

ELMO

L-12W / TT-12W

VISUAL PRESENTER

INSTRUCTION MANUAL

Please read this instruction manual carefully before using this product and keep it for future reference.

BUNDLED
ITEMS

BASIC
OPERATIONS

ADVANCED
OPERATIONS

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TROUBLE
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IMPORTANT SAFEGUARDS

■ **Read Instructions**

All the safety and operating instructions should be read before the appliance is operated.

■ **Retain Instructions**

The safety and operating instructions should be retained for future reference.

■ **Heed Warnings**

All warnings on the product and in the operating instructions should be adhered to.

■ **Follow Instructions**

All operating and use instructions should be followed.

■ **Cleaning**

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

■ **Attachments**

Do not use attachments not recommended by the product manufacturer as they may cause hazards.

■ **Water and Moisture**

Do not use this product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.

■ **Placement**

Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

■ **Ventilation**

Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

■ Power Sources

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home consult your appliance dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

■ Grounding or Polarization

This product may be equipped with either a polarized 2-wire AC line plug (a plug having one blade wider than the other) or a 3-wire grounding type plug, a plug having a third (grounding) pin. The 2-wire polarized plug will outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. The 3-wire grounding type plug will fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.

■ Power-Cord Protection

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

■ Lightning

For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

■ Overloading

Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

■ A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.



■ Object and Liquid Entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

■ Servicing

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

■ Damage Requiring Service

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance - this indicates a need for service.

■ Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

■ Safety Check

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

■ Heat

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.



SA 1965

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



SA 1966

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



This symbol [crossed-out wheeled bin WEEE Annex IV] indicates separate collection of waste electrical and electronic equipment in the EU countries. Please do not throw the equipment into the domestic refuse. Please use the return and collection systems available in your country for the disposal of this product.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification or Declaration of this device and may cause interference levels which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

**FOR UNITED STATES USERS:
INFORMATION**

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 instruction manual, 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.

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.

FCC CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

WARNING:

Handling the cord on this product or cords associated with accessories sold with this product, will expose you to lead, a chemical known to the State of California to cause birth defects or other reproductive harm.

Wash hands after handling.

BEFORE YOU USE

- When using this device, be sure to use the supplied power cord and AC adapter.
- The power cord and AC adapter that come with this product are for this product only. Do not use them with another product.
- Be sure to use the power cord applicable to your local power specifications.
- When storing the product, do not leave it under direct sunlight or by heaters. It may become discolored, deformed, or damaged.
- Do not place this product in any humid, dusty, salt bearing wind, or vibrating locations.
Only use it under the following environmental conditions:
Temperature: 0°C - 40°C (32°F - 104°F)
Humidity: 30% - 85% (No condensation)
- Use a soft, dry cloth for cleaning.
Do not use any volatile solvent such as thinner or benzene.
- Do not point the camera lens directly at the sun. It may be damaged and you may not be able to take pictures.
- Luminescent and Black Spots
There may be some pixels that do not properly operate due to the use of CMOS Area Image Sensors made-up of many pixels.
Though luminescent or black spots may be found on the screen, it is a phenomenon peculiar to the CMOS Area Image Sensors and is not a malfunction.
- Follow the guidelines below to prevent the unit from dropping or overturning.
 - Use the product on a stable base, desk, or table. Do not place the product on an unstable base or slanted surface.
 - Place or wire the unit to prevent the AC adapter cord or video cable from pulling.
- Carry the product by holding the lower part of the main unit in both hands. Never hold the product by the column or the camera head.
- Pay careful attention when using (including setting-up and storing) or transferring the product to prevent the camera head from receiving any shocks.
- Do not look directly into the LED light. If you look directly into it at point-blank range, your eyes may be injured.
- Some type of SD card/USB flash drive can be used.
- Transfer the data from the SD card onto a device such as a PC to save a backup copy. Malfunction of the product or repairs to it may cause the data saved in the SD card to be deleted.
- If this product is used for longer than the warranty period, its performance and quality may deteriorate due to the lifetime of its parts. To purchase replacement parts, consult the dealer from whom you purchased this product or our branch/office near your location.
- Battery precautions:
 - If this product is not going to be used for a long time, take the batteries out of the remote control.
 - Do not use rechargeable batteries.
 - Do not use new and old batteries or batteries of different types together.
 - Do not try to recharge or short-circuit the batteries.
 - When disposing of used batteries, follow the instructions of your local government.
 - Insert from one side and pay particular attention to the polarity (+/- directions).

■ If any liquid from a battery leaks onto your skin or clothes, flush the area with clean water immediately. If it gets into your eye, flush immediately with clean water and then contact a doctor.

■ Do not keep the batteries in the reach of children because there may be a choking hazard.

If a battery is swallowed, consult a physician immediately as this could result in asphyxiation or the battery may become lodged in the stomach or esophagus.

■ About using microphones

Connecting microphones other than electret condenser microphones (microphones for PCs and so on) could cause a malfunction to occur. If you are concerned about this product's operating noise when using the built-in microphone, we recommend using an external microphone.

■ About the audio input port

Do not connect any audio line-output devices such as a CD/MP3 player to the audio input port when the Audio Selector is set to "Mic-in." Audio input is a dual purpose port (microphone/line-in) which supplies power when "Mic-in" is selected, adding external output devices (CD/MP3) may damage them.

■ Menu

Some functions may not be set or operated depending on the mode or the menu settings being used.

■ Record/Play

- Before recording an important scene, make sure to do a test recording to confirm that the camera is working properly.
- The maximum file size of the continuous recording is 2GB. (The maximum recording length varies depending on other factors such as resolution and recording quality.)
- Movie files that are recorded with this camera or converted by the proprietary software can only be played with this camera.

■ Copyright

Do not commercially use or transfer movies or audio files recorded with the camera without the permission of the copyright holder except for personal use.

Do not use the camera in locations where recording movies or audio files are prohibited.



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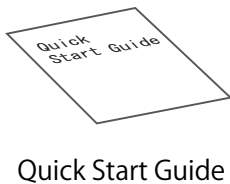
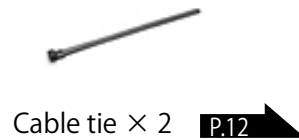
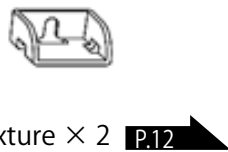
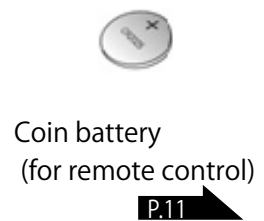
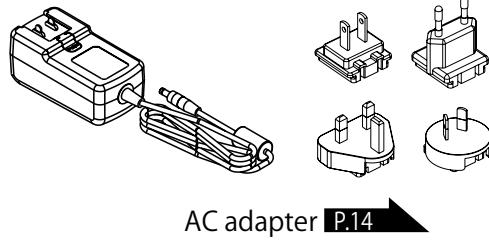
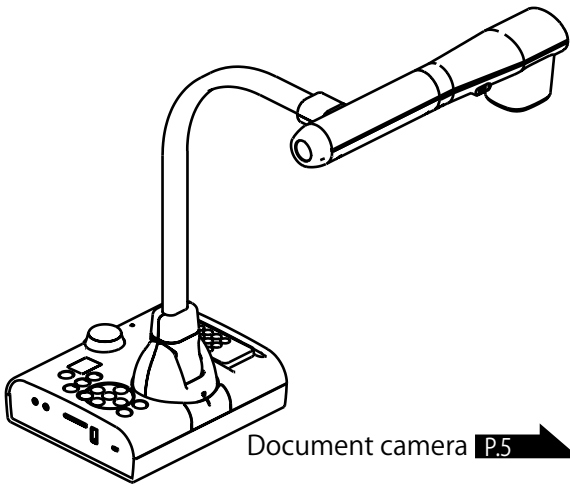
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1 BUNDLED ITEMS

The items below are included with the product. If any item is missing, contact the dealer from whom you purchased the product.



Note

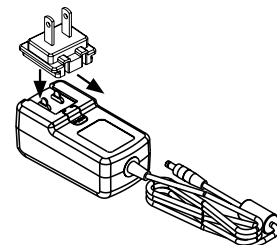
● About AC adapter

Press and slide the plug into the groove of the AC adapter as shown in the drawing.

※ Slide it until it clicks.

※ Choose the correct plug according to the outlet.

When removing the plug from the AC adapter, slide and pull the plug in the opposite direction while pressing the lock button.



The type of plug may differ depending on the shipping destination.

Caution

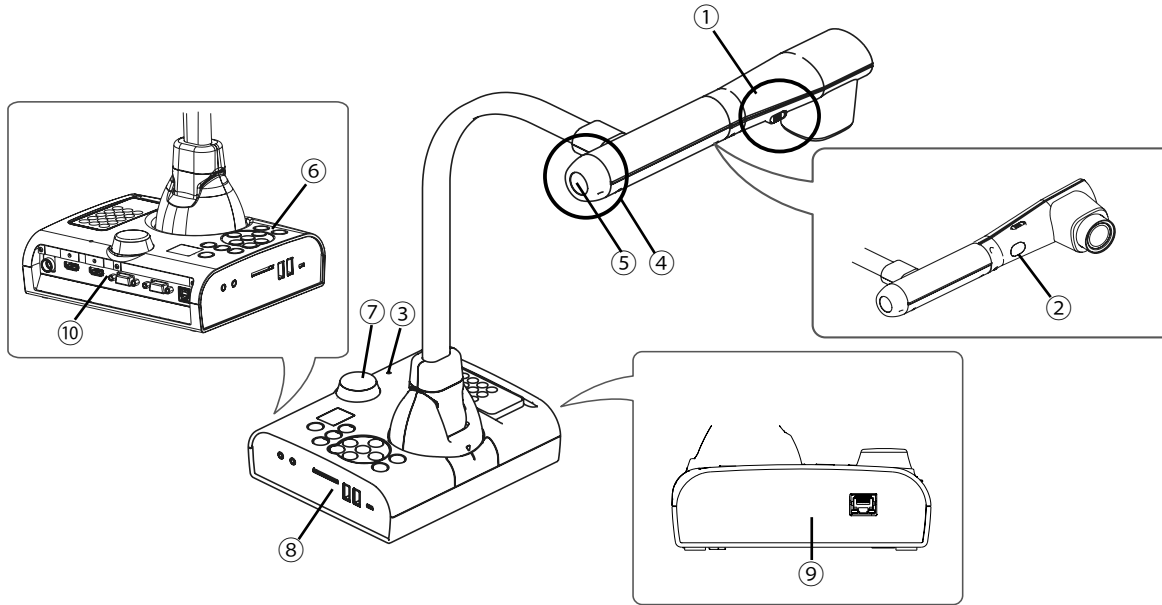
- Do not wrap the power cable tightly around the AC adapter. The cable could be damaged (disconnected) or the inside of the cable could be exposed and result in an accident. Do not bundle the cable when using the product.

2

BASIC OPERATIONS

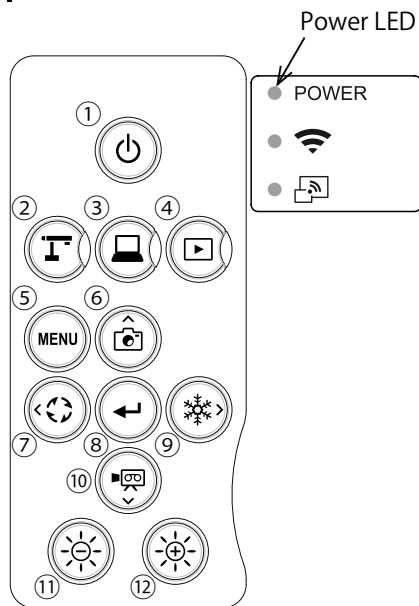
2-1 Document Camera

Part names



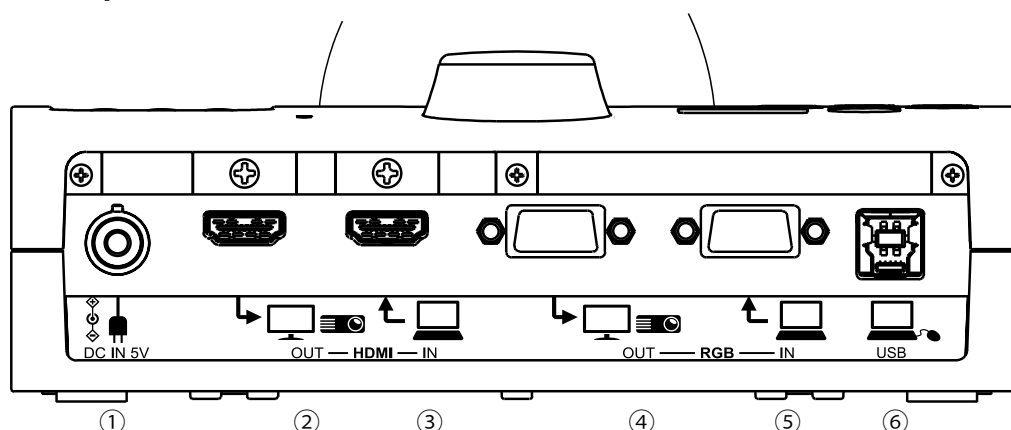
No.	Name	
①	LED lighting switch	P.23
②	LED lighting	P.23
③	Built-in mic	
④	Zoom dial	P.21
⑤	AF button	P.21
⑥	Operating panel	P.6
⑦	IR receiver	P.11
⑧	Side panel (Left)	P.9
⑨	Side panel (Right)	P.9
⑩	Rear panel	P.7




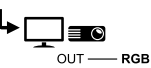


Operating panel




	Mark	Function
①		To turn on or off the power. Power on: The Power LED turns blue. Power off (standby status): The Power LED turns red.
②	Mode buttons LED	To switch to the Camera mode. The camera image will be displayed.
③		LED To switch to the External input mode. Images being input to the external input ports will be displayed.
④		LED To switch to the Playback mode. Images stored in the memory device (SD card/USB flash drive/internal storage) will be displayed.
⑤		To switch to the Home screen. P.25
⑥		To save a still image to the memory device (SD card/USB flash drive/internal storage) P.34
⑦		To rotate the image by 90 degrees. P.20
⑧		To confirm the selected OSD menu item. P.25
⑨		To pause the camera image. P.24
⑩		To record the camera image as a video to the memory device (SD card/USB flash drive/internal storage). P.34
⑪		To darken the camera image. P.22
⑫		To brighten the camera image. P.22

■ Rear panel and cable connection

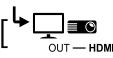


Mark	Function
①  DC IN 5V	To connect the AC adapter. (Power cable is supplied with the product.)
②  OUT - HDMI	To output digital images. (HDMI cable is not supplied with the product.) [TYPE-A]
③  HDMI - IN	To input digital images. (HDMI cable is not supplied with the product.) [TYPE-A]
④  OUT - RGB	To output analog RGB images. (RGB cable is not supplied with the product.) [miniDSUB 15pin]
⑤  RGB - IN	To input analog RGB images. (RGB cable is not supplied with the product.) [miniDSUB 15pin]
⑥  USB	To connect to a computer. (USB cable is not supplied with the product.)


① Connecting the AC adapter

Before inserting the AC adapter in an outlet, connect the DC plug of the supplied AC adapter to the [] port on the rear panel.

② Connecting to a device with an HDMI input port

Connect a commercially available HDMI cable to the [] port on the rear panel.

③ Connecting to a device with an HDMI output port


Connect a commercially available HDMI cable to the [] port on the rear panel.



Note


- Use a monitor that supports input resolution of 1920x1080 / 1280x720 / 1600x1200 / 1024x768. The product does not operate properly with the cable that does not conform to the HDMI standard.
- We do not guarantee proper operation for all HDMI-compatible monitors.

④ Connecting to a device with an analog RGB input port

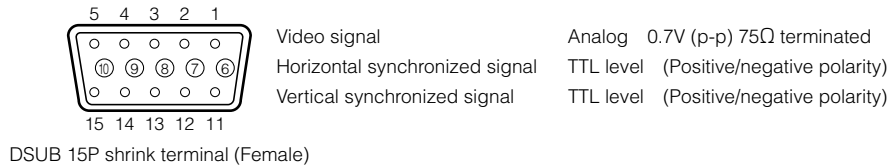
Connect a commercially available RGB cable to the [] port on the rear panel.

⑤ Connecting to a device with an analog RGB output port

Connect a commercially available RGB cable to the [] port on the rear panel.

■ Specifications of the [] port


Signal allocation




Pin assignment

Pin No.	Name	Pin No.	Name	Pin No.	Name
1	Video signal (Red)	6	Video signal (Red)	11	GND
2	Video signal (Green)	7	Video signal (Green)	12	N.C
3	Video signal (Blue)	8	Video signal (Blue)	13	Horizontal synchronizing signal
4	N.C	9	N.C	14	Vertical synchronizing signal
5	GND	10	GND	15	N.C

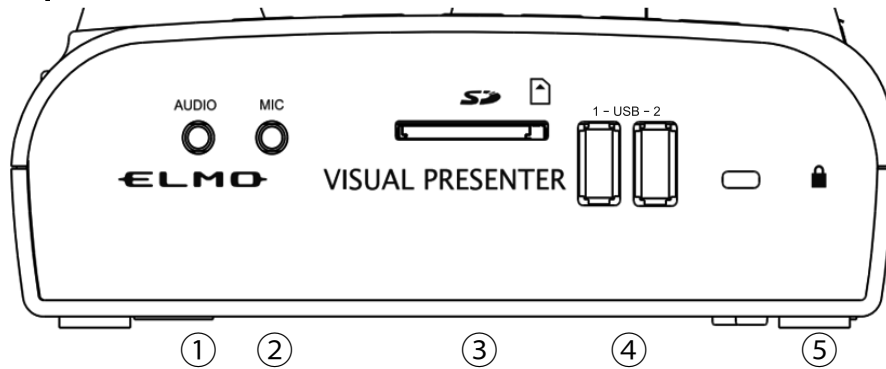
⑥ Connecting to a computer with a USB cable

Connect a commercially available USB cable to the [] port on the rear panel.

 **Note**

- If the displayed image is off-center, adjustment of the horizontal and vertical position should be made from the connected device.
- In some cases, vertical stripes may appear on the display device such as a projector and a monitor. This can be reduced by adjusting the “clock phase” function of the connected device.
- When using a computer with an external output mode, set the computer to the external output mode after pressing the [] button on the operating panel.
- We recommend using a compliant USB cable.
- If you plug into a USB cable with the power on, the computer may not recognize the product.
- Depending on the computer's USB environment or the peripheral equipment, image transfer may be disrupted.

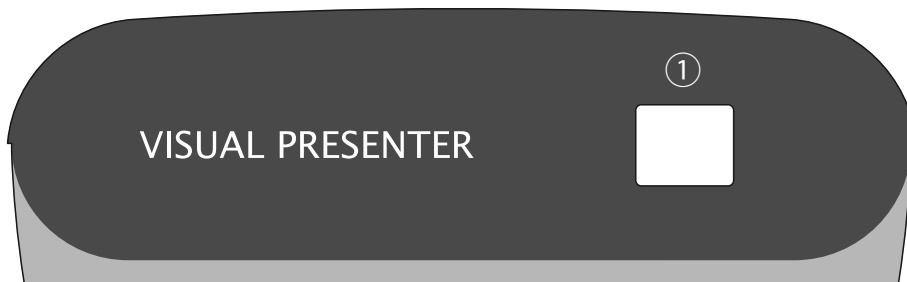
■ Side panel



	Mark	Function
①	AUDIO 	To output audio. (Audio cable is not supplied with the product.)
②	MIC 	To connect a microphone. (Microphone is not supplied with this product.) Use a commercially available electret condenser microphone.
③		To insert an SD card (commercially available). Push the card again to remove the SD card.
④	1 - USB - 2	To connect the wireless pen tablet (sold separately) P.47 or a USB flash drive (commercially available) P.34 or a mouse. P.16
⑤		Security slot.

Note

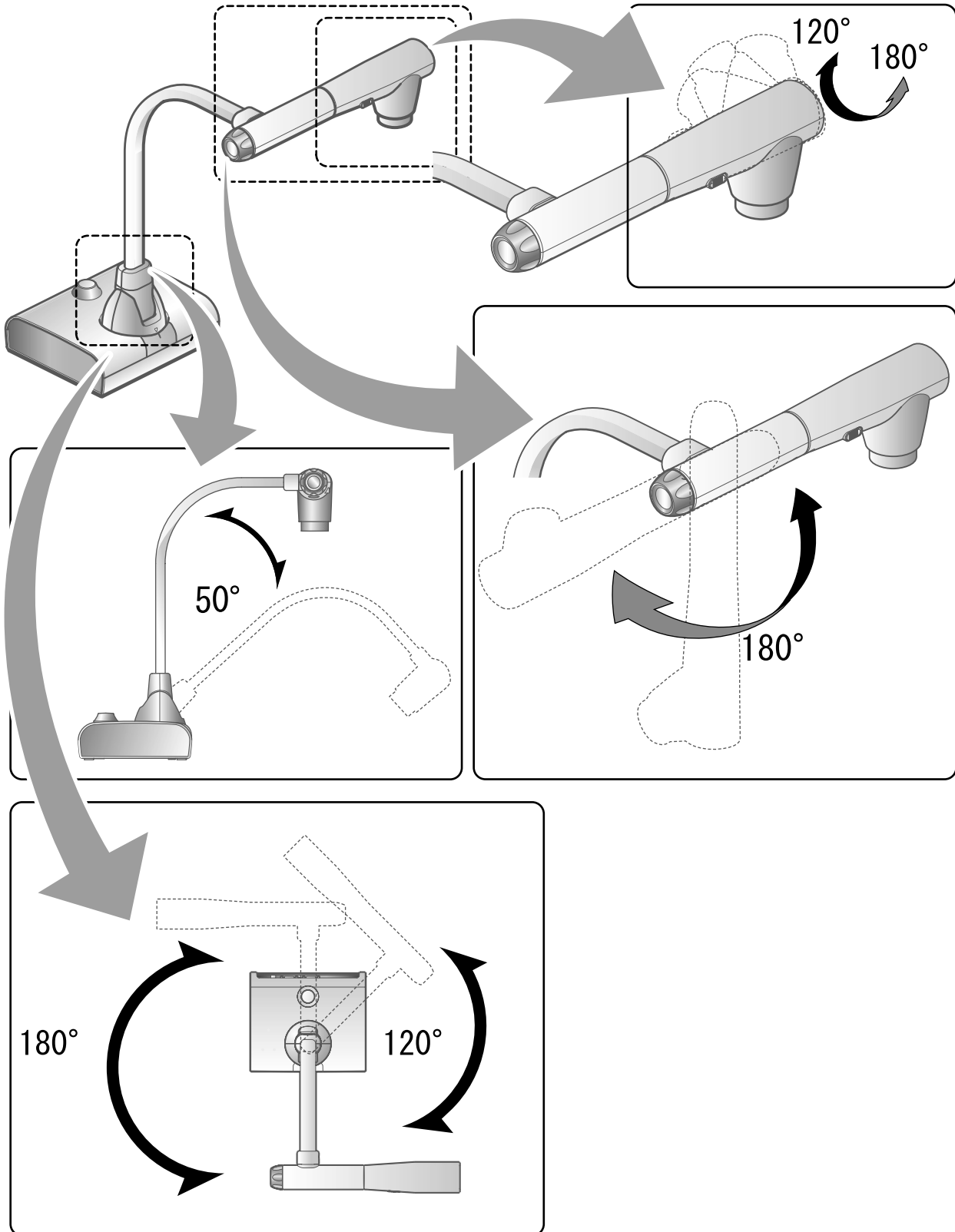
- The same image (with the same resolution) is output from [RGB OUT] and [HDMI OUT].
- When an HDMI monitor is connected, the output image (resolution) is automatically changed based on the information from the connected monitor. Even if [RGB OUT] is selected, it is not reflected.
- Make sure to change the output image (resolution) with the power off (standby status). In case you wish to change the output image by looking at the image being currently displayed, make sure to set the output image to the camera image and hide all menus and support functions beforehand. We do not guarantee proper operation when the output image is changed in any other condition than specified above.
- Connecting microphones other than electret condenser microphones (microphones for computers and so on) may cause a malfunction.



	Mark	Function
①		To connect a LAN cable. (LAN cable is not supplied with the product.)

■ Moving parts of the document camera

The product can be moved as shown below.



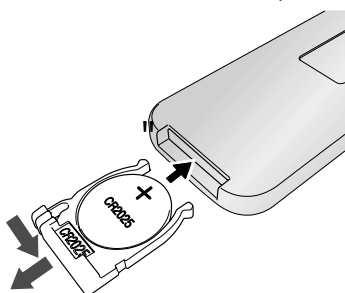
2-2 Supplied accessories

■ Remote control

Preparation of the remote control

Remove the battery case by pressing the release lock inward.

Insert the coin battery into the battery case, so you see the positive (+) side facing up. Then insert the battery case into the remote control.



Note

- Use a commercially available CR2025 coin battery for the remote control.



Warning

Children may ingest small batteries. Always keep batteries safe and out of reach of children.

If the battery is swallowed, consult a doctor immediately as this could result in asphyxiation or be an obstacle to digestion, etc.

Operation of the remote control

For operations when the camera image is displayed, refer to [P.21](#)

For operations when data in an SD card/USB flash drive is displayed, refer to

[P.34](#)

Receiving IR signal from the remote control

Point the IR transmitter of the remote control to the IR receiver of the product, and press the desired button.

Receivable range:

Distance: Within approx. 7m from the front of the IR receiver

Angle: Within 45° up, down, left, and right of the IR receiver

Note

- The receivable range may be reduced or the sensor may fail to receive the infrared light when the product is placed in direct sunlight, near an inverter fluorescent light or in any other unfavorable conditions. In such cases, relocate the product or shield the light source.

■ Fixture

How to use the supplied fixture and cable tie

You can fix the HDMI cable to the HDMI port by using the supplied fixture and cable tie.

Items to use (supplied)

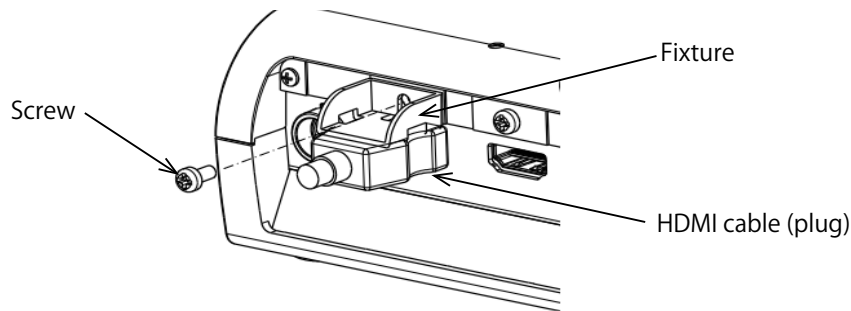


Fixture × 2
(For HDMI cable)

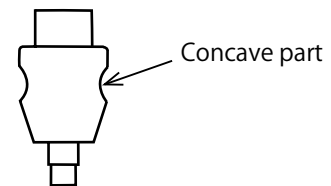
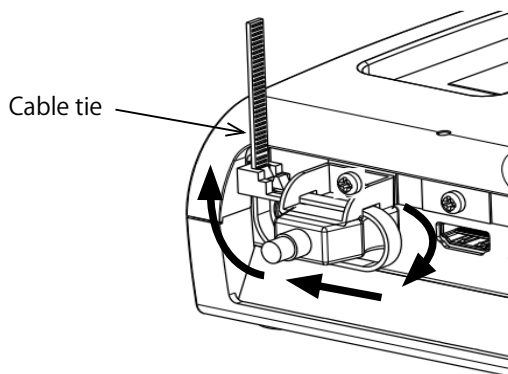


Cable tie x 2

- ① Before connecting the HDMI cable to the HDMI port, remove the screw above the HDMI port. Attach the fixture and tighten the screw.



- ② Pass the cable tie through the fixture and tie it around the plug of the HDMI cable.



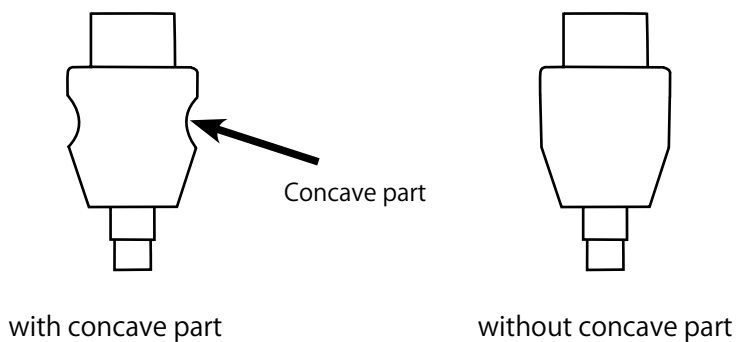
- When the plug has a concave part, tie the cable tie around the concave part to get a firm hold.



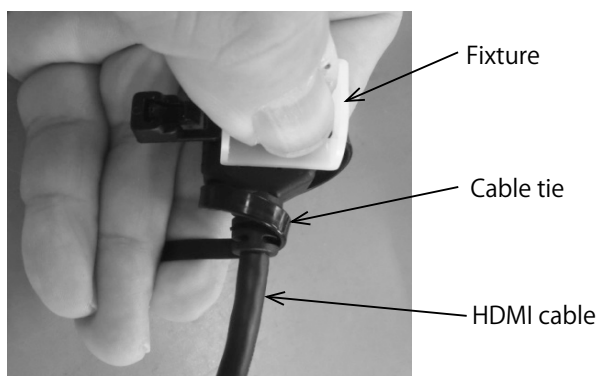
Note

- The supplied cable tie can be used repeatedly.

When the plug does not have a concave part, wrap the cable tie as shown below.



- ① Wrap the cable tie around the root of the cable and pull it tight.



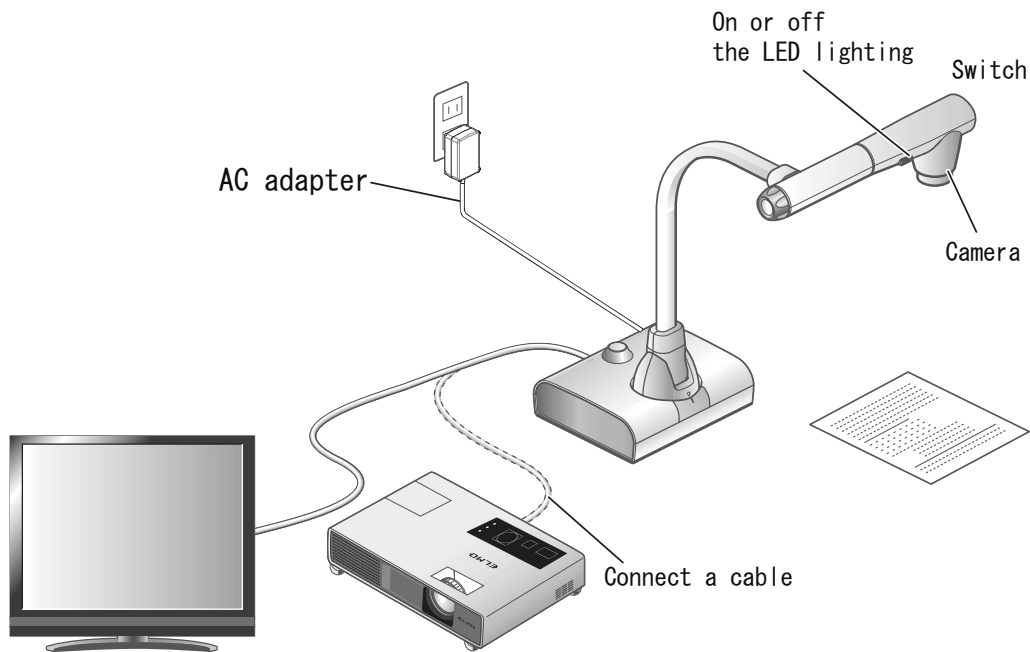
- ② Remove the screw above the HDMI port and connect the HDMI cable. Attach the fixture and tighten the screw.



Caution

Depending on the shape of the plug, the fixture may not be used.


2-3 Shooting images



■ Setting up the product

Set up the product as shown in the figure above. Then connect the product to a projector or a monitor, and turn on the power of the product. **P.15**

Connecting the power cable

Connect the power cable and the AC adapter. Then connect the AC adapter to the [] port on the rear panel of the product, and insert the power cable into an outlet.







Connecting a video cable

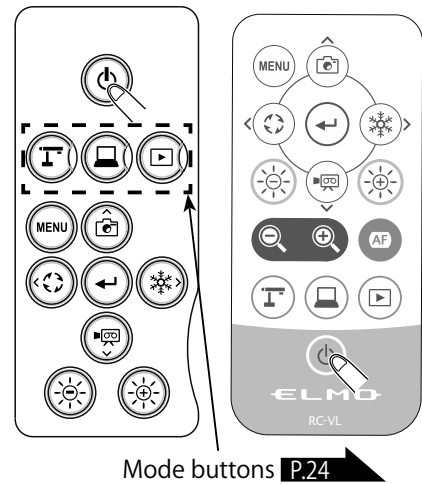
Connect the product to a display device using a video cable corresponding to the specification of the display device.

Caution

Before connecting the product to other devices, be sure to turn off the power for all of the devices.

Turn on / off the power

- When the AC adapter is connected to an outlet, the Power LED [] will flash red first, and then will turn red after several seconds. Press the [] button on the operating panel or the [] button on the remote control to turn on the power. The Power LED will turn blue.
- Press the [] button on the operating panel or the [] button on the remote control to turn off the power. (The Power LED [] will turn red.)



Setting the destination

The Destination select screen will be displayed over the camera image when the power is turned on for the first time or when the data initialization is performed. Select the country where the product is being used.



Note

- When the product is turned on for the first time, the Destination select screen will be displayed.
Select the country where the product is being used and press "OK". Then the image will be displayed.

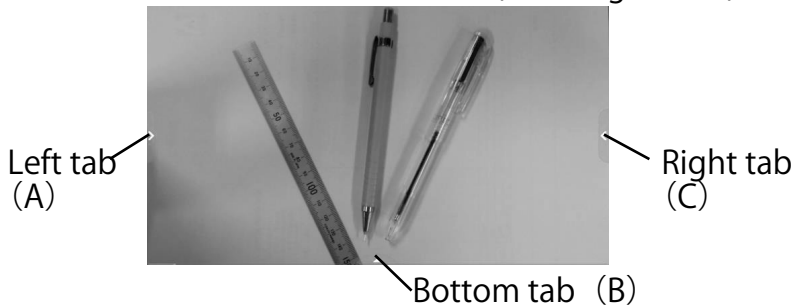
■ Start screen

At start up, the Document camera screen will be displayed . The Pen menu for drawing will be displayed when either tab is selected in the Document camera screen. (The same Pen menu will be displayed no matter which tab is selected . Use the tab you like according to the subject.)

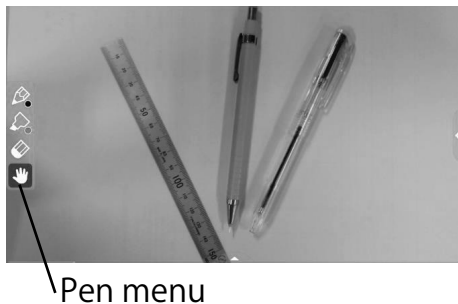
The Menu area will be displayed by selecting the bottom tab in the Document camera screen.

Click the left tab or right tab on the external monitor with the mouse to select.

Document camera screen (Drawing screen)



Screen image when the left tab (A) is selected



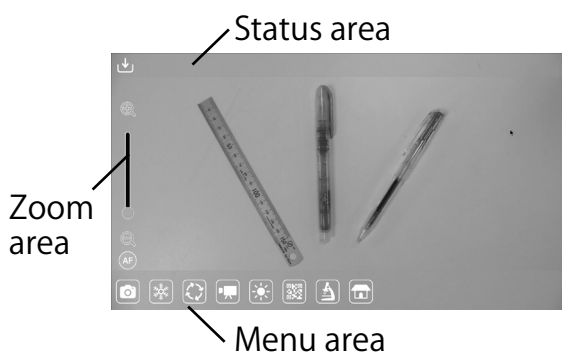
The Pen menu will be displayed at the left-end of the screen.

Select a pen to perform the drawing.

The Pen menu will be displayed at the right-end of the screen when the right tab (C) is selected.

※ The Menu area does not appear while the Pen menu for drawing is displayed. Close the Drawing menu to display the Menu area.

Screen image when the bottom tab (B) is selected



The Menu area, the Status area and the Zoom area will be displayed. Press the MENU button [MENU] on the operating panel to move to the Home screen. If you want to open other app after start-up, select the app from the Home screen. The Menu area can be hidden by swiping it down. (The Drawing screen will be displayed.)

■ Status area

The status of the camera will be displayed with icons.



Icon	Name	Function
	WiFi ※ 1	To display the WiFi status.
	LAN ※ 1	This icon will be displayed when a LAN cable is connected.
	SD card ※ 2	This icon will be displayed when the recording destination is set to SD card.
	USB flash drive ※ 2	This icon will be displayed when the recording destination is set to USB flash drive.
	Internal storage ※ 2	This icon will be displayed when the recording destination is set to internal storage.
	Freeze	This icon will be displayed during freeze.
	Image rotation	This icon will be displayed during image rotation. (The icon changes according to the rotation angle. 90° → 180° → 270°)
	Recording	This icon will be displayed during recording.
	Speaker mute	This icon will be displayed when the speaker is muted. (This icon does not appear when the speaker mute setting is off.)
	Miracast	This icon will be displayed during Miracast communication.

- ※ 1 Either WiFi icon or LAN icon will be displayed depending on the network connection status.
- ※ 2 The currently set recording destination will be displayed. (The priority order for the recording destination : USB flash drive > SD card > internal storage)

■ Zoom area

The Zoom area will be displayed when zoom operation is performed in the Document camera screen or when the Menu area is displayed.

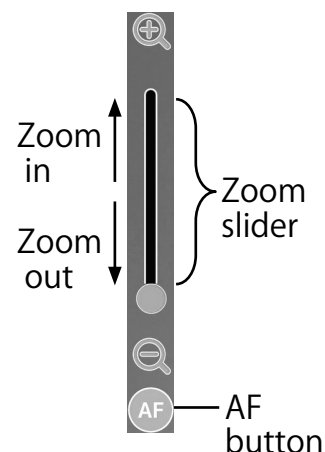
The Zoom slider and the AF button will be displayed.

- ※ The Zoom area does not appear during video playback as no zoom operation can be performed during video playback.

Zoom slider: Adjust the zoom by moving the round tab up and down.

AF button: Press once. (One push)

- ※ The AF button will be displayed only when the camera image is displayed.



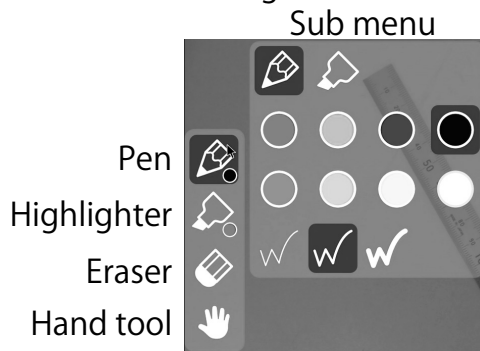
■ Pen menu for drawing

When either tab is selected in the Document camera screen, the Pen menu, the Highlighter menu, the Eraser menu and the Hand tool menu will be displayed. Select the menu you want to use.





Long press the menu to display the sub menu. You can change the type of Pen or Eraser from the sub menu.

※ The selected icon will be highlighted. (Background: Dark blue)


※ Performing a capture operation or recording operation during the drawing process will record the image with all added drawings.



Pen		
Type	Icon	Function
Pen		To draw a line.
Highlighter		To draw a line with opacity 50%.
Pen color		To draw a red line.
		To draw a green line.
		To draw a blue line.
		To draw a black line.
		To draw a magenta line.
		To draw a cyan line.
		To draw a yellow line.
		To draw a white smoke line.
Thickness		To draw a thin line.
		To draw a middle thickness line. (Default setting)
		To draw a thick line. (Default setting for Highlighter)



Eraser		
Type	Icon	Function
Eraser		To delete a line drawn by Pen or Highlighter. (A continuously drawn line can be erased.) Press the line or swing the finger while pressing the line to erase it.
Delete all		To delete all the lines that are drawn on the screen by pressing this icon.
		This icon will be displayed when the Eraser menu is pressed after performing "Delete all" . To cancel the last "Delete all" action and recover deleted lines. (Only lines deleted by the last action can be recovered.)
※ After deleting the selected line, the Eraser becomes deselected and the last selected Pen becomes selected again.		
Hand tool		
Type	Icon	Function
Hand tool		To move the display area by dragging when the image is enlarged.

■ Menu area









The Menu area will be displayed by selecting the bottom tab in the Document camera screen. 

The Menu area can be hidden by selecting the bottom tab displayed on the external monitor with the mouse.

※ The recording destination can be changed by long pressing the Capture icon or Record icon.



(SD card [] / USB flash drive [] / internal storage [])






Icon	Main menu	Sub menu	Function
	Capture	-	To capture the camera image and save it as a still image.
		○ (Long press)	To select the destination media
	Freeze ※ 1	-	To pause or restart the camera image. ※ Pressing this icon long will perform the keystone correction.
	Image rotation	-	To rotate the image being displayed (0° / 90° / 180° / 270°)
	Record	-	To record a video to the specified media.
		○ (Long press)	To select the destination media.
	Brightness ※ 1	-	To display the Brightness adjustment menu. The brightness can be adjusted by moving the Brightness adjustment slider.
	QR code reader ※ 1	-	To enter the QR code reader mode.
	Microscope ※ 1	-	Use this mode when you use the product with a microscope.
	Home	-	To display the Home screen.

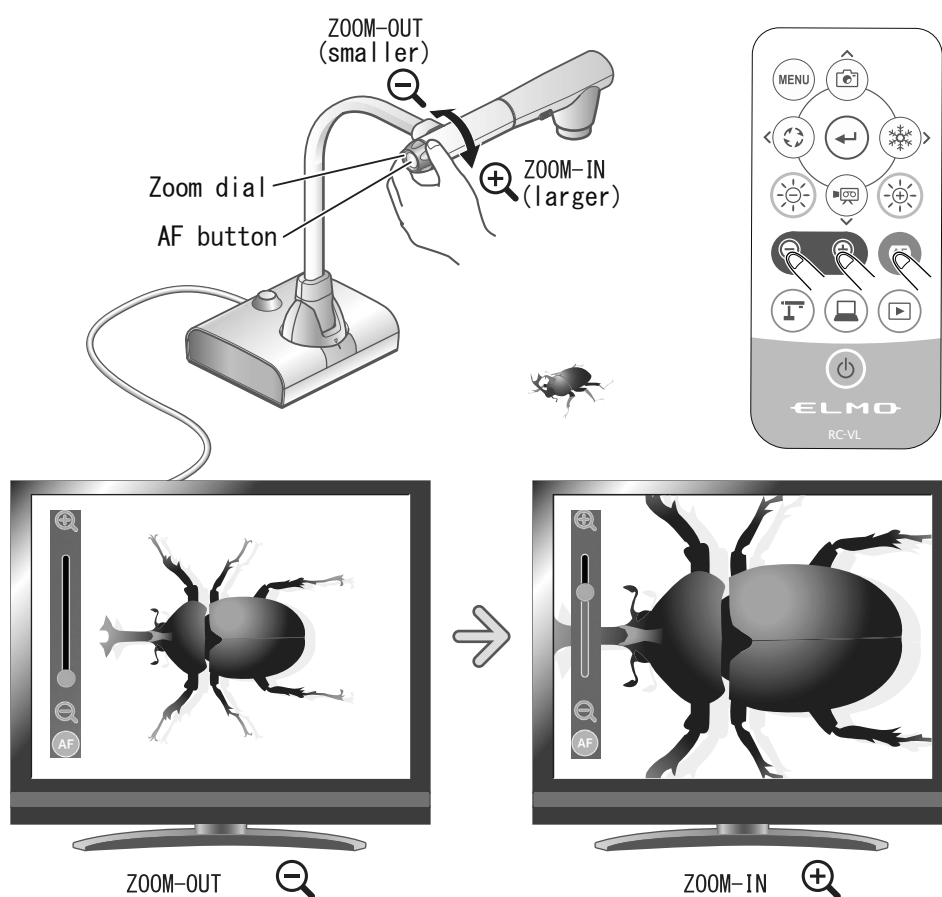
※ 1 The Freeze icon, Brightness icon, QR code reader icon and Microscope icon will only be displayed in the Document camera screen.

■ Adjusting the size

The display range of the document can be adjusted by rotating the zoom dial on the product or by pressing the [ / ] buttons on the remote control.

- ZOOM-IN  : The subject will be shown in large size.
- ZOOM-OUT  : The subject will be shown in small size.

If you cannot get a focused image, use the AF button on the camera head or the [] button on the remote control.



Note

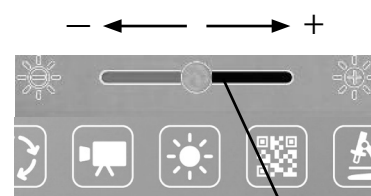
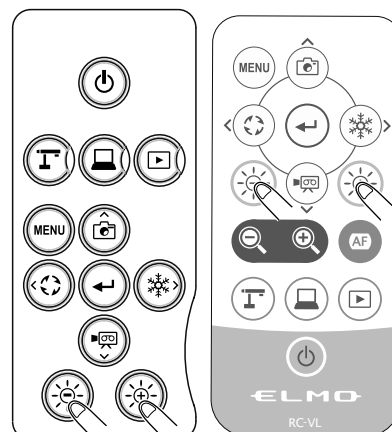
- Zoom ratio: Optical 12x, Digital 16x
- When the optical zoom reaches 12x, it will shift to digital zoom automatically.
- Within the digital zoom range, the image quality will be degraded.

■ Adjusting the brightness

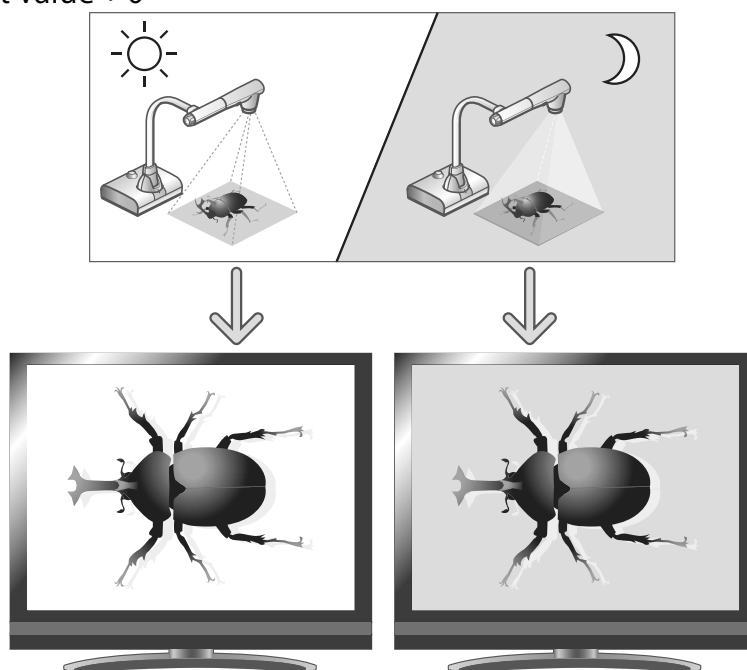
Use the [☀️/☁️] buttons on the operating panel or the remote control to change the level of brightness of the displayed image. The brightness of the image will not change automatically in response to the brightness of the shooting environment.

The Brightness adjustment slider [▬] will be displayed when the Brightness icon [☀️] in the Menu area is pressed. The brightness of the image can also be adjusted by moving the slider left and right. (Mouse operation or [↺️/↻️]) The Brightness adjustment slider will disappear when outside area of the Brightness adjustment slider is pressed.

- ※ Brightness adjustment slider: 7 levels (-3~+3)
- ※ Default value : 0



Brightness adjustment slider



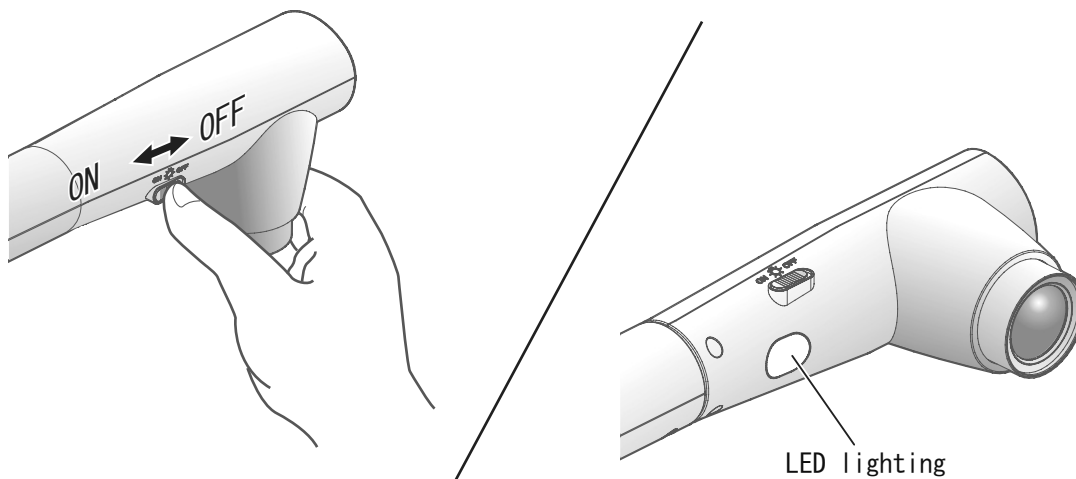
The brightness of the image is different.



Note

- In places where the subject is exposed to bright sunlight (e.g. near a window), or extremely bright light, the brightness of the screen may not dim sufficiently, even if the [☀️] button on the operating panel or the [☁️] button on the remote control is pressed. In such cases, to adjust the amount of light, close the curtains or move the subject away from the light.

■ Turning on / off the LED lighting



The LED lighting can be turned on or off by sliding the LED lighting switch.

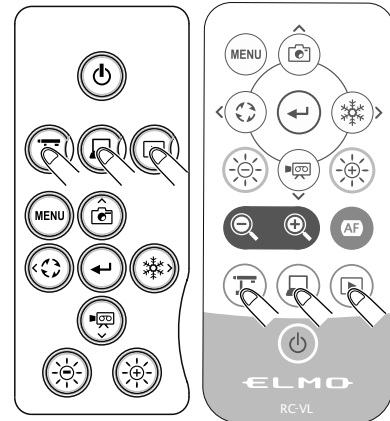
- 「ON」 : The LED lighting will turn on.
- 「OFF」 : The LED lighting will turn off.

Caution

- To take shots of people, set the LED lighting switch to off.
- Make sure that the light from the LED lighting does not shine directly into the eyes.
- This product is equipped with a high-brightness LED. You can safely use the LED lighting to light up subjects, however its brightness will gradually diminish with long-term use. This is not a malfunction, but a normal characteristic of the LED.
- Do not touch the LED lighting while it is on as it may become very hot.

■ Selecting the image source

You can select the image source as described below.



Camera image :



[] button on the operating panel or [] button on the remote control.

Image being input to the [ / ] port :













[] button on the operating panel or [] button on the remote control.

Image stored in SD card/USB flash drive :



[] button on the operating panel or [] button on the remote control.



Note

- When using a computer with an external output mode, set the computer to the external output mode after pressing the [] button on the operating panel or the [] button on the remote control.
- When the [] button on the operating panel or the [] button on the remote control is pressed, the image being input to the [] port will only be output from the [] port and the image being input to the [] port will only be output from the [] port.



■ Pausing the image


Press the [] button on the operating panel or the [] button on the remote control to pause the camera image. Press the button again to cancel the p

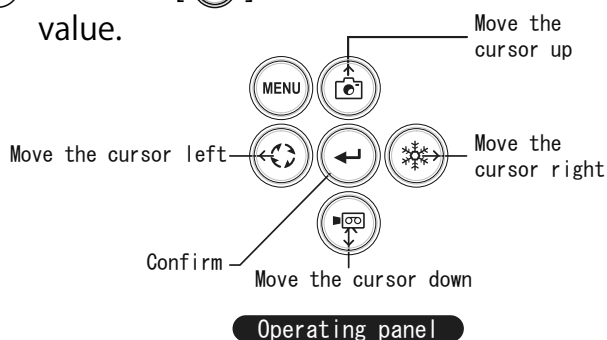
2-4 Configuring the settings

Each setting of the product can be configured from the menu (texts or icons) displayed on the screen.

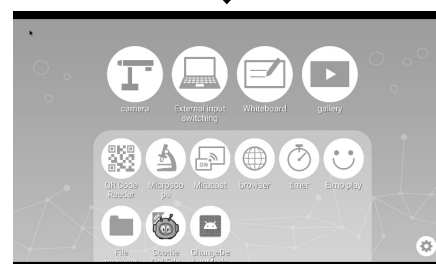
■ How to configure the settings

- ① Press the [] button on the operating panel or the remote control to display the menu on the screen. Then use the [] buttons to move the cursor to the icon you want to operate or set.

- ② Press the [] button to confirm the setting value.



↓ MENU button



■ Operating the Home screen

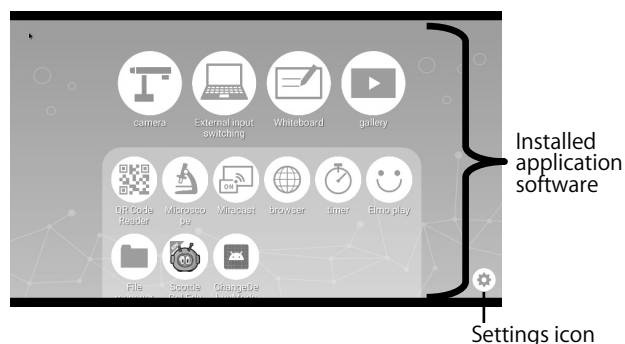
The Settings icon to configure the system settings and camera settings and icons installed apps will be displayed in the Home screen. You can select a desired app to launch.














You can hide or display icons of apps in the Home screen.

- Home screen

The icon of the installed app will be added to the list of installed apps. (Icons will be displayed in the order in which they are added.)

- ※ If the number of apps become large, the icons will be added to the bottom and cannot be displayed in one screen. To view



Icon	App. Name	Function
	Camera	To display the camera image.
	External input switching	To switch between the camera image and the HDMI IN image.
	Whiteboard	To display the Whiteboard screen. (In case that the Whiteboard app has not been used before, a new whiteboard will be created.)
	Gallery	To display a list of content items. Files such as still images, videos, PDF files and Excel files stored in the internal storage, SD card or USB flash drive can be opened.
	QR code reader	To enter the QR code reader mode. After reading the QR code, the product will start the browser and access the Internet.
	Microscope	Set this mode when you use the product with a microscope.
	Miracast	To connect a device that supports Miracast.
	Browser	To start the browser to access the Internet. ※ The network configuration needs to be completed in advance. ※ The product needs to be connected to the Internet via WiFi or LAN.
	Timer	To sound an alarm at a set time.
	ELMO Play	To access the portal run by ELMO. Apps on the portal can be downloaded.
	File manager	To open folders of the internal storage, SD card or USB flash drive.
	Scottie Go! Edu	This is an educational app for learning programming. Contact us for further information.
	Settings	To display the Settings screen.

※ To open PDF files or Excel files in the Gallery, the app “WPS” will be needed.


※ For information how to download WPS, contact your dealer or download from ELMO Play.

- How to uninstall the installed app

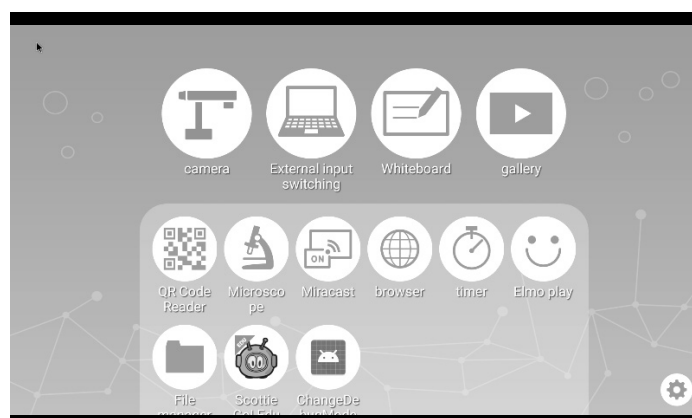
Long press the icon of the app you want to uninstall to display the Trash can icon. Drag and drop the selected icon onto the Trash can icon to delete the app or hide the icon.

※ Before uninstalling the app, you will need to connect the mouse or touchscreen.

※ Pre-installed apps cannot be uninstalled. Only icons will be hidden.

To re-display the hidden icon, press the Recover icon [] displayed above the Settings icon at the bottom right of the screen.

※ The order of the apps can be changed by drag and drop action.












↓ Long press








↑ Trash can









■ Checking the camera settings

Select the Settings icon [] in the Home screen. The Settings screen will be displayed and you can configure various settings.


Camera settings			
Icon	Setting item		Function
	Resolution	Auto	To set the output resolution.
		FHD 1920x1080	
		HD 1280x720	
		UXGA 1600x1200	
		XGA 1024x768	
	Angle of view	16 : 9	The image will be displayed in 16:9 format.
		4 : 3	The image will be displayed in 4.3 format. ※ When shooting A3 size document, select 4:3.
	Speaker volume	0~15	To adjust the volume of the speaker.
	Mic mute	Enable	To set whether to mute the microphone. When using the microphone, set this setting to "Disable" .
		Disable	
	Flicker mode	50Hz	If flickering occurs due to indoor lighting, set this mode correctly according to the area where the product is being used.
		60Hz	
		Auto	
		Off	
	Recording quality	High	To set the recording quality of the video.
		Normal	
		Low	
	Image rotation angle	90	To set the rotation angle during image rotation.
		180	
	Automatic Miracast connection	Enable	To set whether to perform the Miracast connection automatically.
		Disable	

Icon	Setting item		Function
	Digital textbook	Server URL	To set the URL of the server for the digital textbook.
	Keystone correction	Enable	To set whether to add Keystone correction to Auto deskew function.
		Disable	
	USB camera	Enable	To set whether to use the product as a USB camera.
		Disable	




Camera quality settings			
Icon	Setting item		Function
	Brightness	0 ~ 6	The brightness of the camera image can be changed.
	White balance	Auto	To always adjust the white balance automatically. The white balance is adjusted automatically to ensure a more natural color according to the characteristics of the subject.
		Cloudy	To adjust the white balance according to dark outdoor environment.
		Sunny	To adjust the white balance according to bright outdoor environment.
		Fluorescent light	To adjust the white balance according to the environment under fluorescent light.
		Incandescent light	To adjust the white balance according to the environment under incandescent light.
		Shade	To adjust the white balance according to dark environment.
		Twilight	To adjust the white balance according to dim lit environment.
		Fluorescent light (warm color)	To adjust the white balance according to the environment under warm fluorescent light.



Product information		
	Application Version	To display the application version of the product.
	Application update	To check whether the latest update version of the app is available. When the latest update version is available, a notice will be displayed. Install the latest version accordingly. ※ This function is available when the product is connected to the Internet via LAN or WiFi.
	Android Version	To display the Android version of the product.
	License	To display the license information of the product.
	WiFi MAC address	To display WiFi MAC address.
	Ethernet MAC address	To display Ethernet MAC address.
	Serial number	To display the serial number of the product.
	Product version	To display the version information of the product.


■ Checking the system setting


The System settings menu will be displayed when the System Setting icon [] in the Settings screen is pressed.


To return to the previous screen, press the Return icon [].

WiFi and network				
Icon	Name	Selection item		Function
	Wifi	ON		A list of network will be displayed. Select the SSID for the network to be connected. Enter the password if requested.
		OFF		To disable the WiFi connection.
	Data usage	Overview		To display the data usage. (Today/Total).
		Wifi		To display the data usage. (Date can be specified.)
	Ethernet	Dhcp	ON	A unique IP address will be assigned automatically.
			OFF	To set the IP address manually. The following settings can be configured if this item is set to OFF.
		Static ip		To set the IP address manually. Detailed settings can be configured if this item is selected. ※ Operation procedure Enter the information using the keyboard displayed. For typing the keyboard, use the mouse.
		Gate way		
		Mask		
		Dns		
		Proxy		To connect to the Internet via the proxy server. When this setting is ON, "Proxy host" and "Proxy port" will be selectable and you can enter the IP address and port number.
		Proxy host		To enter the address of the proxy server. Type the IP address after "http://".
		Proxy port		To enter the port number of the proxy server.

Device				
Icon	Name	Selection item		Function
	Storage	Total capacity of internal storage	Available capacity	To display the total capacity for each item.
			Apps (Data and content item)	
			Still image and video	
			Audio (Music, ringtone, podcast etc.)	
			Download	
			Cache data	
		Other		
		Mount the SD card	To insert the SD card.	
	Apps	-		To display a list of downloaded apps, list of running apps, RAM usage and list of all apps.

User settings				
Icon	Name	Selection item		Function
	Language and input	Language	Chinese	To set the display language.
			Japanese	
			Deutsch	
			English	
			Francais	
		Spelling correction	Language	To select the language subject to the Spelling correction.
		Word list		To display a list of words added to the user dictionary. Words can be added with the "Add " icon.
		Current keyboard		To display the currently selected keyboard. Type of the keyboard and input method can be selected.
		Gboard	Language	To select the language to be used for the keyboard and its layout.
Settings	To configure details of keys, layout and operation method.			
Theme	To change the design of the Input screen.			

Icon	Name	Selection item		Function
		Gboard	Text correction	To configure how to display word suggestions during text input or to configure how to perform the spelling correction to the word being input.
			Glide typing	To configure details of Glide typing which a user can input words by sliding a finger across the letters.
			Word list	To add words or shortcut letters to the word list.
			Search	To configure whether to display suggestions for Google search during typing.
			Advanced settings	To configure the display of pictograms on the keyboard or to configure whether to display app icons in the Home screen.
		Pointer speed	To set the pointer speed using the slider.	
	Backup and reset	Data initialization		To delete all data stored in the internal storage, such as Google account, system data, app data and setting information. A confirmation window will be displayed. Select "Reset" to initialize the system. ※ Note that installed apps will also be deleted.

System			
Icon	Name	Selection item	Function
	Visual Presenter	Legal information	Important legal information between the Customer and Elmo is described here.

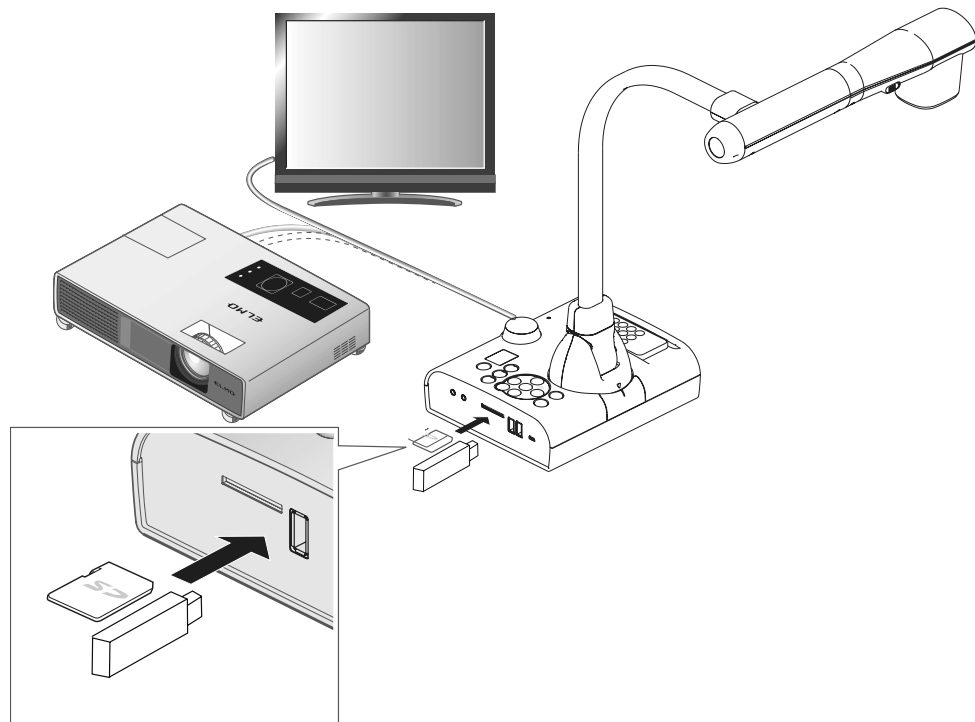
3-1 Using an SD card/USB flash drive

With the product, you can record the camera image as a still image to an SD card, USB flash drive, or internal memory. Also, you can record the camera image as a video to an SD card, USB flash drive or internal memory.

The image data recorded in an SD card, USB flash drive, or internal memory can be displayed on the monitor.

Insert an SD card (SD/SDHC, commercially available) or USB flash drive (commercially available) into the slot on the side panel before starting the operation. **P.9**

- ※ Recording is not possible if either an SD card or USB flash drive is not inserted.
- ※ When the SD card and the USB flash drive are both inserted, the USB flash drive has the priority over the SD card as the saving destination.




• About SD card


Supported format : up to FAT32,SDHC

• About USB flash drive

Supported format : up to FAT32

- ※ USB flash drive cannot be formatted with the product.

	Icon
Not inserted	-
When SD is set as the destination to save content	

	Icon
Not inserted	-
When USB is set as the destination to save content	

 **Note**

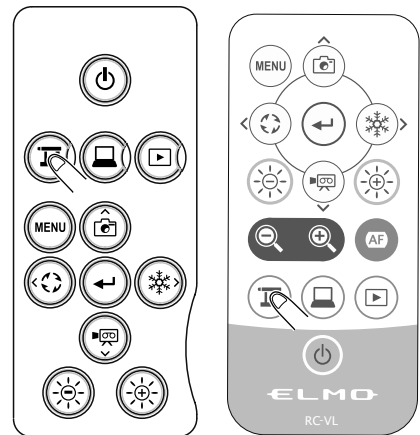
- About SD card
 - SDXC card cannot be used.
 - Video recording is only possible to an SD card (SD / SDHC) with class10 speed or above.
 - We recommend that you use an SD card with class 10 speed or above.
- About USB flash drive
 - Use a USB flash drive up to 32GB.
 - We recommend that you format a USB flash drive with this product before you use it.
- It may take some time to recognize the memory card (SD card or USB flash drive) after inserting it or to save images to the memory card.
- Do not remove the memory card (SD card or USB flash drive) while the product is accessing it (during recording or playback).



■ Recording


Still image


Basic operations

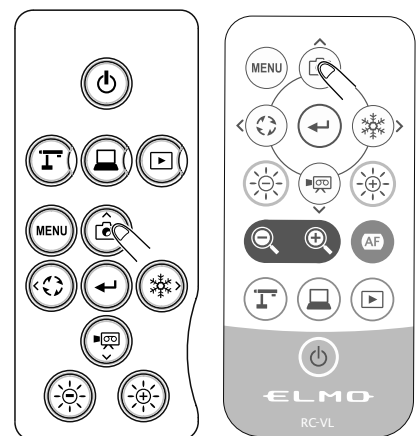
- ① Press the [] button on the operating panel or the [] button on the remote control.



- ② Make sure that the menu is not displayed on the screen and press the [] button on the operating panel or the [] button on the remote control.


If the menu is displayed on the screen, do the above operation after hiding the menu by pressing the [] button either on the operating panel or the remote control.

Still image recording can also be performed by selecting the Capture icon [] in the Menu area. Select the bottom tab in the Document camera screen to display the Menu area.



The recording destination can be changed by long pressing the Capture icon. The sub menu will be displayed and you can change the destination each time the still image recording is performed.


- ※ Captured still images can be saved in the following destination: SD card / USB flash drive / internal storage(The currently selected device will be displayed as destination in the Status area.)
- ※ The drawings on the image can also be saved. [P.18](#)

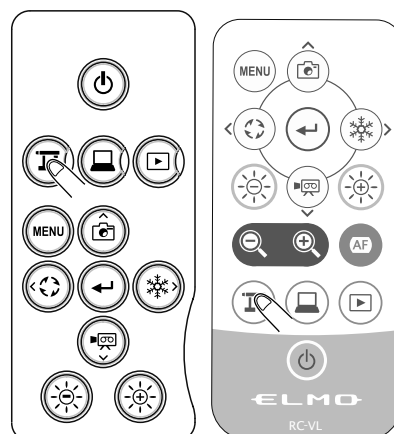
- ③ Still image will be recorded when [] is displayed on the screen.







Video

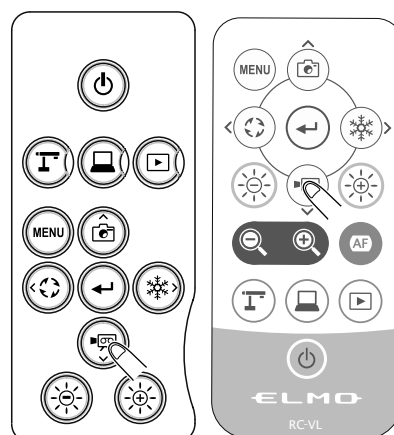
Basic operations

- ① Press the [] button on the operating panel or the [] button on the remote control.



- ② Make sure that the menu is not displayed on the screen and press the [] button on the operating panel or the [] button on the remote control.





If the menu is displayed on the screen, do the above operation after hiding the menu by pressing the [] button either on the operating panel or the remote control. Video recording can also be performed by selecting the Record icon [] in the Menu area. Select the bottom tab in the Document camera screen to display the Menu area.



The recording destination can be changed by long pressing the Record icon. The sub menu will be displayed and you can change the destination each time the video recording is performed.



Video recording will start once the recording destination is set.

- ※ Recorded videos can be saved in the following destination: SD card / USB flash drive / internal storage (The currently selected device will be displayed as destination in the Status area.)
As the capacity of the internal storage is limited, it is recommended to set the destination to either SD card or USB flash drive.
- ※ The drawings on the image can also be saved.
- ※ The camera image and the added drawings can be recorded as video. P.18
- ※ The recording will be performed at the set recording quality.

- ③ Video recording begins when [] appears at the top left of the screen. When you press the [] button on the operating panel or the [] button on the remote control again, video recording will stop and [] will disappear.



Recording status (to be displayed in the Status area)

Not recording	---
Recording	
	





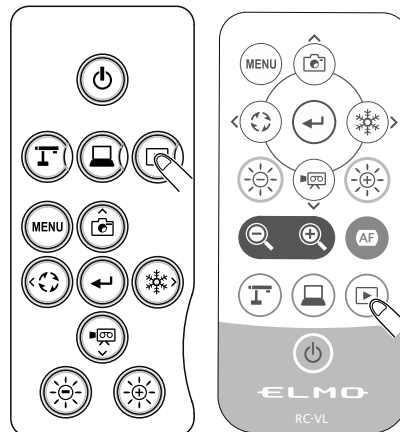
Note

- The video recording will be performed with the currently displayed resolution. Change the resolution from the Camera settings menu if necessary.
- When recording a video on an SD card, use an SD card with a faster read/write speeds (Class 10 or above), or the image quality may deteriorate.



■ Displaying the recorded data Content items display (list of still images/videos)

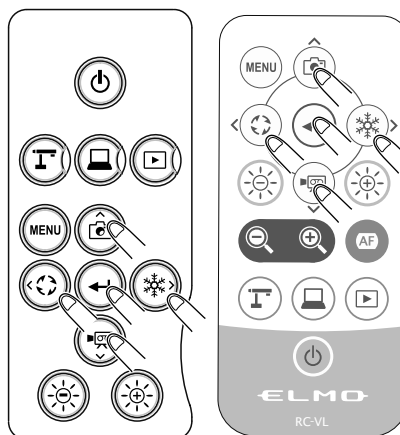
Basic operations



- ① Press the [] button on the operating panel or the [] button on the remote control to display the content items (list of still images/videos).



- ② How to move the cursor

- (1) You can move the cursor using the [] buttons on the operating panel or the [] buttons on the remote control or the mouse.



- (2) Press the [] button on the operating panel or the [] button on the remote control to execute the selected item. This operation can also be performed by using the mouse.



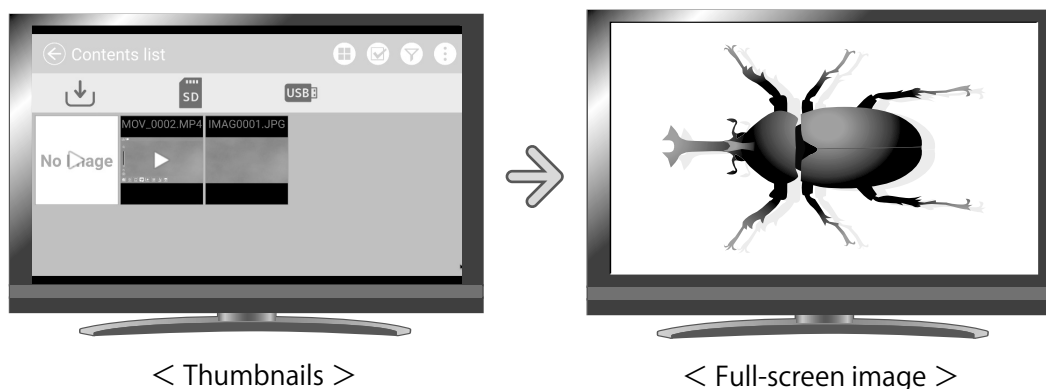
Menu		
Icon	Name	Function
	Split screen	To enter the Split screen select mode. Select the content items to compare.
	Content item select	To enter the mode that multiple content items can be selected.
	Narrow down	To display selected still images, videos, digital documents to the List of content items screen.
	Sub menu	To display each function indicated by icons or recognized storage by text.
	Return	To return to the last screen before the List of content items screen.
Media select		
Icon	Name	Function
	Internal storage	To display the content items stored in the internal storage in the List of content items screen.
	SD card	To display the content items stored in the SD card in the List of content items screen.
	USB flash drive	To display the content items stored in the USB flash drive in the List of content items screen.

Note

- Many, but not all images taken by other digital cameras can be displayed (viewed) on this product.
 (For example, images larger than 4000 x 3000 pixels in size can not be displayed.)



Displaying a still image full-screen

You can display a still image you selected from the list of content items (still image / video) full-screen.





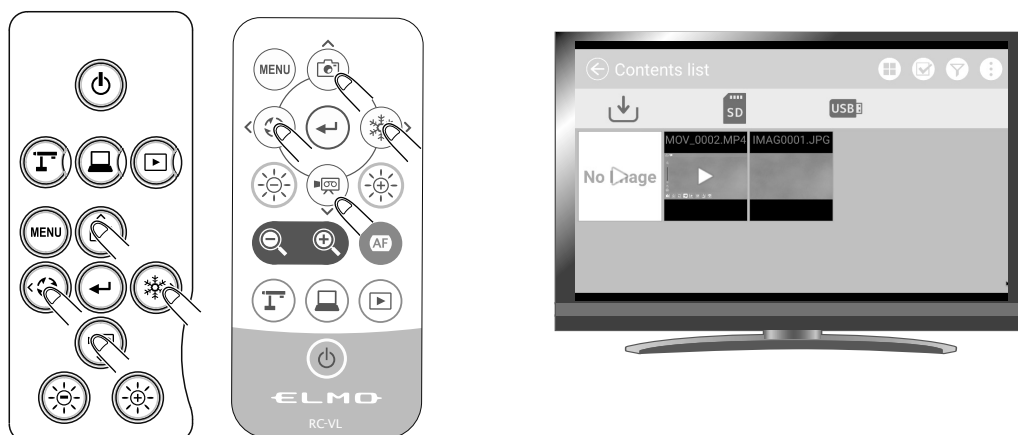
Basic operations

- 1 Display the list of content items (still image / video).

Press the [] button on the operating panel or the [] button on the remote control.

- 2 Select a still image you want to display full-screen.

Press the [] buttons on the operating panel or the [] buttons on the remote control to move the cursor. The cursor can also be moved by using the mouse.



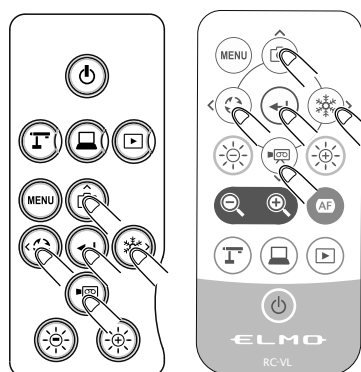
-
- ③ Confirm the still image you want to display full-screen.

Press the [↩] button on the operating panel or the [↩] button on the remote control or click with the mouse.




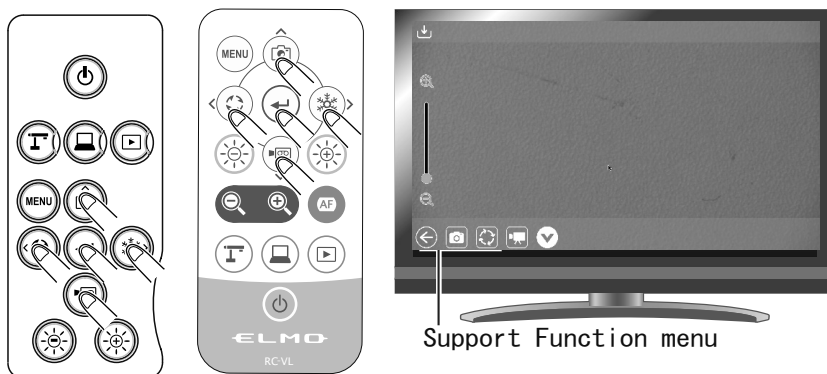
The menu will be displayed. If you want to hide the menu, press the Hide [⏏] icon.




- ④ To return to the List of content items screen, press the [⏏] buttons on the operating panel or the [⏏] buttons on the remote control to display the Return [↩] button. Then press the [↩] button.



Operation of the Still image menu






While a still image is displayed full-screen, the Still image menu will be displayed. Select the Hide icon [] to hide the menu.



Press the [] buttons on the operating panel or the [] buttons on the remote control to move the cursor. The cursor can also be moved by using the mouse. Then press the [] button to confirm.

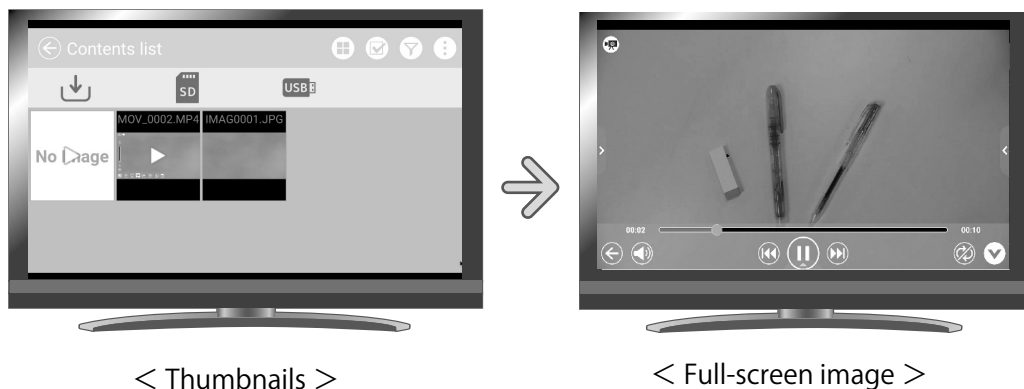
Descriptions of each menu

Still image display menu

Icon	Name	Function
	Return	To return to the List of content items screen.
	Capture	To save the image being displayed as a still image. You can save the image with all added drawings.
	Image rotation	To rotate the image being displayed. The rotation angle during image rotation can be set from the Image rotation angle menu in the Camera settings menu. (90° /180°)
	Record	To save the image being displayed as a video. You can save the image with all added drawings.
	Hide	To hide the menu. Press the bottom tab to display the menu.



Playing a video full-screen

You can display a still image you selected from the list of content items (still image / video) full-screen.





Basic operations

- 1 Display the list of content items (still image / video).

Press the [] button on the operating panel or the [] button on the remote control.

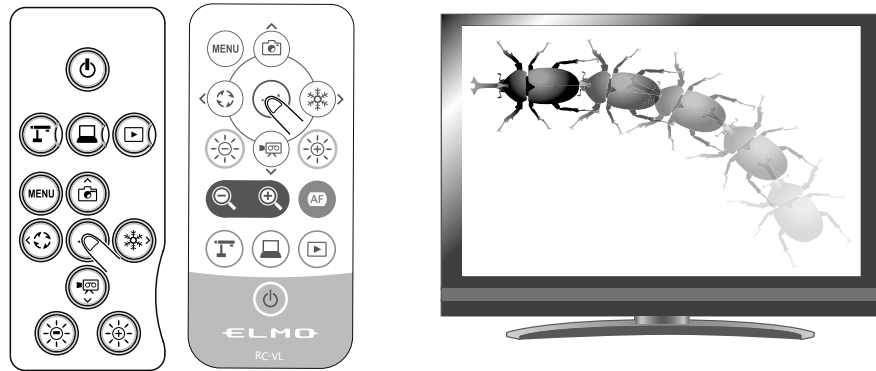
- 2 Select a video you want to display full-screen.

Press the [] buttons on the operating panel or the [] buttons on the remote control to move the cursor. The cursor can also be moved by using the mouse.



- ③ Confirm the video you want to display full-screen.


Press the [↩] button on the operating panel or the [↩] button on the remote control or click with the mouse. The selected video will be played automatically.

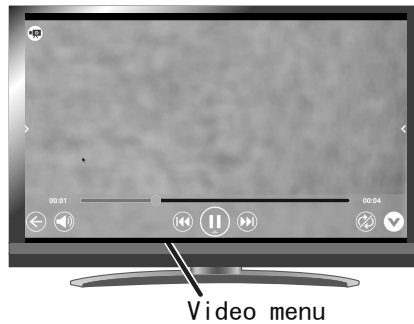





- ④ To return to the List of content items screen, press the [⏪] buttons on the operating panel or the [⏪] buttons on the remote control to display the Return [↩/↩] button. Then press the [⏪] button.



Operation of the Video menu












While a video is displayed full-screen, the Video menu will be displayed. Select the Hide icon [] to hide the menu.



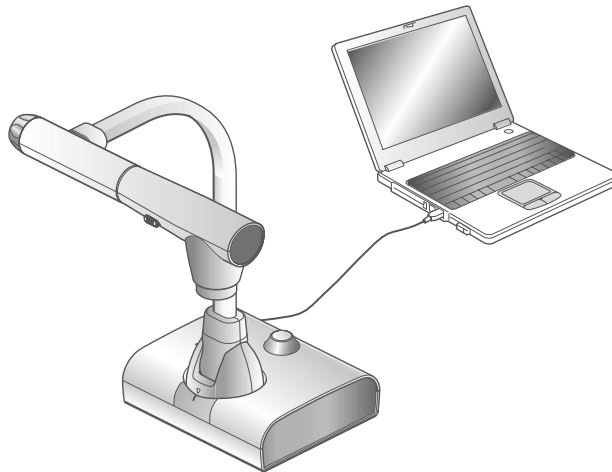
Press the [] buttons on the operating panel or the [] buttons on the remote control to move the cursor. The cursor can also be moved by using the mouse. Then press the [] button to confirm.

Descriptions of each menu

Video playback menu

Icon	Name	Function
	Play	To start video playback. This icon will change to the Pause icon during playback.
	Pause	To pause the video. This icon will change to the Play icon during pause. Press this icon again to restart the video.
	Seek bar	To change the playback position as desired by moving this bar.
	Playback time	To display the elapse time during playback.
	Maximum playback time	To display the maximum playback time of the selected video.
	Previous video	To move to the previous video.
	Next video	To move to the next video.
	Speaker	To adjust the speaker volume by using the Volume adjustment slider.
	Repeat	To playback the selected video repeatedly. ON or OFF can be set to each selected video.
	Return	To return to the List of content items screen.
	Hide Play menu	To hide the Play menu and display the video full screen. ※ Press the bottom tab to display the Play menu.

3-2 Using by connecting to a computer with a USB cable



This product is compliant with UVC (USB video class) and troublesome installing of a driver is not required. You can use the product with a video conference system or other various application software by simply connecting a USB cable to the USB port of a computer. (Operation is not guaranteed on all application software.)

Caution

- Do not connect/disconnect a USB cable while operating the product using the operating panel or remote control. Doing so may cause a malfunction.
- We recommend using a compliant USB cable.
- When you display the UVC video stream, it may take a while before the image is displayed. Be sure not to turn off the power of the product or disconnect the USB cable until the image is displayed.
- When you change the resolution of the UVC video stream, it may take a while before the image is displayed. Be sure not to turn off the power of the product or disconnect the USB cable until the image is displayed.
- The format of the USB video stream is MJPEG/ YUV. Depending on the software you are using, you may not be able to display the image.
- You cannot record the camera image, display thumbnails, display still images or play videos, when the USB video streaming is active.



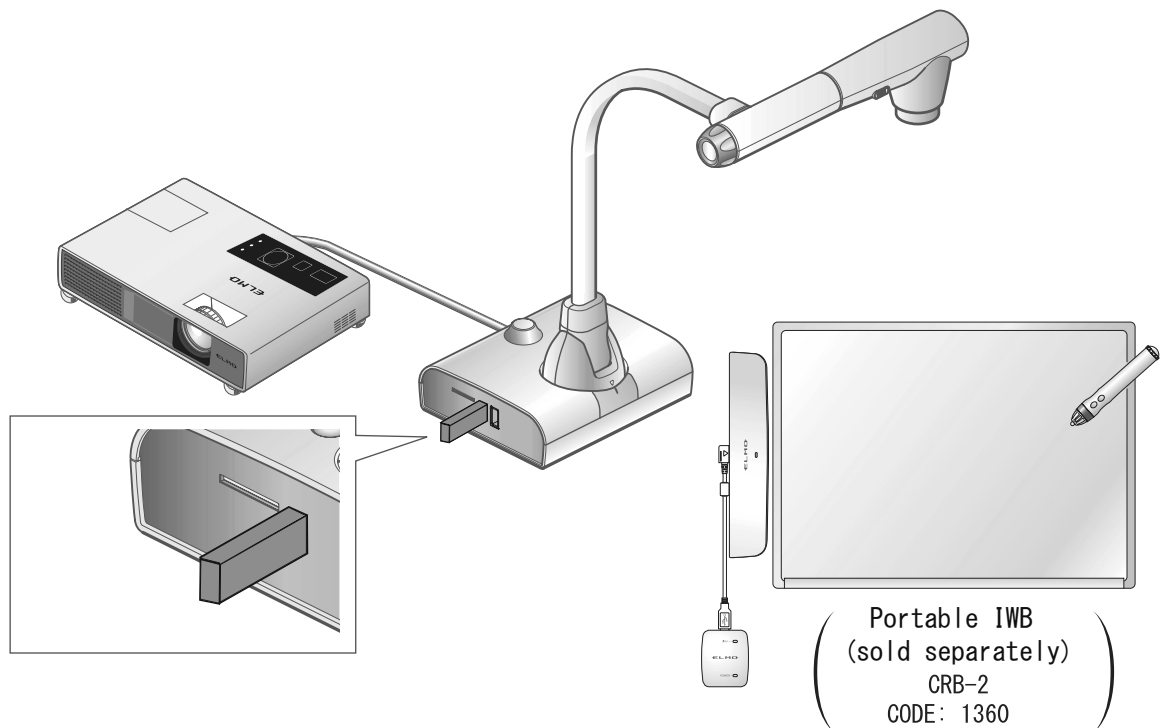
Note

- Depending on the USB environment used by the computer or any peripheral device, image transfer may be disrupted.
- Operation is not guaranteed for all environments.

3-3 Using with the portable IWB (sold separately)

By using the separately sold portable IWB with the product, you can draw on camera images directly and record the result. You can also directly perform such operations as zooming in/out with the product.

■ Connection with the portable IWB

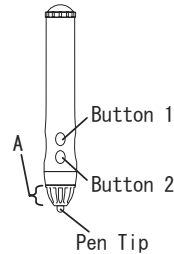


- ① Set up the product as shown in the figure above and connect to a projector, and then turn on the power.
- ② Connect the special wireless adapter (supplied with the portable IWB) to the product.
For details about how to install the portable IWB, refer to the instruction manual of the portable IWB.

Basic operations of the portable IWB

◆ About the Pen

- Do not cover A with your hand when holding the pen. Doing so will hinder detection of information about the pen's position.
- Write with the pen perpendicular to the screen. Problems occur when the pen is tilted too much.
- If "Pen Tip", "Pen Button 1" or "Pen Button 2" are pressed for 2 minutes and 30 seconds, the power to the pen will automatically turn off.
- You cannot write continuously for more than 2 minutes and 30 seconds.
- Do not use rechargeable batteries in the pen.

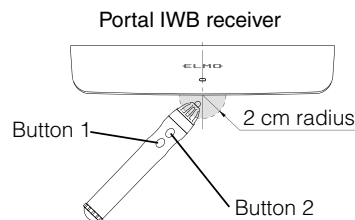


Pen Tip: Left mouse button
 Button 1: Right mouse button
 Button 2: To cancel the calibration

● Recognition of the write range (calibration)

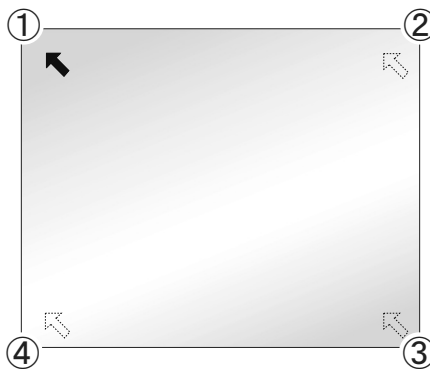
Hold down Button 1 on the pen (for three seconds or more) near the portable IWB receiver (within a 2 cm radius from the receiver).

The tablet enters the Calibration mode with a long beep.



A symbol appears at the top left of the screen (① in the figure below) when the tablet enters the Calibration mode.

You will hear a short beep when you touch the symbol with the tip of the pen. The symbol appears at the corner of ①, ②, ③, and ④ in this order. There will be three short beeps when you touch the last symbol, which means the calibration is completed.



By using the pen, you can draw on the camera image or the whiteboard.



Note

- Be sure the pen is perpendicular to the screen when clicking.
- If you click the wrong place in relation to the cursor, hold down Button 2 on the pen (for two seconds or more), and then calibrate again.
- The Calibration mode will be canceled automatically with two short beeps if there is no pen operation for more than 30 seconds during the calibration.

Caution

Touch the whiteboard lightly with the pen. Do not press hard on the whiteboard.



Note

- Holding the pen at an extreme angle may result in a failure of the whiteboard to recognize the position of the pen. Hold the pen perpendicular to the whiteboard.
- When using the portable IWB, you can select the mode to be used from the Main menu 2.

3-4 Other useful functions

■ Displaying digital documents

Digital documents such as PDF, Word, Excel and PowerPoint files stored in the memory device such as the internal storage, SD card and USB flash drive can also be viewed.


From the List of content items screen, press a desired digital document. The selected document will be displayed by the app "WPS Office" installed in the product.

※ You need to install WPS Office from ELMO Play (chargeable).

Product license will be required for downloading WPS Office. For further information, consult the dealer from whom you purchased this product or our branch/office near your location.



■ Using split screen

Press the Split screen icon[]in the List of content items screen to display the Split screen select screen.

Max. 4 selected content items can be displayed in a single screen. (Video content cannot be selected.)


■ Split screen select mode

Select the content item to display in the split screen by pressing the thumbnail of the content item. (Number is displayed on the selected thumbnail. To cancel the selection, press the thumbnail again.)

Also, the Camera icon will be added to the left top of the screen. When this icon is pressed, the Camera image will be displayed in the split screen.


※ When the Media select icon is pressed while a content item is selected, the list of content items of the selected recording media will be displayed, while the content item selection is maintained.



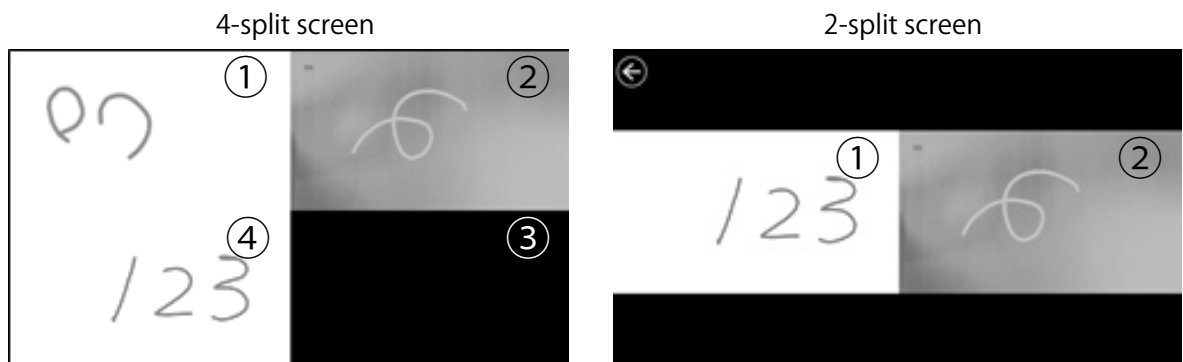
Press the check mark [] of the Check menu. The selected content items will be displayed in the split screen.

※ The check mark does not appear when no content item is selected.

Displaying the split screen

The selected content items will be displayed in the order selected in the Split screen select mode. (In the order ① - ④ as shown below.) To return to the List of content items screen, press Return [].

※ A portrait content item will be displayed after being adjusted to fit the 16:9 aspect ratio.



Maximizing the split screen

In the Split screen view, press the content item. The selected content item will be displayed enlarged.

Press the enlarged content item again and it will return to the previous size.

Changing screen positions

You can change the position of the content items in the Split screen view.

Long press the content item and move the selected content item by drag and drop action.




Note

- It is not possible to draw on the video stream. (If you need to draw on the video, capture a still image of the video first. Then you can draw on the captured still image.)

■ Using the QR code reader

Using the Camera app, you can read the QR code to access the specified website. The WiFi configuration or the Ethernet configuration needs to be completed in advance to connect to the Internet. **P.31**

Step 1. Select the QR code icon [] in the Menu area. The product will enter the QR code reader mode and the camera image will be displayed. **P.20**




Step 2. Adjust the position so that the QR code comes to the center.

Step 3. A dialog to confirm whether to open the relevant URL will be displayed.



Step 4. Select "OK" . The browser will open and the relevant website will be displayed.



Step 5. To return to the Document camera screen, press the Return icon [] displayed on the top left of the screen.



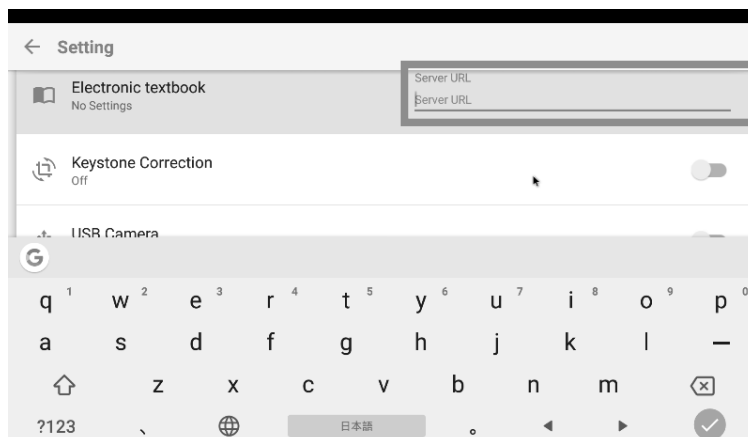
Note

- It is not possible to draw in the QR code reader mode.
(The added drawings will be hidden during the QR code reader mode)

■ Using the digital textbook

You can access the Digital textbook server to read the digital textbook. Select "Digital textbook" from the Camera settings menu to display the Server URL input screen. Enter the information by using the keyboard.

※ The Digital textbook app does not appear on the Home screen if the Digital textbook configuration is not completed. The Digital textbook app will be displayed after the Digital textbook configuration is completed. **P.29**



■ Connecting to the network

This product can be connected to the network via WiFi or Ethernet.

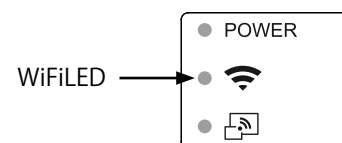
※ WiFi and Ethernet cannot be used at the same time.

→ Ethernet has a priority over WiFi.

(When the product is connected to Ethernet while it is connected to WiFi, the WiFi connection will be disconnected automatically.)

The connection status will be indicated by the WiFi LED during WiFi connection.

Status	WiFiLED
WiFi connected	Blue
WiFi connecting	Flash blue
WiFi disconnected	Off




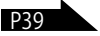
■ How to connect to WiFi

Select WiFi [] from the "System Setting" [] in the Settings screen. **P.31**

A list of network will be displayed. Select the SSID to connect. Enter the password using the keyboard. Press "Connect" to connect to WiFi.

For details about the setting procedure, refer to "◆ Using the browser" . **P.63**

■ Using the share menu

Select the Share menu [] from the menu in the Content item select screen  to copy the selected content item to other media or share it with someone. Press “Cancel” to return to the list of content items.



Select the media to copy a content item. The Copy screen will be displayed. Type the file name or select the destination folder.

Press the area around the folder and a dialog for specifying the destination folder will open. Specify or select the folder and press “Save” . The selected content item will be copied to that folder with the specified file name.

※ If the entire sub folders cannot be displayed in one screen, scroll the screen to view the entire sub folders.

■ Using Miracast

The product can be connected to a device that supports Miracast to perform Miracast output or Miracast input.

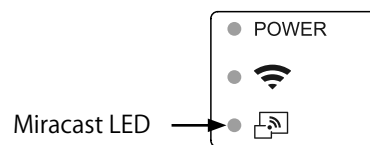
By connecting the product to a display device with a receiver attached, you can transmit the image between the product and the display device wirelessly.

- ※ It is not possible to perform Miracast output and Miracast input at the same time.
- ※ If either of them is enabled, the other cannot be enabled.

When the Automatic Miracast connection setting is set to “enable” , the product will connect to the Miracast device automatically after the product is turned on. **P28**

During Miracast connection, the connection status can be checked with the Miracast LED.

Status	Miracast LED
WiFi connected	Blue
WiFi connecting	Flash blue
WiFi disconnected	Off



■ Selecting a device to connect

Before connecting a Miracast device to the product for the first time, you will need to select a device to connect.

- ① Select Miracast from the Home screen. **P26**
- ② A list of available Miracast supporting devices will be displayed.
 - ※ When there is no Miracast device which was connected to the product in the past available near the product, it is not possible to select a device.
- ③ Select a device to connect.
 - ※ If you want to connect the product to a Miracast device automatically at power-on, set the Automatic Miracast connection setting in the Camera settings to “enable” .


■ Miracast output

When the Miracast icon in the Home screen is pressed, the product will search the Miracast device set in the Connection device select screen and start mirroring automatically.

To finish mirroring, press the Miracast icon again.

When the Connection device selection setting is completed, the product will connect to the device automatically.


※ In case the connection device is not found during the search, the product will continue the automatic connection process until the device is found, while displaying the camera image.


 **Note**

- When the Miracast icon is pressed before the connection device is selected, the Connection device select screen will be displayed automatically. Then after the connection device is selected, the product will search and connect to the device automatically and return to the Miracast image display.
- If no connection device is found after the Miracast icon is pressed, an error will occur and the Connection device select screen will be displayed. Then after the connection device is selected, the product will search again and connect to the device automatically and return to the Miracast image display.

■ Miracast input

The screen of the Miracast supporting device can be displayed on the screen of the product. (Mirroring)

- ① Display the Home screen and select Miracast [].
- ② Select the icon of the device to connect.
- ③ Select the product from the menu of the connected Miracast device after the Connection device search screen is displayed.
- ④ The image of the connected Miracast device will be displayed on the screen of the product once the connection is successfully established.

To finish Mirroring, press the External input button [] of the product.

■ Using the timer

Open the Home screen and select "Timer" . P26

You can set the timer at the desired time. The alarm will sound at the set time.

※ The maximum time that can be set is 59 minutes and 50 seconds.

※ The gauge will decrease over time.



Icon	Name	Function
	Reset	The timer will be reset to [00:00].
	Time select	To set the time to sound the alarm. Adjust the time by selecting the icon. Time will increase each time the icon is tapped. (+10sec/+1min/+10min)
	Home	To return to the Home screen
	Document Camera	To display the camera image.

■ How to set the timer

Step 1. Click the Time select icon with the mouse to set the time.

Step 2. Press the Operation button (Play). The timer will start counting down and the gauge will decrease.

Step 3. When the set time is elapsed, the timer will sound.

■ How to stop the timer

Step 1. Press the Operation button (Pause) to pause the timer.


Step 2. Press the Operation button (Play) again to restart.

The alarm volume can be set from the Speaker volume menu in the Camera settings menu. P28

■ Using ELMO Play


You can download apps from the portal run by ELMO. The selected apps will be downloaded and installed automatically, which can be used with the product. For further information, visit the ELMO portal.

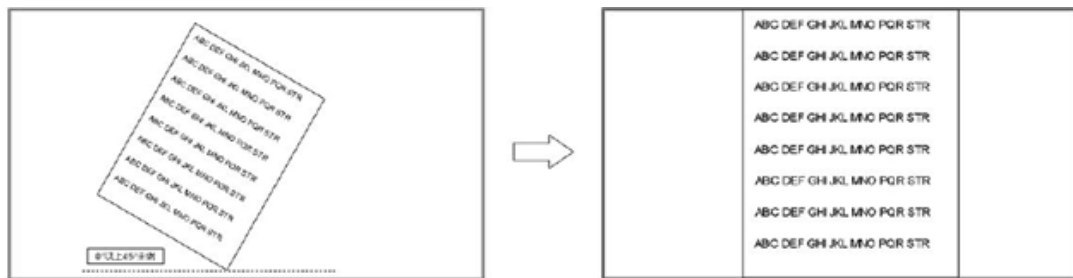
■ Using the file manager

By selecting the File Manager [] in the Home screen, you can access the storage devices such as the internal storage, the SD card and the USB flash drive. Open the desired storage and the list of folders will be displayed. You can view files in the folder or open them.



■ Using the automatic deskew function

By using this function the product will automatically detect the skew angle of the document such as a printing paper and a textbook in the shooting area and correct it to fit the screen.


- ※ The image will be rotated, enlarged, reduced or placed in the center.
- ※ If the “Keystone correction”  is enabled, the product will also correct the trapezium distortion when correcting the skew of the image.



■ Procedure

- ① Place a document in the shooting area.
- ② Long press the Freeze button [].
- ③ Release the Freeze button [] and the skew correction will be performed. The document will be displayed straight.

■ How to cancel


Freeze button [] again. The skew correction will be cancelled and the original image will be displayed.

Caution

Depending on the using environment or the shooting condition, the Auto deskew function may not work properly.

■ Using a whiteboard

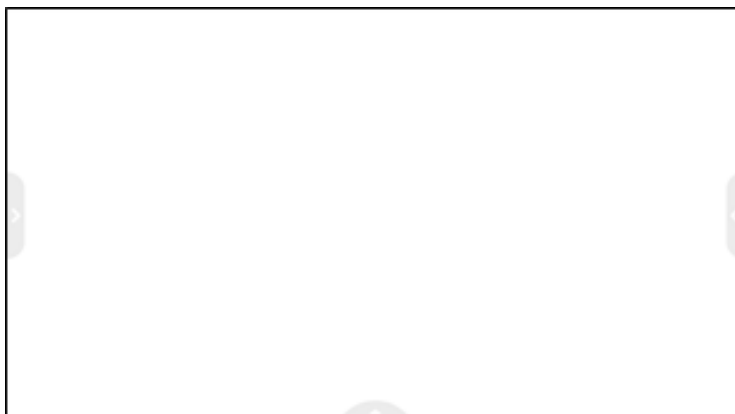
A white blank screen will be displayed. You can draw on the white blank screen by using Pen or Highlighter.

Step 1. Select the Home button to display the Home screen. 

Step 2. Select the Whiteboard icon [] to display a whiteboard.




Step 3. Swipe downward or drag the mouse downward to display the Drawing screen.








Step 4. Start drawing using the Pen menu for drawing.



Select the Pen icon to open the Pen menu to start drawing.
For details, refer to “Pen menu for drawing”  P18

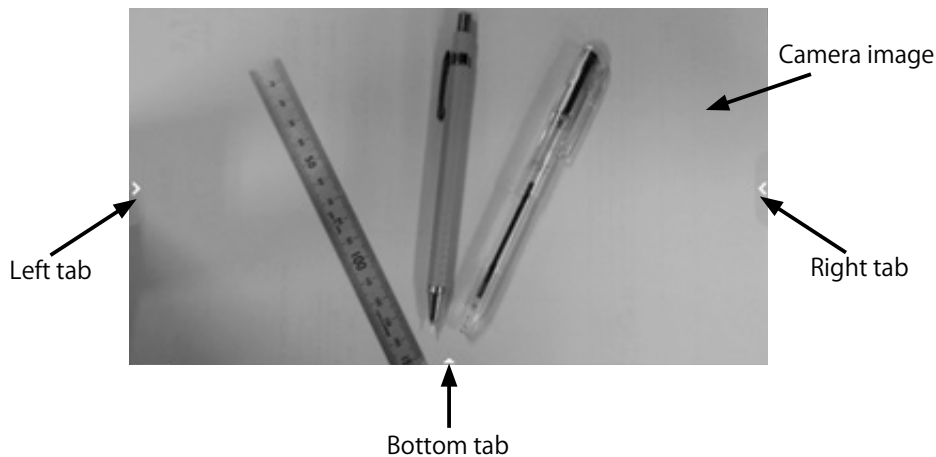
- ※ The drawings added to each whiteboard will be maintained while the Camera app is running.
- ※ Drawings can also be added on the external monitor by using the mouse.

Icon	Name	Function
	Return	To return to the Home screen.
	Initialize	To return to a white blank screen.
	Capture	To capture the Whiteboard screen.
	Record	To record the operations on the Whiteboard screen.
	Exit	To close the Whiteboard menu.

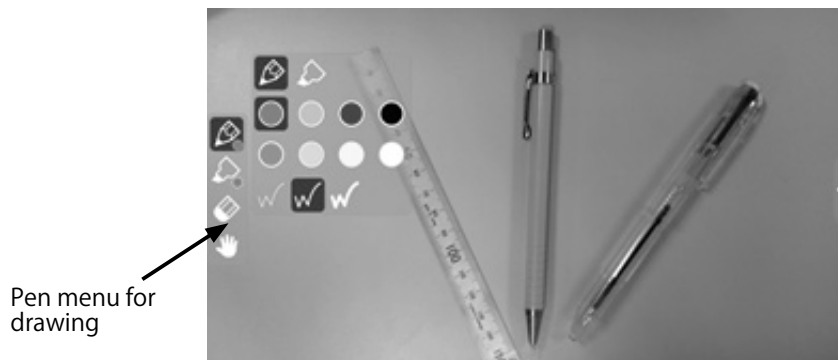
■ Using the drawing function

You can also draw over the live camera image.

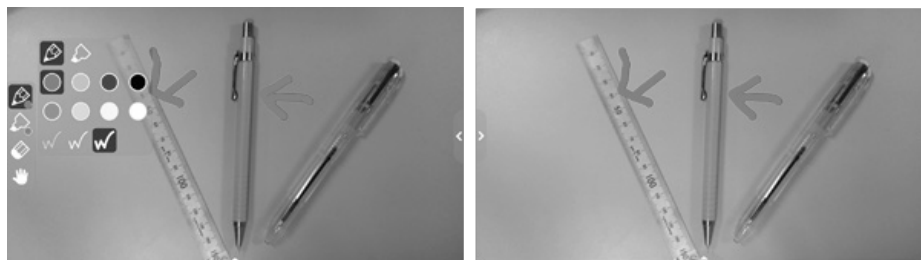
Step 1. Select the Document Camera icon [] to display the camera image.



Step 2. Select either the left tab or right tab to open the Pen menu for drawing.



Step 3. Start drawing.






By selecting the Pen icon, you can start drawing over the live camera image.




For details, refer to "Pen menu for drawing" . P18 

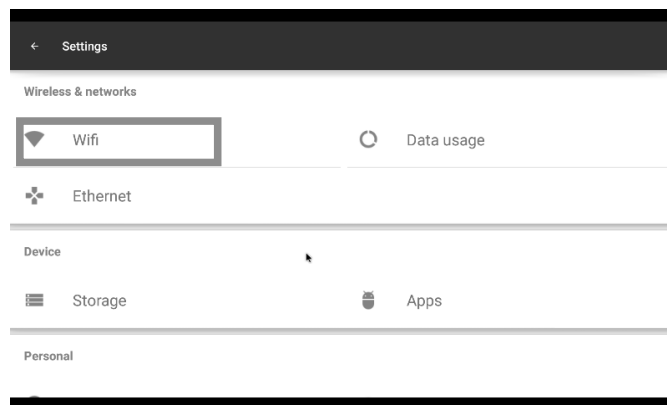
※ The drawings added to the camera image will be maintained while the Camera app is running.

■ Using the browser

After the WiFi configuration is completed, start the browser [] in the Home screen to connect to the Internet. 

※ If the LAN cable is connected and the Ethernet configuration is completed, the LAN connection has a priority over the WiFi connection. 
If the dhcp is set to ON, the system will connect the network automatically. Set it to OFF if you need to enter the IP address manually.

Step 1. Press the Settings button to open the Settings screen. Select WiFi [] from the “System Setting” []. 




Step 2. A list of network will be displayed. Select the SSID to connect.


Step 3. When the security setting is enabled, a password setting window will be displayed. Enter the password and press “Enter” .

Step 4. Press “Connect” to connect to the Internet.

■ Displaying the external input image

The image being input to the HDMI IN port can be output from the HDMI OUT port.  P7

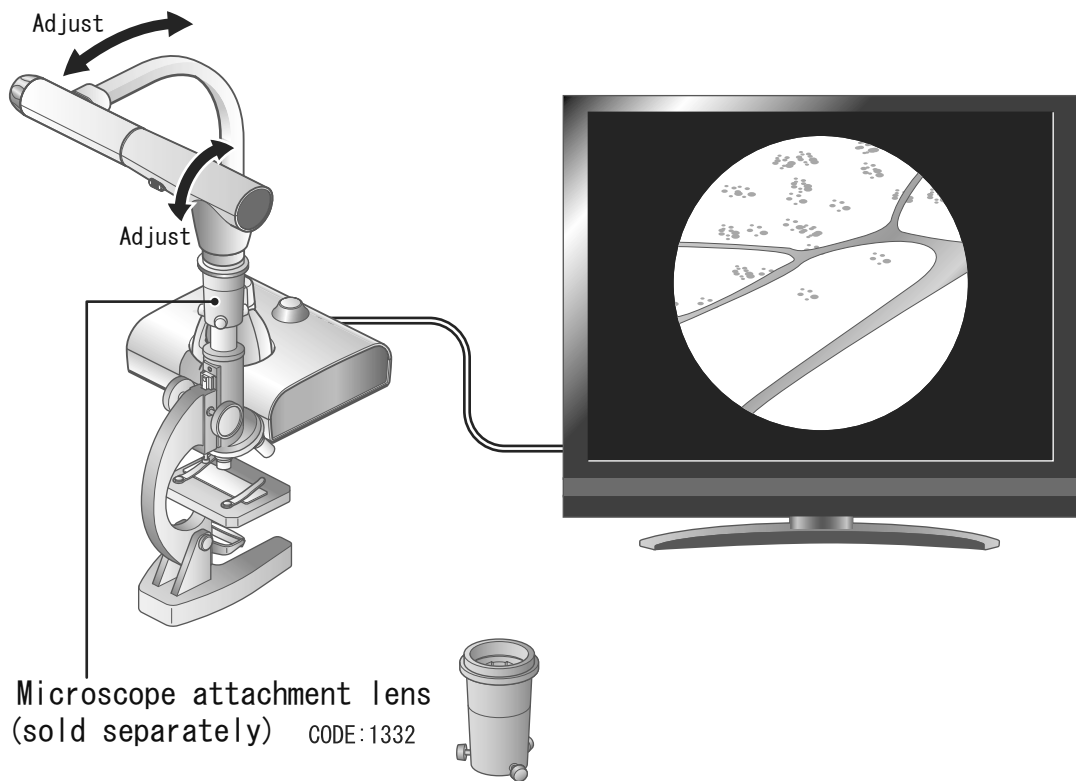
For information about switching the image source from the camera image, refer to “Selecting the image source” .  P24

The status of the image currently displayed on the monitor will be indicated by the External input LED. []




Status	External input LED
HDMI external input	Blue
HDMI output	Off

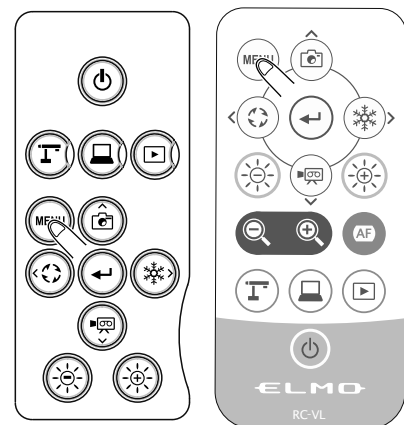
3-5 Displaying enlarged images using a microscope

By attaching the separately sold microscope attachment lens to a microscope, you can display the enlarged image through the document camera lens.



Microscope mode operations

When the Microscope icon [] in the menu displayed by pressing the MENU button [] on the remote control or the operating panel is selected while the camera image or the playback image is displayed, the product automatically adjusts the focus position and zoom position. Select the Return icon [] to exit the Microscope mode.



■ Procedure

- ① Change the setting of the product for using a microscope.

Press the [] button.



Press [].

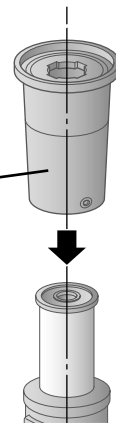
- ② Set the microscope.

Place a subject you want to view, such as a prepared slide, on the microscope and then look into the microscope to adjust the focus and brightness.

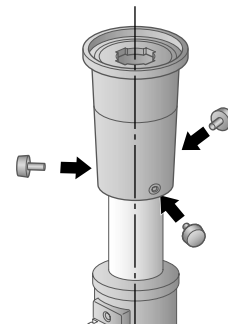
- ③ Attach the microscope attachment lens.

- Attach the microscope attachment lens to the eyepiece.

Set the microscope attachment lens



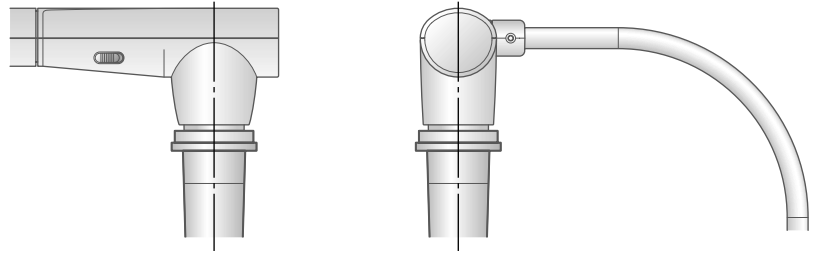
- Match the centers of the microscope attachment lens and eyepiece, and use the three screws to evenly tighten the lenses against each other.



Caution

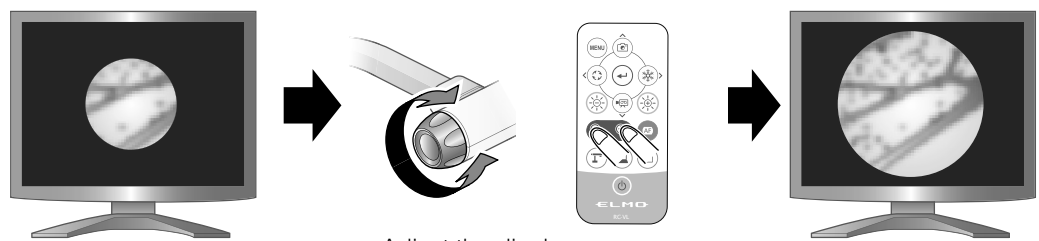
If the screws are screwed too tightly, the eyepiece or tube may be damaged. The screws may leave scratches where they come in contact with the microscope. Taping the microscope before attaching the microscope attachment lens may alleviate this problem.

- ④ Adjust the angle of the microscope and the product to fit each other.



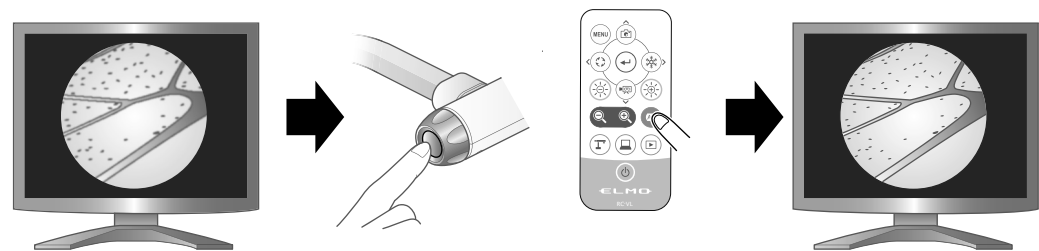
- ⑤ Adjust the brightness.
Adjust the brightness with the mirror or the light on the microscope.

- ⑥ Adjust the display range.




Adjust the display range.

- ⑦ Adjust the focus.



Focus a camera.

■ Exiting the Microscope mode

Select the Return icon [] to exit the Microscope mode.



Note

- Depending on the type of eyepiece, you may not be able to view the object clearly even after adjusting the zoom.
- We recommend using a WF type eyepiece. If you do not use a WF type, we recommend using an eyepiece of 10x or less.
- Adjust the focus manually when it is hard to focus automatically. [P.21](#)
- You can use the microscope attachment lens when the external diameter of the eyepiece is 20 to 28mm.
- Use the thinner guide ring for Microscope lens attachment. There are two types of rings included in the package; the thicker one is not used here.

4


LIST OF ERROR MESSAGES

Error item	Error message	Possible cause
SD card	Could not play file.	<ul style="list-style-type: none"> • The file is broken. • The file extensions not supported. • The SD card was removed. Check if the file is broken. Check if the file extension is supported by the product.
USB flash drive	Could not play file.	<ul style="list-style-type: none"> • The file is broken. • The file extensions not supported. • The e USB flash drive was removed. Check if the file is broken. Check if the file extension is supported by the product.
Internal storage	Could not play file.	<ul style="list-style-type: none"> • The file is broken. • The file extensions not supported. Check if the file is broken.
Image capture	Could not capture image.	<ul style="list-style-type: none"> • The SD card or the USB flash drive is not recognized. • There is a malfunction in the internal storage. Check if the recording media is inserted properly.
	Not enough capacity in SD card or USB flash drive.	<ul style="list-style-type: none"> • There is not enough capacity in the SD card or the USB flash drive. Check the remaining capacity. "Settings" → "System Setting" → "Storage"
Video recording	Could not record video.	<ul style="list-style-type: none"> • The SD card or the USB flash drive is not recognized. • There is a malfunction in the internal storage. Check if the recording media is inserted properly.
	Not enough capacity in SD card or USB flash drive.	<ul style="list-style-type: none"> • There is not enough capacity in the SD card or the USB flash drive. • The data amount of the destination device reached its limit. Check the remaining capacity. "Settings" → "System Setting" → "Storage"

Error item	Error message	Possible cause
Playback of content item	Could not play content item	<ul style="list-style-type: none"> • The content item is not supported. • The file is broken. • The file size is too large. Check if the file is broken. Check if the file extension is supported by the product. Check if the file size is too large.
Browser	Not connected to internet.	<ul style="list-style-type: none"> • The product is not connected to WiFi or Ethernet. Check if WiFi configuration or Ethernet configuration is completed.

5-1 Symptoms and Confirmation

Check the following items. If any abnormality is found, consult the dealer from whom you purchased this product or our nearest branch/office.

Symptom	Possible cause/remedy
No image is displayed.	<ul style="list-style-type: none"> • The cable is not correctly connected. • The AC adapter is disconnected from the wall outlet. • The AC adapter is disconnected from the power supply socket of the product. • The power is not ON. (Blue light) • Zoom is set at the TELE side, displaying only the white/black part of the document. • The output resolution setting of the connected monitor or projector does not match that of the product because the resolution of the product is set to AUTO. Press the MENU button [] several times to change the resolution setting to AUTO. ※ This works when the resolution setting is set to AUTO. • If you turn the power ON immediately after turning it OFF, the product may not start. Wait for several seconds after turning the power OFF, and then turn it back ON. • Reconnect the AC adapter.
The output image (resolution) changes automatically.	<ul style="list-style-type: none"> • When the HDMI monitor is connected, the output image (resolution) is automatically changed based on information from the connected monitor.
No image is displayed from the USB.	<ul style="list-style-type: none"> • No image is output from USB when the product is in Play mode. Check whether the product is in Play mode. If the product is in Play mode, change the output image to the camera image.
The image is out of focus.	<ul style="list-style-type: none"> • The document (subject) is too close to the lens. Move the document (subject) slightly away from the lens.
The image is too dark.	<ul style="list-style-type: none"> • The intensity of the lighting is insufficient. Adjust the brightness by turning on the LED lighting on the camera head.
Images on the SD card/USB flash drive are not displayed.	<ul style="list-style-type: none"> • Remove the SD card/USB flash drive, wait a few seconds and reinsert.

Symptom	Possible cause/remedy
The image is striped.	<ul style="list-style-type: none"> This may be interference fringes between dots of printed matter and TV scanning lines or CMOS pixels. Changing the shooting range may improve the problem. Vertical stripes may appear on an LCD projector image. Manually adjusting the dot clock at the projector side may improve the problem.
The image does not move.	<ul style="list-style-type: none"> Camera image is set to Pause. Press the Pause button on the operating panel or the remote control again to restart.
The remote control does not work.	<ul style="list-style-type: none"> Battery power is low. Replace the coin battery with new one. The incorrect remote control is being used. Use the supplied remote control.
After inserting the SD card/USB flash drive, operations cannot be performed.	<ul style="list-style-type: none"> The SD card/USB flash drive is not being read correctly. Use the SD card/USB flash drive after formatting it using a computer.
Drawing speed of the IWB is too slow.	<ul style="list-style-type: none"> Drawing speed may become slow depending on the resolution setting of the unit. This is not a malfunction.
The UVC video stream is upside down.	<ul style="list-style-type: none"> Check that the graphics driver and other device drivers on your computer are updated. The latest device drivers are available from the computer manufacturer.
The displayed UVC image contains images other than the camera image	<ul style="list-style-type: none"> The software and OS you are using or the connection status may be causing images other than the camera image to breakthrough while displaying the camera image. This problem can be solved by reconnecting the device or restarting the software.
A software error message appears and the UVC image is not displayed	<ul style="list-style-type: none"> If it is taking too much time for the preparation of the image output, the software may determine this to be an error. Restart the product, reconnect it to the computer, and then start the software.
The UVC image fails to be output	<ul style="list-style-type: none"> Disconnect the USB cable, restart the software, and then connect the USB cable again. If UVC image still fails to be output after restarting, contact the software vendor and ask if the software you are using supports MJPEG.
Operation is disabled during calibration	<ul style="list-style-type: none"> Disconnect the wireless adapter and retry.

About the light (LED lighting)


- The brightness of the light will diminish with long-term use. If its brightness has significantly diminished, consult the dealer from whom you purchased this product or our nearest branch/office for replacement.

About long-term usage of this product

- Due to the lifetime of its parts, if the product is used for longer than the warranty period, its performance and quality may deteriorate. In this case, we will replace the parts for a charge. Consult the dealer from whom you purchased the product or our nearest branch/office.

5-2 Other useful information

- We do not guarantee compatibility with all devices such as mouse, pen tablet, touchscreen and miracast device. For information about recommended devices, contact the dealer from whom you purchased the product.
- Depending on the type of USB flash drive or SD card, writing or reading operation may fail.
- The WiFi connection may be disconnected during Miracast communication.
- There may be cases when it is difficult to establish WiFi connection. Restarting the product after several minutes of disconnecting the AC adapter may improve the problem.
- The lens of the product may move after the product is turned on. This movement is to adjust the focus position.
- The default setting of the speaker volume may be set to mute when an external microphone or speaker is connected for the first time.
- Using the product near a device which uses infrared signals may adversely affect the IR receiver function of the remote control. Check the performance in advance.
- Depending on the type and length of the cable used, there may be distortion of the image. Check the performance in advance.
- Connecting multiple devices (such as the mouse and the pen tablet) may interfere with each other and adversely affect the operation.
- In order to prevent operation errors, the buttons are designed not to react to continuous, quick actions.
- We do not guarantee that the still images and videos recorded by the product will be compatible with all playback devices or software.
- After the AC adapter is connected to the product, the power will be automatically turned on when a USB flash drive or SD card is connected.
- We do not guarantee that the product can playback all still images and videos recorded by third-party devices.
- The product's performance may become slow if too many files are in the storage.
- Using some functions together (such as UVC function and recording function) may adversely affect the performance of the product. Check the performance in advance.
- We do not guarantee proper operation with all possible combinations of other products and PC software (including ELMO's products). Check the performance in advance.

-
- When you execute a function such as recording, CPU usage or memory usage may increase, resulting in performance degradation in some cases. Do not execute functions continuously. Confirm the operation before executing functions continuously.
 - When multiple apps are running, performance may degrade or app may stop due to insufficient memory. In that case, error messages may appear. Press the [] button to hide the error message. To improve the problem, press the Power button to enter the standby status. All the running apps will be stopped and the amount of memory will be increased.
 - The automatic miracast function is to start miracasting automatically when the product is started.
 - When the menu screen is displayed, the camera function will be temporarily stopped and other functions such as recording function and UVC function will also be stopped.
 - When the SD card or USB flash drive is connected to the product while it is running, the camera function will be temporarily stopped and other functions such as recording function and UVC function will also be stopped.
 - The USB port of the product does not support the USB hub.
 - It is not possible to control the connected device from the product during the external input mode. Only the image of the connected device will be displayed.

6

SPECIFICATIONS

6-1 General

Item	Specifications
Power source	12VDC (AC adapter AC100 - 240V)
Power consumption	16.2W
Outside dimensions	W355 × D373.5 × H426.5 [mm] (When setup)
	W195 × D294 × H469 [mm] (When folded)
Weight	Approx. 3.2kg (Main body only)
Input selection	Main/External (x1)
Output terminal	RGB output Mini Dsub 15P connector, female x 1
	HDMI output terminal x 1
	Line-out terminal \varnothing 3.5mm stereo minijack x 1
Input terminal	RGB input Mini Dsub 15P connector, female x 1
	HDMI input terminal x 1
	Mic-in / Line-in terminal \varnothing 3.5mm stereo minijack x 1
Ext. control terminal	USB device (2.0 compliant) x 2
	Type mini B receptacle x 1
Memory Interface	SD card slot x 1
	USB host (2.0 compliant) Type A receptacle x 1

※ Use pin plug for RCA pin in accordance with EIAJ RC-6703.

6-2 Main Camera

Item	Specifications
Lens	f=4.0mm ~ 48.0mm (12x zoom lens) F3.2 ~ F3.6
Frame rate	30fps
Limit of focus adjustment	From lens surface 50mm ~∞ (f=4.0mm - 23.4mm) 200mm ~∞ (f=23.4mm and higher)
Optical zoom	12x
Digital zoom	16x
Focus	Auto
Image pick-up element	1/2.3" CMOS
Effective pixels	Horizontal 3840, Vertical 2160 / 60fps Horizontal 3520, Vertical 2640 / 30fps
Resolution	HDMI : 1920 × 1080 / 1280 × 720 RGB : 1920 × 1080 / 1280 × 720 / 1024 × 768 USB : 1920 × 1080 / 1280 × 720 / 1600 × 1200 / 1024 × 768 / 640 × 480
White balance	Auto / Cloudy / Sunny / Fluorescent light / Incandescent light / Shade / Twilight / Fluorescent light (warm color)
Brightness adjustment	Manual
Image rotation	90° / 180°
Pause	Provided
Still image recording	Provided
Video recording	Provided
Flicker correction	60Hz / 50Hz

6-3 Illumination Device

Item	Specifications
Illumination	White LED

6-4 Trademarks and licenses

ELMO is a trademark or registered trademark of ELMO Co., Ltd.

SD, SDXC, SDHC and **SD** logo are trademarks SD-3C LLC.

HDMI, **HDMI** logo and High-Definition Multimedia interface are trademarks or registered trademarks of HDMI Licensing LLC.

QR code is a registered trademark of DENSO WAVE INCORPORATED.

This product is based on the work of the Independent JPEG Group.

All other company/product names described in this manual are trademarks or registered trademarks of their respective companies.

This product is licensed under the AVC Visual Patent Portfolio License (AVC Video) for the personal and non-commercial use of a consumer to (i) play AVC Video that was recorded by a consumer engaged in a personal and a non-commercial activity and/or, (ii) play AVC Video that was obtained from a video provider licensed from MPEG-LA, LLC. Additional information including that relating to promotional and commercial uses may be obtained from MPEG-LA, LLC.

Attention

- Unless used for personal use, it is prohibited by copyright law to record slides, books and photos without the prior consent of copyright holder.
- This product is designed to be used in industrial environment. If it is used in a residential area or in an adjacent area thereto, harmful interference to radio or television reception may occur.
Repair parts
- Repair parts are the items which are needed to maintain product functionality. The holding period of such repair parts is 8 years after the product discontinuation, which is equal to the repair period we will accept.
- Any image, which is obtained by this product, and which can be identified, is considered to be private information. Be forewarned that the person who makes use of such images shall be liable for disclosing of such images.

株式会社エルモ社

〒457-0078

名古屋市南区塩屋町一丁目3番地4

Web : <https://www.elmo.co.jp>

製品のお問い合わせは、下記営業所へ

- 東日本営業所
 - 北海道オフィス
〒001-0021 札幌市北区北21条西8丁目3番8号
バックスビル
TEL.011-738-5811
 - 仙台オフィス
〒980-0802 仙台市青葉区二日町13番18号
ステーションプラザビル4階
TEL.022-266-3255
 - 首都圏営業所
〒108-0073 東京都港区三田3丁目12番16号 山光ビル4階
TEL.03-3453-6471
 - 中日本営業所
 - 名古屋オフィス
〒457-0078 名古屋市南区塩屋町一丁目3番地4
TEL.052-811-5261
 - 京都オフィス
〒604-8101 京都市中京区柳馬場御池下る柳八幡町65
京都朝日ビル10階
TEL.075-744-1360
 - 大阪オフィス
〒550-0002 大阪市西区江戸堀1丁目9番6号
肥後橋ユニオンビル10階
TEL.06-6443-6001
 - 西日本営業所
 - 福岡オフィス
〒812-0039 福岡市博多区冷泉町2番8号 朝日プラザ祇園2階
TEL.092-281-4131
 - 広島オフィス
〒730-0012 広島県広島市中区上八丁堀4-1
アーバンビューグランドタワー1104号室
TEL.082-221-2801
 - 熊本オフィス
〒861-2104 熊本市東区秋津3丁目11-7
TEL.096-282-8338

OVERSEAS SUBSIDIARY COMPANIES

ELMO USA CORP.

Headquarters
6851 Jericho Turnpike
Suite 145
Syosset, NY 11791
Tel. (516) 501-1400
Fax.(516) 501-0429
E-mail : elmo@elmousa.com
Web : <https://www.elmousa.com/>

ELMO Europe SAS

Headquarters
12 place de la Défense
Maison de la Défense
92974 Paris la Défense Cedex FRANCE
Tel. +33 (0) 1 73 02 67 06
Fax. +33 (0) 1 73 02 67 10
E-mail : info@elmoeurope.com
Web : <https://www.elmoeurope.com/>

German Branch
Hansaallee 201, Haus 1
40549 Düsseldorf Germany
Tel. +49 (0) 211 544756 40
Fax. +49 (0) 211 544756 60
E-mail : info@elmo-germany.de
Web : <https://www.elmo-germany.de/>

Middle East Branch
5WA-129, Dubai Airport Free Zone,
P.O Box 371556, Dubai,
United Arab Emirates
Tel. +971-(0)4-260-2390
Fax. +971-(0)4-260-2392
Web : <https://www.elmoeurope.com>

ELMO CO., LTD.

1-3-4, Shioya-cho, Minami-ku
Nagoya, 457-0078, Japan