USB Digital Microscope
(20x-200x) V2.0

User's Manual
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Welcome
Thank you for your choice of our product - it is a high-tech while easy to use Digital Microscope. With this unit you will see a unique and “bigger” world. It’s easy to zoom in on stamps, coins, paper currency, plants, insects, rocks and minerals, and so much more. We recommend reading this manual first to get the best out of this unit.

1. Precaution

Before using The USB Digital Microscope, please ensure that you read and understand the safety precautions described below. Always ensure that the USB Digital Microscope is operated correctly.

- The Microscope is not waterproof, so keep it dry.
- Do not use it in a humid place like bathrooms. A dry environment will maintain its life to maximum.
- Use the Microscope only at -5°C -50°C.
- Sudden temperature change may form dew inside the Microscope like entering a warm room in cold winter. Put it inside a handbag or plastic bag to slow down temperature changes.
- Do not point Microscope lens to the sun or strong light for a long time. Powerful light may hurt the light-sensitive electronics.
- Avoid touching the lens.
- The white LEDs which illuminate the Microscope target field are very bright. Do not stare directly into these LEDs as it may damage your eyes.
- The clear plastic distance shell sometimes picks up dirt or toxic material from a microscopically observed surface. Be careful that this doesn’t get in contact with the human skin. Always wash carefully or disinfect as needed.
- Do not unplug the Microscope from USB port when LEDs are on. This may cause information loss or circuit damage. Please always close MicroCapture and then unplug the Microscope.
2. Preparation

- **Standard accessories**

  - Microscope
  - Metal Stand
  - Quick Guide
  - CD
Parts Names & Functions

1. Snapshot button
2. Focus adjustment wheel
3. Calibration ruler


- **Computer System Requirements**

  - Win2000/XP/VISTA/WIN7&Mac10.5 and above
  - P4 1.8 or above
  - RAM: 256M
  - Video Memory: 32M
  - USB port: 2.0
  - CD-ROM Drive

- **Technical Specifications**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image sensor</td>
<td>2 Mega Pixels (interpolated to 5M)</td>
</tr>
<tr>
<td>Still capture resolution</td>
<td>2560x2048 (5M), 2000x1600, 1600x1280 (2M), 1280x1024, 1024x960, 1024x768, 800x600, 640x480, 352x288, 320x240, 160x120</td>
</tr>
<tr>
<td>Video capture resolution</td>
<td>2560x2048 (5M), 2000x1600, 1600x1280 (2M), 1280x1024, 1024x960, 1024x768, 800x600, 640x480, 352x288, 320x240, 160x120</td>
</tr>
<tr>
<td>Focus Range</td>
<td>Manual focus from 10mm to 500mm</td>
</tr>
<tr>
<td>Frame Rate</td>
<td>Max 30f/s under 600 Lus Brightness</td>
</tr>
<tr>
<td>Magnification Ratio</td>
<td>20x to 200x</td>
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<tr>
<td>Video format</td>
<td>AVI</td>
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<tr>
<td>Photo format</td>
<td>JPEG or BMP</td>
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<tr>
<td>Light source</td>
<td>8 LED (adjustable by control wheel)</td>
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<td>PC interface</td>
<td>USB2.0</td>
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<tr>
<td>Power source</td>
<td>5V DC from USB port</td>
</tr>
<tr>
<td>Operation system</td>
<td>Windows2000/XP/Vista/Win7/ Mac10.5 and above</td>
</tr>
<tr>
<td>OSD language</td>
<td>English, German, Spanish, Korean, French, Russian</td>
</tr>
<tr>
<td>Bundle software</td>
<td>MicroCapture with measurement &amp; calibration function</td>
</tr>
<tr>
<td>Size</td>
<td>110mm (L) x 33mm (R)</td>
</tr>
</tbody>
</table>
3. Install the software

Connect the Microscope to Computer! The microscope must be connected to computer before installing the software.

Insert the driver CD into CD-ROM Drive and this will automatically display the following interface:

1). Install the driver by clicking install Microscope Driver
   The Install Shield Wizard will walk you through the whole process. Click on the “Next” button to continue.

2). Install the MicroCapture software
   Click MicroCapture Software and then reboot the system when asked.

3). you can browse the User’s manual in PDF format and the CD contents by choosing the corresponding menus.
4. **Start Microscope**

Connect your Microscope to your PC USB port, start the software by clicking the icon generated on the desktop after installation and you will see the following screen pop up.

When the Microscope is disconnected from your PC USB port, the screen will display **“No Device detected, please connect your Microscope directly to your PC USB port.”**
5. Software functions

1) Change preview size
   You can change the preview size by the following operation:

   ![MicroCapture software interface](image)

   Note: The size of the photo taken is equivalent to the preview size selected in the Options menu/Preview Size.
2) Rotate the output image angle
You can rotate the output image clockwise and counter-clockwise.

3) Date/Time
You can display or turn off Date/Time by the following operation:
4) **Language**
You can choose On Screen Display language by the following operation:

![Language Options](image1.png)

5) **Skin**
You can choose to change the appearance of your MicroCapture screen by the following operation:

![Skin Options](image2.png)
6) Full screen
You can enter & quit full screen mode by:
(1) Double-clicking the preview area.
(2) Clicking the full screen icon:

(3) Choose **Full screen mode** from menu.

When in full screen mode, click on the Full screen icon to turn off and restore toolbars and menus.
7) Preferences

Major operations under preferences include Brightness, Contrast, Saturation, white balance etc.
8) Capture

(1) Photo capture
You can take photos by either of the following ways:

- Click the camera button
- Choose **Capture** and then click **Photo**
- By pressing F11

Captured photos are saved automatically and image thumbnails will be available on the right side of the MicroCapture screen for further editing. For editing photo, please refer to later operations.

(2) Video capture

You can record video by either of the following two ways:

- Click the video camera button
- Choose from the menu bar **Capture** and then click **Video**

When recording, there is a red dot flashing on the video camera button.

Video is saved in AVI format.
Stop capture:

- Click the flashing video camera button
- Choose **Capture** and then click **Stop capturing**

**Note:** Please note the best pixels for video capturing is 640x480.

9) **Edit photos**

(1). **Preview photos**

a. Clicking on an image thumbnail will display the image selected on the preview area, with its size displayed on the left-bottom corner.

b. You can double click the image thumbnail and an independent preview box will pop up as shown below:
(2). Save photos

You can save photo by right clicking on the thumbnail and then choose **Save**.

The file can be saved in either jpeg or bmp. The jpeg size in which the photo is saved is the maximum allowed for jpeg. You can choose to decrease the size by adjusting quality. Click the Advanced button to view and select jpeg save options.
(3). Delete photos
By right clicking and then choosing **Delete**, you can delete the selected photo
Or, at the independent preview box you can choose delete icon to delete the previewed photo.

(4). Copy photos
Right click on the thumbnail and then choose **Copy**.

10) Edit videos
You can right click the video small icon listed on the right column and then choose **Play**, **Copy**, and **Delete** etc.

11) Quit MicroCapture
How to use measurement & calibration function

1. Point the microscope onto a target object e.g. a ruler; rotate the focus wheel to get a clear focus.
2. When the focus at the clearest point, take a snapshot
3. Watch the calibration at the lower-end of the focus wheel; note down the magnification value that corresponds to the indicator marker on the microscope body as shown below. That value is the magnification at which the focus was set and the image taken. (This is very important, since only with the magnification ratio noted down can the object size be worked out at later steps!!)
4 Open the captured photo double clicking on the thumbnail. A preview window will open.

5 Input the magnification ratio noted down into the box indicated at the top right corner of the preview window. (Please note it is necessary to input the magnification ratio noted down on step 3; otherwise the measurement is meaningless.)

6 Now you can measure the size of the whole or part of the object you have taken using the available options. Click on the icons on top of the window. Following are the options:
1) Direct line: click , left-click mouse to choose a start point and drag mouse to an end point. Notice that the measurement is displayed. Release the mouse when done.

![Image of measurement on a line]

2) Multi-line: click , left-click mouse to choose a start point and drag to an end point. Notice that the measurements are displayed as you go along. Release mouse when done. You can continue measuring from the previous end point to a next point and so on.

![Image of measurements on multiple lines]
3) Circle-radius: click \( \circ \), left-click to choose a start point for a circle; draw the circle to an end point, release the mouse, and the radius of the circle will be displayed.

4) Circle-diameter: click \( \circ \), left-clicking to choose a start point for a circle; draw the circle to an end point, release the mouse, and the radius of the circle will be displayed.
5) Angle: click \[\text{angle symbol}\], left-click to choose a start point for an angle, draw the line to another point and then release the mouse to create one line for an angle. Move your mouse to bring out another line of the angle, left-click when the angle is ok. The angle value will then display.

```
27.40
```

6) Unit: click \[\text{mm}\], you can choose the unit at which the measured values display. Units available include: pixels / inches / km / mt / mm / cm / micro
Other operations you can carry out on the photo taken include:

1) : make notes on the photo taken
2) : select font, font style, font size etc
3) : draw line, box etc on the photo
4) : line color
5) : line thickness
6) : line type
7) : undo operation

Note:
1. The magnification ratio you are allowed to input is from 20 to 200. Do not input any value beyond that.
2. The measurement value worked out by the software is only for reference; it may not be 100% correct.
3. The measurement function is only available on Windows Operating System.
Instructions for Mac software
Part I How to Install the Software

Open \textit{mac} folder from the disc and copy \textit{MicroCapture} onto your desktop for daily use.
Part II   How to use MicroCapture

1. Plug Microscope into PC USB port.
2. Double click MicroCapture icon to open the MicroCapture window. The microscope is now ready to use.

3. Preview
   At the central window, you can preview the magnified subject.
4. **Change preview resolution**
   From *Options*, you can choose the preview resolution. The current resolution will be displayed at the left bottom corner of the preview window.

![Image of MicroCapture software interface showing options for preview size and date/time]

Please note that the preview window size always remains at 640x480 but the current resolution will show at the left bottom corner.

5. **Date/Time**
   From *Options*, you can turn the date/time on or off.

![Image of MicroCapture software interface showing options for date/time]
6. **Photo capture**
   You can capture photo by:
   - Choosing **Capture/Photo**
   - clicking photo capture icon

   The captured photos will appear as thumbnails on the right side of the preview window.

7. **Video capture**
   You can capture video by:
   1) choosing **Capture/Video**
2) clicking video capture icon

Note: After clicking on the icon, the video capture icon will turn red to indicate video clip recording. Click the red icon again, to stop recording!!

The captured videos will be appear as thumbnails on the right side of the preview window under Video tab.
8. Photo & Video editing
Captured photo & video appear as thumbnails on the right side of the preview window.

1) photo
Double click a photo thumbnail to open in the main preview window

You can then carry out operations as you normally do on Mac system.
2) **Video**
   Click a video clip thumbnail, the video will play automatically.

9. **Help info**
   By choosing *About MicroCapture*, you can get help info from your local agent.

10. **Quit MicroCapture**
    Choose *Quit MicroCapture* as follows, you can quit the software.
This symbol on the product or in the instructions means that your electrical and electronic equipment should be disposed at the end of its life separately from your household waste. There are separate collection systems for recycling in the EU. For more information, please contact the local authority or your retailer where you purchased the product.