

## BH-1000 BGA Scope

### BGA Inspection Measurement System



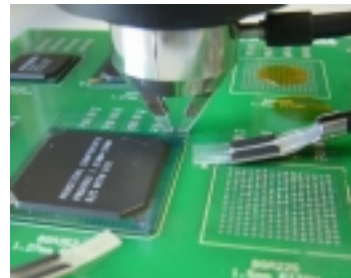
#### If you experience issues with BGA inspection:

- X-Ray images do not yield the defect on BGA failure
- Requires high definition image for quality analysis
- A low cost system for checking BGA solder joints
- A reliable system of low maintenance cost for continuing operation
- A system easy to use, requires little operational training
- Need to capture a defect for documentation or communication
- Need a good vision system for solder joint, J-lead, through hole, SMT inspection
- Need a vision system for solder paste measurement
- Need to measure stencil aperture & inspect side wall

#### BH-1000 BGA SCOPE is perfect solution for BGA inspection:

- The **Best image** quality with most details in the SMT industry for inspection, measurement & documentation
- High-resolution color CCD of 900k pixel, using **full spectrum of RGB video** for best clear image
- **Metal Halide** Solarc light source for super-bright white light for best illumination under BGA
- **Semi-flex fiber optic with replaceable fiber brush tips for best illumination**
- **0°** Straight down view for solder joint, PCB and through hole inspection
- **90°** Angle view for inspecting BGA, micro BGA and Flip Chip
- 50x-200x zoom magnification, with detents for easy measurement
- Unique **3D rotational viewing** to see top and bottom interfaces of BGA solder joints
- **Spring-loaded** BGA lens to prevent accidental damage
- **User-replaceable BGA prism tip** to avoid any down time
- Can see **0.002" micro** BGA and flip chip (the best viewer for smallest BGA in the industry)
- Fit within **1mm (0.04")** tight gap between components
- **Measurement & QC Analysis software** included for dimensional measurement, image comparison, image library, and output data to Excel or printer
- Direct connect to computer for inspection, taking pictures and measurement
- Modular and expandable system design for expanded applications in the future
- **Interchangeable** with additional 3D rotational lens, Solder Paste measurement laser light, and high power zoom lens from 1x to 7,000x for expanded functions in the future
- **Micro Fiber scope** attachment with 0.7mm diameter (0.030") available

#### Expandable & Interchangeable Lenses



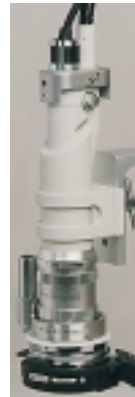
Semi-flexible fiber cable with replaceable brush fiber tips for best illumination under BGA



User replaceable BGA prism tips, robust and durable, perfect image from special mirror surface



0.2mm / 0.5mm **Flat** brush fiber and 0.1mm / 0.2mm **Finger** light fiber offer changeable illumination under BGA



3-D Rotational Lens (50x-300x) & Solder Paste Measurement



**Micro Fiber scope** to insert into CGA or large BGA, 0.7mm diameter (0.030")

#### BGA Scope actual images



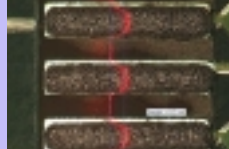
BGA cold solder joint



BGA crack



Insufficient cleaning



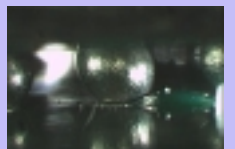
Solder paste measurement



90° view solder paste



Crack J-lead



Fractured solder joint



Scaling on BGA ball



Cold joint 3rd row inside



3D solder paste inspection

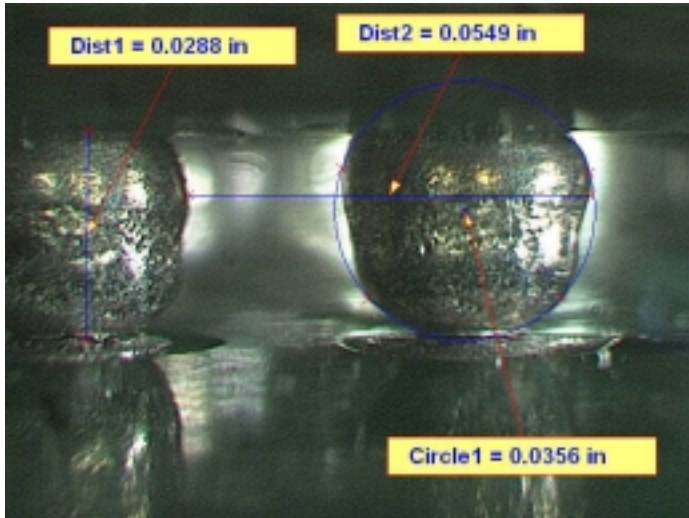


Stencil side wall inspection

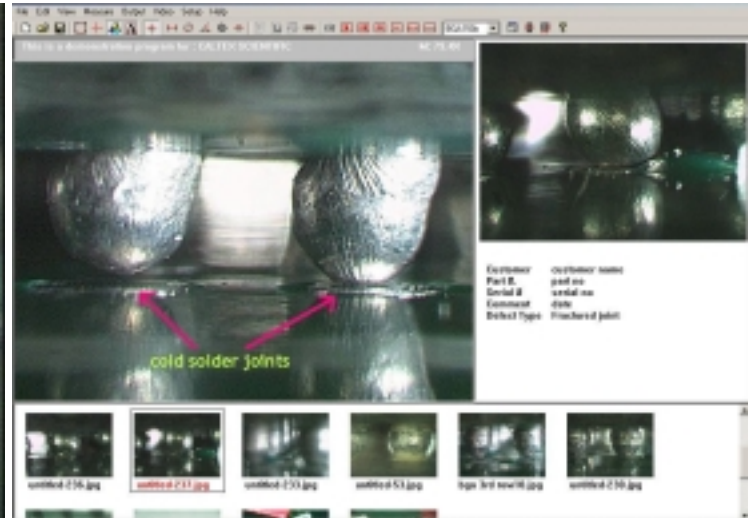


Cold QFP joint

#### Measurement & Analysis software



Measurements of height, pitch, diameter, XY dimension with simple mouse clicks



Compare live to library of defect images with IPC standard & annotation

#### SPECIFICATIONS

BH-1000	BGA Scope camera system of 900k pixel ultra-sharp resolution color CCD, 560 lines resolution, RGB & S-Video outputs, Metal Halide super bright white light source. Interchangeable lens design for easy system expansion
MX-BGAZ	High resolution BGA Scope lens cross focus design, 0° straight down view & super angle 90° side view with 3-D Optical Rotation, 50x-200x zoom with detents, integrated flexible fiber and fiber brush, replaceable BGA prism tips for easy maintenance & no down time. Inspect down to 0.002" BGA stand-off, BGA prism profile 0.9 mm. Soft-spring mechanism for shock absorbing.
SMF-B	Multi-position boom stand 16"v x 20"h and 17"x20" base, accommodate up to 40" board. Fine & Coarse focus adjustment with Tilting Mount for multi-angles positioning of lens.
VICA-BP	High resolution digital-video capture & display PCI card for full-motion, real-time digital-video view on PC. Image capture (jpg, bmp, tiff formats) archive & email. Run under Windows 98/2000/XP
VMS-1	Digital-video Quality Control Measurement Software for high precision measurement of X-Y, Z, length, diameter, radius, angle, and area, plus image documentation, annotation, and image library comparison. 32 bit for Windows 98/2000/XP.

#### OPTIONS

XYR-15	XY sliding ball-bearing stage 15"x15" with rotational turntable
VICA-PCD	Dell Pentium computer with 15" ultra-sharp Flat Panel Display
3D-5030RVS	3D Rotational inspection lens, 50x-300x zoom, 0° straight down view & 25° - 55° variable oblique angle viewing
3D-5030SL	Laser slit light for solder paste height measurement
12MMC	Macro view zoom lens 1x-20x for imaging the whole component to whole board
MF-0715	Micro Fiber Scope, semi-flexible, 0.7 mm diameter, 15" fiber length
KR-814	Stage micrometer (1"/25mm) for calibration: 1", 0.1", 0.01" and 0.001". 25mm, 1mm, 0.1mm, and 0.02mm.

#### ACCESSORIES

AD-BGAPC	BAG prism tip, 0.9 mm profile, user replaceable
AD-BGA2F	Flat Brush Fiber 0.2 mm
AD-BGA5F	Flat Brush Fiber 0.5 mm
AD-BGA1B	Finger Light Fiber 0.1 mm
AD-BGA2B	Finger Light Fiber 0.2 mm

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