

*ISO
SPECTAR*

S1 mkII



5D Solder Paste Inspection System

√ Automatic solder paste inspection after the printing

Measure and control your print quality with real-time feed back

√ Detects anomalies in the printing process

Tune your printing process before defects occur

√ Measures: True volume, height, area, offset and shape and bridging

Measure all major parameters of the solder paste printing without compromise, find defects and optimize your process

√ High speed inspection with 5D technology, measuring beyond the bounds of apertures

Patented advanced sensor technology for 3D and 2D simultaneous inspection, with 2D to 3D comparative analysis to determine slump and release

√ New inspection head design

The new inspection head improves 2D image capture and enhances accuracy and repeatability

√ Accurate and precise volume and height measurement (3D)

Adjust your solder paste printer for immediate yield improvement

√ True area measurement and offset and shape inspection (2D)

Improve fast moving yield fluctuations and incidental printing defects. Find solder paste slumping

√ Process Control and Production Control

Bring the real world in to your analysis and get tighter tolerances for tighter control

√ Onboard extensive SPC tool

Integrated real time statistics for instant feedback. Simple to use and easy to understand

√ Topographical zero referencing

Accurate and precise measurement of the solder pad height reference level including warped PCB's with true colour reference extraction

√ Shadow free measurement

Minimize blind spots; reliable solder paste volume and height measurement

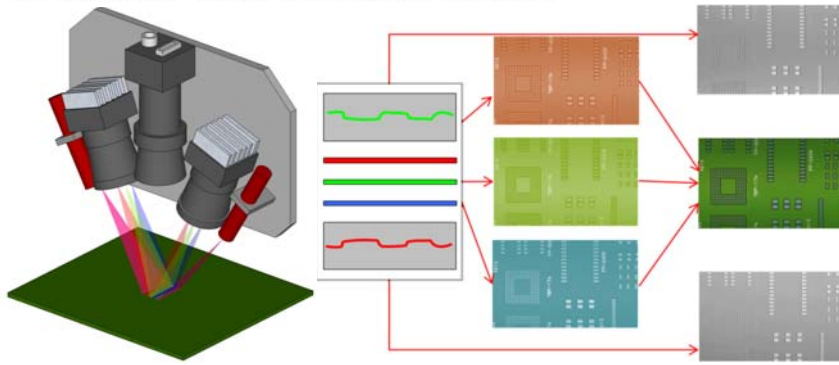
√ Multi colour lighting system

Accommodates light and dark PCB's of any colour. Flex and Ceramic.

√ Step by step simple and fast programming

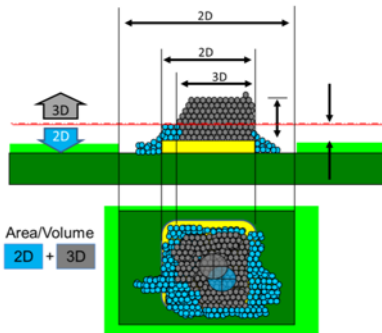
Create full inspection programs in minutes

Hardware and Software Features



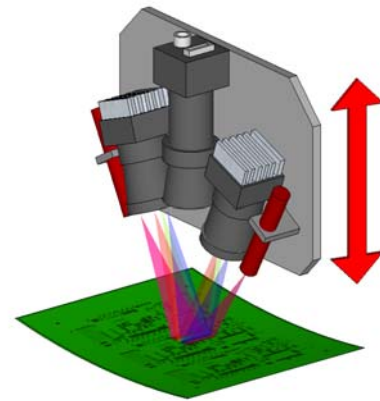
Dual Projection, Full colour, Simulations 3D and 2D Image capture.

Complete image capture. Providing the most detailed image of the Solder paste and PCB. Using the Patented 5D sensor technology.

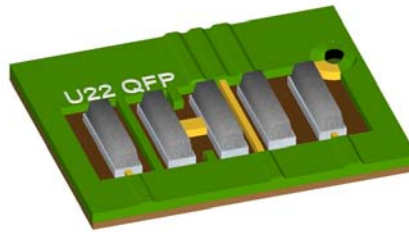
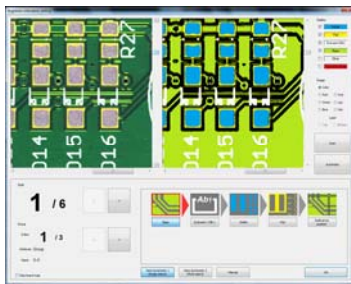


5D Sensor Imaging.

See more than conventional 3D SPI. Capture below zero reference defects. True Area, Volume, Height, Offset and bridges.



Dynamic PCB warp compensation. Measure and compensate for PCB warp with automatic camera Z axis adjustment.



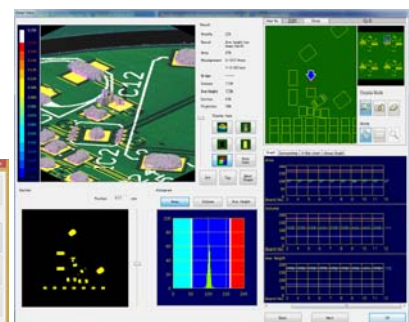
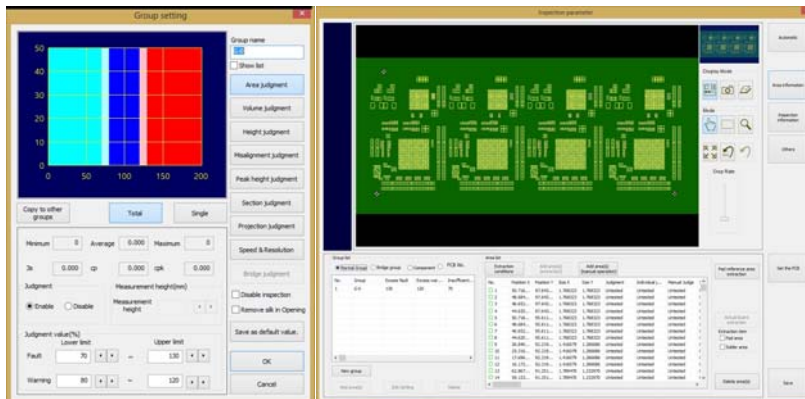
Colour extraction of Zero reference:

True colour 2D imaging allows Intelligent Zero referencing. Understand the effects of the PCB's topography on paste printing.

Fast and Simple Programming

Program using Stencil Gerber and CAD data. Using our proprietary gerber Conversion interface. Simple setup of programs Groups. Histogram assisted Defect and warning tolerance setting.

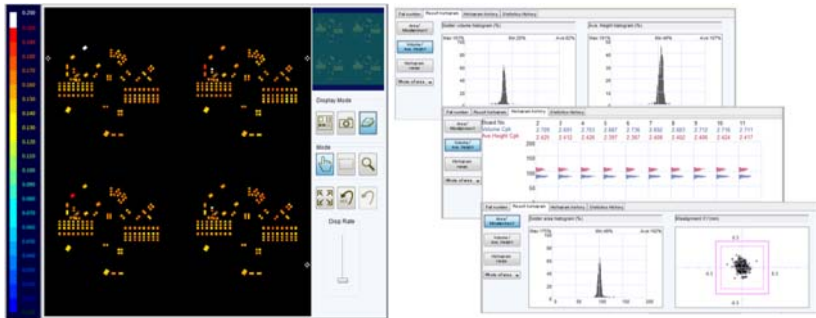
Linear and 2D Barcode capable. Tolerance by Part or package. Stepped stencil setup.



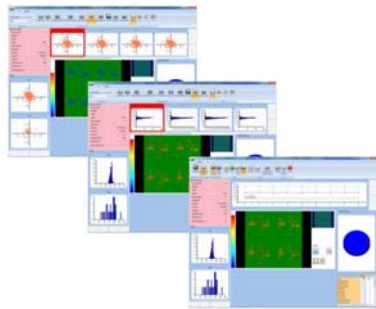
Full Colour Defect Display.

Easy to understand Display defects in relation to PCB features

Hardware and Software Features — Continued

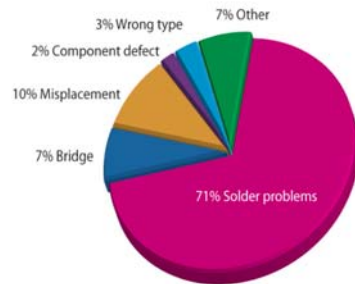


Unparalleled Live process feed back
 Extensive options for live process display. Topographical Height Volume and area maps. Histogram analysis by group.



The Ultimate in Process control

Prevent Up to 70% of end of line Solder Defects. Utilise in-depth solder deposition analysis. Understand and tune the Solder Paste print process.



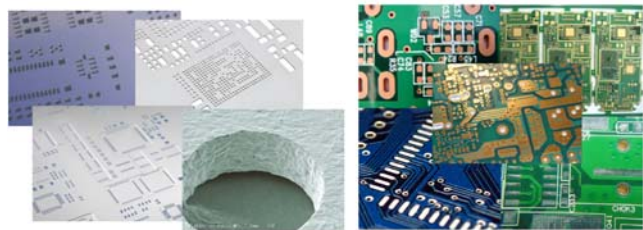
SPCOne Version 3

Process control and Studies can be easily implemented. SQL data storage either locally or on a remote server, And data export to Excel or CSV formats. Transition charts and histogram displays enable simple tuning of the print process.



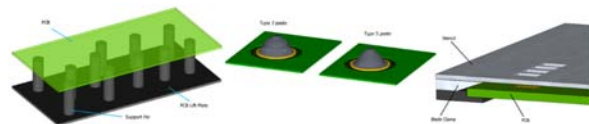
5D SPI

Process improvement beyond 3D. Simultaneously 3D and 2D image processing methodologies. That deliver defect detection beyond which was previously possible. Giving optimal print results leading to increases in productivity and profitability.



Tighter tolerances for tighter control.

Revolutionary new Production Control mode. Finally an SPI that understands the real world of print capabilities. Monitor process deviation. Automatically adjust to process Window variations. Tune your process then monitor it.



About MEK Europe BV

A former division of Marantz well known for its high quality Audio/Video products, MEK Japan (Marantz Electronics Kabushiki Kaisha), developed its first AOI system in 1994. Developed to inspect PCB assemblies for correct component placement and soldering, the company's original AOI system was designed for use in Marantz factories. Proving to be a highly successful, cost-effective alternative to traditional human inspection, MEK developed its first generation commercial system in 1996. With a steadily growing installed base, MEK Japan and its European headquarters, MEK Europe BV, have sold over 5000 units worldwide to date. Now well established as a leading force in AOI technologies.



Specifications	PowerSpector S1 SPI Range				
Model	S1mkII	S1XL mkII	S1DL mkII	S1DLX mkII	S1s mkII
Maximum PCB Size	510 mm x 460 mm 20.1 inch x 18.1 inch	750 mm X 460 mm 29.5 inch x 18.1 inch	510 mm X 300 mm (550 mm single mode) 20.1 inch x 11.8 inch (21.56 inch single mode)	750 mm X 300 mm (550 mm single mode) 29.5 inch x 11.8 inch (21.56 inch single mode)	330 mm X 250 mm 13 inch x 10 inch
Characteristics					
Inspection Items	Volume, Height, Area (section/projection/average), Offset, Shape, Bridging and more				
Minimum PCB Thickness	0.3mm (11.8 mils)				
Maximum PCB Thickness	4.0mm (157.5 mils)				
Minimum Component Size	01005 chip normal mode				
Minimum Pad size	150µm (5.97 mils) diameter in normal mode				
Maximum Paste Height	600µm (23.6 mils)				
Maximum PCB Warp	±5mm (200 mils)				
Inspection Speed	Up to 4000mm ² /second (in normal mode)				
Optics					
Camera	Patented advanced 5D sensor				
Lens Type	High Grade Telecentric				
2D Illumination	Multi angle, multi color LED tunnel				
3D Illumination	Multi angle, multi color rhombus laser technology with sub pixel processing				
Conveyor System					
Width Adjustment	Automatic				
Conveyor Height	830 ~ 970 ± 25mm (1")				
Conveyor Configuration	Left to right and right to left with front side fixed or rear fixed				
Minimum PCB Size	50 x 50mm (1.97" x 1.97")				
Interfacing					
Communication Interface	Extended SMEMA				
Controller	Intel™ based PC (included)				
Operating System	Windows™ 7 Pro 64Bit				
General					
Power Supply	200 ~ 240V, 50/60Hz, 1.5KVA				
Air Supply	0.4 ~ 0.5Mpa, 10NI per minute				
Operation Environment	10 ~ 60 °C				
Operating Humidity	35-85% RH				
External size	W1.100 x D1.356 x H1.987 (43.3" x 53.38" X 78.22")				
Weight	Approx. 400Kg				

Mek reserves the right to change the design and specifications without notice. © Mek Europe, November 2016

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because inspection matters