

OPTICAL AND IMAGING SYSTEM

1 Top View Camera	XGA 3CCD color camera (1024 x 768)
4 Angled View Cameras	XGA mono camera (1024 x 768)
Lighting	Multi-segment, multi-angle LED, RGB+W
Optical Resolution	10, 15, 20, 25µm
Imaging Method	High-speed dynamic imaging

IMAGING/INSPECTION SPEED

25µm	110 cm ² /sec
20µm	72 cm ² /sec
15µm	40 cm ² /sec
10µm	18 cm ² /sec

PRE-/POST-REFLOW INSPECTION

Component Defects	Missing, tombstone, billboard, polarity and shift
Solder Joint Defects	Insufficient/excess solder and bridge

X-Y TABLE AND CONTROL

High Precision Ball Screw/Servo Motor with DSP-based motion controller	
X, Y Axis Resolution	1µm

PCB AND DIMENSION

Max. PCB Size	TR7500	510 x 460mm
	TR7500L	660 x 610mm
Max. PCB Thickness	4mm	
PCB Carrier/Fixing	Motor driven/clamping	
Clearance	Top	50mm
	Bottom	50mm
	Edge	3.5mm
Weight	TR7500	850kg
	TR7500L	985kg
Dimensions	TR7500	(W) 1220mm x (D) 1480mm x (H) 2085mm
	TR7500L	(W) 1370mm x (D) 1570mm x (H) 2111mm
Power Supply	220V AC/15A, single phase	
Optional Solutions	OCR, OCV, coaxial lighting, barcode system, off-line editor, repair station, SPC software and yield management system (YMS)	



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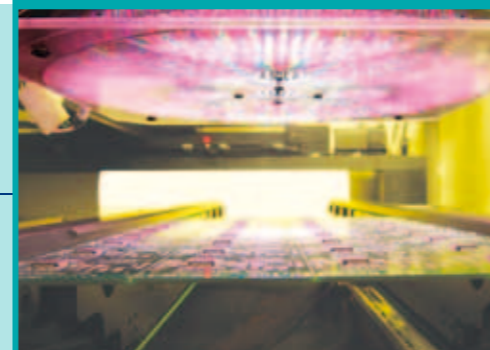
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T R 7 5 0 0 A O I



- ULTRA-HIGH-SPEED IN-LINE AOI SYSTEM
- TOP-VIEW DIGITAL 3CCD FULL COLOR CAMERA + 4 ANGLED CAMERAS FOR THE MOST COMPLETE AOI COVERAGE
- RGB+W MULTI-ANGLE LIGHTING CONTROL
- 01005 COMPONENT/12 MIL FINE-PITCH READY
- DESIGNED FOR LEAD-FREE AND LEGACY PCB ASSEMBLIES
- PRE-/POST-REFLOW COLOR AOI OPTIMAL SOLUTION



A NEW AOI SYSTEM FOR A NEW GENERATION OF SMT



BEST THROUGHPUT FOR INLINE PRODUCTION

Dynamic imaging technology provides vibration-free imaging of a PCB with high throughput. Inspection speed can be reduced to as little as 14 seconds for a medium-sized board (@25µm, excluding locating fiducial marks and loading time). It is also safe for pre-reflow inspection.

HIGH RESOLUTION IMAGING SYSTEM

The new 3CCD multiple color and monochrome camera system (top and angled views) and range optical resolutions (10, 15, 20, and 25µm) enable the TR7500 to capture up to 250 frames/sec of standard XGA format images (1024 x 768 pixels). Four angled cameras provide high accuracy for solder joint and lifted lead inspection. With an ultra-high resolution of 10µm, small components such as 01005 chips can be easily inspected.

MODULARIZED CONTROL SYSTEM

The precision X-Y table, conveyor system, image acquisition, lighting system and the host PC are all independent modules to allow for easy diagnostics and system maintenance.

ADVANCED COLOR LIGHTING

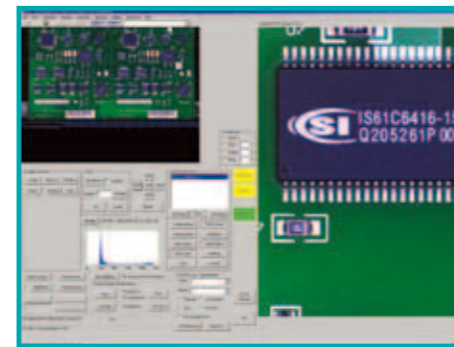
The new RGB+W lighting control and the color imaging system instantly provide operators with easier visual verification of real images. The advanced color lighting system significantly improves 3D solder fillet reconstruction, providing more accurate inspection results for solder fillet on small components such as 01005 and fine pitch leads.

EASY PROGRAMMING ENVIRONMENT

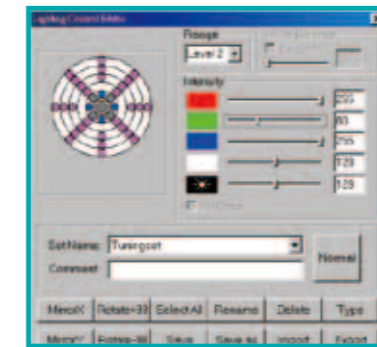
- Programming is easily accomplished by using the data from a CAD file directly. The only mandatory data fields are component name, package type, X-position, Y-position, and rotation angle.
- PCBs with special layouts also can be easily edited.
- TRI provides a standard model library for most of the main component types and they are presented graphically for ease of use. This can greatly reduce the time spent creating inspection boxes and setting parameters.
- Accurate warp compensation and a multi-fiducial finding algorithm ensure the correct positioning of the inspection windows, leading to accurate, repeatable defect detection.



Built-in Model Library Function



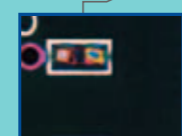
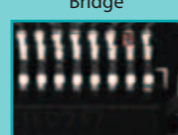
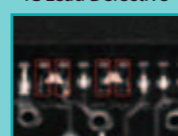
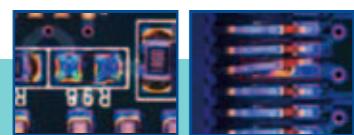
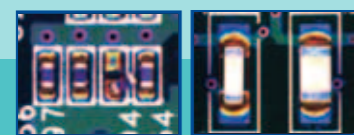
Color board view for better image clarity



Graphical lighting control editor

Top View (color)

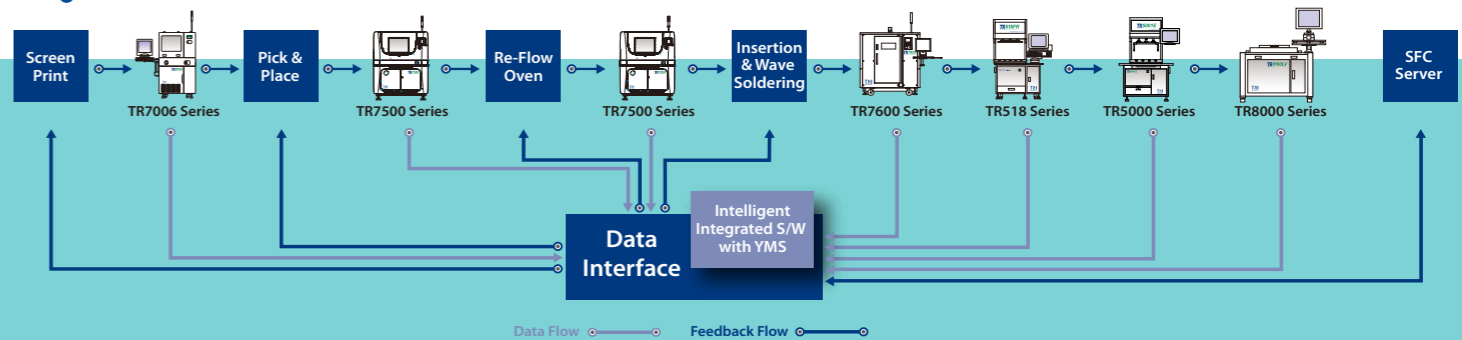
Angle View (mono)



YIELD MANAGEMENT SYSTEM *

- Testers enable process capability control
- Real time defect information integration and analysis
- Defect knowledge management

* Optional



Open

OPTICAL AND IMAGING SYSTEM

1 Top View Camera	3CCD Color camera
4 Angled View Cameras	Mono camera
Lighting	Multi-segment, multi-angled LED, RGB+W
Resolution	10, 12 or 15µm (Factory Setting)
Imaging Method	High-speed, Dynamic Imaging

IMAGING/INSPECTION SPEED

15µm	93 cm ² /sec
12µm	69 cm ² /sec
10µm	44 cm ² /sec

PRE-/POST-REFLOW INSPECTION FUNCTIONS

Component	Missing, Tombstone, Billboard, Polarity, Shift
Solder Joint	Insufficient/excess solder, Bridge

X-Y TABLE AND CONTROL

High Precision Ball Screw/Servo Motor with DSP-based Motion Controller
 X,Y Axis Resolution 1µm

PCB AND DIMENSION

Max. PCB Size	TR7500 SII	510 x 460mm
	TR7500L SII	660 x 610mm
Max. PCB Thickness	4mm	
PCB Carrier/Fixing	Motor driven and clamping	
Clearance	Top	50mm
	Bottom	50mm
	Edge	3.5mm
Weight	TR7500 SII	850kg
	TR7500L SII	985kg
Dimensions	TR7500 SII	(W) 1220mm x (D) 1480mm x (H) 1575mm *Not including signal tower, signal tower height:510mm
	TR7500L SII	(W) 1370mm x (D) 1570mm x (H) 1601mm * Not including signal tower, signal tower height:510mm
Power Requirement	200-240V Single phase, 50/60Hz 3KVA	
Options	OCR, OCV, Coaxial Lighting, Barcode System, Offline Editor, Repair Station, SPC Software, YMS System	



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- IMPROVED PERFORMANCE
- TOP-VIEW DIGITAL 3CCD FULL COLOR CAMERA + 4 ANGLED CAMERAS THE MOST COMPLETE AOI COVERAGE
- RGB+W, MULTI-ANGLE, MULTI-SEGMENT CONTROL LED LIGHTING
- FINE-PITCH/01005 COMPONENT READY



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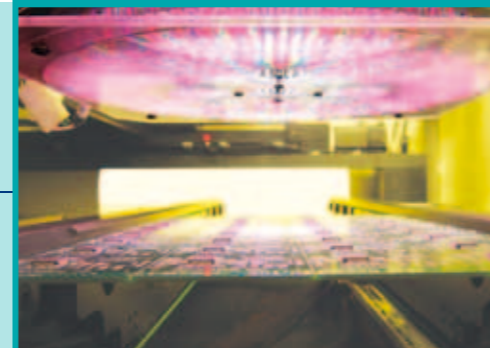
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A NEW AOI SYSTEM FOR THE NEW SMT GENERATION



BEST THROUGHPUT FOR INLINE PRODUCTION

Dynamic Imaging technology provides vibration-free imaging of PCBs with high throughput. With inspection speeds reduced to as short as 16 seconds for medium-sized PCB at 15 μm, the TR7500 S11 is twice as fast as the original system. It is also safe for pre-reflow inspection.

HIGH RESOLUTION IMAGING SYSTEM

The new 3CCD multiple color and monochrome camera system (top and angle views) and the optical resolution (10, 12, and 15 μm) enable the TR7500 S11 to capture clear and large format images. Four angled cameras provide high accuracy inspection of solder joints and lifted leads. By offering a 10 μm resolution, the TR7500 S11 is also capable of inspecting 01005 components. With the ultra-high resolution of 10 μm, small components such as 01005 chips can be easily checked.

MODULARIZED CONTROL SYSTEM

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ADVANCED COLOR LIGHTING

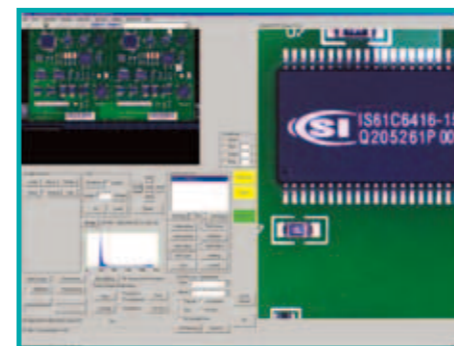
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Graphical lighting control editor

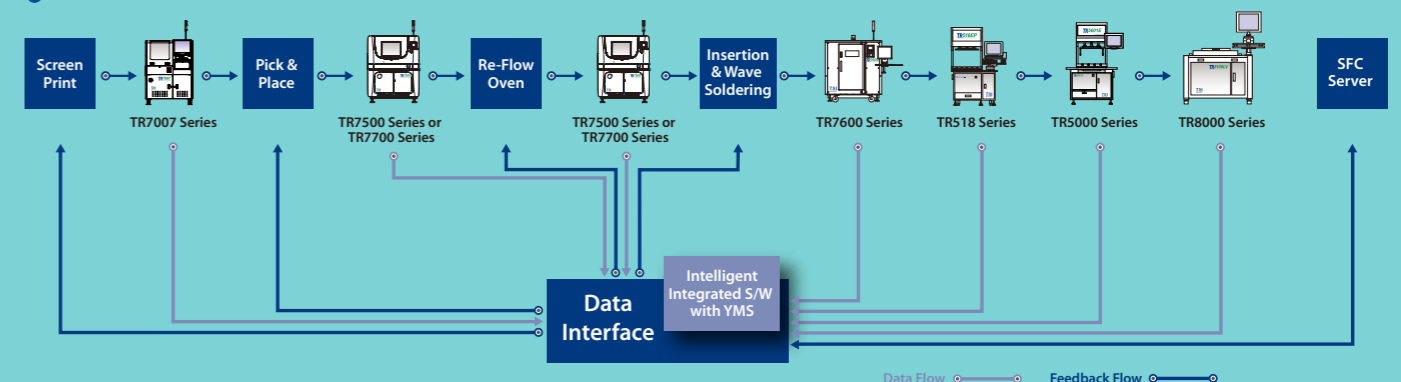
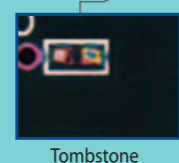
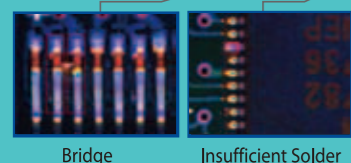
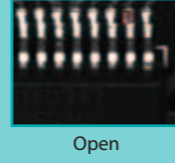
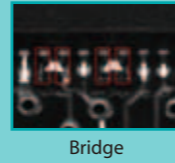
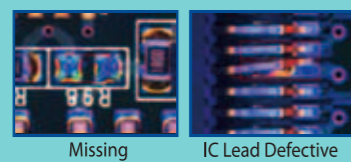
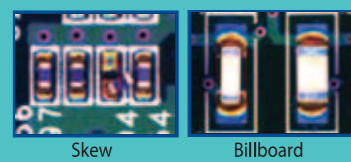
YIELD MANAGEMENT SYSTEM *

- Testers enable process capability control
- Real time defect information integration and analysis
- Defect knowledge management

* Optional

Top View (color)

Angle View (mono)



Data Flow Feedback Flow