SIGMAX

SIGMAX

SIGMAX

New Generation

World Class 3D Solder Paste Inspection

PARMI

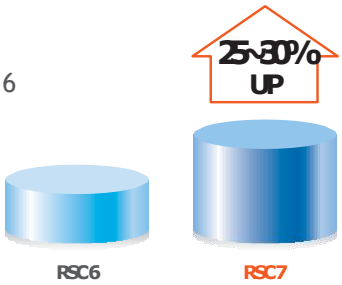
Pattern Recognition &
Machine Intelligence

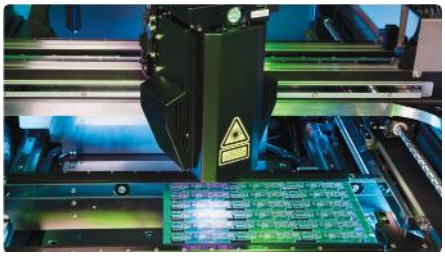
SIGMA X
New Generation

RSC7 Sensor

- Fastest Inspection speed and Highest Measurement reliability
- Inspection speed increased by 25~30% over RSC 6

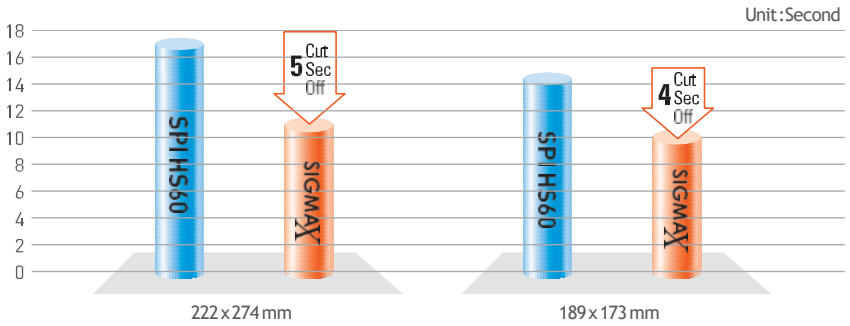
* SIGMA X Orange : 100cm²/sec @ 10x10μm
* SIGMA X Blue : 60cm²/sec @ 10x10μm





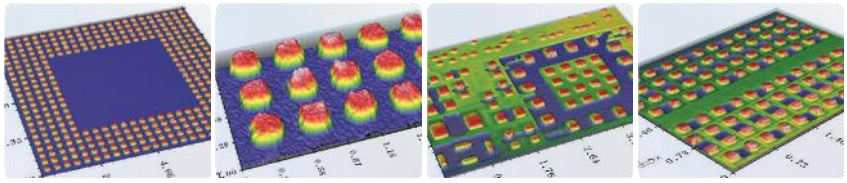
Improve Board Transfer Sequence

- Conveyor speeds up to 1000mm/sec
- Loading /Unloading time minimization
- 3~4 sec improvement compared with HS60 using the same board inspection



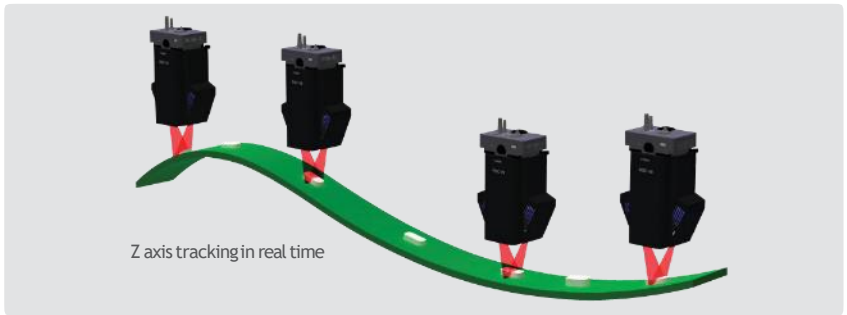
Real 3D Image

- PARMI's inspection technology is unauected by varying materials, surface conditions or colors. The system profiles the board to ge nerate accurate 3D shapes far superior to ot her brands and technologies.



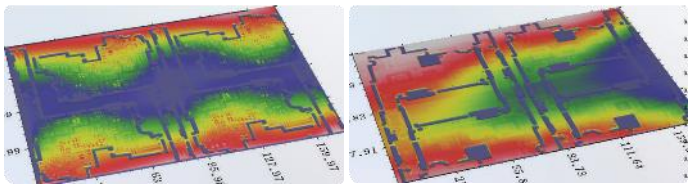
Warpage Tracking in Real Time

- The system identifies total board warpage up to 10mm(±5mm) and the exclusive Z Axis motion control system maintains optimal depth of focus while measuring Warpage.



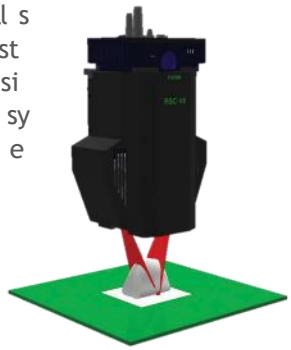
PCB Warpage Measurement

- Innovative whole board scanning uniquely delivers precise measurement of both the board surface and solder deposits.



Dual Laser Projection

- Dual laser projection eliminates all s hadowing and produces the highest level of measurement accuracy. Usi ng a high frame CMOS camera the sy stem realizes the 3D shape of the e ntire board scanning area.



PCB Stretch and Shrink Management

- Managed by comparing the board image and Gerber Data, fiducial coordinates and printed material ousets are identif ied and communicated to upstream and downstream proc esses supporting closed loop control.

Highest Quality Parts

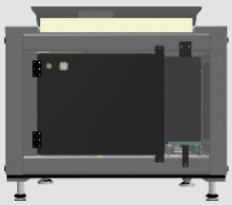
- Steel castings and linear glass encoders dampen vibration, address temperature fluctuation and provide high accuracy and repeatability.

Ultra-SLIM Footprint

- Eflcient use of the inside space of the machine.
- RSC 7 size reduced.
- Euectively increasing the inspection area and reducing the machine di mensions simultaneously.

The Most Stable Platform

- Strong X/Y Stage and base frame
- Lightweight moving parts
- Most stable and fastest, vibration free motion delivers high accuracy and r epeatability.



Electronic Components Repos itioned for Easier Access.

- Designed for front machine access p roviding quick and easy access to the operating system.
- Slide rail for PC makes you access to back-side of machine easily.

All New Cover Design

- Refined and luxurious exterior
- Simple monitor console.
- Most external switches are eliminated.

Main Inspection Program (SPIworksPro)

- PARMI's main operating screen assists in addressing and stabilizing the screen printer process by showing and analyzing the results by color, in real time.
- User Interface windows are easily arranged, sized and saved per user p reference. Multi-level accessibility settings ensure program and process integrity.

Defect Analysis (DefectAnalyzerPro)

- Defect analysis by time period and product model
- Analysis of defects by Warpage, Defect type, User ID, Inspection time on a panel list basis.
- Shows 3D Images for Defective pads with adjustable viewing angles and color.

Statistical Process Control (SPCworksPro)

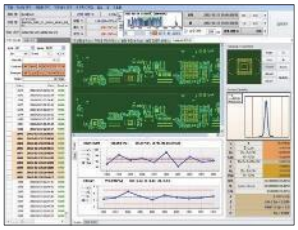
- PARMI's feature packed SPCworksPro software is practical and useful software for integrated process analysis. Both Statistical and Attribute SPC data are provided. Monitoring and control of your Parmi machines is easily accomplished both locally and remotely.

Variables SPC

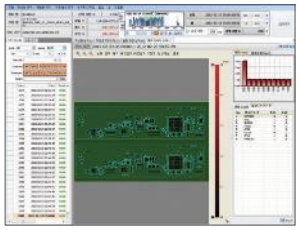
- Average (Xbar) Control Chart
- Range Control Chart
- Standard Deviation Control Chart
- Moving range Control Chart
- Process Capability by Cp, Cpk.

Attributes SPC

- Non-adjusted Ratio Analysis, Yield rate monitoring
- Defect numbers, location, type, concentration analysis
- Height, Area, Volume Histograms
- Ouset, Panel Shrink & Warp graphs
- Module & Model Yield statistical tools

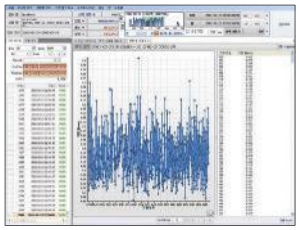


Attributes SPC



Defect concentration

Variables SPC

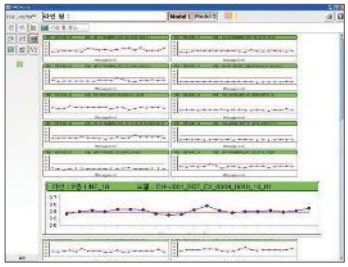


Warpage graph

Remote Monitoring and Control (RMCworks)

- Enables control of single or multiple SPI systems at remote sites. Helps to reduce manpower and obtain consistent quality by managing all the equipment from a small number of managers.

Yield rate



Stretch and Shrink

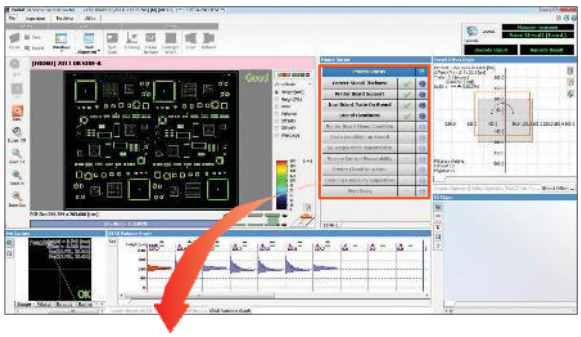
Production Yield

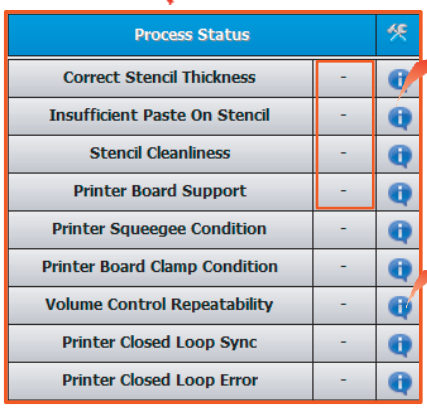
X-bar Variance

Printer Doctor

PARMI's Exclusive Printer Doctor takes prompt action to judge the most probable reason of defects by itemizing all of the potential defect elements in the printing process.

- Patent pending advanced technology
- Constantly analyzes solder paste deposit data in real time
- Identifies symptoms individually and by trend in real time t o determine if the process is at fault
- Ouers user defined corrective actions for operators
- Defect description instructs the operator what to look for and wher e the issue(s) are
- Intuitive user-friendly interface
- Manager editable descriptions allow for additional instructions fo r the operator.





Simplecheck box shows status

Multiple process va riables monitored

Single click access for information including results and operator actions

RealTime Closed Loop System

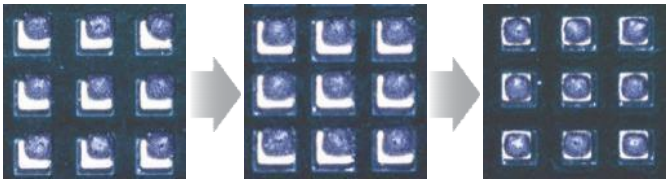
Process Control by Closed Loop

Upstream

Downstream

Closed Loop Feedback System

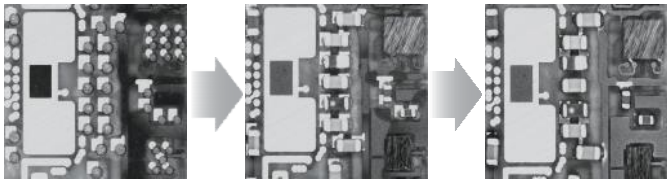
Automatic feedback of print ousets and print rotation as well as the initiation of under stencil wiping routines to continually improve print performance and reducerework.



- Partners : MPM, DEK, EKRA, Samsung Techwin, PDT, ESE, SJ Inno Tech, HIT, and others

Closed Loop Feed forward System

PARMI SPI communicate to placement machines inc ludes X, Y and rotational ousets, and bad mark data.



- Partners : Panasonic