

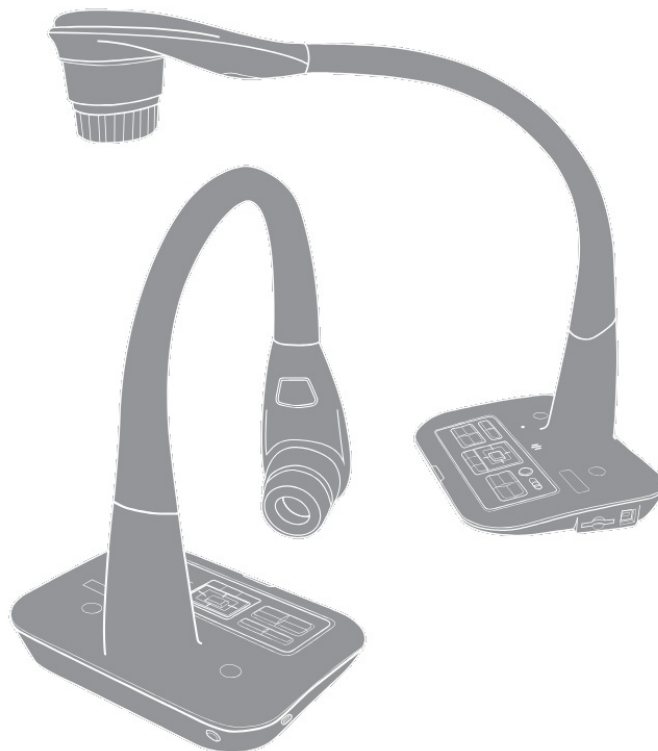


Optoma DC460 Document Camera Digital Zoom User Manual

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**DC460 Document Camera Digital Zoom
User Manual**



**DC460
Document Camera
TS-82-933-90020**

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DC460 Document Camera Digital Zoom

- **Welcome:**

Thanks for purchasing this product. Please read the instructions carefully before using this product.



- **FCC Compliance Statement (Class A):**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation.

- This Equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



- **European Community Compliance Statement (Class A):**

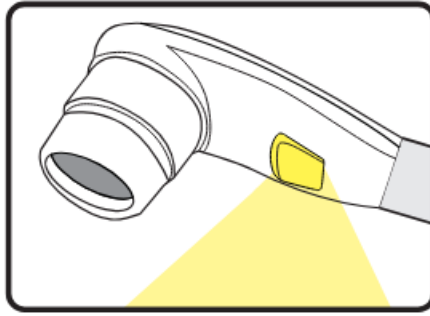
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.



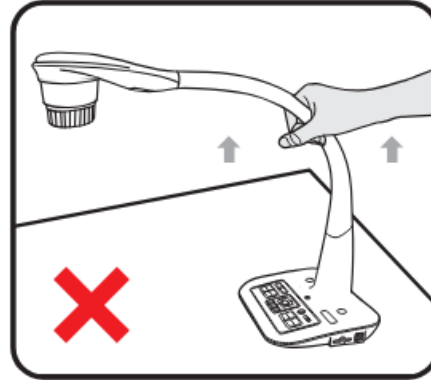
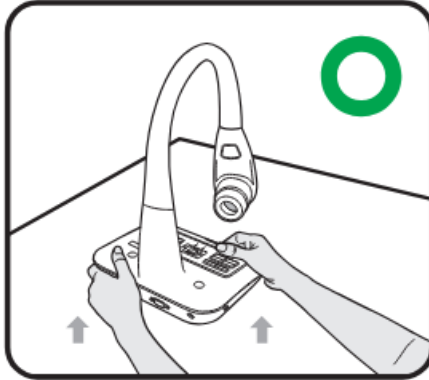
— The symbol of the crossed out wheeled bin indicates this product should not be placed in municipal waste. Instead, you need to dispose of the waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment.

Warning

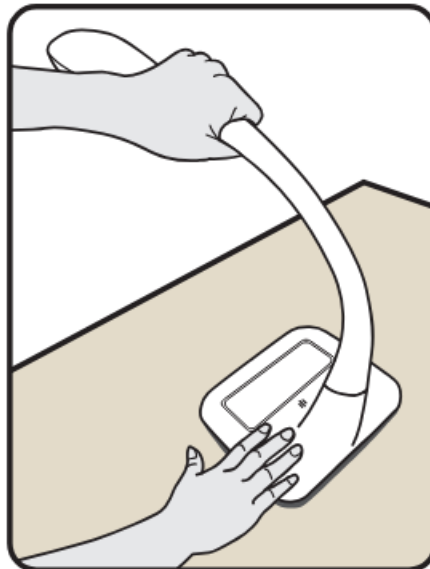
1. Do not look directly at the LED light source, which may cause retinal damage.



2. Carry the product by holding the base of the main unit in both hands. Never hold the product by the arm or the camera head only.

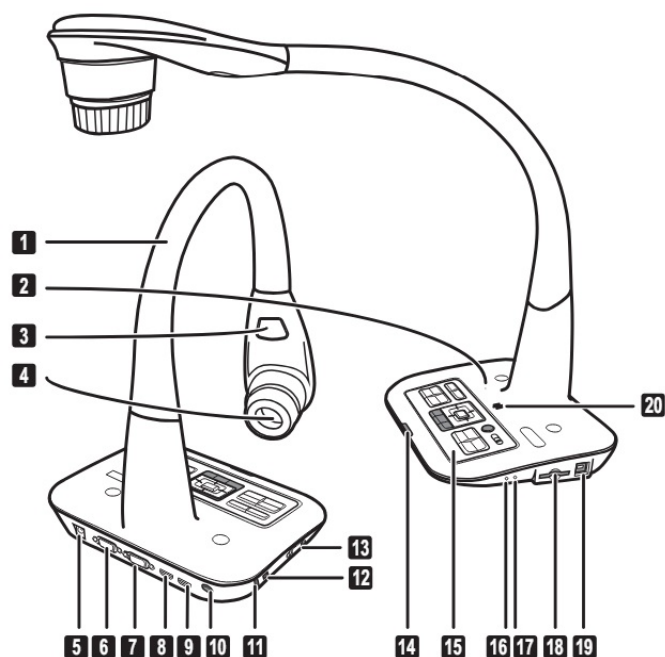


3. The camera can be damaged if it hits a desk surface or any hard object
4. Never turn the arm in the opposite direction
5. Be sure to keep one hand on the device base when adjusting the arm and camera head



Preparing the Document Camera

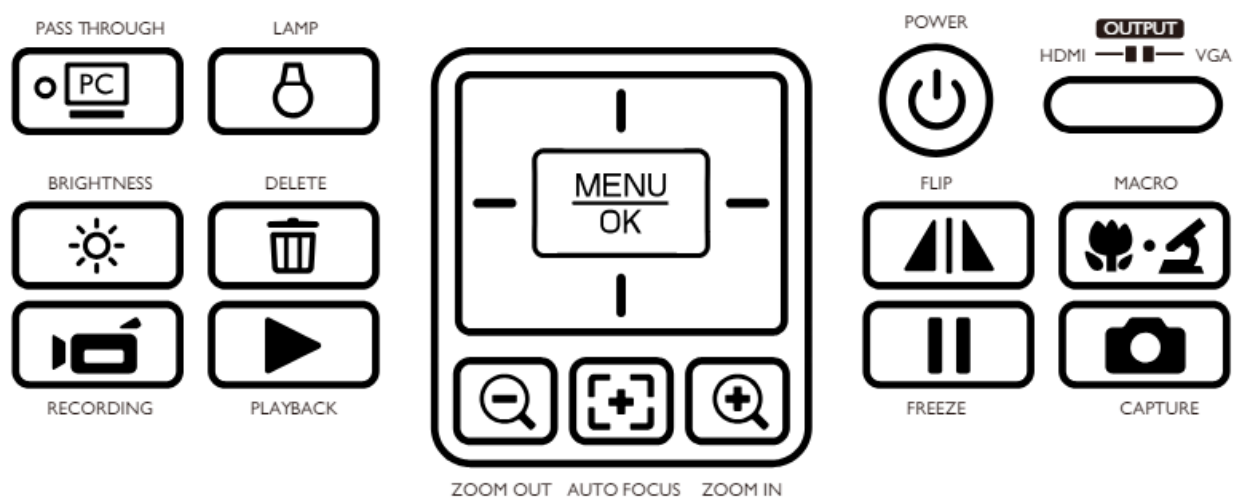
© Knowing the Document Camera Parts




















- 1 Gooseneck Arm
- 2 Microphone
- 3 LED Lamp
- 4 Camera Head
- 5 DC 5V Power Socket
- 6 VGA Output Port
- 7 VGA Input Port
- 8 HDMI Output Port
- 9 HDMI Input Port
- 10 Remote Control Signal Receiver





















- 11 Antitheft Slot
- 12 USB Port (For USB Flash Drive)
- 13 RS232 Port
- 14 Remote Control Signal Receiver
- 15 Control Panel
- 16 Audio Output Port
- 17 Audio Input Port
- 18 SD Card Slot
- 19 USB Port
- 20 Speaker

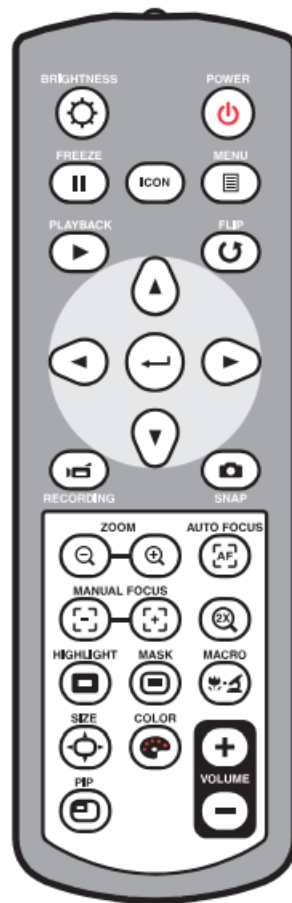
Control Panel



| Button | Function |
|---|---|
|  | Power On/Off. |
|  | Invert image 180°. |
|  | Macro/Normal switch. |
|  | Freeze the current image. |
|  | Capture a still image. |
|  | Show menu and select. |
|  | Direction keys |
|  | HDMI – VGA Output Switch |
|  | Zoom out |
|  | Zoom in |
|  | One-time auto focus |
|  | Pass the signal from PC via VGA/ HDMI input port to VGA/HDMI output port. |
|  | Turn on/off the LED lamp and adjust the brightness. |
|  | Show/hide brightness adjustment bar. |
|  | Delete one file from memory when in playback mode. |
|  | Record a video clip. |
|  | Enter playback mode to display recorded pictures and video clips. |

Remote Control

| Button | Function |
|---|--|
|  | Brightness hotkey |
|  | Power on / off |
|  | Freeze current image. * Pause the clip while playing videos |
| ICON | Show or hide on-screen icons |
|  | To show or hide OSD menu |
|  | Playback mode to display recorded pictures and video clips |
|  | Invert image 180° |
|  | Select and adjust |
|  | Record a video clip |
|  | Capture a still image |
|  | Zoom out / Zoom in |
|  | One-shot auto focus |
|  | Use the level bar to adjust the focus manually |
|  | 2X or 4X digital zoom |
|  | Highlight function on / off |
|  | Mask function on / off |
|  | Macro / Normal switch |
|  | Adjust highlighted / masked area size |
|  | Set color for highlighted / masked area |
|  | Increase / decrease the sound volume. |
|  | Picture in Picture function on / off *For displaying a still image as an insert while displaying another image |



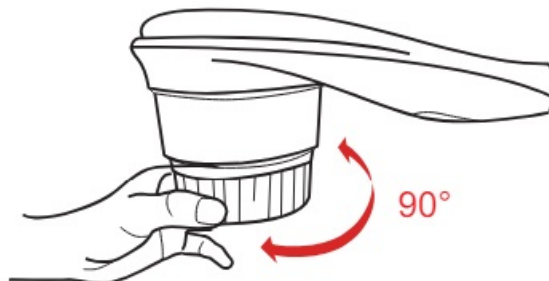
- ❗ Infrared remote control can only be used in proximity to the unit
- ❗ Remove the battery cover and load the batteries into the battery compartment correctly according to the '+' and '-' symbols.
- ❗ Be sure to use two AAA batteries. Do not use new and old batteries or different battery types together.

Setting Up

This section provides useful tips on how to adjust the document camera smoothly for your needs.



○ Rotate Function

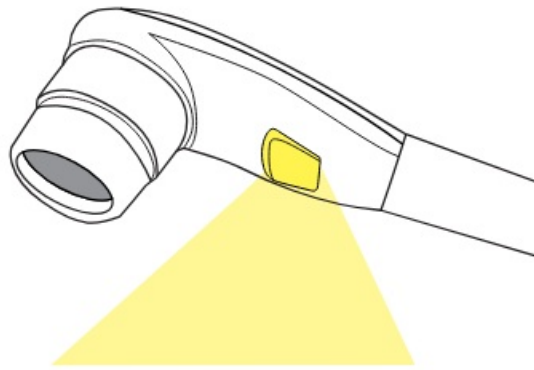
Roll the lens rotator to rotate image 90°



○ Illumination Lamp

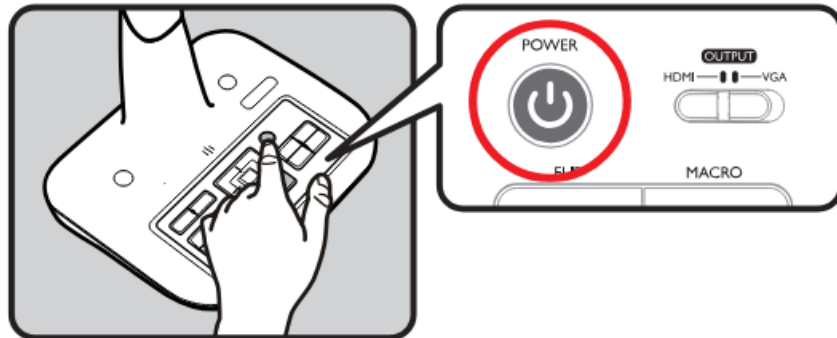
If you are in a dark environment, please turn the LED lamp on to make better exposure.

1. Press the LED lamp button () on the base to turn on/off the LED lamp.
2. Adjusting the brightness by pressing the lamp button ()



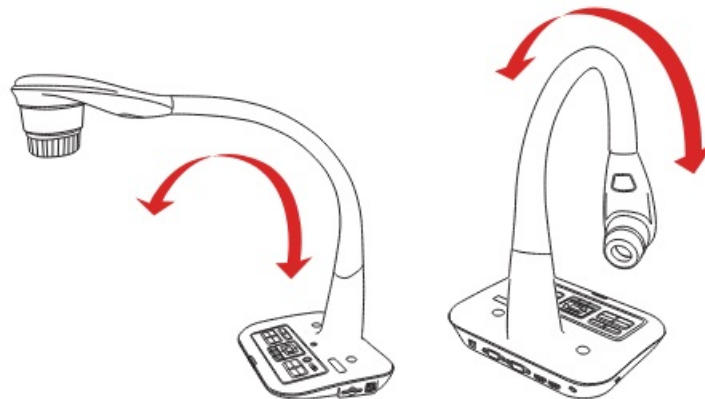
© Output Switch

Adjust the Output Switch on the control panel according to your output port.



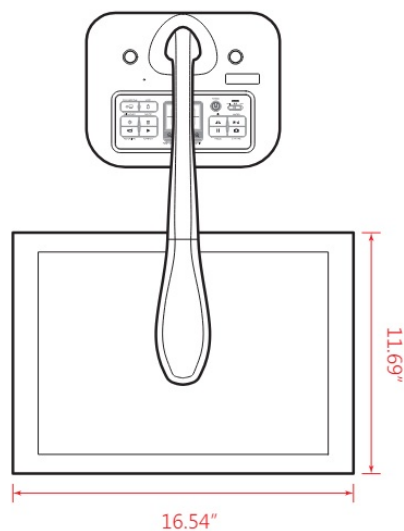
© Gooseneck Arm


The gooseneck arm can be adjusted to support various working areas.



© Working Area





► working area

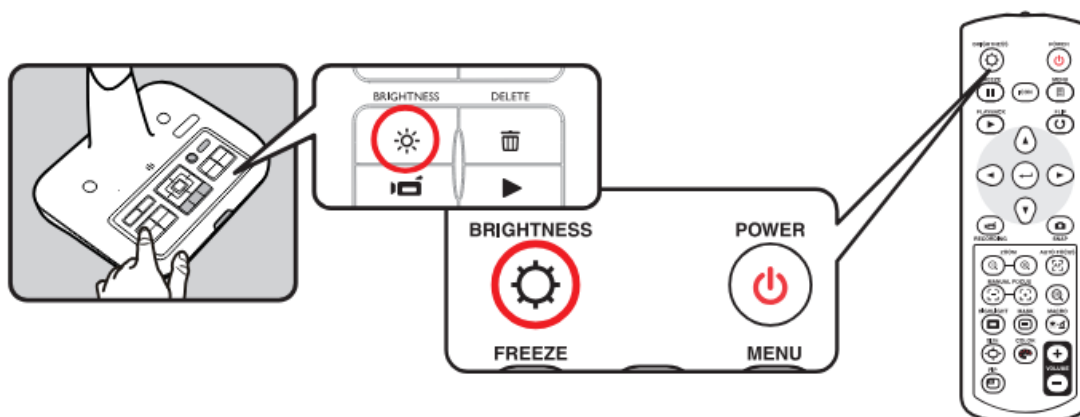


! If the document is not put in the recommended working area, the image should be rotated by FLIP button () on control panel or remote Control.





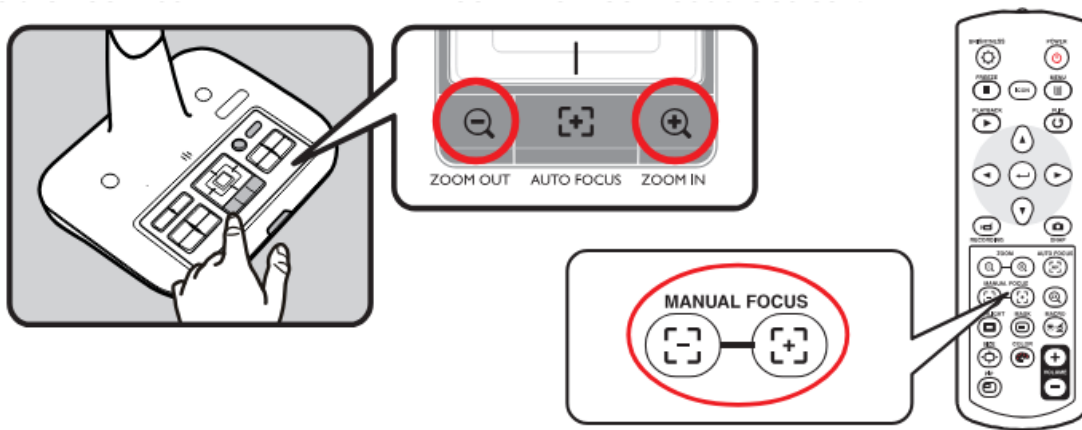
© Adjusting the brightness

1. Press BRIGHTNESS button on the control panel () or remote control ().
2. Use ( or ) buttons to increase or decrease the brightness level.



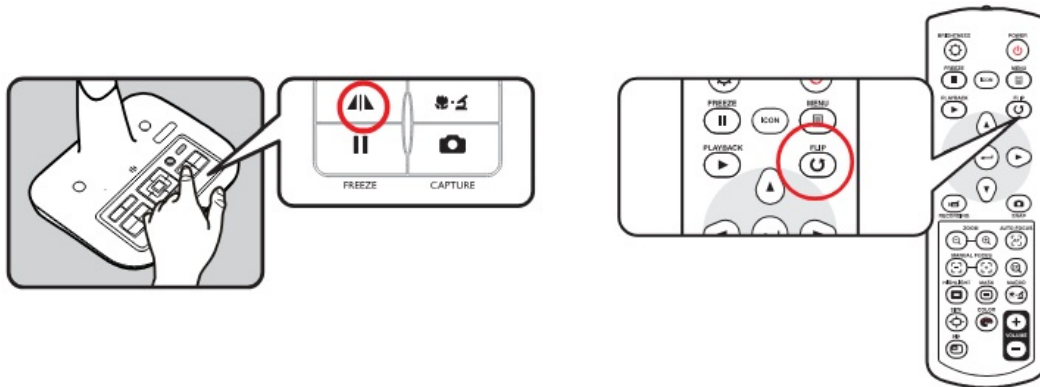
o Zoom Function

Use the Zoom buttons ( / ) to zoom in or zoom out the screen




O Flip Function

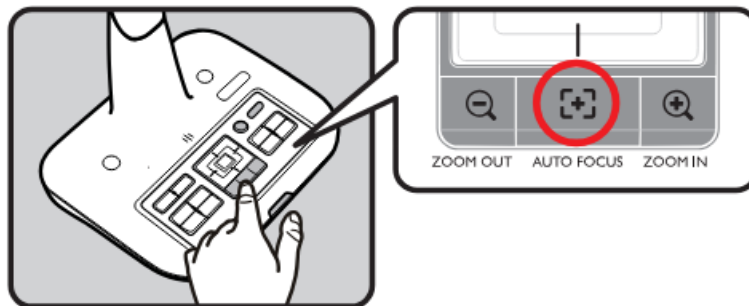
Press the Flip Button () to flip image



© Adjusting the Focus

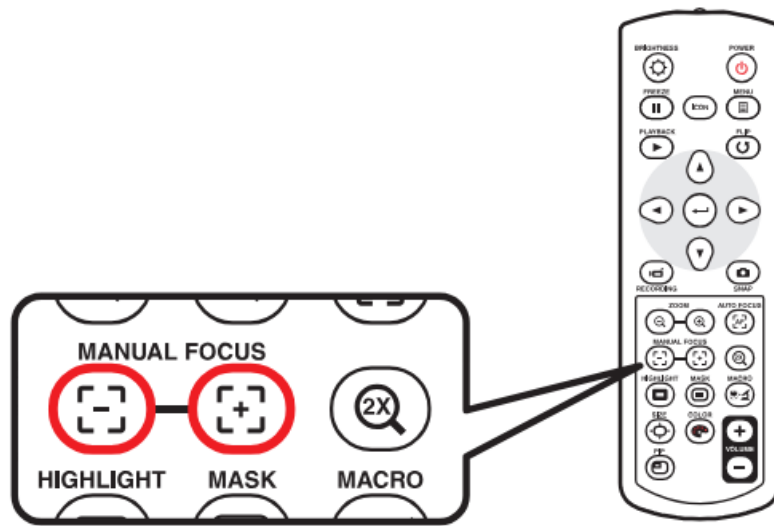
» Automatic Focus

Press AF button () to do an one-time auto focus. This function provides a one-time autofocus.



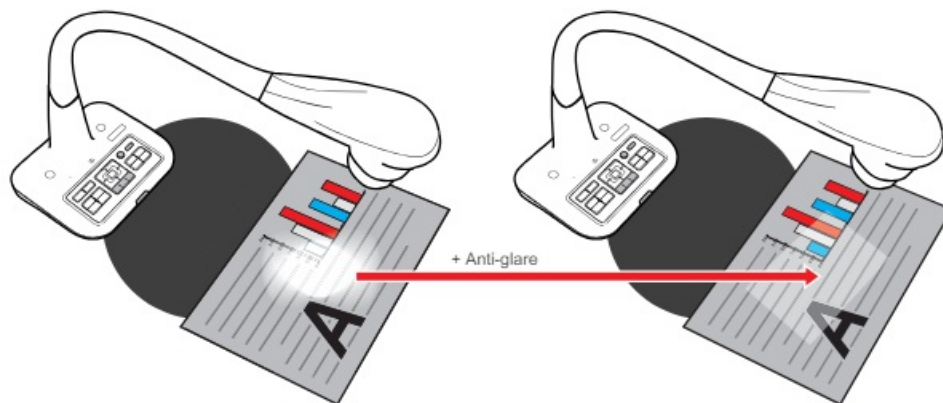
» Manual Focus

Use the manual focus buttons ( / ) (★) on remote control to finetune the focus.



O Anti-glare

Antiglare sheet is a transparent plastic that is overlaid on top of shiny object or glossy surface to reduce the glare. To use, simply place the ant-glare sheet on top of shiny object to glossy surface such as magazine to reduce light reflection

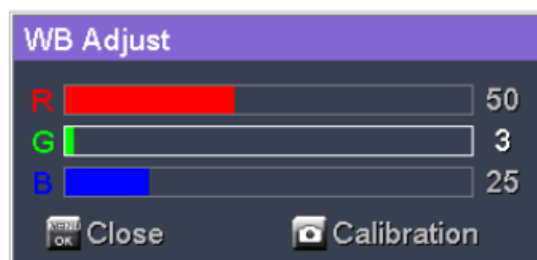



© Adjust the White Balance


1. Default white balance setting of the document cameras "Auto"
2. There are various modes (Auto, Florescent, Tungsten and Custom) for user to choose and it in different surroundings,
3. Custom white balance:


Press "MENU" () button – White Balance enter "Cistron" mode.

There will have a pop out window as the picture below:





Press CAPTURE () button to get the data of the current image.


Use the "Direction Key" () to adjust the number of R Ganda B parameters.


Press "OK" () button to finish setting and close the pop out window.

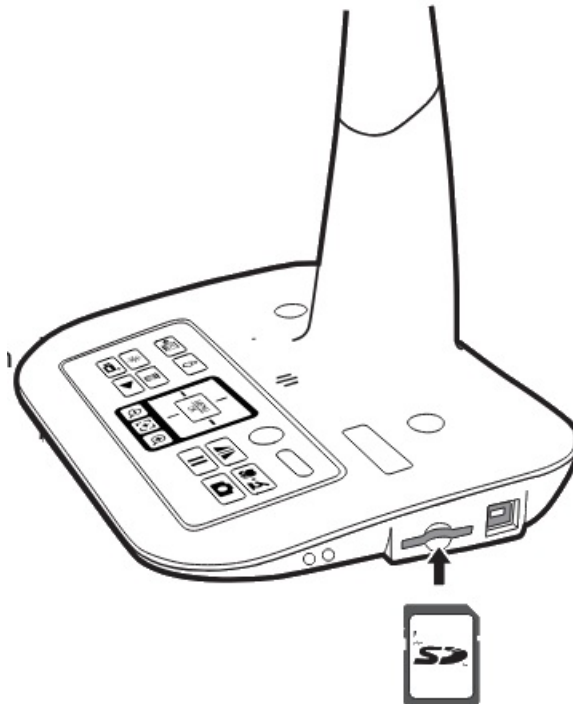
O Inserting and Ejecting a SD / SDHC card (Not supplied)

1. Insert memory card (SD/SDHC/MMC/MMC 2.0) with the label facing up until it reaches the end of the slot.
2. When the card is inserted successfully, the icon () will appear onscreen and the internal memory will become inaccessible.
3. To remove the card, push the card to release it and then pull it out gently.

 When using a new memory card, you are recommended to format the card with the device. Do not turn off the device While formatting the SD card.

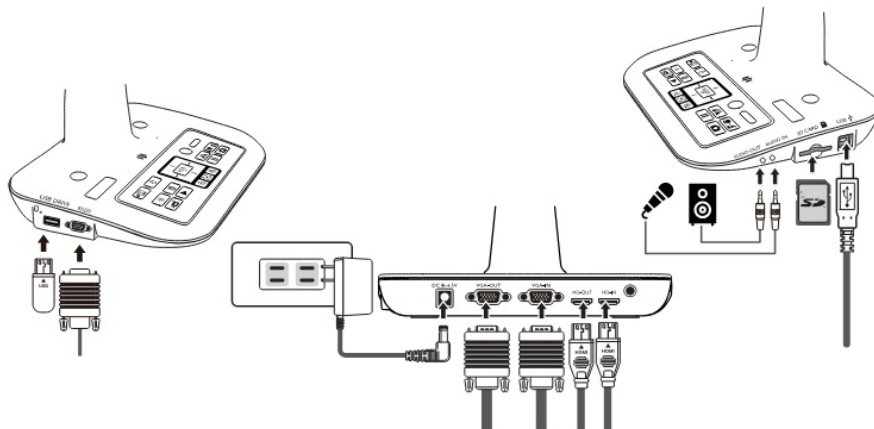
 Even if your card has been formatted on other devices, you may have to reformat the card with the device.

 If no external storage devices are connected, all files will be saved in the built-in memory.



Making the Connections

© System Diagram



Step 1/ Plugging in the Power Outlet

Use power adapter to connect DC IN connector on the product to a standard 100V~240V AC power outlet

! The type of power adapter s depending on your countries / regions.

Step 2 / Output Resolution and Aspect Ratio.
















Various output resolutions are available depending on the output and aspect ratio setting.

Please refer to the table listed below:

| Output | Aspect-Ratio | Resolution | Vertical Frequency |
|--------|--------------|-------------|--------------------|
| VGA | 4:3 | 1024 x 768 | 60 Hz |
| | | 1600 x 1200 | |
| | 16:9 | 1280 x 720 | |
| | | 1280 x 800 | |
| HDMI | 16:9 | 1280 x 720 | 60 Hz |
| | | 1920 x 1080 | |
| | | 3840 x 2160 | 30 Hz |

*Document camera wil downgrade the output resolution automatically when the connected display device doesn't support highest resolution

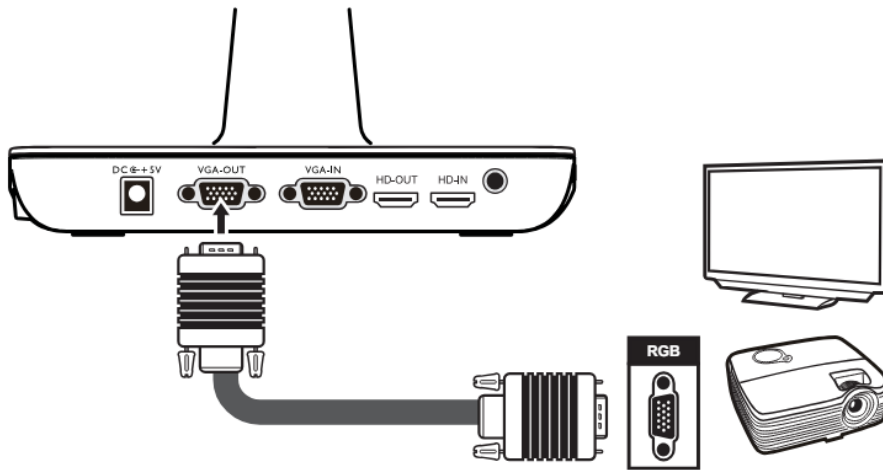
Step 2 / Connecting with Components

| | Product Port | Cable | Display Device Port | PC Port |
|------|--|---|---|--|
| VGA |  RGB OUTPUT |  |  RGB INPUT | |
| |  RGB INPUT |  | |  RGB OUTPUT |
| HDMI |  HD OUT |  |  HDMI-INPUT | |
| |  HD IN |  | |  HDMI-OUTPUT |
| USB |  TYPE B Port |  | |  TYPE A Port |

> Standard TV and Projector

« Connectvia VGA OUTPUT

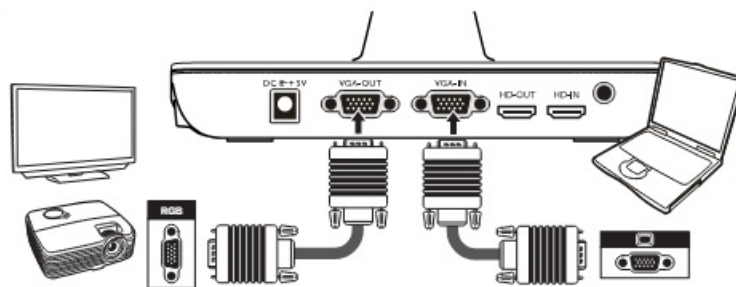
To display images, you can use VGA cable to connect o your television" s RGB port via the VGA OUT connector.



© Connect to a computer

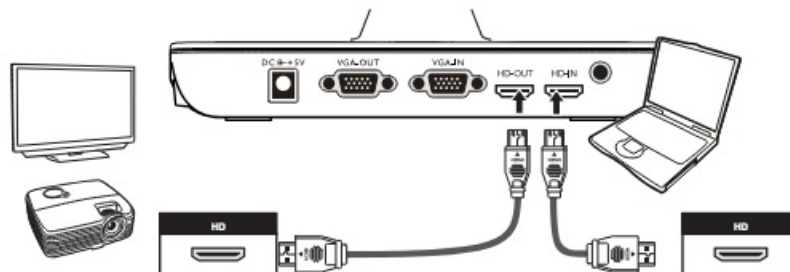
> Passthrough Function

Use VGA Cable to connect VGAIN connector on the document camera to the VGA OUT connector on the computer



»Use HDMI Cable to connect HDMI IN

Connector on the document camera to the HDMI Out connector on the computer.



- ❗ To display computer image, press PASSTHROUGH button () on the control panel.
- ❗ For laptop to output display mode, use the keyboard command () to switch between the display modes. For different command, please refer to your laptop manual.
- ❗ The signal is only pass through from VGA IN port to VGA OUT port or HDMI In port to HDMI Out port on document camera.

Please connect an output device to display the image on computer.

»Connect via USB

Press MENU () button — select “USB Connect”.

Choose “Disk” to connect mass storage.
















Choose “PC Cam” to use as a PC-Cam.















Basic Operation






1. Press MENU button on the remote control (B) or control panel ($\frac{\text{MENU}}{\text{OK}}$).
2. Press (◀ or ▶) button to toggle between tabs. MENU
3. Press OK button on the remote control(◀) or control panel($\frac{\text{MENU}}{\text{OK}}$) to make a selection and display the setting selections.
4. Use (◀ or ▶) to adjust the setting. MENU
5. Press OK button on the remote control (◀) or control panel ($\frac{\text{MENU}}{\text{OK}}$) to make the new setting activate.
6. Press MENU button on the remote control or EXIT on the OSD menu to hide the OSD menu.

© Menu options in Preview Mode

| Name | icon | Option | Description |
|---------------|---|-----------------------|--|
| Brightness |  | – | Use the Right / Left buttons to make the image brighter / darker |
| Effect |  | Graphic | To improve the tint of color-based subjects such as pictures or figures. |
| |  | Text | The function is designed especially for text-based documents to which can be enhanced white and black subjects such as characters and lines. |
| |  | B&W | To output a black & white camera image. To make the image easier to view, select this when shooting black & white documents etc. |
| |  | Negative | To output a negative camera image. |
| White Balance |  | Auto | There are various modes (Auto, Florescent, Tungsten and Custom) for user to choose and fit in different surroundings. |
| |  | Fluorescent | |
| |  | Tungsten | |
| |  | Custom | |
| Quick Zoom |  | 2X / 4X | Set the quick zoom to 2X or 4X. |
| Focus |  | Normal | Select standard mode for 30cm ~ ∞. |
| |  | Macro / Microscope | Select Macro/Microscope mode to take close-ups or while connecting to a microscope. |
| Image Size |  | 0.8M / 2M 5M /8M /13M | Select the desired still image resolution. |
| Video Mode |  | High Quality | Select the desired video quality. |
| |  | High Frame Rate | |

| Name | | icon | Option | Description |
|---------|---------------|---|--------------------------|---|
| SETTING | Beep |  | On / Off | Enable beep sound on / off |
| | Flicker |  | 50Hz / 60Hz | Set flicker frequency to 50Hz or 60Hz. The flicker setting is based on the frequency standard of your local power supply. |
| | USB Connect |  | Off | Disable USB function |
| | |  | Disk | Select "Disk" to enter Mass storage Mode |
| | |  | PC cam | Select "PC Cam" to enter PC Cam Mode |
| | HDMI Out |  | 720P / 1080P / 4K | Adjust HD-OUTPUT resolution |
| | VGA Out |  | XGA / UXGA / 720P / WXGA | Adjust VGA-OUTPUT resolution |
| | Language |  | – | Allows you select the language used for OSD |
| | Clock |  | – | Set date and time |
| | Format |  | No / Yes | Format the storage medium. Note that all files stored in the medium will be gone. |
| | Reset default |  | No / Yes | Restore factory defaults. Note that your current settings will be overwritten. |
| Exit | |  | – | Exit Menu. |

© Menu options in Playback Mode

| Name | icon | Option | Description |
|------------|---|----------|---|
| File Info |  | – | View the file's title , saved date and time , size and the length of recording. |
| Slide show |  | On / off | Start a slide show with selected interval time. |
| Volume |  | – | Use the Right / Left buttons to adjust volume |
| Delete one |  | Yes / No | Delete current file. |
| Delete all |  | Yes / No | Delete all images stored in the memory. |

© Recording a video clip / Taking a still picture

- Set the capture or record resolution according to the setting, please refer to the table below:

| Output Switch | Resolution Setting | Recording resolution |
|---------------|--------------------|----------------------|
| VGA | XGA | 1024 x 768 |
| | UXGA | |
| | 720P | 1280 x 720 |
| | WXGA | 1280 x 800 |
| HDMI | 720P | 1280 x 720 |
| | 1080P | 1920 x 1080 |
| | 4K | 1920 x 1080 |

- Choose the focus mode according to distance to object

Normal mode for 3cm to ∞ @1X30cm to ∞ @17X.

Macro mode (📷) or (📷)(★) for 3cm to ∞ .

Macro mode (📷) or (📷)(★) to take close – ups.

- Use the Zoom button (🔍/🔍) to zoom in or zoom out from the screen.
- Automatic focus/ Makayla focus

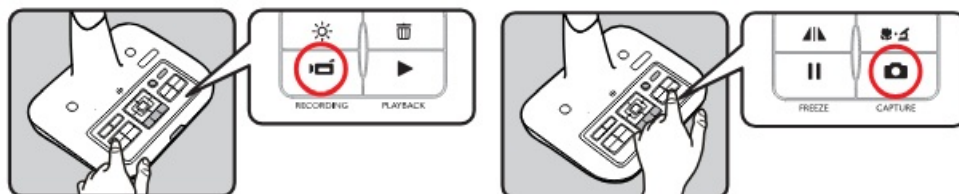


Press AF button (📷) to do one-time auto-focus.

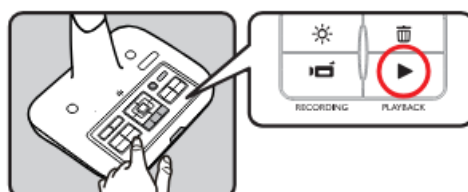
Use manual focus button (📷/📷)(★) on the remote control to fine-tune focus.

- Press the Recording button (📹) to start recording and press it again to stop recording.

Press the Capture button (📷) to take a still picture.



Playback




- Press PLAYBACK button (▶)

2. The last recorded picture or video clip will show on the screen.
3. Use Up / Down button to choose files


© Copying Files to Computer

Please notice that the video clips are recorded in AVI format and are compiled as CLIPxxx.avi (xxx are four serial numbers)

Before viewing these videos on your PC, you may need to install some media programs



1. Turn on the document camera.
2. Connect the product to your computer with USB cable.
3. Press MENU () → select "USB Connect" → choose "Disk" The built-in memory or external memory will be detected.

Then, You can view the image data on a SD card on the PC's viewer software or simply cut/ copy and paste the file to your PC.

 The USB flash drive can't be read in the disk mode, please insert the USB flash drive directly to your computer to read the image data.

© Using document camera as a PC cam

Starting the application

1. Connect the product to your computer.
Turn on your computer, then connect the accessory USB cable to the USB port of your computer.
Make sure the connector and the port are aligned correctly.
Switch to PC Cam mode.
Connect the other end of the USB cable to the main unit.
Power on press MENU () — Setting — select USB Connect — select PC Cam () and press OK button to confirm.
2. Launch PC Camera
After the product is correctly connected to and detected by your PC, you are ready to use PC Camera function.


Working with Smart DC Pro

1. Make sure the USB connection setting is at "PC-Cam".
2. Connect device and PC with accessory USB cable.
3. Start Smart DC Pro on your PC.

Advance Operation


Highlight function / Mask function ()

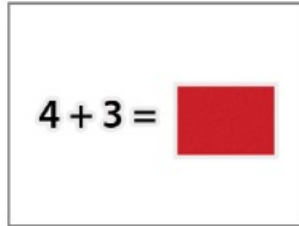
Highlight function


1. Use the Highlight function to draw attention to a particular section of the output image.
2. Press the Highlight button () on the remote control, and use the direction buttons to move the highlighted area.




Mask function


1. You can mask a section of the output image. 2 Press the Mask button () on the remote control, and use the direction buttons to move the masked area.

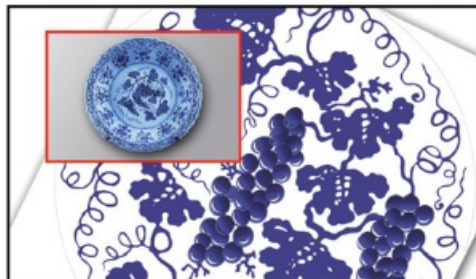


! Press the Size button () on the remote control, and use the direction buttons to adjust the highlighted (masked size.

! Press the Color button () on the remote control, and use the direction buttons to adjust the color of highlighted / masked area.

© PIP (Picture in Picture) function(3)

1. Press the PIP button () to display an around quarter-size still image on alive camera display.
2. Use the up or down button to change the shift between still images



© Connect to a microscope

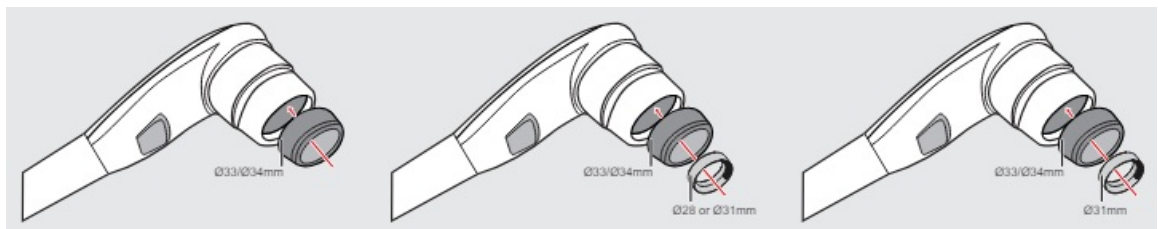
Connect to a microscope enables you to examine microscopic objects on a big screen

1. Adjust the microscope and focus objects
2. Choose an appropriate microscope adapter
3. Microscope adapter accessories are applicable to @28mm @31mm, @33mm and @34mm eyepieces

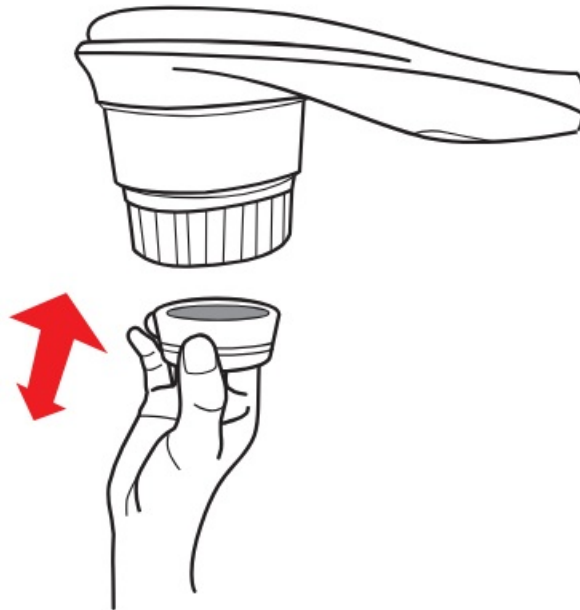
! For eye pie ces of about @33 mm, @34mm, only a microscope adaptor should be nstalled.

! For a @28mm eyepiece, insert the @28mm adapter into the microscope adapter.

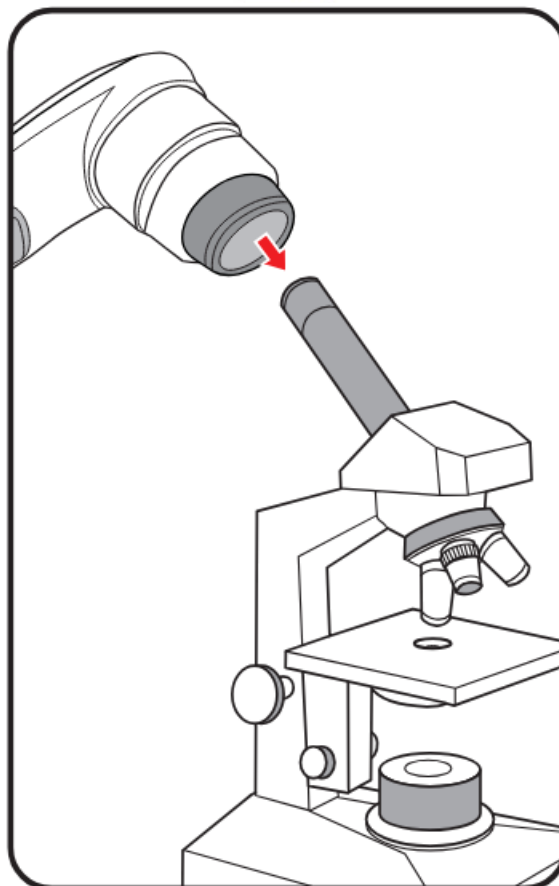
! For a 3 1mm eyepiece, insert the @31mm adapter into the microscope adapter.




4. Mount/ take off the microscope adapter onto / off the lens by doing the action shown in the picture.



5. Switch the focus mode to Macro. press MENU($\frac{\text{MENU}}{\text{OK}}$) select Focus(\odot) → select Macro or press Macro button(🌱🔍)(★) on remote-controlled.

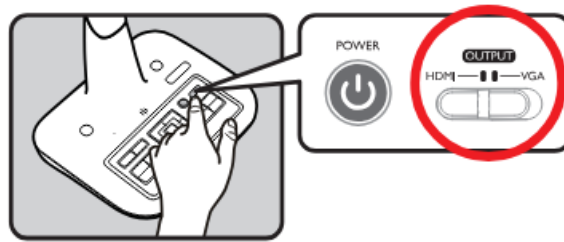


6. Connect the lens with microscope adapter to the microscope.

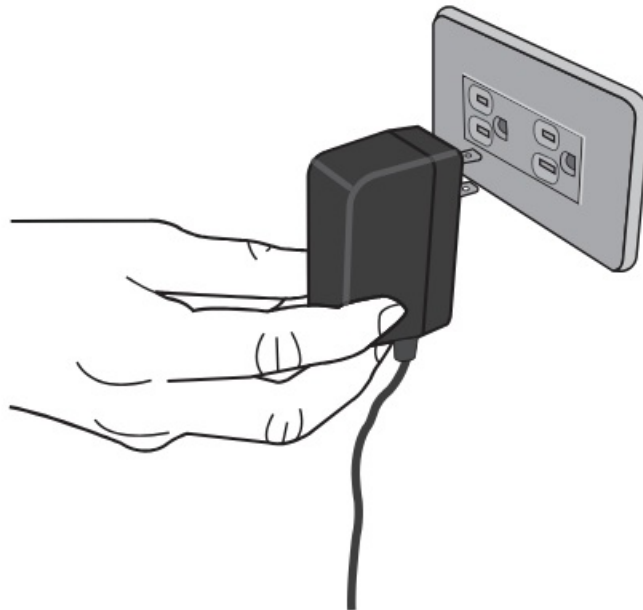
- ! If the image is not clear. Please adjust the focus of microscope.
- ! press the AF button () or use the manual focus button on remote control to . fine-tune the focus.

Storing

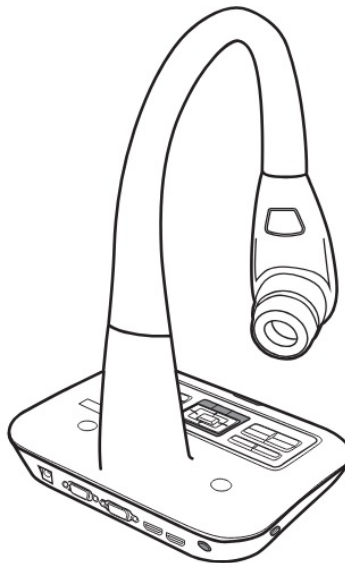
1. Power off the product




2. Unplug the AC adapter from the wall outlet Then ., disconnected the AC Adapter and all cables






3. Fold the camera head and arms in the, direction shown in the figure.



Troubleshooting

| When using the document camera : | | |
|---------------------------------------|--|--|
| Problem | Cause | Solution |
| Cannot be powered on normally. | The AC adapter is not correctly connected to the wall outlet or the document camera. | Re-connect one end of the AC adapter to the document camera and the other end to a wall outlet. |
| Cannot take pictures and video clips. | Out of memory. | Free some space from the SD / MMC card or the internal memory. |
| | Using a "protected" SD card. | Set the SD card to be writable. |
| No image output after connecting. | The document camera is not correctly connected to the external device. | Re-connect all related cables with the external device correctly. |
| | Incorrect input type of display output device. | Set up correct input type of display output device. |
| | Incorrect supported resolution of display output device. | Set up correct supported resolution of display output device. |
| | Incorrect output port selected by output switch on document camera. | Set up correct output port by output switch. |
| | PC pass through button indicator is on. | Press [] PASSTHROUGH button to turn off the function. |

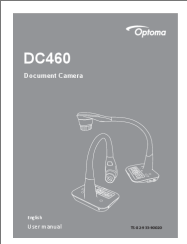
| When using the document camera : | | |
|--|--|--|
| Problem | Cause | Solution |
| The image is fuzzy. | Probably the distance of object is too close to the lens. | Press AF button to auto focus or adjust by pressing Manual Focus. |
| | | Select Macro mode if the distance is less than 25cm. |
| The image is reverse. | The document is not put in the recommended working area. | Press [] button to adjust the direction. |
| The image does not move. | Camera image is set to Freeze []. | Press the [] button on the control panel again to uncaused. |
| Remote control can not work. | No power. | Replace the AAA batteries in the remote control. |
| | Object is blocking the remote control signal receiver of the document camera. | Remove obstruction in front of the product. |
| | The distance of usage is too far. | Stand closer to the product to use the remote control. |
| The display device displays "MEMORY ERROR" or "CARD ERROR" message. Or memory card cannot be read. | The format of the memory card is not compatible with the product. | Use the "Format" function of the document camera to format the card. |
| | The memory card is corrupted. | Replace the memory card with a new one. |

| When using the document camera : | | |
|---|---|---|
| Problem | Cause | Solution |
| Cannot delete the pictures and video clips, and also cannot find them in the memory card. | The lost recordings are saved in the internal memory. | It happens when you insert a memory card after taking a few pictures or video clips. You can access those files after removing the memory card . |
| Cannot view the video clips on my computer. | Software is not installed on the computer. | Install Direct X 9.0c or above and Windows Media 9.0 Codec to solve this problem. Go to the website " http://www.microsoft.com " to download the required files. Please refer to "Copying files to your computer". |
| TV screen does not display after connecting the product to TV. | The product is not correctly connected to the TV. | Reconnect the product to TV correctly. |
| Noises occur when viewing images on the computer. | The flicker setting does not match the standard of the country you are staying. | Adjust the flicker setting . |

 The contents in this manual are subject to change without prior notification.



Documents / Resources

| | |
|---|--|
|  | <p>Optoma DC460 Document Camera Digital Zoom [pdf] User Manual DC460 Document Camera Digital Zoom, DC460, Document Camera Digital Zoom, Camera Digital Zoom, Digital Zoom, Zoom</p> |
|---|--|

References

- [User Manual](#)

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