

# *MVM-01Pro Industrial Scope*

## Master Video Microscope

### USER'S MANUAL



# **USER'S MANUAL**

Congratulations on your purchase of Video Microscope with multi-function, e.g. image freeze, zoom in / zoom out, negative, etc.

We believe the versatility and ease of use of this product will lead you to obtain more success in business deals and create more profit for you.

The Video Microscope is guided cool light surrounding the lens and automatically provides the best illumination to enable you to obtain the optimum viewing angle and color of the target object on the video monitor.

Image retention on hard copy and image storage are possible by simply connecting the video output of Video Microscope directly to an optional Color Video Printer, Video Tape Recorder (VTR), to a Color TV monitor or USB output to Personal Computer.

# 1. ACCESSORIES

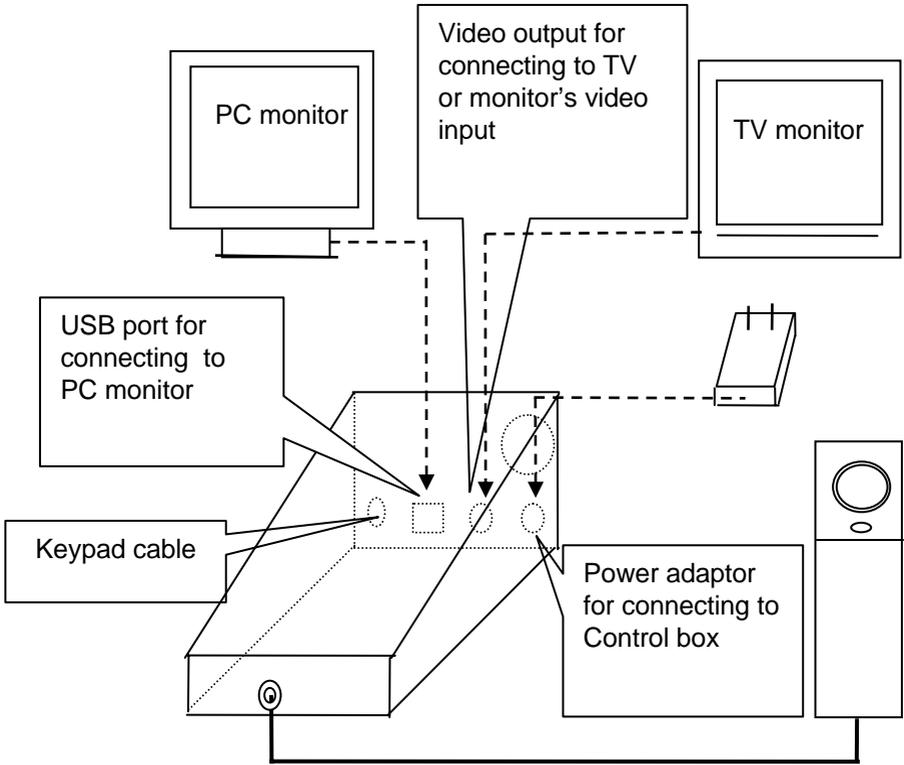
## 1-1 Standard accessories:

ITEM	Q'TY	DESCRIPTION
1	1	Control box
2	1	Handy probe (resolution: <b>3,000,000</b> pixels)
3	1	Probe stand
4	1	1 & 2 & 4 split frames freeze function
5	1	Negative / Zoom function
6	1	AV signal cable (RCA-RCA video cable)
7	1	USB cable & USB driver (CD)
8	1	Power adaptor (100V – 240V)
9	1	User's Manual

## 1-2 Optional accessories:

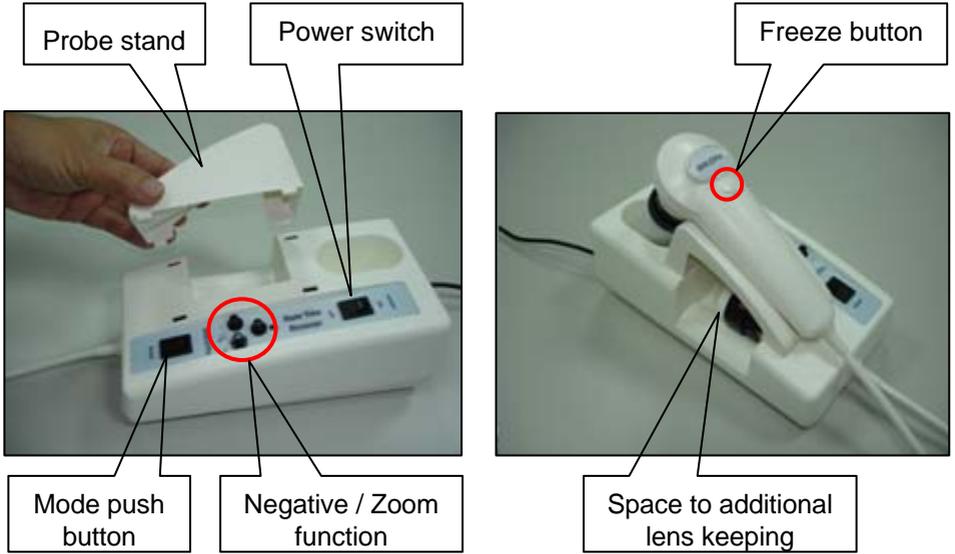
ITEM	Q'TY	DESCRIPTION
1	1	<b>MVM-01 1x Adj. Lens</b> (with non-contact light guide)
2	1	<b>MVM-01 1x~5x Lens</b> (with non-contact light guide)
3	1	<b>MVM-01 55x Lens</b> (with contact / non-contact light guide)
4	1	<b>MVM-01 110x Lens</b> (with contact / non-contact light guide)
5	1	<b>MVM-01 250x Lens</b> (with contact / non-contact light guide)
6	1	CS002N Copy Stand
7	1	BX003 Carrying case

## 2. SYSTEM BLOCK DIAGRAM

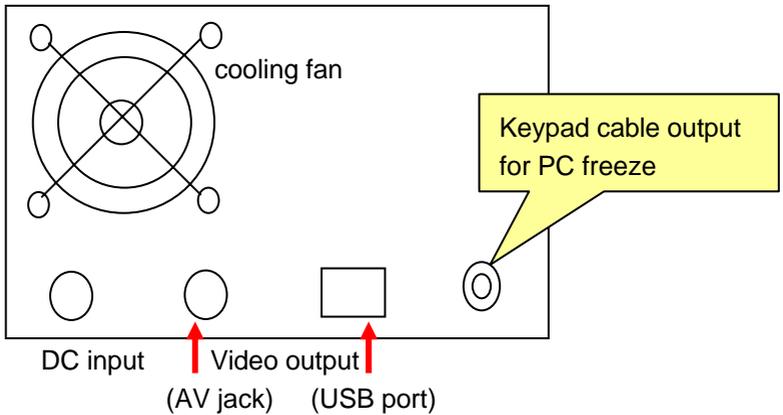


### 3. FRONT / REAR PANEL & PROBE

#### (FRONT PANEL )



#### (REAR PANEL)



## 4. ATTACHING LENS TO HANDY PROBE

### 4-1 ATTACHING LENS TO HANDY PROBE

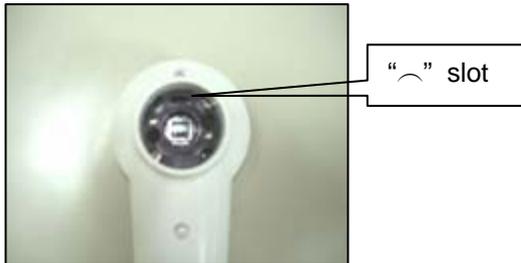
(1) Take off the anti-dust cover of the handy probe.



(2) Find the short post on the lens.

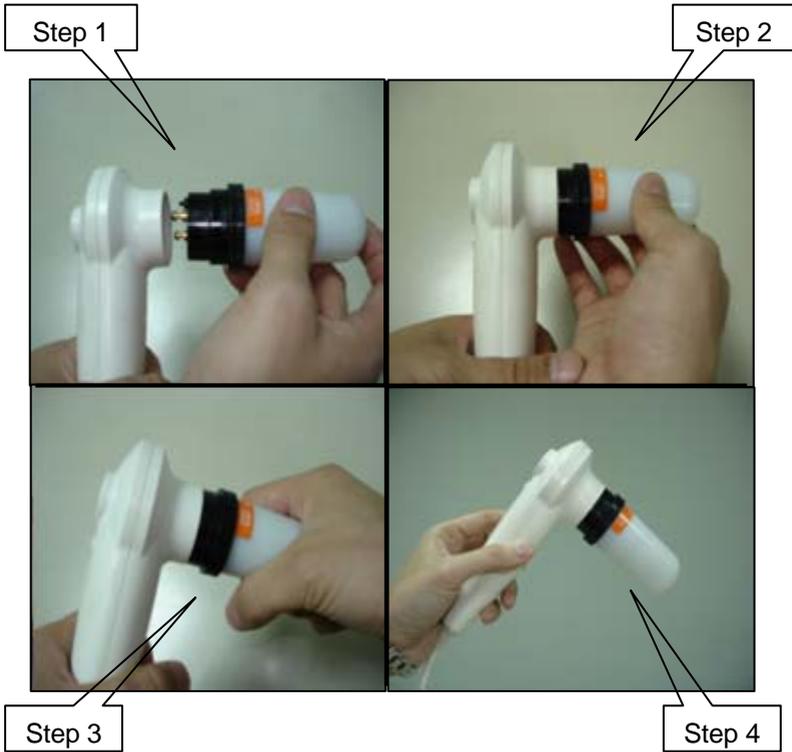


(3) Look at the front side of handy probe, you will find there's a “ $\frown$ ” shape slot.



(4) Match (plug in) the post to the “ $\frown$ ” shape slot to ensure they are fully combined. Turn clockwise to screw on the lens, anti-clockwise to screw off the lens.





4-2 Place the probe stand on the control box.



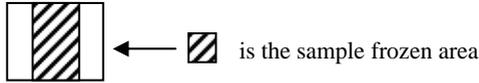
# 5. OPERATION

- 5-1 Complete the installation in accordance with the system block diagram. Turn the power switches of both the unit and your monitor to "ON" position.
- 5-2 Lens with a contact type illumination head is intended to be placed on or held just above the viewing object, Then you will get a vivid image on the monitor.

# 6. FREEZE FUNCTION (Operation only available under "TV" mode)

## (A). Freeze Function Statement

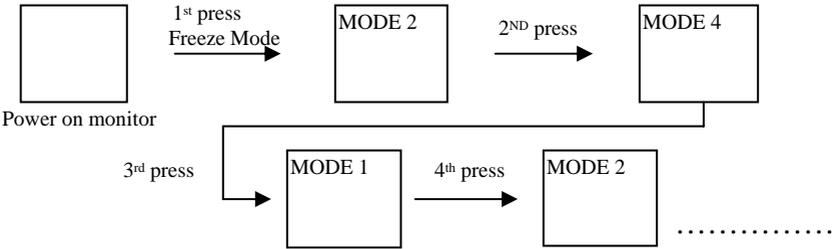
- MODE 1  : Single (1) frame freeze  
 (\* Notice: the frozen sample is the real size picture on screen)
- MODE 2  : Left/right (2) split frames freeze  
 (\* Notice: the frozen sample is at the vertical central part of the real size)



- MODE 4  : Quad (4) split frames freeze  
 (\* Notice: the frozen sample is the full frame on screen)

## (B). Freeze Function Setting

After powering on the unit, the original setting is single frame freeze. You can press "Freeze Mode" push button switch (on the lower right side of the unit) to choose various freeze modes. Here is the procedure diagram:

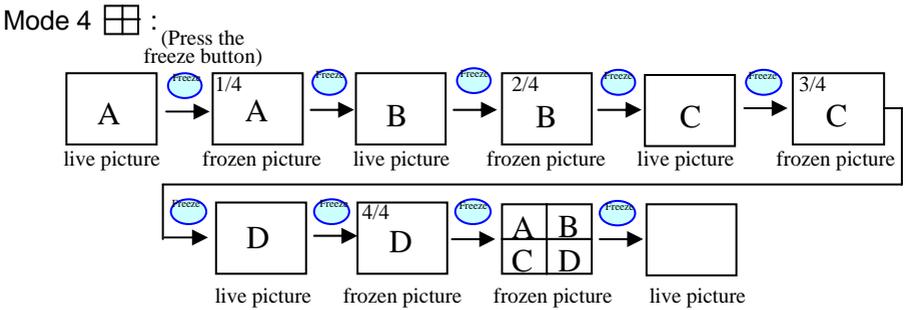
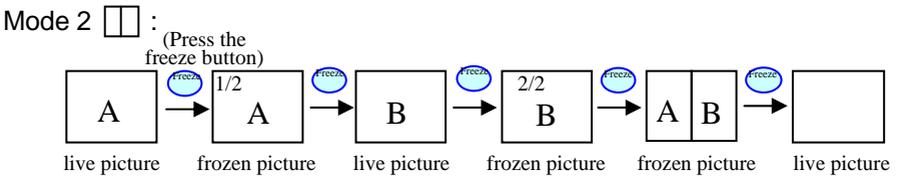
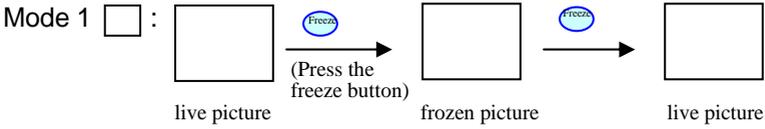


**\*\* Notice:** The "Freeze Mode" setting is only available under following environments:

- a). Any restart or power-on the unit.
- b). The prior freeze mode operation is completely finished and the screen is in live image (not in frozen image) condition.

**(C). Freeze Function Operation**

Freeze button .....



# 7. NEGATIVE / ZOOM FUNCTION

(Operation only available under “TV” mode)

## (A) Negative function:

Press the  button to get picture in negative film format.

Press  button again to release negative picture (recovering to original picture).



Original picture



Negative picture

## (B) Zoom function (from 1.0x – 4.0x):



+ enlarge to (1.1x, 1.2x, 1.3x,.....4.0x).

- recovering image (.....1.3x, 1.2x, 1.1x, 1.0x).



Original picture (1.0x)



Enlarge picture (1.4x)

For detailed operation, please refer the list below:

		NEGATIVE	ZOOM
Single frame freeze	Live	V	V
	Freeze	X	V
Left / right (2) split	Live	V	V
	Freeze	X	X
Quad (4) split	Live	V	V
	Freeze	X	X

## 8. OPERATION OF OPTIONAL LENS

### 8-1 1x focus adjustable lens (for styling purpose)

The focus range for this lens is adjustable. You can rotate the black ring clockwise or anti-clockwise to get the right focus of full face/body, half body, or partial face).

\* This lens does not consist any inside LED lamp, therefore getting enough environmental outer light source is required.

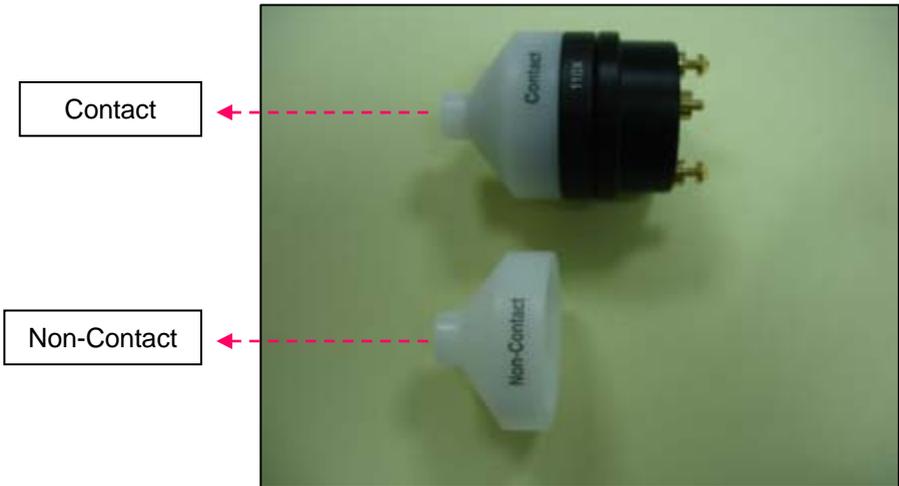


### 8-2 1-5x vari-mag. lens (focus adjustable)

The focus range for this lens is adjustable. You can rotate the black ring clockwise or anti-clockwise to get the right focus.



8-3 55x, 110x, 250x lens --- with contact / non-contact light guide.



Easy stand operation

You can also fix the handy probe on a stand, adjust the working distance to get right focus & clear image.



## \* TROUBLE SHOOTING

	TROUBLE	SHOOTING
1	Turn on the power switch, but no function, no light, no fan working.	Check whether the AC adapter is properly connected.
2	The control box is in operation, but the handy probe doesn't work (the handy probe cannot offer light or image).	<ol style="list-style-type: none"> <li>1). Check the cable connection between the control box and the handy probe.</li> <li>2). Check whether the lens is locked to its right position. (Make sure if the lamps inside the lens is light.)</li> <li>3). Check if the AV signal cable (or USB cable) between the control box and monitor (or PC USB port) is well-connected.</li> </ol>
3	No image on the monitor screen.	<ol style="list-style-type: none"> <li>1). Check whether the control box and monitor are powered on.</li> <li>2). Check if the AV signal cable (or USB cable) between the control box and monitor (or PC USB port) is well-connected.</li> <li>3). Check whether the lens is locked to its right position.</li> <li>4). Connect the unit to another monitor to judge the unit or monitor is out of order in order to repair it.</li> </ol>
4	How to clean if there are dust pots on the camera of the handy probe ?	<p>Take off the lens, you can blow out the dust by using a small air pump or wipe the small glass of the camera (inside the handy probe) with a cotton bar. <b>* Please hold the handy probe toward ground direction to avoid new dusts.</b></p> <p>If the camera gets mildewed under humid condition, please contact the engineer to clean it.</p>
5	The freeze function doesn't work.	<ol style="list-style-type: none"> <li>1). Check if the freeze button is working well under TV connection.</li> <li>2). If step 1). is OK, please check if the keypad is connected to PC and works nicely under PC connection.</li> </ol>
6	How to adjust when the image color is out of harmony?	<p>Please adjust following buttons of the monitor:</p> <ol style="list-style-type: none"> <li>(1) TINT</li> <li>(2) SHARPNESS</li> <li>(3) BRIGHTNESS</li> <li>(4) COLOR</li> </ol>
7	While using the polarized lens to inspect surface skin (or deeper layer skin), why the lower part of the screen becomes darker (or brighter)?	<p>It's because you do not rotate the black rubber ring to the bottom of its direction. So some light is covered (or some light is opened).</p> <p>You should completely rotate the black rubber ring of the polarized lens anti-clockwise (or clockwise).</p>

# \* CONNECTION TO PC

## (I). USB Video Image Driver --- Wbvidcap

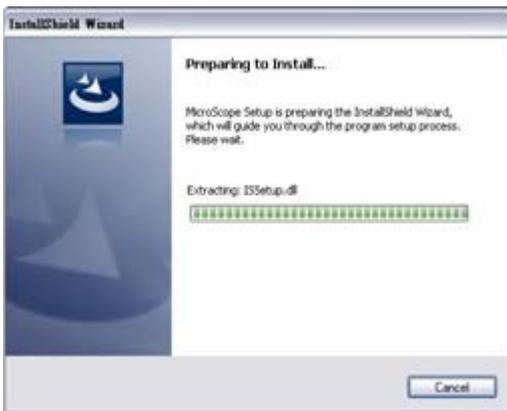
- \* System requirement:
  - a. IBM compatible PC
  - b. CPU: 1.6GHz or up
  - c. RAM: 128M (or 256M) byte or up
- \* **Required OS: Windows XP or Windows VISTA**

### 1. Installation of Wbvidcap

**\* Remark: Do not connect the scope to PC while USB driver is not well installed.**



- (1) Power on your IBM compatible PC. Insert the USB Driver CD-R into the CD-ROM drive.
- (2) The CD-R will auto-run Or click "My computer" → CD-ROM → "Setup.exe".
- (3) Click "USB Driver and Application".



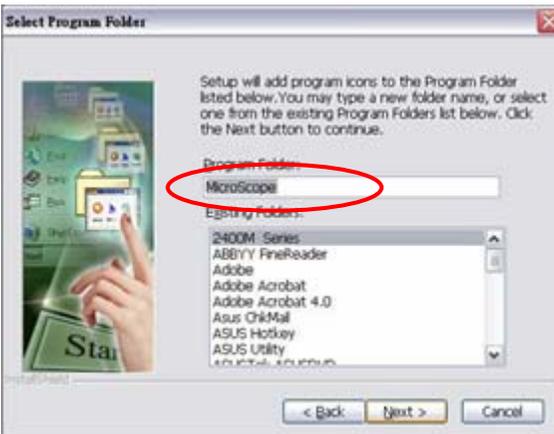
- (4) Follow the instructions to install the setup program.



(4-1): Click "Next".



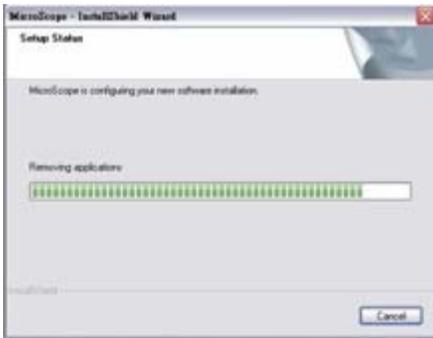
(4-2): Click "Next".



(4-3): Click "Next".



(4-4): Click "Next".

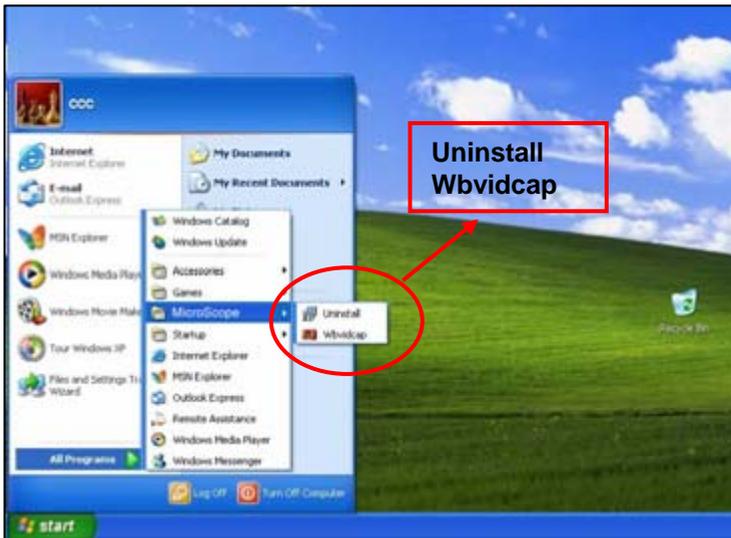


(4-5): When the setup is finished, PC will automatically execute the next procedure.

(4-6): Select "Yes, I want to restart my computer now" and then Click "Finish".



- (5) The computer is restarting to add this “Wbvidcap” driver in “PROGRAM” system.
- (6) To make sure “Wbvidcap” driver is setup, Click “Start” icon → “All Programs” folder → “MicroScope” folder → Uninstall Wbvidcap



## 2. Steps of hardware installation

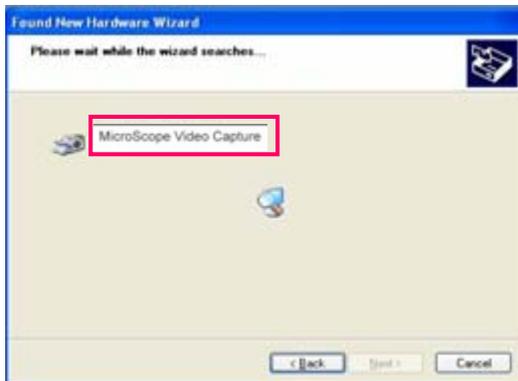
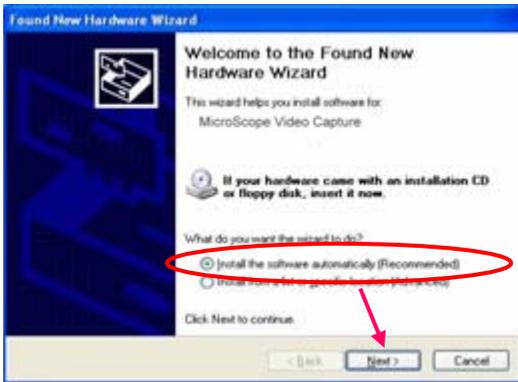
### (1) Step 1

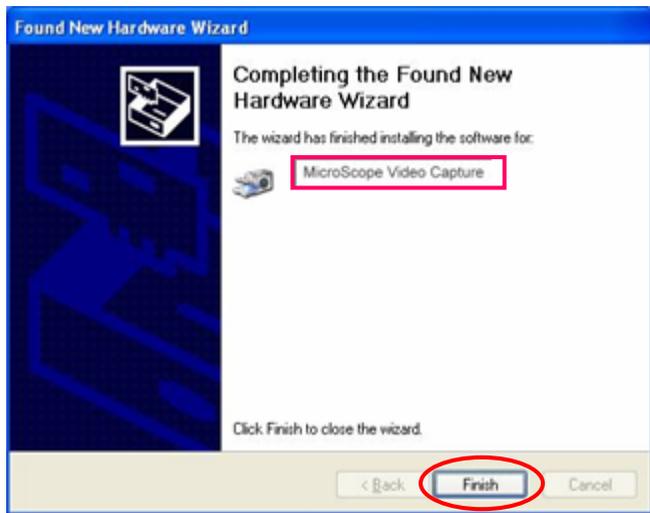
When the computer is restarted, please connect the scope as per the following instructions and power on the scope:

- (1-1) Please plug the USB cable one side to scope and the other side to any USB port of the computer.
- (1-2) Make sure the scope is powered on and wait for 5-10 seconds to let the computer recognize scope signal.
- (1-3) Please execute the same procedures in step 2 & step 3 to let all computer USB ports useful under scope connection.

### (2) Step 2

When the computer recognizes the scope signal, monitor screen corner will appear a hint **"Find New Hardware Wizard"**. After searching for several seconds, there will continuously appear the following small windows. Please operate as per the instructions:

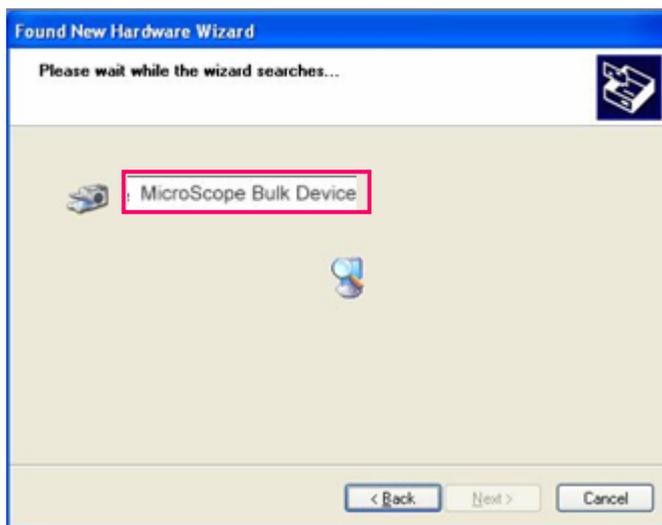




Till now, **MicroScope Video Capture** has also been found.

(3) Step 3

Now the **MicroScope Video Capture** has been found. Please wait for 5 seconds and monitor screen will continuously appear some small windows. Please operate as per the instructions:





Till now, **MicroScope Bulk Device** has also been found.

Reminder: Please execute the same procedures in step 2 & step 3 to let all computer USB ports useful under scope connection.

### 3. Connection (Usage) of USB and Beauty Scope

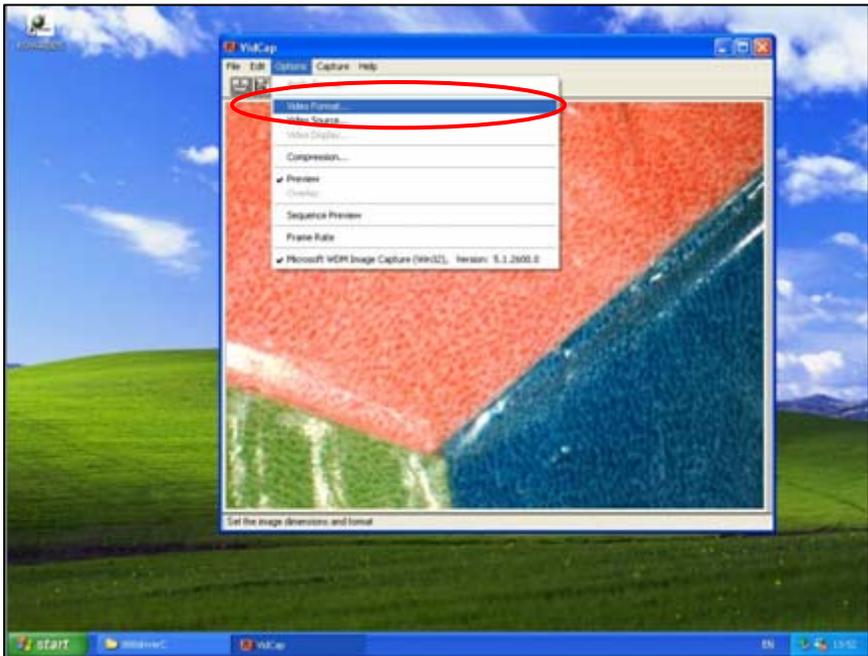
When you are using USB cable to connect the Microscope unit and PC, the operation procedures are as follows:

- 1). Make sure the USB cable has been well connected to USB output of Microscope unit and the USB port of PC.
- 2). Power on Microscope unit.
- 3). Click "Start" → "All Programs" folder → "MicroScope" folder → "Wbvidcap"  
Then the image can be observed from PC monitor.

#### A. CONNECTION:

##### A-1 Image size

When you are observing the image, the image size is possible to be 640 x 480 or 320 x 240. You can click the "Option" button "Video Format" to change the image size to be your desired 320 x 240 or 640 x 480. (Please refer to the following drawings)



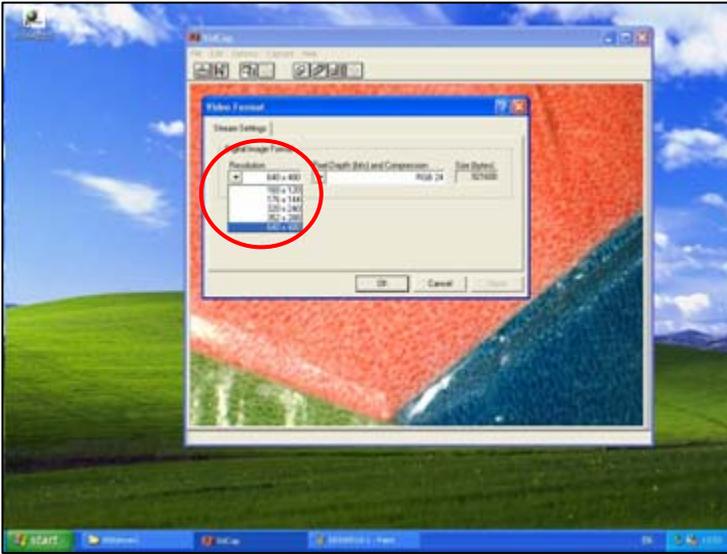


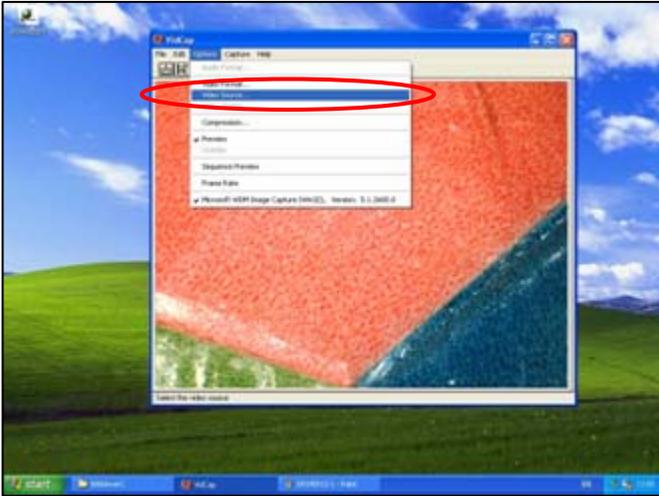
Image size: 640 x 480.



Image size: 320 x 240.

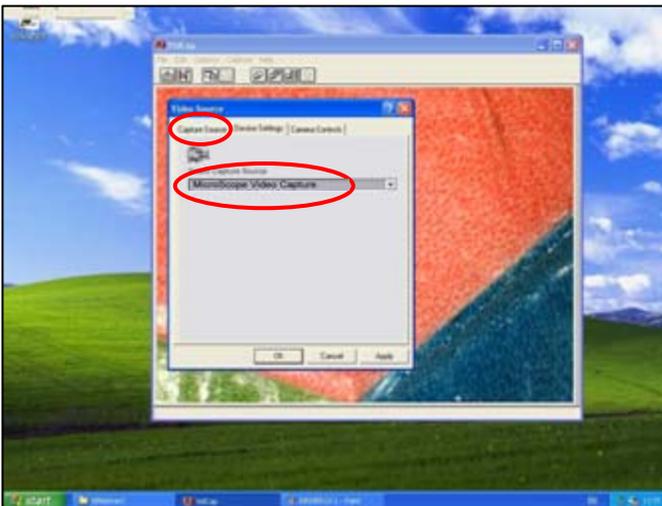
## A-2 Video Source selection & Color adjustment

If you want to select correct video source or adjust your preferable colorful image, you can click “Option” button --- “Video Source”



### **Video Source selection**

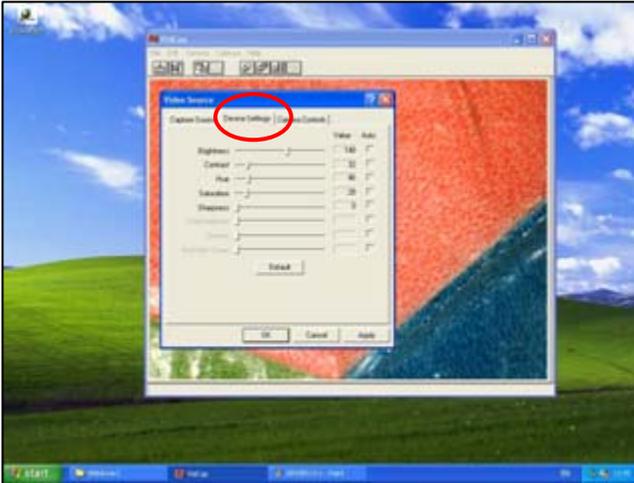
After clicking “Capture Source”, you should select the correct video capture source to be “MicroScope video Capture”. Click “Apply” and then “OK” and confirm the setting.



## **Color adjustment**

After clicking “Device Setting”, you can change the brightness, contrast, sharpness, etc. to your desirable value. Click “Apply” and then “OK” and get your desirable color image.

If you want to change back to the original color setting, you can just click “Default” and then “OK” to get the original color image.



## **B. DISCONNECTION:**

B-1: If you want to leave “Wbvidcap” operation, close Wbvidcap window firstly and then power off Microscope unit.

B-2: If you want to return to AV output,

- a. Close “Wbvidcap” operation, release the USB connections.
- b. Complete the AV connection between Microscope unit and TV monitor.
- c. Re-power on the Microscope unit and the image will be seen from the TV monitor.

### **\* Notice:**

- 1). *When Microscope unit is working with PC under Wbvidcap driver, the output of AV signal will be shut down automatically.*
- 2). *When Microscope unit is working with PC, if you do not connect the Keypad cable (ref: page 27), the freeze button on the handy probe is not functional.*

## (II). TWAIN Driver --- WCam

### 1. Why shall we install “WCam” of TWAIN driver?

Answer: The original USB driver of this Microscope unit only provides you to get the image picture. If you want to save the picture, you should install “WCam” of TWAIN driver.

### 2. Installation of WCam

**\* Remark:**

- a. Please make sure the USB driver of this Microscope unit has been well installed.**
- b. Please do not make any connection between Microscope unit and computer before software installation.**

- 2-1. Power on your IBM compatible computer.
- 2-2. Insert the USB Driver CD-R disk to CD-ROM drive.
- 2-3. Then you can follow the instruction on the USB Driver setup screen to continue the installation process.
- 2-4. Click on "TWAIN Driver".



2-5. The program will run automatically.

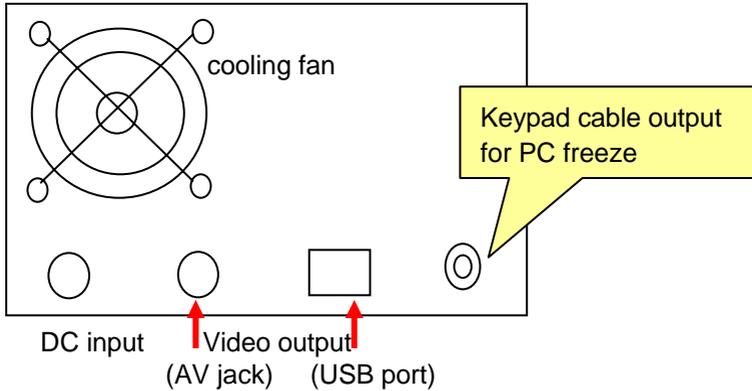


2-6. Click on “OK” to restart the computer. (To complete the installation, the system must be restarted.)



### 3. Hardware Connection

(The connection is only available when your Microscope unit is equipped with the “Keypad cable” --- PC freeze function. And you can freeze the picture by pressing “Freeze” button on the handy probe.)



See the picture, please just connect the USB of Keypad cable (which is at the rear side of Microscope unit) to the USB port of the PC.



### (III). New KOWA camera --- Image capture program

\* Remark:

- a. This program can help you to capture and save images.  
Please make sure the USB driver & TWAIN driver have been well installed.
- b. Please also connect the USB cable between Microscope unit and computer and power on the unit.
- c. You can directly click “New KOWA camera” and it will be moved to the main screen (desk) of PC.

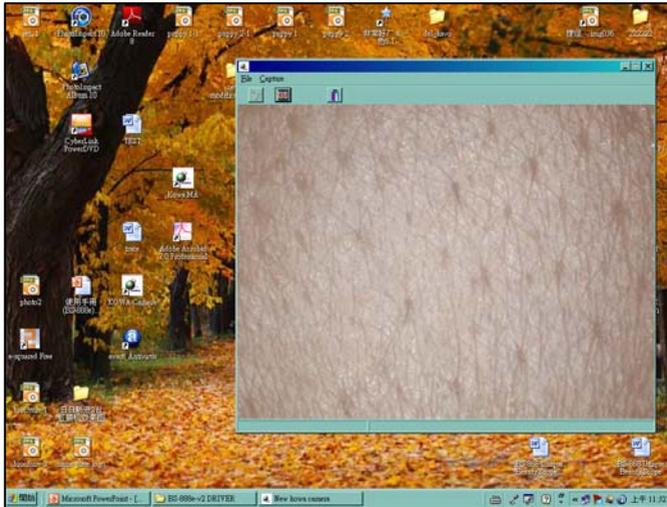


Now you can go to the main screen (desk) of PC, please double click “New KOWA camera” icon to enter the window.



1. As you can see, you can get/freeze image from the window. There are 4 ways to capture image:

- (a) Press "Enter"
- (b) or press "space" key of the keyboard
- (c) or press "Freeze" under "Capture" options.
- (d) press "Freeze" button on handy probe (\* when "Keypad cable is connected").



2. When you get/freeze the image, the image will automatically enlarge to as large as the screen height allowed. When you press "Enter", the frozen image will return to the original size.



3. You can also save the image in “jpg” or “bmp” types.



4. Please save the image to your assigned folder and input the file name, and you can also select the original size or max. size to save the image.



### \* Operation under other environments

The above is just one of the operation examples under “New KOWA camera” image capture program. If you have other image software (such as Photoshop, PhotoImpact, or Scanner driver software) in your computer, you can also get image and save picture under any image software environment.