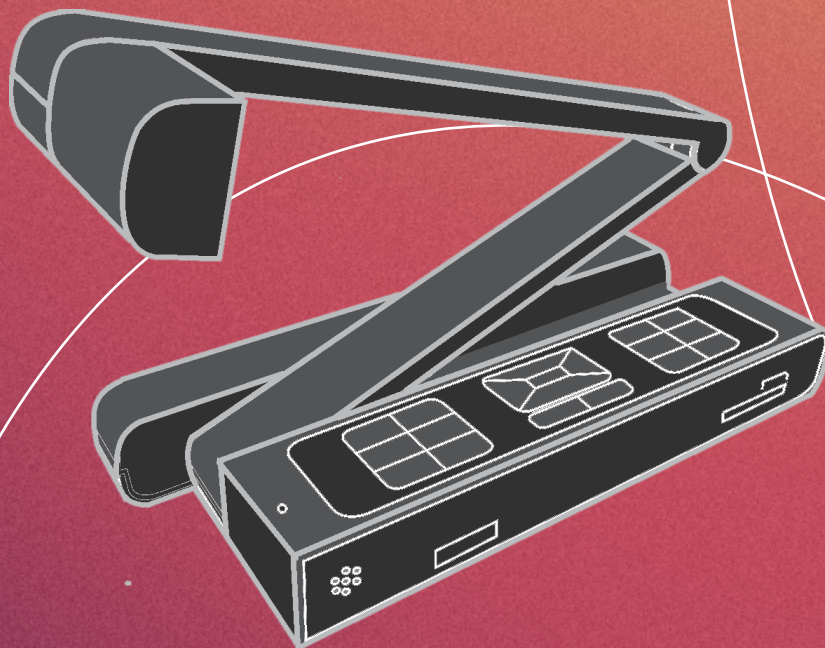


DC455 User Manual

Visualizer
Document
Camera



- **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.



- **Federal Communications Commission (FCC) Statement :**

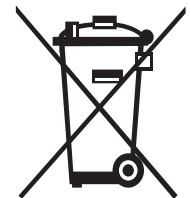
This Equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, 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.

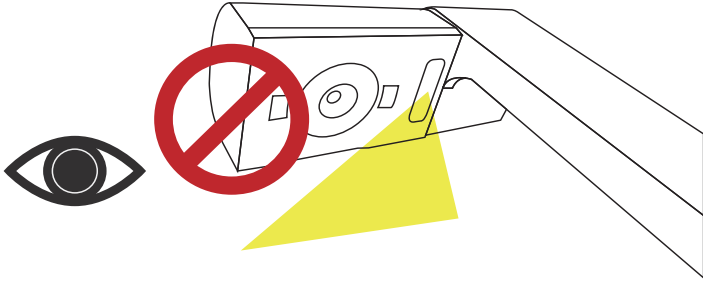


The symbol of the crossed out wheeled bin indicates this product should not be placed in municipal waste. Instead, you need to dispose of the waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment.

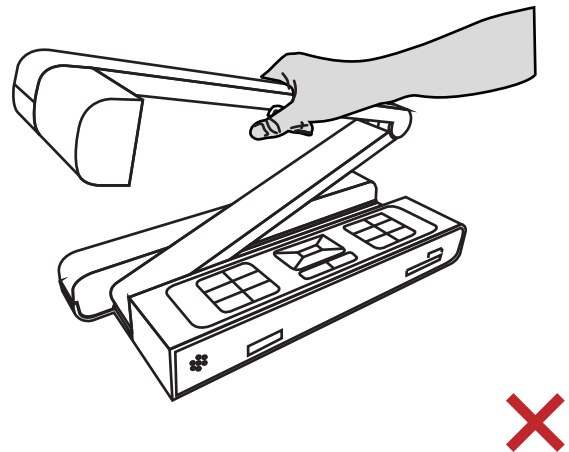
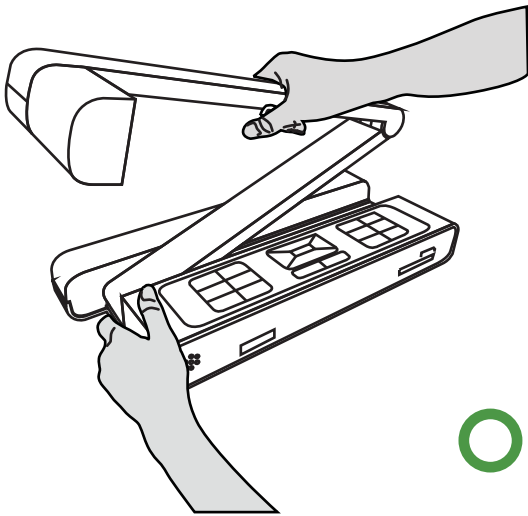


Warning

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



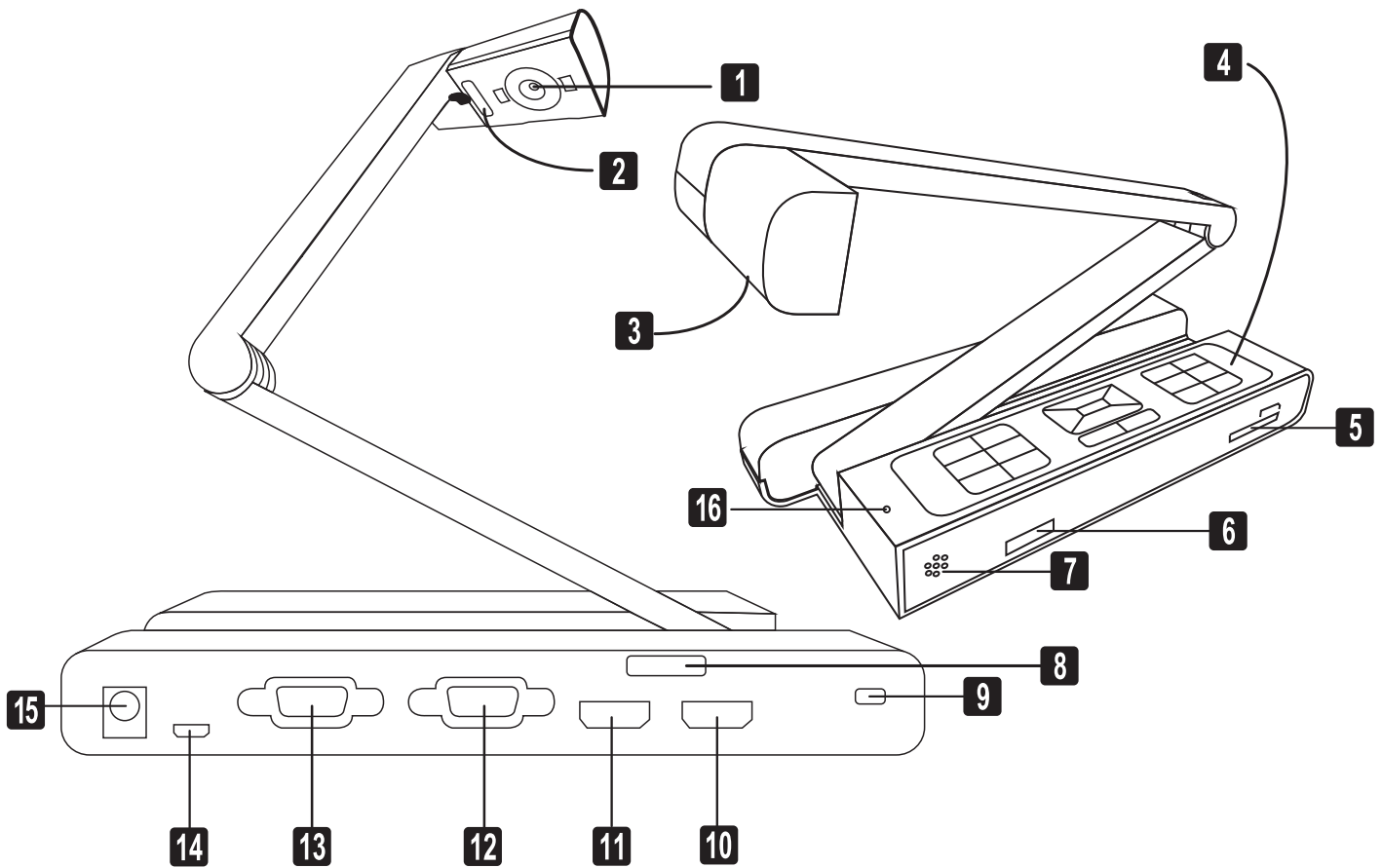
2. Carry the product by holding the lower part of the main unit in both hands. Never hold the product by the arm or the camera head only.



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.

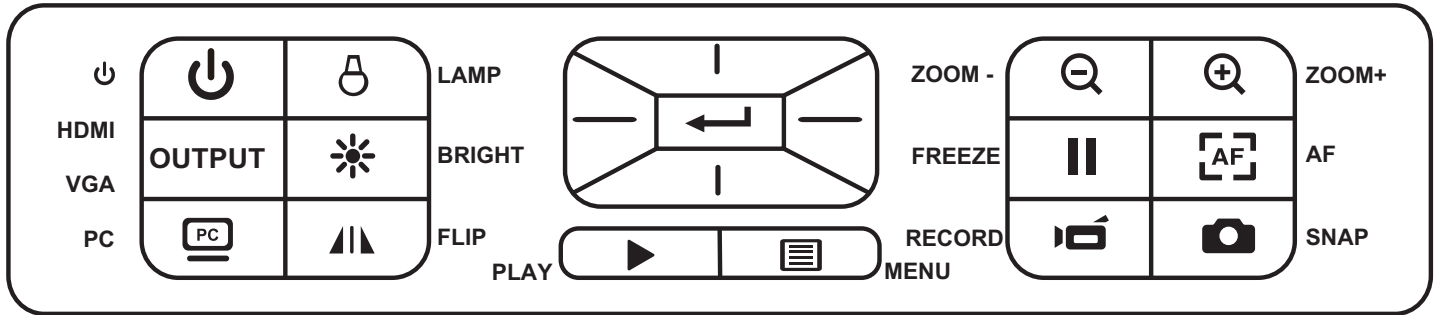
Preparing the Document Camera

» Knowing the Document Camera Parts



- | | |
|---|------------------------------|
| 1 Camera Head | 9 Anti-theft Slot |
| 2 LED Lamp | 10 HDMI Input Port |
| 3 Lens Rotary | 11 HDMI Output Port |
| 4 Control Panel | 12 VGA Input Port |
| 5 SD Card Slot | 13 VGA Output Port |
| 6 Remote Control Signal Receiver | 14 USB Port |
| 7 Speaker | 15 DC 5V Power Socket |
| 8 Remote Control Signal Receiver | 16 Microphone |

















» Control Panel

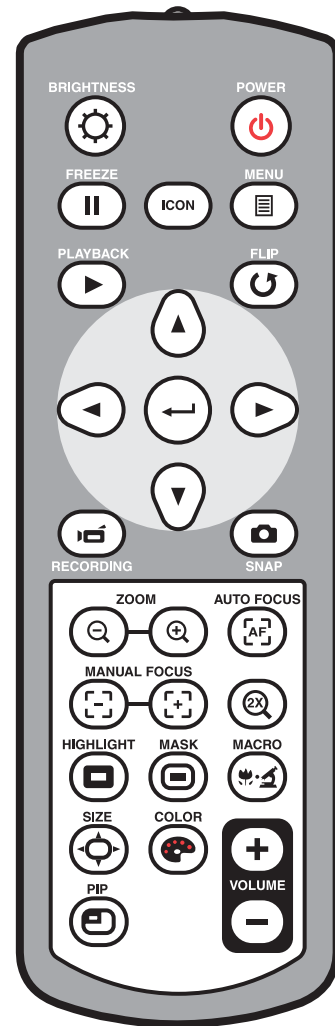






Button	Function
	Power on/off
	Invert image 180°
	"Freeze" the current image or "Pause" the clip while playing video
	Capture a still image
	Show or hide Menu
	Direction button
	Zoom out
	Zoom in
	One-time auto focus

Button	Function
	Pass the signal from PC
	Show/hide brightness adjustment bar.
	Turn on/off the LED lamp and adjust the brightness.
	Record a video clip
	Enter playback mode to display recorded still images and video clips
OUTPUT	HDMI/VGA output switch

» 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
	Not available (Only supported in optical zoom lens models)
	Highlight function on / off
	Mask function on / off
	Macro / Normal switch



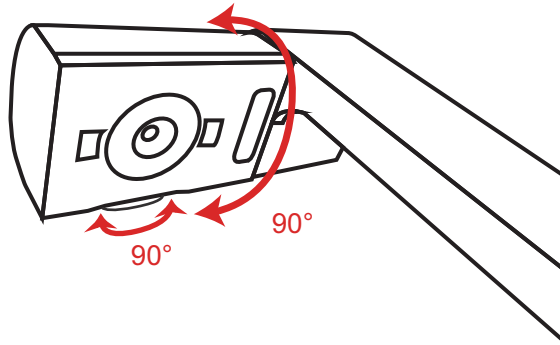
Button	Function
	Adjust highlighted / masked area size
	Set color for highlighted / masked area
	Increase / decrease the sound volume.
	Picture in Picture function on / off *For displaying a still image as an insert while displaying another image.

- ❗ 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



- **Camera Head**

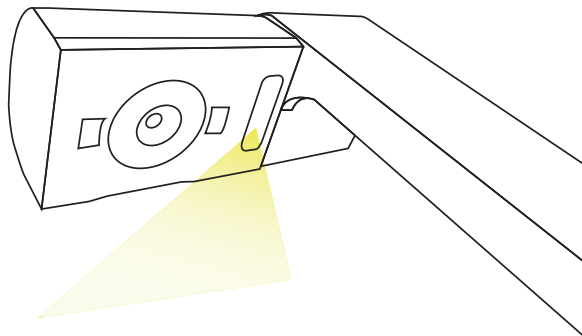
Roll the lens rotator to rotate image 90°.



- **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 ()









» Basic Operation

- **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 image.
		Sketch	To output a sketch image
White Balance		Auto	There are various modes (Auto, Flurescent, 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.
Image Size		0.8M / 2M / 5M / 13M	Select the desired still image resolution.
Video Mode		High Quality	Select the desired video quality.
		High Frame Rate	

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 Connection		Disk	Select "Disk" to enter Mass storage Mode
		PC cam	Select "PC Cam" to enter PC Cam Mode
		Off	Disable USB function
HDMI Out		720p / 1080i	Select output resolution
VGA Out		XGA / UXGA / 720P / WXGA	Select 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 disappear.

• Menu options in Playback Mode

Function	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 of the same type stored in the memory.
Camera		-	Exit playback mode and back to pre-view mode.

- **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.

- **Zoom Function**

1. Use the Zoom button ( / ) to zoom in or zoom out the screen.



- **Adjusting the focus**

- Automatic focus

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

This function provides a one-shot auto focus.

- Manual focus


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

- **Anti-glare**

Anti-glare 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 anti-glare sheet on top of shiny object to glossy surface such as magazine to reduce light reflection.

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


1. Insert a 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 on screen 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.


- **Recording a video clip / Taking a still picture**

1. Set the capture or record resolution.
2. Press the Recording button () to start recording and press it again to stop recording

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
	1080i	1920 x 1080

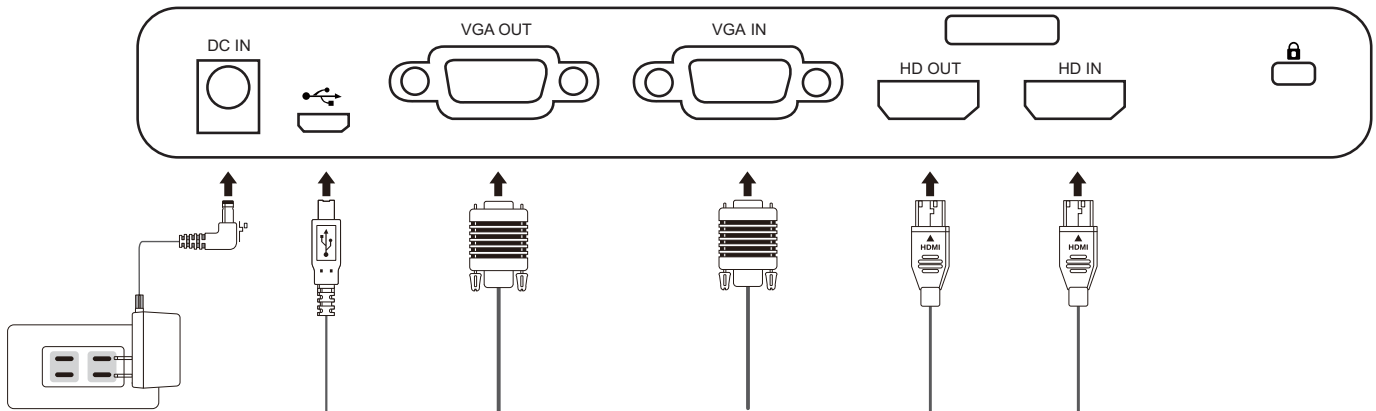
3. Press the Snap button () to take a still picture.

- **Playback**

1. Press PLAYBACK button ()
2. The last recorded picture or video clip will play.
3. Use Up /Down button to choose files.

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 is depending on your countries / regions.


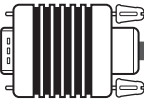
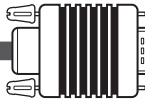


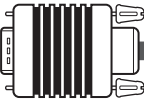
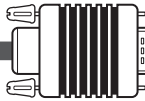


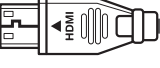
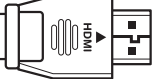


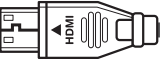
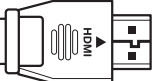





Step 2 / Output Resolution and Aspect Ratio.

Various output resolutions are available depending on the output and aspect ratio setting. Please refer to the table listed below :

Out put	Aspect-Ratio	Resolution	Vertical Frequency
VGA	4:3	1024 x 768	50 / 60 Hz
		1600 x 1200	
	16:9	1280 x 720	50 / 60 Hz
		1280 x 800	
HDMI	16:9	1280 x 720	50 / 60 Hz
		1920 x 1080	

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

Step 3 / Connecting with Components

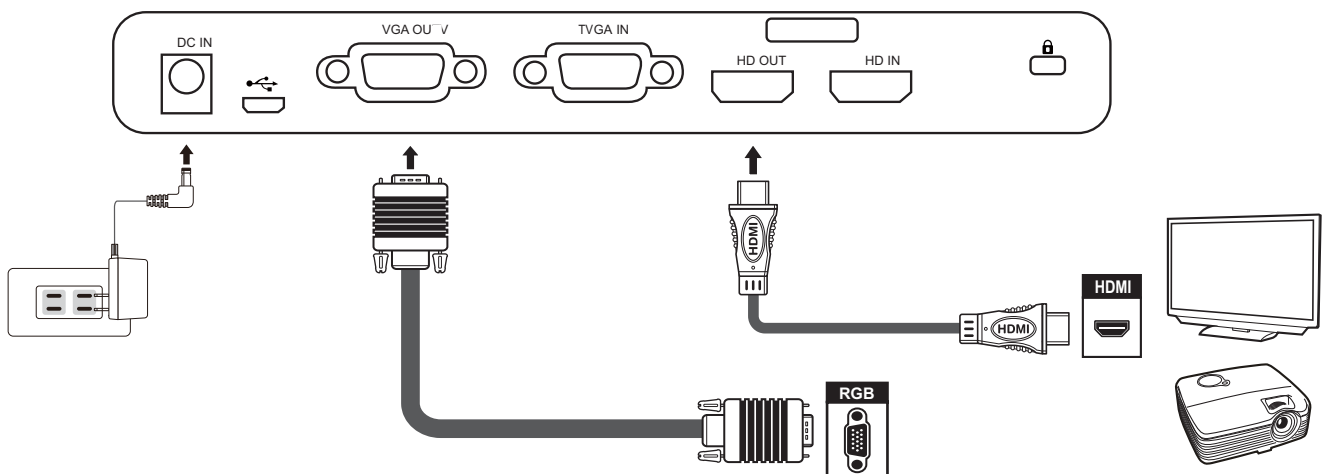
	Product Port	Cable	Display Device Port	PC Port	
VGA	 RGB OUT-PUT			 RGB INPUT	
	 RGB INPUT				 RGB OUTPUT
HDMI	 HDMI OUT			 HDMI-INPUT	
	 HDMI IN				 HDMI-OUTPUT
USB	 Micro USB				 TYPE A Port

- Connecting the Output Display**


Turn on projector or any display device

Connect a VGA Cable to VGA OUT Port (or HDMI Cable to HDMI OUT Port)

Connect the other end of VGA Cable to VGA In Port (or other end of HDMI Cable to HDMI In Port) of your projector or display device.



- **Connect via USB**

Press MENU () button → select "USB Connect".


Choose "Disk" to connect mass storage.

Choose "PC Cam" to use as a PC-Cam.

- **Copying files to your computer**

Please notice that the video clips are recorded in AVI format and are compiled as CLIPxxxx.avi (xxxx 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.

- **Using product as a PC cam**

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.

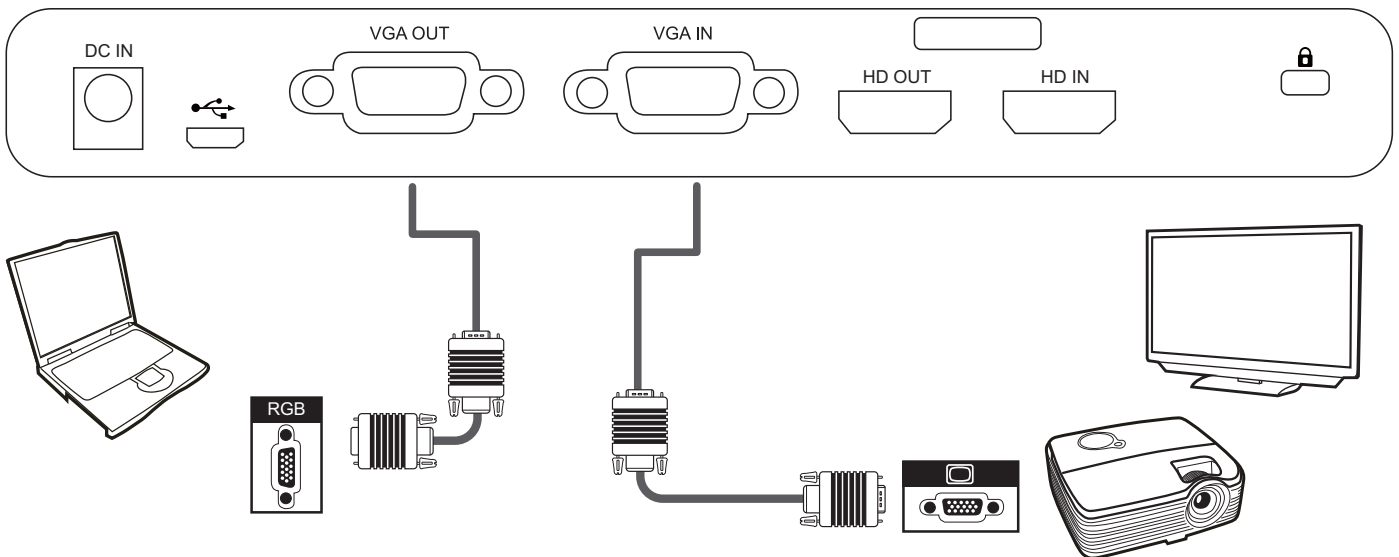
- **Passthrough Function**


To display computer image, press PASSTHROUGH button () on the control panel.

For laptop to output display mode, use the keyboard command (Fn + ) 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.




! For laptop to output display mode, use the keyboard command (Fn + ) to switch between the display modes. For different command, please refer to your laptop manual.

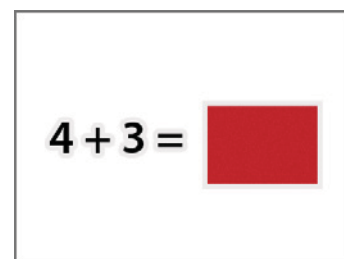
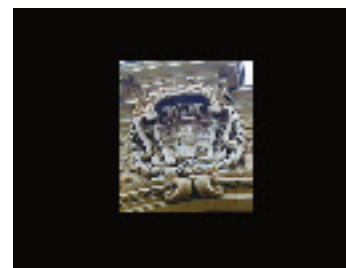
» Advanced operation



• Highlight function

1. Use the Highlight display 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 highlighting area.


• Mask function

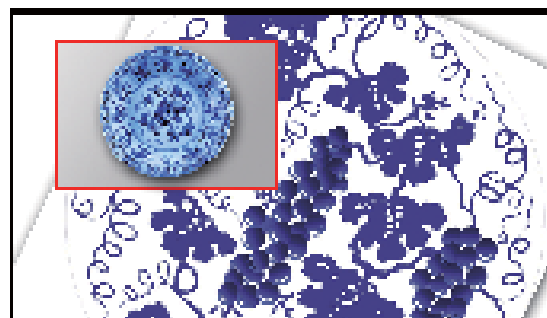
1. You can mask a section of the output image.
2. Press the Mask button () on the remote control, and use the direction buttons to move the masked area.



- ! 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

1. Press the PIP button () to display an around quarter-size still image on a live display.
2. Use the up / down button to move the still image to the top left and bottom left.
3. Use the left or right button to change the shift between still images.

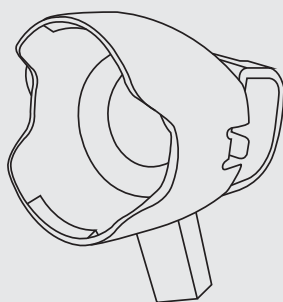


• Connect to a microscope

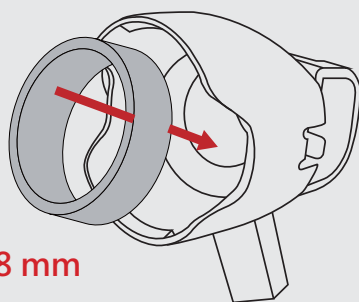
Connect to a microscope enables you to examine microscopic objects on a big screen.

1. Adjust the microscope and focus objects.
2. Choose an appropriate microscope adapter.
3. Microscope adapter accessories are applicable to $\text{Ø}28\text{mm}$, $\text{Ø}31\text{mm}$, $\text{Ø}33\text{mm}$, and $\text{Ø}34\text{mm}$ eyepieces.

- ❗ For eyepieces of about $\text{Ø}33\text{mm}$ and $\text{Ø}34\text{mm}$, only a microscope adaptor with $\text{Ø}33$ or $\text{Ø}34\text{mm}$ label should be installed.
- ❗ For a $\text{Ø}28\text{mm}$ eyepiece, insert the $\text{Ø}28\text{mm}$ adapter into the microscope adapter.
- ❗ For a $\text{Ø}31\text{mm}$ eyepiece, insert the $\text{Ø}31\text{mm}$ adapter into the microscope adapter.

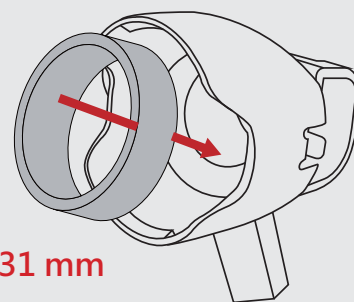


$\text{Ø}33 \text{ } \text{Ø}34 \text{ mm}$







$\text{Ø}28 \text{ mm}$

$\text{Ø}33 \text{ } \text{Ø}34 \text{ mm}$



$\text{Ø}31 \text{ mm}$

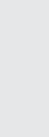
$\text{Ø}33 \text{ } \text{Ø}34 \text{ mm}$

4. Mount the microscope adapter onto the Lens.
5. Switch the focus mode to Macro. Press MENU () --> select Focus () -->select Macro or press Macro button () () on remote

controller.

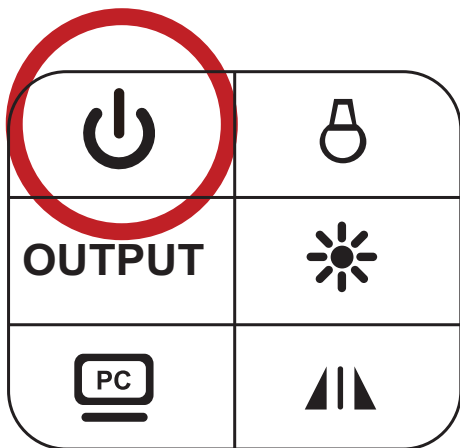


6. Connect the lens with microscope adapter to the microscope.

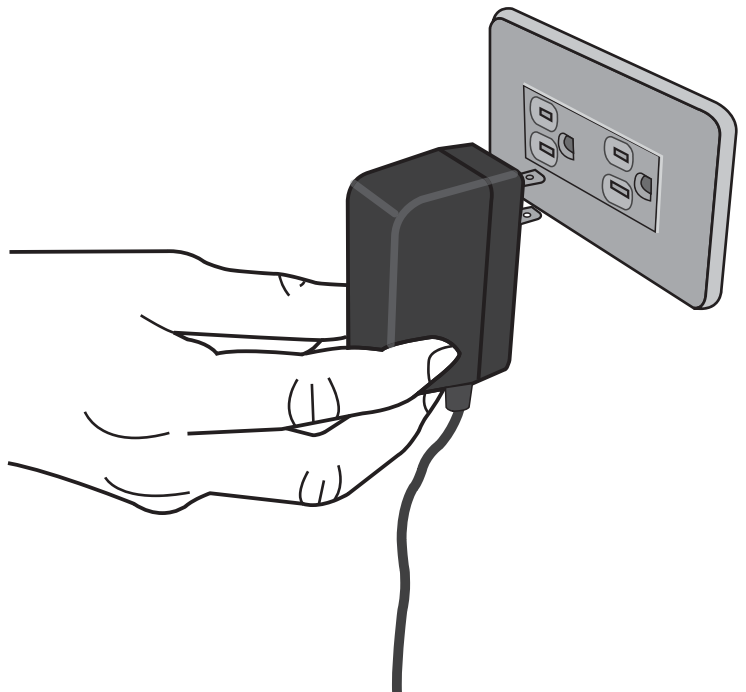
- ❗ If the image is not clear. Please adjust the focus of microcope.
- ❗ Press the AF button () or use the manual focus button on remote control to fine-tune the focus.

» Storing

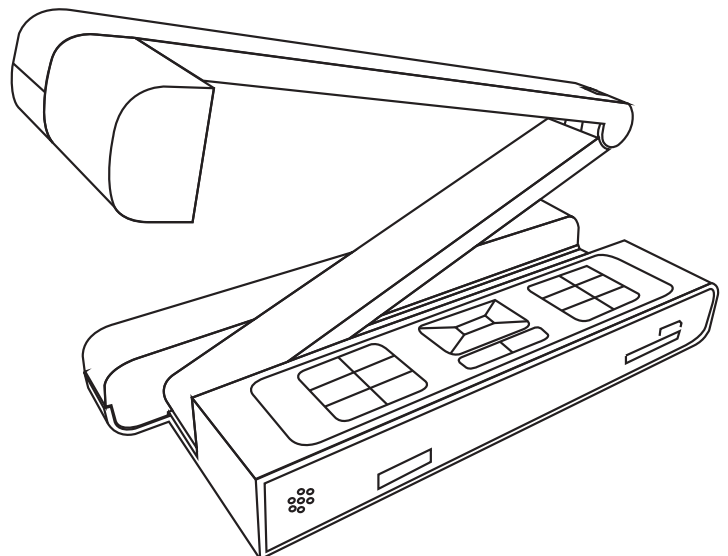
1. Power off the product.







2. Unplug the AC adapter from the wall outlet. Disconnect the AC Adapter and all cables.



3. Fold the camera head and arms in the way shown in the figure.



» Troubleshooting

Problem	Cause	Solution
Cannot power 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 written in.
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 output switch setting for display device.	Switch output switch to correct mode.
	PC pass through button indicator is on.	Press [] pass through button to turn off the function.
The image is fuzzy.	Probably the distance of object is too close to the lens.	Press AF button to auto focus or adjust by Manual Focus.
The image is reverse.	The document is not put in the recommend working area.	Press [] button to adjust the direction.
The image dose not move.	Camera image is set to Freeze [].	Press the [] button on the control panel again toun-pause.
Remote control cannot work.	No power.	Replace the AAA batteries in the remote control.
	Object is blocking the remote control signal receiver of the product.	Remove obstruction in front of the product.
	The distance of usage is too far.	Stand closer to the product to use the remote control.

Problem	Cause	Solution
The LCD screen displays “MEMORY ERROR” or “CARD ERROR” message or memory card cannot be read.	The format of the memory card is not compatible with the document camera.	Format the card.
	The memory card is corrupted.	Replace the memory card with a new one.
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.	The lost recordings are saved in the internal memory.
Cannot view the video clips on my computer.	Software is not installed on the computer.	Software is not installed on the 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 LCD screen or on the computer.	The flicker setting does not match the standard of the country you are staying.	Adjust the flicker setting .For more information, please refer to the “Flicker Settings” table.