

# *X-Series X-Ray*

## Automated In-line X-Ray Inspection Systems

- High Defect Detection
- Low False Calls
- Fast Throughput
- Quick Set-up
- Automated 3-D Inspection

YESTech's versatile X-Series Automated X-Ray Inspection Systems ( AXI ) offer complete inspection of solder joints and other critical hidden features found in electronic assemblies, PCB's and packaged semiconductors. Ideal for in-line or off-line operation, the X-Series' innovative algorithms enable fast and reliable automated inspection and real-time monitoring of critical process information.

Programming is fast and intuitive. Operators typically take less than 60 minutes to create a complete inspection program. Utilization of standard package libraries simplify training and insure program portability across manufacturing lines. Newly available image processing technology integrates several techniques and inspection algorithms, to provide complete inspection coverage with an extremely low false failure rate.

The X-3 3-D system permits users to discriminate between the top and bottom sides of boards where there is a high-density of solder joints. YESTech's 3-D capability separates the top and bottom images of double sided boards for unimpeded automated inspection of solder joints.

When integrated with YESTech AOI inspection, these systems can increase fault coverage to include nearly all process defects. Optional remote programming and SPC software can be utilized to provide a comprehensive yield enhancement solution.

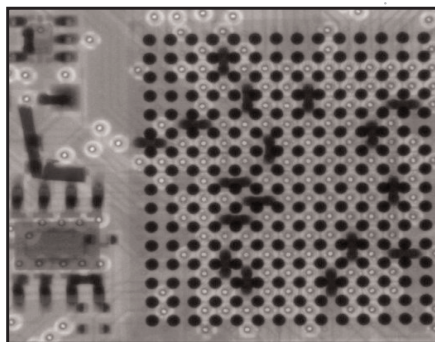


### Automated Inspection for:

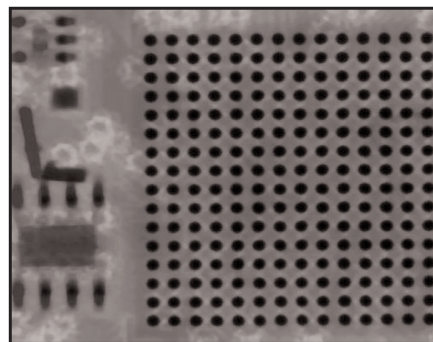
- Opens & shorts
- Insufficient / excess solder
- Lifted leads
- BGA
- Voids
- Component presence and position

**Y T X X - Series Specifications**

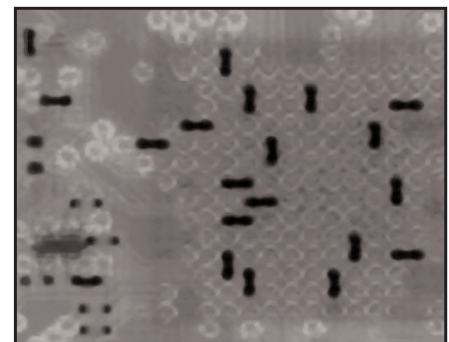
	<b>X1 2-D Imaging</b>	<b>X3 3-D Imaging</b>
<b>X-Ray Tube:</b>	Maintenance free Sealed reflection target 130 Kv, 5 micron spot size 39-watt max. output	Maintenance free Sealed reflection target 100 Kv, 5 micron spot size 20-watt max. output
<b>Software:</b>	CAD Input: Pick and place data, CAD x-y data CAD Translation Package: Excel, Circuitcam, Unicam Programming Skill Level: Technician or operator Operating System: Windows XP	
<b>Inspection Capabilities:</b>	Throughput: <b>2-D:</b> 4-5 sq. in./sec <b>3-D:</b> .5 sq. in./sec Maximum Board Size: up to 18" x 20" (450mm x 508mm) Clearance: 2" (50mm) top and bottom Minimum Component Size: 01005 Defects Detected: <ul style="list-style-type: none"> <li>Component:     position, missing, wrong, skew, tombstone</li> <li>Lead:            bent, lifted, bridging</li> <li>Solder:         open, insufficient, short, solder balls</li> <li>BGA:            shorts, voids, position, missing ball</li> </ul>	
<b>Facilities:</b>	Power: 110 VAC (220 optional) Single Phase 50 / 60 Hz 15amps Footprint: 59w" x 66d" x 63h" (1,500mm x 1,664mm x 1,600mm) Weight: 5,000 lbs. (2,273Kg) Machine installation: < 1 hour Compressed Air: 80 psi	
<b>Safety:</b>	YESTech x-ray systems are manufactured to comply with the federal standard for cabinet x-ray equipment as established in Title 21, Subchapter J of the code of federal regulation sections 1020.40. Lead is used to line the cabinet and door, with lead doped glass for the viewing window. Interlock switches ensure that x-ray radiation can not be generated with any part of the cabinet open or removed.	



Traditional 2-D x-ray image of BGA on a double sided board.



YESTech's 3-D x-ray imaging solder joints on top side on a board.



YESTech's 3-D x-ray imaging solder joints on bottom side on a board.

