Wi-Fi DIGITAL MICROSCOPE
USER’S MANUAL
WARNING! READ MANUAL CAREFULLY BEFORE USING THE DEVICE.
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Welcome Visio-tek™ is a line of versatile and portable, digital microscopes that utilize both Wi-Fi and USB transmission. Visio-tek can be connected to iOS and Android smartphones or tablets via the Visio-tek App, as well as through a WiFi/USB connection to Windows and Mac computers or laptops. Using Visio-tek dedicated software, you can capture pictures, shoot videos, and take measurements. This is the state-of-the-art way to observe the micro-world!

Fields of Application

• Industrial and Electronic Inspection/QC
• Education
• Research and Scientific Analysis
• Forensics · Print inspection
• Textile inspection
• Trichology
• Entomology
• Botany
• Mineralogy
• Collectibles
• Jewelry and Watch Repair
• Reading assistance
• And more ...

Please read this manual carefully before using Visio-tek Wi-Fi digital microscope!

1. UNPACKING

Use caution when opening your Visio-tek packaging with a sharp objective to avoid damaging the instrument and personal injury. Confirm all contents are in working order.

2. PACKAGING CONTENTS

All Visio-tek packaging contains:

• Visio-tek Wi-Fi digital Microscope
• USB AC adapter
• USB cable
• Plastic Stand
• Calibration Ruler
• Focus Caps (according to the models)

Additional accessories will vary according to model
3. SYMBOLS

NOTE: The following symbols may be used on the Visio-tek device, packaging, box or in this manual.

WARNING SYMBOLS

WARNING This symbol indicates there is a problem which may present risk to the patient or damage the instrument. Cease using the instrument and refer to operations manual.

WARNING Read the instructions

SYMBOLES FOR MAINTENANCE, TRANSPORT AND ENVIRONMENT

High

Fragile Keep dry

CERTIFICATION SYMBOLS

Indicates that the product meets the essential requirements of the EU directive for medical devices 93/42/CEE

Indicates the name of the manufacturer.

Visio-tek
IDENTIFICATION SYMBOLS

- **LOT**
  Followed by an alphanumeric code indicates the lot code.

- **SN**
  Followed by an alphanumeric code and date indicates the serial number and the production year.

OTHER SYMBOLS

- **RoHS Compliant**
  Indicates that the product meet the directive 2002/95/CE related to the reduction of the use of dangerous substances in electrical and electronic devices.

- **Waste Symbol**
  Indicates that the product must be properly disposed of at the end of its life. The user is responsible for disposing of the product at a specific collecting point dedicated to electronic and electric devices. The product may be returned to the reseller in case of the purchase of a new one. The dedicated collection point contributes to an environment policy which encourages the reuse of components from disposed devices.

- **Battery Disposal Symbol**
  Batteries are considered special waste and must be disposed of at specific collection points.

- **FCC Symbol**
  FCC, Federal Communications Commission symbol indicates that the product won’t interfere with other devices present in your household or office.
4. WARNINGS

**Need to read Wi-Fi digital microscope User’s Manual before using and storing it.**

Distributor will not be held responsible in case of damages or injuries due to an illegal or improper use of the product resulting from failure to follow instructions, warnings, notices or indications for use published in this book.

• Avoid touching the lens
• Keep out of reach of children
• Do not direct the beam of light toward the eyes (not for Iridoscope)
• Protect the product from electrostatic damage
• Do not attempt to disassembly any part of this product
• Do not attempt to service this product yourself. Opening the covers may expose you to dangerous voltage points or other risks
• Store and operate Wi-Fi Microscope at Temp: -20 ~ 45°C, Humidity: 45% ~ 85%, storing and operating outside these limits may reduce the life of the product
• Do not expose this product to water or other liquids. If water or other liquids enter the product, immediately power off the product. Continued use of the product may result in fire or an electrical shock
• Do not use any detergent or volatile solution, as this will damage the camera case, painted surfaces and lens. To clean the product uses only a soft cleaning cloth
• Do not place this product near a heat source or expose direct flame, avoid the lens damaged by high temperature or humidity
• If the lens is dirty, please use a kens brush on soft cloth to wipe clean. Avoid touching it with your fingers. Exercise care to avoid scratching the lens
• To avoid electric shock, remove all electricity source before removing PC

5. GENERAL GUIDELINES FOR HANDLING

- Do not use the device with wet hands
- Do not use the device if damaged or not in proper working order
- Do not subject the Visio-tek device to sudden shocks
6. GENERAL MAINTENANCE

Check the device and accessories before each use. The product is made of materials resistant to corrosion and environmental conditions under normal use. When not in use, store device in a closed, clean and dry storage container or drawer.

- Do not place the device and accessories in direct sunlight, high temperatures or in humid or dusty places

- Do not immerse the device in liquids

- DO NOT ATTEMPT TO DISASSEMBLE THE DEVICE

7. CLEANING THE DEVICE

IMPORTANT: Avoid touching the lens of the device as this can cause permanent damage. Store device properly when not in use to keep lens free of dust and particulate. Avoid using any other objects or liquids that could easily scratch or damage the surface of the lens or the sensor. To clean the body of the device, use a slightly dampened soft cloth. The device is designed is resistant to most cleaning products. AVOID ketones MEK, and harsh solvents.

- DO NOT USE the device for at least 15 minutes after cleaning

- Avoid touching the surface of the lenses when cleaning. Use short blasts of dry compressed air to remove dust from lens if necessary.
8. DISPOSAL

Indicates that the product must be properly disposed of at the end of its life. The user is responsible for disposing of the product at a specific collecting point dedicated to electronic and electric devices. The product may be returned to the reseller in case of the purchase of a new one. The dedicated collection point contributes to an environment policy which encourages the reuse of components from disposed devices.

It has to be disposed of in accordance with local WEEE regulations.
9. WARRANTY

Congratulations for purchasing our product. This product HAS BEEN MANUFACTURED TO THE HIGHEST QUALITY AND STANDARDS. Distributor guarantees this product against any defects due to materials or workmanship for a period of 1 year from the date of original purchase. To take advantage of the guarantee, you have to retain your purchase invoice. If the product show any defects within the warranty time it has to be returned to the selling agent with proof of purchase. The warranty is null and void if the damage is resulting from carelessness or misuse. No compensation will be given by the distributor and its distributors if the product is returned during the warranty period. In addition, any replacement or repair carried out during the warranty time will not prolong the duration of the guarantee.

The warranty lapses in the following cases:

- The product has been tampered with or the label placed on the USB cable bearing the serial number has been removed, damaged or rendered unreadable
- The product has been damaged or has been misused
- The product has been opened or repaired by unauthorised personnel
- The product has been damaged due to non-compliance with the instruction manual

Products considered to be defective should be returned only to the dealer from which it was purchased accompanied by the invoice.
The product will be repaired or replaced, under our sole discretion.
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Use of the Microscope

WARNING: IMPAIRMENT OF IMAGE OR SLOW VIDEO ARE THE RESULT OF A LOW BATTERY. BEFORE FIRST USE OF THE MICROSCOPE, PLEASE CHARGE THE BATTERY FOR AT LEAST 12 HOURS.

- **Wi-Fi**: Press \(\mathcal{W}\) for 2 seconds; the microscope will generate a Wi-Fi network.
- **Wi-Fi Indicator (Blue LED)**: Flashing light indicates data transmission; constant light indicates no data transmission.
- **Power Indicator (Green LED)**: Lights up when Wi-Fi power is on or connected to PC or AC adaptor via MiniUSB cable.
- **LED**: Press \(\mathcal{L}\) for 2 seconds to switch from white LED to UV LED (only for MICFIUVW model); press + and – to increase or decrease the intensity of light.
- **Photo**: Press \(\mathcal{P}\) to capture the picture of the microscope image.
- **Snapshot Button**: Every time after successful connection of the WiFi microscope, you have to enable the Snapshot feature on the App (The LED illumination will be off and then light up again). The Snapshot only works with the receiver device when the App snapshot feature has been enabled.

1.1 Charging Instructions

1. Connect the DC Adapter (plug the AC adapter into an AC outlet) or PC’s USB cable; it charges whether the power switch is on Wi-Fi or OFF/USB. **We DO NOT recommend charging the Wi-Fi Microscope while in use.**

2. **Battery LED (Orange LED or Red LED)**: **Red LED** when the battery level is low; **Orange LED** when the battery is charging.

3. **LED charge**: When the battery is fully charged, the battery LED turns OFF.
2. Working in Wi-Fi Mode

Before starting the Visio-tek app, please make sure the Wi-Fi microscope has already connected to your display device by Wi-Fi.

1. Install:
   a) For iPad and iPhone: Search “Visio-tek” in App Store to download and install it.
   b) For Smart-Phone and Tablet Android: Search “Visio-tek” in Google Play to download and install it.
   c) For Windows and Mac PC: Download the Visio-tek Software at www.visio-tek.net.

2. Press \( \mathbf{U} \) for 2 seconds, wait for ~20 seconds until the Wi-Fi indicator \( \mathbf{W} \) and the illumination LEDs light, then the Wi-Fi signal will be transmitting correctly.

3. Check the wireless connection on your Phone/Tablet or PC and a list of available networks will appear. Select the SSID “Wi-Fi2SCOPE_xxxxx” network from the list to connect; the network “Wi-Fi2SCOPE_xxxxx” requires a password: enter the password “12345678” and click OK.

4. Once connected, please wait for about 5 seconds to open the “Visio-tek” application to see your images. If there is no video display, please close and restart the “Visio-tek” app again. When the Wi-Fi indicator LED \( \mathbf{W} \) flashes the video stream signal should be displayed in the app. Video streaming can be broadcasted to many devices, but the frame rate of live video will decrease as the number of receiving devices increases.

2.1 Simultaneous Use of Internet and Microscope Wi-Fi Connections

You can use the Wi-Fi network of the microscope and that of the PC / SmartPhone / Tablet at the same time.

1. To access the internet by Wi-Fi connection at the same time the Wi-Fi microscope is working, open an internet browser, input http://10.10.1.1 and click “enter”. A pop-up window will require you to enter a username and password, please enter: admin and admin, and then this window should appear:

2. Click \( \mathbf{Internet} \) in the window to pop up the screen:

3. Select “Wireless AP Client Mode”, click \( \mathbf{Next} \) to pop up the screen:

4. Click \( \mathbf{Refresh} \) till your desired network SSID appears, and click it to pop up the screen:
2.2 Wi-Fi Security Setup

To change the Wi-Fi access password:

1. Open an internet browser, input http://10.10.1.1 and click “enter”. A pop-up window will require you to enter a username and password, please enter: admin and admin, and then this window should appear:

2. Click in the window to pop up the screen:

3. Click “Network Security Settings” to pop up the screen on the right.
4. Enter your desired Network Name (SSID) and password in “WPA-PSK Key” and “Re-Enter”, and click “Next”. The setting is done, now you can reconnect the new SSID Wi-Fi by entering the new password.

3. “Visio-tek” on iPad/iPhone

3.1 Installation on iPhone / iPad

Search “Visio-tek” in the App Store to download and install it.

Click the icon to display Video.

Warm-up Tips: If the live video is blank or slow, please restart the “Visio-tek” app again.

Capture photo or record video (The pixel resolution has to be set at 640 x 480 when recording video).

Photo folder or video folder.

Navigation icon - moving a dot left/up/down/right for calibration or measurement operations.

Calibration and measurement.
IP Adress

Resolution setting. (When changing the resolution, please wait until the illumination LED is off and lights up again – it takes about 5 seconds).

Resolution setting and Default:

<table>
<thead>
<tr>
<th>Back</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>640X480</td>
<td>30 fps</td>
</tr>
<tr>
<td>1280X1024</td>
<td>25 fps</td>
</tr>
<tr>
<td>320X240</td>
<td>20 fps</td>
</tr>
</tbody>
</table>

: Enable the button snapshot.

### 3.2 Calibration on iPhone / iPad

To obtain accurate measurement data for each magnification, please calibrate before performing measurements.

Use the enclosed calibration ruler as to-be-observed object. Bring the image into focus by turning the “Focus & Magnification Adjustment Wheel”;

Click to pop-up the screen on the left.

Click “Calibration”, click two dots (move the dot by clicking ) in order to draw your desired line, then click on the live video to show the following screen:

1. Click to select a point and refine the selection by clicking the arrows

2. Select in the same way a second point at a known distance; in this way a line of known length will be shown.

3. Press any point on the screen.

4. Enter the value of the length and press "Ok".
Now the calibration is complete. Click on the screen again, and you can mark measurements accurately on the live video using the same focus. (Do not adjust the “Focus & Magnification wheel!”). If the new photo object is not in focus, please only adjust the distance between the microscope and the object until the image becomes clear. The measurement data can be saved on the photo image.

3.3 **Measurement on iPhone / iPad**

**Line**  Allows you to measure the linear distance between two points. Simply click and drag to the desired length, and click again to finish.

**Angle**  Allows the measurement of an angle. Start at the pivot point and extend out to start measuring an angle.

**Circle**  Allows the measurement of the circumference, area, and radius of a circle. Simply click on any three points on the circle you wish to measure.

Click the ruler icon and select “line”. Select the two points whose distance is to be measured on the image and click the screen again. The measurement will show.

Click to save the image (Please do not adjust the “Focus & Magnification wheel!”). If the new photo object is not in focus, please only adjust the distance between the microscope and the object until the photo becomes clear. The measurement data can be saved on the photo image.

To obtain accurate measurement data for each magnification, please calibrate before performing measurements.

4. **“Visio-tek” on Android Tablet / Phone**

4.1 **Installation on Android Tablet / SmartPhone**

Install the “Visio-tek” app and run it by first clicking the icon and then the icon.

If the live video is blank or slow, please restart the “Visio-tek” app again.
Setting Menu

<table>
<thead>
<tr>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution Setting</td>
</tr>
<tr>
<td>Unit Setting</td>
</tr>
<tr>
<td>Line Setting</td>
</tr>
<tr>
<td>Font Setting</td>
</tr>
</tbody>
</table>

1. **Resolution Setting** (when changing the resolution, please wait until the illumination LED is off and lights up again – it takes about 5 seconds).

![Resolution Setting](image)

- **Snapshot**: Enable the snapshot button.
- **Rename**: Rename the photo.
- **Default**: Default setting.
2. **Unit Setting**

   ![Unit Setting Screen]

   **Line Setting**:
   - for editing line size and color

3. **Line Setting**: for editing line size and color

   ![Line Setting Screen]

4. **Font Setting**: for editing text size and color

   ![Font Setting Screen]
4.2 Calibration on Android Tablet / Phone

To obtain accurate measurement data for each magnification, please calibrate before performing measurements.

1. To calibrate, select a known measuring tool, such as the enclosed calibration ruler, as to-be-observed object.

2. Focus the image of the selected ruler by turning the "Focus & Magnification Wheel"

3. Determine the magnification by taking a reading from the scale on the focus dial (see illustration).

4. Click on the triangle button on the top-left of the screen and enter the scale value in the "Magnification" box.

5. Use the enclosed calibration ruler as observed object.
   Click on to show the screen on the left.
   • Click to come back to the live video and start calibration.
   • Click to select a point and refine the selection by clicking the arrows
     • In the same way select a second point at a known distance; a line of known length will appear.
   • Press any point on the screen.
   • Enter the value of the length and press "Ok".
6. Now the calibration is complete. By clicking on the screen again, you can mark measurements on the live video using the same focus. *(Please, do not adjust the “Focus & Magnification wheel!”)*. If the new photo object is not in focus, please only adjust the distance between the microscope and the object until the image becomes clear. The measurement data can be saved on the photo image.

### 4.3 Measurement on Android Tablet / Phone

- **Line**  
  Allows you to measure the linear distance between two points. Simply click and drag to the desired length, and click again to finish.

- **Angle**  
  Allows the measurement of an angle. Start at the pivot point and extend out to start measuring an angle.

- **Circle**  
  Allows the measurement of the circle circumference, area, and radius. Simply click three points on the circle circumference you wish to measure.

- **Rectangle**  
  Allows the measurement of width, height and area of a rectangle.

- **Text**  
  Insert text everywhere you need.

Click ![link](image) to see the saved image.
5. “WiFi Visio-tek” on Windows Computers

1. After the installation of “WiFi Visio-tek” the icon will appear. Click on the icon to run it. The download is available at www.visio-tek.net.

   Click the “Preview” icon and the Visio-tek main screen will display video (see illustration): (It takes about 5 seconds for video to display; if the live video image is blank or slow, please click the “Preview” icon to try again.)

5.1 Menu

   - Preview, live image
   - Take a picture
   - Take/Stop Video
   - Take time-lapsed pictures
   - Email the selected photos
   - Save the selected photo or video file

5.1.1 File

   Select a photo or video and click “File” on the menu bar.
   - **Open**: Open the selected photo or video to be displayed.
   - **Save as**: Save the selected photo or video file to the desired folder and file format.
   - **Delete**: Delete the selected photo or video.
   - **Delete all**: Delete the all photos or videos in the photo or video folder.
   - **E-Mail**: Email the selected photos using your default email account.
   - **Favorites**: Open the folder containing the captured photos and recorded videos.
5.1.2 Setting

**Video Setting**

When you change the resolution, please wait until the illumination LED has switched off and lights up again before clicking OK - it takes about 5 seconds.

**Change language**: The language selection allows you to select the WiFi Visio-tek interface language.

5.1.3 Capture

**Snapshot Enable**: Enable the button snapshot. The video will temporarily stop; please Click “Preview” again to resume.

**Warm Tips**: If enabling snapshot prompts a Windows Security Alert, as illustrated below (in this case Windows 8):

You need to check both boxes for “Private networks” and “Public networks”, and then click “Allow access” to allow the “Snapshot” program to communicate on these networks, otherwise the button snapshot will not work. If the Allow access field is missing, please click “Control panel->Windows firewall->Restore defaults”, and then restart Visio-tek and “Snapshot Enable” to reset it.
**Language**: The language selection allows you to select the Visio-tek interface language.

**Take Picture**:  
Capture photos.

**Take/Stop Video**:  
In the active live video window, click to start/stop recording.

**Recorder Setting**

- **Frame rate**: The number of frames per second that are displayed. The number range is 1~30.
- **Timer limit**: For setting time limit of the video recording to avoid video file size exceeding disk space. The number range is 1~99999.
- **Take time-elapsed pictures**: Press the time-lapsed button on the active preview window.

**Capture Setting**

5.1.4 **Help**

**About**: Software version

5.1.5 **Video Processing**

Please click “Preview” to resume the live video after completing the video processing discussed below.

- **Horizontal Mirror**
- **Vertical Mirror**
- **Negative**
- **Binary Segmentation**
- **Monochrome display (Red)**
- **Monochrome display (Green)**
- **Monochrome display (Blue)**
- **Calibration on Video**

To obtain accurate measurement data for each magnification, please calibrate before performing measurements.
5.2 Images on Windows

You can double-click the selected Photo for viewing and taking measurements, as shown below. Photo file name: yyyy-mm-dd_hhmmss_nnnx_Nxxxx is a combination of date, time, magnification and serial number. For example, Still_2009-03-06_102949_060X_N0002 records: Image 0002, at magnification 60, from Mar-06-2009, at AM10:29:49.

5.3 Calibration on Windows Systems

To obtain accurate measurement data for each magnification, please calibrate before performing measurements.

5. To calibrate, select a known measuring tool, such as a ruler, as to-be-observed object.
6. Bring the image of the selected ruler into focus by turning the “Focus & Magnification Wheel”
7. Determine the magnification by setting the scale on the focus dial, as illustrated. (The default magnification is 60x.)
8. Enter the scale value in the “Scale” box in the right-hand scale box of the screen.
9. In the live video window click on the calibration button, and then click and extend to a specific length; a small window will pop up.

10. Enter the actual length (in the example, 2mm) and click the “OK” button.

The software will automatically calibrate the scale of magnification, which will show on the right-hand box of the calibration button.

The calibration is complete; you can now mark accurate measurements on photos or real-time video at this focus level. (Please, do not adjust the “Focus & Magnification Wheel”).

If the new object is not in focus, please only adjust the distance between the microscope and the object until the image becomes clear, and then take the photo and make the necessary measurements.

5.4 Measurement on Windows Systems

- **Line measurement**
  - Allows you to measure the linear distance between two points. Simply click and drag to the desired length, and click again to finish.

- **Point to Line Measurement**
  - Allows measurement of a line 90 degrees from a certain line. Simply create a line to represent the base by clicking once to start, drag, and then click again to set the endpoint. Branch off from the base line to start measuring the line that is 90 degrees from the base line and make a final click to finish the measurement.

- **Continuous Line Measurement**
  - Allows measurement of the distance between multiple connecting lines. Simply click and drag to form one section of distance, click again to start another section. Continue until the total desired distance is measured. Double-click to finish.

- **Polygon Measurement**
  - Allows measurement of a polygon. Simply click and drag to form the desired length, and click again to start the next section, double-click to finish the polygon measurement.

- **Radius of Circle Measurement**
  - Allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired radius.

- **Diameter of Circle Measurement**
  - Allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired diameter.
Three Point Circle Measurement

Allows the measurement of the circumference, area, and radius of a circle. Simply click on any three points on the circle you wish to measure.

Three Point Arc Measurement

Allows a measurement of an arc. Click on three consecutive points on an arc to measure.

Three Point Angle Measurement

Allows the measurement of an angle. Start at the pivot point and extend out to start measuring an angle.

Four Points Angle Measurement

Allows the measurement of an angle by selecting four points. Simply select two points from one line segment and another two points from another line segment to complete the angle measurement.

To measure, please enter the magnification if the value indicator is blank.
Enter the number of the scale value on the roller when the photo was taken.
6. “Visio-tek” on Mac Computers

6.1 Installation on Mac Computers

Installing “Visio-tek” using the OS X 10.8 or a later version; a pop-up message will appear, as illustrated.

You need to adjust the following settings:

Click the Apple icon to pop up the window on the right, and click “System Preference” to open the next window.

Click on “Security & Privacy”.

Click “Click the lock to make changes”.

...
Input “Name” and “Password” of your system, and click “Unlock”.

Select “Anywhere” to finish the setting.
Now you may install the “Visio-tek” software.

Double-click the “WiFi Visio-tek” icon after completing installation.

Click “Preview” and after a short delay the WiFi main screen will display video (it takes about 5 seconds to display the live video; if the video image is blank or slow, please click the “Preview” icon once again.).
6.2 Images on MAC Computers

Preview (Connect the Wi-Fi microscope and display video)

Capture photo

Photo folder: Open the folder which contains the captured photos

Setting (Show / Hide)

“About”

Enable the Button Snapshot feature.

When changing any item of the Setting or enabling the button snapshot, you have to wait until the illumination LED is off and lights up again - this takes about 5 seconds.

6.3 Calibration on Mac Computers

To obtain the accurate measurement data for each magnification, please calibrate before taking measurements.

1. Select a known measurement tool, such as a ruler, as the target object used for calibration. Bring the image of the selected ruler into focus by turning the “Focus & Magnification Adjustment Wheel”, and determine the magnification by selecting a scale value on the focus dial. Click the icon button to capture an image and then double-click the image; the following window will appear:

2. Click the button – the calibration window appear – and enter the following data: Title: the calibration name, such as “Calibration1”; Mag: the magnification which had been chosen from the microscope wheel, such as “60”; Length: the actual length of the line which you will draw, such as “2”. Finally, Click “Add Calibration”; you may now directly draw
a line (but do not click the “line” button) of 2mm length, and the calibration is complete.

The application software is now ready for making measurements in in new target videos using the calibrated magnification at this focal setting. (Do not adjust the “Focus & Magnification Adjustment Wheel”). Measurements made of both videos and photo images after magnification calibration will be very accurate with a measurement error of under 2%.

6.4 Measurement on MAC Computers

To obtain accurate measurement data for each magnification, please calibrate before performing measurements.

6.4.1 Line Measurement

Select Magnification at the top left of the window. Click on the line icon button and a line will display in the video preview window. The line can be moved by selecting the left end of the line and dragging the mouse, and its length can be increased or decreased by selecting the right end point and and dragging the mouse.
6.4.2 Circle Measurement

Click on the Circles icon button and a circle will display in the video preview window. The circle can be moved by selecting the center point and dragging the mouse. Selecting the right OR top point of the circle and dragging the mouse will increase or decrease the size of the circle.

![Circle Measurement](image)

6.4.3 Area Measurement

Click the reset icon button and a rectangle will display in the video preview window. The rectangle can be moved by selecting its center point and dragging the mouse. By selecting the bottom right point of the rectangle and dragging the mouse the area of the rectangle can be changed.

![Area Measurement](image)

6.4.4 Circle Measurement

Click the angle icon button and an angle will display in the video preview window. The degree of the angle can be changed by selecting the right OR top point and dragging the mouse. The angle can be moved by selecting the corner point of the angle and dragging the mouse.

![Circle Measurement](image)
6.4.5 Keys

A double click on the captured image gives access to the list of keys enumerated below:

- **Save as**: Rename the file and save in different path.
- **Measurement Line**: The line measurement allows you to measure the linear distance between two points. Simply left click and drag to the desired length, and click again to finish.
- **Measurement Rectangle**: Allows the measurement of Width, Height and Area of a rectangle.
- **Measurement Diameter Circle**: The diameter of a circle measurement allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired diameter.
- **Measurement Three Points Angle**: The three point angle measurement allows the measurement of an angle. Start at the pivot point and extend out to start measuring an angle.
- **Measurement Four Points Angle**: The four point angle measurement allows the measurement of an angle by selecting four points. Simply select two points from one line segment and another two points from another line segment to complete the angle measurement.
- **Undo**: Undo the last action.
Delete: Delete all measurement.

Redo: Redo the previous action.
7. Working in Wired USB Mode

2. Install the “USB Visio-tek” (for Windows OS) or “USB Visio-tek” (for Mac OS) software; the download is available at www.visio-tek.net.

3. Connect to the PC’s USB port with a USB cable; the power LED indicator will light, as well as the charge indicator LED (battery is being charged).

4. Launch “USB Visio-tek”. The illumination LED lights up as soon as the application software is running.

8. “USB Visio-tek” on Windows

8.1 System Requirements

- Windows XP SP2 or later
- Available USB 2.0 or later port

8.2 Running “USB Visio-tek”

Note: Before starting the USB Visio-tek program, please make sure the USB digital microscope has been connected to the PC via a USB line and Power is on.

After installing USB Visio-tek.exe, double-click the USB Visio-tek icon on the desktop, and the USB Visio-tek main screen will show:

If the USB digital microscope was not found while opening the USB Visio-tek program, the message “please connect USB Digital Microscope” will show:

8.3 Menu

Take a Picture
Take/Stop Video
Take time-lapsed pictures
Email the selected photos
Save the selected photo or video file
8.3.1 File

Selection of a photo or video in the Photo or Video folder; click “File” on the menu bar or right key of mouse to pop up the drop-down menu for operating it.

- **Open**: Opens the selected picture or video to be viewed.
- **Save as**: Save your files into the desired folder and file format.
- **Save all**: Save all your files in the photo or video folder into the desired folder.
- **Delete**: Delete the selected image or video. You will be prompted to confirm your decision.
- **Delete All**: Delete all the images or videos in the photo or video folder. You will be prompted to confirm your decision.
- **Print**: Print the selected photo
- **Email**: Send the selected images through your default email account.

8.3.2 Setting
**Video Setting**

**Device Selection**
- Device Name: USB Digital Microscope

**Device Setting**
- Video Resolution: 1280x1024

**Video Norm**: YUY2

**Video Properties**
- Brightness: 100
- Contrast: 41
- Saturation: 31
- Sharpness: 0
- Gamma: 5
- Hue: -2

**Pen Setting**

**Pen Setting**
- Line Type
  - Solid Line
  - Dash Line
  - Dot Line
  - Dot Dash Line 1
  - Dot Dash Line 2
- Line Colour
- Line Width
- Units: mm, cm, mil, inch
- Decimal: 0.01, 0.001, 0.0001, 0.0001
- Image Format: png, jpg

**Crosshair / Scale Line / Circle Grid**: Add in Crosshair / Scale Line / Circle Grid on preview area: click “Crosshair / Scale Line / Circle Grid” on the drop-down menu.

**Snapshot Enable and Snapshot Disable**: The default is ‘enable snapshot’.
If you notice video delay and wish to improve performance of the video preview, please disable the snapshot feature.

**Change Language**: The language selection allows you to select the USB Visio-tek interface language.
8.3.3 Capture

**Take picture**: You can take a photo of the image by clicking the snapshot Button or pressing the button on the USB DigitalMicroscope.

**Take Video/Stop Video**:
1. **Frame Rate**: The number of frames or images that are projected or displayed per second. The number range is 1~30.
2. **Timer Limit**: Limits the time of video recording to avoid video file size exceeding disk space. The number range is 1~99999.
3. **Compress**: Select the video compression format to reduce video size. Files are automatically compressed in accordance with your PC system. Video quality may vary depending on the compression program used.

**Take time lapsed images**:
Press the time-lapsed button on the active preview window.
8.3.4 Help

About USB Visio-tek: you can check your present version.

8.3.5 Video Process Tool Bar

- Horizontal Mirror
- Vertical Mirror
- Negative
- Binary Segmentation
- Monochrome display (Red)
- Monochrome display (Green)
- Monochrome display (Blue)
- Calibration

8.4 Calibration on Windows

See Chapter 5.3

8.5 Measurement on Windows

See Chapter 7.4

To obtain accurate measurement data for each magnification, please calibrate before taking measurements.

9. “USB Visio-tek” on MAC OS

9.1 System Requirements

- MAC OS X 10.8 or later
- QuickTime 7.0 or later

Please drag the “Visio-tek” software to the “Applications” folder to complete installation.

9.2 Running “USB Visio-tek”

Install the “USB Visio-tek” software from www.visio-tek.net. Once the USB Visio-tek installation is completed, please plug the microscope into an available USB port on your Mac OSX PC, and turn the microscope on with the switch on the side. The system will automatically search and install the driver. When the software installation is complete you will see a transmission from the microscope on your screen, as shown below. If it does not show, please read the following instructions. After installation of USBVisio-tek.dmg, double-Click the USB Visio-tek icon, the USB Visio-tek main screen will display:
If images from the microscope camera are not being transmitted and display is still showing the “Please connect USB Microscope, then click Preview...” on the screen and change the resolution “Controls → Format→ 320 x 240”, as illustrated below.

9.3 Setting

Note: When you are planning to use the microscope in the future, be sure to plug it in and turn it on before opening Visio-tek.

Video Resolution Setting
Click “Controls->Format” to select your desired resolution as shown on the screen shot below. The default resolution is 640 x 480. If your Visio-tek screen freezes on an image, this may be because capture resolution was set too high. Set it back to Medium and the video display will return.
9.4 Capturing Image

Click the icon button on the Tool bar of the main screen to capture an image. The Captured image will be saved in the folder `../users/local user name/Visio-tek/Image`. The filename of the captured image is a .jpg file with unique time stamp. The format of the time stamp file name is: YYYYMMDDhhmmss.jpg : YYYY is the year, MM the month, DD the date, hh the hour, mm the minutes, and ss the second.

Each captured image will be added to the image scroll list. Double-click a selected image thumbnail in the image scroll list to open the image for use of the measurement feature.

Deleting a Captured image: Select the captured image in the image scroll list -> and press the “Del” Key on the keyboard to delete it.

9.5 Creating Video

Click the icon button on the Tool bar of the main screen to start or stop recording Video, as illustrated below. The Video file name of the time stamp is YYYYMMDDhhmmss.mov: YYYY is the year, MM the month, DD the date, hh the hour, mm the minutes, and ss the seconds.

The created Video is saved in the folder `../users/local user name/Visio-tek/Video`). Double-click a selected Video for display or press the “Del” key to delete it.

Click the icon button to View the captured images and video path.
9.6 Calibration
See Chapter 8.3

9.7 Measurement
See Chapter 8.4

10. Product Specifications

- Operation system: Windows / Mac / iOS and Android

Wi-Fi Spec:
- Photo and Video Resolution: 1.3MPixel—1280 x 1024 (MJPG), 640 x 480 (MJPG), 320 x 240
- Frame Rate: 15fps@1280 x 1024, 30fps@640 x 480, 320 x 240
- IEEE 802.11 b/g/n standards compliant
- Wireless Transmission Distance: up to 5m
- Transmit Power:
  - 11n HT40 MCS7: +13 dBm
  - 11b CCK: +18 dBm
  - 11g OFDM: +15 dBm
- Data Rate:
  - 802.11n: up to 150 Mbps
  - 802.11b: 1, 2, 5.5, 11 Mbps
  - 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
- The Temperature: ≤60 °C (Celsius degree) with full speed running.
- Frequency Range: 2.400 ~ 2.4835 GHz
- Power Consumption: Max 2.5W
- Frame Rate: 10fps ~ 30fps
- Li-ion Battery: Continuous Working Time—Appx. 2 Hours, Full Charging Time—Appx. 4 Hours
- Power Source: DC5.0V/1A

Camera Spec:
- Camera Sensor: CMOS 1/4”
- Optical features:
  - Exposure, Gamma Correction, Numerical Aperture, White Balance, Black Reference, Flicker Avoidance, Defect Identification, Color Saturation: Auto

Microscope Spec:
- Adjustable Magnification: According to the model
- The Object Distance: According to the model
- Focus Range: According to the model
- Light Source: According to the model
- Lens: High Definition Microscopy Lens
- Dimension: 36mm (Diameter) x 142mm (Length)
- Weight: ~88g

Wired USB Spec:
- Photo and Video Resolution: 1.30 mp—1280 x 1024, 640 x 480, 320 x 240
- Frame Rate: 15fps@1280 x 1024, 30fps@640 x 480, 320 x 240
- PC interface: USB 2.0
- MiniUSB Cable: 1.2m
11. Troubleshooting

11.1 Wi-Fi Mode

1. There is no video display after changing the resolution to 1280 x 1024, but it works well at 640 x 480:
   a) Low battery, please charge your microscope.

2. The microscope video stops after working for a long time:
   a) Check if low battery or the battery is exhausted.
   b) Power off Wi-Fi microscope and close Visio-tek app, then restart it again.

3. The live video's frame rate of Wi-Fi microscope is slow:
   a) Click the “Preview” icon again on “WiFi Visio-tek” SW when using on Window PC or Mac PC. Close and restart “Visio-tek” app again for Smart-Phone or Tablet.
   b) Set the video resolution to 640 x 480 if the current resolution is 1280 x 1024.
   c) Check if low battery or there are many other Wi-Fi networks interference around.
   d) Power off Wi-Fi microscope and close the SW to restart it again.

4. There is no video display or slow video after successful Wi-Fi connection:
   a) Smart-Phone or Tablet: if the illumination LEDs don’t light up, please power off Wi-Fi microscope and close “Visio-tek” app to restart.
   b) Smart-Phone or Tablet: if the illumination LEDs light up, restart “Visio-tek” app.
   c) Windows PC or Mac PC: click the “Preview” icon again on “WiFi Visio-tek”, or power off Wi-Fi microscope and close “WiFi Visio-tek” to restart it.

5. Why does the screen stop video displaying after changing the resolution?
   a) When changing the resolution, please wait until the illumination LED is off and lights up again before clicking OK - it takes about 5 seconds. Please restart “Visio-tek” app.

6. Why does the device feel rather warm after Wi-Fi microscope has been working for some time?
   a) The Power dissipation of Wi-Fi microscope is about 2.5W, so the highest internal temperature of the device can reach about 60°C.

7. How long can the Wi-Fi microscope works for after the battery is full charged?
   a) It is about 2 hours at 640 x 480 resolution. Full charging time is about 2 hours.

8. How do I use the wired set-up?
   a) Please refer to the USB Mode chapters of this manual for wired USB Visio-tek scope usage.

9. Why Wi-Fi Microscope may encounter some interferences?
   Interference will occur if there are some other wireless sources, for example, analog 2.4GHz FM wireless, Wi-Fi, cordless phone and Bluetooth etc., please keep away from these wireless sources, and then operate the Wi-Fi Microscope.

11.2 USB Mode

1. The USB Digital Microscope and the USB Visio-tek software were working, but suddenly stop working properly. Please try the following:
   a) Unplug or Power off USB DigitalMicro from PC, close USB Visio-tek program.
   b) After waiting for 1 minute, plug and power on USB Digital Microscope and open USB Visio-tek program to try.

2. After PC resume from standby or hibernate, maybe USB Visio-tek will not work properly, please close it and re-open to try.

3. If USB Digital microscope driver can not be installed completely, maybe your pc OS is not XP SP2 or above, please update it. If you installed the driver and application completely, but there is a tips: please connect USB Digital Microscope after running the program, please uninstall USB Visio-tek and reboot PC, then re-install USB Visio-tek to try again.