

English

Canon Video Visualizer

RE-450X

INSTRUCTION MANUAL

NTSC/PAL

E

INTRODUCTION

Thank you for purchasing the Canon Video Visualizer RE-450X.

The RE-450X is a user-friendly portable image input device with a built-in video camera and a 12 × zoom lens. It projects images of flat documents, three-dimensional objects, film, etc., onto a video monitor. Here are the main features:

- Quality images can be immediately projected by the auto focus, auto white balance, and auto iris (automatic exposure) functions.
- This device has many terminals, including RGB OUT for high-definition XGA liquid-crystal projectors and other devices, RGB IN, VIDEO OUT, and S-VIDEO OUT.
- This device has a backlight that allows it to project film and other transparent media.
- Functions of the RE-450X can be controlled via the RS-232C connection.

To use this product correctly, please read this Instruction Manual carefully before operation. This Instruction Manual applies to both the NTSC model and the PAL model.

Confirm that the package contains the following items:

1. Canon Video Visualizer RE-450X.
2. Power cord (2 m/6.6 ft) × 1
3. RGB cable (one)
4. 3P to 2P adapter
 - * The ground wire has a cap.
5. Unit cover
6. Instruction Manual

IMPORTANT WARNINGS

Following signs are shown on the product.



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.

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



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 appliance.

- This Instruction Manual may not be copied, in whole or part, without prior consent of Canon.
- The content of this manual is subject to change without notice.
- Canon is not responsible for any damage, direct or indirect, arising from or related to this manual’s use.

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IMPORTANT USAGE INSTRUCTIONS

WARNING:



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

WARNING:



TO REDUCE THE RISK OF ELECTRIC SHOCK AND TO REDUCE ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

FCC NOTICE

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications are made, you could be required to stop operation of the equipment.

This digital apparatus does not exceed the Class B limits for radio noise emissions from a digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Bureau of Industry and Science Canada.

The serial number of this product can be found on the back of the unit.

No other unit has the same serial number. You should record the number and other vital information here and retain this book as a permanent record of your purchase to aid identification in case of theft.

Date of Purchase

Dealer Purchased From

Dealer Address

Dealer Phone No.

Model No. RE-450X

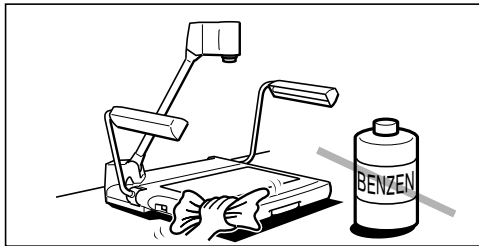
Serial No.

E

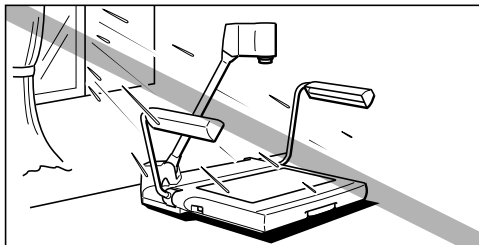
IMPORTANT SAFETY INSTRUCTIONS

In these safety instructions the word “product” refers to the Canon Video Visualizer RE-450X and all its accessories.

1. Read Instructions—All the safety and operating instructions should be read before the product is operated.
2. Retain Instructions—The safety and operating instructions should be retained for future reference.
3. Heed Warnings—All warnings on the product and in the operating instructions should be adhered to.
4. Follow Instructions—All operating and maintenance instructions should be followed.
5. Cleaning—Unplug this product from the wall outlet before cleaning.
Wipe the product with a clean soft cloth. If necessary, put the cloth in diluted neutral detergent and wring it out well, before wiping the product. Finally, clean the product with a clean dry cloth. Do not use benzene, thinner or other volatile liquids or pesticides as they may damage the product's finish. When using chemically-treated cleaning cloths, observe their precautions accordingly.

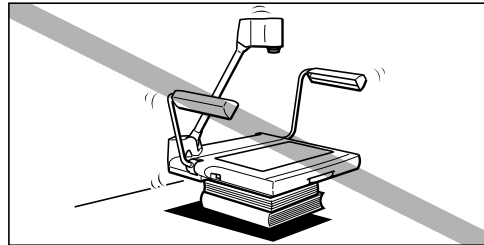


6. Accessories—Do not use non Canon approved accessories as they may be hazardous. Always use the specified connection cables and be sure to connect devices correctly.
7. Water and Moisture—Hazard of electric shock—Do not use this product near water or in rainy/moist situations. Do not put a heater near this product.



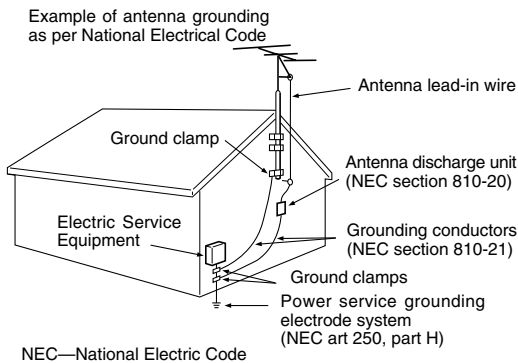
8. Placing or Moving—Do not place this product on an unstable cart, stand, tripod, bracket or table. The

product may fall, causing serious injury to a child or adult and serious damage to the product. 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.

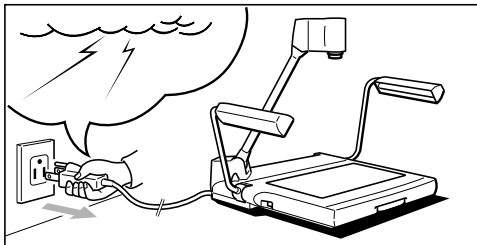


9. Power Sources—This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply in your home, consult your product dealer or local power company.
10. Grounding—This product is equipped with a 3-pronged grounding plug (the plug has a third grounding pin). The 3-pronged grounding 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.
11. Power-Cord Protection—Power cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to plugs, and the point from which the cords exit the product.
12. Outdoor Antenna Grounding—If an outside antenna is connected to the product, be sure the antenna is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70—1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See figure 1.

Fig. 1



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

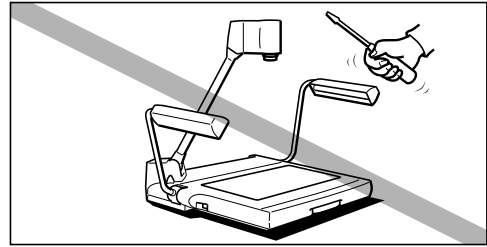


14. **Power Lines**—An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

15. **Overloading**—Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

16. **Objects 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. Be careful not to spill liquid of any kind onto the product.

17. **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.




18. **Damage Requiring Service**—Disconnect the 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 any liquid has been spilled onto, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally even if you follow the operating instructions, adjust only those controls that are covered by the operation instructions. 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 the cabinet has been damaged.
- When the product exhibits a distinct change in performance. This indicates a need for service.

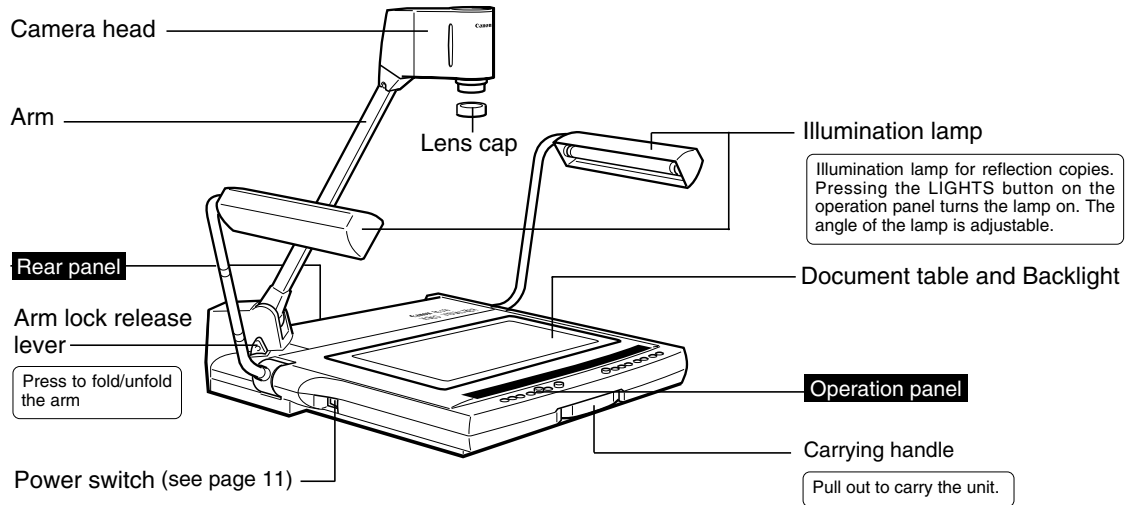
19. **Replacement Parts**—When replacement parts are required, be sure the service technician has used replacement parts that are specified by Canon or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

20. **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 safe operating order.

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1 NOMENCLATURE AND FUNCTIONS

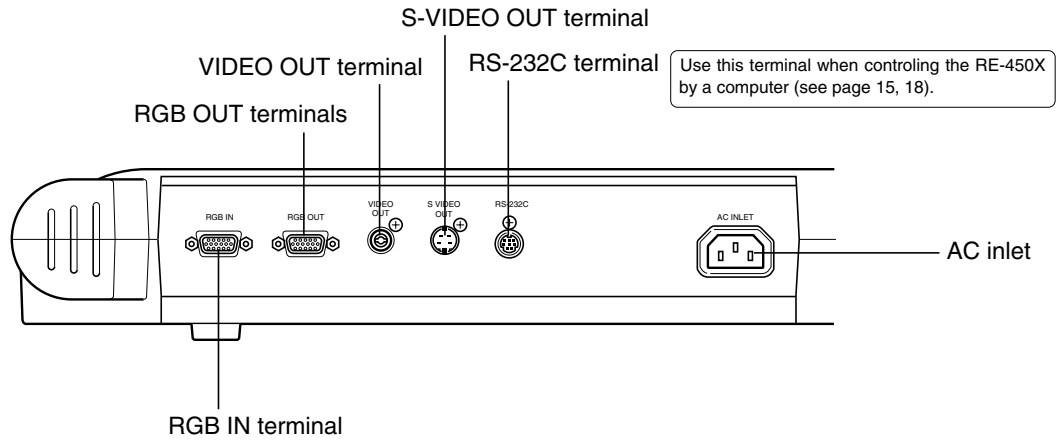


NOTICE After turning the power OFF, wait at least 5 seconds before turning the power ON again. Turning the power ON too soon may cause a malfunction.

MEMO The illumination lamps do not light up immediately after the LIGHTS button is pressed. To protect the lamps, the system preheats for 3 seconds, then turns the lamps on.

Rear Panel

See page 15 for system construction.



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Operation Panel

LIGHTS button/indicator

Use this button to turn ON the illumination lamps for reflection copies. The indicator flashes during preheating, and stays lit after preheating.

BACK LIGHT button/indicator

Use this button to turn ON the backlight for transparencies (see page 12). The indicator lights up when the backlight is used.

INPUT SELECT button/indicator

Use this button to select input source to switch between pictures via internal input (the unit's camera head) and pictures via external input (such as a computer) (see page 16). The indicator lights up when external input equipment is selected.

WHITE BALANCE button/indicator/control

Use this button/knob to adjust color tone (see page 13). To adjust manually, press the WHITE BALANCE button and turn the WHITE BALANCE knob. Turn the knob to the RED side to increase red tone, or turn the knob to the BLUE side to increase blue tone.

DETAIL control

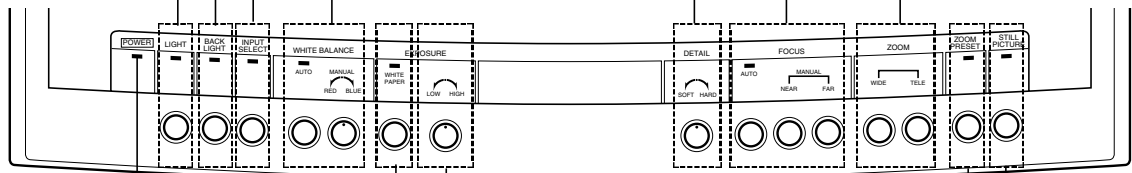
Use this control to adjust picture quality (see page 14). Turn the control to the HARD side to emphasize the outline, turn to the SOFT side for softer outline.

FOCUS buttons/indicator

Use this button to focus (see page 12). To focus manually, press the FOCUS button and then the NEAR button or the FAR button.

ZOOM buttons

Press the WIDE button to change the picture to wide-angle. Press the TELE button to change the picture to telephoto.



POWER indicator

Lights up when the power is ON (see page 11).

WHITE PAPER button/indicator

Use this button to make a paper document on the table appear whiter. The indicator lights up when this function is on.

EXPOSURE control

Use this knob to adjust image brightness (see page 14). To increase brightness, turn the knob to the HIGH side. To decrease brightness, turn the knob to the LOW side. Brightness may not be adjusted effectively using the EXPOSURE knob if the image is too dark.

ZOOM PRESET button/indicator

Press the ZOOM PRESET button to set the angle for letter/A4 size paper (see page 13). The indicator lights up when the button is pressed.

STILL PICTURE button/indicator

Press the STILL PICTURE button to freeze a moving output image. When the button is pressed again, the moving picture will start running again (see page 13). The indicator lights up when the picture is frozen.



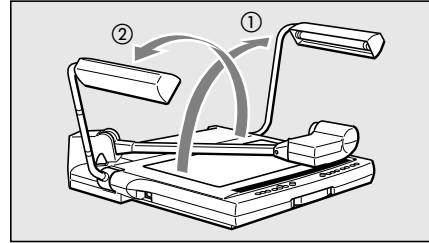
MEMO The illumination lamps and the backlight cannot be used at the same time.

2 ASSEMBLING, STORING AND CONNECTION

Assembling

1 Unfold and raise the pair of illumination lamps.

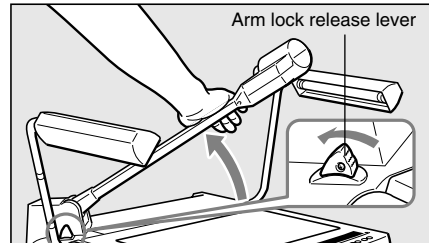
Raise the right-hand illumination lamp first (①), then the left-hand illumination lamp (②).



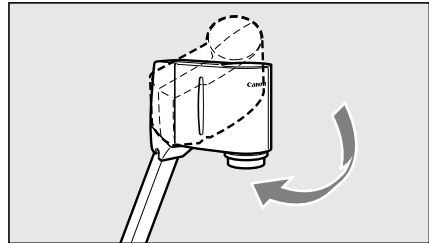
2 Press the arm lock release lever, and raise the arm until it stops.



Make sure to hold the arm when pressing the arm lock release lever. If the lever is pressed without holding the arm, the arm jumps up and may result in injury or malfunction. Please raise the arm slowly.

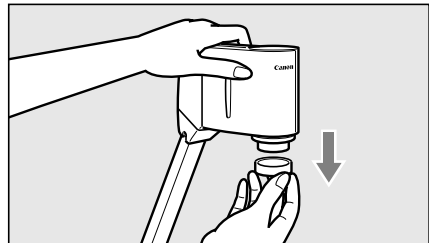


3 Direct the camera head towards the document table.



4 Remove the lens cap.

Keep the lens cap in a safe place.



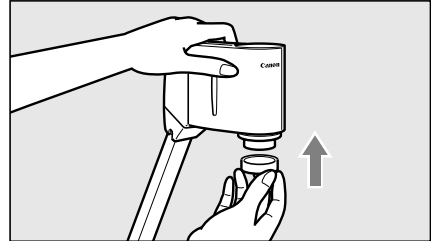
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Storing

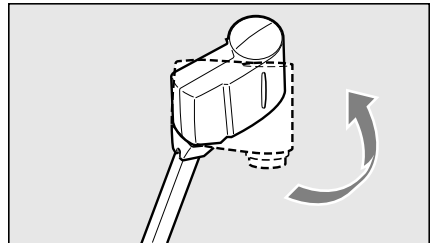
1 Put the lens cap to the lens.



NOTICE Be sure to turn the power OFF before storing the unit.



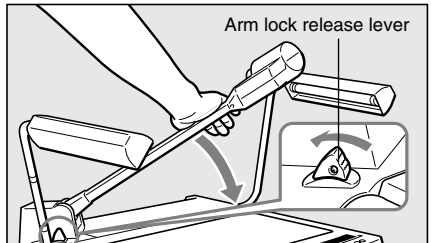
2 Direct the camera head sideways until it stops.



3 Hold the arm with your right hand and press the arm lock release lever, then pull the arm down to the document table very carefully.



NOTICE Make sure to hold the arm when stowing it. If the arm is stowed without being held, the arm jumps up and may result in injury or malfunction. Please stow it slowly.



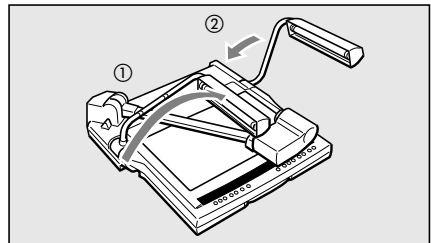
4 Fold the pair of illumination lamps very carefully.

Fold the left-hand illumination lamp first (①), then the right-hand illumination lamp (②).

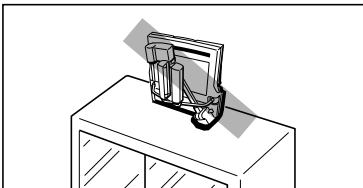


Do not touch the fluorescent lamps after the illumination lamps are turned off, as they may still be hot.

CAUTION



MEMO Put the supplied unit cover on the RE-450X when the unit is not in use. The unit cover has a pocket to store cords.

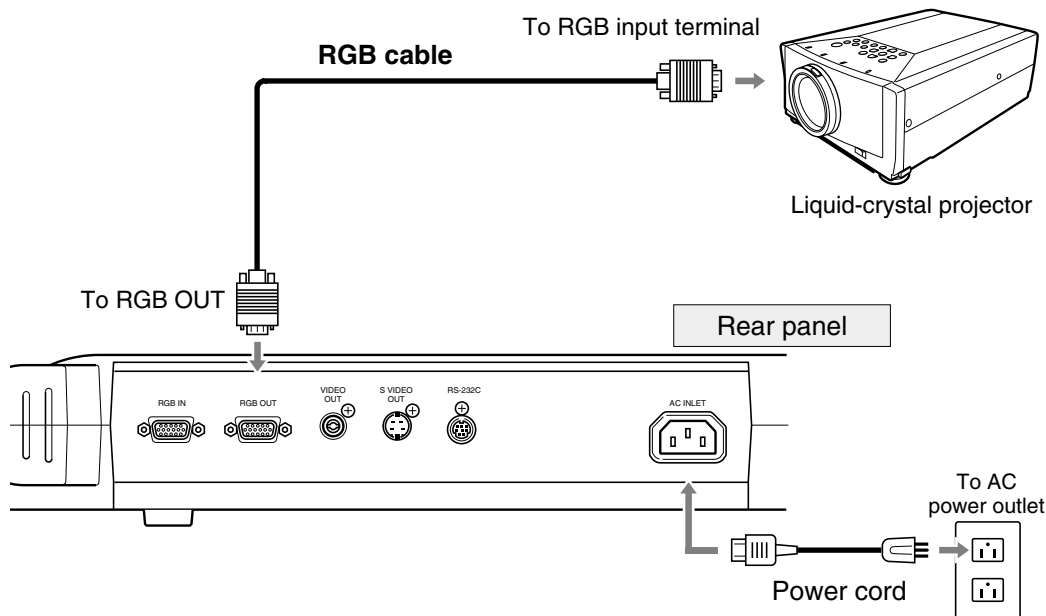


CAUTION

Place the unit horizontally when storing it. If the unit is stored vertically, it may fall down and cause injury or malfunction. When carrying the unit, turn the power OFF, disconnect the cords, fold the arm and the illumination lamps, and pull out the carrying handle.

Connection

To connect the RE-450X to a liquid-crystal projector, use the RGB cable included in the package. Use the power cable included in the package.



NOTICE To protect the RE-450X as well as other equipment in use, make sure all the equipment (if any) is OFF before connecting cables. Always hold onto the plug section whenever connecting/disconnecting the cables.



MEMO See page 15 for connecting various equipment. For details of operation, refer to the instruction manual of the equipment to be used.

NTSC

■ Installation Site and Environment

1. Connect the RE-450X to a correct electronic source.
Source voltage: 120VAC \pm 10%
Source frequency: 60 Hz
2. Install the RE-450X in a proper environment.
Temperature: 41°F – 95° F (5°C –35°C)
Humidity: 85% max (without condensation)

PAL

■ Installation Site and Environment

1. Connect the RE-450X to a correct electronic source.
Source voltage: 220 – 240VAC \pm 10%
Source frequency: 50 Hz
2. Install the RE-450X in a proper environment.
Temperature: 5°C –35°C (41°F – 95° F)
Humidity: 85% max (without condensation)

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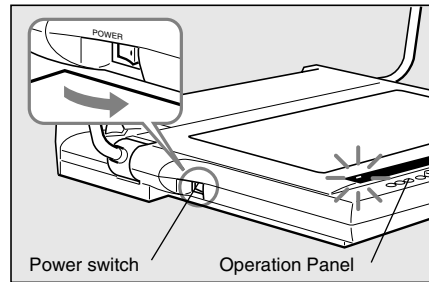
3 OPERATION

1 Turn the power ON.

When the power of the RE-450X is turned ON, the POWER indicator on the operation panel lights up.



- When the power is turned on, it takes about 20 seconds to show an image.
- When the power is turned on, white balance and focus are automatically adjusted.

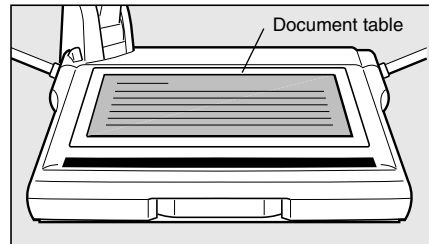


2 Turn ON the power source of the other equipment to be used.

Either the power of the RE-450X or other equipment may be turned on first.

3 Put the document at the center of the document table.

If no image is displayed, check to see that the lens cap has been removed.

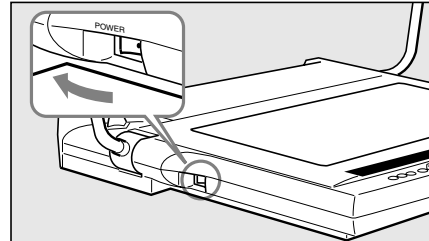


4 When operation is completed, turn the power OFF.

The POWER indicator goes off. The illumination lamps or backlight will go off (if they are on). Also turn OFF the power of other equipment.



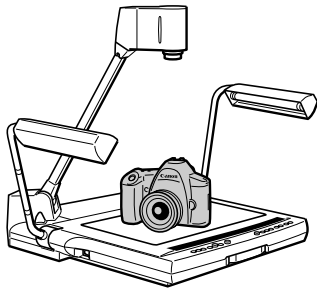
- After turning the power OFF, wait at least 5 seconds before turning the power ON again. Turning the power ON too soon may cause a malfunction.



The power of the RE-450X should be turned OFF when the unit is not used. Disconnect the power cord if the unit will not be used for extended periods.

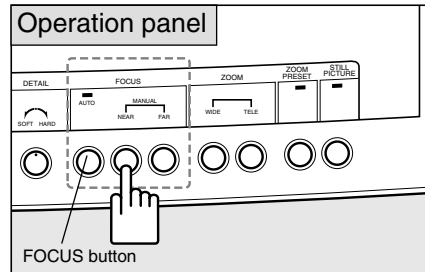
Manual Focusing

When trying to focus correctly or focusing on a particular point of three-dimensional objects, you can achieve focusing by pressing the manual focusing buttons. The manual focusing is valid up to approx. 65mm above the document table.



When focusing the lens manually, press the FOCUS button first and then the NEAR button or the FAR button. During manual focus mode, the AUTO FOCUS indicator turns off.

To return to auto focus mode, press the FOCUS button.



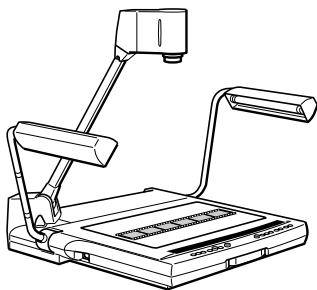
■ Undesirable objects for focusing

Although the auto focus function of the RE-450X is capable of focusing on most objects, objects such as those listed below may present some difficulty. If this happens, focus the lens manually by pressing the FOCUS button first and then the NEAR button or the FAR button.

1. Objects with a low reflection factor (such as a dark cloth, hair, etc.)
2. Intangible objects (such as candle light, smoke, etc.)
3. Objects having a glossy surface (telephone receiver, glassware, etc.)
4. Objects viewed through glass.
5. Objects with low contrast.

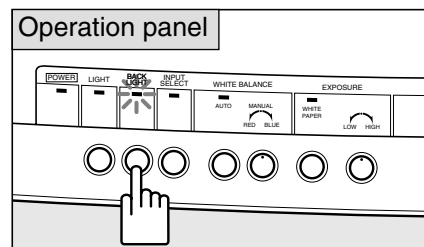
Film Projection

Use the backlight to project transparencies, such as OHP film and slides.



Press the BACK LIGHT button to project transparencies. The BACK LIGHT indicator lights up and the document table glows. If the illumination lamps have been lighted, they will go off.

Pressing the BACK LIGHT button again, turns the backlight off.



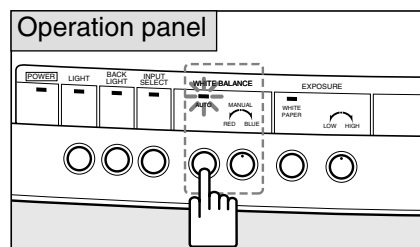
- Project the film to full monitor size by using the zoom button. If light from the backlight appears in the monitor, the picture itself will not appear very sharp.
- If the color tone seems unnatural, adjust the white balance manually (see page 13). If the auto focus function doesn't operate accurately, focus the lens manually.
- The illumination lamps and the backlight cannot be used at the same time.

Readjusting the White Balance

Readjust the white balance manually when the color tone seems unnatural or if you want to change it to your desired tone.

To readjust the white balance, complete the following steps:

- 1 Press the WHITE BALANCE button (to turn on manual mode).
- 2 Turn the WHITE BALANCE knob to adjust to the desired color tones. Turning the knob toward the RED side increases the red tones. Turning the knob toward the BLUE side increases the blue tones.



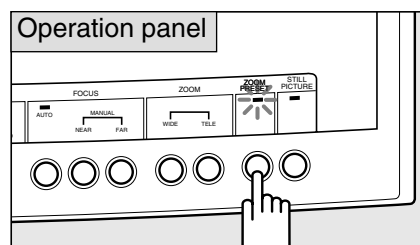
Changing the angle to Letter/A4 size

To make the angle Letter/A4 size, press the ZOOM PRESET button. An indicator lights up and output image size will become Letter/A4 size. When changing the angle, use the ZOOM buttons.

Press the ZOOM PRESET button to make the angle Letter/A4 size.

The ZOOM PRESET indicator flashes when the ZOOM PRESET button is pressed.

Use the ZOOM buttons to change the angle.



The set angle may be slightly different from Letter/A4 size.

Freezing an output image

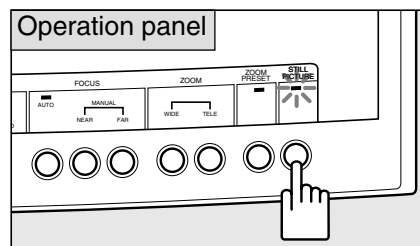
To pause a moving output image, press the STILL PICTURE button. An indicator lights up and the output image freezes.

If you press the button again, the frozen image will start moving again.

When an output image is a moving picture, if you press the STILL PICTURE button, the output image will be frozen.

The STILL PICTURE indicator lights up while the image is frozen.

If you press the STILL PICTURE button again, the frozen picture will start moving again.



- You cannot make adjustments such as zoom, focus, or white balance while an image is frozen.
- You cannot save frozen pictures.

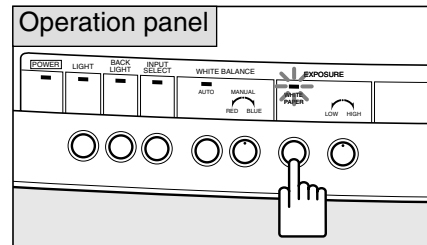
Projecting white documents

To project white parts of white documents much whiter, press the WHITE PAPER button. If the button is pressed, the WHITE PAPER indicator lights up. If the button is pressed again, the indicator turns off and returns to regular mode.

To project white documents much whiter, press the WHITE PAPER button.

If the button is pressed, the WHITE PAPER indicator lights up.

If the button is pressed again, the indicator turns off and returns to regular mode.



The effectiveness may vary depending on the document, including how dark it is.

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Adjusting Brightness and Picture Contrast

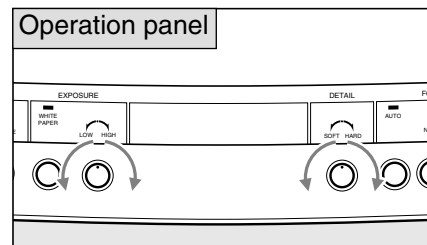
The brightness of the picture can be controlled by the EXPOSURE control. When the document is dark, has low contrast, or is small and dim against a brighter background, use the EXPOSURE control to make the image clearer.

To adjust brightness, turn the EXPOSURE knob. Turn the knob toward the HIGH side to brighten the image. Turn the knob toward the LOW side to darken the image.

Use the DETAIL control to adjust picture quality. Turn the control toward the HARD side to emphasize the outline of an object. Turn the control towards the SOFT side for a softer outline.



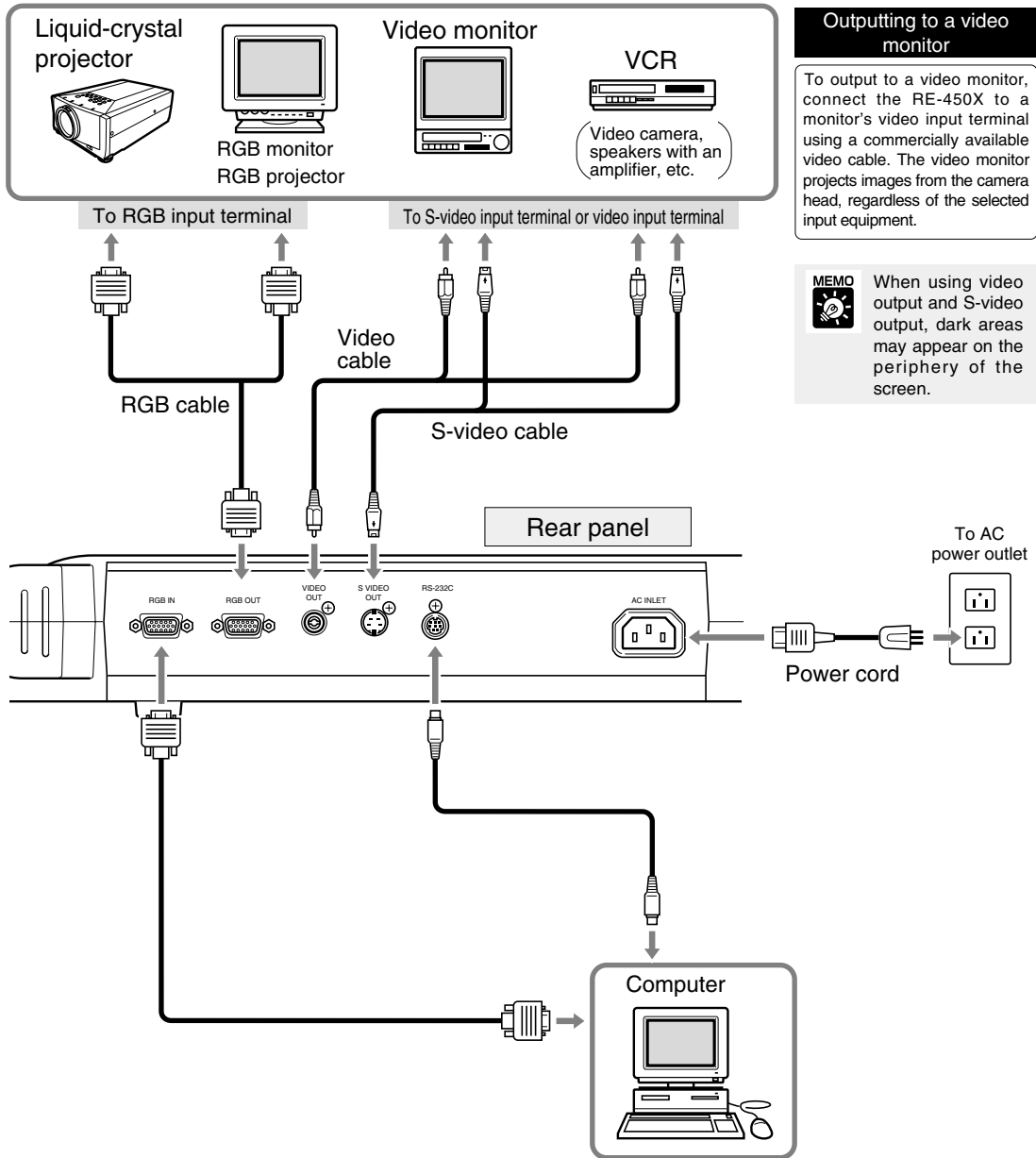
Brightness may not be adjusted effectively using the EXPOSURE knob if the image is too dark.



4 SYSTEM CONNECTION

The following equipment can be connected to the input and output terminals. Use the included power cord. For cables other than the power cord and the RGB cable, use commercially available cables. For details of operation, refer to the instruction manual of the equipment to be used.

Output Equipment



Outputting to a video monitor

To output to a video monitor, connect the RE-450X to a monitor's video input terminal using a commercially available video cable. The video monitor projects images from the camera head, regardless of the selected input equipment.



MEMO When using video output and S-video output, dark areas may appear on the periphery of the screen.



NOTICE When connecting to equipment such as a video monitor or a VCR, check if your RE-450X model uses NTSC or PAL format, and use equipment compatible with the appropriate format.

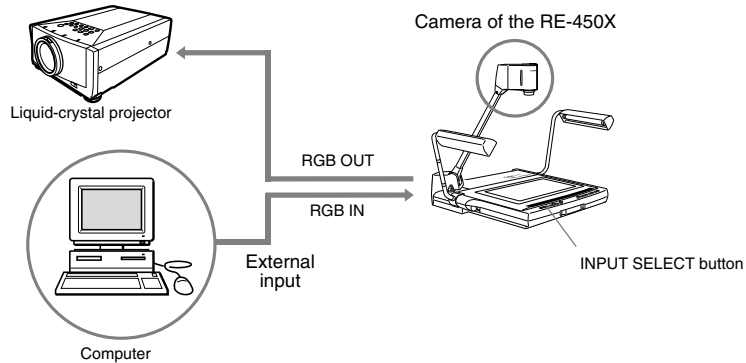
To control by a computer

To control certain functions of the RE-450X by a computer, complete the following steps:

- ① Connect the RE-450X to the computer using a RS-232C cable.
 - ② Turn ON the power to the equipment.
 - ③ Operate the computer.
- For details, please consult your dealer.

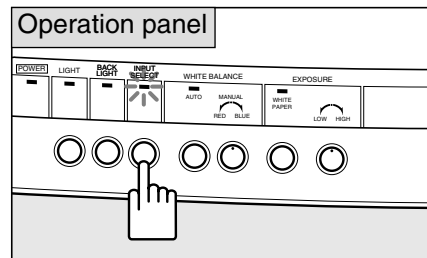
Changing to Pictures via External Input Equipment

If you connect a computer or other equipment to the RGB input terminal, you can project images from that equipment simply by pressing a button.



To switch to pictures from external input equipment, press the INPUT SELECT button.

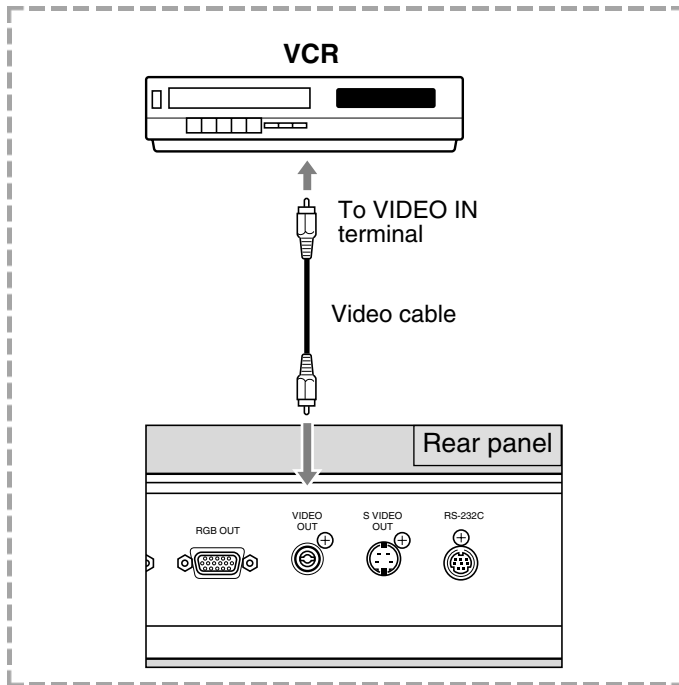
The INPUT SELECT indicator lights up, and pictures are output from the equipment connected to the RGB input terminal. To return to pictures from the camera head, press the INPUT SELECT button again.



Regardless of the selected input equipment, pictures from the camera head will be output to the video output terminal and S-video output terminal.

Recording by VCR

If you want to record using a VCR, connect the RE-450X to the VCR using a commercially available video cable. For details of operation, refer to the instruction manual for the equipment to be used.



Check if your RE-450X model is uses NTSC or PAL format, and use a VCR compatible with the appropriate format.



When you use a VCR with an S-video outlet, use S-video cables to connect to the S-video outlet. This will enable you to project a high quality image.

Functions Controlled by a Computer

The following functions can be controlled by a computer. For more information, please contact your dealer.

	Category	Abbreviation	Meaning
Camera control	Zoom lens control	Zoom STOP Zoom TELE Zoom WIDE Zoom positioning default position Zoom positioning A4 landscape Zoom positioning Zoom speed	The zoom lens stops. Moves the zoom lens toward telephoto. Moves the zoom lens toward wide-angle. Moves the zoom lens to default position. Moves the zoom lens to A4 landscape position. Moves the zoom lens to specified position. Sets lens zooming speed.
	Focus control	Focus AF Focus MANUAL Focus STOP Focus NEAR Focus FAR	Switches to auto focus mode. Switches to manual focus mode. Stops lens focus movement. Moves lens focus closer. Moves lens focus farther.
	White balance setting	White balance AUTO White balance MANUAL White balance value designation	Adjusts white balance automatically. Adjusts white balance manually. Specifies white balance target value.
	Exposure compensation	Exposure value designation Exposure mode NORMAL Exposure mode WHITE PAPER	Specifies exposure value. Switches exposure to NORMAL mode. Switches exposure to WHITE PAPER mode.
	Still picture	Still picture ON Still picture OFF	Turns STILL PICTURE mode ON. Turns STILL PICTURE mode OFF.
	Outline adjustment	DETAIL setting	Sets picture quality adjustment values.
System control	Input signal selection	Input selection CAMERA Input selection EXTERNAL	Selects the internal camera head as the input signal. Selects external signal as the input signal.
	Illumination control	Lights ON Lights OFF Backlight ON Backlight OFF	Turns the illumination lamps on. Turns the illumination lamps off. Turns the backlight on. Turns the backlight off.
	Control mode selection	Host control mode Local control mode	Switches the RE-450X to be controlled by a computer. Cancels the Host Control Mode.
	Information output	Model name request ROM version request	Reads the RE-450X model information. Reads ROM version information.

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5 TROUBLESHOOTING

If the RE-450X does not function properly, check the following points before contacting your dealer.

Problem	Possible cause	Reference page
No image appears on the monitor	• The lens cap has not been removed.	8
	• The power of the RE-450X or other equipment has not been turned ON.	11
	• Connection may be incorrect.	15
	• The input source is not selected correctly.	16
The picture cannot be focused correctly	• The document may be too dark or glowing.	12
	• Strong light may be reflected on the screen.	12
	• The object has low contrast.	12
	• Focusing has been set in manual mode.	12
	• The image is frozen.	13
The zoom function doesn't work	• The image is frozen.	13
Pictures appear reddish/bluish	• The white balance has been adjusted manually.	13
	• The color tone of the video monitor is not correct.	—
Pictures are too bright/dark	• The WHITE PAPER button is on.	14
	• Exposure of the RE-450X or monitor has not been adjusted correctly.	14
	• The object is not illuminated properly.	—
The input source cannot be changed	• The power of the RE-450X or other equipment has not been turned ON.	11
	• Connection may be incorrect.	15
The screen doesn't change	• The image is frozen.	13
The illumination lamps do not light up immediately when the LIGHTS button is pressed	• To protect the lamps, the system preheats for 3 seconds, then the lamps light up. During preheating, the LIGHT indicator flashes. This is not a malfunction.	—
The RE-450X cannot be controlled by a computer	• The power of the RE-450X or other equipment has not been turned ON.	11
	• Connection may be incorrect.	15
	• Incorrect operation may be the cause.	—

If the problem cannot be solved after checking the above points, please contact your dealer.



The fluorescent illumination lamps and backlight are consumables. Replace with a new lamp if a lamp starts flickering or becomes dark. For details of replacement, please consult your dealer.

6 SPECIFICATIONS

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Signal output method	XGA output (VESA compliant)
Image device	1/3" CCD
Effective pixels	Horizontal 1,024 pixels × Vertical 768 pixels
Synchronization	Internal synchronization only (XGA output and NTSC output are asynchronous)
Resolution	XGA output 520 horizontal TV lines or more, 450 vertical TV lines or more NTSC/PAL output 420 horizontal TV lines or more, 300 vertical TV lines or more
Imaging speed	XGA output 15 frames/sec.
Projection lens	F=5.4mm–64.8mm F1.8-F2.8 10 element, 8 group design
Projection range	(Maximum) 306 × 230mm – 31.5 × 23.7mm
Zoom	12× power zoom with PRESET ZOOM button for A4 size
Focusing	Power auto/manual
Iris adjustment (exposure)	Power auto/manual (± about 2EV) with WHITE PAPER button for white documents
White balance	Auto/manual
Illumination lamps	6W fluorescent lamp × 2, high-frequency lighting, angle-adjustable
Backlight	4.8W cold cathode lamp × 2, high-frequency lighting
Input sources	Can be switched between internal camera head/external input equipment for XGA only
Input/output terminals	RGB input (XGA) D-SUB 15-pin × 1, input impedance: 75Ω RGB output (XGA) D-SUB 15-pin × 1, output impedance: 75Ω Video output RCA pin jack × 1, output impedance: 75Ω S-video output 4-pin mini-DIN × 1, output impedance: 75Ω RS-232C serial interface × 1 AC input AC200-240V, 50Hz
Power source	AC200-240V, 50Hz
Power consumption	Approx. 30W
Dimensions	Operating position: 782 (W) × 524.8 (D) × 556 (H)mm Folded position: 486 (W) × 524.8 (D) × 556 (H)mm
Weight	Approx. 10kg
Operating environment	Temperature: +5°C – +35°C (4°F - 95°F) Relative humidity: 20% – 85% (no condensation)

- Weight and dimensions are approximate.
- Errors and omissions excepted.
- Specifications and design of the product are subject to change without notice.
- Canon is a registered trademark of Canon Inc.