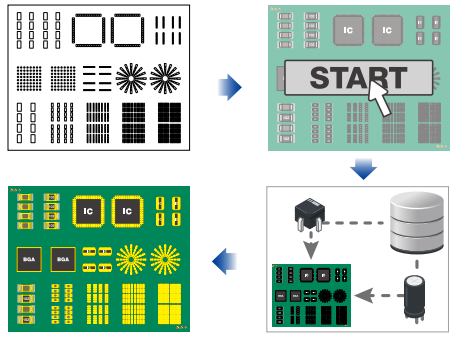




Deep Learning applied Auto Teaching Tool

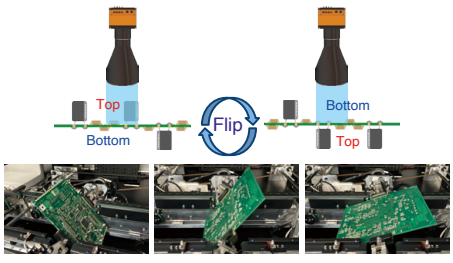
Inspection software which is applied Deep Learning solution search the most suitable component information and teach the component automatically. User would have the best inspection quality always regardless of user's skill as all of process will be done by a few clicks.

- Reduce teaching time more over 90% than manual teaching
- Secure the best inspection quality through working process standardization
- Accurate component searching and matching by applying Deep Learning solution



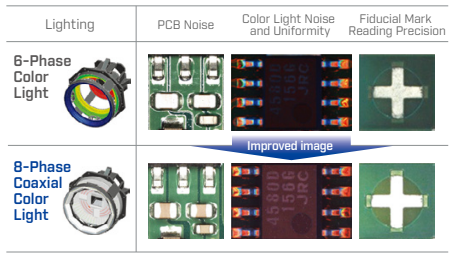
Internal Flipper (Option)

Equipped with an internal flipper for double-sided PCB inspection, the system allows you to inspect both the top and bottom of a PCB without requiring external equipment.



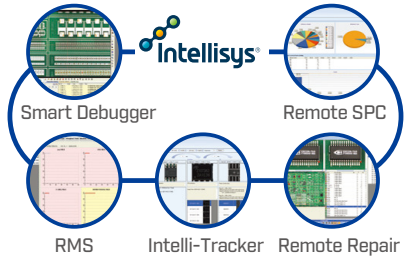
8-Phase Coaxial Color Light

- Color change extraction following angle of reflection
- Ideal for Chip / IC lift, micro crack and solder inspection
- Precise solder joint inspection



Intellisys® System

Possible to recognize in advance when a defect occurs in the line and support to reduce cost due to defects by remote controlling.



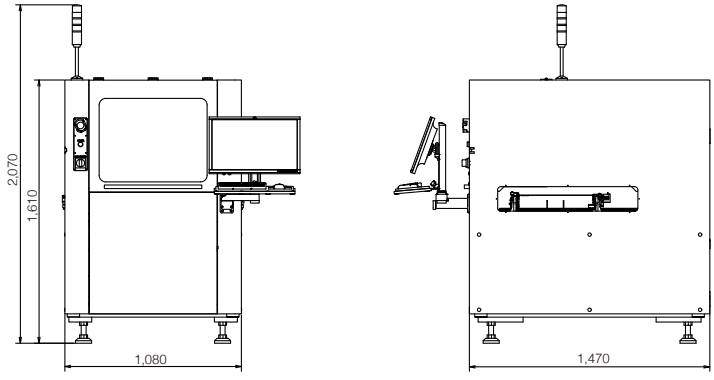
Specifications

Model			ART
PCB Size Range			
Single Lane		Standard	50 x 50 ~ 510 x 510 mm
		Flipper	140 x 50 ~ 510 x 510 mm
Dual Lane		1-Stage Conveyor	50 x 50 ~ 510 x 590 mm(Single) / 50 x 50 ~ 510 x 300 mm(Dual)
		3-Stage Conveyor	50 x 50 ~ 330 x 280 mm(Dual)
OMNI-VISION® 3D / 2D Inspection Technology			
3D Inspection Technology			Digital 12 Projection Moiré Technology
Height Accuracy		On a Calibration Jig	±3 μm
3D / 2D Maximum Inspection Speed			
15 Megapixel Camera		10 μm	2,010mm^2 / Sec
		15 μm	4,550 mm^2 / Sec
2D Maximum Inspection Speed			
15 Megapixel Camera		10 μm	5,080 mm^2 / Sec
		15 μm	10,716 mm^2 / Sec
System Specification			
Lighting System			8-Phase Coaxial Color Lighting System
Software		Standard	Built-in SPC, Built-in Repair
		Option	TRMS, RRS, IRS, OLTT, RDS, Remote SPC, ePM-AI^2 / Siemens Valor
PCB Clearance		Top	45 mm (Option : 70mm)
		Bottom	50 mm (Flipper : 70mm)
PCB Thickness		Standard	0.5 mm ~ 5 mm
		Flipper	0.8 mm ~ 3 mm
Maximum PCB Weight		Standard	4 kg
		Flipper	2 kg
Minimum Measurement Size	75M Camera	10 μm	03015 Chip (mm) / 0.3 Pitch (mm)
		15 μm	0603 Chip (mm) / 0201 Chip (inch) / 0.4 Pitch (mm)
Robot Positioning System		X/Y Axis	Servo Motor System
Power Requirements			Single Phase(s) 200-240V 50-60Hz, 1.1 kW
Air Requirements			5 Kgf / cm^2 (0.5 MPa)
Dimension and Weight			
Dimension	Machine		1,080(W) x 1,470(D) x 1,610(H) mm
	Width (Machine & Conveyor)	1-Stage Conveyor	1,110 mm
		3-Stage Conveyor	1,630 mm(Sigle Lane) / 1,270 mm(Dual Lane) / 1,850 mm(Flipper)
Weight	Single Lane	Standard	Approx. 950 kg
		Flipper	Approx. 950 kg(1-Stage Conveyor) / Approx. 1,000 kg(3-Stage Conveyor)
	Dual Lane		Approx. 1,000 kg

※ We will not be responsible for any problems caused by using unverified BARCODE READER. Contact our HQ for the list of allowed BARCODE READER models to use.

Dimension

(Unit : mm)



• Data subject to change without notice.

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