

# JewelBox-100T

*Precision X-Ray Imaging Essential for the Inspection of BGA, Flip Chip, CSP, IC*

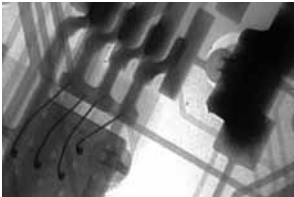


Image of a surface mounted IC permits inspection of the wires.

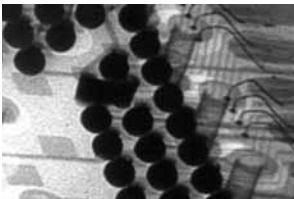
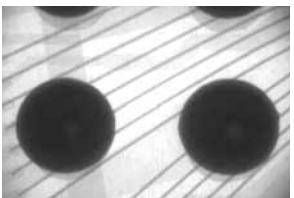
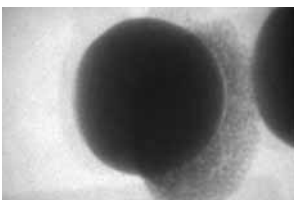


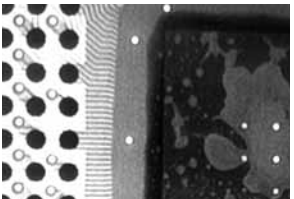
Image of a MicroBGA rotated.



BGA ball with a 1 mil gold wire and void seen through the ball.



BGA ball with un-reflowed solder paste showing actual solder grains in the paste.



Die attach, showing voids in the epoxy.



The JewelBox 100T delivers precision x-ray images of ultra high resolution and gray scale accuracy without the aberrations of Voltage Blooming and Pincushioning prevalent in other systems. The patented, award-winning x-ray camera technology, in conjunction with its 100 kv, 5 micron focal spot x-ray tube (replaces 90 kv, 5-7 micron focal spot x-ray tube), delivers precise x-ray images at magnifications from 7X to 2000X with a resolution of 500 line pairs/mm. The broad energy sensitivity range of this camera permits x-ray imaging of both high density and low density devices.

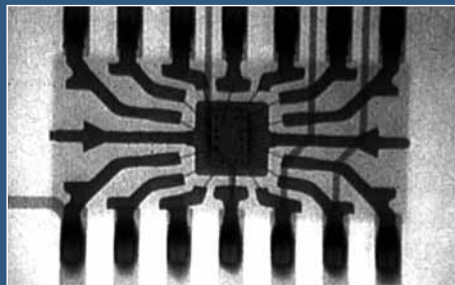
What's more, the JewelBox 100T saves you floor space. It's half the size of comparable systems, yet it provides the most extraordinary microfocus x-ray image quality at the highest magnifications. The JewelBox 100T offers five-axis control of the inspected product, including 360° rotation and tilt.

Applications for the JewelBox 100T include advanced electronic packages such as BGAs, Flip Chips, CSPs, IC Wire Bonds, die attachment, as well as critical medical devices.

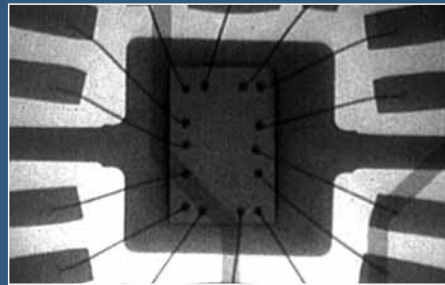


## *Progressive magnification allows inspection of multiple details:*

24X



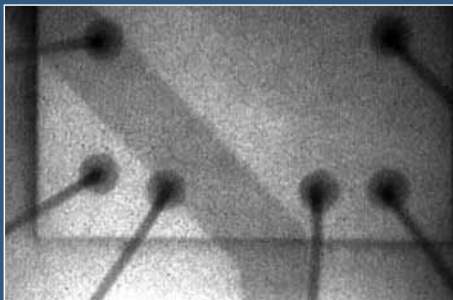
65X



*Above: 24X view of an IC and the same IC at 65X.*

*Below: At 250X, ball bonds may be inspected. Also at 250X, wedge bonds are revealed.*

250X



250X



### Specifications

- Operating voltage: 120v/60 hz or 220v/50 hz
- Anode voltage: 100 kv, 5 micron focal spot x-ray tube (replaces 90 kv, 5-7 micron focal spot x-ray tube).
- Anode current: 0.375 mA (adjustable).
- Resolution: 500 line pairs/mm.
- Magnification: variable from 7X up to 2000X.
- Focal spot size: 5 micron.
- Focal spot to image plane distance: 9-12 inches (factory preset).
- Nominal exterior dimensions: 35 1/8"W x 43 1/8"D x 72 3/4"H.
- Inspection compartment dimensions: 28 1/2"W x 30"D x 23 3/4"H.
- Computer Console dimensions: 28 3/8"W x 29 3/4"D x 36 3/4"H.
- Manipulator: five-axis joystick positioner.
- GTI-50 Image Processing Software and USB frame grabber

