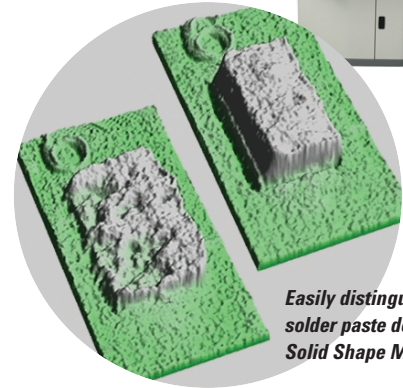
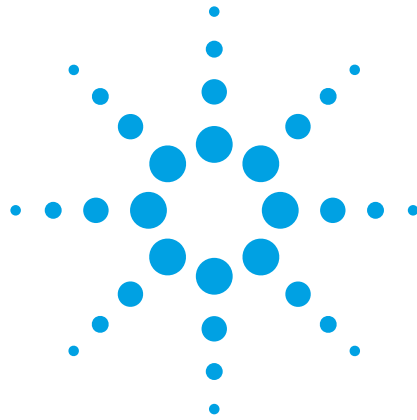


Agilent Medalist SP50 Series II

Data Sheet



Easily distinguish solder paste defects with Solid Shape Modeling

Solder paste inspection and measurement

Leading the way in AOI.

The Agilent Technologies SP50 is a high-speed inline or offline solder paste inspection system designed specifically for the SMT manufacturing marketplace.

The SP50 provides automated 3D paste inspection for process characterization and defect prevention. The SP50:

- **Performs 100% 3D inspection giving critical volume and location information for all deposits**
- **Identifies solder paste defects at the most cost effective process step**
- **Utilizes revolutionary solid shape modeling (SSM) for improved call accuracy and ease of use**
- **Provides real-time process control with statistical process control output**
- **Offers user friendly programming**
- **Easily converts to the SJ50 Series II pre- or post- reflow inspection system with an optional conversion kit**

Software system

Operating environment	Windows® 2000 operating system with GUI and password protected user levels
Vision algorithms	3D image acquisition using laser triangulation, image processing using blob analysis
Statistical analysis	Supports Agilent's proprietary SPC packages with reporting and alarming capability, complete with text output files
Data transfer interfaces	Any ASCII file format via 3.5" FD, CD-RW, jump drive via USB, or ethernet

Functionality

2D and 3D solder paste	Volume, area, height, XY offset, bridge measurement detection
Speed of operation	
Fiducial inspection	Typically less than 5 seconds (including z-axis profiling)
Load/unload	Less than 5 seconds
3D scanning speed	Typically 25.8cm ² /sec (4in ² /sec)
Gauge R & R capability	< 10% average GR&R at typical process widths

Board dimensions

	SP50 Series II	SP50 Series II XL
Maximum board size ¹	510 by 510 mm (20 by 20 in)	610 by 610 mm (24 by 24 in)
Minimum board size	50 by 50 mm (1.97 by 1.97 in)	130 by 50 mm (5.11 by 1.97 in)
Maximum board thickness	4 mm (0.16 in)	15 mm (0.6 in)
Maximum board weight	3 kg	13 kg
Clearance		
Topside of board	6 mm (0.24 in)	6 mm (0.24 in)
Bottomside of board	50 mm (1.97 in)	50 mm (1.97 in)
Minimum edge clearance	3.5 mm (0.14 in)	3.5 mm (0.14 in)

¹ Larger boards can be accommodated, contact your Agilent sales representative for details



Hardware system

Computer system	High-speed Pentium® 4 processor-based computer with Windows 2000 operating system, 15 inch flat screen monitor
Host communications	Thin wire or twisted pair ethernet supporting TCP/IP or MS Network
CAD file formats	Gerber CAD and ECAD files* translated to PLX format, complete with reference designator and pin information, using CAMCAD *many other CAD formats are also supported
Imaging hardware	PCI bus framestore
Camera system	Proprietary large area camera with CMOS Sensor, high frame rates, 20um camera pixel size, variable scan sampling interval (10 to 30 um) and 8um height resolution.
Board conveyor	In-line SMEMA conveyor Auto-width adjustable Bottom-up clamping
XY robot system	Gantry robot system with linear motors and linear encoders Repeatability: < 6 um Encoder resolution: 0.5 um
Enclosure	Designed to conform to CE Mark standards for electrical and mechanical industrial safety
Supplies	Electricity 100-240V, 16A Clean filtered air at 5 bar
Temperature	Operating temperature 5° to 40°C
Hardware options	Conversion kit to SJ50 for pre or post reflow inspection Dual lane conveyor (standard Series II machine only)
Software options	Offline Programming (OLP) Software Solutions associated with the Intelligent Test Framework include Medalist Repair Tool, Medalist Quality Tool

System dimensions

		SP50 Series II	SP50 Series II XL
Footprint	Width	1004 mm (3.3 ft)	1210 mm (4 ft)
	Depth	1423 mm (4.7 ft) ²	1423 mm (4.7 ft) ²
	Height	2210 mm (7.3 ft) ³	2210 mm (7.3 ft) ³
Weight		~1150 kg	~1250 kg

² Excluding keyboard, monitor, arm, isolator and hood handles

³ Including lighting tree and adjustable feet (set to 95 mm)

Additional information

To learn more about the Agilent Medalist SP50 Series II and the entire Agilent Medalist PCB Test and Inspection family, please visit:

www.agilent.com/see/pcb

Contact information

To find an Agilent sales representative, please visit:

www.agilent.com/see/contactus

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