I.C.T DIP Inverted Camera Online AOI AI-4540(After THT Soldering)



I.C.T DIP AOI captures board image in real time by high precision color industrial camera. Adopt Convolution Neural Network (CNN) algorithm to process images. Judge defects of components intelligently.

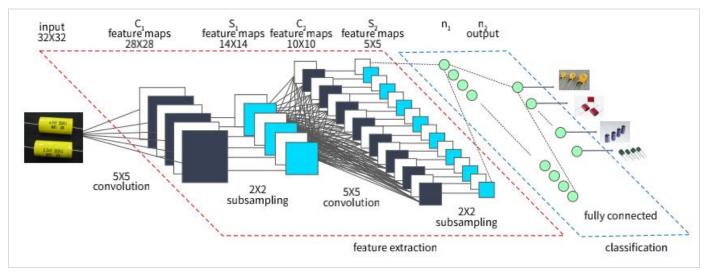
Features:

1. Online PCBA AOI for plug-in after soldering.

- 2. High inspection rate and low false alarm rate, automatically check color ring resistor, capacitor, diode, socket, etc.
- 3. Defect type: wrong part, missing part, reverse polarity and other defects of DIP element.
- 4. Spanning erection without change of production line.
- 5. Simplified programming flow, very simple interface. Support batch modifying parameters with one-key.
- 6. Centralized control. Interconnection between multiple equipment.
- 7. Real-time inspection without stopping the board.
- 8. Easy to move, adjustable height and width.
- 9. Locate defects quickly and can control production line.
- 10. PCBA dimensions: Maximum 400*300mm (12MP) / Maximum 520*380mm (31MP) Multiple selectable options.

11. Data is traceable. Support SPC alarm, LOG automatic collecting and storage function, NG warning/alarm function, Remote programming&debugging.

Advantage:

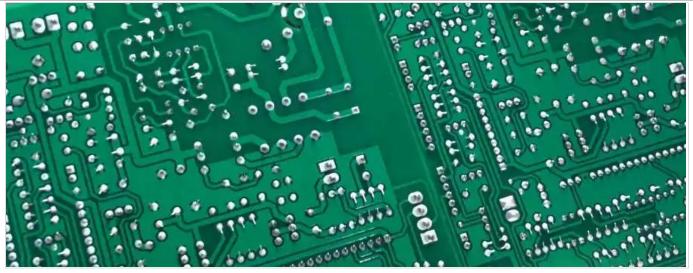


Deep Learning Algorithm

I.C.T AOI by applying deep learning algorithm, big data optimization and intelligent minimalist programming in industrial inspection, I.C.T enables intelligent judgment by one-click automatic identification of components and solder joints, thus addressing the two major pain points of traditional algorithms, namely, long programming time and high false alarm rate.



Full SMT Factory Solution Partner



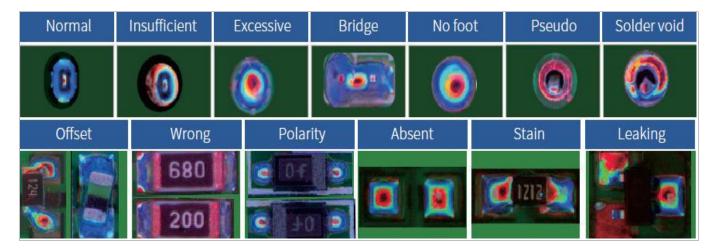
Flexible procedures

1. Intelligent algorithm: Automatically check color ring resistor, capacitor, diode, socket, etc.

2. Online/Offline programming: Optimize and adjust equipment parameters without stopping production line.

- 3. Easily operate: 10-20mins programming time and 10-15min debugging time.
- 4. Quick operation: Short changeover time. Files of existing formats can be called directly.

5. Audible alarm: Prompt item number, wrong device and type.



Strong Intelligent Inspection Capability

1. For BOTTOM surface of wave soldering process, elements of solder joint change significantly. Algorithm is required to identify different NG

board and OK board. Miss inspection is not allowed.

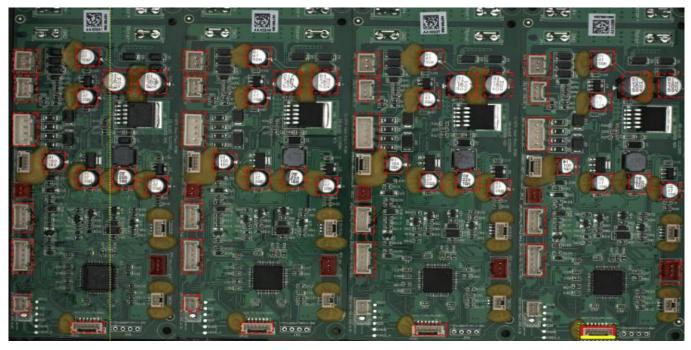
2. I.C.T DIP AOI is trained based on big data. Accuracy of components identification is high.

3. Inspection capability and generalization ability is strong. Correct alarm caused by components overhang. Reduce false alarm.

- 4. Convolution Neural Network (CNN) adopts judgment approach similar to human beings. Effectively identify diversified testing scenarios. Ensure inspection rate and reduce false alarm rate at the same time.
- 5. Strong feature fuzzy identification capability. Effectively inspect pin hole on soldering tin without being interrupted by pin and device.
- 6. Strong generalization ability. Slight color difference and irregular arrangement of solder joint. Low false alarm rate can be realized.



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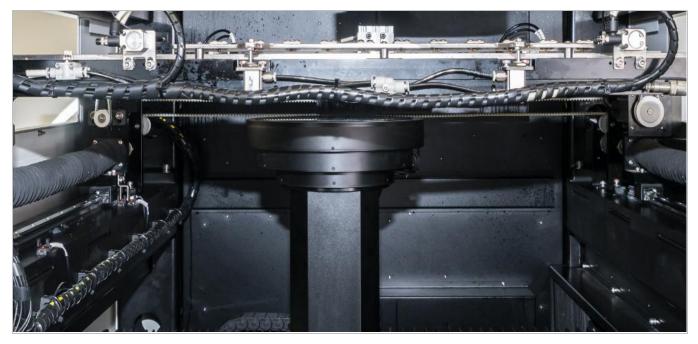
Quick Inspection Speed

1. I.C.T AOI Genetic algorithm path planning.

2. Less number of FOV. Intelligently skip positions without welds. Reduce number of FOV and enhance efficiency.

- 3. Photographing path is shorter. Reduce large-span FOV skipping to further save time.
- 4. More suitable imaging position. Avoid solder joint at FOV joint to guarantee test results.

5. GPU image parallel processing. Faster data running speed.



Multiple Inspection Modes

1. Support multi-in-1 board inspection. Support mixed board inspection. Support mixed material inspection.

2. Support rotation identification of multiple angles and multiple positions.

3. Support Bad Mark skip.



Full SMT Factory Solution Partner

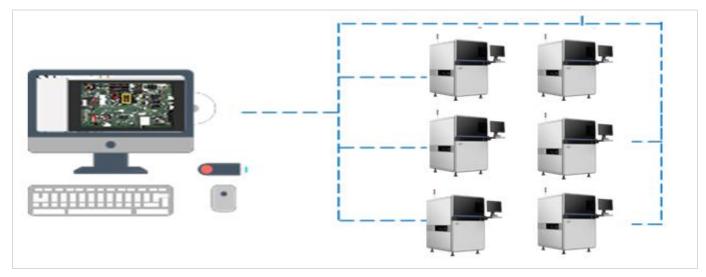
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MES System Data Report

1. Camera automatically reads code (bar code and QR code).

2. Complete data, including overall statistic data and all inspection information of each board inspected.

3. Support one-key export, which is convenient for traceback. Data can be effectively applied in MES system.



Centralized Management and flexible Service

1. Support remote programming, debugging and management. Save changeover time. Support one-to-many judgment.

2. Remote regulation, centralized management. Reduce suspension of work. Enhance production efficiency.

3. Remote off-line programming, which will not affected inspection.

4. Remote support. Quick response and maintenance.

5. Multi-judgment work station realizes one-to-many judgment.

Option:

	Offline Repair station	Online Repair station

1. Offline/Online option.

2. Freely switch between single-point/multiple-point cursor guide. High alignment accuracy.

3. Whole board projection guide maintenance personnel to repair quickly.

4. Avoid manual searching. Support operation on multiple work station. Enhance repair efficiency.

5. Multiple guide colors for selection.

6. Avoid interference by board color.

7. Guide by areas. Higher efficiency.

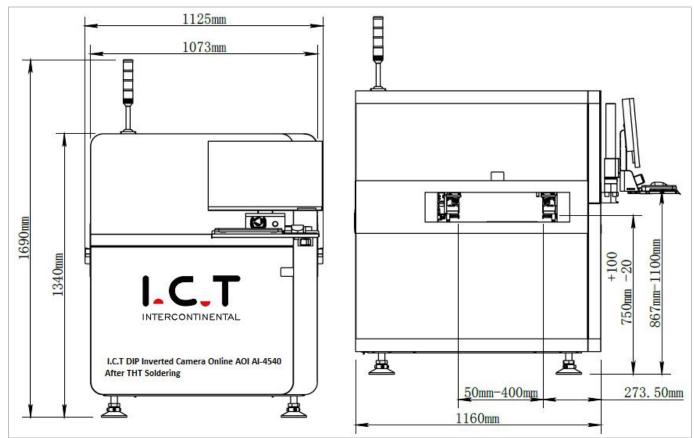
Specification:

	I.C.T DIP Inverted Camera Online AOI AI-4540	I.C.T DIP Inverted Camera Online AOI AI-4540L					
Model	(After THT Soldering)	(After THT Soldering)					
FOV	49*41mm						
Resolution	20um						
Camera	5M						
Light	RGB + W light, 4 color integral						
Inspection Speed	0.23sec/FOV						
Inspection Algorithm	CNN, Color contrast, Outline recognition, Offset inspection, Template matching, Character comparison, OCR ,etc.						
Inspection Item	Component: Absent, Reversed, Mis alignment, Broken, Extra, Foreignmaterial, Stained, etc. Solder: Insufficient, Excessive, Bridge, No foot, Solder void,etc Other: Bar code Recognition/QR code Recognition/OCR.						
Mixing PCB inspection	Support calling prog	gram automatically.					
PCB Size	Three section track: 50*50-350*400mm Single section track: 50*50-450*400mm	50*50~550*650mm					
PCB Height	Top: 110mm (150mm op	otional), Bottom: 25mm					
PCB Thickness	0.3~6.0mm						
PCB Edge	3.0mm						
PCB Warpage	±3.0mm						
PCB Weight	Max: 10Kg						
Conveyor Height	750&900±20mm						
With Adjustment	Manual&Auto						
Conveyor Direction	L~R or R~L						
Motion Driver	AC servo driver + Ballscrew, repeat accuracy 0.01mm						
Operation System	Ubuntu 18.04 LTS 64bit						
operation system	Remote control, remote assistance, CAD file import and user-defined model training						
PC	CPU: Intel i5						
	Display card: NVIDIA GTX1050Ti						
	Memory: 32G DDR, 240G SSD+2T Mechanical Hard Disk Network: 1000M Wired Network Card						
Display							
Data output	23.8 inch FHD display						
Special function	Autogenerated statistic analysis SPC Automatic search of elements and quick programming						
Power	Automatic search of elements and quick programming AC220 50/60Hz,5A						



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Rated power	520W				
Compressed Air	0.4~0.6Mpa				
Communication	SMEMA				
Weight	780Kg	890Kg			
Dimension	L1125*W1160*H1340mm	L1125*W1410*H1340mm			

Dimension:



* I.C.T keeps working on quality and performance, specifications and appearance may be updated without particular notice.

Thanks for choosing I.C.T. I.C.T looks forward to win-win cooperation. Thanks.

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