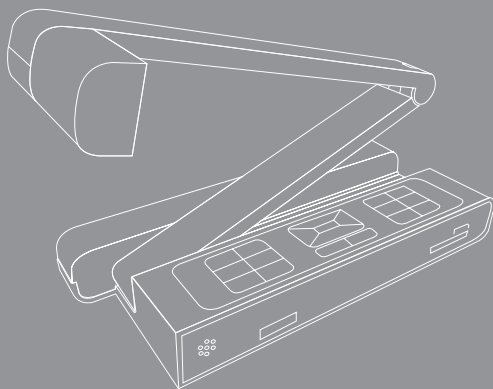


DC455

Document Camera



English

User manual

- **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.

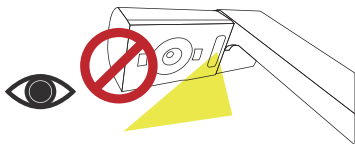


The symbol of the crossed out wheeled bin indicates this product should not be placed in municipal waste. Instead, you need to dispose of the waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment.

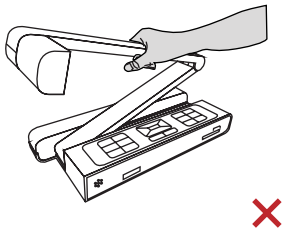
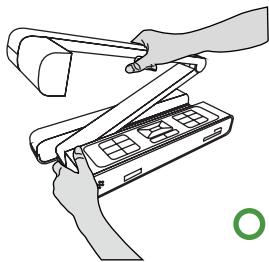


Warning

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



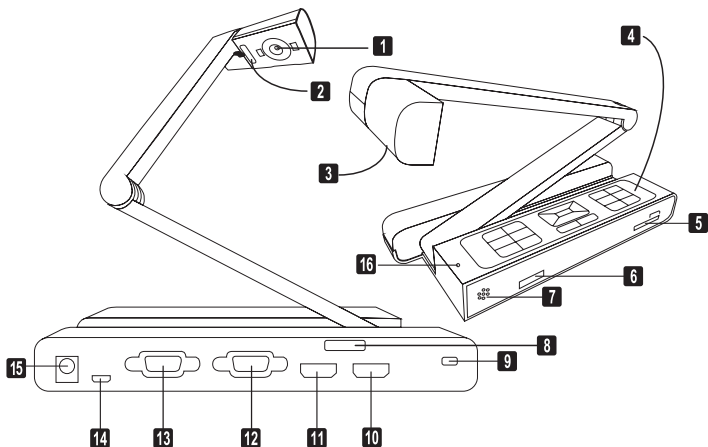
2. Carry the product by holding the lower part of the main unit in both hands. Never hold the product by the arm or the camera head only.



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.

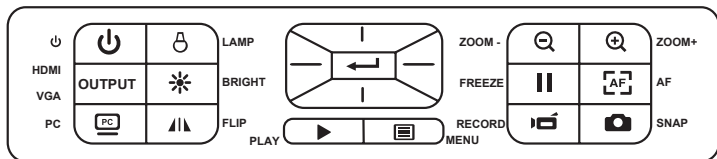
Preparing the Document Camera

» 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

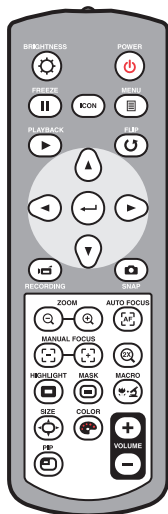


| Button | Function |
|--------|--|
| | Power on/off |
| | Invert image 180° |
| | "Freeze" the current image or "Pause" the clip while playing video |
| | Capture a still image |
| | Show or hide Menu |
| | Direction button |
| | Zoom out |
| | Zoom in |
| | One-time auto focus |

| 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 |
| | 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 |
| | Not available (Only applicable to optical zoom models) |



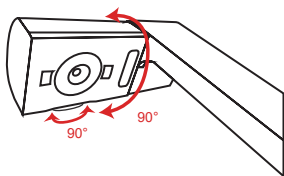
| Button | Function |
|--------|--|
| | Adjust highlighted / masked area size |
| | Set color for highlighted / masked area |
| | Increase / decrease the sound volume. |
| | Picture in Picture function on / off *For displaying a still image as an insert while displaying another image. |

- ❗ 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

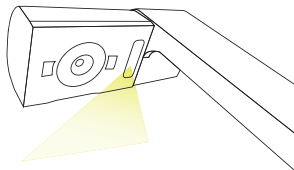
Roll the lens rotator to rotate image 90°.



• 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, Fluorescent, 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 |

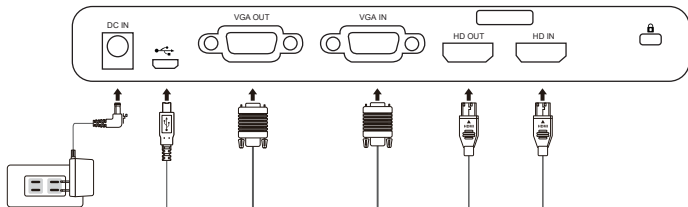
3. Press the Snap button () to take a still picture.

• 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

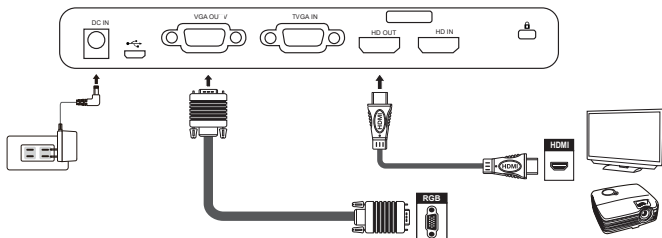
| | Product Port | Cable | Display Device Port | PC Port |
|------|--|---|---|--|
| VGA |  RGB OUT-PUT |  |  RGB INPUT | |
| |  RGB INPUT |  | |  RGB OUTPUT |
| HDMI |  HDMI OUT |  |  HDMI-INPUT | |
| |  HDMI IN |  | |  HDMI-OUTPUT |
| USB |  Micro USB |  | |  TYPE A Port |

• 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.

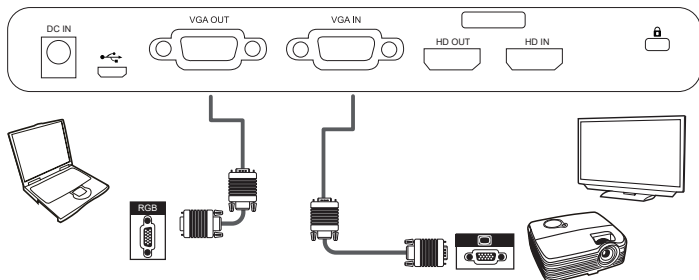
• Passthrough Function


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.

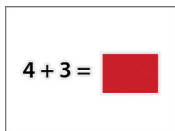
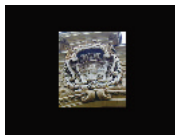
» Advanced operation



• 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

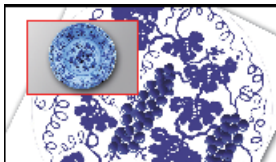
1. You can mask a section of the output image.
2. Press the Mask button () on the remote control, and use the direction buttons to move the masked area.



- ❗ 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.

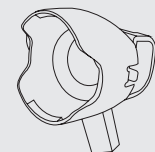


• Connect to a microscope

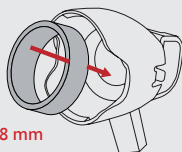
Connect to a microscope enables you to examine microscopic objects on a big screen.

1. Adjust the microscope and focus objects.
2. Choose an appropriate microscope adapter.
3. Microscope adapter accessories are applicable to Ø28mm, Ø31mm, Ø33mm, and Ø34mm eyepieces.

- ❗ For eyepieces of about Ø33mm and Ø34mm, only a microscope adaptor with Ø33 or Ø34mm label should be installed.
- ❗ For a Ø28mm eyepiece, insert the Ø28mm adapter into the microscope adapter.
- ❗ For a Ø31mm eyepiece, insert the Ø31mm adapter into the microscope adapter.

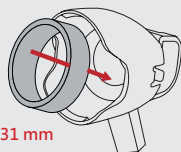


Ø33 Ø34 mm







Ø28 mm

Ø33 Ø34 mm



Ø31 mm


Ø33 Ø34 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.

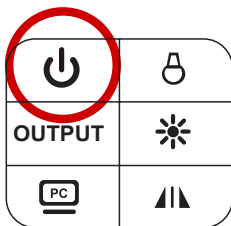


6. Connect the lens with microscope adapter to the microscope.

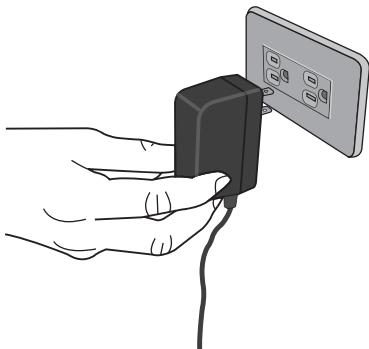
- ❗ If the image is not clear. Please adjust the focus of microscope.
- ❗ Press the AF button () or use the manual focus button on remote control to fine-tune the focus.

» Storing

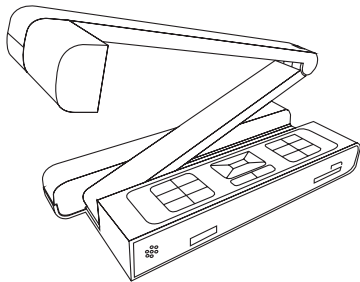
1. Power off the product.







2. Unplug the AC adapter from the wall outlet. 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. |

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