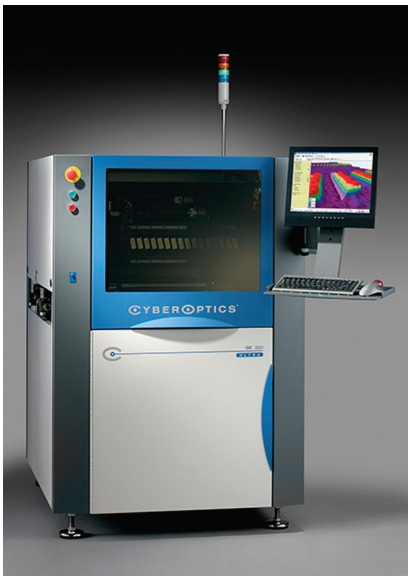
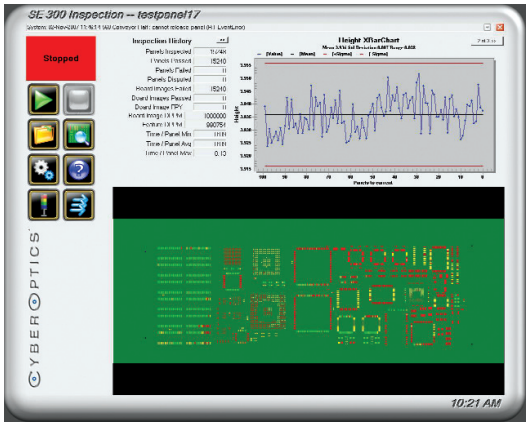
CYBEROPTICS®

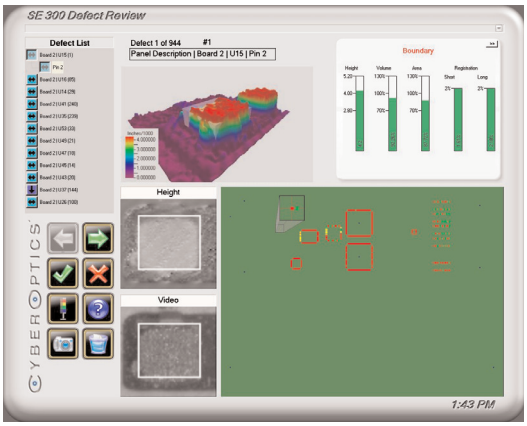
SE 300™ Ultra

In-Line 100% Inspection System





Operator User Interface: Main Window



Defect Review

Keeping Pace with Demanding Line Speeds

CyberOptics® 100% 3D solder paste inspection system, the SE 300 Ultra, provides accurate and repeatable results at speeds that keep up with the increasing pace of your line. Using field-proven 3D vision sensing technology, the SE 300 Ultra is the best choice for optimizing your post-print inspection and process control.

New Features

- Multi-panel 1-D and 2-D barcode read using the system sensor
- Mechanical board stop solution
- Programming time improvement—less than 15 minutes with ODB++ file import
- Offline defect review capability
- Program call-up using bar code reader
- Robust flexible PCB warp compensation algorithm
  - Designed to compensate for complex warp within a field of view
- New optional sensor with an extended height range—up to 24 mils (610 microns)

Field-Proven Technology

- High-resolution 3D sensing technology to inspect the most demanding assemblies with even subtle printing errors
- High-speed/high-resolution inspection modes to optimize system performance
- 3D height, true volume and area measurements for those PCBs with CSPs, 0201s or other small pad sizes where measuring solder volume is key for identifying solder joint reliability
- Registration measurement and bridge detection to help you fine-tune printer set up and monitor process drift
- 3D shaded view for examining solder paste deposits
- XML file format output for easy integration to Shop Floor Control systems

System

- 3D sensing system with built-in fiducial camera and lighting
- Adjustable-width, clamping conveyor system, retracts for easy board removal
- CD-RW, Ethernet connection, USB ports, RS-232 ports, parallel port and 3.5" disk drive
- Pentium® 4 processor: data handling and image processing

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System Specifications

Dimensions (h x w x d)	200 x 98 x 125
Weight	860 kg (1900 lbs.)
Panel Size Capacity	
Maximum	508 x 508 mm (20 x 20 in.)
Minimum	101 x 40 mm (4 x 1.5 in.)
Maximum Panel Weight	3 kg (6.6 lb.)
Board Thickness	0.5 to 5 mm (0.02 to 0.2 in.)
Board Edge Clearance	
Top	2.5 mm (0.10 in.)
Bottom	3 mm (0.12 in.)
Underside Component Clearance	25.4 mm (1 in.)
Conveyor Speed Range	150-450 mm/sec (5.9-17.7 in/sec)
Conveyor Height	889 to 990 mm (35 to 39 in.)
Laser Range Finder (built into sensor)	640-870 nm, 1mW max, Class II
Maximum Inspection Area	508 x 503 mm (20 x 19.5 in.)
Maximum Pad Size in FOV	5 x 10 mm (0.197 x 0.394 in.)

Functional Specifications

Typical Inspection Speeds		
High speed	29.0 sq. cm/sec	(4.5 sq. in./sec)
High resolution	16.0 sq. cm/sec	(2.5 sq. in./sec)
Unload and fiducial find	3-4 seconds	
X and Y Pixel Size		
High speed	40 microns (1.6 mils)	
High resolution	20 microns (0.79 mils)	
Field of View	10 x 20 mm (0.39 x 0.79 in.)	
Paste Height Range	50-350 microns (2-14 mils)	
With Optional Sensor	50-610 microns (2-24 mils)	
Height Resolution	0.125 microns (0.005 mils)	
Maximum Board Warp	<2% of PCB diagonal or 6.35 mm (0.25 in.) total	
Measurement Types	Height, Area, Volume, Registration, Bridge Detection	

Additional Equipment

- Extended height range sensor
- MicroPad™ sensor
- Mechanical board stop option
- Auto-width adjust conveyor option
- Rear-fixed rail conveyor configuration (front-fixed is standard)
- Process Insight™ SPC software package
- GC-PowerPlace™ Gerber and ODB++ file conversion software for off-line programming
- Integrated 1D, 2D and hand-held bar code reading kits
- NIST-traceable measurement certification standard certified for height, area and volume
- Uninterruptible Power Supply (UPS)

For More Information

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