

# Color 3D SPI TROI-7700E Series

3D Inline Solder Paste Inspection System



## Technology and Features

### Dual Projection

Combination of 2D & 3D inspection eliminates common shadow problem with SPI systems.

### 64 bit Windows 7 Operation System

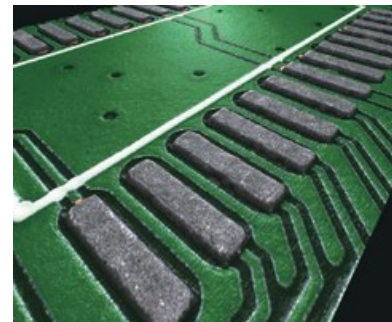
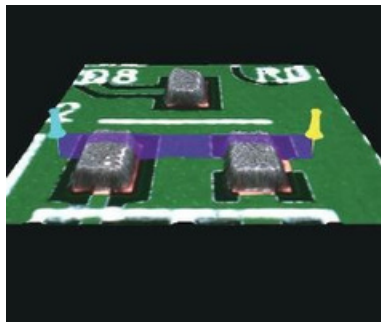
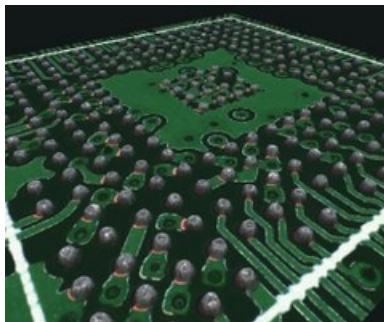
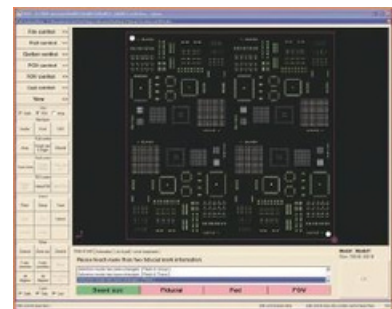
Fast & Stable Operating System for high density PCB.

### User Friendly Graphical Interface

Self-developed Gerber Editor controls the main functions on one page which means it's eliminating the effort of switching between multiple screens. It is also possible to register or edit the data quickly and easily by any users.

### Color 3D SPI

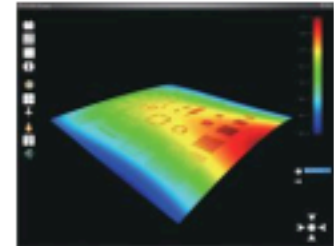
Conventional SPI methods could only calculate heights above silk print levels, but by using patented color enhancing algorithm TROI™ could overcome these problems. In addition, a fully rotational 3D view of the solder form is displayed. This enables users to view a "life like" image of the pad eliminating the need to extract the board from the line to view the defect under a microscope.



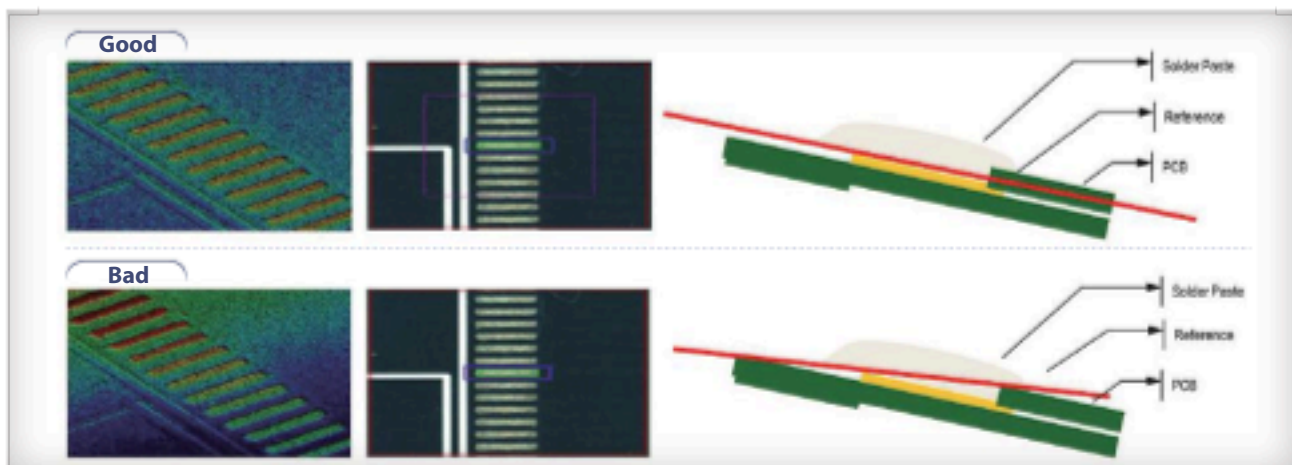
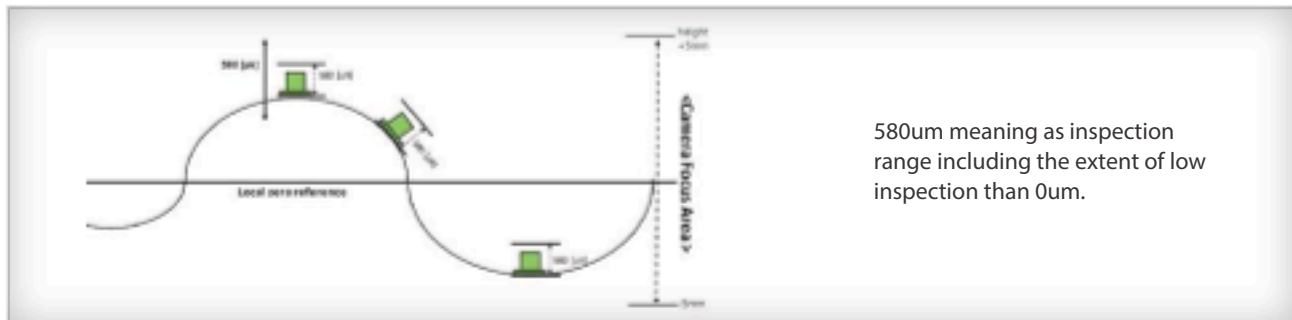
## Warpage compensation

Wider range of reference point search area prevents less deviation of recognizing a zero reference point.

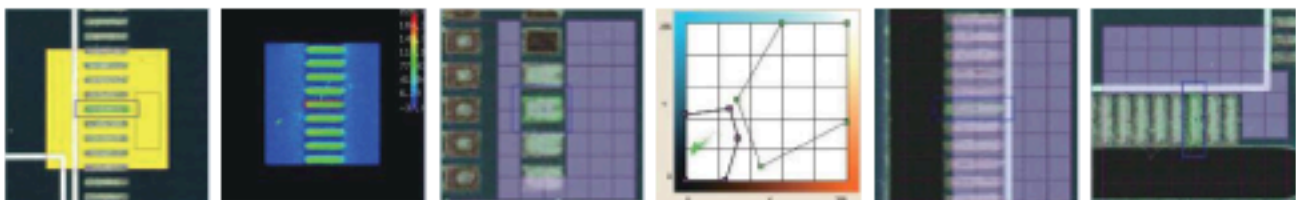
- Accurate height calculation
- Compare other pads within ROI
- Better repeatability



Inspection Sequence

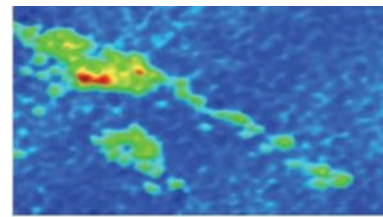
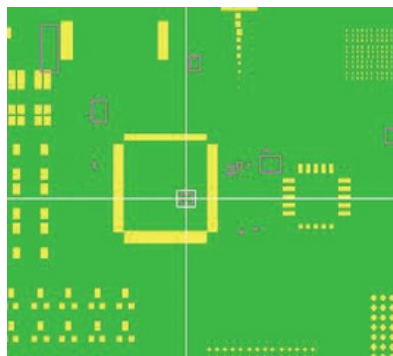


The exact floor measurement and automation capabilities



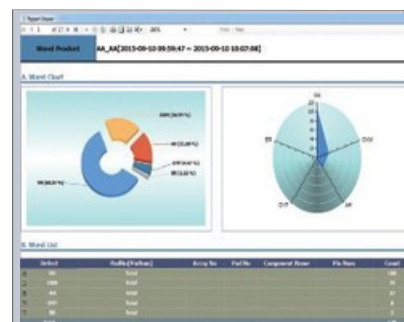
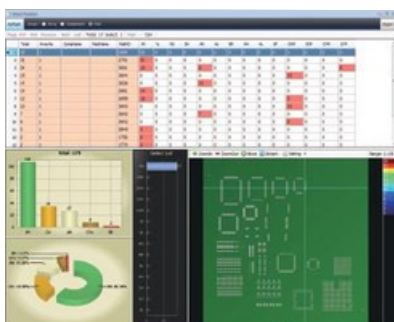
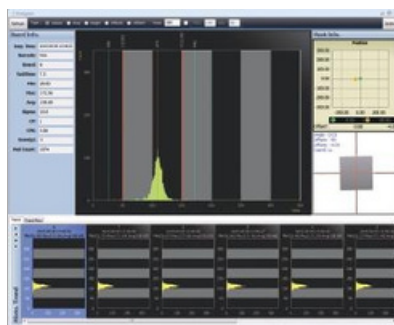
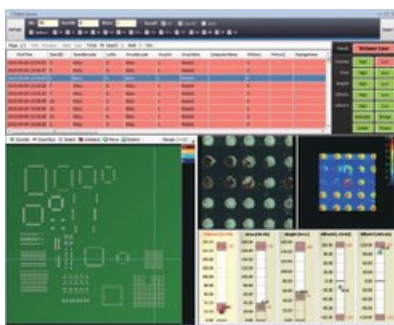
## Foreign Object Inspection

Regardless of any PCB color, PEMTRON color X&Y is able to distinguish accurately between the foreign object and PCB



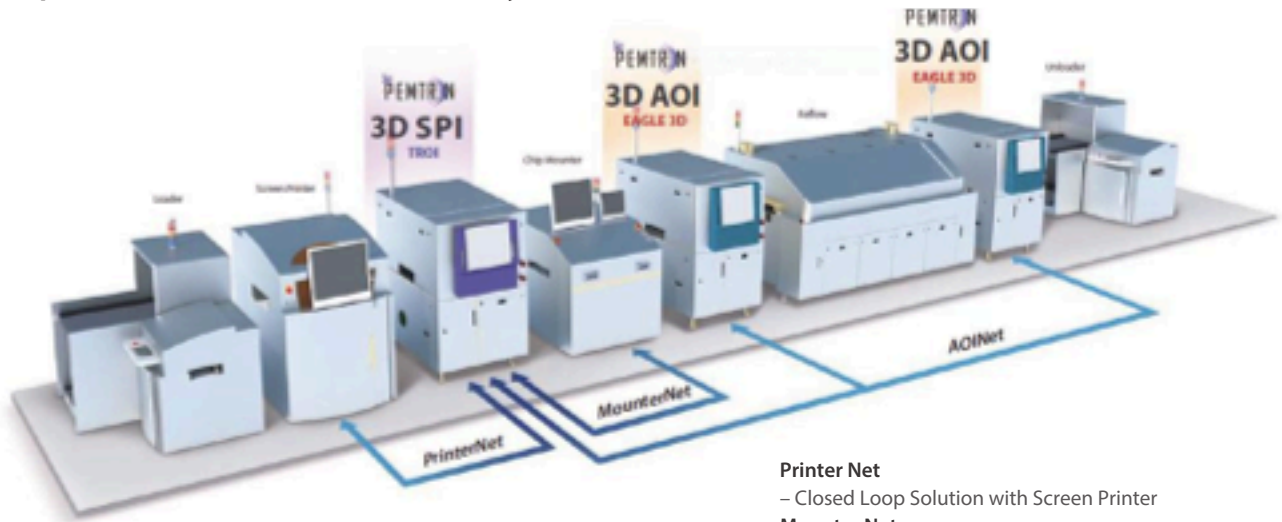
## Enhanced SPC System

SPC system analyses the defective data and controls the process problems or the production rate at a look. SPC data can be saved in a various file format such as HTML, Excel, Image and etc as users like. Also with the enhanced SPC server function, data from multiple lanes can be controlled together or individually.



# Real Time Process and Quality Control Solution

## Inspection Result Information Auto Sync.



**Printer Net**

– Closed Loop Solution with Screen Printer

**Mounter Net**

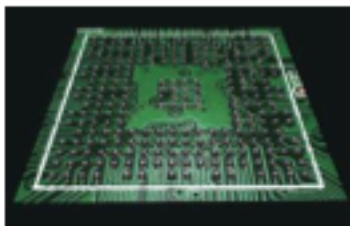
– Closed Loop Solution with Mounter

\* Bad Mark Mounter Sync and Adaptive Process Control

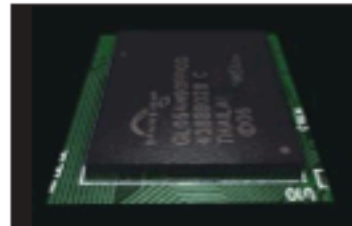
**TROI SPI & EAGLE 3D AOI closed loop function**

- Real time defect confirm

Printer  
Auto Sync  
Printing QC



SPI Pad



AOI Part

Repair  
Station  
Production QC

## Inspection Result Information Auto Sync.



# TROI™ Series (Solder Paste Inspection System)

## SPECIFICATIONS

Model	TROI-7700E	TROI-7700EL	
2D/3D Vision Algorithm	2D : Vision Inspection Algorithm 3D : PMP (Phase Measuring Profilometry) Algorithm		
Measurements	Volume, Height, XY Position, Area		
Detection Types	Insufficient Paste, Excessive Paste, Shape Deformity No Paste, Bridge 2D&3D, Paste Displacement		
X/Y Pixel Resolution	10 μm	15 μm	18 μm
Inspection Speed	12.8 cm <sup>2</sup> /sec	30.7 cm <sup>2</sup> /sec	42.8 cm <sup>2</sup> /sec
FOV (Field of View)	20.5 x 20.5 mm	30.7 x 30.7 mm	36 x 36 mm
Height Range / Resolution	0 ~ 450 μm / 0.4 μm		
Height Repeatability	±1% (3σ)*		
Volume Repeatability	±1% (3σ)*		
Height Accuracy	2 μm*		
Max. PCB Warp	±5 mm		
Gage R&R	< 10%*		
Ball screw	±10 μm		
	Accuracy		
PCB Specification	Working Area	Min. 50x50mm (2x2inch) Max. 330x330mm (13x13inch)	Min. 50x50mm (2x2inch) Max. 510x510mm (20x20inch)
	PCB Thickness	0.4 – 7.0 mm	
	Bottom Clearance	27mm	
	Electrical Requirements	200 – 240 VAC, 50/60 Hz	
Installation Requirement	Air Requirement	5 Kgf/cm <sup>2</sup>	
	Power Consumption	Standard Type 3kW (14.0A Max @ 220V AC)	6.5kW (23.0A Max @ 220V AC)
		Large Type 4.5kW (30.0A Max @ 220V AC)	7kW (25.0A Max @ 220V AC)
Control Unit Operating	Control Method	PC Based Control (Windows 7, 64bit)	
	Monitor	24" LED Panel	
	Operating Temperature	20 - 30 °C (68 – 86 °F)	
Machine Dimension Options	W x D X H	990 x 1660 x 1550mm (39 x 65 x 61 inch)	1190X1800X1550mm (47X71X61 inch)
	/ Weight	/ About 700kg (1543 lbs)	/ About 850kg (1873 lbs)
	Barcode Reader (1D&2D) / Touch Panel / UPS (uninterrupted power supply) / Close Loop / Bad Mark Sync		

\* Specifications subject to change without notice.



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