

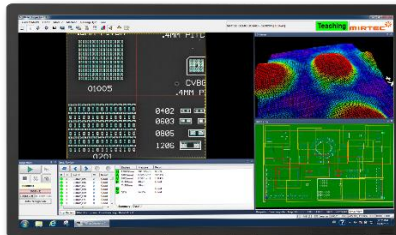
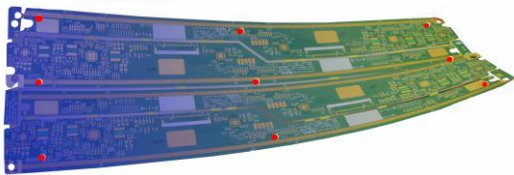
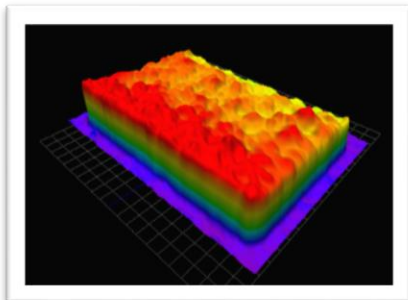
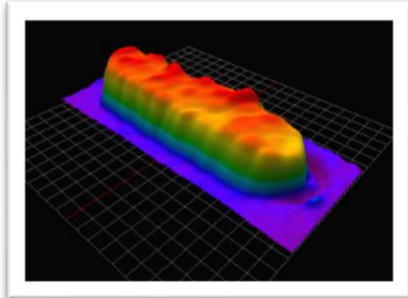
TECHNOLOGICALLY ADVANCED

MS-11e 3D SPI Series

MIRTEC


CoaXPress

- High-Speed / High-Performance **3D SPI MACHINE**
- **FIFTEEN MEGA PIXEL** CoaXPress Camera Technology
- 10 Micron / Pixel Precision Telecentric Compound Lens Design
- Precision Closed Loop AC Servo Drive Motor System
- Extremely Simple Programming and Operation
- Closed Loop Communication with SMT Printer



- **MOIRÉ** 3D Phase Step Image Processing
- Advanced Dual Projection **SHADOW FREE** Design
- Superior Solder Profile Characterization
- Absolute Repeatability and Reproducibility
- Precision Laser PCB Warpage Compensation



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MS-11e Features and Specifications

3D Inspection Technology		
3D Inspection Technology	Shadow Free - Moiré 3D Phase Step Image Processing	
Height Resolution	0.1um	
Height Accuracy	Calibration Jig	2um
Height Repeatability	Calibration Jig	±1%
Volume Repeatability	Calibration Jig	±2%
Solder Height	Maximum	450um
	Minimum	40um
Measurement Capability	Volume, Area, Height, X-Y Position, Bridge, Shape, Etc.	

Image Transfer Technology			
15 Mega Pixel Camera	3,904 x 3,904 Pixels	CoaXPress	120fps
4 Mega Pixel Camera	2,048 x 2,048 Pixels	Camera Link	180fps

Vision System (FOV Size)				
15 Mega Pixel Camera	3,904 x 3,904 Pixels	Option 1	Pixel Resolution: 20um	78.08mm x 78.08mm (3.07" x 3.07")
		Option 2	Pixel Resolution: 15um	58.56mm x 58.56mm (2.31" x 2.31")
		Option 3	Pixel Resolution: 10um	39.04mm x 39.04mm (1.54" x 1.54")
4 Mega Pixel Camera	2,048 x 2,048 Pixels	Option 1	Pixel Resolution: 15.71um	32.174mm x 32.174mm (1.267" x 1.267")
		Option 2	Pixel Resolution: 11.78um	24.125mm x 24.125mm (0.95" x 0.95")

Maximum Inspection Speed				
15 Mega Pixel Camera	508ms / FOV	Option 1	Pixel Resolution : 20um	1,200mm ² /sec (18.6 in ² /sec)
		Option 2	Pixel Resolution : 15um	6,750mm ² /sec (10.46 in ² /sec)
		Option 3	Pixel Resolution : 10um	3,000mm ² /sec (4.65 in ² /sec)
4 Mega Pixel Camera	387ms / FOV	Option 1	Pixel Resolution: 15.71um	2,675mm ² /sec (4.146 in ² /sec)
		Option 2	Pixel Resolution: 11.78um	1,504mm ² /sec (2.33 in ² /sec)

System Specifications		
Lens Configuration	Precision Telecentric Compound Lens Design	
Laser PCB Warpage Compensation	1um / Point	
PCB Top Side Clearance	25mm	
PCB Bottom Side Clearance	25mm (Option : 50.8mm)	
Maximum PCB Warpage	±3mm	
Barcode Reader - Camera Type (Option)	1D or 2D PCB Barcode Reading Capability Using Top-Down Camera	
Built-in SPC	Statistical Process Control Software (Local)	
Built-in Repair	Repair Plus Software (Local)	
Teaching Software	Option 1	ePM-SPI Software
	Option 2	GerbPad Software
Robot Positioning System	X/Y Axis	Precision Closed Loop AC Servo Drive Motor System
	Resolution	1um
	Repeatability	±10um
Power Requirements	Single Phase(s) 200~240V 50~60Hz, 1.1 KW	
Air Requirements	5 Kgf / cm ² (0.5 Mpa); (71 PSI)	

Model Number	PCB Size Range
MS-11e	50mm x 50mm to 510mm x 460mm (2.0" x 2.0" to 20.1" x 18.1")

Model Number	Machine Dimensions
MS-11e	1,080mm W x 1,470mm D x 1,500mm H (42.5" x 57.87" x 59.1")

Model Number	Weight
MS-11e	950kg (2,094.4lbs)

