

Jewel Box 90-T

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

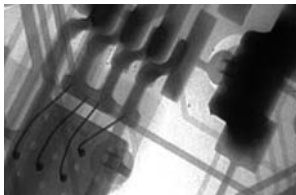


Image of a surface mounted IC permits inspection of the wires.

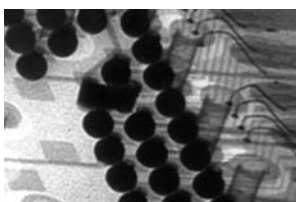
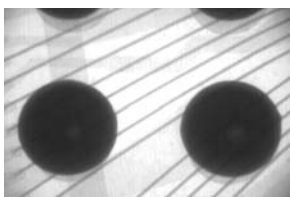
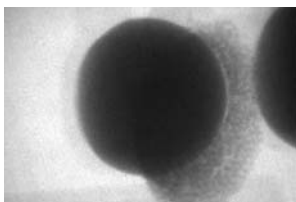


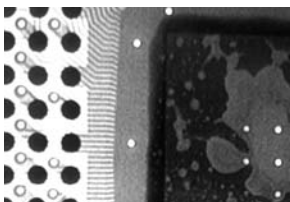
Image of a MicroBGA rotated.



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 Jewel Box 90-T 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 90kV, 5 micron focal spot x-ray source, 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 Jewel Box 90-T 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 Jewel Box 90-T offers five-axis control of the inspected product, including 360° rotation and tilt.

Applications for the Jewel Box 90-T include advanced electronic packages such as BGAs, Flip Chips, CSPs, IC Wire Bonds, die attachment, xZas well as critical medical devices.

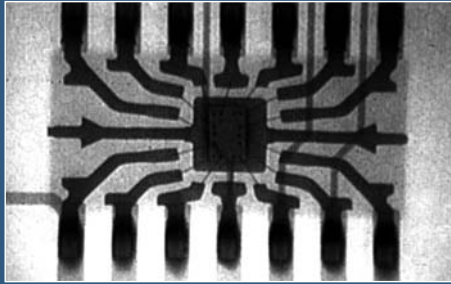
Glenbrook Technologies Inc.
X-RAY TECHNOLOGY LIKE NO OTHER

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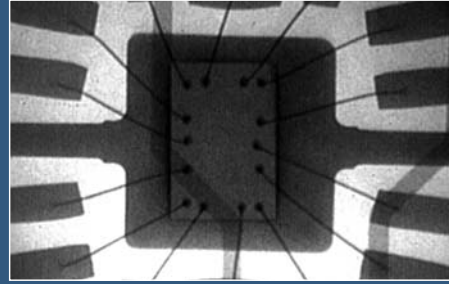
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Progressive magnification allows inspection of multiple details:

24X



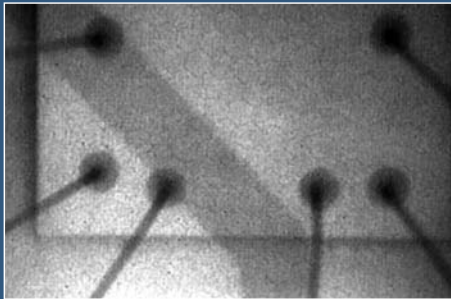
65X



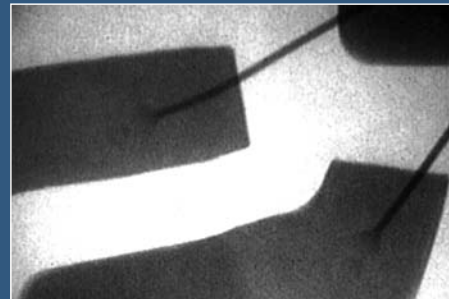
Above: 24X view of an IC and the same IC at 65X.

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: 90 kV, adjustable.
- Anode current: 100 μ Amps (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-5000 Image Processing Software Package includes PC, monitor and Inkjet printer.



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