

# COLOR 3D SPI

# *SATURN*

3D Inline Solder Paste Inspection System



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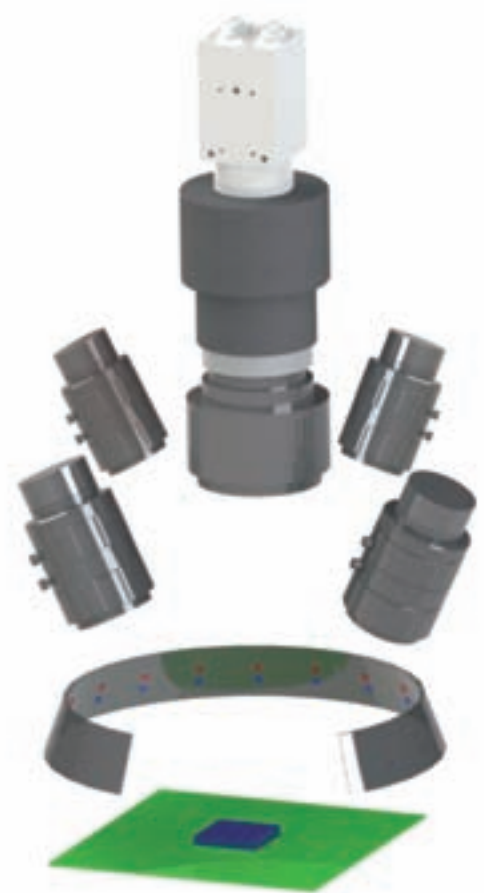
## Technology and Features

PEMTRON SATURN machine is new head type has been upgraded from the existing head for 3D formation that is identical to the real image and more stable based on the accumulated technology for decades.

### Dual(2) & Quad(4) Projection

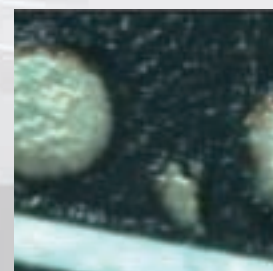
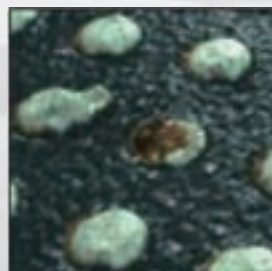
Combing 2D & 3D inspection and adding two more projections, quad projection, eliminate more shadow effect with SPI systems.

1. Convenient Maintenance, Concise Assembly and Setting
2. More Precise 3D  
Existed: 2way-> Upgraded: 4way, Additional Projection  
=> 3D Formation Same as Real Image
3. Improved Repeatability  
=> Accurate 3D makes repeatability more reliable.
4. More stable and accurate 3D realization by installing additional projectors  
SPI: 2way -> 4way
5. The new head is also possible to inspect 2mm height for glue inspection
6. Change to Module Format  
- Easy and Fast Replacement and Maintenance.



### Real Color 3D

By combining 2D color images with 3D measurement data, 3D color images are implemented to provide convenience to the operator and dramatically improve accuracy during inspection.



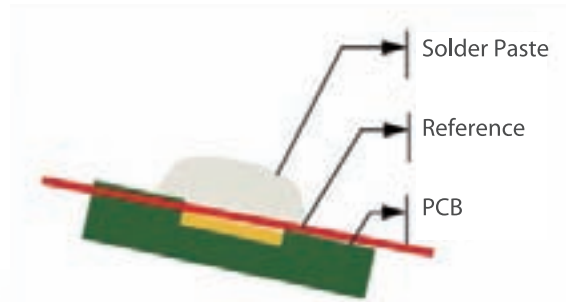
## Warpage compensation

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

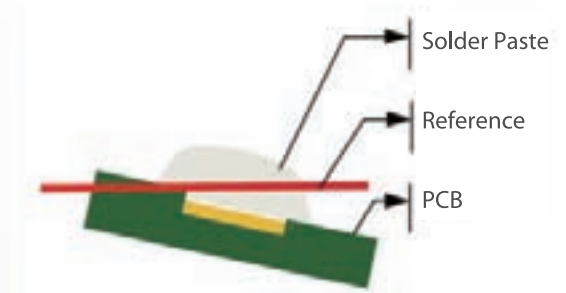
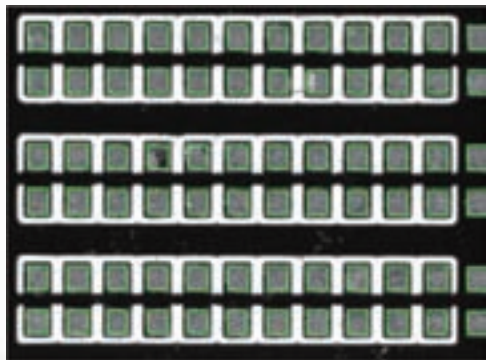
- Accurate height calculation
- Compare other pads within ROI
- Better repeatability



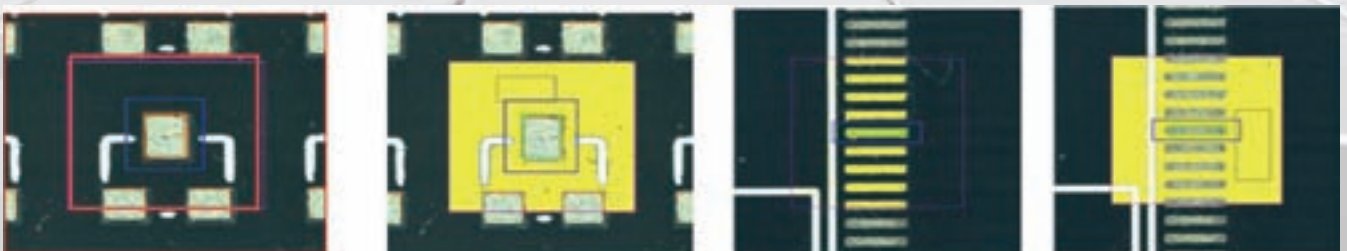
**Bad**



**Good**

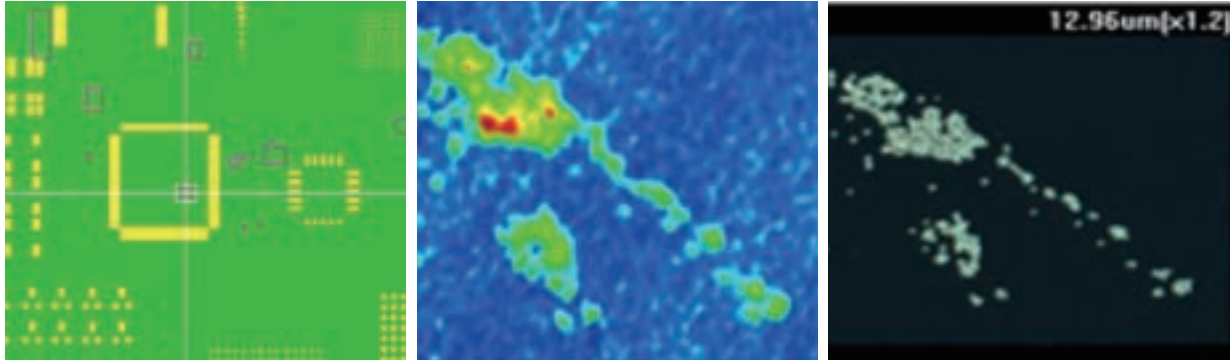


## The exact floor measurement and automation capabilities



## Foreign Object Inspection

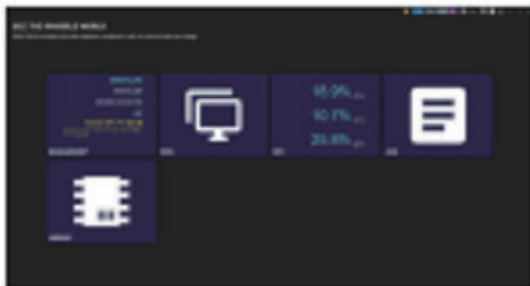
Regardless of any PCB color, PEMTRON color X&Y is able to distinguish accurately between the foreign object and PCB



## SMARTRON(remote control and WEB control)

### RMS(remote Monitoring System)Menu

- Statistic Chart, Process Chart, Alarm History
- Remote View function PC remote control function



- ✓ Provide basic information of registered systems
- ✓ Provide all registered systems Yield, Worst, False calls, Product, Runtime.
- ✓ Provide the Remote in feature to clear alarm with RMS
- ✓ Real Time monitoring
- ✓ Provide remote in feature for multiple systems
- ✓ Possible to monitoring 36 systems
- ✓ Link-SPI-MOI-AOI Linkage
- ✓ Review - SPI Confirm
- ✓ Provide basic information such as production amount, Model, Passrate of registered systems

# Real Time Process and Quality Control Solutions

Inspection Result Information Auto Sync.

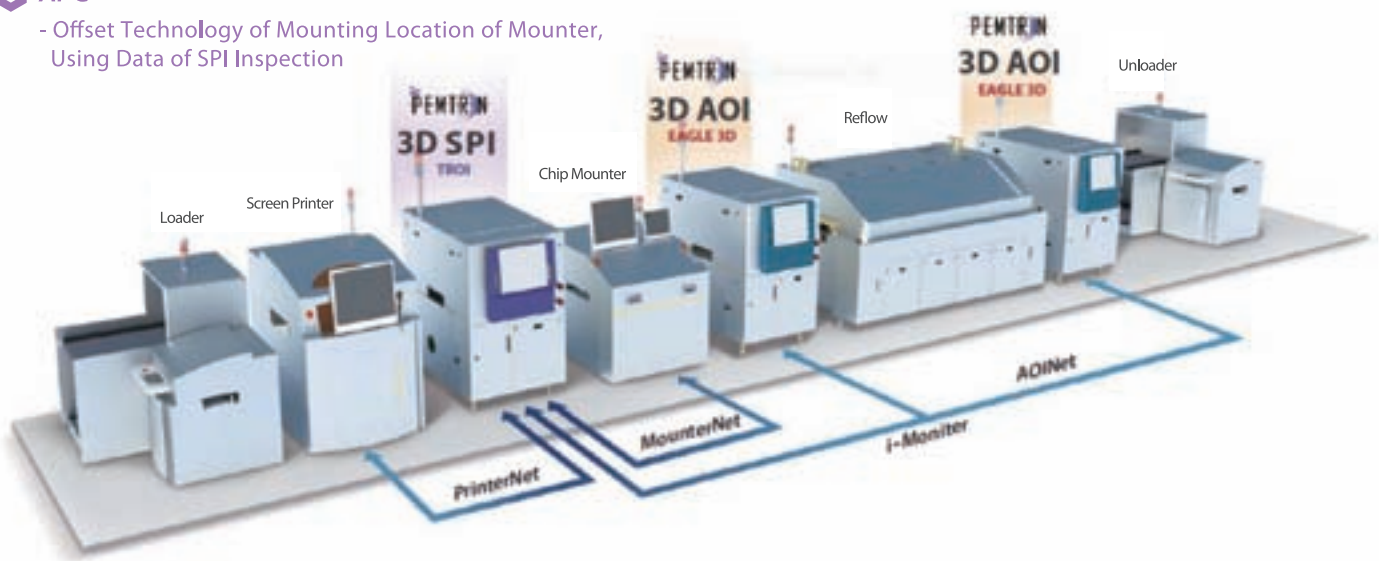
**Printer Net**  
- Closed Loop Solution with Screen Printer

**Mounter Net**  
- Closed Loop Solution with Mounter  
- Bad Mark Mounter Sync and Adaptive Process Control

**APC**  
- Offset Technology of Mounting Location of Mounter,  
Using Data of SPI Inspection

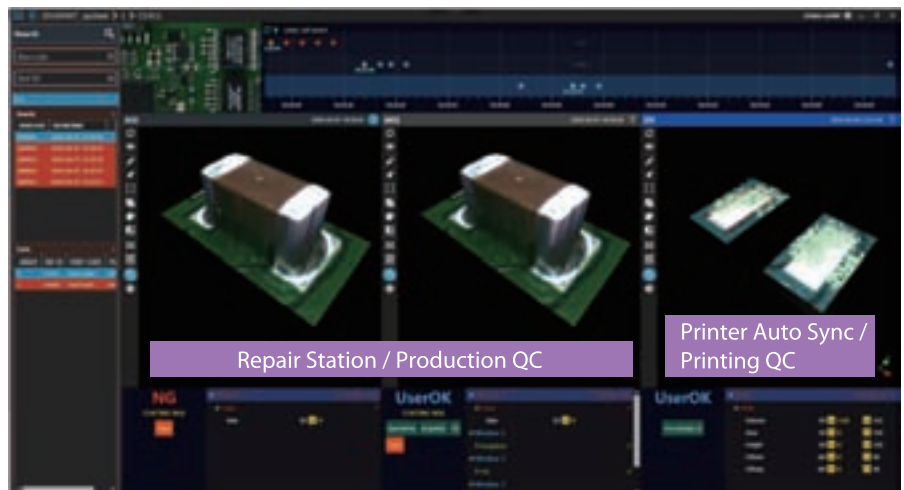
**PEMTRON SPI & AOI Closed Loop Function**  
- Real time defect confirm

**i-Monitor**  
- Control a maximum of twelve on one monitor

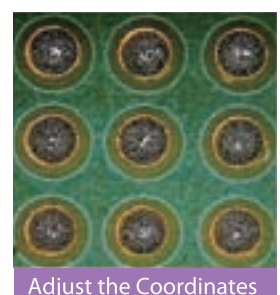
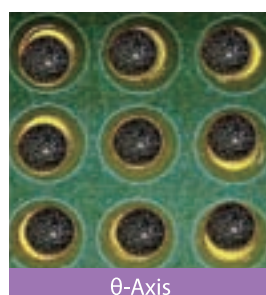


## SPI & AOI Linkage

- Repair Station /Production QC
- Printer Auto Sync/ Printing QC



## Inspection Result Information Auto Sync.

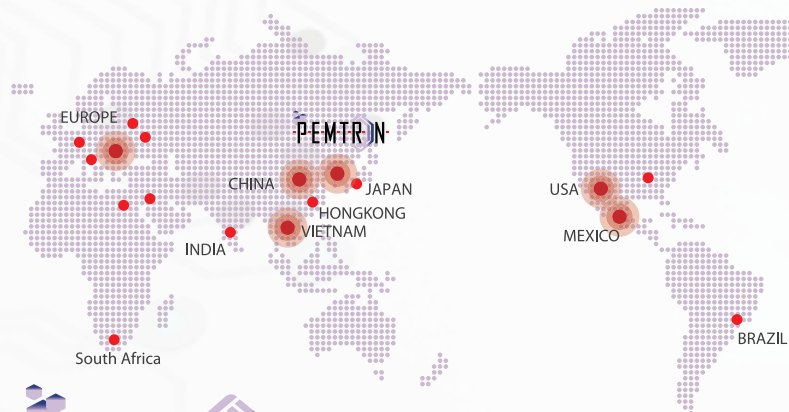
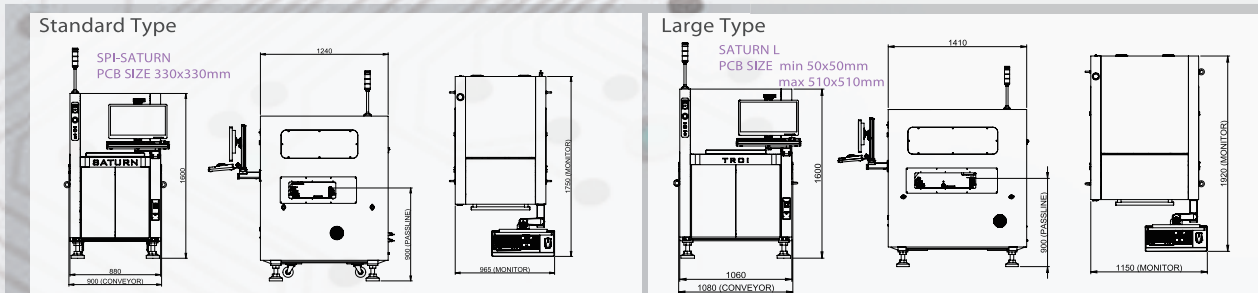


# SATURN 3D Inline Solder Paste Inspection System

## SPECIFICATIONS

\* Specifications subject to change without notice.

Model		SATURN				
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		4MP 10MP				
		10 $\mu$ m	15 $\mu$ m	18 $\mu$ m	10 $\mu$ m	15 $\mu$ m
Inspection Speed		15 cm <sup>2</sup> /sec	35 cm <sup>2</sup> /sec	49 cm <sup>2</sup> /sec	38.4 cm <sup>2</sup> /sec	86.4 cm <sup>2</sup> /sec
FOV (Field of View)		20x20mm	30x30mm	36x36mm	32x30mm	48x45mm
Height Range		0.45mm (Optional: Up to 2mm)				
Height Accuracy		2 $\mu$ m*				
Gantry Type		Linear Motors				
PCB Specification	Inspection Size	Standard	Min.50x50mm (2x2inch) Max. 330x330mm (13x13inch)		Single	Min.50x50mm (2x2inch) Max. 330x500mm (13x20inch)
			Large	Min.50x50mm (2x2inch) Max. 510x510mm (20x20inch)		Dual
	PCB Thickness	0.4 - 7mm				
		Bottom Clearance	27mm			
Electrical Requirements			200-240 VAC, 50/60Hz			
Power	Standard Type	2.1kW (9.68A Max @ 220V AC)				
Consumption	Large Type	2.3kW (10.9A Max @ 220V AC)				
W x D X H / Weight	Standard Type	900 x 1240 x 1600mm( 35 x 49 x 63 inch) About 750kg( 1653lbs)				
	Large Type	1080 x 1410 x 1600mm( 42 x 55 x 63 inch) About 950kg (2094lbs)				



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