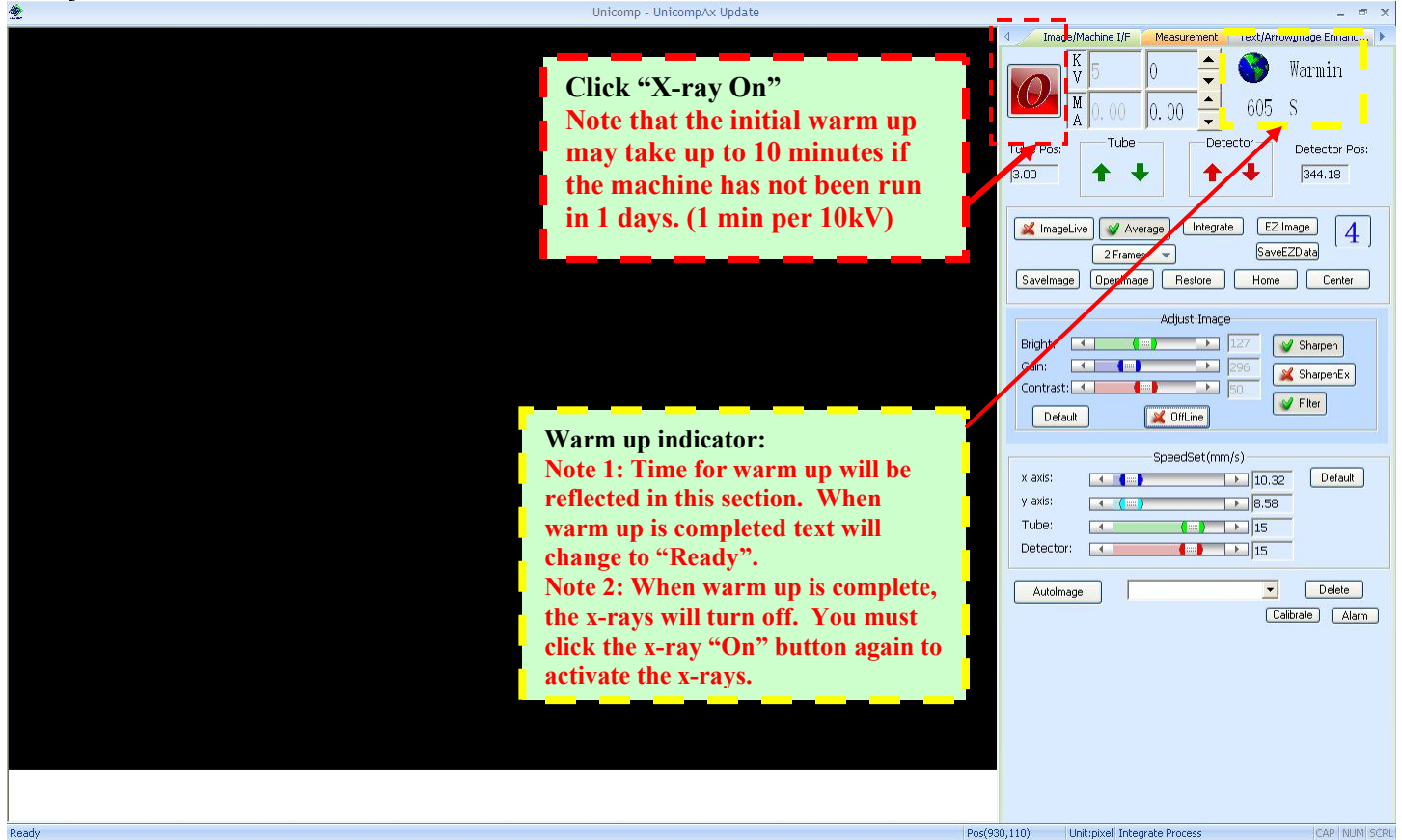


IMAGE/MACHINE INTERFACE PAGE FUNCTIONS AND FEATURES

X-ray On



Click “X-ray On”
Note that the initial warm up may take up to 10 minutes if the machine has not been run in 1 days. (1 min per 10kV)

Warm up indicator:
Note 1: Time for warm up will be reflected in this section. When warm up is completed text will change to “Ready”.
Note 2: When warm up is complete, the x-rays will turn off. You must click the x-ray “On” button again to activate the x-rays.

The interface includes a status bar at the bottom with the text: Ready, Pos(930,110), Unit:pixel, Integrate Process, CAP, NUM, SCRL.

Live Image

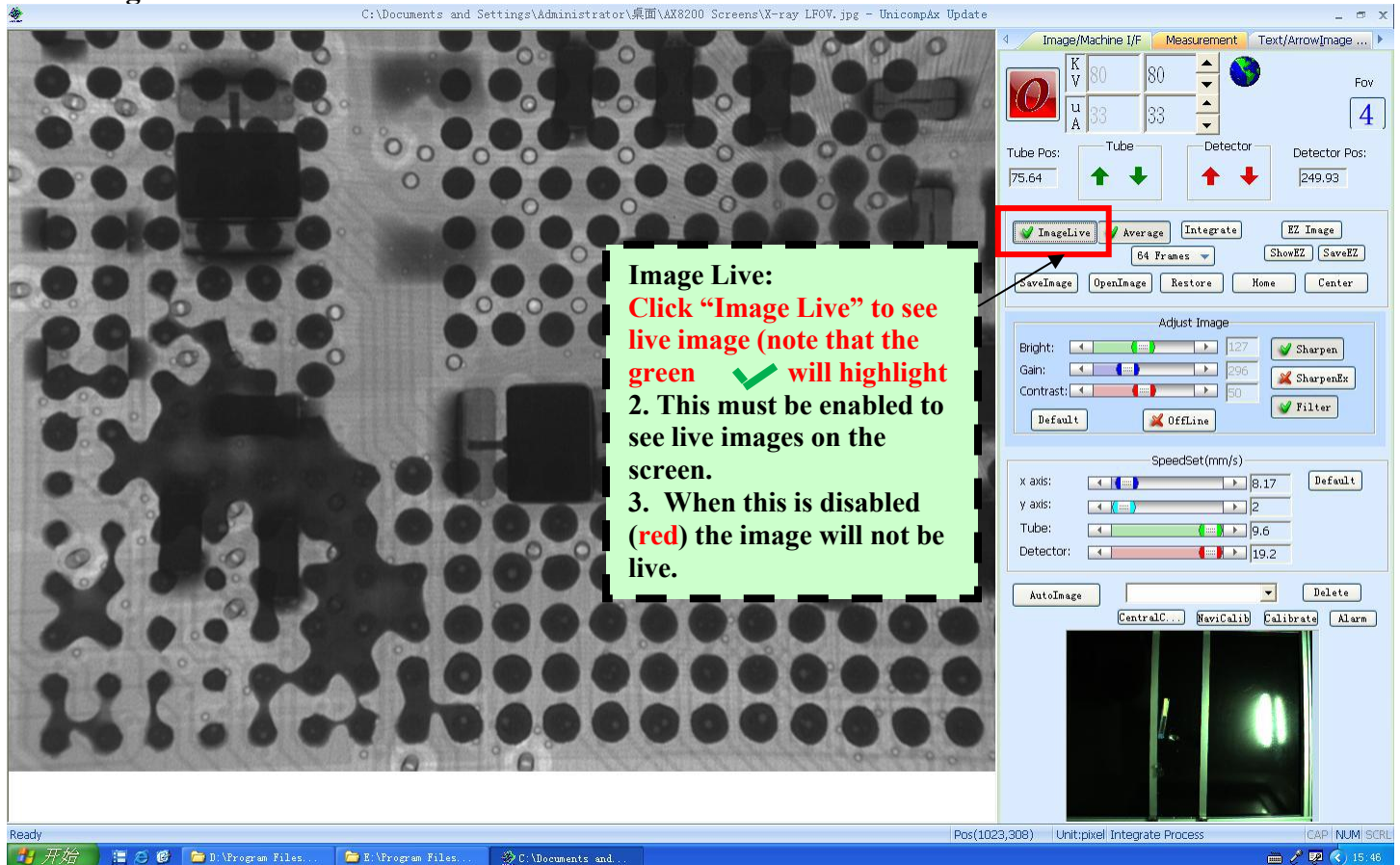


Image Live:
Click “Image Live” to see live image (note that the green ✓ will highlight
2. This must be enabled to see live images on the screen.
3. When this is disabled (red) the image will not be live.

The interface includes a status bar at the bottom with the text: Ready, Pos(1023,308), Unit:pixel, Integrate Process, CAP, NUM, SCRL.

kV/mA Adjustment

1. Click kV to increase/decrease kV.
2. Click mA to increase/decrease mA.

Image/Machine I/F Measurement Text/Arrow/Image ...

KV 80 80 Fov 4

mA 33 33

Tube Pos: 75.64 Tube Detector Detector Pos: 249.93

ImageLive Average Integrate EZ Image

64 Frames ShowEZ SaveEZ

SaveImage OpenImage Restore Home Center

Adjust Image

Bright: 127 Sharpen

Gain: 296 SharpenEx

Contrast: 50 Filter

Default Offline

SpeedSet(mm/s)

x axis: 8.17 Default

y axis: 2

Tube: 9.6

Detector: 19.2

AutoImage Delete

CentralC... NaviCalib Calibrate Alarm

Ready Pos(1023,308) Unit:pixel Integrate Process CAP NUM SCRL 15:46

X-ray Off

1. Click "X-ray Off".
Note that the kV cannot be more than 60kV to turn off x-rays. kV must be 60kV or less.

Image/Machine I/F Measurement Text/Arrow/Image ...

KV 80 80 Fov 4

mA 33 33

Tube Pos: 75.64 Tube Detector Detector Pos: 249.93

ImageLive Average Integrate EZ Image

64 Frames ShowEZ SaveEZ

SaveImage OpenImage Restore Home Center

Adjust Image

Bright: 127 Sharpen

Gain: 296 SharpenEx

Contrast: 50 Filter

Default Offline

SpeedSet(mm/s)

x axis: 8.17 Default

y axis: 2

Tube: 9.6

Detector: 19.2

AutoImage Delete

CentralC... NaviCalib Calibrate Alarm

Ready Pos(1023,308) Unit:pixel Integrate Process CAP NUM SCRL 15:46

X-ray Tube Up/Down

The screenshot shows the X-ray software interface. On the left is a grayscale image of a sample with a grid of circular holes. On the right is the control panel. The 'Tube Pos:' field shows 75.64. The 'Detector Pos:' field shows 249.93. The 'K' and 'V' fields both show 80. The 'U' and 'A' fields both show 33. The 'Fov' field shows 4. The 'Adjust Image' section has sliders for Bright (127), Gain (296), and Contrast (50). The 'SpeedSet(mm/s)' section has sliders for x axis (8.17), y axis (2), Tube (9.6), and Detector (19.2). The 'AutoImage' dropdown is set to 'Default'. The 'Delete' button is visible. The status bar at the bottom shows 'Pos(1023,308) Unit:pixel Integrate Process' and 'CAP | NUM | SCRL'.

1. Click ↑ arrow to move x-ray tube up and down.
Note 1: This will change the image size and magnification.
Note 2: As the x-ray tube is moved up the kV will decrease

Tube Pos:
This will display the actual distance of the x-ray tube to the bottom of the X/Y table surface.

X-ray Detector Up/Down

The screenshot shows the X-ray software interface. On the left is a grayscale image of a sample with a grid of circular holes. On the right is the control panel. The 'Tube Pos:' field shows 75.64. The 'Detector Pos:' field shows 249.93. The 'K' and 'V' fields both show 80. The 'U' and 'A' fields both show 33. The 'Fov' field shows 4. The 'Adjust Image' section has sliders for Bright (127), Gain (296), and Contrast (50). The 'SpeedSet(mm/s)' section has sliders for x axis (8.17), y axis (2), Tube (9.6), and Detector (19.2). The 'AutoImage' dropdown is set to 'Default'. The 'Delete' button is visible. The status bar at the bottom shows 'Pos(1023,308) Unit:pixel Integrate Process' and 'CAP | NUM | SCRL'.

1. Click ↑ arrow to move x-ray detector up and down.
Note 1: This will change the image size and magnification.
Note 2: As the detector is moved up the kV will need to increase

Detector Pos:
This will display the actual distance of the detector to the top of the X/Y table surface.

X-ray FOV (Field of View) Change

1. Click FOV and the image magnification will double. FOV number will change from 4 to 2 and the FOV will change.

Note 1: This will change the image size and magnification.

Note 2: When the FOV is 4, the kV power will be approx. 15kV lower than the FOV 2.

Image Live

1. Click "Image Live" button until the ✓ is highlighted

2. This is needed to see live images on the screen

3. When this is disabled (red) the image will not be live

Average and Frames

1. Click “Average” until “green” and the image will be live.
2. If check mark is “red” the average function is not active.

1. Click “Frames” to reduce the noise in the image.
2. 16-32 frames is ideal for normal operation.
Note: As the frame number increases there may be some minor delay in the image movement.

Ready Pos(505,598) Unit:pixel Integrate Process CAP | NUM | SCRL 15:48

Integrate

1. With a live image click “Frames” and select 64 frames. (64 frames is ideal, more frames will take longer to process)
2. Click the “Integrate” to activate the function.
3. Image noise will be reduced and the image will be stored in the camera frame buffer.
Note 1: This function is used primarily for saving images. 64 frames is the optimum number to create a very clean image.
Note 2: The x-ray kV can be turned off after the Integration is complete.

Ready Pos(505,598) Unit:pixel Integrate Process CAP | NUM | SCRL 15:48

EZ Image Step 1

1. Click “Show EZ” and the image look up table will appear. You can customize your final integrated image.

2. If you want a “customized” image that is different than the our standard default image, make changes to the “EZ Image Data” table.

3. Click OK when completed.

- * Bright
- * Gain
- * Contrast
- * Frame
- *Sharpen
- *SharpenEx
- * Filter

Ready Pos(914,372) Unit:pixel Integrate Process CAP NUM SCRL 16:08

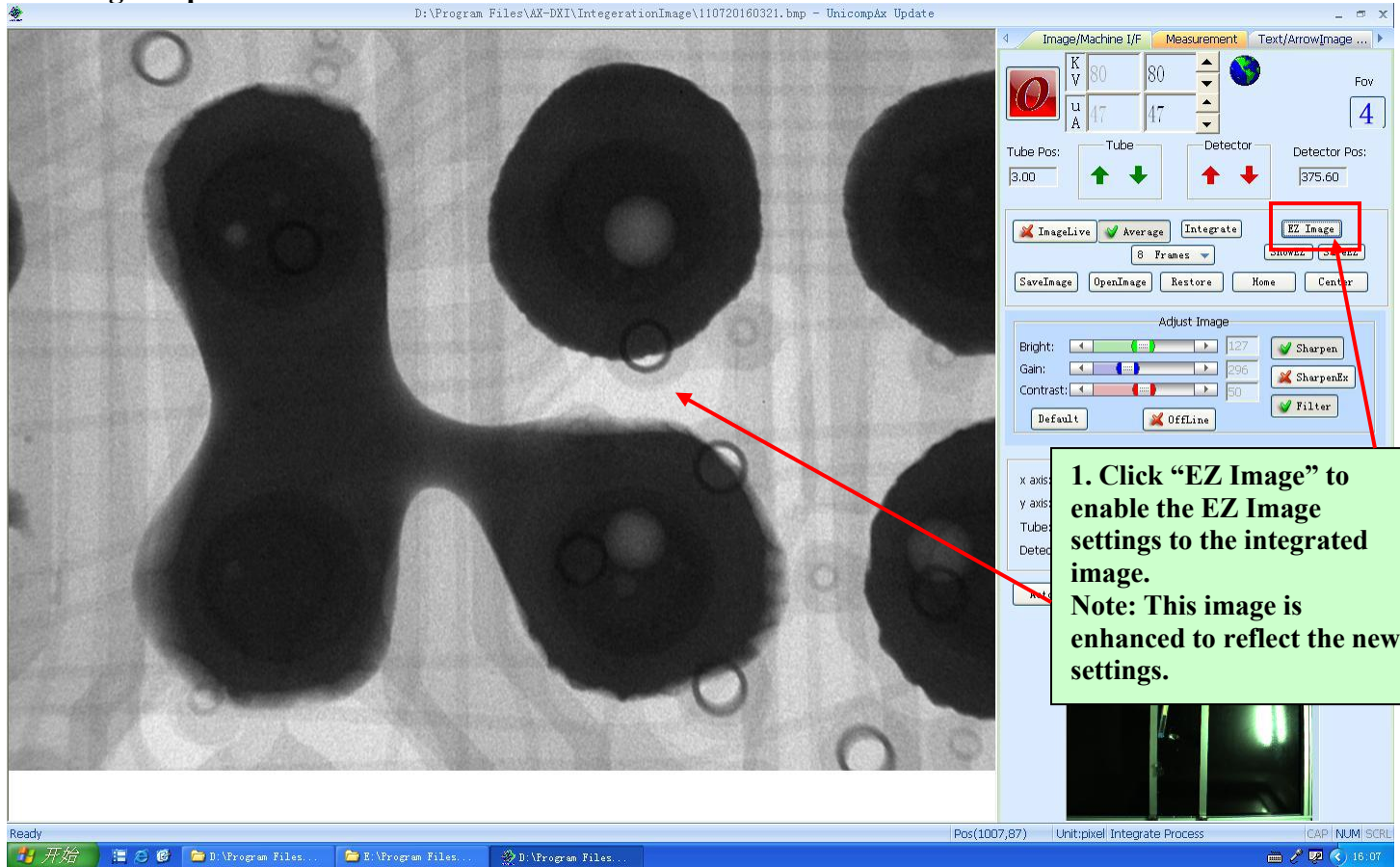
EZ Image Step 2

1. Click “Save EZ” and the EZ Image parameters will be saved .

2. Click “OK” when done

Ready Pos(510,594) Unit:pixel Integrate Process CAP NUM SCRL 16:08

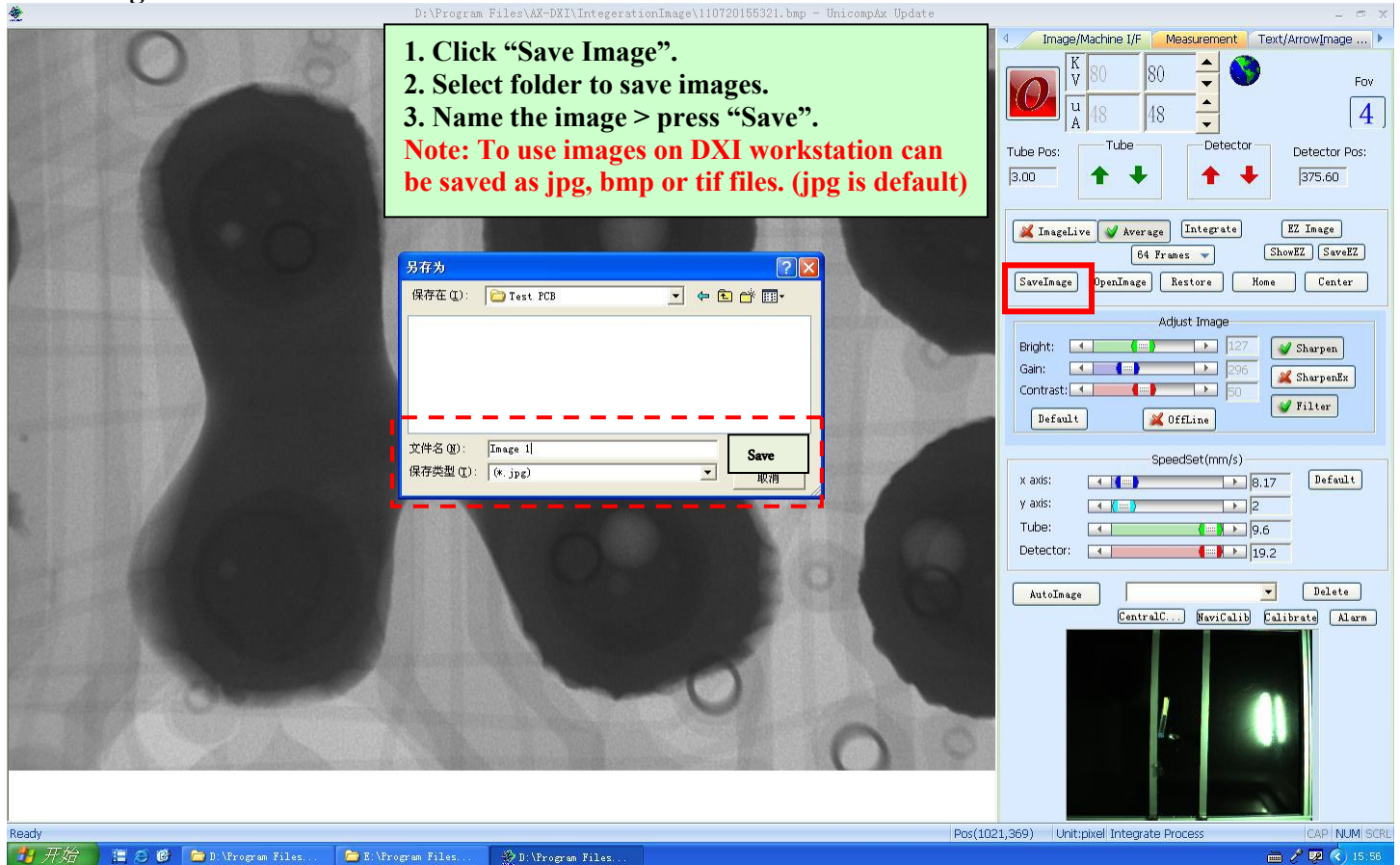
EZ Image Step 3



1. Click "EZ Image" to enable the EZ Image settings to the integrated image.
Note: This image is enhanced to reflect the new settings.

Ready | Pos(1007,87) | Unit:pixel | Integrate Process | CAP | NUM | SCRL | 16:07

Save Image



1. Click "Save Image".
2. Select folder to save images.
3. Name the image > press "Save".
Note: To use images on DXI workstation can be saved as jpg, bmp or tif files. (jpg is default)

另存为
保存在 (I): Test PCB
文件名 (N): Image 1
保存类型 (T): (*.jpg)
Save

Ready | Pos(1021,369) | Unit:pixel | Integrate Process | CAP | NUM | SCRL | 15:56

Open Image

1. Click "Open Image"
2. Select folder with images
3. Click file to open image

Ready | Pos(1008,286) | Unit:pixel | Integrate Process | CAP | NUM | SCRL | 15:57

Restore

1. Click "Restore" to return to previous image settings.

Ready | Pos(512,601) | Unit:pixel | Integrate Process | CAP | NUM | SCRL | 15:49

Home

C:\Documents and Settings\Administrator\桌面\AX8200 Screens\X-ray LFOV.jpg - UnicomPax Update

1. Click "Home" and the X/Y table will move to home position. (back left corner)

Image/Machine I/F Measurement Text/Arrow/Image...

K 80 80
V
U 33 33
A

Fov 4

Tube Pos: 75.64 Tube Detector Detector Pos: 249.93

ImageLive Average Integrate EZ Image
64 Frames ShowEZ SaveEZ
SaveImage OpenImage Restore Home Center

Adjust Image
Bright: 127 Sharpen
Gain: 296 SharpenEx
Contrast: 50 Filter
Default Offline

SpeedSet(mm/s)
x axis: 8.17 Default
y axis: 2
Tube: 9.6
Detector: 19.2

AutoImage Delete
CentralC... NaviCalib Calibrate Alarm

Ready Pos(512,601) Unit:pixel Integrate Process CAP NUM SCRL 15:49

Center

C:\Documents and Settings\Administrator\桌面\AX8200 Screens\X-ray LFOV.jpg - UnicomPax Update

1. Click "Center" and X/Y table will move to center position of the machine.

Image/Machine I/F Measurement Text/Arrow/Image...

K 80 80
V
U 33 33
A

Fov 4

Tube Pos: 75.64 Tube Detector Detector Pos: 249.93

ImageLive Average Integrate EZ Image
64 Frames ShowEZ SaveEZ
SaveImage OpenImage Restore Home Center

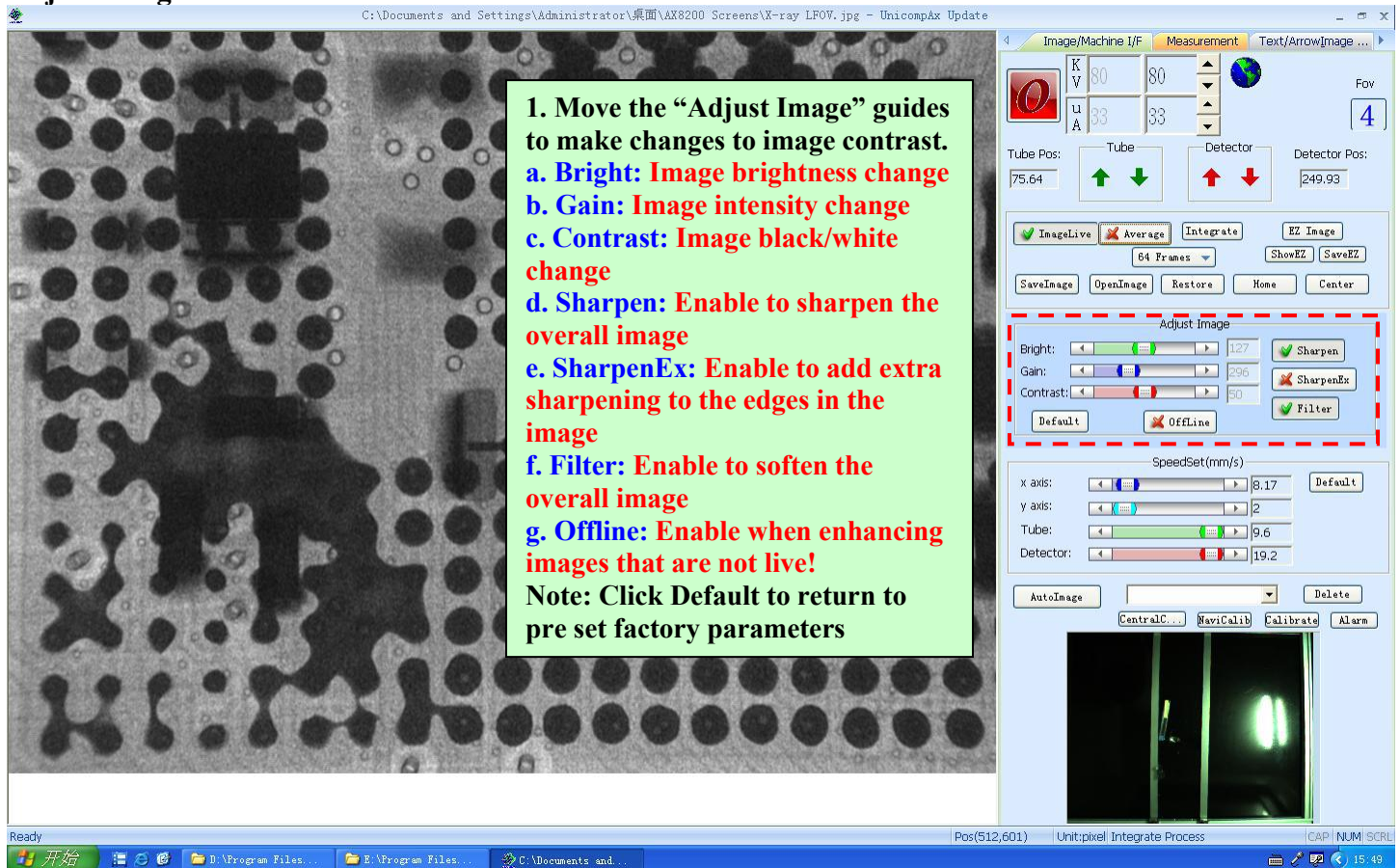
Adjust Image
Bright: 127 Sharpen
Gain: 296 SharpenEx
Contrast: 50 Filter
Default Offline

SpeedSet(mm/s)
x axis: 8.17 Default
y axis: 2
Tube: 9.6
Detector: 19.2

AutoImage Delete
CentralC... NaviCalib Calibrate Alarm

Ready Pos(512,601) Unit:pixel Integrate Process CAP NUM SCRL 15:49

Adjust Image



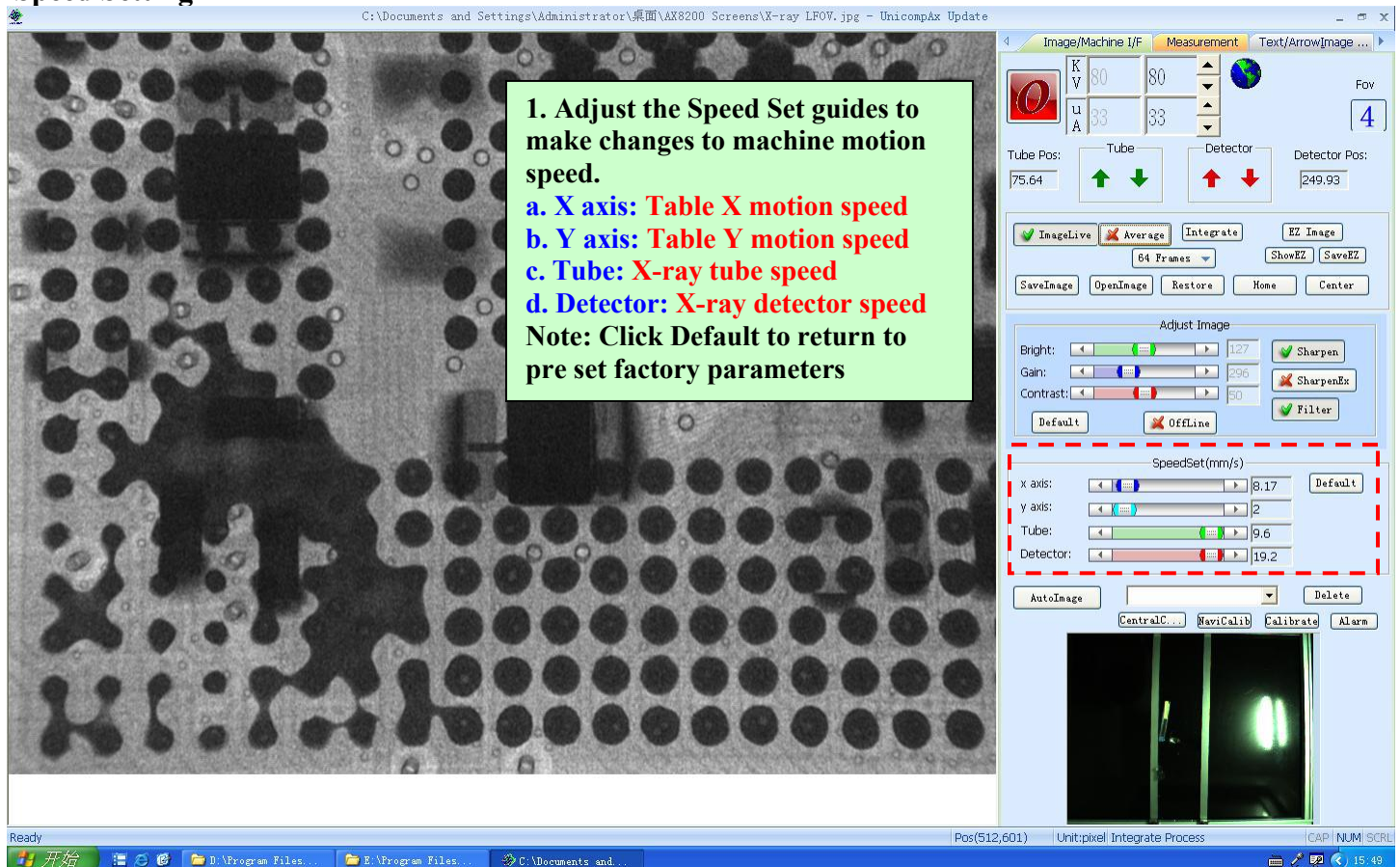
1. Move the “Adjust Image” guides to make changes to image contrast.

- a. Bright:** Image brightness change
- b. Gain:** Image intensity change
- c. Contrast:** Image black/white change
- d. Sharpen:** Enable to sharpen the overall image
- e. SharpenEx:** Enable to add extra sharpening to the edges in the image
- f. Filter:** Enable to soften the overall image
- g. Offline:** Enable when enhancing images that are not live!

Note: Click Default to return to pre set factory parameters

The screenshot shows the software interface with a large X-ray image of a grid on the left. On the right is a control panel with various settings. A green box highlights the 'Adjust Image' section, which includes sliders for Bright, Gain, and Contrast, and checkboxes for Sharpen, SharpenEx, Filter, and Offline. Below this is the 'SpeedSet(mm/s)' section with sliders for X axis, Y axis, Tube, and Detector. The status bar at the bottom shows 'Pos(512,601) Unit:pixel Integrate Process'.

Speed Setting



1. Adjust the Speed Set guides to make changes to machine motion speed.

- a. X axis:** Table X motion speed
- b. Y axis:** Table Y motion speed
- c. Tube:** X-ray tube speed
- d. Detector:** X-ray detector speed

Note: Click Default to return to pre set factory parameters

The screenshot shows the software interface with a large X-ray image of a grid on the left. On the right is a control panel with various settings. A green box highlights the 'SpeedSet(mm/s)' section, which includes sliders for X axis, Y axis, Tube, and Detector. The status bar at the bottom shows 'Pos(512,601) Unit:pixel Integrate Process'.

Auto Image Set© Step 1

1. Click “Auto Image” and the Auto Image Set© (AIS) box will appear
2. Enter the “project name” of the AIS image you want to set.

Image/Machine I/F Measurement Text/Arrow/Image ...

KV 80 80 Fov 4
UA 37 37
Tube Pos: 50.40 Tube Detector Detector Pos: 300.65
ImageLive Average Integrate EZ Image
64 Frames ShowEZ SaveEZ
SaveImage OpenImage Restore Home Center
Adjust Image
Bright: 127 Sharpen
Gain: 296 SharpenEx
Contrast: 50 Filter
Default Offline
SpeedSet(mm/s)
x axis: 8.17 Default
y axis: 2
Tube: 9.6
Detector: 19.2
AutoImage Delete
CentralC... NaviCalib Calibrate Alarm
Proj Name: BGcornerD300T50 Activate
Kv/mA Value: Table Pos:
KV: X Pos: mm
mA: Y Pos: mm
Tube/Detector Pos:
Tube: mm ReadData
Det: mm SaveData Exit

Auto Image Set© Step 2

1. Create the image you want to save in the Auto Image Set© (AIS). (Ex: BGA Corner)
2. Click “Read Data” and all of the parameters will be reflected in the AIS box. Note: Compare the settings in the AIS box to the settings in the Machine Interface page.

Image/Machine I/F Measurement Text/Arrow/Image ...

KV 80 80 Fov 4
UA 37 37
Tube Pos: 50.40 Tube Detector Detector Pos: 300.65
ImageLive Average Integrate EZ Image
64 Frames ShowEZ SaveEZ
SaveImage OpenImage Restore Home Center
Adjust Image
Bright: 127 Sharpen
Gain: 296 SharpenEx
Contrast: 50 Filter
Default Offline
SpeedSet(mm/s)
x axis: 8.17 Default
y axis: 2
Tube: 9.6
Detector: 19.2
AutoImage Delete
CentralC... NaviCalib Calibrate Alarm
Proj Name: BGcornerD300T50 Activate
Kv/mA Value: Table Pos:
KV: 80 X Pos: 212.18 mm
mA: 37 Y Pos: 173.16 mm
Tube/Detector Pos:
Tube: 50.40 mm ReadData
Det: 300.65 mm SaveData Exit

Auto Image Set© Step 3

1. Click “Save Data” and all of the parameters/project name will be saved.
2. Click “Exit” to disable the AIS box.
3. Click the AIS tab to see all projects that are saved in AIS.

Image/Machine I/F Measurement Text/Arrow/Image...
K V 80 80 Fov 4
U A 37 37
Tube Pos: Tube Detector Detector Pos:
50.40 300.65
ImageLive Average Integrate EZ Image
64 Frames ShowEZ SaveEZ
SaveImage OpenImage Restore Home Center
Adjust Image
Bright: 127 Sharpen
Gain: 296 SharpenEx
Contrast: 50 Filter
Default Offline
SpeedSet(mm/s)
x axis: 8.17 Default
y axis: 2
Tube: 9.6
Detector: 19.2
AutoImages [TempHum1D350T6] Delete
[jpn1] Librate Alarm
[BGcornerD300T50] Activate
Proj Name: BGcornerD300T50
Kv/mA Value: Table Pos:
KV: 80 X Pos: 212.18 mm
mA: 37 Y Pos: 173.16 mm
Tube/Detector Pos:
Tube: 50.40 mm ReadData
Det: 300.65 mm SaveData Exit

Auto Image Set© Step 4

1. Click the AIS tab to see all projects that are saved in AIS.
2. Select the project name and click “Activate”
3. The machine will now “automatically” apply all of the AIS settings from that program. **This eliminates the need for the operator to make any manual settings.**

Image/Machine I/F Measurement Text/Arrow/Image...
K V 80 80 Fov 4
U A 37 37
Tube Pos: Tube Detector Detector Pos:
50.40 300.65
ImageLive Average Integrate EZ Image
64 Frames ShowEZ SaveEZ
SaveImage OpenImage Restore Home Center
Adjust Image
Bright: 127 Sharpen
Gain: 296 SharpenEx
Contrast: 50 Filter
Default Offline
SpeedSet(mm/s)
x axis: 8.17 Default
y axis: 2
Tube: 9.6
Detector: 19.2
AutoImages [TempHum1D350T6] Delete
[jpn1] Librate Alarm
[BGcornerD300T50] Activate
Proj Name: BGcornerD300T50
Kv/mA Value: Table Pos:
KV: 80 X Pos: 212.18 mm
mA: 37 Y Pos: 173.16 mm
Tube/Detector Pos:
Tube: 50.40 mm ReadData
Det: 300.65 mm SaveData Exit

Central C (Crosshair)

D:\Program Files\AX-DXI\IntegrationImage\110720160949.bmp - UnicomAx Update

Image/Machine I/F Measurement Text/Arrow/Image...

K 80 80
V
U 37 37
A

Fov 4

Tube Pos: 50.40 Tube Detector Detector Pos: 300.65

ImageLive Average Integrate EZ Image
64 Frames ShowEZ SaveEZ
SaveImage OpenImage Restore Home Center

Adjust Image

Bright Gain Cont

1. Click "Central C" and a center point crosshair will appear.

x axis: 8.17 Default
y axis: 2
Tube: 9.6
Detector: 19.2

AutoImage BGC CornerD300T50 Delete
CentralC NaviCalib Calibrate Alarm

Ready Pos(1023,489) Unit:pixel Integrate Process CAP NUMI SCRL 16:17

Navi-Calibrate Step 1

D:\Program Files\AX-DXI\IntegrationImage\110720160949.bmp - UnicomAx Update

Image/Machine I/F Measurement Text/Arrow/Image...

K 0 0
V
U 0 0
A

Fov 4

Tube Pos: 50.40 Tube Detector Detector Pos: 377.50

ImageLive Average Integrate EZ Image
64 Frames ShowEZ SaveEZ
SaveImage OpenImage Restore Home Center

Adjust Image

Bright: 127 Sharpen
Gain: 296 SharpenEx
Contrast: 50 Filter
Default OffLine

SpeedSet(mm/s)

x axis: 8.17 Default
y axis: 2
Tube: 9.6
Detector: 19.2

AutoImage BGC CornerD300T50 Delete
CentralC NaviCalib Calibrate Alarm

NavigateCalibrate

Gain: 30
Exposure: 350
Default
Grab Locate Apply
Restore ROI Ok

1. Click "NaviCalibrate" to activate the video camera positioning function.
2. This function will allow you to "point and click" anywhere in the video image for x/y positioning.

Ready Pos(686,178) Unit:pixel Integrate Process CAP NUMI SCRL 16:20

Navi-Calibrate Step 2

1. Click “Grab” to open the Region of Interest (ROI) window.

The software interface includes a 'NavigateCalibrate' dialog with fields for Gain (30) and Exposure (350), and buttons for Grab, Locate, Applicate, Restore, ROI, and Ok. The main interface features a 'Measurement' panel with K, V, U, A values, Tube and Detector position controls, and an 'Adjust Image' panel with Bright, Gain, and Contrast sliders. The 'SpeedSet(mm/s)' panel shows x, y, Tube, and Detector speeds. The main image area displays a sample table with a green ROI box.

Navi-Calibrate Step 3

1. Click “Locate” to shape the Region of Interest (ROI) window inside the sample table.
Note: Be precise with the shaping of the ROI window. Shape ROI window to the inside edges of the table.

The software interface is similar to Step 2, but the 'Locate' button in the 'NavigateCalibrate' dialog is highlighted. The main image area shows the sample table with a more precisely shaped green ROI box.

Navi-Calibrate Step 4

Ready

D:\Program Files\AX-DXI\IntegrationImage\110720160949.bmp - UnicomAx Update

Image/Machine I/F Measurement Text/Arrow/Image...

K 0 0
V
U 0 0
A

Fov 4

Tube Pos: 50.40 Tube Detector Detector Pos: 377.50

ImageLive Average Integrate EZ Image
64 Frames ShowEZ SaveEZ
SaveImage OpenImage Restore Home Center

Adjust Image
Bright: 127 Sharpen
Gain: 296 SharpenEx
Contrast: 50 Filter
Default Offline

SpeedSet(mm/s)
x axis: 8.17 Default
y axis: 2
Tube: 9.6
Detector: 19.2

AutoImage BGComerD300T50 Delete
CentralC... NaviCalib Calibrate Alarm

Pos(831,335) Unit:pixel Integrate Process CAP NUMI SCRL 16:25

1. Click “Application” to save the Region of Interest (ROI) window setting.
2. Click “OK” when done.
3. Now you can point and click inside the video window to position your sample. No need to use the mouse or joystick.

Calibrate

Ready

D:\Program Files\AX-DXI\IntegrationImage\110720160949.bmp - UnicomAx Update

Image/Machine I/F Measurement Text/Arrow/Image...

K 63 63
V
U 25 25
A

Fov 4

Tube Pos: 3.00 Tube Detector Detector Pos: 150.00

ImageLive Average Integrate EZ Image
64 Frames ShowEZ SaveEZ
SaveImage OpenImage Restore Home Center

Adjust Image
Bright: 127 Sharpen
Gain: 296 SharpenEx
Contrast: 50 Filter
Default Offline

SpeedSet(mm/s)
x axis: 13.43 Default
y axis: 9.57
Tube: 9.6
Detector: 19.2

AutoImage BGComerD300T50 Delete
CentralC... NaviCalib Calibrate Alarm

Pos(1013,195) Unit:pixel Integrate Process CAP NUMI SCRL 16:30

1. Click “Calibrate” and the Calibrate look up window will appear.
2. These are factory settings for the distance and motion of the machine. (x/y/z) Note: These can be modified if needed.
3. Click “Set Data” and the machine will self calibrate. (10 second process)

Calibrate	
Dist of laser to Y axis:	34.00 mm
Dist of laser to X axis:	397.00 mm
Max MoveDist of X axis:	420.00 mm
Max MoveDist of Y axis:	396.00 mm
Max MoveDist of Tube:	157.00 mm
Max MoveDist of Detec:	281.00 mm
Dist of Detec to Table:	150.00 mm
Dist of Tube to Table:	3.00 mm

Alarm

D:\Program Files\AX-DWI\IntegrationImage\110720180949.bmp - UnicomAx Update

Image/Machine I/F Measurement Text/Arrow/Image...

K 63 63
V 25 25
U
A

Fov 4

Tube Pos: 3.00 Tube Detector Detector Pos: 150.00

ImageLive Average Integrate EZ Image
64 Frames ShowEZ SaveEZ
SaveImage OpenImage Restore Home Center

Adjust Image
Bright: 127 Sharpen
Gain: 296 SharpenEx
Contrast: 50 Filter
Default Offline

SpeedSet(mm/s)
X axis: 13.43 Default
Y axis: 9.57
Tube: 9.6
Detector: 19.2

AutoImage BGcornerD300T50 Delete
CentralC... NaviCalib Calibra o Alarm

Notice: camera turn on!
Notice: save image succeed!
Notice: camera turn on!
Notice: save image succeed!
Notice: camera turn off!
Notice: camera turn on!
Notice: camera turn off!
Notice: camera turn on!
Notice: camera turn off!
Notice: camera turn on!
Notice: save image succeed!
Notice: camera turn on!
Notice: save image succeed!

Ready Pos(895,508) Unit:pixel Integrate Process CAP | NUM | SCRL 16:30

MEASUREMENT PAGE FUNCTIONS AND FEATURES

Auto Measure Open

1. Click the "Auto Measure" button to enter this feature

No.	BGAArea	VoidArea	Void/BGA	BGASize	PASS/FAIL
B0	0.6978	0.1001	14.35%	-12.72%	fail
B1	1.0511	0.0046	0.44%	31.45%	fail
B2	0.8773	0.1442	16.44%	9.72%	pass
B3	0.6769	0.0830	12.26%	-15.35%	fail
B4	0.7192	0.0346	4.81%	-10.06%	fail
B5	0.9011	0.1051	11.66%	12.70%	fail
B6	0.6978	0.0026	0.37%	-12.72%	fail
B7	0.6978	0.0404	5.79%	-12.72%	fail
B8	0.8773	0.1500	17.09%	9.72%	pass

Auto Measure Set Region of Interest (ROI)

1. Click "Reset Area".
2. Shape the ROI (region of interest) blue box around area to be tested.
Note: ROI box cannot touch edges of solder balls.

No.	BGAArea	VoidArea	Void/BGA
B0	0.0134	0.0000	0.00%
B1	0.0343	0.0000	0.00%
B2	1.3956	0.0435	3.11%
B3	1.3147	0.0773	5.88%
B4	1.2882	0.0263	2.04%
B5	1.2362	0.0086	0.69%
B6	1.2362	0.0537	4.34%
B7	1.2621	0.0193	1.53%

Auto Measure Measurement Selections

Notice Blue is BGA No, Pink is Single Void, Red is All Void, Green is BGA Area

No.	BGA Area	Void Area	Void/BGA
B0	0.0162	0.0000	0.00%
B1	0.0302	0.0000	0.00%
B2	1.3956	0.0435	3.11%
B3	1.3147	0.0773	5.88%
B4	1.2882	0.0263	2.04%
B5	1.2362	0.0086	0.69%
B6	1.2362	0.0537	4.34%
B7	1.2621	0.0193	1.53%

Measurement Selections:

- * Void Area: % void inside solder ball
- * BGA Area: Total area of BGA solder ball
- * Diameter (mm): Set this to the actual BGA ball diameter. (Ex. 0.7mm, 1mm...)

Note 1: "Single" and "All" function instructions are listed below

Auto Measure Inspection Settings

Notice Blue is BGA No, Pink is Single Void, Red is All Void, Green is BGA Area

No.	BGA Area	Void Area	Void/BGA
B0	0.0162	0.0000	0.00%
B1	0.0302	0.0000	0.00%
B2	1.3956	0.0435	3.11%
B3	1.3147	0.0773	5.88%
B4	1.2882	0.0263	2.04%
B5	1.2362	0.0086	0.69%
B6	1.2362	0.0537	4.34%
B7	1.2621	0.0193	1.53%

Auto Measure Inspection Settings:

- * **Threshold:** Image setting to optimize the BGA inspection. Default is 55, but you may need to adjust this based on the overall contrast of the image.
- * **Tolerance of Void:** Set this to the "acceptable" void % allowable inside the solder ball
- * **Tolerance of BGA:** Set this to the "acceptable" solder ball area % change allowable

Auto Measure Inspect BGA Void Area

Notice Blue is BGA No, Pink is Single Void, Red is All Void, Green is BGA Area

Auto Measure

No.	BGAArea	VoidArea	Void/BGA
B0	0.0162	0.0000	0.00%
B1	0.0302	0.0000	0.00%
B2	1.3956	0.0435	3.11%
B3	1.3147	0.0773	5.88%
B4	1.2882	0.0263	2.04%
B5	1.2362	0.0086	0.69%
B6	1.2362	0.0537	4.34%
B7	1.2621	0.0193	1.53%

Diameter (mm): 1
Threshold: (0-255)
42

Ready Pos(1023,490) Unit:pixel Integrate Process CAP | NUM | SCRL 15:32

Void Area Inspection

1. Select "Void Area" tab
 2. Click "Inspect" tab to activate BGA test
 3. Results of the test will be seen in the report matrix for Void and Area %.
 4. All measurement data is presented in mm² dimension.
- Note: Failures in the image will be highlighted in red**

Auto Measure Single BGA Void & BGA Area

Notice Blue is BGA No, Pink is Single Void, Red is All Void, Green is BGA Area

Auto Measure

No.	BGAArea	VoidArea	Void/BGA	BGASize
B0	0.0162	0.0000	0.00%	-98.33%
B1	0.0302	0.0000	0.00%	-96.90%
B2	1.3956	0.0435	3.11%	43.51%
B3	1.3147	0.0773	5.88%	35.20%
B4	1.2882	0.0263	2.04%	32.48%
B5	1.2362	0.0086	0.69%	27.13%
B6	1.2362	0.0537	4.34%	27.13%
B7	1.2621	0.0193	1.53%	29.79%

Diameter (mm): 1
Threshold: (0-255)
42

Tolerance 10
Tolerance 10

Ready Pos(979,560) Unit:pixel Integrate Process CAP | NUM | SCRL 15:35

Single Void Area Inspection

1. Select "Single" tab
2. Click "Inspect" tab to activate BGA test
3. The largest void in each ball will be highlighted.
4. Results of the test will be seen in the report matrix for Void and Area %.
5. All measurement data is presented in mm² dimension.

Auto Measure Inspect BGA Area

Notice Blue is BGA No, Pink is Single Void, Red is All Void, Green is BGA Area

Auto Measure

ResetArea Inspect
SaveImage SaveData
Exit

VoidArea
 BGAArea

Diameter (mm): 1

Threshold: (0-255)
42

Tolerance of Void %: (0-100)
10

Tolerance of BGA %: (0-100)
10

No.	BGAArea	VoidArea	Void/BGA	BGASize
B0	0.0162	0.0000	0.00%	-98.33%
B1	0.0302	0.0000	0.00%	-96.90%
B2	1.3956	0.0435	3.11%	43.51%
B3	1.3147	0.0773	5.88%	35.20%
B4	1.2882	0.0263	2.04%	32.48%
B5	1.2362	0.0086	0.69%	27.13%
B6	1.2362	0.0537	4.34%	27.13%
B7	1.2621	0.0193	1.53%	29.79%

BGA Area Inspection

1. Select “BGA Area” tab
2. Click “Inspect” tab to activate BGA test
3. Results of the test will be seen in the report matrix for Void and Area %.
4. All measurement data is presented in mm² dimension.

Note: Failures in the image will be highlighted in red

Auto Measure Save Image

Notice Blue is BGA No, Pink is Single Void, Red is All Void, Green is BGA Area

Auto Measure

ResetArea Inspect
SaveImage SaveData
Exit

VoidArea
 BGAArea

Diameter (mm): 1

Threshold: (0-255)
42

Tolerance of Void %: (0-100)
10

No.	BGAArea	VoidArea	Void/BGA	BGASize
B0	0.0162	0.0000	0.00%	-98.33%
B1	0.0302	0.0000	0.00%	-96.90%
B2	1.3956	0.0435	3.11%	43.51%
B3	1.3147	0.0773	5.88%	35.20%
B4	1.2882	0.0263	2.04%	32.48%
B5	1.2362	0.0086	0.69%	27.13%
B6	1.2362	0.0537	4.34%	27.13%
B7	1.2621	0.0193	1.53%	29.79%

另存为

保存在 (Q): BGA Void Images

文件名 (N):

保存类型 (T): (*.bmp)

保存 (S) 取消

1. Click “Save Image” tab to save image to folder. (bmp, jpeg or tiff)
2. Enter the name of the image and click “Save”.

Auto Measure Save Data

Notice Blue is BGA No, Pink is Single Void, Red is All Void, Green is BAG Area

1. Click "Save Data" tab to save and all SPC data will be transferred to a spread sheet.
 2. Close SPC window when done
 3. Click "Exit" to disable Auto Measure

No.	BGAArea	VoidArea	Void/BGA	BGASize	Pass/Fail
B0	0.0162	0	0.00%	-98.33%	fail
B1	0.0302	0	0.00%	-96.90%	fail
B2	1.3956	0.0435	3.11%	43.51%	fail
B3	1.3147	0.0773	5.88%	35.20%	fail
B4	1.2882	0.0263	2.04%	32.48%	fail
B5	1.2362	0.0086	0.69%	27.13%	fail
B6	1.2362	0.0537	4.34%	27.13%	fail
B7	1.2621	0.0193	1.53%	29.79%	fail

QFN Step 1

Instructions and English interface to come later!

QFN Step 2

就绪 坐标(969,4) 单位:像素 整合进度 大写 数字 滚动

Instructions and English interface to come later!

QFN Step 3

No.	BGAArea	VoidArea	Void/BGA	PASS/F..
R0	6581.0...	283.0000	4.30%	通过
R1	5506.0...	217.0000	3.94%	通过
R2	5858.0...	201.0000	3.43%	通过
R3	5901.0...	178.0000	3.02%	通过
R4	6257.0...	287.0000	4.59%	通过
R5	5683.0...	140.0000	2.46%	通过
R6	5840.0...	155.0000	2.65%	通过
R7	5815.0...	166.0000	2.85%	通过

就绪 坐标(912,0) 单位:像素 整合进度 大写 数字 滚动

Instructions and English interface to come later!

IC Measure Open/Set Region Of Interest (ROI)

Ready | 开始 | Uni comp - Uni com... | Pos(1012,68) | Unit:pixel | Integrate Process | CAP | NUM | SCRL | 14:16

1. Click "IC Measure"
2. Set Reset Area: Shape the ROI blue box around area to be tested

IC Measure Set Inspection Parameters

Ready | 开始 | Uni comp - Uni com... | Pos(1012,68) | Unit:pixel | Integrate Process | CAP | NUM | SCRL | 14:20

1. Click "SaveImage" icon

Set Inspection Parameters: Click Void Area
a. Param 1: Grey scale adjustment to highlight the voids
b. Param 2: Contrast adjustment for refined highlighting of the voids
Note: Typical range is 80-98 and 2-3

No.	BGAArea	VoidArea	Void/BGA	PASS/F...
RO	32366...	43819...	13.54%	fail

IC Measure Inspect Void Area

IC Measure

ResetArea Inspect SaveImage SaveData

Param1(1-254) 94

Param2(1-32) 2

Tolerance of Void%(0-100)

10

Void Area

No.	BGAArea	VoidArea	Void/BGA	PASS/F...
RD	32366...	43819...	13.54%	fail

1. Tolerance of Void%: Input +/- acceptance tolerance.
2. Click "Inspect" to activate the program.
Note: Test results will be displayed in the report matrix.

IC Measure Inspect Pad Area

IC Measure

ResetArea Inspect SaveImage SaveData

Param1(1-254) 92

Param2(1-32) 2

Tolerance of Void%(0-100)

10

Pad Area

No.	BGAArea	VoidArea	Void/BGA	PASS/F...
RD	32366...	44228...	13.66%	fail

1. Click "Inspect" to activate the program.
Note: Test results will be displayed in the report matrix.

IC Measure Single Void Highlight

IC Measure

ResetArea Inspect SaveImage SaveData

Param1(1-254) 92

Param2(1-32) 2

Tolerance of Void%(0-100)

10

Pad Area Single Void Area All

No.	BGAArea	VoidArea	Void/BGA	PASS/F...
R0	32366...	44228...	13.66%	fall

1. Click "Single" to highlight the largest void in the image.

IC Measure Save Image

IC Measure

ResetArea Inspect SaveImage SaveData

Param1(1-254) 94

Param2(1-32) 2

Tolerance of Void%(0-100)

10

Pad Area Single Void Area All

No.	BGAArea	VoidArea	Void/BGA	PASS/F...
R0	32366...	43819...	13.54%	fall

另存为

保存在 Q: Test

文件名(N): Image 1

保存类型(T): (*.bmp)

保存(S) 取消

2. Enter the image name and click "Save"

IC Measure Save Data

IC Measure

ResetArea Inspect SaveImage **SaveData** ICMeasure Restore

Param1(1-254) 94
Param2(1-32) 2
Tolerance of Void%(0-100) 10

Pad Area Single Horizontal Vertical Unit
Void Area All

No.	BGAArea	VoidArea	Void/BGA	PASS/FAIL
RO	32366...	43819...	13.54%	fail

Microsoft Excel - Book1

Unicom Test Result-Time:(time: 2011-7-29 14:21:4)					
NO.	BGAArea	VoidArea	Void/BGA	Pass/Fail	
RO	323662	43819	13.54%	fail	

1. Click "Save Data" and inspection results will be transferred to a SPC data sheet.
2. Close SPC data sheet and IC Measure when finished.

Calibrate Instructions

Place cursor on start point of known distance and span to end point. Right click when done.

Start End

1. Click "Calibrate" and select "mm" or "inch".
2. Enter "known distance" in the "Enter Length" location. (Ex: 3.8mm)
3. Place mouse on start point of known distance and span to end point. Right click when done.
4. Click "Save" when finished.
Note: Magnif reflects the actual image magnification from point to point

IC Measure

AutoMeasure Random M... ICMeasure Restore

Calib... Distance Diameter Curvature DrillOff FasterHei

Fixel Histogram Horizontal Vertical Unit

Pos Edit Continuous

Pos: [Dropdown]

Adjust Image

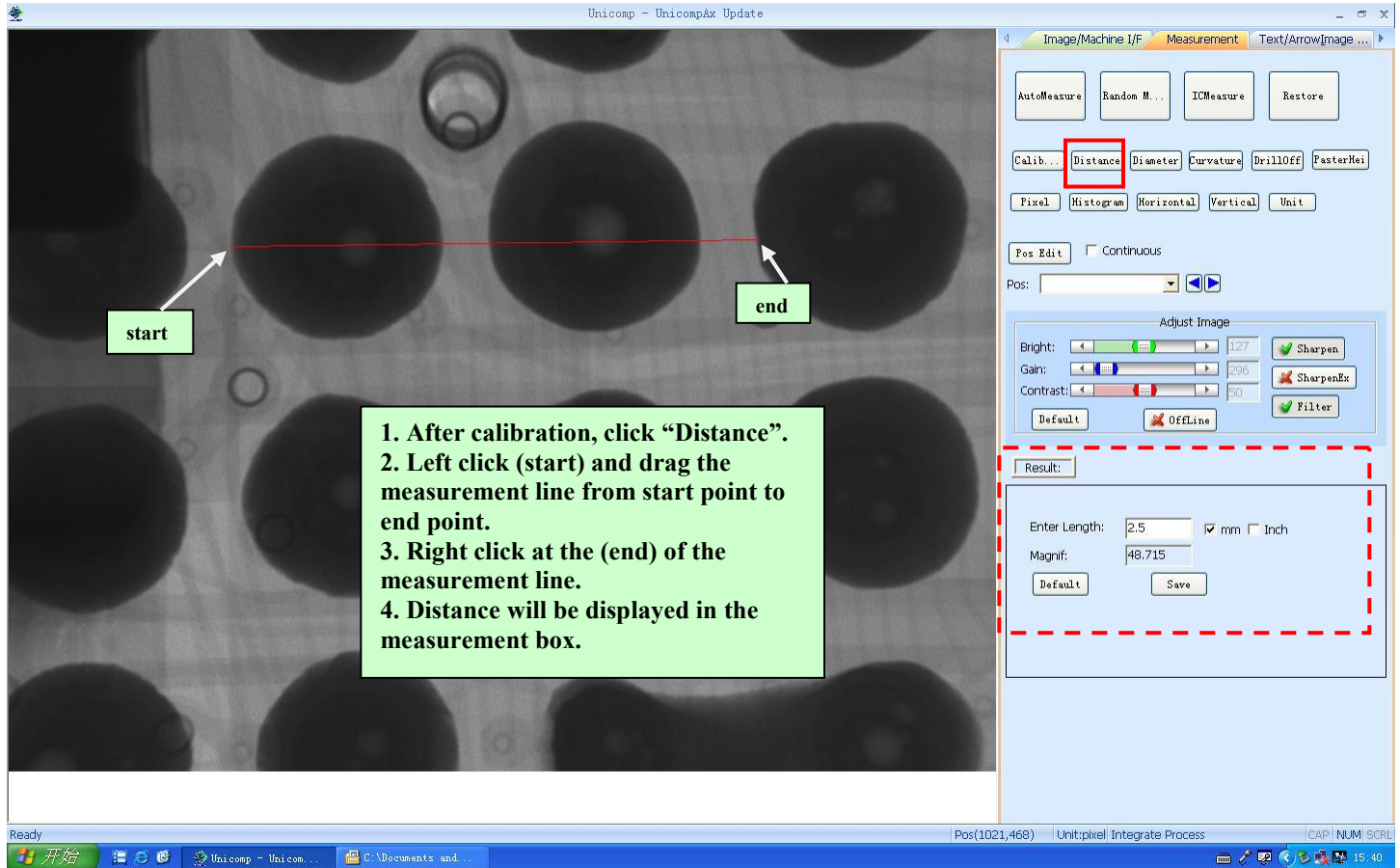
Bright: 127 Sharpen
Gain: 296 SharpenEx
Contrast: 50 Filter

Default OffLine

Result:

Enter Length: 3.8 mm Inch
Magnif: 26.321
Default Save

Distance



1. After calibration, click “Distance”.

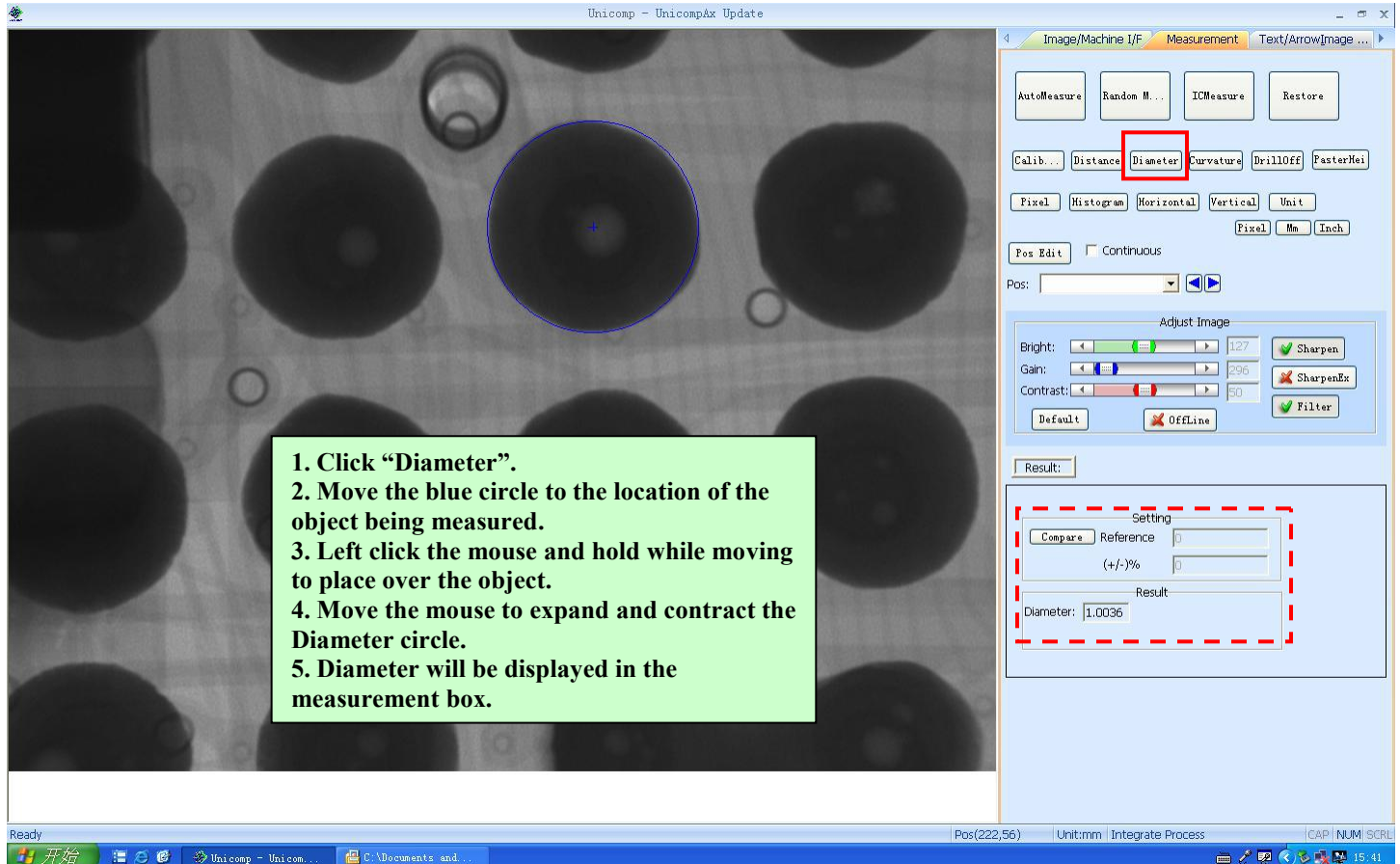
2. Left click (start) and drag the measurement line from start point to end point.

3. Right click at the (end) of the measurement line.

4. Distance will be displayed in the measurement box.

Ready Pos(1021,468) Unit:pixel Integrate Process CAP | NUM | SCRL 15:40

Diameter



1. Click “Diameter”.

2. Move the blue circle to the location of the object being measured.

3. Left click the mouse and hold while moving to place over the object.

4. Move the mouse to expand and contract the Diameter circle.

5. Diameter will be displayed in the measurement box.

Ready Pos(222,56) Unit:mm Integrate Process CAP | NUM | SCRL 15:41

Curvature

1. Click “Curvature”.

2. Left click ball bond on IC and drag green line to the stitch bond.

3. Left click and hold then span the red line to the top of the wire loop.

4. % deviation of the wire sweep will be displayed in the box.

Note: Point to point and vertical line distances are also shown in the results.

Ready Pos(815,405) Unit:pixel Integrate Process CAP | NUM | SCRL 14:12

Drill Offset Step 1

1. Click “Drilloff” to measure x/y offset distances inside the image.

2. This is primarily designed for PCB inner layer misregistration measurements.

Ready Pos(226,46) Unit:mm Integrate Process CAP | NUM | SCRL 15:45

Drill Offset Step 2

1. Move the blue circle to the first measurement location. Span or contract the circle to the size of the feature in the image.

2. Move the red circle to the first measurement location. Span or contract the circle to the size of the feature in the image.

3. Horizontal and vertical offset will be displayed in the results.

Note: Horizontal and vertical distances are also displayed in the results.

Setting	
Compare	Reference
(+/-)%	0

Result	
DrillOff:	0.043
HorizDist:	0.0365
VertDist:	0.0228

PTH

1. Click "PTH"

2. Move the cursor to the bottom of the PTH. Span the green line to the top of the hole. Right click.

2. Move the cursor to the bottom of the PTH. Span the red line to the top fill point of the hole. Right click.

3. % of hole fill will be displayed in the results.

Note: Green and Red line distances are also displayed in the results.

Setting	
Compare	Reference
(+/-)%	0

Result	
PastRate:	53.87
PyloHel:	0.8713
PastHel:	0.5565

Pixel



C:\Documents and Settings\Administrator\桌面\07-24\Drill Offset.jpg - Unicompax Update

Image/Machine I/F Measurement Text/Arrow/Image ...

AutoMeasure Random M... ICMeasure Restore

Calib... Distance Diameter Curvature DrillOff FasterHei

Pixel Histogram Horizontal Vertical Unit

Pixel Mm Inch

Pos Edit Continuous

Pos: [] [] []

Adjust Image

Bright: [] [] [] 107 Sharpen

Gain: [] [] [] 296 SharpenEx

Contrast: [] [] [] 49 Filter

Default Offline

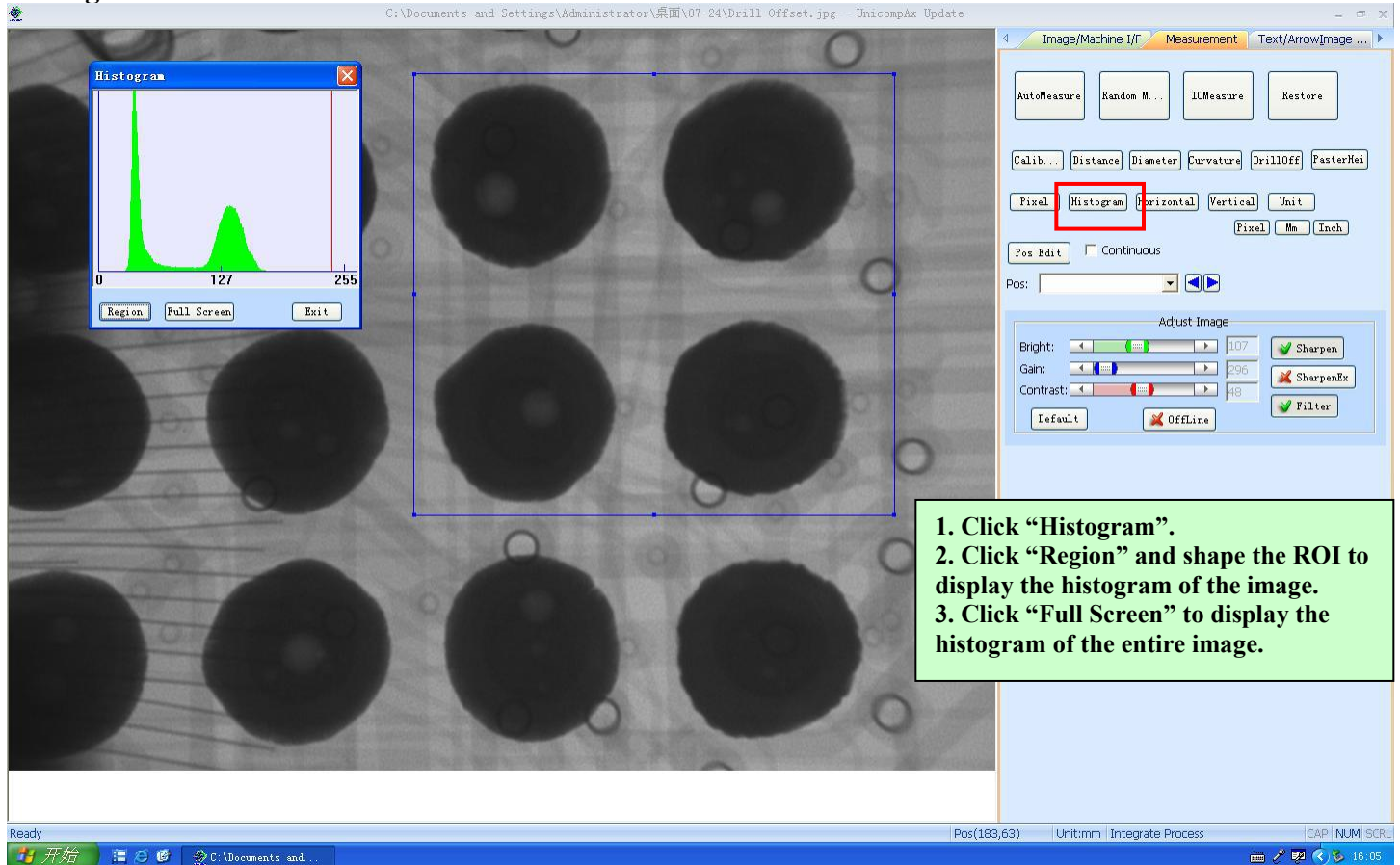
Ready

Pos(112,36) Unit:mm Integrate Process CAP | NUM | SCRL

开始 C:\Documents and ... 16:03

1. Click “Pixel”.
2. Move the cursor across the image to highlight the actual grey scale value (GSV).
Note: “0” is black, “255” is white

Histogram



C:\Documents and Settings\Administrator\桌面\07-24\Drill Offset.jpg - Unicompax Update

Image/Machine I/F Measurement Text/Arrow/Image ...

AutoMeasure Random M... ICMeasure Restore

Calib... Distance Diameter Curvature DrillOff FasterHei

Pixel **Histogram** Horizontal Vertical Unit

Pixel Mm Inch

Pos Edit Continuous

Pos: [] [] []

Adjust Image

Bright: [] [] [] 107 Sharpen

Gain: [] [] [] 296 SharpenEx

Contrast: [] [] [] 49 Filter

Default Offline

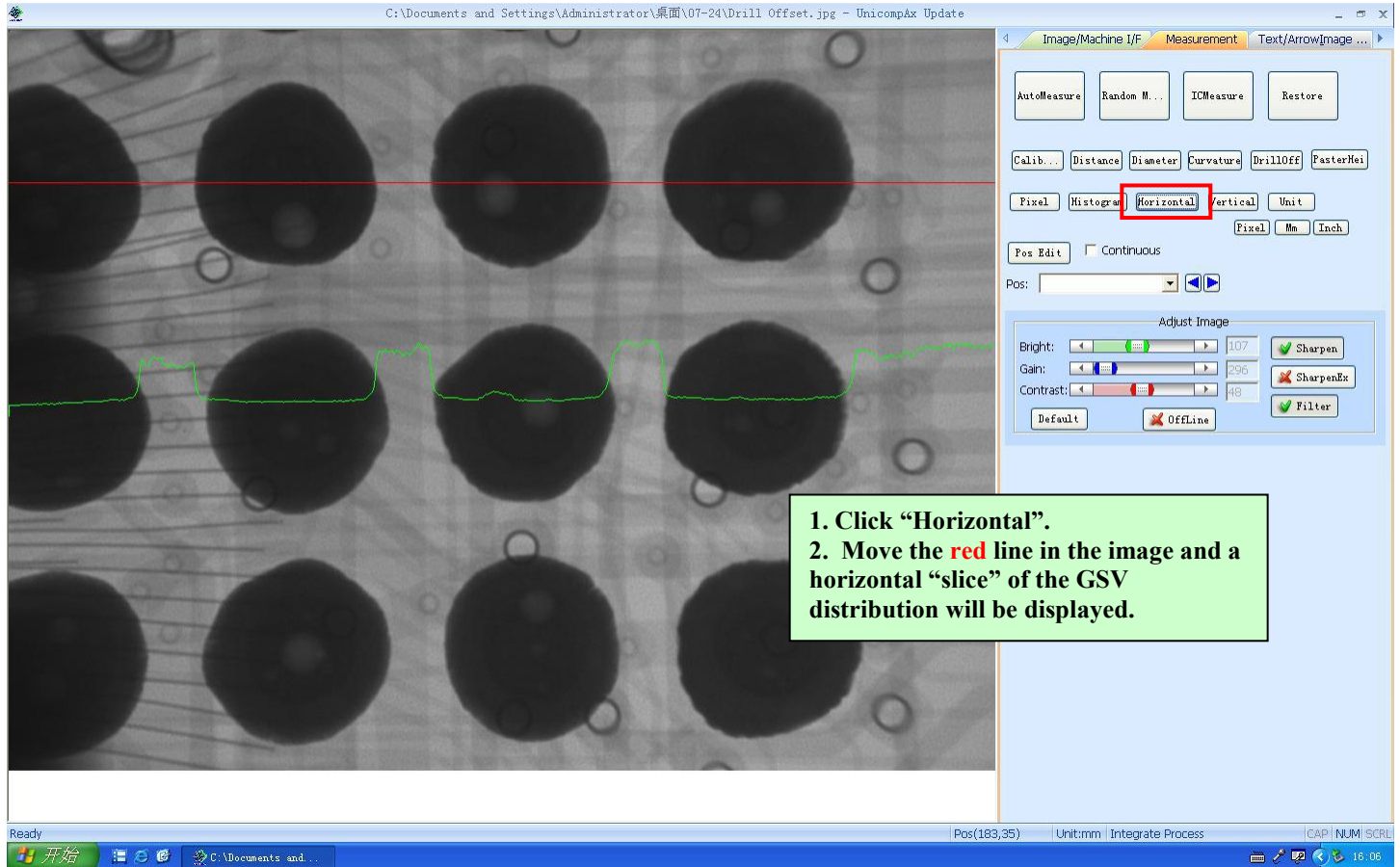
Ready

Pos(183,63) Unit:mm Integrate Process CAP | NUM | SCRL

开始 C:\Documents and ... 16:05

1. Click “Histogram”.
2. Click “Region” and shape the ROI to display the histogram of the image.
3. Click “Full Screen” to display the histogram of the entire image.

Horizontal



C:\Documents and Settings\Administrator\桌面\07-24\Drill Offset.jpg - UnicompAx Update

Image/Machine I/F Measurement Text/Arrow/Image ...

AutoMeasure Random M... ICMeasure Restore

Calib... Distance Diameter Curvature DrillOff FasterHei

Pixel Histogram **Horizontal** Vertical Unit

Pixel Mm Inch

Pos Edit Continuous

Pos: [Dropdown] [Left Arrow] [Right Arrow]

Adjust Image

Bright: [Slider] 107 Sharpen

Gain: [Slider] 296 SharpenEx

Contrast: [Slider] 49 Filter

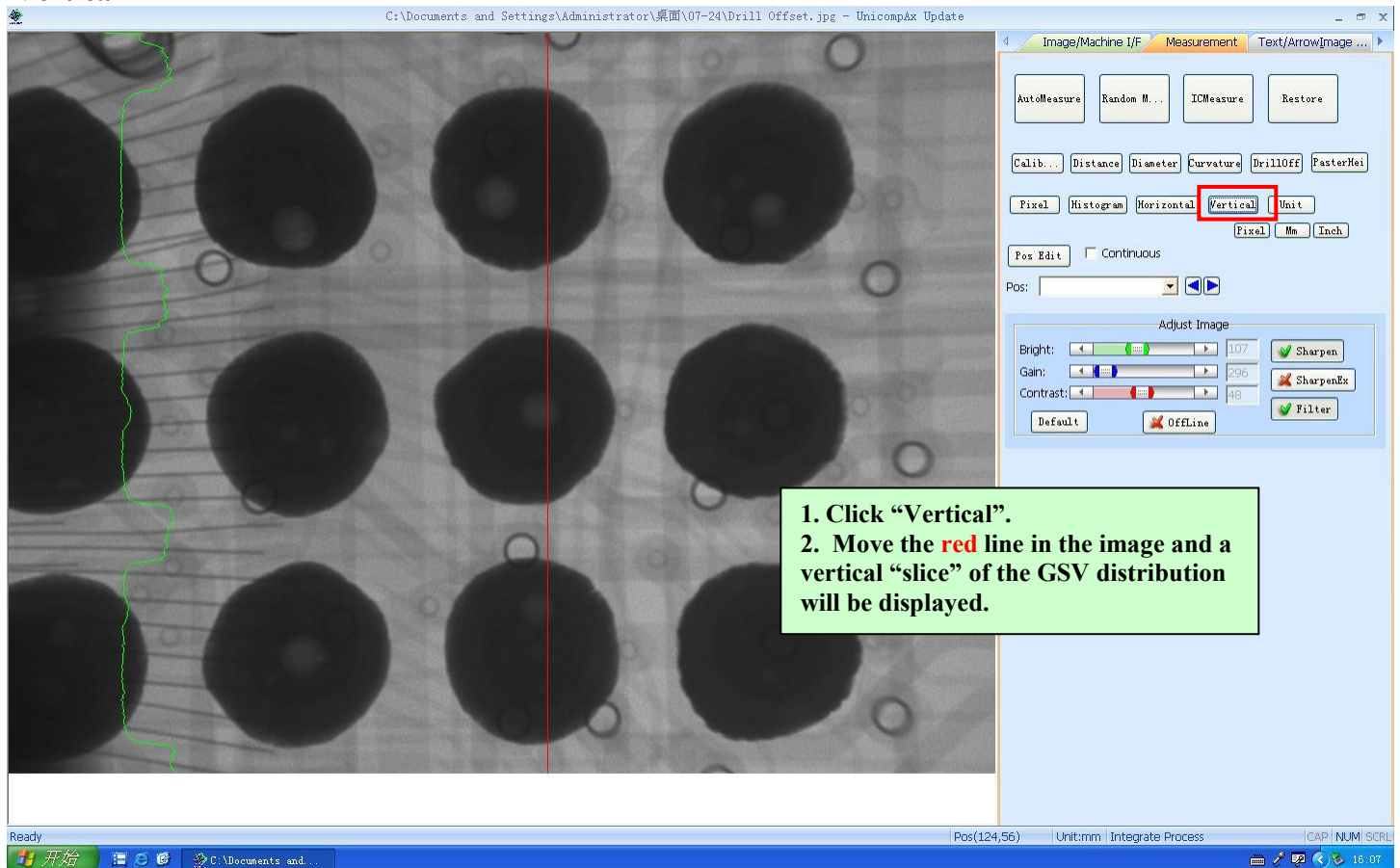
Default Offline

Ready Pos(183,35) Unit:mm Integrate Process CAP | NUM | SCRL 16:06

开始 C:\Documents and ...

1. Click “Horizontal”.
2. Move the red line in the image and a horizontal “slice” of the GSV distribution will be displayed.

Vertical



C:\Documents and Settings\Administrator\桌面\07-24\Drill Offset.jpg - UnicompAx Update

Image/Machine I/F Measurement Text/Arrow/Image ...

AutoMeasure Random M... ICMeasure Restore

Calib... Distance Diameter Curvature DrillOff FasterHei

Pixel Histogram Horizontal **Vertical** Unit

Pixel Mm Inch

Pos Edit Continuous

Pos: [Dropdown] [Left Arrow] [Right Arrow]

Adjust Image

Bright: [Slider] 107 Sharpen

Gain: [Slider] 296 SharpenEx

Contrast: [Slider] 49 Filter

Default Offline

Ready Pos(124,56) Unit:mm Integrate Process CAP | NUM | SCRL 16:07

开始 C:\Documents and ...

1. Click “Vertical”.
2. Move the red line in the image and a vertical “slice” of the GSV distribution will be displayed.

Unit

1. Click "Unit".
2. When calibration is completed, make the selection for the measurement "unit" you want displayed. (Pixel, mm, inch)
3. Make this selection prior to using the measurement function.

Ready Pos(222,56) Unit:mm Integrate Process CAP | NUM | SCRL 15:41

Pos Edit Open

1. Click "Pos Edit" to open the step and repeat programming function.

NO	Desk	TubeDetc	VoltCur	Bright	Cont...	Gain
1	(232.47...	(139.43...	(80,37)	127	50	246
2	(232.47...	(139.43...	(80,37)	127	50	246
3	(242.83...	(139.43...	(80,37)	127	50	246
4	(242.83...	(204.23...	(80,55)	127	50	246

Ready Pos(156,29) Unit:mm Integrate Process CAP | NUM | SCRL 16:10

Pos Edit Add Project Name

The screenshot shows the Pos Edit software interface. A dialog box titled "Add Project" is open, prompting the user to "Enter a name of project:(0-20)". The user has entered "Demo 1". The "Save" button is highlighted. In the background, the "Pos Edit" window displays a table of project data:

NO	Desk	TubeDetec	VoltCur	Bright	Cont...	Gain
1	(195.25...	(188.31...	(80,32)	127	50	296
2	(211.84...	(188.31...	(80,32)	127	50	296
3	(211.84...	(188.31...	(80,32)	127	50	296
4	(211.84...	(188.31...	(80,32)	127	50	296
5	(198.95...	(188.31...	(80,32)	127	50	296
6	(172.42...	(188.31...	(80,32)	127	50	296
7	(172.42...	(188.31...	(80,32)	127	50	296

Below the table, there is a "Proj Option" section with a dropdown menu set to "Unicorn1.1" and buttons for "AddProj" and "DelProj". A "Handle" section contains buttons for "ChangeName", "Add", "Insert", "Edit", "Delete", "Import", "Export", "Save", and "Cancel".

On the right side of the interface, there are various measurement and adjustment controls, including buttons for "AutoMeasure", "Random M...", "ICMeasure", "Restore", "Calib...", "Distance", "Diameter", "Curvature", "Drill10off", "FasterHei", "Pixel", "Histogram", "Horizontal", "Vertical", "Unit", and "Adjust Image".

1. Click "Add Proj" and enter the new project name.
2. Click "Save" to store new project.

Pos Edit Add Program Position 1

The screenshot shows the Pos Edit software interface with a PCB image. A dialog box titled "Add Project" is open, prompting the user to "Enter a name of project:(0-20)". The user has entered "Test PCB 1". The "Add" button is highlighted. In the background, the "Pos Edit" window displays a table of project data:

NO	Desk	TubeDetec	VoltCur	Bright	Cont...	Gain
1	(270.07...	(50.49...	(80,23)	127	50	296

Below the table, there is a "Proj Option" section with a dropdown menu set to "Test PCB 1" and buttons for "AddProj" and "DelProj". A "Handle" section contains buttons for "ChangeName", "Add", "Insert", "Edit", "Delete", "Import", "Export", "Save", and "Cancel".

1. Move to the first location on the PCB.
2. Click "Add" and the position will be transferred to the Pos Edit screen.
Note: All data (kV, mA, image settings, x/y/z location) is transferred.

Pos Edit Add Program Position 2, 3, 4.....

UniComp - UniCompAX Update

Image/Machine I/F Measurement Text/Arrow/Image...

KV 80 80
UA 27 27

Tube Pos: 27.64 Tube Detector Detector Pos: 240.00

ImageLive Average Integrate EZ Image

Pos Edit

NO	Desk	TubeDetec	VoltCur	Bright	Cont...	Gain
1	(270.07...	(50.49,...	(80,23)	127	50	296
2	(198.16...	(50.49,...	(80,20)	127	50	296
3	(223.78...	(90.00,...	(80,27)	127	50	296

Proj Option: ProjName: Test PCB 1
AddProj DelProj

Handle: ChangeName Add Insert Edit Delete Import Export Save Cancel

1. Move to the next locations on the PCB.
2. Click "Add" and the position will be transferred to the Pos Edit screen. (repeat until the program is completed)
Note: All data (kV, mA, image settings, x/y/z location) is transferred.

Ready Pos(1021,145) Unit:pixel Integrate Process CAP NUM SCRL 18:13

Pos Edit Save Program

UniComp - UniCompAX Update

Image/Machine I/F Measurement Text/Arrow/Image...

AutoMeasure Random M... ICMeasure Restore

Calib... Distance Diameter Curvature DrillOff FasterHel

Fixel Histogram Horizontal Vertical Unit

Pos Edit Continuous

Pos Edit

NO	Desk	TubeDetec	VoltCur	Bright	Cont...	Gain
1	(270.07...	(50.49,...	(80,23)	127	50	296
2	(198.16...	(50.49,...	(80,20)	127	50	296
3	(223.78...	(90.00,...	(80,27)	127	50	296
4	(234.82...	(90.00,...	(80,27)	127	50	296
5	(234.82...	(90.00,...	(80,27)	127	50	296
6	(217.50...	(69.50,...	(80,20)	127	50	296

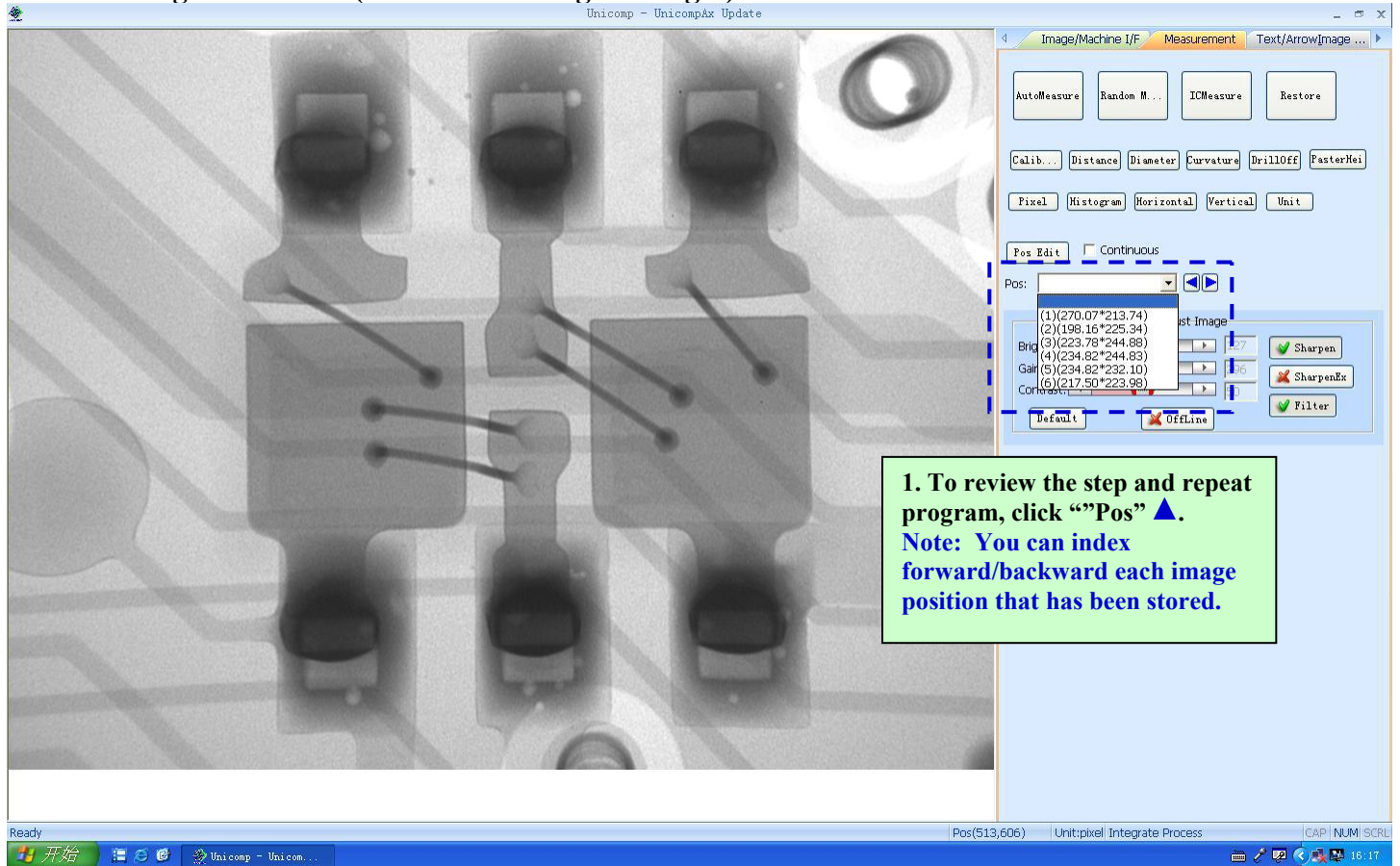
Proj Option: ProjName: Test PCB 1
AddProj DelProj

Handle: ChangeName Add Insert Edit Delete Import Export Save Cancel

1. When the program is completed, click "Save" and the final step and repeat program will be stored.
Note: The step and repeat program can be edited using the active buttons (Insert, Edit, Delete, Import, Export)

Ready Pos(508,599) Unit:pixel Integrate Process CAP NUM SCRL 18:16

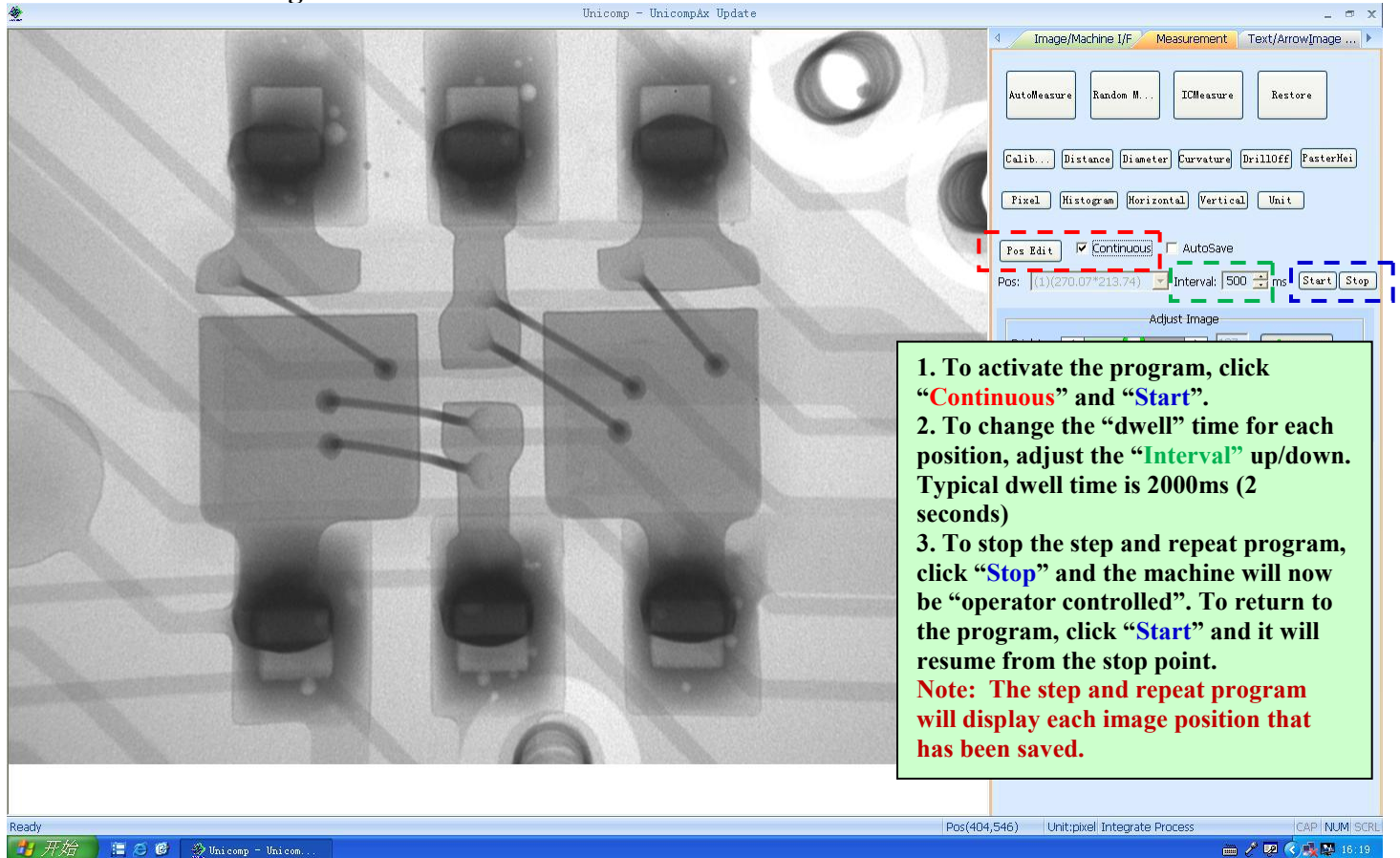
Pos Edit Program Review (Manual Indexing of Images)



Ready Pos(513,606) Unit:pixel Integrate Process CAP | NUM | SCRL 18:17

1. To review the step and repeat program, click “Pos” ▲.
Note: You can index forward/backward each image position that has been stored.

Pos Edit Activate Program



Ready Pos(404,546) Unit:pixel Integrate Process CAP | NUM | SCRL 18:19

1. To activate the program, click “Continuous” and “Start”.
2. To change the “dwell” time for each position, adjust the “Interval” up/down. Typical dwell time is 2000ms (2 seconds)
3. To stop the step and repeat program, click “Stop” and the machine will now be “operator controlled”. To return to the program, click “Start” and it will resume from the stop point.
Note: The step and repeat program will display each image position that has been saved.

Pos Edit Auto Save Images

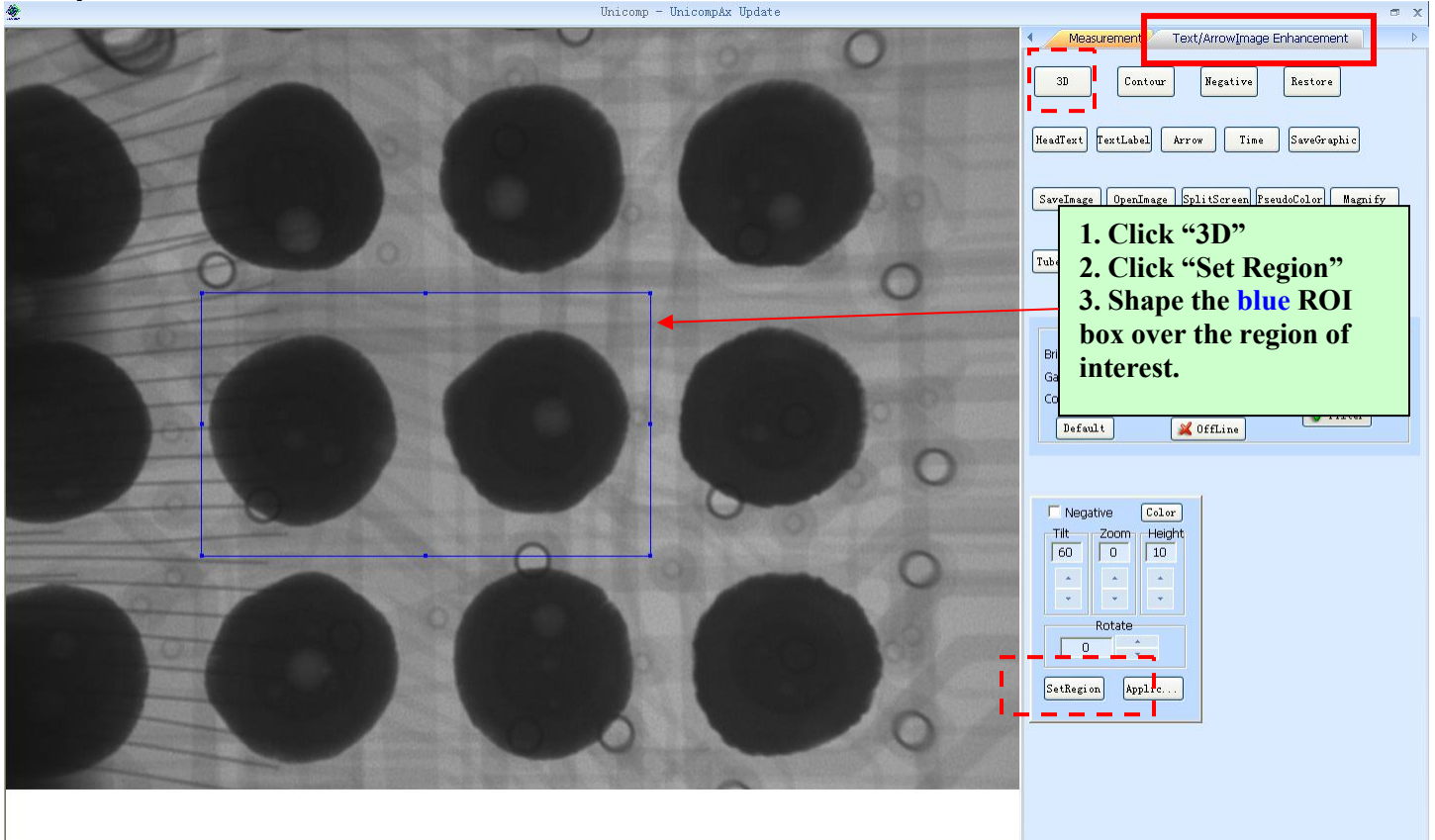
The screenshot displays the Pos Edit software interface. The main window shows a grayscale image of a mechanical part with measurement lines. A file selection dialog box titled "浏览文件夹" (Browse folders) is open, showing a tree view of folders including "桌面" (Desktop), "我的文档" (My Documents), and "本地磁盘" (Local Disk). The "OK" button is highlighted with a dashed blue box. On the right side, the software's control panel is visible, featuring various measurement tools and checkboxes. The "AutoSave" checkbox is checked and highlighted with a red dashed box. A green text box on the right contains the following instructions:

1. To save each image from the step and repeat program, click **"Auto Save"**.
2. Choose the folder to save the images and click **"OK"**.

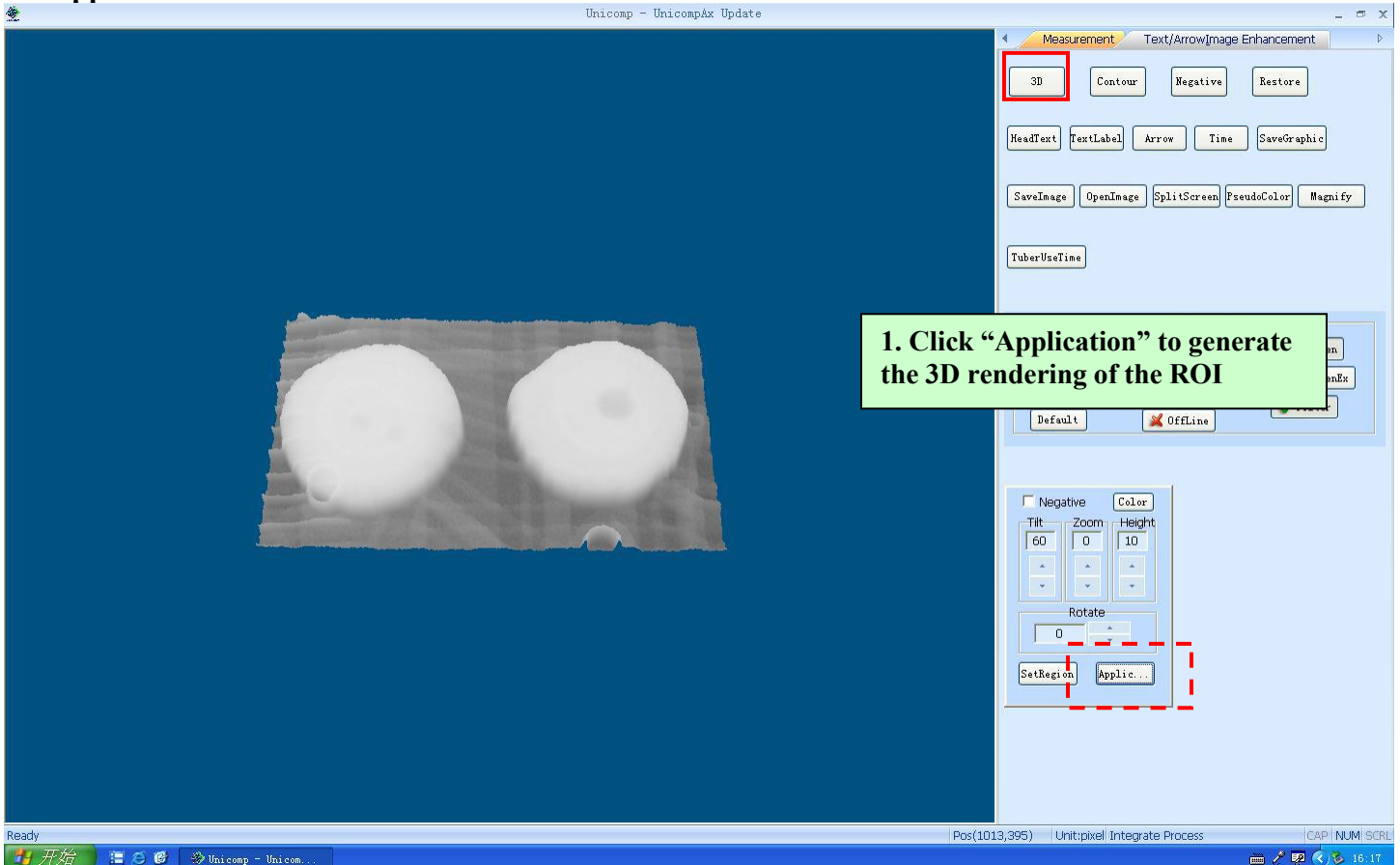
The Windows taskbar at the bottom shows the system tray with the time 16:20 and the date 2012/07/19.

TEXT/ARROW/IMAGE ENHANCEMENT PAGE

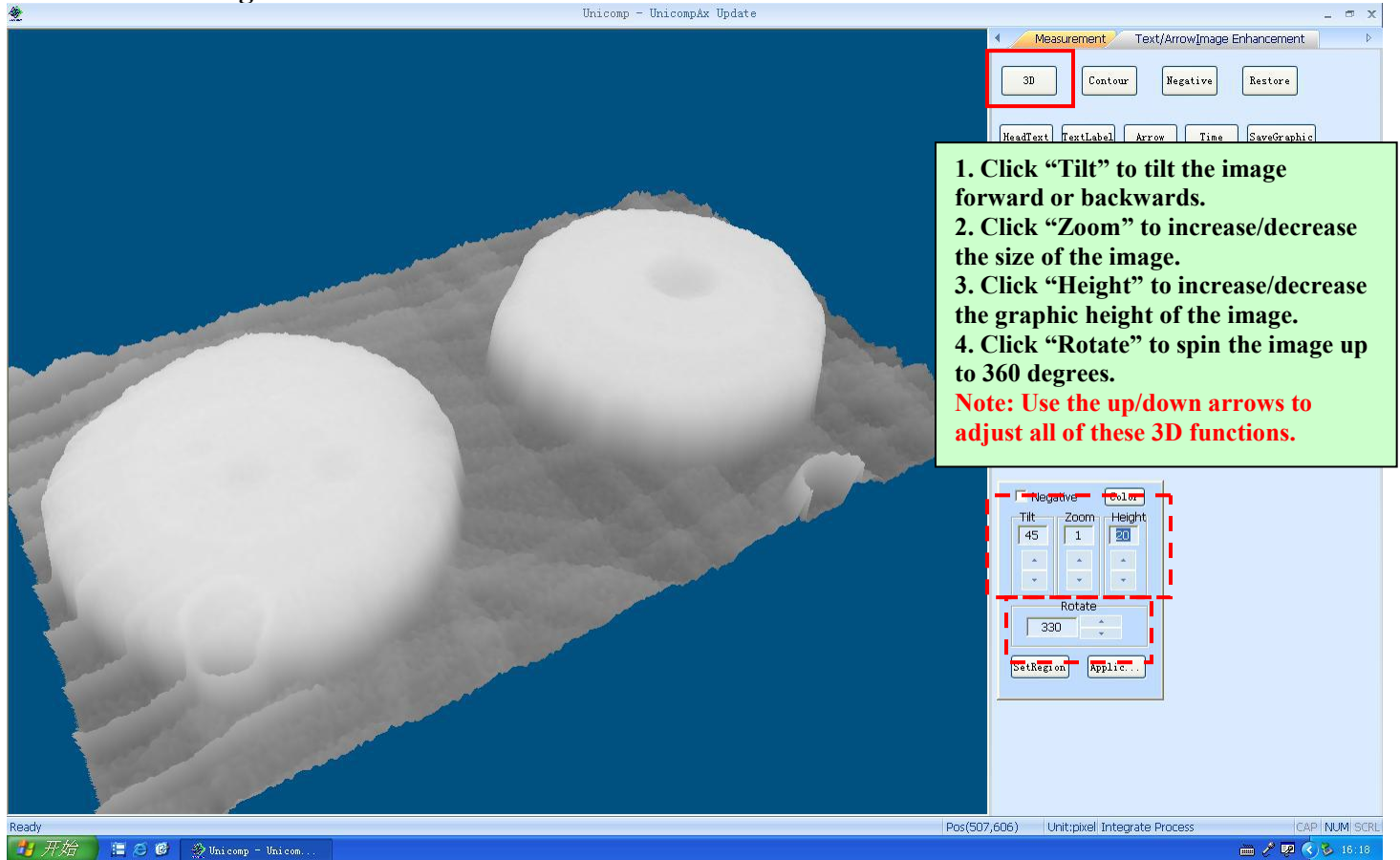
3D Open/Set ROI



3D Application



3D Tilt/Zoom/Height/Rotate



Unicom - UnicomAx Update

Measurement Text/Arrow/Image Enhancement

3D Contour Negative Restore

HeadText TextLabel Arrow Time SaveGraphic

1. Click "Tilt" to tilt the image forward or backwards.
2. Click "Zoom" to increase/decrease the size of the image.
3. Click "Height" to increase/decrease the graphic height of the image.
4. Click "Rotate" to spin the image up to 360 degrees.
Note: Use the up/down arrows to adjust all of these 3D functions.

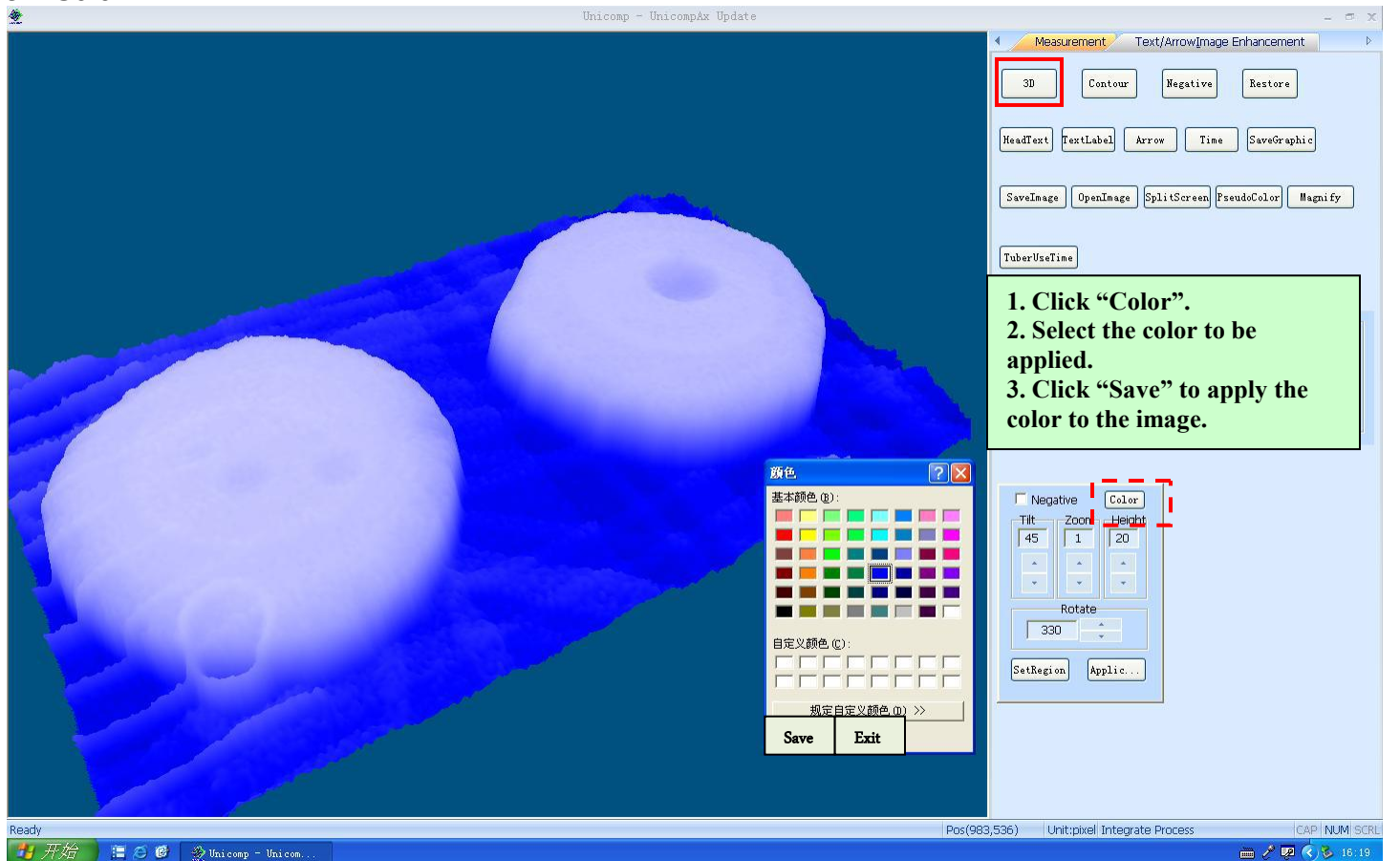
Tilt 45 Zoom 1 Height 20

Rotate 330

SetRegion Applic...

Ready Pos(507,606) Unit:pixel Integrate Process CAP | NUM | SCRL 16:18

3D Color



Unicom - UnicomAx Update

Measurement Text/Arrow/Image Enhancement

3D Contour Negative Restore

HeadText TextLabel Arrow Time SaveGraphic

SaveImage OpenImage SplitScreen PseudoColor Magnify

TuberUseTime

1. Click "Color".
2. Select the color to be applied.
3. Click "Save" to apply the color to the image.

Color

Tilt 45 Zoom 1 Height 20

Rotate 330

SetRegion Applic...

颜色

基本颜色 (B):

自定义颜色 (C):

规定自定义颜色 (M) >>

Save Exit

Ready Pos(983,536) Unit:pixel Integrate Process CAP | NUM | SCRL 16:19

3D Negative

Ready

Pos(1000,167) Unit:pixel Integrate Process CAP | NUM | SCRL

16:20

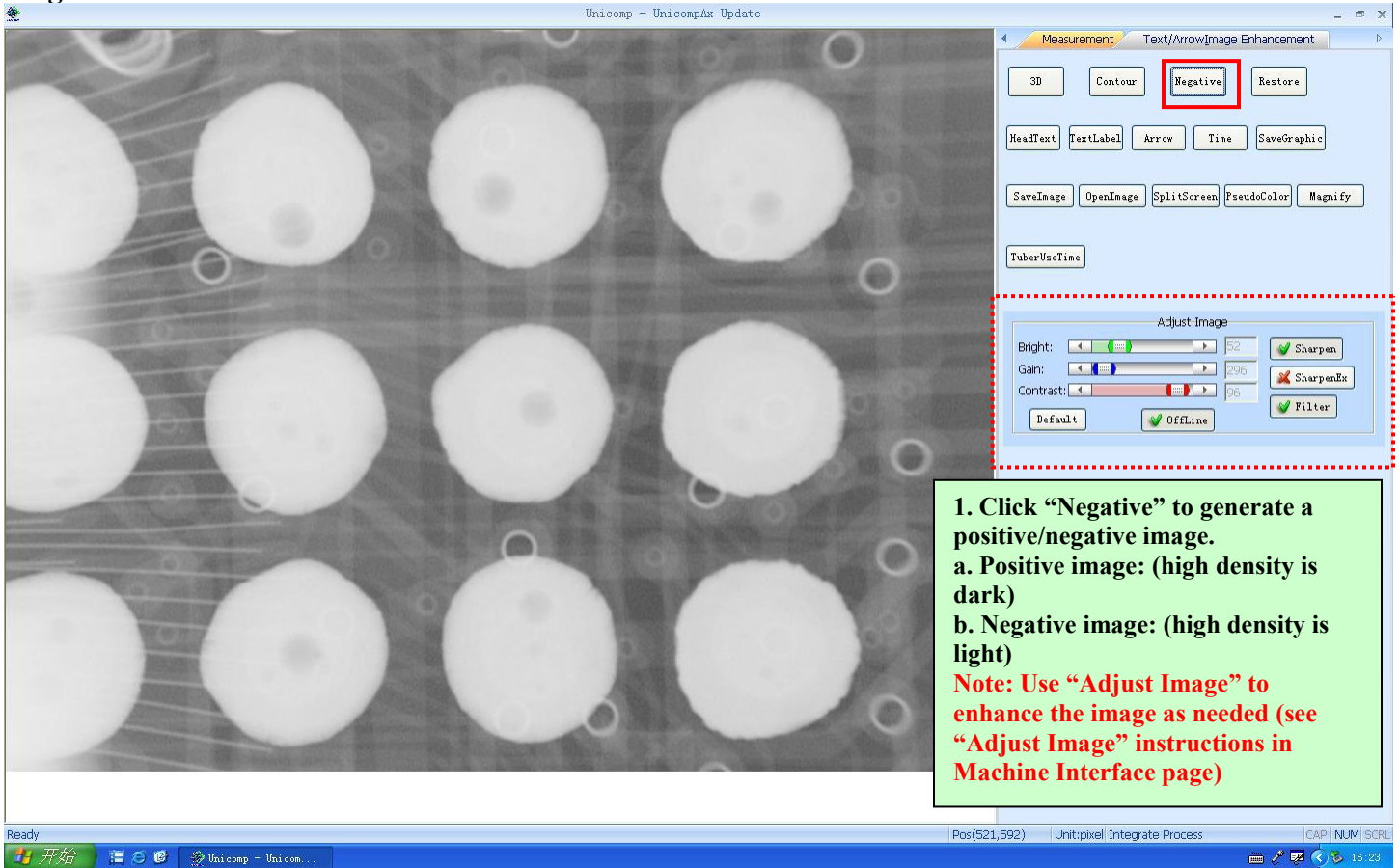
Contour

Ready

Pos(594,384) Unit:pixel Integrate Process CAP | NUM | SCRL

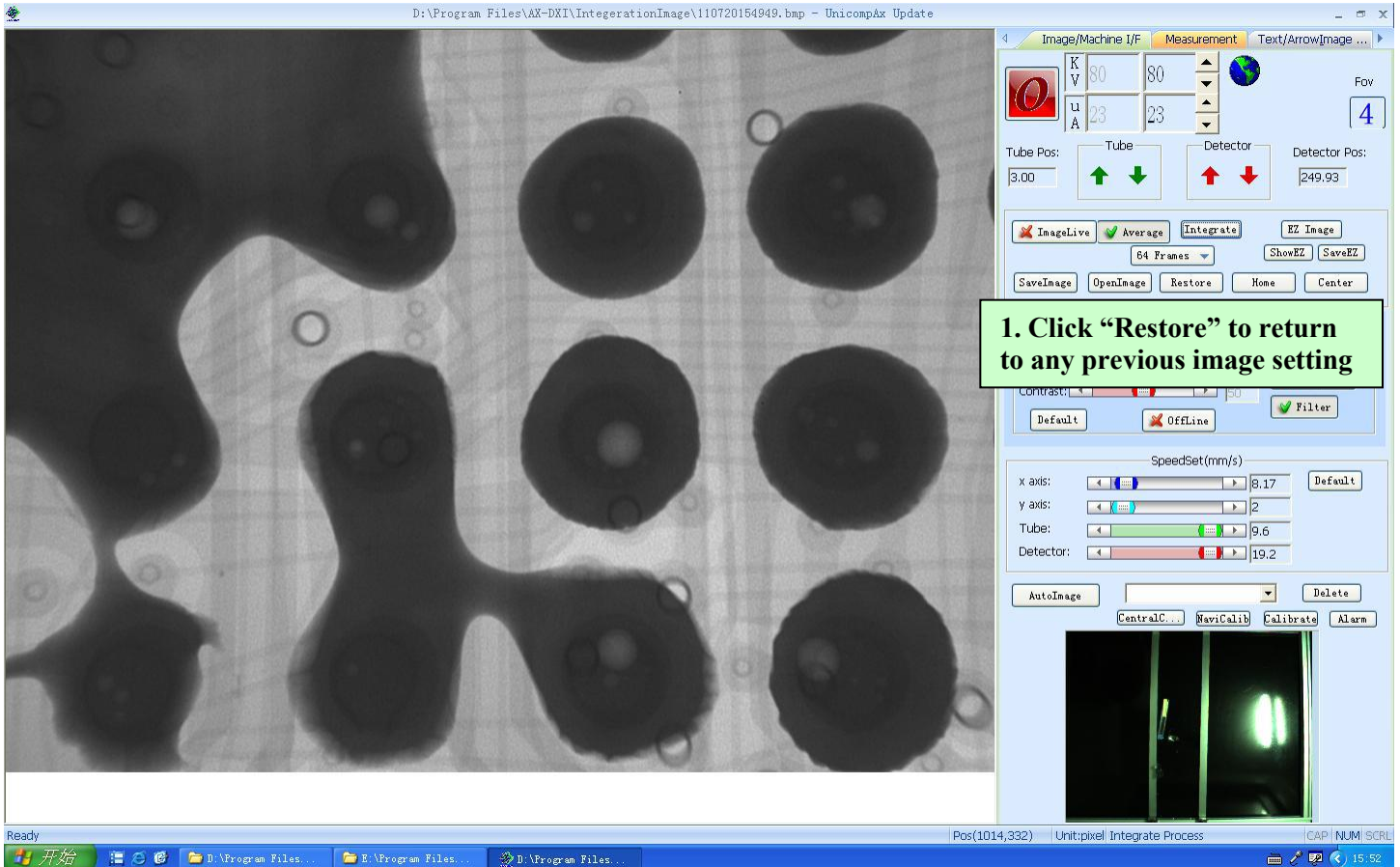
16:22

Negative



1. Click “Negative” to generate a positive/negative image.
a. Positive image: (high density is dark)
b. Negative image: (high density is light)
Note: Use “Adjust Image” to enhance the image as needed (see “Adjust Image” instructions in Machine Interface page)

Restore



1. Click “Restore” to return to any previous image setting

Header Text

Ready

开始 Uni comp - Uni com...

Pos(918,94) Unit:pixel Integrate Process CAP | NUM | SCRL 16:25

1. Click “Header Text”
 2. Enter text in the text header page and click “Apply” to transfer to the image
 3. Use mouse to position the text on the image
 4. Click “Save” to retain text header on the image
 5. Click “Cancel” to exit Text Header
- Note: Double click the text on the screen to enter “text format” screen to adjust size, color, etc.**

Text Label

Ready

开始 Uni comp - Uni com...

Pos(1021,213) Unit:pixel Integrate Process CAP | NUM | SCRL 16:27

1. Click “Text Label” icon
 2. Enter text in the text label box and click “Apply” to transfer to the image
 3. Use mouse to position the text on the image
 4. Click “Save” to retain text header on the image
 5. Click “Cancel” to exit Text Label
- Note: Double click the text on the screen to enter “text format” screen for adjustments to size, color, etc.**

Arrow

Unicomp - Unicomp&x Update

Measurement Text/Arrow/Image Enhancement

3D Contour Negative Restore

HeadText TextLabel **Arrow** Time SaveGraphic

1X 2X 4X

1. Click "Arrow".
2. Click the arrow to transfer to the image
3. Use mouse to position the arrow on the image
4. Click "Save" to retain text arrow on the image

Arrow Label

↑ → ↓ ← ↶ ↷ ↸ ↹ Save Close

Ready Pos(996,355) Unit:pixel Integrate Process CAP | NUM | SCRL 16:36

Time

Unicomp - Unicomp&x Update

Measurement Text/Arrow/Image Enhancement

3D Contour Negative Restore

HeadText TextLabel Arrow **Time** SaveGraphic

SaveImage OpenImage SplitScreen PseudoColor Magnify

TuberUseTime

2012-7-29 16:29:44

1. Click "Time" to time and date to the image.
2. Click cursor over stamp to position on image screen

Ready Pos(1013,70) Unit:pixel Integrate Process CAP | NUM | SCRL 16:29

Save Graphics

2012-7-29 16:30:48
July 2012
Demo PCB 1

PCB 1 Poor Wetting

2012-7-29 16:31:28

3D Contour Negative Restore

HeadText TextLabel Arrow Time **SaveGraphics**

SaveImage OpenImage SplitScreen PseudoColor Magnify

TuberUseTime

Adjust Image

Bright: 52 Sharpen

Gain: 296 SharpenEx

Contrast: 96 Filter

Default Offline

Pls select the file path and enter the name

保存在 (I): BGA Void Images

文件名 (N): Image 1 保存 (S)

保存类型 (T): Bitmap Files (*.bmp) 取消

1. Click "Save Graphics" to retain graphics when saving the image
2. Save the file to desired folder and all graphics will be stored on the image.

Ready Pos(1021,269) Unit:pixel Integrate Process CAP NUM SCRL 16:31

Split Screen

C:\Program Files\AX-DXN\Integration\image\110917091556.bmp - UnicomPax Update

3D Contour Negative Restore

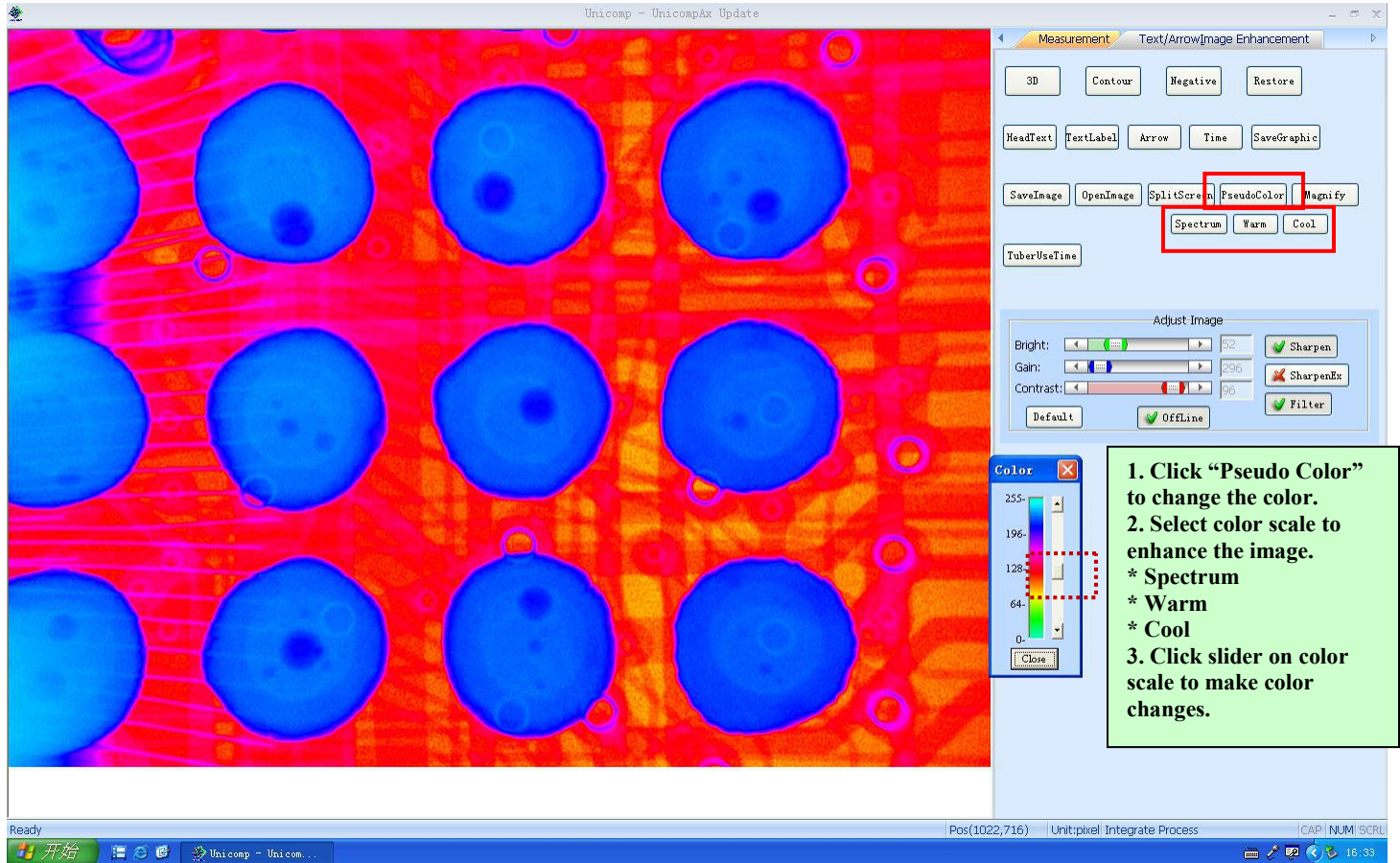
HeadText TextLabel Arrow Time SaveGraphic

SaveImage OpenImage **SplitScreen** PseudoColor Magnify

1. Capture an image, then click "Split Screen". This image will be stored in the upper half of the screen.
2. Enter the live image mode again that the "live" image will be displayed in the bottom half of the screen.
3. This is an excellent function to compare the 2 images.

Ready Pos(599,532) Unit:pixel Integrate Process CAP NUM SCRL

Pseudo Color

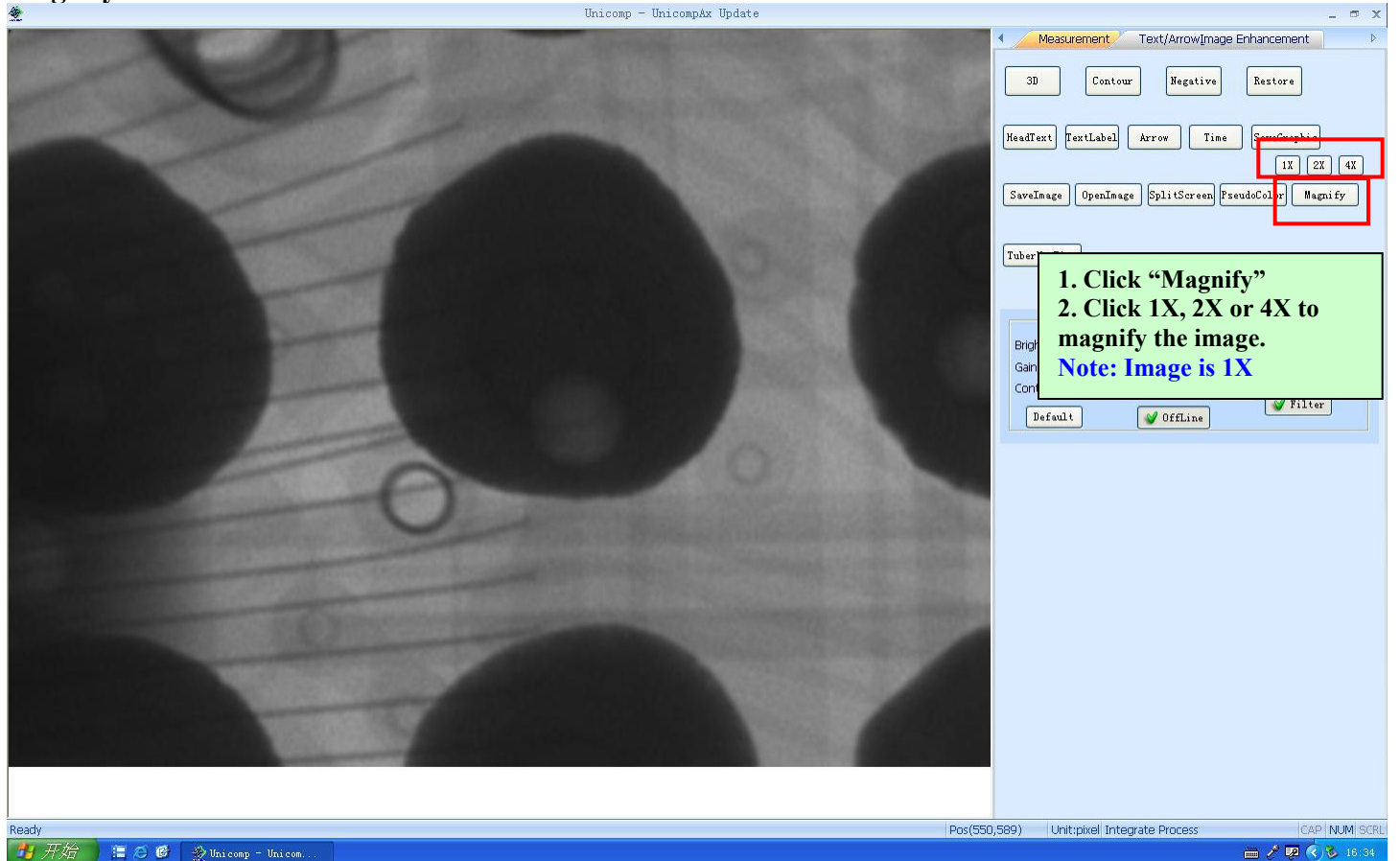


Ready

Pos(1022,716) Unit:pixel Integrate Process CAP | NUM | SCRL

16:33

Magnify



Ready

Pos(550,589) Unit:pixel Integrate Process CAP | NUM | SCRL

16:34

Tube User Time

The screenshot displays the UniComp software interface. The main window shows an X-ray image of a tube. A green text box in the upper left corner contains the instruction: "1. Click 'Tube User Time' to see the current total hours the x-ray tube has been active." A small dialog box titled "UniCompAX" is open in the center, displaying a warning icon and the text "TuberUsedTime: 19 Hour" with a "确定" (OK) button. On the right side of the interface, a panel titled "Text/Arrow/Image Enhancement" contains various buttons. The "TuberUseTime" button is highlighted with a red rectangular box. Below this panel is an "Adjust Image" section with sliders for Brightness (52), Gain (296), and Contrast (96), along with buttons for Sharpen, SharpenEx, Filter, and Offline. The Windows taskbar at the bottom shows the system tray with the time 16:35 and the date 10/16/2008.