

High Speed
Model

3D AXI

AUTOMATED X-RAY INSPECTION

TR7600 SIII SERIES



Ultra-High Speed
3D CT X-Ray Inspection



Ultimate Resolution AXI
for Large Boards



Smart Programming with
Robust Algorithms

1200 x 660
mm mm
Large Board
Support

High Speed
Inspection

Smart Factory
Ready

TRI
innovation

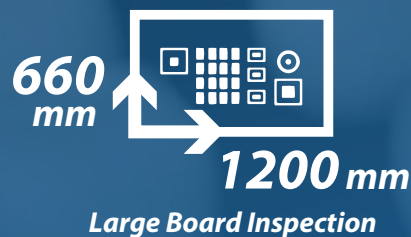


TR7600 SIII SERIES



High Performance 3D AXI for Large PCB Assemblies

The TR7600 SIII series is TRI's hallmark inline line scan 3D AXI, with CT capabilities specialized, designed for the inspection of larger board sizes, up to 1200 mm x 660 mm. The TR7600 SIII series delivers industry's fastest high resolution imaging performance and great image quality in the industry's most advanced automatic X-ray inspection.

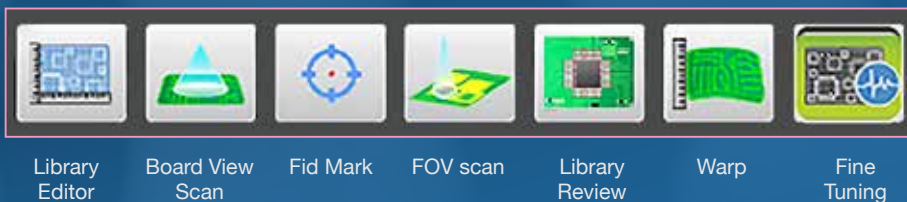


A perfect fit for multiple industries.



Smart Programming

The new 3D AXI intuitive software helps set up inspection programs based on CAD data. The TR7600 SIII series is equipped with TRI's extensive smart component library, reducing engineer workload and minimizing production downtime.



High Resolution Design for Maximum Defect Detection

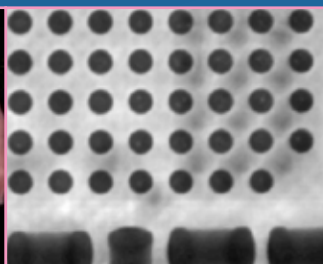
The TR7600 SIII series enhanced 3D inspection with planar CT imaging can recreate a complete 3D model of each solder joint, enabling clear analysis of shape irregularities, head-in pillow and voiding problems. Vertical cross-section CT images help with reliable visual review of borderline and buried solder joints.



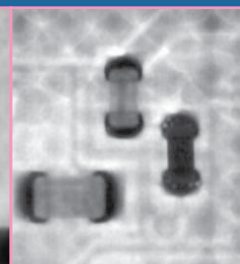
BGA short / open 3D CT Inspection



THT 3D CT Inspection



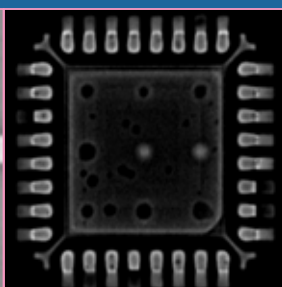
PoP soldering Inspection



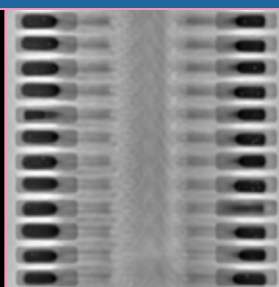
Chip Inspection



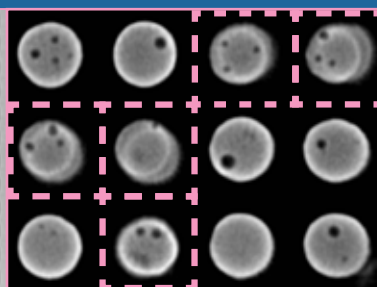
Void Inspection of LED



QFN 3D CT Inspection



DIMM Connector Inspection



BGA HiP Defect

Board Warpage Control

The AXI solution uses multiple laser sensors to measure PCB assembly deformations and adjusts component inspection parameters to compensate for the board warpage.



Top of the Line Repair Station

The AXI repair station collects a wide range of inspection data and offers statistical feedback that enhances the efficiency of the inspection process.

Defect Viewer

Top Trends

History Data

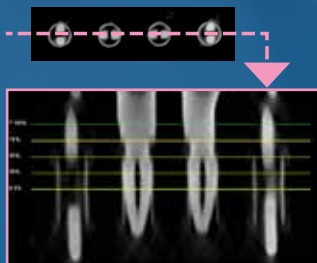
Yield Chart

Ease of Maintenance

The high-reliability robust platform and advanced automatic/scheduled calibration with detail reporting ensure ease of maintenance.



PressFit Connector Inspection



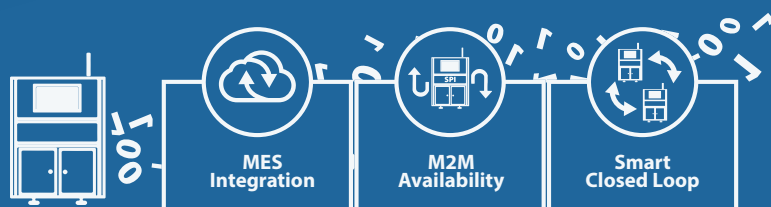
Press-fit Cross Section Inspection



Press-fit 3D CT Inspection

TRI AXI solutions can accurately inspect and detect missing, insufficient penetration and askew in press-fit connectors. The press-fit connector inspection can individually detect defects in individual slices and viewed in high detail as 3D CT images. The automotive and telecommunications industries greatly benefit from an accurate press-fit inspection as their robust boards are commonly present in them (e.g., communication servers and automotive sensors).

Big Data Ready



Boost your factory intelligence and optimize your production line by easily integrating big data analytics from your solutions. TRI's smart factory test and inspection solutions promote full traceability and data exchange, by generating big data for your MES applications, essential for optimizing your production your yield rate, enabling the connected factory.

YMS 4.0 - Smart Review System

Yield Management System (YMS) 4.0 reduce operator re-inspection with the smart review system module. The intelligent defect review module is an algorithm-based solution that offers real time reporting to improve defect management and yield rate.



Station

Algorithm Based Inspection

AOI

AXI



YMS 4.0 - Smart Monitoring

TRI's smart factory solutions allow operators to aggregate information from individual systems for statistical analysis of production line defect rates, reviewing and fine-tuning inspection results, and identifying component defect trends and emerging production issues.



Production Analysis



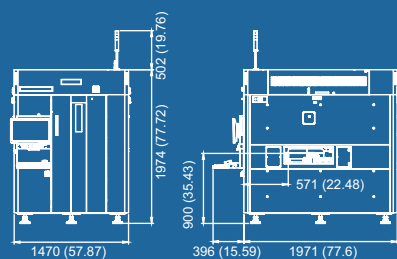
Centralized Inspection Center



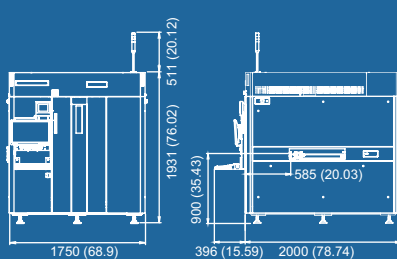
Real Time SPC Trends

Model		TR7600 SIII	TR7600LL SIII	TR7600TL SIII
Imaging System	Camera	Ultra-High Speed Line-Scan CCD Cameras (3 or 5 Units)		
	X-ray Source	130 kV Max (User Adjustable)		
	Imaging Resolution (User Selectable)	7 µm, 10 µm, 15 µm, 20 µm		10 µm, 15 µm, 20 µm, 25 µm
	Inspection Method	2D, 2.5D, 3D Slicing, Planar CT (Optional)		
Inspection Functions	Component Defects	Missing, Misalignment, Tombstone, Billboard, Tantalum Polarity, Rotation and Floating		
	Solder Joint Defects	Insufficient/Excess Solder, Bridging, Open, Solder Ball, Non-Wetting, Void and Lifted Lead		
X-Y-Z-Axis Control		High-Precision Ballscrew + AC-Servo Controller		
Max. PCB Size	Standard	520 x 520 mm (20.47 x 20.47 in.)	510 x 660 mm (20.08 x 25.98 in.)	610 x 660 mm (24.02 x 25.98 in.)
	2 Stages	900 x520 mm (35.43 x 20.47 in.)	1000 x 660 mm (39.37 x 25.98 in.)	1200 x 660 mm (47.24 x 25.98 in.)
PCB Thickness		0.6 - 7 mm (0.02 - 0.28 in.)		
PCB Transport Height		880 - 920 mm (34.65 -36.22 in.)		
Max PCB Weight		12 kg (26.46 lb)		
PCB Carrier / Fixing		Step Motor Driven / Pneumatic Clamping		
Clearance	Top	25 µm	N/A	
		20 µm	50 mm (1.97 in.)	
		15 µm	30 mm (1.18 in.)	
		10 µm	15 mm (0.59 in.)	
		7 µm	7 mm (0.28 in.)	
		25 µm	N/A	
		20 µm	70 mm (2.76 in.)	
		15 µm	70 mm (2.76 in.)	
	Bottom	10 µm	70 mm (2.76 in.)	
		7 µm	70 mm (2.76 in.)	
		Edge	3 mm (0.12 in.) or 5 mm (0.2 in.)	
Weight	3850 kg (8487.8 lb)		4500 kg (9920.8 lb)	4750 kg (10,471.96 lb)
Power Requirement	200 - 240 VAC single phase, 50/60 Hz, 4 kVA		200 – 240 VAC, Three Phase, 50 / 60 Hz, 7 kVA. Optional: 346 – 416 VAC Three Phase Transformer	
Air Requirement	72 psi – 87 psi (5 – 6 bar)			
Optional Features	Barcode Scanner, Repair Station, Offline Editor, Yield Management System (YMS 4.0), CAD Converter and CT Imaging			

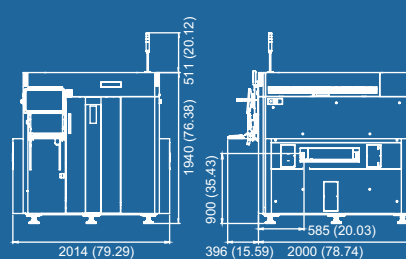
Unit: mm (in.)



TR7600 SIII



TR7600LL SIII



TR7600TL SIII

Global Network

Shenzhen, China shenzhen@cn.tri.com.tw
Suzhou, China suzhou@cn.tri.com.tw
Shanghai, China shanghai@cn.tri.com.tw
San Jose, USA triusa@tri.com.tw
Nuremberg, Germany trieuropa@tri.com.tw

Tokyo, Japan trijp@tri.com.tw
Ansan, Korea trikr@tri.com.tw
Penang, Malaysia trimy@tri.com.tw
Bac Ninh, Vietnam trivn@tri.com.tw

HEADQUARTERS

7F., No.45, Dexing West Rd., Shilin Dist.,
 Taipei City 11158, Taiwan
 ☎ +886-2-2832-8918 ✉ Sales@tri.com.tw

TRI 德律 TRI INNOVATION

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