



Mek SpectorBOX X1

Modular Full 3D AOI System For THT
Solder Joints And THT Components

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Benefits

- **Full 3D Measurement Optimized For THT Solder Joints Post Wave And Selective Soldering**
Volumetric data for detection of soldering defects, pin height measurement, annular ring coverage and detection of "blow" holes

- **Full 3D Measurement Including THT Components**
Capability to measure and inspect also the THT components

- **Max. PCB Size 550mm x 550mm (21.7" x 21.7")**
Large PCB sizes or pallets are supported. The optics move in X,Y and Z directions to cover the inspection area

- **High Clearance Between PCB Surface And The Optics**
200mm (7.9") THT components side and 100mm (3.9") THT solder side clearance for a no exceptions inspection

- **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

- **Reflection Free Measurement**
Colour and glare optimized. Unwanted reflections from shiny surfaces are removed

- **High Speed Measurement**
Using modern processor and storage power for parallel imaging, calculation and data transmission

- **Windows® 11 Based Software**
Ensuring high security data protection, demanded by modern IT departments

- **Large Field Of View (FoV)**
60mm x 60mm (2.4" x 2.4") FoV ensures measurement of larger objects and high speed inspection

- **Z-Axis Moving Optical Unit**
Focus and position optimally for varying PCB and component distances or warpage

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

- **Modular Inspection Possibilities: Bottom, Top Or Dual**
Possibility to combine 2 SpectorBOX X systems for simultaneous dual sided measurement

- **Simple Compatibility With Integrators**
3rd party turn-key solutions readily available. SpectorBOX X systems fit conveniently inside main frames



Specifications SpectorBOX X1 550

Characteristics	
Product Type	Full 3D THT AOI
Application	Top Side, Bottom Side , Dual Side
Camera Movement	X, Y and Z
PCB Movement	Stationary
Parts Inspection	Solder Volume, THT Pin Height, Components Height, Coplanarity, Presence, polarity, Shape, Offset, Text
Image Processing	3D Volume Measurement, Spectral Histogram Analysis, Custom Algorithms
Camera/Lens Type	CMOS Camera with High Resolution Lens
Lighting System	3D Dedicated Lighting, RGB LED's
System Specifications	
Camera Resolution	10Mp
Lens Resolution	19µm
XYZ Repeatability	1µm
Top Clearance (Top-Down Application)	200mm (7.9")
Bot Clearance (Bottom-Up Application)	100mm (3.9")
Max. PCB Size	550mm x 550mm (21.7" x 21.7")
Z-Axis Stroke	60mm (2.4")
Inspection Speed Typical	0.6 sec per FoV
Electrical Requirements	200-240 VAC /1000W
Interfacing	
Control PC Type	Windows® 11 Pro
Data Interface	Ethernet
Repair/Monitor/SPC System/MES-interface	CSV Centroid File (Placement File)
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 Main Unit	W1203 x D1203 x H426 mm (47.4" x 47.4" x 16.8")
External Size Control Unit	W600 x D259 x H400mm (23.6" x 10.2" x 15.8")
Weight	160kg (353lbs)

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