

## Specification

### Systems

System controller	Integrated controller with Quad Core Intel Xeon processors
Operating system	Window 7
System footprint	1.52 m x 1.94 m
Total system weight	~ 3300 kg
Average system floor loading weight/service area	380 kg / sqm
Concentrated loads	825 kg on 152 mm diameter pad, 4 pads on 131 cm x 110 cm centers

### Test Development Environment

User interface	Microsoft Windows based software solution with easy-to-use GUI and password-protected user levels
Off-line test development software	Optional for off-line PC
Test sight developer	Optional software available to translate CAD data to ViTroX' format
Typical test development time	4 hours to 1.5 days to convert raw CAD file and develop application

### Line Integration

Transport heights	823 mm - 980 mm
Line communication standard	SMEMA
Barcode readers	Compatible with most industry standard bar code readers

### Performance Parameters \*

Total panel test cycle time	
Typical Image Acquisition Rate	32.3 cm <sup>2</sup> /sec (5 in <sup>2</sup> /sec)
False call rates	500 - 1000 ppm
Minimum features detection capability	
Joint pitch <sup>1</sup>	0.3 mm and up
Short width <sup>2</sup>	0.045 mm
Solder thickness	0.0127 mm

### Allowable panel characteristics \*\*

Panel size (width x length) <sup>1</sup>	
Maximum <sup>2</sup>	457 mm x 609 mm
Minimum <sup>3</sup>	102 mm x 127 mm
Maximum inspectable area	435 mm x 609 mm
Panel thickness	
Maximum	3.2 mm
Minimum	0.5 mm
Panel Clearance <sup>5</sup>	
Top clearance	25 mm
Bottom clearance	50 mm
Panel edge clearance	3.0 mm
Panel width tolerance	± 0.7 mm
Panel weight <sup>2</sup>	
Maximum	4.5 kg
Minimum	0.03 kg
Maximum acceptable panel temperature	40 °C
Panel warp	<ul style="list-style-type: none"> <li>• Max. downsize warp ≤ 2.0 mm</li> <li>• Max. upsize warp ≤ 1.0 mm</li> </ul>

### Power and environmental

Voltage requirement	200 - 240 VAC three phase; 380 - 415 VAC three phase wye (± 5) (50Hz or 60 Hz)
Air requirement	552 kPa (80 psi) compressed air

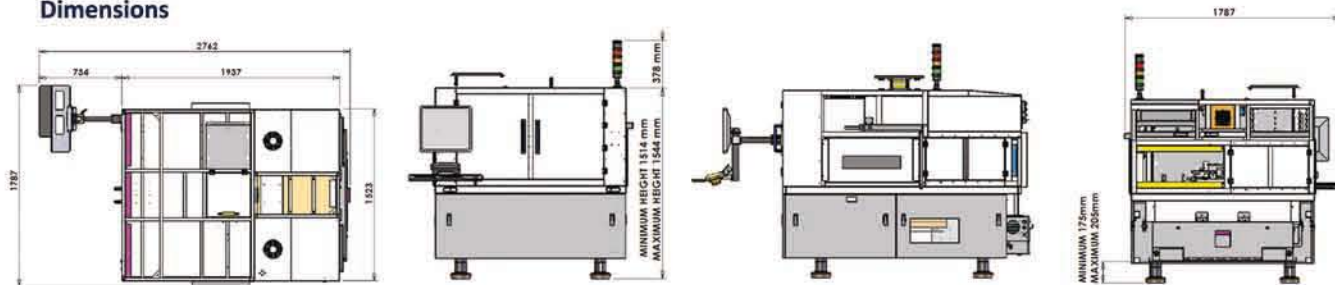
#### \* Note :

1. Assuming pad width is 50% of pitch.
2. The reported values for minimum feature detection assume that the feature is in a single plane of focus and that there are no X-ray absorbers in the X-ray path or in the immediate area of the feature other than those found in a typical multi-layer printed circuit board.

#### \*\* Note :

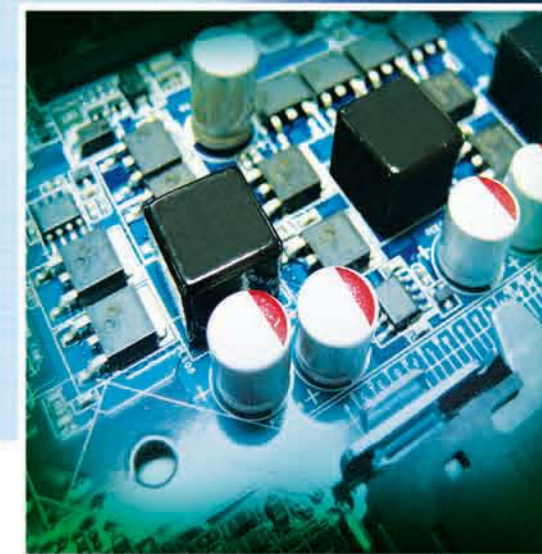
1. Panels are handled on width edges. Panels with edge cut outs may require the use of a carrier.
2. Maximum panel size dimensions and weight must include carrier if applicable.
3. Smaller panels are possible with the use of panel carriers.
4. With panels of this thickness, imaging results can be affected by PCBA layout.
5. Measured from the bottom of the panel including a maximum warp.

### Dimensions



# V810

Superior AXI Solution for SMT Line



Introducing ViTroX's V810 a new revolution 3D automated x-ray machine that inspects double-sided panels with high defect coverage, high inspection speed and low false calls rate.



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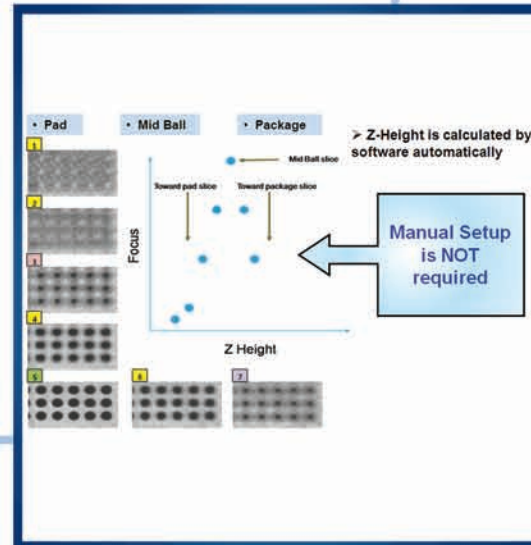
www.etek-europe.com +44 (0)1292 287 184 sales@etek-europe.com

**Fastest AXI System in the world.** Deploy state of art hardware, scanning and image acquisition technology, ViTrox's V810 is known to be the fastest system in the world without sacrificing accuracy.

## Key Technologies

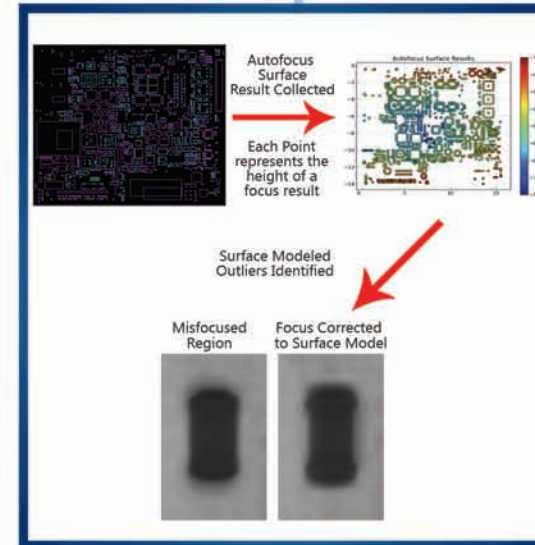
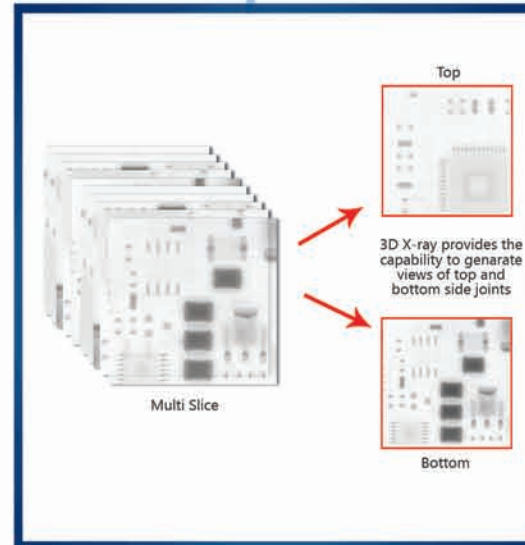
### BGA Slice Height Setup

Utilize auto focus algorithm software to determine the BGA package slice. Z-height is calculated by software automatically, therefore manual setup is NOT required. GR&R for BGA measurement is the best in the market with performance of 3-5%.



### Multi Slice Images

V810 is able to provide > 100 over slices of image at various height. This enables offline and manual inspection.

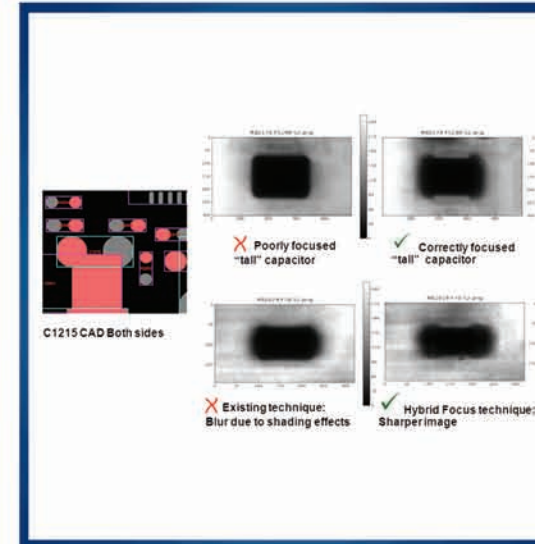
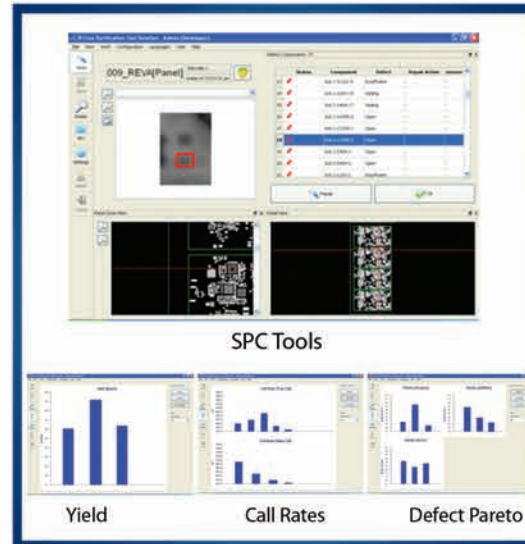
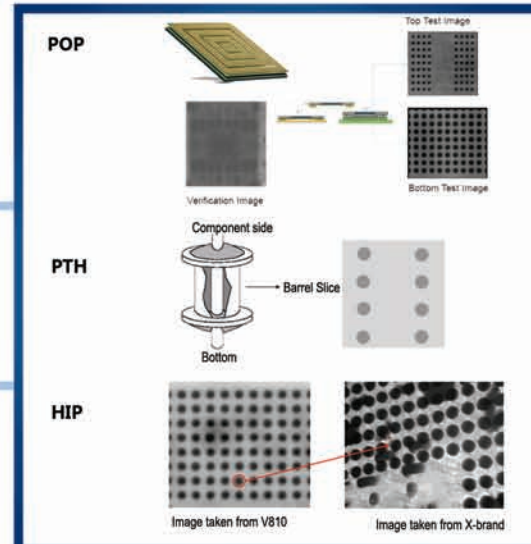


### Global Surface Modeling

V810 uses neighboring joints and advanced mathematical modeling to effectively compensate for board warpage and improve call rate.

### Highest Test Coverage AXI System

ViTrox advanced algorithm and system design enable the measurement on HIP, various type of connector, POP, PTH and etc.



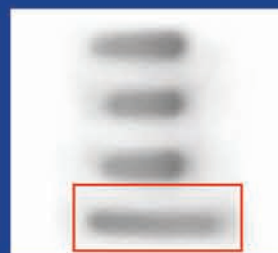
### Auto-focus Accuracy & Repeatability

By using hybrid auto focus technology, V810 is able to achieve best in class repeatability and accuracy.

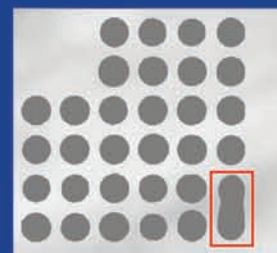
### ViTrox Verification Tool Solution (VVTs)

Inspection results and image are sent to offline station for operator / technician / engineer to verify with SPC capability.

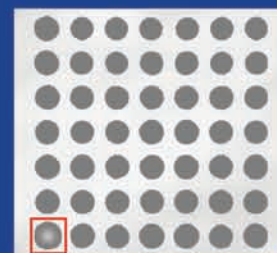
### Defects



Lifted Lead



Bridge



Voiding



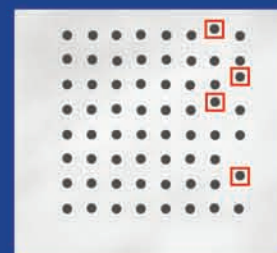
Insufficient



Open



Missing



Bent Pin



Misalignment