CYBEROPTICS®

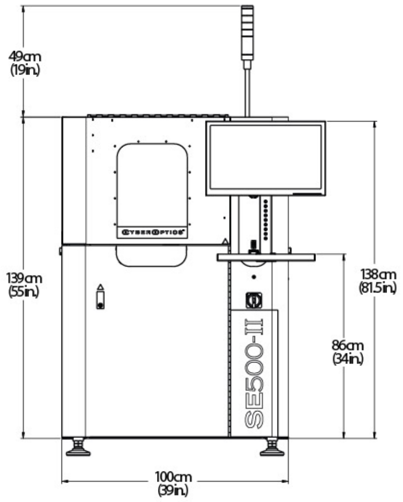
SYSTEM SPECIFICATIONS	
Panel Size Capacity (Max.)	510 x 510 mm (20.0 x 20.0 in.)
Panel Size Capacity (Min.)	50 x 50 mm (2.0 x 2.0 in.)
Dimensions (W x D x H)	100 x 127 x 139 cm
Weight	~650 kg (1,433 lbs.)
Maximum Panel Weight	3.0 kg (6.6 lbs.)
Board Thickness	0.3 to 5.0 mm (0.01 to 0.2 in.)
Board Edge Clearance	Top: 2.5 mm (0.10 in.), Bottom: 3.0 mm (0.12 in.)
Component Clearance	Top (above belt): 20.1 mm (0.78 in.), Bottom: 25.4 mm (1.0 in.)
Conveyor Speed Range	150 - 450 mm/sec (5.9 – 17.7 in./sec)
Conveyor Adjustment	Automatic
FUNCTIONAL SPECIFICATIONS	
Maximum Inspection Area	508 x 503 mm (20.0 x 19.8 in.)
Field-of-View	32 x 32 mm (1.26 x 1.26 in.)
X and Y Pixel Size	High Resolution: 15 μm (0.6 mils), High Speed: 30 μm (1.2 mils)
Paste Height Range	50 – 500 μm (2 – 20 mils)
Height Resolution	0.2 μm (0.008 mils)
Maximum Board Warp	<2% of PCB diagonals or a max. of 6.35 mm (0.25 in.) total
Maximum Pad Size in FOV	15 x 15 mm (0.6 x 0.6 in.)
Measurement Types	Height, Area, Volume, Registration, Bridge Detection, Defect Review
Machine Interface	SMEMA, RS232 & Ethernet
Power Requirements	100 - 130/220 - 240 V (±10%), 50/60 Hz, 10 - 15 amps
Compressed Air Requirements	5.6 to 7.0 kgf/cm² (80 to 100 psi @ 4 cfm)
PERFORMANCE SPECIFICATIONS	
Inspection Speeds @ 30um	80.0 cm²/sec (12.3 in²/sec)
Inspection Speed @ 15um	50.0 cm²/sec (7.6 in²/sec)
Fiducial, Barcode and Skip Mark	All-in-one scan
Height Accuracy†	2 μm on a Certification Target
Gage R&R†	<10%, 6 σ
† Under controlled conditions	

OPTIONS

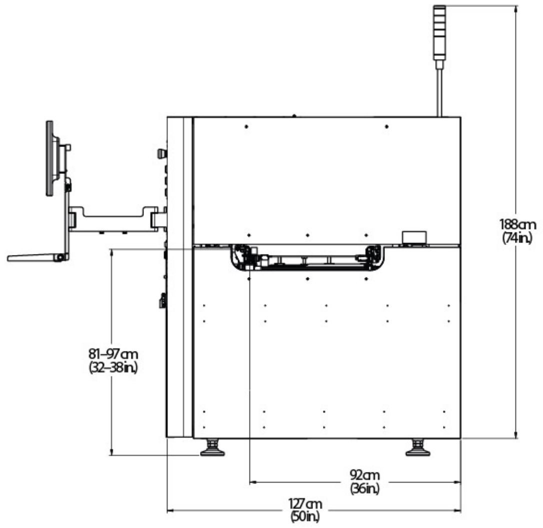
SPC Software, Barcode Readers (1D/2D), Programming software: ePM-SPI/AOI & GC-PowerPlace, Offline Defect Review, Certification Target


SE500-II

FRONT



SIDE



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SE500-II™ 3D SPI

Unsurpassed Price-Performance

World's Fastest and Most Accurate 3D SPI

www.cyberoptics.com

CYBEROPTICS®

SE500-II™ 3D SPI

Unsurpassed Price-Performance


EM Asia Innovation Award for SPI V5 software

High Speed, 'All-in-one' scan, Intuitive Software

3 YEAR WARRANTY*

**On standard parts only (excludes conveyor belts and other consumables); 1 year warranty on service*

WORLD-CLASS USABILITY, HIGH SPEED INSPECTION

- **Award-winning, Newly Designed Software**
- **Multi-touch Screen** with Intuitive Operation
- **30% Faster** with Unique 'All-In-One Scan Sequence
- **Closed Loop Feedback** Ready
- **CyberPrint OPTIMIZER™** Ready
- **Mounter Feed Forward** Ready

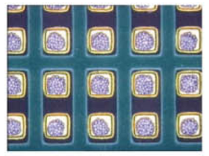
FAST, RELIABLE PERFORMANCE

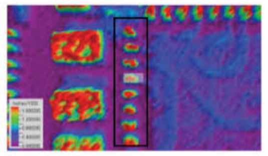
Designed and built by CyberOptics, the sensor is manufactured as an integrated unit with no moving parts – which means no machine-to-machine variation. Plus, there is no drift, no parts to wear and absolutely no recalibration needed. The unique 'all-in-one' scan sequence enables up to 30% cycle time improvement by merging fiducials, barcodes and raster scans into a single scanning sequence.

For improved repeatability, you can choose the MicroPad sensor option for accurately measuring pads as small as 100 microns (4 mils).


Standard Sensor


MicroPad Sensor


140 x 140 micron pads

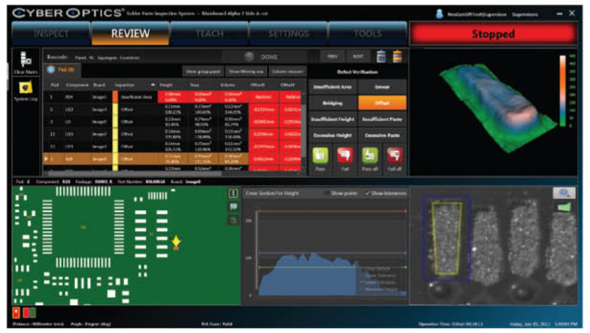

100 x 150 micron pads

NEW, AWARD-WINNING INTUITIVE SOFTWARE

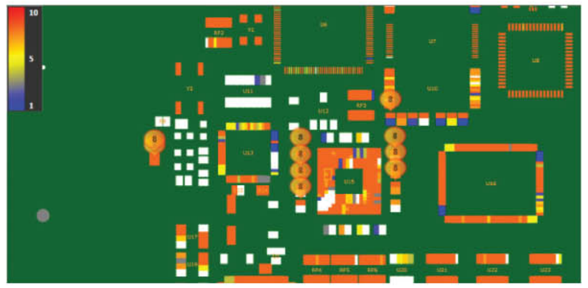
The brand-new V5 series software delivers world-class user experience with its intuitive interface, completely changing the way users interact with our system. Yet, at the same time, the software is extremely stable and simple to use enabling shortest learning curve.

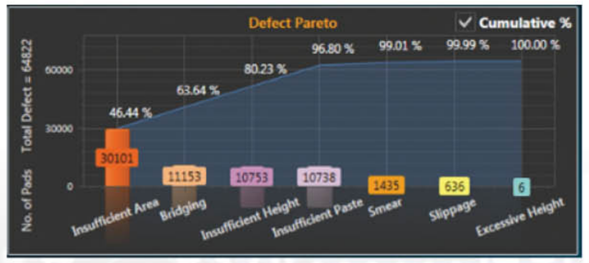
With full multi-touch experience, SPI V5 series software offers a range of revolutionary features that enable smarter and faster inspection:

- Seamless integration of all applications - Teach, Inspection, Defect Review and Real-time SPC
- Unlimited undo-redo and global search options in Teach
- Loads of smart, informative and relevant charts that provide yield summary, FPY information, hotspot display, top 10 pad failures, historical panel and more.
- Easy, hassle-free operation using multi-touch, multi-selection, pinch-zoom and pan-move options



Defect Review Interface

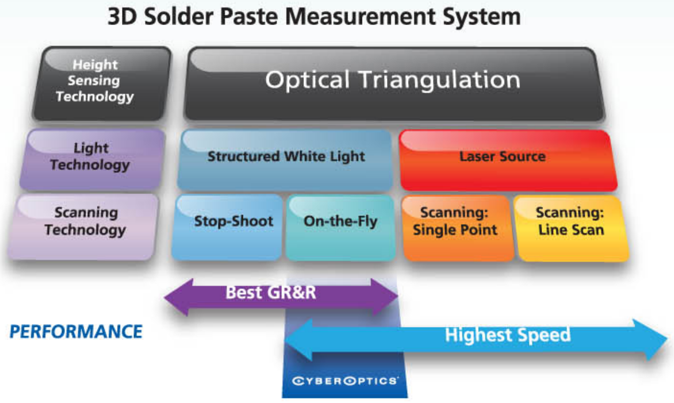

Hotspot Display



Real-time SPC

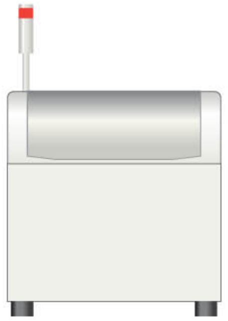
HIGH SPEED, ON-THE-FLY INSPECTION

SE500-II™ incorporates CyberOptics' patented 3-D sensing technology that uses white strobe light acquiring full FOVs with each strobe and minimizing vibration effects - delivering good accuracy and consistent repeatability. You can measure ANY PCB surface - including flexible circuits - as white light causes minimum diffusion. With its continuous image acquisition, you can be assured of fast, focused and reliable inspection.


3D Solder Paste Measurement System

FEEDBACK, FEED FORWARD READY

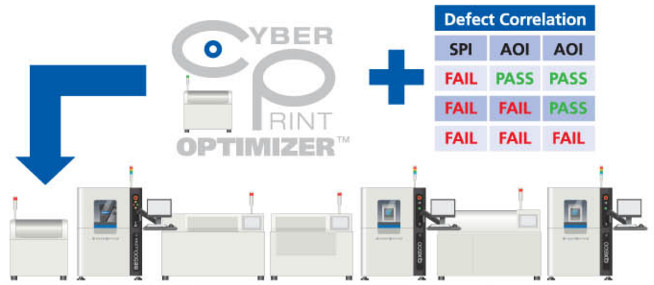
SE500-II™ fully supports feedback and feed forward capability with leading Solder Paste Printer and SMT Mounter vendors respectively. With simple configuration settings, SE500-II™ gives you the power to do more with SPI results - optimize printing process, establish stencil cleaning cycles and fine-tune printer setup. All this means reduced rework costs, increased production throughput and improved yields.


All Major Screen Printers

CyberOptics

CYBERPRINT OPTIMIZER™ READY

CyberPrint OPTIMIZER™ automatically optimizes the print process by proactively analyzing accurate trend data – *first-ever in the industry*! Pre-defined templates help you get started quickly while customizable rules support perfect customization for specific product needs. CyberPrint OPTIMIZER™'s predictive process improvement gets you better yields and reduces downtime.



Defect Correlation		
SPI	AOI	AOI
FAIL	PASS	PASS
FAIL	FAIL	PASS
FAIL	FAIL	FAIL

Failure analysis drives line optimization and auto tolerance changes

SMART PROCESS CONTROL

CyberOptics™ offers a full range of historical data analysis tools with drill-down capability and auto-reporting feature.

SE500-II™ 3D SPI

Unsurpassed Price-Performance