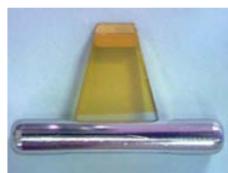


## Specifications

Model	Magnification (Approx.)	Focus Distance (Approx.)	Resolution (TV)	Resolution (PC)
MS-1000	140x	約6mm	410K pixels	VGA(640×480)
MS-1000LW	70x	約12mm	410K pixels	VGA(640×480)
MS-1000EX	70x~140x	約5mm	410K pixels	VGA(640×480)

### Prism for BGA Inspection

MS-1000	PR-M2 (Prism thickness 2mm) PR-M3 (Prism thickness 1mm) PR-M5 (Prism thickness 0.5mm)	MS-1000LW and MS-1000EX	PR-M2-2 (Prism thickness 2mm) PR-M3-2 (Prism thickness 1mm) PR-M5-2 (Prism thickness 0.5mm)
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### Prism for QFP and Package Parts Inspection

MS-1000	PR-S1	MS-1000LW and MS-1000EX	PR-S1-2
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## Operating Environment When Connected to the PC

Standards : USB2.0 compliant  
 Display input : Color camera for NTSC or PAL  
 PC operating environment : Hardware : DOS/V AT compatible with USB2.0 interface,  
 CPU : Pentium III 800Mhz or above  
 Note : Not compliant to Expanded USB (PCI and CardBUS)  
 Operating system : Windows 2000, Windows XP, Windows VISTA  
 Display size : 640 x 480 dots (VGA)  
 Frame rate : 30 frames/second  
 Operating humidity : Under 80% (without dew)  
 Cable length : USB interface cable : approx. 1.2 meters, USB cable: approx. 1.8 meters

## Standard Shipped Parts

Microscope body  
 BGA prism (thickness 2mm)  
 QFP prism  
 Camera cable  
 AC adapter  
 RCA cable  
 USB Pack (contains USB interface cable,  
 USB cable, device driver software, viewer software)



■ For details, contact the following:

### O'Dell Rework Solutions Ltd

Intech House  
 34/35, The Cam Centre  
 Wilbury Way  
 Hitchin  
 Hertfordshire, SG4 0TW  
 T : +44 (0) 1462 458343  
 F : +44 (0) 5603 449927  
 M : +44 (0) 7813 796304  
 E : jason@odellrework.co.uk  
 W : www.odellrework.co.uk



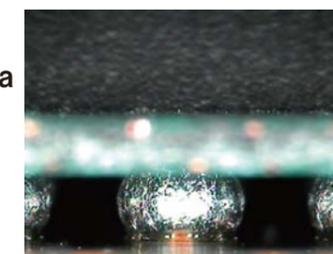
## BGA Microscope



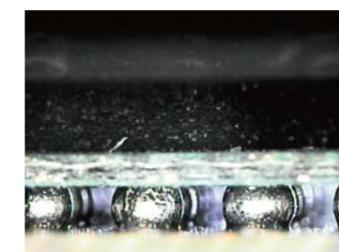
# MS-1000 Series

## Accurate and Speedy Visual Inspection of BGA Soldering and QFP Lead Sections

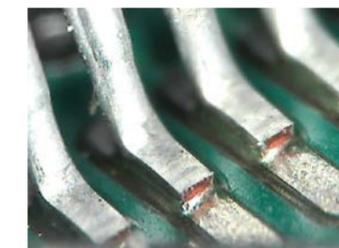
**BGA (Ball-Grid Array) Inspection**  
 With this microscope, you can perform a visible check of the soldered points and surface.  
 Thus, you can obtain highly reliable inspection and analysis results.



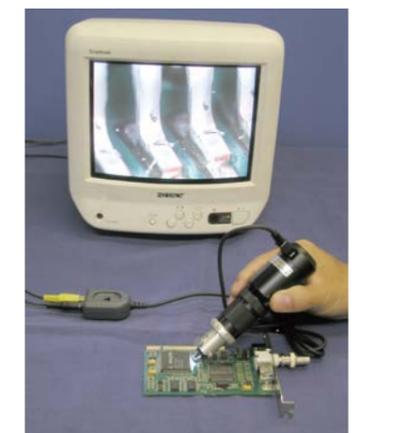
**BGA Package Interior Inspection**  
 You can also inspect the interior section of the package by using the backlight system.  
 (The backlight system is an option.)



**QFP, Assembly Parts Inspection**  
 This microscope enables you to visually inspect the lead section of a QFP from the side.  
 You can also inspect other parts of a package freely as if using a pen.



**For Use with PC or TV**  
 You can connect the microscope to either a notebook PC or to a TV.



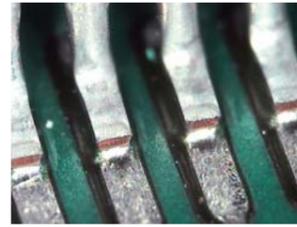
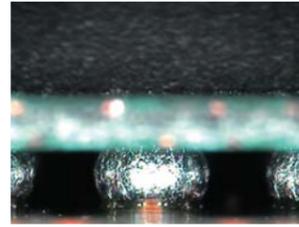
## ● Three Models Available

You can select a model from the following three models to fit your work needs.

### MS-1000



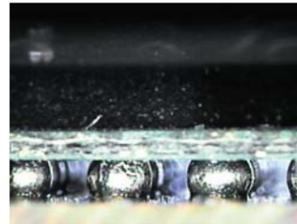
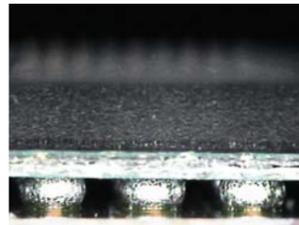
This model is fit for inspecting the first row of the BGA package and the lead section of the QFP. It is also fit for CSP inspection. magnification: x140 on 14inch TV



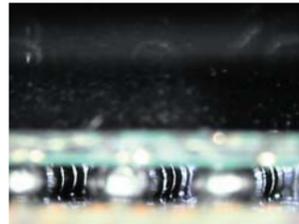
### MS-1000LW



This model is fit for inspecting the BGA and QFP from a wide angle. You can also use it to view the interior section of a BGA package using the backlight system. Magnification: x70 on 14inch TV



Focus on the first row.



Focus on the third row.



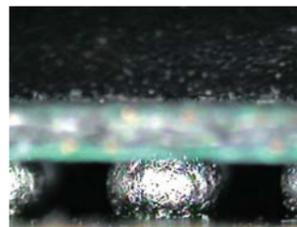
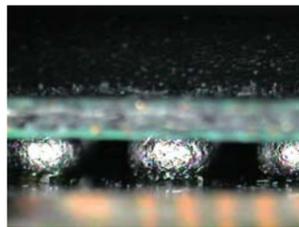
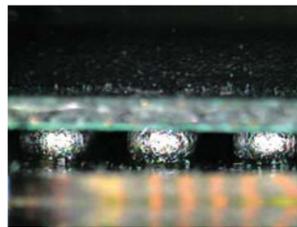
Focus after the third row.

### MS-1000EX

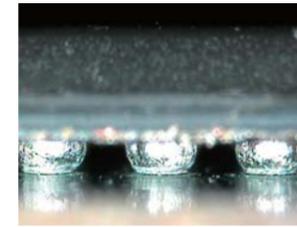


You can adjust the magnification continuously between 70 and 140 times. This microscope is useful when you want to view a particular spot at wide angle and at high magnification.

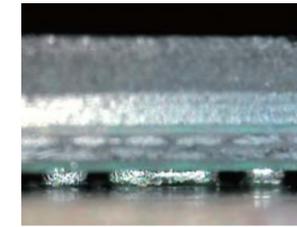
The picture below shows the change in magnification from 70x to 140x.



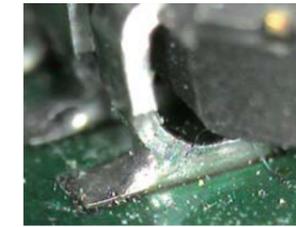
## ● Other Screen Samples



Pitch P=08 Crack (MS-1000)



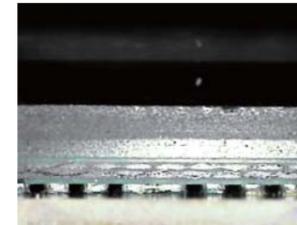
P=0.5 Bridge (MS-1000)



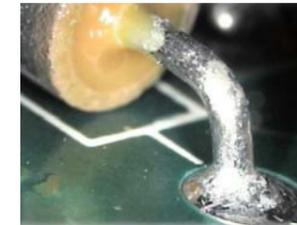
Soldered Joint (MS-1000EX)



Part (MS-1000LW)



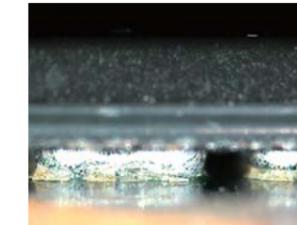
P=0.5 Bridge (MS-1000LW)



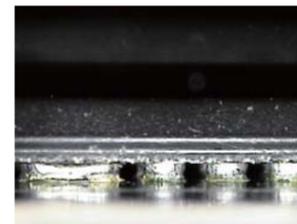
Soldered Joint (MS-1000LW)



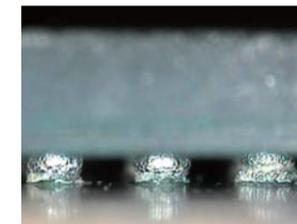
Through Hole (MS-1000)



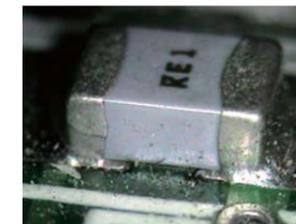
P=08 Bridge (MS-1000)



P=08 Bridge (MS-1000LW)



P=08 Unsoldered Joint (MS-1000)



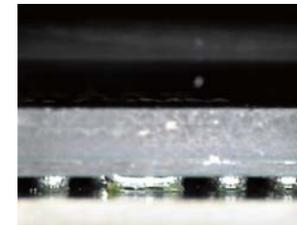
Part (MS-1000EX)



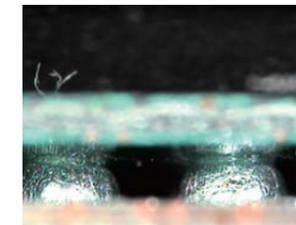
Soldered Joint (MS-1000)



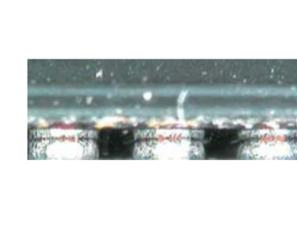
QFP (MS-1000LW)



P=0.5 Bridge (MS-1000LW)



P=1.27 Upper Parts (MS-1000)

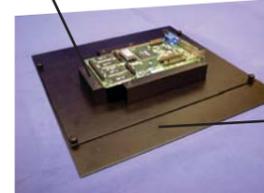


P=0.8 Upper Parts (MS-1000)

## ● Options

### Base Plate Holder MS-H-01

The three holders fix the base plate to the stage. You can adjust the size freely using the magnet.



### Black Stage MS-BS-01

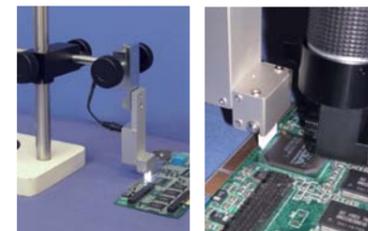
You can slide the base plate on the stage (230 x 300mm) and even rotate it.

### Camera Fixing Mechanism HF0001 & 0002 + Stand



Holds the camera to a fixed position. You can move the mechanism up and down, to the left and right, forward and backward, and even rotate it to a fixed angle.

### Backlight Guide System BL-SYSTEM-03



You can confirm the bridge by flashing the LED from the opposite direction of the camera. You can inspect the interior of the package by using it with MS-1000-LW.

### Prism Holder BL-02-03



You can flash a backlight on a BGA package which is only 5 mm square.