3D SPI (Solder Paste Inspection System)

PEMTRON
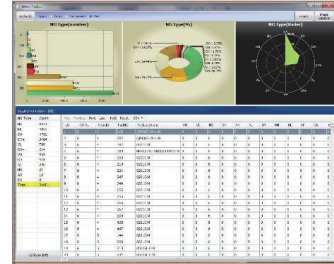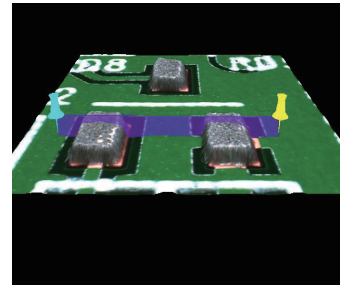
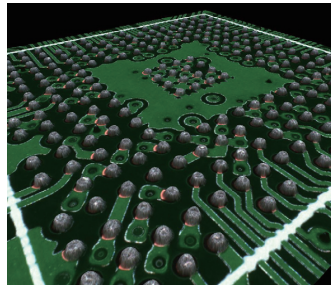| Model	TROI-7700H		TROI-7700HD
2D/3D Vision Algorithm	2D : Vision Inspection Algorithm 3D : PMP (Phase Measuring Profilometry) Algorithm		
Measurements	Volume, Height, XY Position, Area		
Detection Types	Insufficient Paste, Excessive Paste, Shape Deformity No Paste, Bridge 2D&3D, Paste Displacement		
X/Y Pixel Resolution	10 μm	15 μm	18 μm
Inspection Speed	16 ㎠/sec	38.4 ㎠/sec	53.5 ㎠/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%*		
Linear Motor — Accuracy	±3μm (Linear Motor)		

PCB Specification

			TROI-7700H	TROI-7700HD
Working Area	Standard Type		Min. 50x50mm (2x2inch) Max. 330x330mm (13x13inch)	Single: Min. 50x50mm (2x2inch) Max. 330x500mm (13x20inch)
				Dual: Max. 330X280mm(13X11inch)
	Large Type		Min.50x50mm (2x2inch) Max. 510x510mm (20x20inch)	Single: Min. 50x50mm (2x2inch) Max. 510x600mm (20x24inch)
				Dual: Max. 510x330mm (20x13inch)
PCB Thickness			0.4 – 7.0 mm	
Bottom Clearance			27mm	

TROI-7700E Series
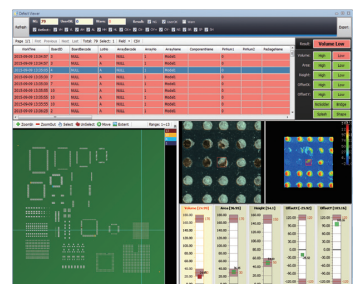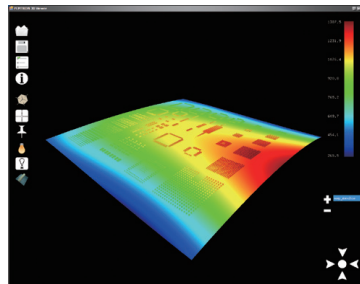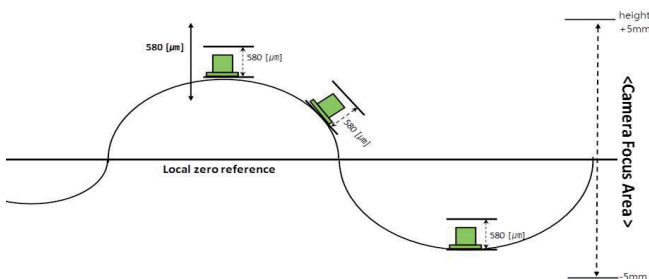
Technology and Features

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.
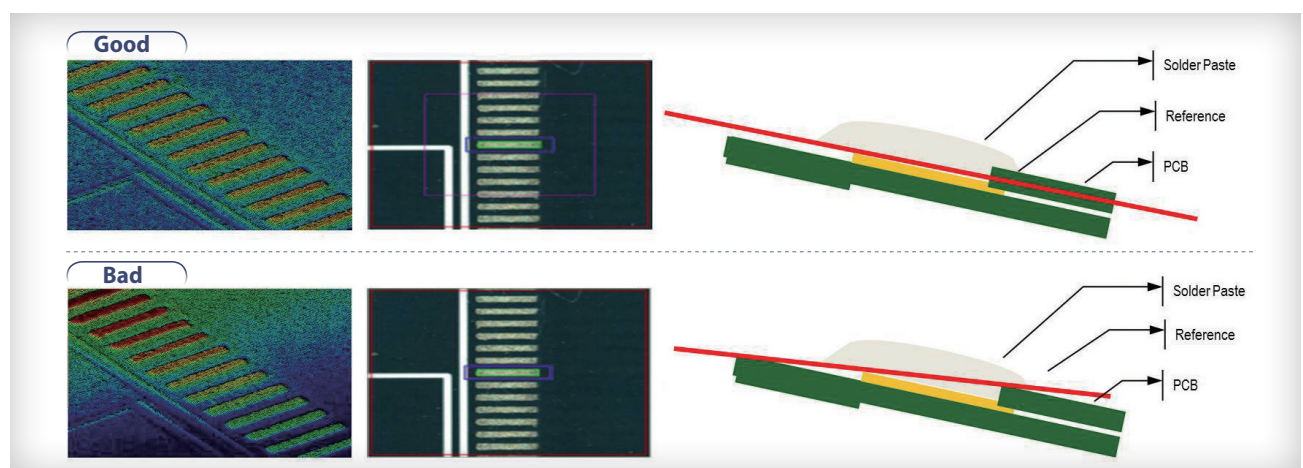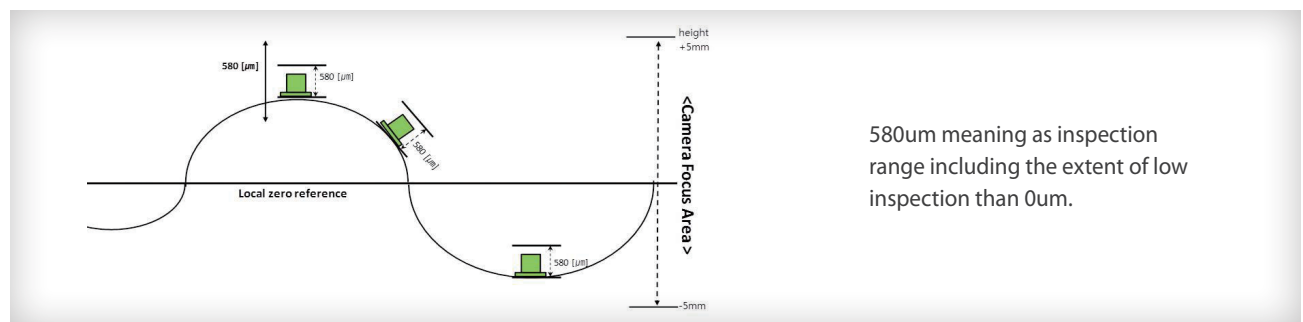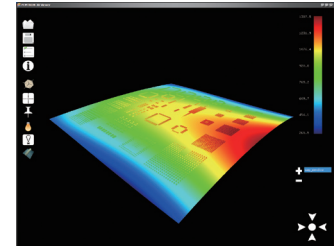In addition, a fully rotational 3D view of the solder form is displayed. This enables users to view a "life like' image of the pad eliminating the need to extract the board from the line to view the defect under a microscope.
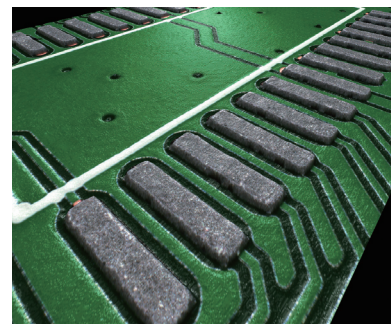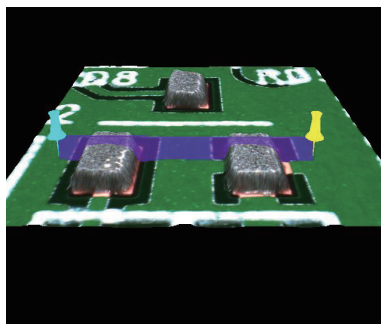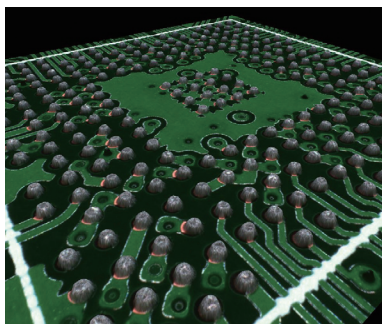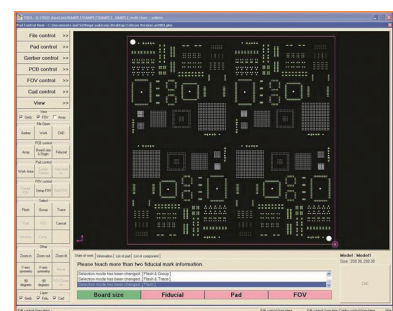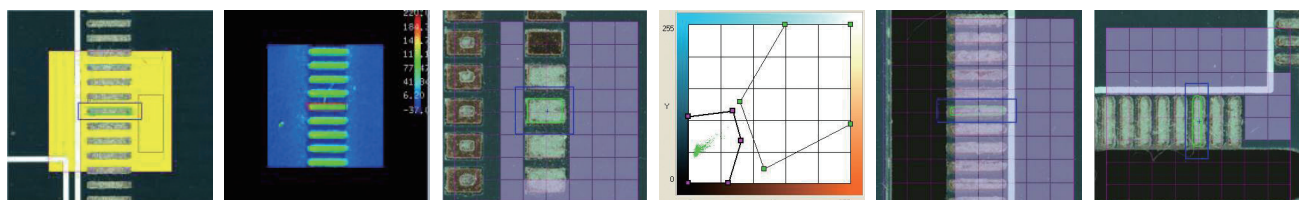
Warpage compensation

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

| 2D Full Color Inspection | → | Warpage Calculation (Laser) | → | 3D Inspection | → | Coordinate & Warpage Compensation |

Inspection Sequence

580um meaning as inspection range including the extent of low inspection than 0um.

Good

Solder Paste
Reference
PCB

Bad
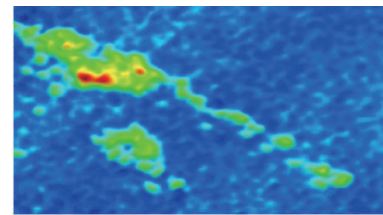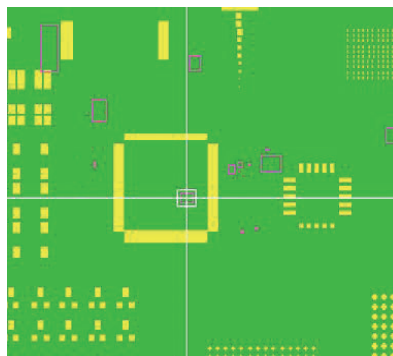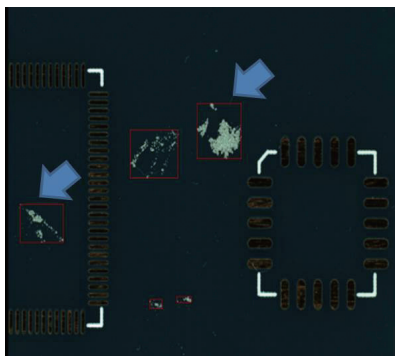
Solder Paste
Reference
PCB

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
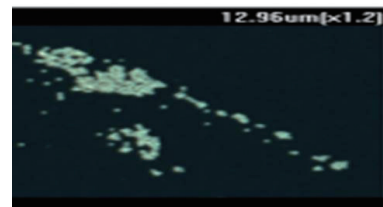
Enhanced SPC System

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.