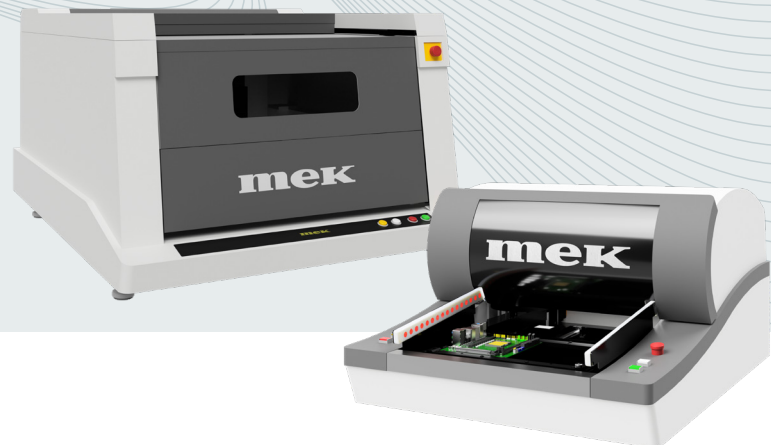*PowerSpector*

Desktop AOI System For SMT + THT Components And Solder Joints

Benefits

→ **Revolutionary Selective 3D Laser Measurement Technology**
Selective height measurement of any given object. Assign two points, a reference and a target.

→ **Newest Generation 5MP USB 3 Vision Cameras**
The latest generation of high speed, high quality cameras. No capture card requirement.

→ **Multi-color 4 angle lighting with Line Source Coaxial Lighting and Meniscus Profiler**
Reliable solder joint meniscus and pad surface analysis to find solder and paste printing defects.

→ **Flexible Classification And Reporting Scenarios**
Integrate AOI efficiently in existing operations and factory layout.

→ **Compatible With Mek Catch System For MES Gateways, Repair, Real Time Monitoring And SPC**
Catch System is compatible with Windows 11 and is a complete suite for data collection, display and statistics.

→ **Line Sourced DOAL (Direct On Axis Lighting) Coaxial Lighting**
Inspect solder joints without shadow effects from tall components nearby.

→ **High Speed Inspection**
Using modern processor and storage power for parallel imaging, calculation and data transmission.

→ **High Resolution Telecentric Optics**
Standard 15µ resolution for optimal magnification of smaller SMT component package sizes.

→ **8x Angular Cameras**
Triple use of the angular cameras: Automatic inspection, defect classification and repair post-inspection.

→ **Z-Axis Moving Optical Unit**
Focus and position optimally for variying PCB and component distances, warpage or sandwitch assemblies.

→ **Compatible With Mek EZPro**
EZPro is the software tool developed by Mek for ultra fast automatic programming of full measurement recipes.

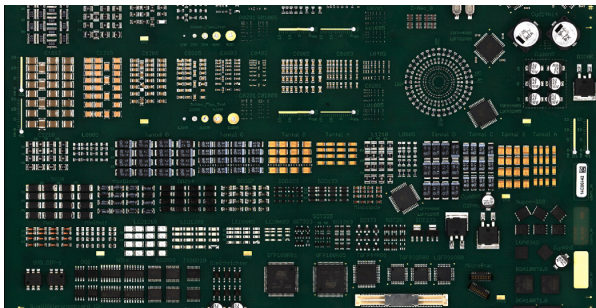→ **Synthetic Imaging And Spectral Analysis**
Powerful algorithms to achieve optimized inspection results.

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PowerSpector

Desktop AOI System For SMT + THT Components And Solder Joints
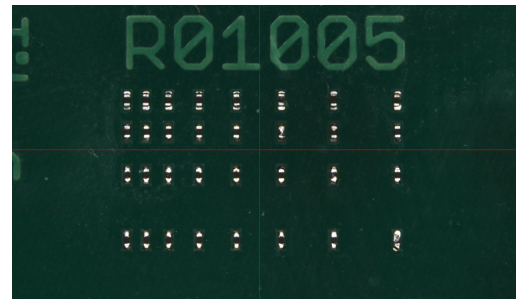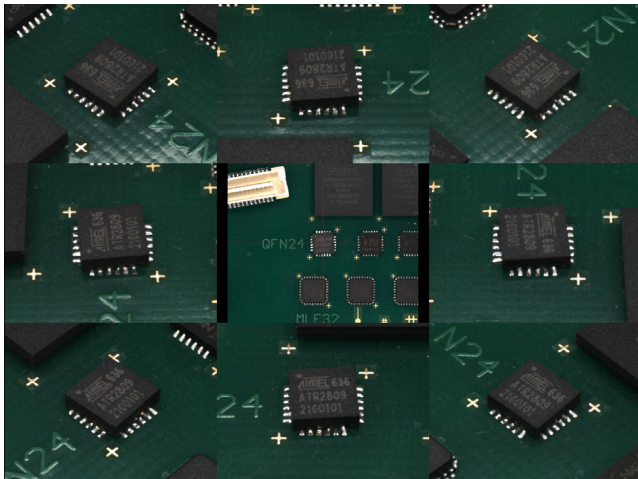

Features

→ **High Definition Images**
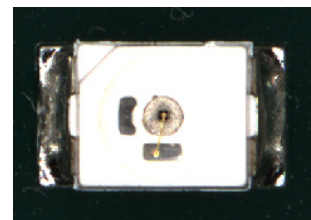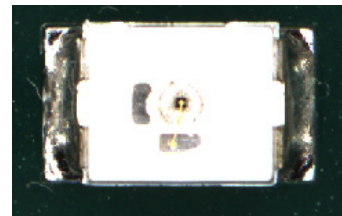The large frame camera CCD and the high quality lenses combination result in crisp and high definition images.

→ **01005" Components Inspectable**
High camera and lens resolution make inspection down to 01005" components possible.

→ **8x Angular Cameras**
Triple use of the angular cameras: Automatic inspection, defect classification and repair post-inspection.


→ **Dynamic Light Reduction And Increase**
Dynamically adjust light intensity to analyse details on white/ black PCB's or white/black components.

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Desktop AOI System For SMT + THT Components And Solder Joints

Features

(Height = Measurement − Reference)

Measurement Point

Reference point

Height in range
OK

Height out of range
Coplanarity NG
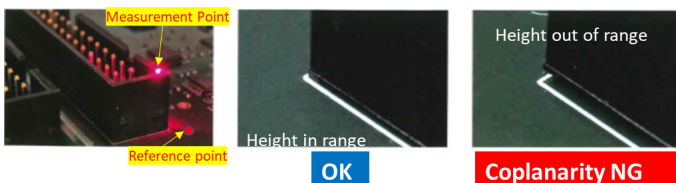
→ **Selective 3D Laser Measurement**
Measure heights of any given object. Simply assign two points, a reference and a target. Rapid measurement that only extends the cycle time slightly.

→ **Coplanarity Measurement**
There is no limit of how many points can have the laser height measurement. Coplanarity of components can be measured in both horizontal and vertical directions.
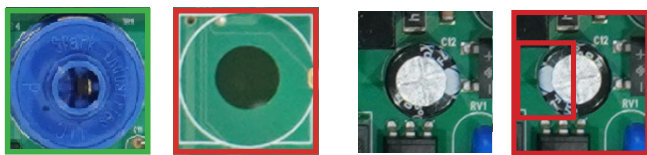

→ **Z-Axis Moving Optical Unit**
Ability to focus and position the optics optimally for best inspection results.

Camera
Telecentric lens

Main light | Side light | DOAL light | Meniscus Profiler
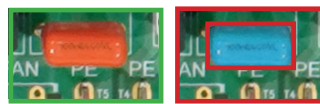
→ **Meniscus Profiler**
Coaxial and omnidirectional lighting from different angles and with different colors to make solder defects visible.
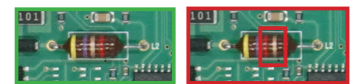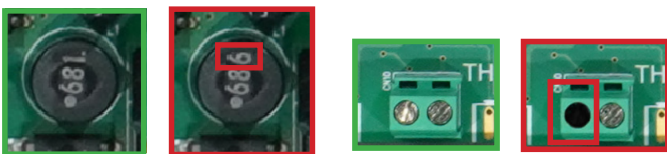
Defect Types (not limited to)

→ **Presence/Absence**
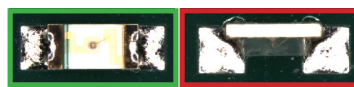
→ **Polarity**

→ **Correct Type/Color**

→ **Correct Type/Value/Color**
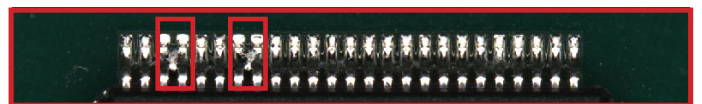
→ **Text (OCV and OCR)**

→ **Damaged Component**

→ **Billboarding**

→ **Lack Of Solder**

→ **Bridges**

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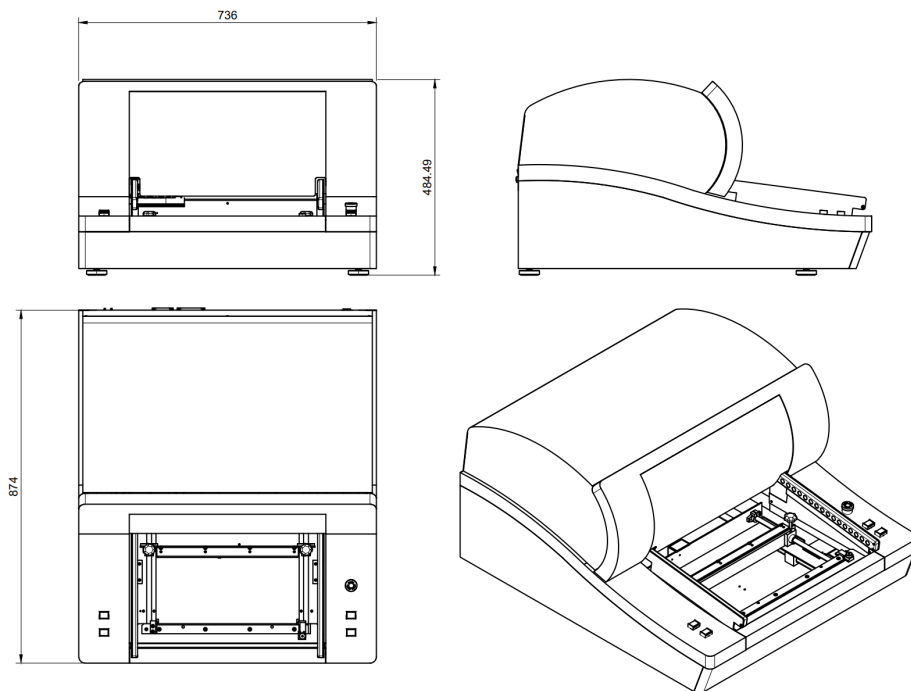
because inspection matters
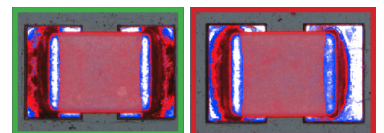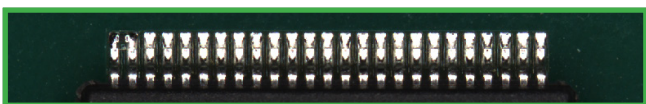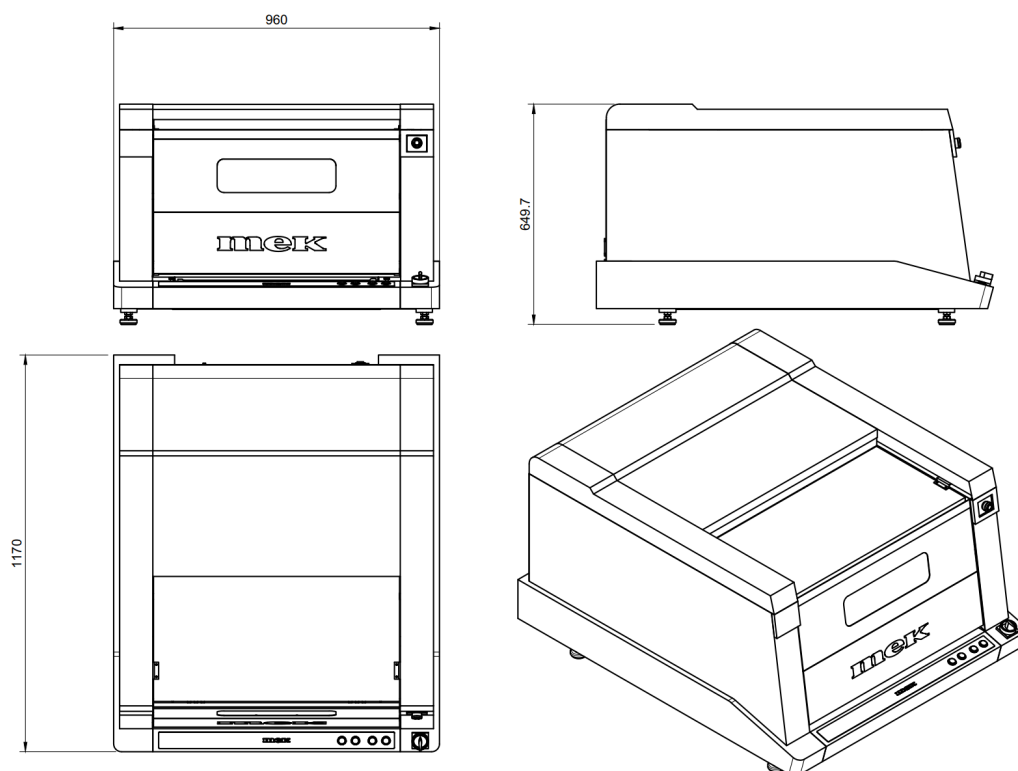
PowerSpector

Specifications Desktop PowerSpector JSAz and JSAz+

Characteristics	PowerSpector JSAz 350	PowerSpector JSAz+ 350	PowerSpector JSAz 550	PowerSpector JSAz+ 550
Product Type	SMT And THT Components And Solder Joints AOI			
Maximum PCB Size	350x250mm (13.8"x9.8")		550x550mm (21.7"x21.7")	
Camera Movement	X Direction		X + Y Direction	
PCB Movement	Moving in Y		Stationary	
Parts Inspection	Components Height, Coplanarity, Presence, Polarity, Soldering, Shape, Offset, Text			
Image Processing	Synthetic Imaging, Spectral Analysis, Grescale/RGB Limits			
Camera Type	5 MP CCD Camera With USB3 Vision			
Camera Field of View/Resolution	36 x 30mm (1.42" x 1.18") / 15.0 µm (14.4 x 12mm / 6µm option)			
Lens	Telecentric lens with built in prism for DOAL Lighting			
Selective Height Measurement	Laser Projector, Triangular spot measurement			
Lighting System	Omnidirectional Quad LED rings: Side White, Side Red, Main, Line Sourced DOAL Diffused On Axis Lighting			

System Specifications				
Minimum Inspection Component Size	01005" (0.4 x 0.2mm) (6µm lens upgrade option)			
Component Clearance (Top)	30mm (1.2")	60mm (2.4")	30mm (1.2")	60mm (2.4")
Component Clearance (Bottom)	70mm			
Side Cameras	8x Digital color USB 3.0 Vision in 45/45 orientation			
Max Measurable Height	30mm			
Height Measurement Resolution	30µm			
Z-Axis Stroke	30mm (1.2")			
Inspection Speed Typical	0.6 sec per FoV			
Electrical Requirements	100-240 VAC /150W			

Interfacing		
Control PC Type	Apple MacOS	
Data Interface	USB	
Programming Interface	CSV Centroid placement file, (ODB++, Gerber option)	
Repair/Monitor/SPC System/MES-interface	Mek Catch System (Windows 7/8/10/11) (Option)	
3rd Party Interfacing (MES) & Data Storage	Enterprise SQL DB/XML Files/Socket (Catch System Option)	

General		
Operating Temperature	15-30 deg. C(60-90 deg. F)	
Operating Humidity	15-80 % RH	
External Size	W736 x D874 x H485 (29.0" x 34.4" x 19.1")	W960 x D1170 x H650 (37.8" x 46.1" x 25.6")
Weight	65kg (143lbs)	130 kg (287 lbs)

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Dimensional Drawing JSAz 350 series

736

484.49

874

Dimensional Drawing JSA 550 series

960

649.7

1170

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