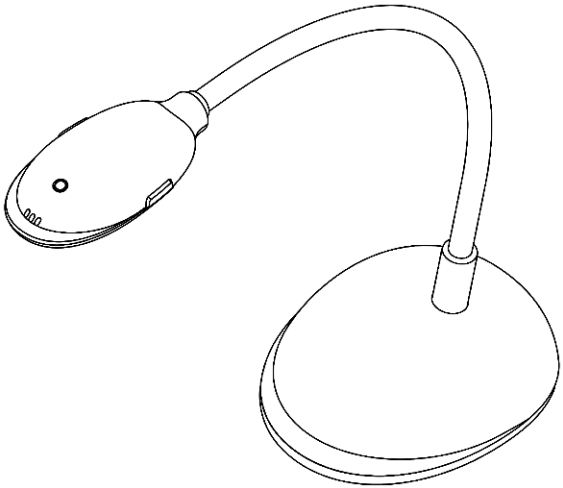
DC120
Visual Presenter

User Manual



[Important]

Please visit Lumens http://www.lumens.com.tw/goto.htm to download the latest software, drivers, and documentation

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Chapter 1 Safety Instructions

Always follow these safety instructions when setting up and using the Visual Presenter:

1. Do not place visual presenter in tilted position.
2. Do not place the Visual Presenter on an unstable trolley, stand or table.
3. Do not use the Visual Presenter near water or source of heat.
4. Use attachments only as recommended.
5. Use the type of power source indicated on the visual presenter. If you are not sure of the type of power available, consult your dealer or local electricity company for advice.
6. Place the visual presenter on a place that it can be unplugged easily.
7. Always take the following precautions when handling the plug. Failure to do so may result in sparks or fire.
   - Ensure the plug is free of dust before inserting it into a socket.
   - Ensure that the plug is inserted into the socket securely.
8. Do not overload wall sockets, extensions leads or multi-way plug boards as this may cause fire or electric shock.
9. Do not place the visual presenter where the cord can be stepped on as this may result in fraying or damage to the lead or the plug.
10. Unplug the projector from the wall socket before cleaning. Use a damp cloth for cleaning. Do not use liquid or aerosol cleaners.
11. Do not block the slots and openings in the projector case. They provide ventilation and prevent the visual presenter from overheating. Do not place the visual presenter on a sofa, rug or other soft surface or in a built-in installation unless proper ventilation is provided.
12. Never push objects of any kind through cabinet slots. Never allow liquid of any kind to spill into the Visual Presenter.
13. Except as specifically instructed in this User Manual, do not attempt to operate this product by yourself. Opening or removing covers may expose you to dangerous voltages and other hazards. Refer all servicing to licensed service personnel.
14. Unplug the visual presenter during thunderstorms or if it is not going to be used for an extended period, do not place the visual presenter or remote control on top of heat-emitting equipment or heated objects such as a car and etc.
15. Unplug the visual presenter from the wall outlet and refer serving to licensed service personnel when the following situations happen:
    - If the power cable or plug becomes damaged or frayed.
    - If liquid is spilled into it or the visual presenter has been exposed to rain or water.

■ Safety Precautions

Warning: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

<table>
<tr><td colspan="4">
Note
Risk of Electric Shock
 </td></tr>
<tr><td colspan="4">Note: To reduce the risk of electric shock. Do not remove cover (or back). No user-serviceable parts inside. Refer servicing to licensed service Personnel.</td></tr>
<tr><td> </td><td>This symbol indicates that this equipment may contain dangerous voltage which could cause electric shock.</td><td> </td><td>This symbol indicates that there are important operating and maintenance instructions in this User Manual with this unit.</td></tr>
</table>

■ FCC Warning

This equipment has been tested and found to comply with the limits for a Class A or B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

■ EN55022 (CE Radiation) Warning

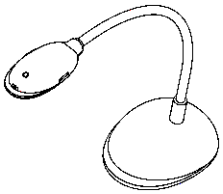
This product is intended for use in a commercial, industrial, or educational environment. It is not intended for residential use.

This is a Class A product. In a domestic environment it may cause radio interference, in which case the user may be required to take adequate measures. The typical use is in a conference room, meeting room or auditorium.

Revisions

Chapter 2 Package Contents

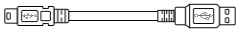
DC120



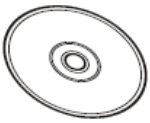
Quick Start Guide

(For download of other language versions, please visit Lumens website)

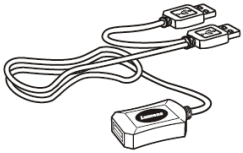
USB Cable



CD

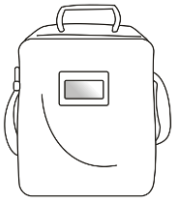


Extension USB Cable (Optional)

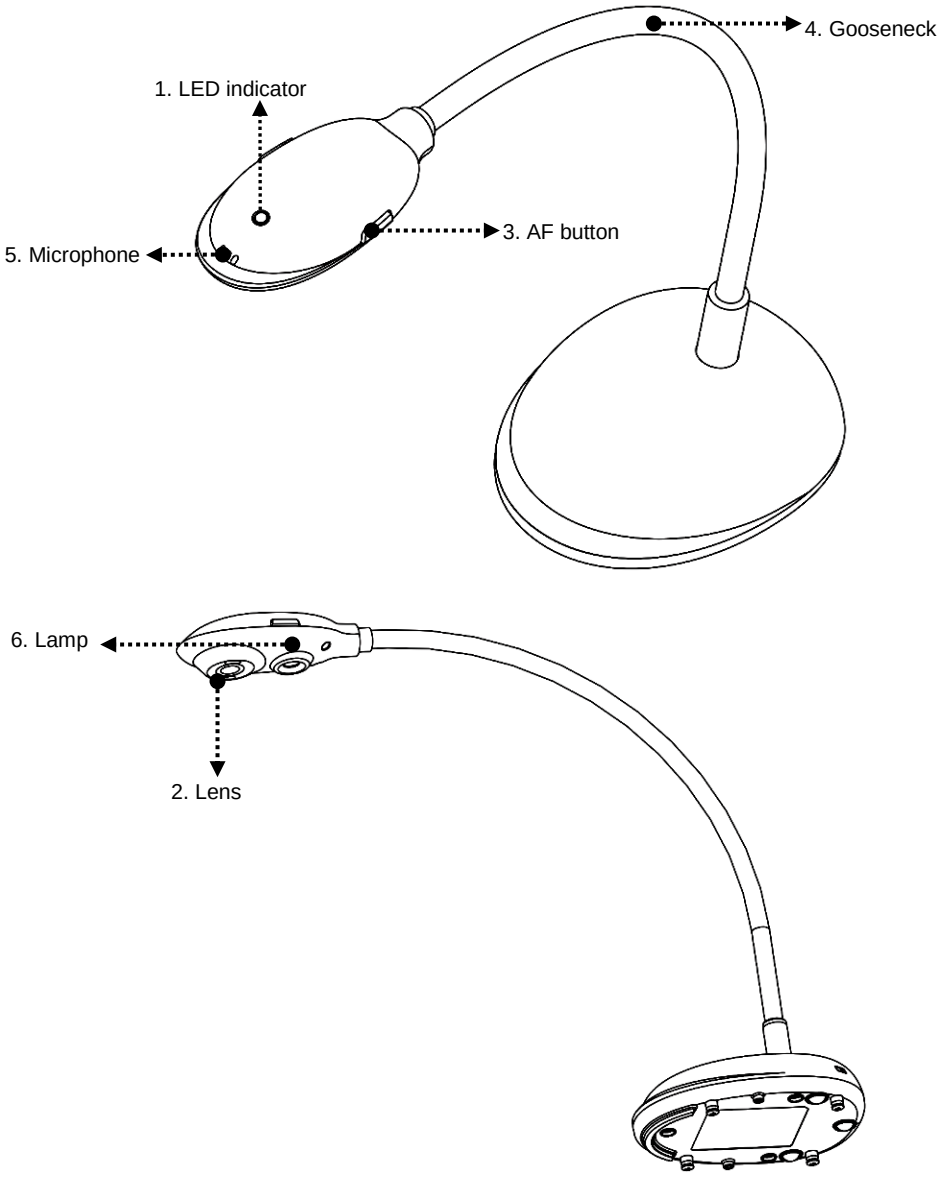


Microscope Adapter (Optional)

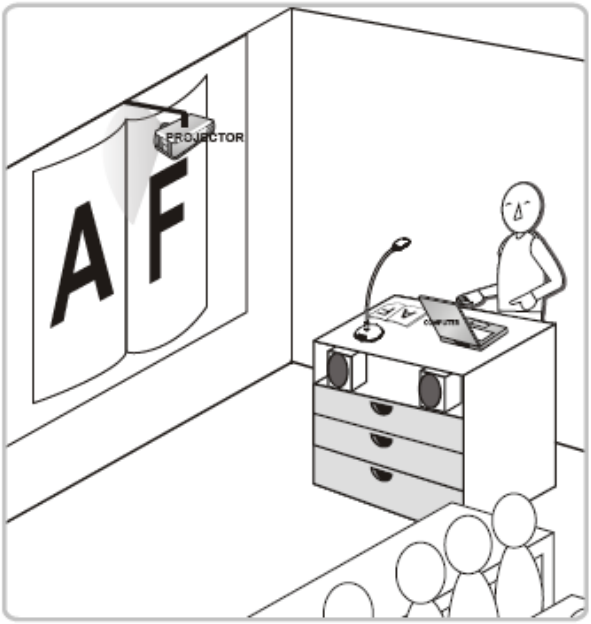
Carry Bag (Optional)



Chapter 3 Product Overview

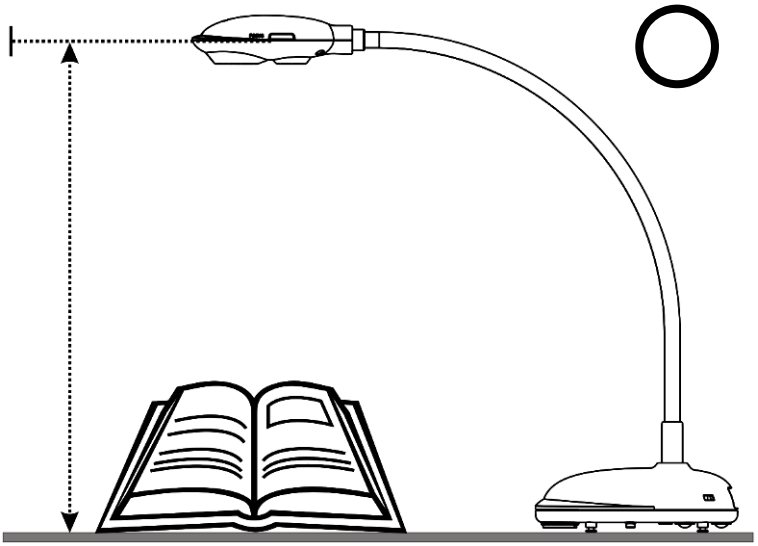


3.1 Relative Operation Position

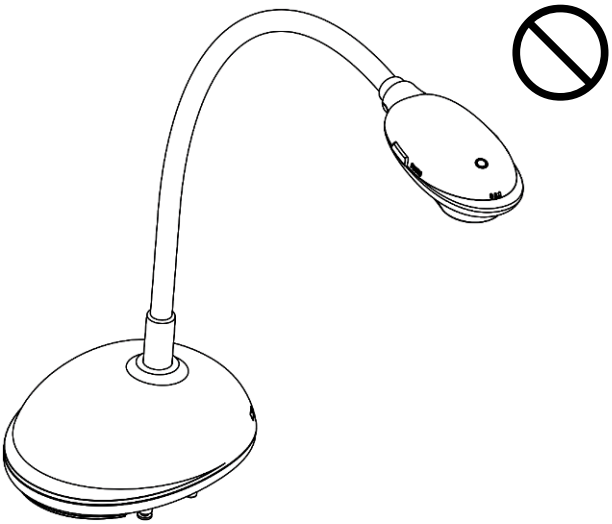


3.2 Recommend distance

* About 310 mm distance between camera and the desktop is recommended.

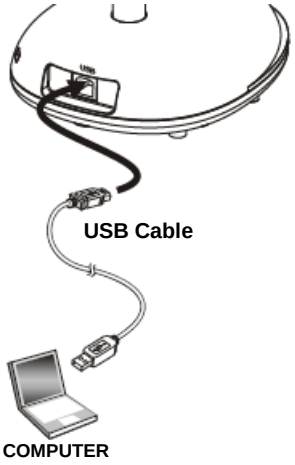


3.3 Incorrect Use



Chapter 4 Installation and Connections

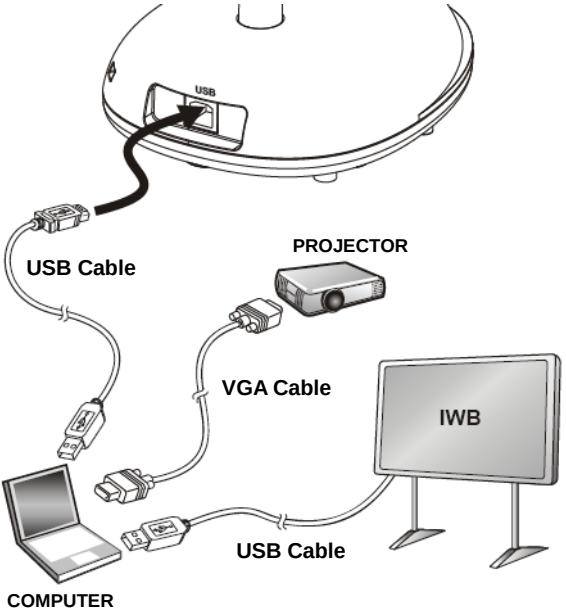
4.1 System Diagram



4.2 Connecting to a computer

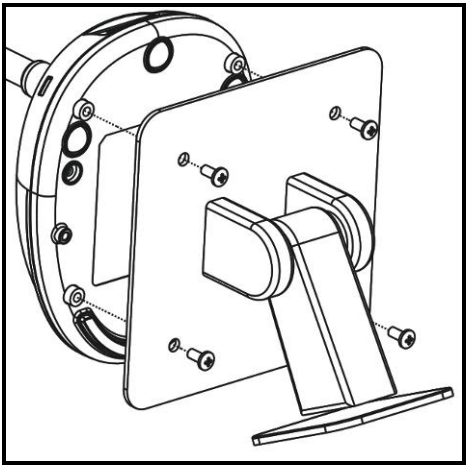
- Shown as the above figure.

4.3 Connecting to an Interactive Whiteboard (IWB)



4.4 Mounting the DC120

1. Please purchase the standard VESA installation base.
2. Please use appropriate screws: Screw length = 5 mm + base thickness (H1); M4 screw (P = 0.7)



- VESA bolt pitch 75*75mm
- VESA base thickness (H1)
- Screw length = 5 mm + base thickness (H1)
- M4 screw (P = 0.7)

4.5 Installing application software

After installing Lumens image software, you can use the following functions:

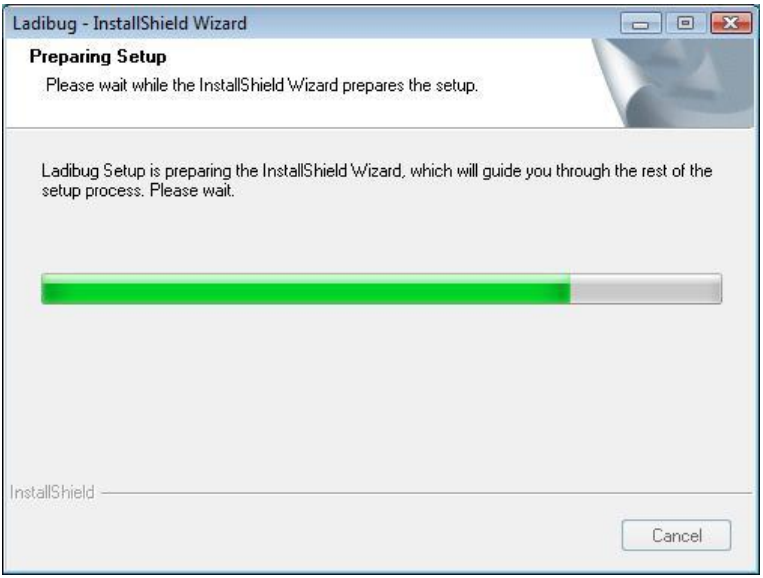
- Control the DC120.
- Capture and record images.
- Annotate the image, highlight important details and save it.
- Support the full screen function.

4.5.1 System requirements

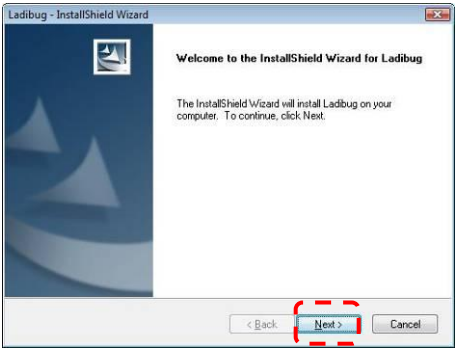
Windows XP	Windows Vista / Windows 7	MAC OS X 10.4 / 10.5 / 10.6 (32-bits Kernel)
● CPU: P4 1.8 GHz and above ● Memory: 512MB ● Support Direct x9 ● Resolution: 1024x768 ● 100MB Min Disc Space ● Windows XP SP2 and above	● Min CPU: P4 2.8 GHz ● Min Memory: 1GB (32-bits)/2GB(64-bits) ● Direct X 9 Compatible ● Min Resolution: 1024x768 ● 100MB Min Disc Space	● Min CPU: PowerPC G4 866MHz or Intel Pentium® 1.83GHz Intel Core 2 Duor ● Min Memory: 512MB ● Min resolution 1024x768 ● 24-bit color display monitor ● 1GB Min Disc Space ● Min QuickTime 7.4.5

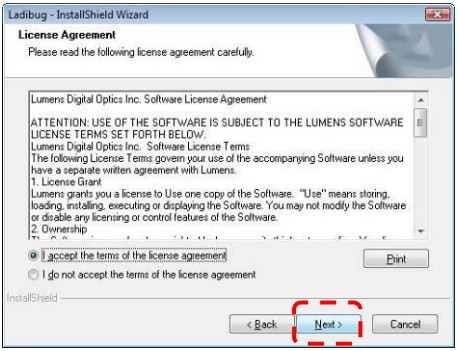
4.5.2 Install with Windows XP/Vista

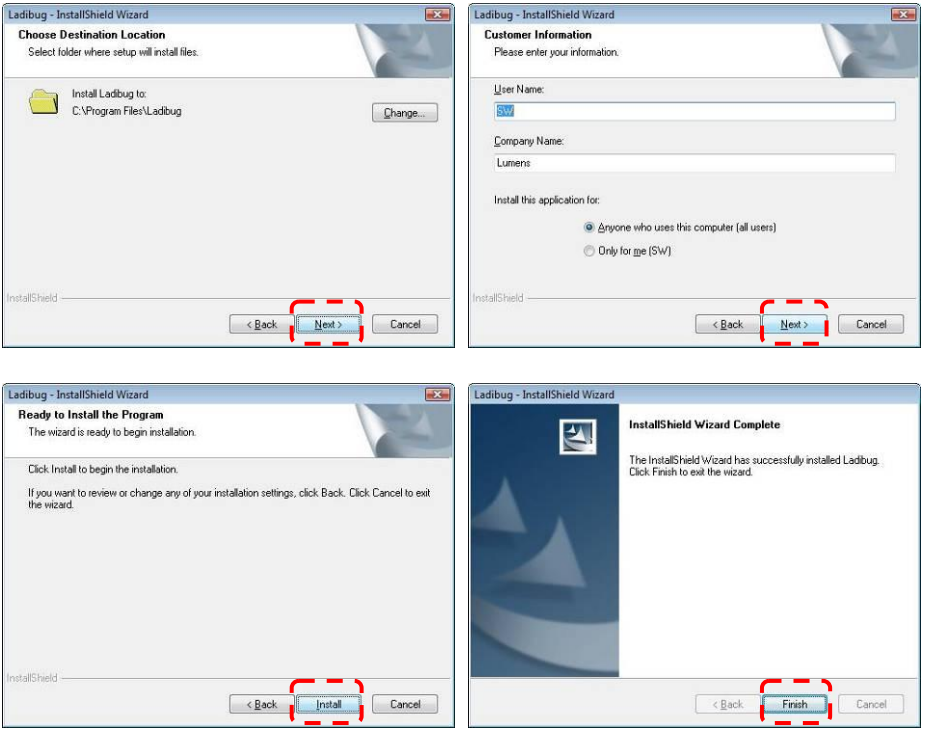
1. Insert the software CD into your computer.
2. Auto installation screen will be displayed. Please select **[Install Ladibug]** to begin installation.



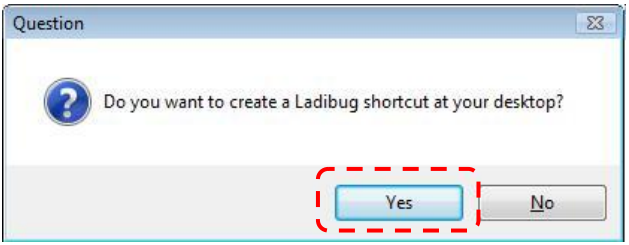
3. The installation wizard will guide you through the process. Please follow the on-screen instructions and click **[Next]** for the next step.



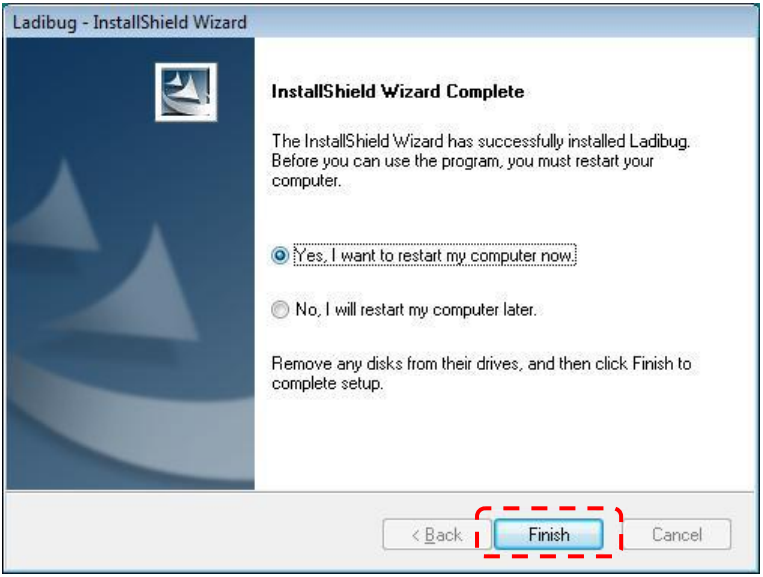




4. Click **[Yes]** to create Ladibug™ shortcut on your desktop.

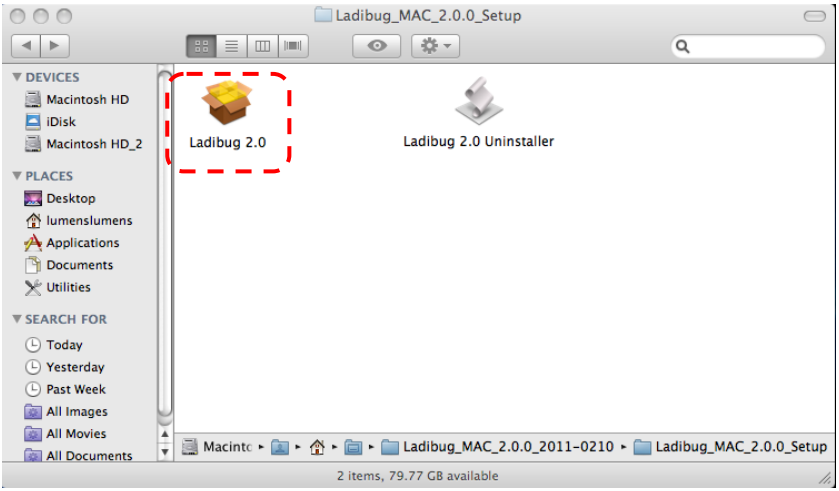


5. Please click the **[Finish]** button then reboot the system.

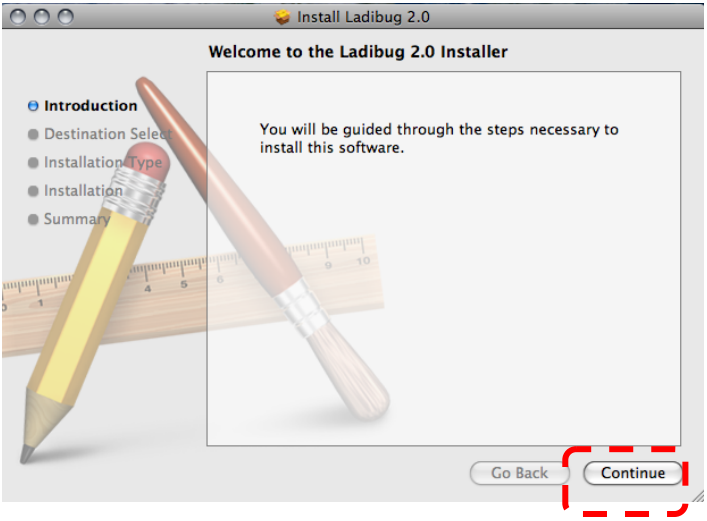


4.5.1 Install with MAC

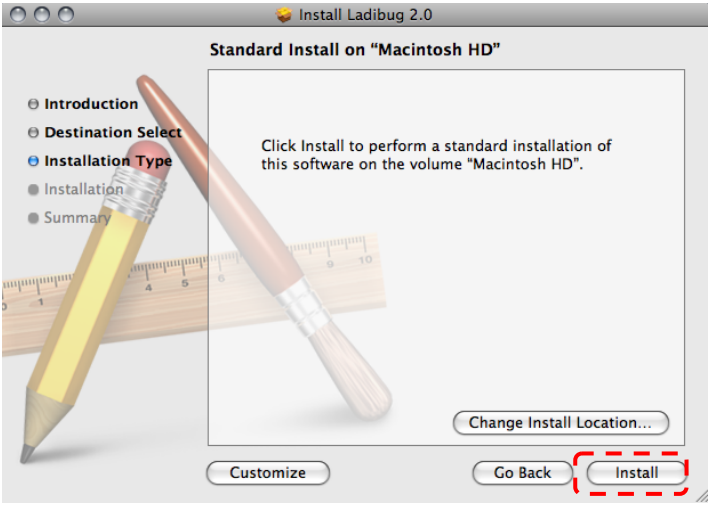
1. Insert the software CD into your computer.
2. Click the CD icon when appears.
3. Go to MAC folder. Click **[Ladibug MAC]** to begin the installation wizard and follow the on-screen instruction through the installation process.



4. Click **[Continue]** to continue.

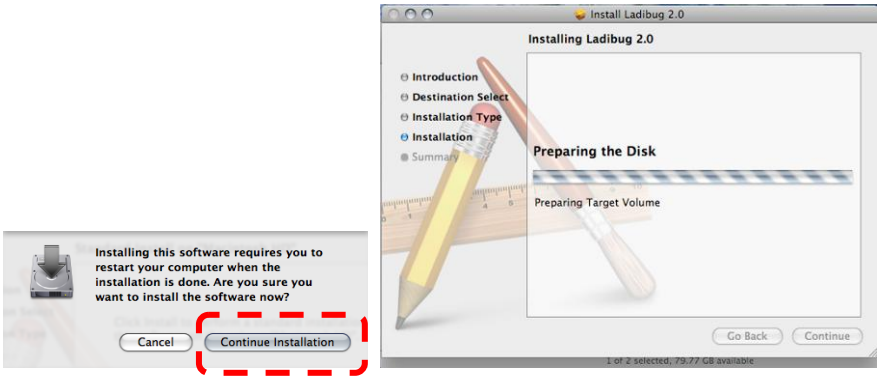


5. Click **[Install]** to continue.

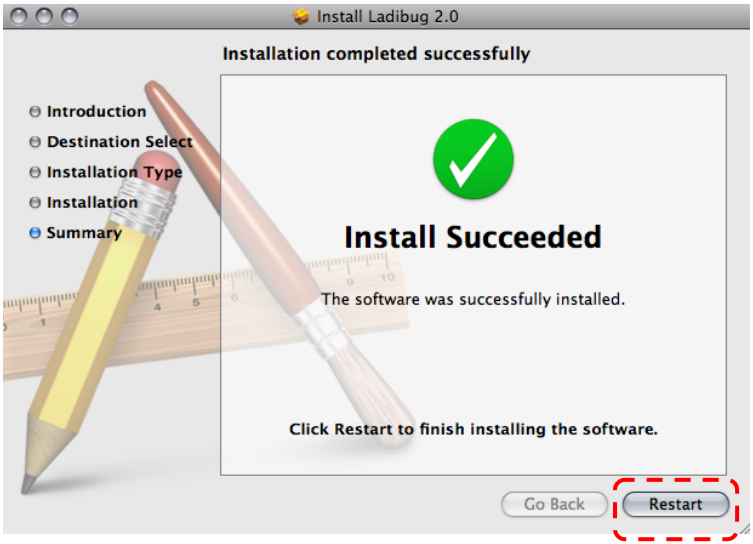


6. Enter your username and password, then click **[OK]**.

7. Click **[Continue Installation]** to continue.

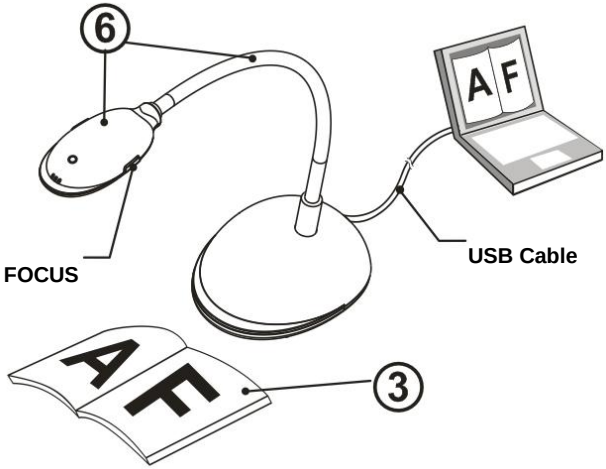


8. Click **[Restart]** to finish installing the software.



Chapter 5 Start Using

<Note>: Ensure that the USB cable is connected and Ladibug™ software is installed at first. Refer to Chapter 4 Installation and Connections in this user manual.



1. Double click on icon to begin Ladibug™ Software.
2. Move the mouse to icon, and the main function menu will be displayed.

3. Place an object to be displayed under the camera.
4. Press [PREVIEW] to display the **POWER Frequency** setting page, and then follow the on-screen instructions for setting. The live video will be available after the setting is completed. (*This setting is required only when you are using for the first time.)
   Note: You are advised to confirm the local voltage/frequency before setting the POWER Frequency. For example, 60Hz is applicable for America, Taiwan, Japan, etc; 50Hz is applicable for Europe or other regions.
5. Click button to optimize the image. You are ready to teach/present.
6. Adjust the gooseneck as needed and click [FOCUS] button.
   * Each time the camera head is moved, click the [FOCUS] button to refocus the lens.

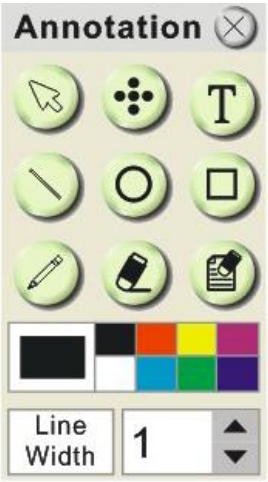
Chapter 6 Function Menu

6.1 IN WINDOWS

6.1.1 Main Function Menu

	Power On / Off		Lamp On/Off
	Image Optimization		Live Image Preview
	Set up the recording format		BRIGHTNESS
	Begin the main function menu, and click the right button to display the information about the software.		To adjust the size of image
	Adjust the live image focus, Photo/Text mode, etc.		Advanced Function Menu
	Freeze the current image		Annotation Tools
	Close the software		Timer
	Record the current image		Image Capture

6.1.2 Annotation Tools

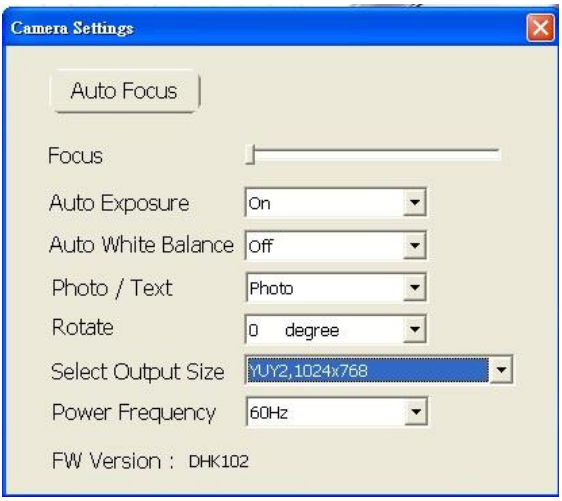


Icon	Function Descriptions
	Pointer tool
	Laser tool
	Insert text
	Draw a line
	Draw an ellipse
	Draw a rectangle
	Free-hand drawing tool
	Eraser
	Clear all
	Select the color
Line Width 1	Select the line width

6.1.3 Camera Settings

Control the live image via the ***Camera Settings*** interface.

Click to open Camera Settings interface.

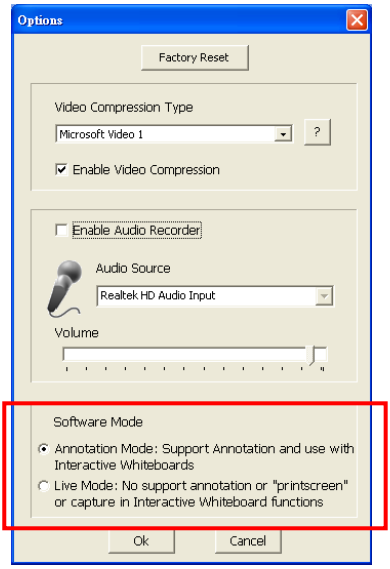


1. **Auto Focus**：Automatically adjust focal length on an object.
2. **Focus**：Manually adjust focal length on an object.
3. **Auto Exposure**：Set on/off.
4. **Auto White Balance**：Set on/off.
5. **Rotate**：Rotate the image by 0/180 degree.
6. **output resolution**：Set output resolution.
7. **Power frequency**：The power frequency may vary with countries. Please check it before using.

<Note> In most parts of the world this is 50 Hz, although in the Americas it is typically 60 Hz.

6.1.4 Options

Click **to open Options Menu.**



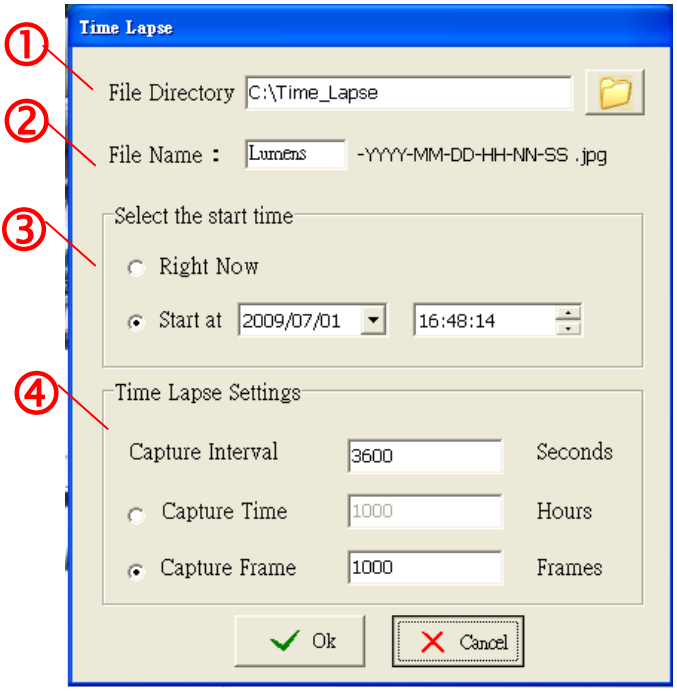
1. **Factory Reset**：Activate the factory reset.
2. **Video Compress Codec Format**：Set the video format.

<Note> You need to enable the [Enable Video Compress] before setting.

3. **Enable Audio Recorder**：Enable the audio record device and set the audio source.

6.1.5 Time Lapse

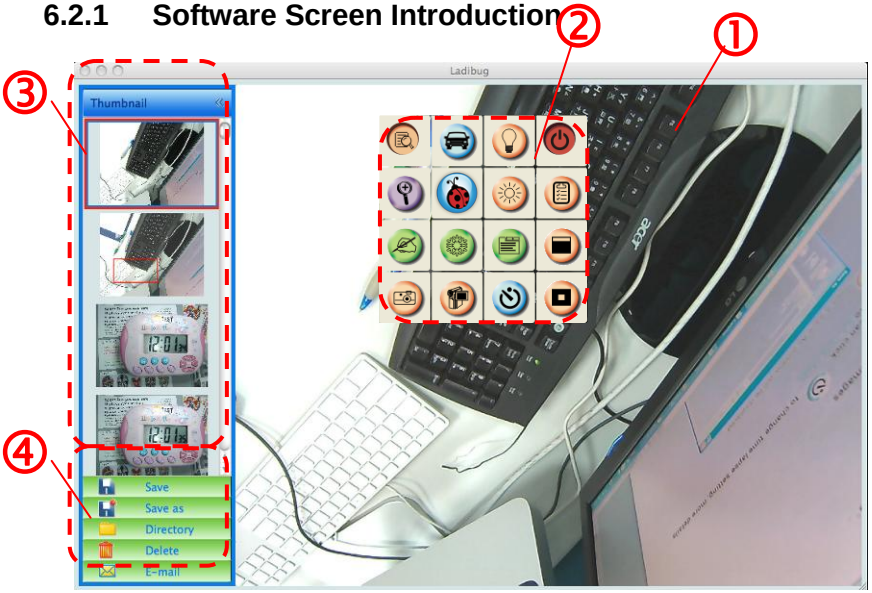
Click **to open Time Lapse Menu.**



1. Select file directory to change the default.
2. Specify a file name.
3. Set the start time.
4. Capture images at a pre-set intervals.

6.2 IN MAC

6.2.1 Software Screen Introduction



1. Live image
2. Main Menu
3. Thumbnail Window
4. File Management Function Menu

6.2.2 Thumbnail

1.Close/Open Thumbnail

2.Thumbnail image of saved video or captured image (It will be displayed as if it's a video)

3.Save the video which has been edited

4.Save as a new file

5.Change the storage folder

6.Delete file

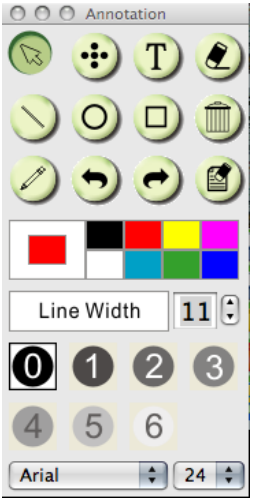
7.Send captured image via e-mail

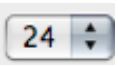
6.2.3 Main Function Menu

	POWER: Turn the Document Camera on/off.		**LAMP**: Turn the lamp on/off.
	AUTO TUNE: Automatically adjust the image to have the best brightness and focusing performance.		**PREVIEW**: Display live images.
	OPTIONS: Select video compression method and the audio source. 6.2.6 Options is the reference of the selecting screen.		**BRIGHTNESS**: Manually adjust the brightness of the image.
	MAIN: Launch the main functions menu. Right click on this icon to show information about the Ladibug™.		**ZOOM:** Increase or decrease the image size.
	MASK MODE: Open the mask mode. Please refet to 8.8 I would like to use the mask mode.		**CAMERA SETTING**: Launch the Camera Setting window to adjust live images. 6.2.5 CAMERA Settings is the reference of the selecting screen.
	FREEZE: Freeze the live image.		**ANNOTATION**: Open the annotation tools. Please refet to 6.2.4 Annotation.
	SPOTLIGHT MODE: Open the emphasizing mode. Please refet to 8.9 I would like to us the spotlight mode.		**TIME LAPSE PHOTOGRAPHY:** Use the burst mode and adjust the interval of automatical image capturing. Please refet to 8.3 I would like to capture images continuously.
	RECORD: Record the current image.		**CAPTURE**: Image Capture.

6.2.4 Annotation

➢ Click to open annotation tools

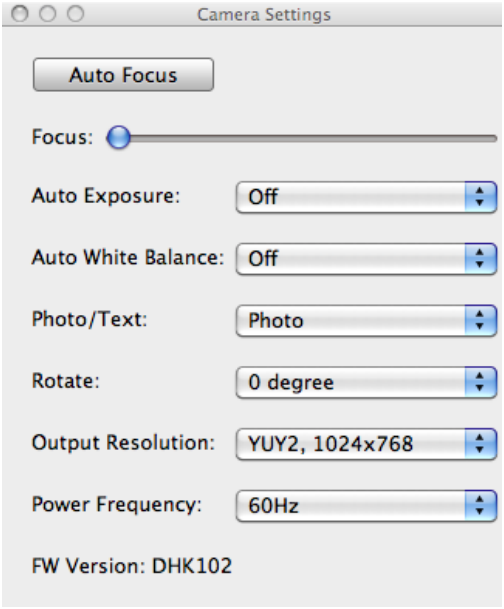


Icon	Description
	Pointer tool
	Laser tool
	Insert text
	Eraser (Clear marks of free-hand drawing tool)
	Draw a line
	Draw an ellipse
	Draw a rectangle
	Delete
	Free-hand drawing tool
	Back
	Next
	Clear all
	Select pen color
	Select line thickness
	Select transparency
	Select Font
	Select Font Size

6.2.5 Camera Settings

Control the live image via the ***Camera Settings*** interface.

Click to open Camera Settings interface.

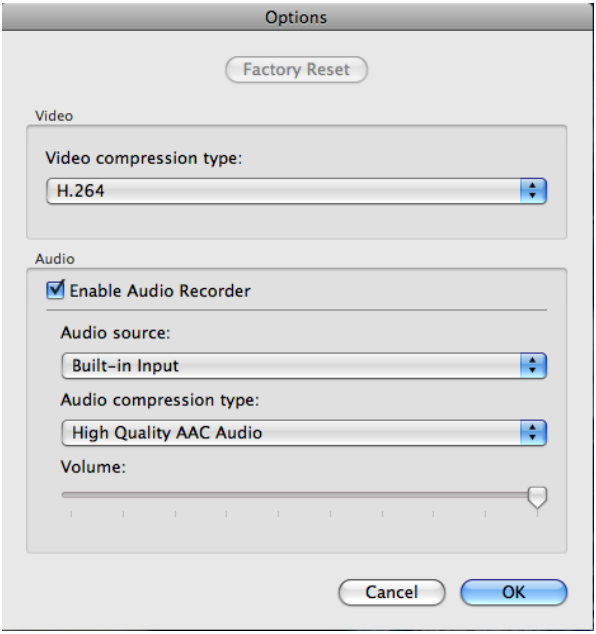


1. **Auto Focus:** Automatically adjust the best focal length**.**
2. **Focus:** Manually adjust focal length on an object.
3. **Auto Exposure:** Set on/off.
4. **Auto White Balance:** Set on/off.
5. **Rotate:** Rotate the image by 0/180 degree.
6. **Output resolution:** Set output resolution.
7. **Power frequency:** The power frequency may vary with countries. Please check it before using.

   <Remark> In most parts of the world this is 50 Hz, although in the Americas it is typically 60 Hz.

6.2.6 Options

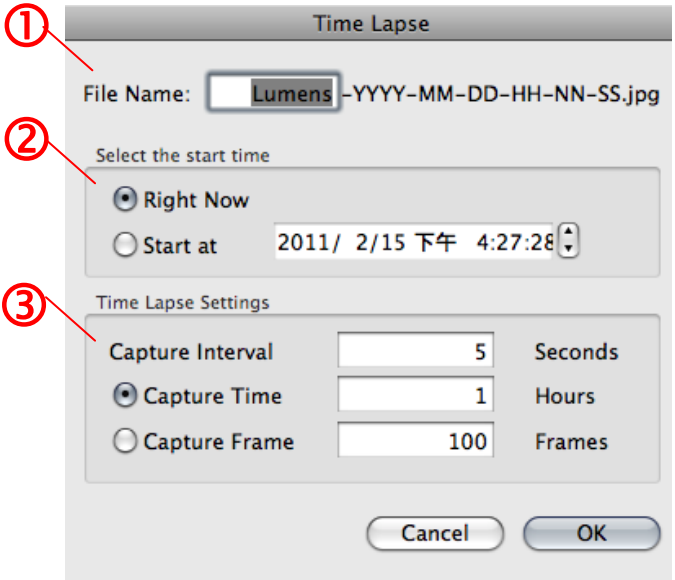
Click **to open Options Menu.**



1. **Factory Reset:** Activate the factory reset.
2. **Video Compression Type:** Set up the recording format.
3. **Enable Audio Recorder:** Enable the audio record device and set the audio source.

6.2.7 Time Lapse

Click **to open Time Lapse Menu**



1. Specify a file name.
2. Set the start time.
3. Set the interval and the length of time of image capturing.

Chapter 7 Descriptions of Major Functions – IN Windows

7.1 I would like to display a live image

1. Click to display a live image.

7.2 I would like to optimize the image

1. Click .

7.3 I would like to use the auto focus

1. Click the AF button on the camera head of main unit.

7.4 I would like to adjust the brightness

1. Click to show the brightness scroll.
2. Move upward to increase brightness, or downward to decrease brightness.

7.5 I would like to turn on/off the lamp

1. Click to turn on/off the lamp.

7.6 I would like to zoom in/zoom out

1. Click to display the image scrollbar.
2. Scroll up/down to enlarge/reduce the image.

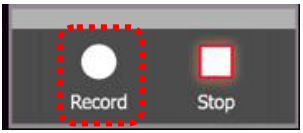
7.7 I would like to capture images

1. Click to show the advanced menu.
2. Click to capture and save images.

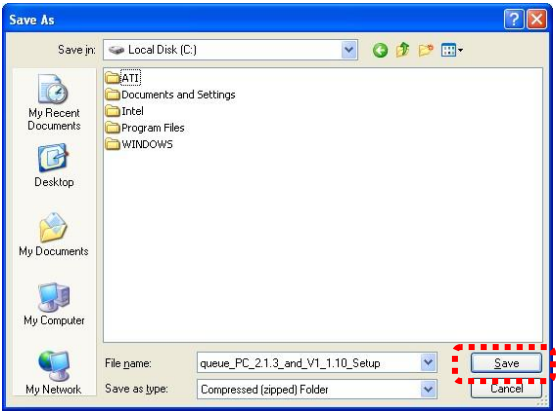
7.8 I would like to record videos

1. Click to show the advanced menu.
2. Click to begin the recording tool.

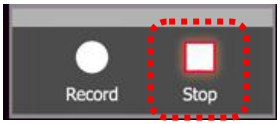
   <Remark>: Click to change settings including recording format and audio.
3. Click [Record] to show the “Save” window.



4. After entering the file name, click [Save] to begin recording.



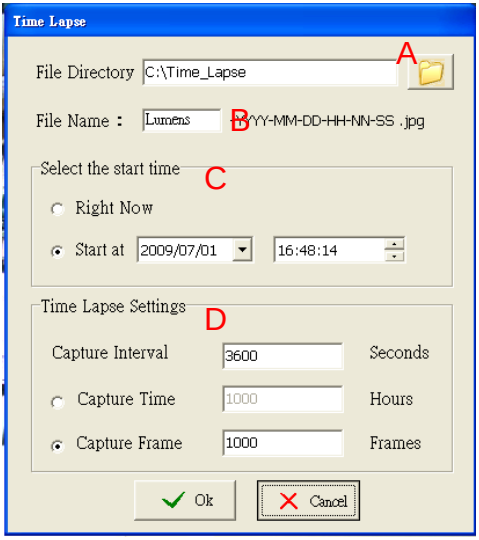
5. Click [Stop] to stop recording.



6. Click to close the recording tool.

7.9 I would like to set up the timer.

1. Click to show the advanced menu.
2. Click to show the “Time Lapse” window.
   A. Set up the file directory.
   B. Set up the file name
   C. Set up the start time.
   D. Set up the time lapse.



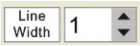
3. Click [OK] to exit and the timer takes effect.

7.10 I would like to freeze images

1. Click to freeze the current image on the screen.

7.11 I would like to annotate the live image

1. Click to show annotation tools

2. The default is the arrow tool **[Pointer]**. You can select the other annotation tool.
3. Select the color of the annotation tool, .
4. Set up the line width, 

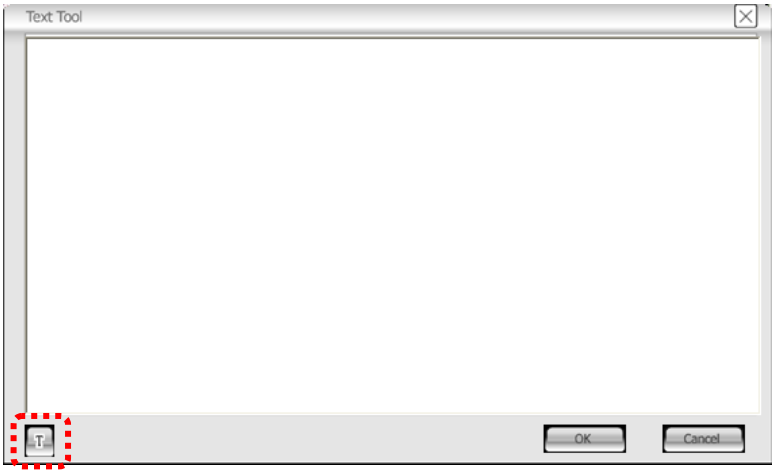
.
5. Add an annotation to the live image.

<Remark>: Click to capture the annotated image.

7.12 I would like to add text to the live image

1. Click to show annotation tools
2. Select the text tool to show **[Text Tool]** window.

3. Click to set up font, size, and color.



4. After entering text, click .

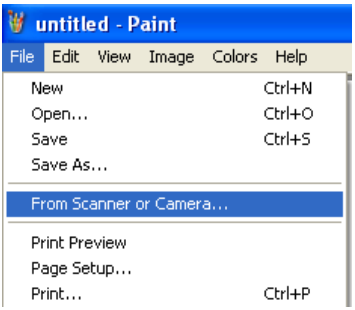
<Remark>: Click to capture the text image.

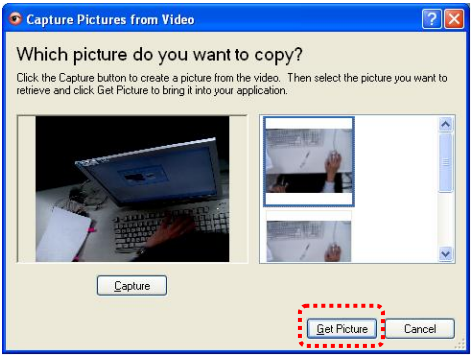
7.13 Working with Other Applications

7.13.1. I would like to insert a photo in MS-Paint

<Remark>: Support Windows XP Operation System only.

1. Click [File/From Scanner or Camera] in MS-Paint as shown in the bottom left figure.



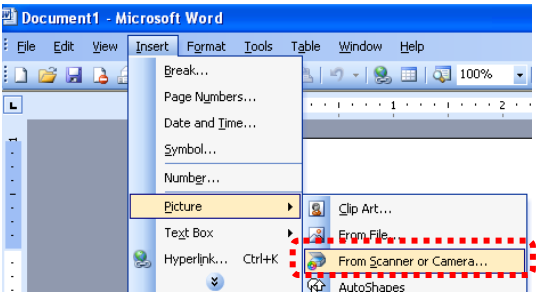


2. Click [Get Picture] will capture the photos of live images and insert the files in use shown as top right figure.

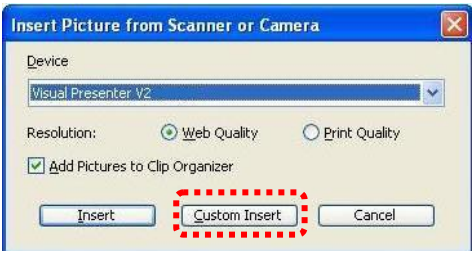
7.13.2. I would like to insert a photo in *MS-Word*

<Remark>: For Windows Office 2003 or later versions, please use the function with OneNote.

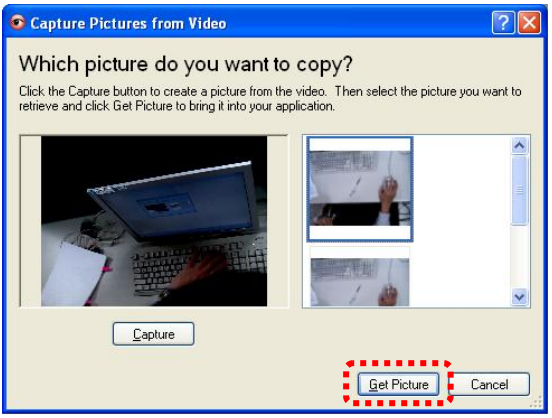
1. Click [Insert/Image/From Scanner or Camera] in ***MS-Word***.



2. Select [USB Video Device #5] and click [Custom Insert].



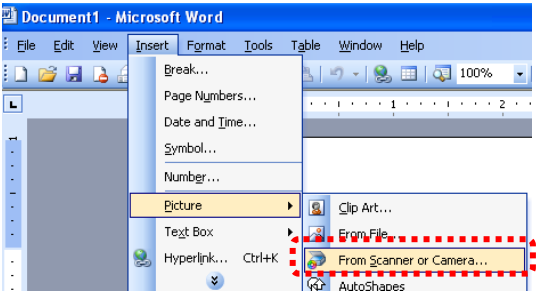
3. Click [Get Picture]. It will capture the photo of live image.



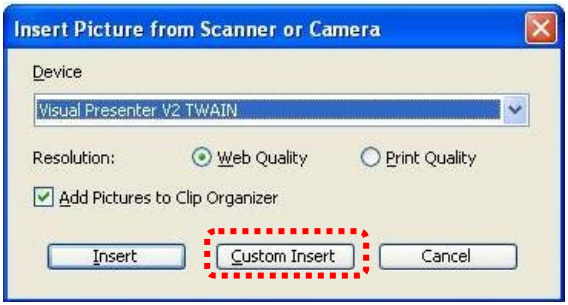
7.13.3. I would like to change the setting of the DC120 and then capture a photo in *MS-Word*

<Remark>: For Windows Office 2003 or later versions, please use the function with OneNote.

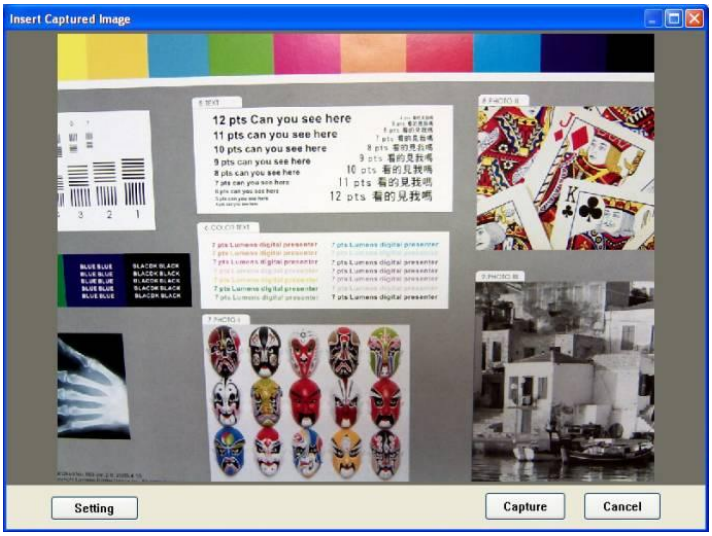
1. Click [Insert/Image/From Scanner or Camera] in ***MS-Word***.



2. Select [Lumens Document Camera TWAIN] and click [Custom Insert].



3. A window showing a live image (see below) will be displayed.

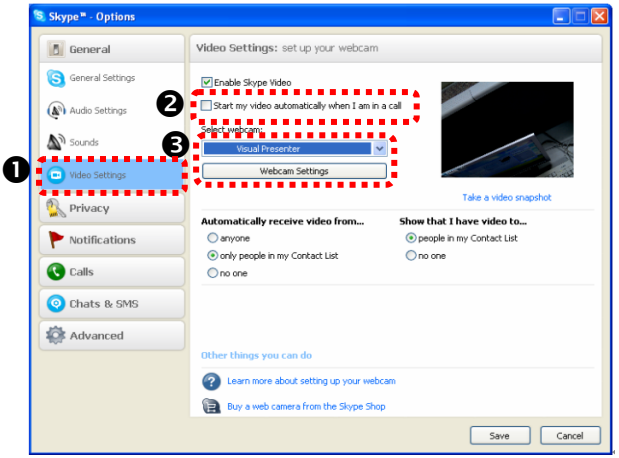


4. Click [Setting].
   When the Camera Settings window pops up, the live image can be adjusted.
5. Click [Capture] to capture images in ***MS-Word***.
6. Click [Cancel] to exit.

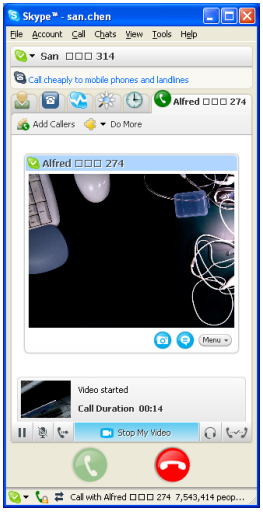
7.13.4. I would like to set the DC120 as a webcam for *Skype*

The DC120 can be used as a webcam for instant message software such as ***Skype*** and ***MSN***. With ***Skype*** as an example, operating instructions are provided below:

1. Begin ***Skype*** and enter [Tools] > [Options].
2. Select [Video Settings], check [Start my video automatically when I am in a call] and select [USB Video Device] (XP) or [Lumens DC120] (Vista/Windows 7) as a webcam.



3. Start calling your contact. When both parties are connected, ***Skype*** will display the video screen.



Chapter 8 Descriptions of Major Functions – IN MAC

8.1 I would like to display a live image

- Click to display the live image.

8.2 I would like to optimize the image

- 1. Click .

8.3 I would like to use the auto focus

- 1. Click the AF button on the camera head of main unit.

8.4 I would like to adjust the brightness

- Click to show the brightness scroll.
- Move upward to increase brightness, or downward to decrease brightness.

8.5 I would like to turn on/off the lamp

- Click to turn on/off the lamp.

8.6 I would like to zoom in/zoom out

- 1. Click to display the image scrollbar.
- 2. Scroll up/down to enlarge/reduce the image.

8.7 I would like to capture images

- Click to capture images.

[Note] The captured images will be displayed in the Thumbnail area.

8.8 I would like to capture images continuously

- Click to open burst mode setting. Click [OK] after setting.

<Note> Please refer to 6.2.7 Time Lapse for more Time Lapse settings.

<Note> The captured images will be displayed in the Thumbnail window.

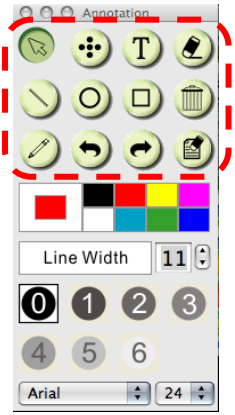
8.9 I would like to freeze the live image

- Click to freeze the live image of Ladibug™.
- Click once again to lift the freeze.

8.10 I would like to annotate the displayed image

<Note> To annotate the saved image, please open the pictures of the Thumbnail area.

- Click to open the annotation tools.

- Select a annotation tool. 

- Select pen color.
- Select line thickness.

- Select transparency.

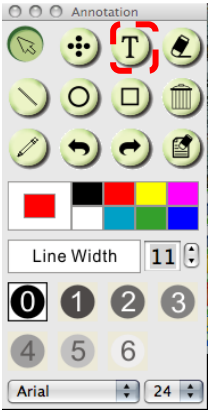
- Mark or annotate the displayed image.

<Remark> You can Click to capture images if they are live images. You can click [SAVE] or [SAVE AS] to save the files if they are image files opened from the Thumbnail.

<Remark> You can add annotation when recording, but you can't save it

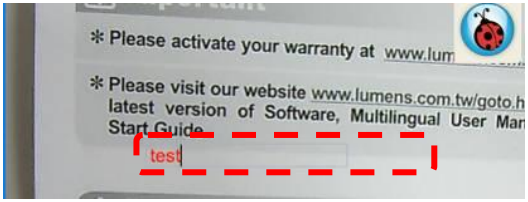
8.11 I would like to add textual annotation to images

- Click to open the annotation tools.



- Select
- Select pen color.
- Select transparency.
- Select font and font size.

- Drag a block on the picture then start to enter text.



<Remark> You can Click **to capture images if they are live images. You can click [SAVE] or [SAVE AS] to save files if they are image files.**

8.12 I would like to record videos

- Click to open the recording tool.

<Note> Click to open the interface of video format and audio source setting, please refer to 6.2.6 Options for more details

- Click to start recording.
- Press to stop recording.
- Click to close the recording tool.

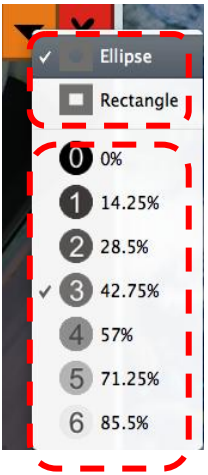
<Remark> You can use annotation tools when recording, but you can't save it.

8.13 I would like to use the mask mode

- Click to open the mask mode.
- You can directly modify the length and the width of the block with mouse.
- Click to modify the transparency of the block.
- Click to close the mask mode.

8.14 I would like to use the spotlight mode

- Click to open Spotlight mode.
- Modify the length and the width with mouse.
- Click to modify the shape and transparency of the block.
- Click to close the Spotlight mode.

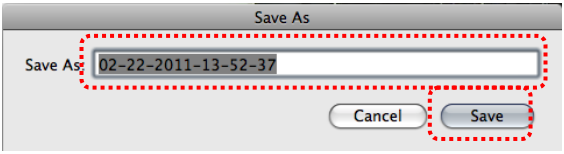


8.15 I would like to manage saved image files.

8.15.1 Save as a new file

- First, double-click the picture or image file in the “Thumbnail” window on the left side of the screen.

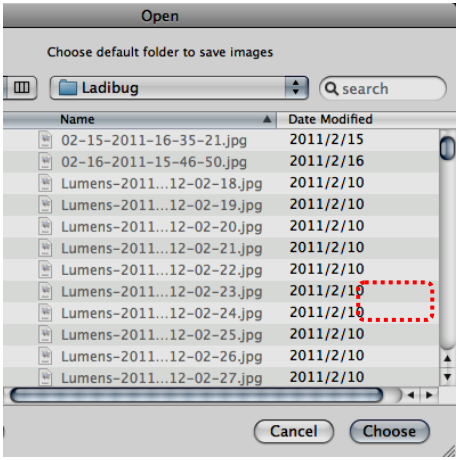
➢ Click [Save as] , then “Save As” window will pop up.



➢ After inputting “file name”, click [SAVE] to finish saving.

8.15.2 Change the location of file access

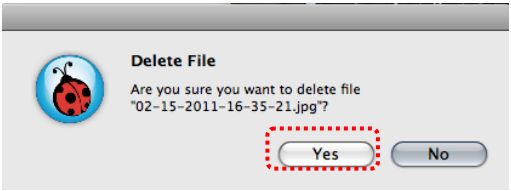
➢ Click [Directory] , then “OPEN” window will pop up.



➢ After selecting the location of the folder, click [Choose] to change the folder for saving pictures next time.

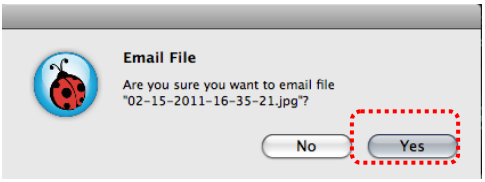
8.15.3 Delete File

- First, double-click the picture in the “Thumbnail” window on the left side of the screen.
- Click [Delete] , then “Delete File” window will pop up. Click [Yes] to delete files.



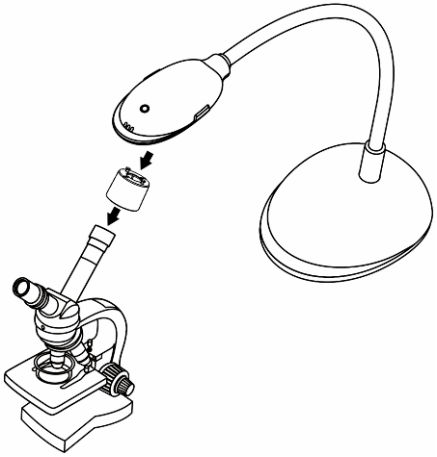
8.15.4 Send files by E-mail function.

- First, double-click the picture in the “Thumbnail” window on the left side of the screen.
- Click [E-mail] , then “Email File” window will pop up. Click [Yes] to open e-mail.



Chapter 9 Connecting to a Microscope

1. Mount the **microscope adapter** onto the microscope.
<Note>: Please choose an appropriate microscope adapter. Microscope adapter accessories are applicable to eyepieces of Ø28 mm.
2. The lens of DC120 connects with the **microscope adapter**.



3. If the image is not clear
   3.1 Click the [FOCUS] button on the DC120 camera head of main unit to activate the auto focus.

Chapter 10 Troubleshooting

This chapter describes problems you may encounter while using DC120. If you have questions, please refer to related chapters and follow all the suggested solutions. If the problem still occurred, please contact our distributors or service center.

No.	Problems	Solutions
1	**Boot without power signal**	Ensure that the USB cable is connected.
2	**Unable to focus**	Probably the document is too close. Pull away the distance between document and lens, then click [FOCUS].
3	**DC120 cannot operate normally**	Probably the machine cannot operate normally due to that the power supply of the USB port at the front end of the computer is insufficient. Try to connect to a USB port at the rear end or a USB hub with a power adapter.
4	**Cannot identify DC120**	Outdated or incomplete OS versions might not be able to identify USB devices like DC120. Please use Windows XP SP2 or newer versions that are compatible.
5	**Output screen is flickering**	By default, the voltage/frequency value of Ladibug™ is 60Hz. If voltage/frequency of 50Hz is required in your country, flickering of screen may occur when the Ladibug™ is used. Please refer to 6.1.3 and 6.2.5 Camera Settings of Chap 6 Function Menu to change the POWER frequency setting to 50Hz.
6	**Digital Zoom is disabled**	Please click Options to make sure whether Software Mode is on **Annotation Mode**. For details, please refer to 6.1.4 Options of Chap 6 Function Menu.