

ELMO**取扱説明書**

ご使用に先だち取扱説明書をよくお読みいただき、大切に保存してください。

INSTRUCTION MANUAL

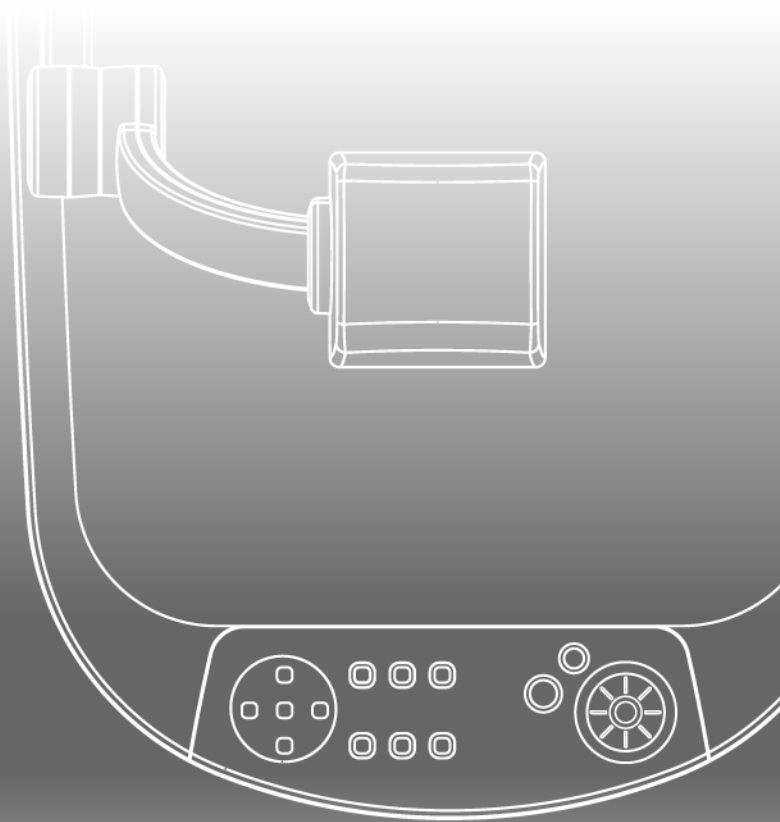
Please read this instruction manual carefully before using this product and keep it for future reference.

BEDIENUNGSANLEITUNG

Bitte lesen Sie diese Bedienungsanleitung sorgfältig, bevor Sie das Gerät benutzen. Bewahren Sie die Anleitung als Referenz auf.

MODE D'EMPLOI

Lire attentivement ce mode d'emploi avant de mettre le Présentateur Visuel en service. Le conserver à titre de référence permanente.

**VISUAL
PRESENTER****P30**



VISUAL PRESENTER **P30** INSTRUCTION MANUAL

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

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 fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the 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:

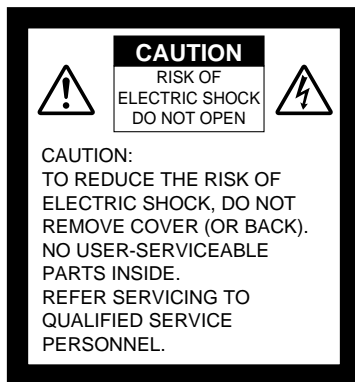
- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by 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.

■ This product includes a Fluorescent Lamps component that contains mercury. Please consult your state and local regarding proper disposal or recycling, and do not place in the trash.



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. This marking is located at the bottom of product.



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.

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

**THIS IS A CLASS A
PRODUCT.
IN A DOMESTIC
ENVIRONMENT THIS
PRODUCT MAY CAUSE
RADIO
INTERFERENCE IN
WHICH CASE THE
USER MAY BE
REQUIRED TO TAKE
ADEQUATE MEASURES.**

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.***

**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.

USER-INSTALLER CAUTION:

Your authority to operate this FCC verified equipment could be voided if you make changes or modifications not expressly approved by the party responsible for compliance to Part 15 of the FCC rules.

BEFORE YOU USE

- The power cord applicable to the local power specifications is attached. Be sure to use the power cord applicable to your local power specification.
- Do not leave this product under direct sunlight or by heaters, or this product may be discolored, deformed, or damaged.
- Do not place this product in any humid, dusty, windy or vibrating location. Use this product in the following environmental conditions:
Temperature: 5°C~40°C (41°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 directly point the camera lens into the sun, or the camera may be damaged.
- Caring for the batteries:
 - If this product is not used for a long time, take out the batteries from the wireless remote control.
 - Do not use rechargeable Ni-Cd batteries.
 - Do not use new and old batteries, or batteries of different types together.
 - Do not try to recharge or short-circuit the batteries.
- Luminescent and Black Spots
There may be some pixels that do not operate properly due to the use of CCD Area Image Sensors that are made-up of many pixels. You may experience luminescent or black spots on the screen; however, this is a phenomenon of CCD Area Image Sensors and is not a malfunction.
- Back up important data
Transfer the data in an SD card to a PC or other data storage means for backup purpose. Note with care that the data in the SD card could be lost due to failure or repair of this product.

PART NAMES
AND
FUNCTIONS

SETTING UP

STORING

OPERATION
PROCEDURE

VARIOUS
FUNCTIONS
AND OPERATIONS

ABOUT
RS-232C

TROUBLESHOOTING

SPECIFICATIONS

CONTENTS

PART NAMES
AND
FUNCTIONS

SETTING UP

STORING

OPERATION
PROCEDURE

VARIOUS
FUNCTIONS
AND OPERATIONS

ABOUT
RS-232C

TROUBLESHOOTING

SPECIFICATIONS

1. PART NAMES AND FUNCTIONS

| | |
|--|----|
| Name of Each Part..... | 63 |
| Appearance..... | 63 |
| Functions..... | 64 |
| Front Operating Panel..... | 64 |
| Rear Panel..... | 65 |
| Side Panel..... | 66 |
| OSD (On-Screen Display)..... | 67 |
| Camera Mode (Menu when camera image is in display)..... | 67 |
| SD Mode (Menu when image stored in an SD card is in display)..... | 69 |
| Wireless Remote Control..... | 71 |
| Receivable Range..... | 73 |
| Battery Change..... | 73 |

2. SETTING UP

| | |
|---------------------------------|----|
| Setting Up..... | 74 |
| Connecting of Video Cables..... | 75 |

3. STORING

| | |
|--------------|----|
| Storing..... | 77 |
|--------------|----|

4. OPERATION PROCEDURE

| | |
|--|----|
| Presentation using printed materials..... | 78 |
| Presentation using films..... | 79 |
| Presentation using SD card (Option)..... | 80 |
| Saving the Image..... | 81 |
| Displaying the image..... | 81 |
| Deleting the Image..... | 82 |
| Slide show..... | 82 |
| Formatting the SD card..... | 82 |
| Presentation using the attached software with the USB-connected PC..... | 83 |
| Transferring the images from the SD card into the USB-connected PC..... | 84 |
| Shooting off the stage..... | 85 |

5. VARIOUS FUNCTIONS AND OPERATIONS

| | |
|--|----|
| Lighting..... | 86 |
| Zoom..... | 87 |
| White Balance..... | 88 |
| [Auto/One-Push] (Auto Track / Auto Adjust and Fix)..... | 88 |
| [Manual] (Manual Adjust)..... | 88 |
| Image Selection..... | 89 |
| Input Image Signals to Analog RGB Input Terminal [RGB IN] That Enables Output from Video Output Terminal [VIDEO OUT] or [S-VIDEO OUT]..... | 90 |

CONTENTS

| | |
|---|-----|
| Focus | 91 |
| Auto Focus | 91 |
| Manual Focus | 92 |
| Iris | 93 |
| Auto Brightness Adjustment | 93 |
| Manual Brightness Adjustment | 93 |
| State Presetting | 94 |
| Presetting | 94 |
| Calling | 94 |
| Mounting the LCD Optional Monitor | 95 |
| 6. RS-232C SPECIFICATIONS | |
| Setting Up | 96 |
| Cable Connection | 96 |
| Data Format Specification | 97 |
| Operation Command (PC → This product) | 97 |
| Response Data Format (This product → PC) | 97 |
| Transmission Specifications | 98 |
| UART Communication Format | 98 |
| About Connection | 100 |
| 7. TROUBLESHOOTING | |
| Symptoms and Confirmation | 101 |
| Replacement of Lighting Lamp (Fluorescent Lamp) | 101 |
| 8. SPECIFICATIONS | |
| General | 102 |
| Main Camera | 103 |
| Lighting | 103 |
| Supplied Accessories | 104 |
| Options | 104 |

PART NAMES
AND
FUNCTIONS

SETTING UP

STORING

OPERATION
PROCEDURE

VARIOUS
FUNCTIONS
AND OPERATIONS

ABOUT
RS-232C

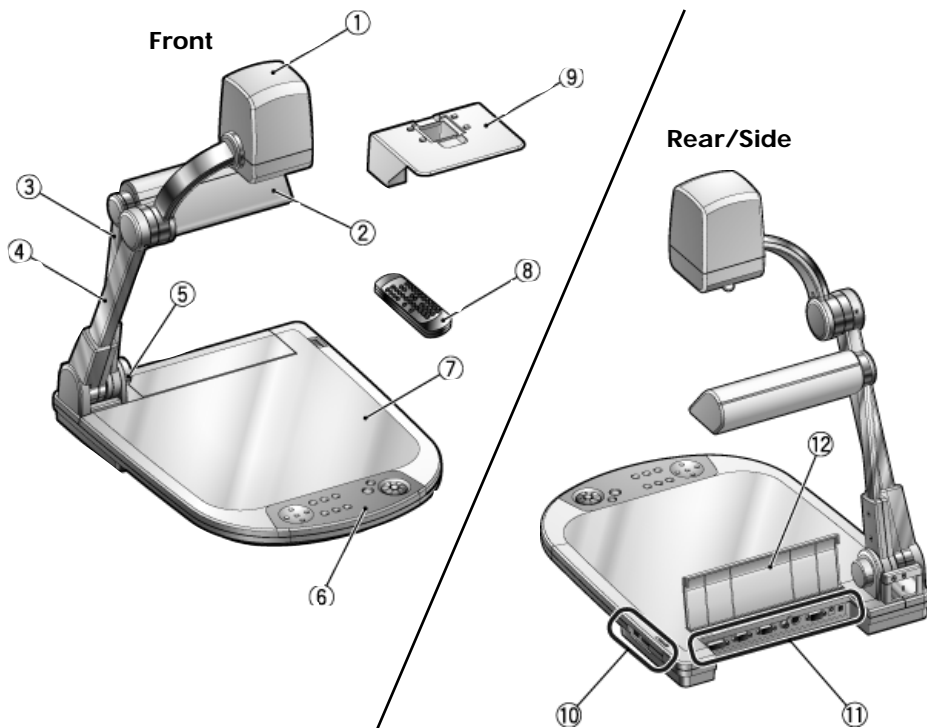
TROUBLESHOOTING

SPECIFICATIONS

1 PART NAMES AND FUNCTIONS

Name of Each Part


■ Appearance



Front

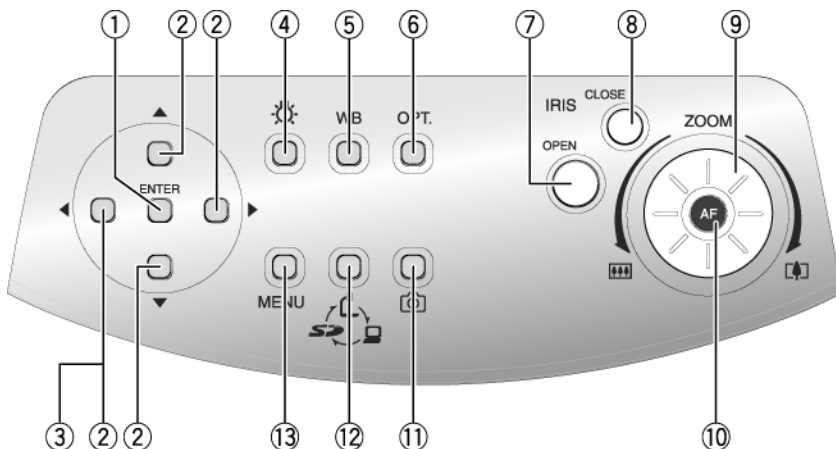
| No. | Name |
|-----|--|
| ① | Camera head |
| ② | Lamp head |
| ③ | Lamp column |
| ④ | Camera column |
| ⑤ | Infrared sensor |
| ⑥ | Front operating panel P.64 |
| ⑦ | Stage |
| ⑧ | Wireless remote control P.71 |
| ⑨ | Slide shooting adapter P.79 |

Rear/side

| No. | Name |
|-----|--|
| ⑩ | Side panel P.66 |
| ⑪ | Rear panel P.65 |
| ⑫ | Cord cover Open this cover when connecting/ disconnecting a cord.  When carrying this product, do not hold this cord cover. |

Functions

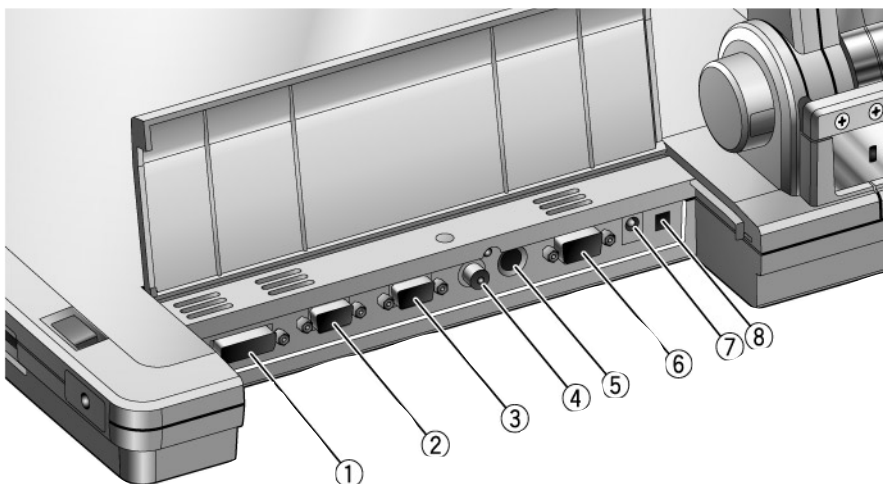
■ Front Operating Panel






* Hereinafter the menu items to be displayed/selected on the monitor or projection screen are referred to as "OSD (On-Screen Display)."

| | Name | | Function |
|---|-------------------------|---------------------|--|
| ① | OSD Operation | ENTER (Fix) | To fix the OSD item, select an image from the images in the SD card displayed on the split screen, stop the slide-show operation P.67 |
| ② | | ▲ ▼ ◀ ▶ (Direction) | To select the OSD item, move the selection frame (cursor) of the recorded image,scroll the digitally zoomed-in image, stop the slide-show operation P.67 |
| ③ | | ◀ (Menu Delete) | To cancel the OSD from the screen when the top OSD item is resumed P.67 |
| ④ | (Lamp) | | To turn ON/OFF the lighting P.86 |
| ⑤ | WB (White Balance) | | To select Auto Track / Auto Adjust and Fix P.88 |
| ⑥ | OPT. (Optional Setting) | | To set the desired function by using the OSD P.68 |
| ⑦ | IRIS (Iris) | OPEN (Open) | To brighten the camera image P.93 |
| ⑧ | | CLOSE (Close) | To darken the camera image P.93 |
| ⑨ | ZOOM (Zoom) | | To operate the zoom function by turning the dial P.87 |
| ⑩ | AF (Auto Focus) | | To focus the camera automatically P.91 |
| ⑪ | (Image Save) | | To save the image to an SD card P.81 |
| ⑫ | (Image Select) | | To switch the output image by pressing this button in order of Camera image () → RGB image () → SD mode () P.89 Images to be switched depend on the image output terminal. P.65 |
| ⑬ | MENU (Menu) | | To display/cancel the OSD |

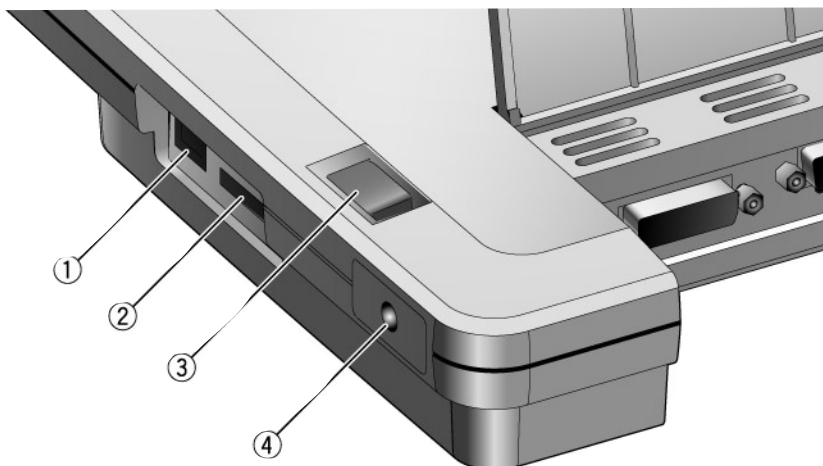
■ Rear Panel




| | Name | Function | Image whose display is selectable with image select button | | | | | | | | |
|---|--|--|---|--|---------|---------|---|------|-----------|---|-----|
| ① | DVI OUT (DVI Output Terminal) | To output digital video signal to the projector, the PC monitor or other DVI input device P.75 | <div><div></div>Camera image SD mode</div> | | | | | | | | |
| ② | RGB OUT (Analog RGB Output Terminal) | To output analog video signal to the projector, the PC monitor or other RGB input device P.75 | <div><div></div>Camera image [RGB IN] image SD mode</div> | | | | | | | | |
| ③ | RGB IN (Analog RGB Input Terminal) | Input image is output from the analog RGB output terminal or the video out terminal when RGB IN () is selected with image select button. P.76 | <div><div></div>Camera image [RGB IN] image SD mode</div> * | | | | | | | | |
| ④ | VIDEO OUT (Composite Video Output Terminal) | To output image from the RCA pin-jack terminal to the NTSC/PAL-system monitor (e.g., TV monitor) P.76 | | | | | | | | | |
| ⑤ | S-VIDEO OUT (S-video Output Terminal) | To output image from the Mini DIN 4P terminal to the NTSC/PAL-system monitor (e.g., TV monitor) P.76 | | | | | | | | | |
| ⑥ | RS-232C (RS-232C Terminal) | To control the main unit from a PC through the RS-232C cable P.96 | | | | | | | | | |
| ⑦ | 12VDC IN (Power Socket) | Socket for the AC adapter | | | | | | | | | |
| ⑧ | (DIP Switch) <div><div>01</div><div>A B</div></div> <div>Display of Rear Panel</div> | To switch the following: [A] key: Image output system [B] key: Image output screen size <table><tr><td></td><td>[A] key</td><td>[B] key</td></tr><tr><td>0</td><td>NTSC</td><td>Over-scan</td></tr><tr><td>1</td><td>PAL</td><td>Under-scan</td></tr></table> <div> When switching the DIP switch key settings, be sure to turn OFF the power supply to the main unit.</div> | | | [A] key | [B] key | 0 | NTSC | Over-scan | 1 | PAL |
| | [A] key | [B] key | | | | | | | | | |
| 0 | NTSC | Over-scan | | | | | | | | | |
| 1 | PAL | Under-scan | | | | | | | | | |

* [Video Out] → [Camera & SD] on the OSD skips [RGB IN] image.

■ Side Panel



| | Name | Function |
|---|--|---|
| ① | USB (Compliant with 2.0) | To transfer the data recorded in an SD card to the connected PC, or to transfer image or control the main unit by using the software contained in the attached Utility Software CD-ROM P.75 |
| ② |  (SD Card Slot) | To insert an SD card To remove the SD card, push it in once P.80 |
| ③ | Main Switch | To turn ON/OFF the power supply |
| ④ | LCD Monitor Mounting Seat | To mount the LCD monitor (LM-5011N) and the LCD monitor bracket (MS-30), both available on option P.95 |

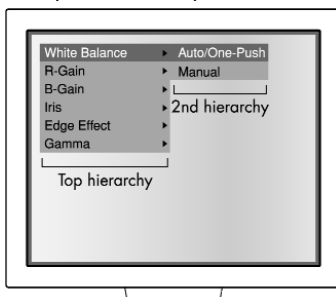
OSD (On-Screen Display)

The menu items displayed/selected on the monitor or the projection screen are referred to as “OSD (On-Screen Display).”

When the **[MENU]** button on the front operating panel or on the wireless remote control is pressed, the OSD menu is displayed on the monitor screen. By pressing the **[MENU]** button again, the OSD menu disappears.






Move the cursor to the item to be set with the direction buttons **[▲ ▼ ◀ ▶]**, and press the **[ENTER]** button on the front operating panel or on the wireless remote control to fix the selection. Each time the direction button **[◀]** is pressed, the cursor moves back the OSD menu by one hierarchy. When the direction button **[◀]** is pressed on the top hierarchy, the OSD menu disappears.

Display example of the top and 2nd hierarchies



■ Camera Mode (Menu when camera image is in display)

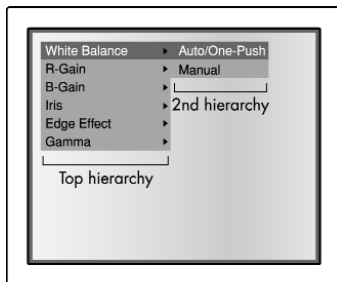
| Name | | Function | |
|-----------------------------------|---|---|---|
| Top hierarchy | 2nd hierarchy | | |
| White Balance (White Balance) | Auto/One-Push (Auto Track/Auto adjust and Fix) ✓ | To set the white balance to Auto/One-Push | P.88 |
| | Manual (Manual Adjust) | To adjust the red and blue elements manually | P.88 |
| R-Gain | (Displayed in level bar) | To adjust the red element when the white balance is set to Manual | P.88 |
| B-Gain | (Displayed in level bar) | To adjust the blue element when the white balance is set to Manual | P.88 |
| Iris (Iris) | Auto (Auto Adjustment of Brightness) ✓ | To change the level of brightness when the object is tracked automatically | P.93 |
| | Manual (Manual Adjustment of Brightness) | To fix the brightness of the image to any level | P.93 |
| Edge Effect (Edge Enhancement) | 3 | To give edge enhancement to the image to sharpen it The larger the value is, the stronger the effect is. | |
| | 2 | | |
| | 1 | | |
| | OFF ✓ | | |
| Gamma (Gamma Set) | 0 | $\gamma = 0.63$ | To set the gamma value. Tone wedge can be changed according to the projector, the PC monitor and other image output devices. |
| | 1 | $\gamma = 0.56$ | |
| | 2 | $\gamma = 0.50$ | |
| | 3 ✓ | $\gamma = 0.45$ | |
| | 4 | $\gamma = 0.42$ | |
| | 5 | $\gamma = 0.38$ | |
| | 6 | $\gamma = 0.36$ | |
| | 7 | $\gamma = 0.33$ | |

| Name | | Function |
|--------------------------------------|---|--|
| Top hierarchy | 2nd hierarchy | |
| Posi/Nega (Posi/Nega) | Posi (Posi) ✓ | To switch the posi/nega of the camera image • Factory setting for Nega Gamma (Gamma) : 3 |
| | Nega (Nega) | |
| Color/B&W (Color/Black and White) | Color (Color) ✓ | To switch the Color/Black and White of the camera image Use this function to make the black-and-white document easy-to-read. |
| | B&W (Black and White) | |
| Text (Text) | ON | To sharpen black-and-white characters and lines of image Use this function to view text document. |
| | OFF ✓ | |
| Image Rotation (Image Rotate) | ON (180° rotate) | To rotate the camera image by 180° when this function is ON |
| | OFF (0°) ✓ | |
| Preset (Position Save) | 1 (Memory No.1) | To save the current setting position of the unit in the selected memory No.  |
| | 2 (Memory No.2) | |
| | 3 (Memory No.3) | |
| | 4 (Memory No.4) | |
| | 5 (Memory No.5) | |
| | 6 (Memory No.6) | |
| | 7 (Memory No.7) | |
| | Power On (Setting when POWER is ON) | |
| | | |
| Call (Position Call) | 1 (Memory No.1) | To call the setting position from the selected memory No.  |
| | 2 (Memory No.2) | |
| | 3 (Memory No.3) | |
| | 4 (Memory No.4) | |
| | 5 (Memory No.5) | |
| | 6 (Memory No.6) | |
| | 7 (Memory No.7) | |
| | Power On (Setting when POWER is ON) | |
| | Default (Factory-set Settings) | |
| Optional (Optional Setting) | Pause (Pause)  ✓ | To set a desired function to the [OPT.] button on the front operating panel |
| | Posi/Nega (Posi/Nega) | |
| | Color/B&W (Color/Black and White) | |
| | Text (Text) | |
| | Delete Current Image (File Delete) | |
| | Start SlideShow (Slide Show Start) | |
| USB Mode (USB Mode Select) | Mass Storage (Transfer) ✓ | To transfer the data from an SD card into the USB-connected PC  |
| | Application (Application) | To control the main unit from the USB-connected PC or transfer image into the PC  |
| Guide (State Display) | ON ✓ | To set whether the operation state of the main unit should be displayed on the screen or not |
| | OFF | |
| Video Out (Video Output Set) | All Mode (All mode) ✓ | To output all signals from the [VIDEO OUT] terminal and [S-VIDEO OUT] terminal according to the image switching |
| | Camera & SD (Image of Camera & SD only) | To limit the switching of the output from the [VIDEO OUT] terminal and [S-VIDEO OUT] terminal to the camera image and SD mode |

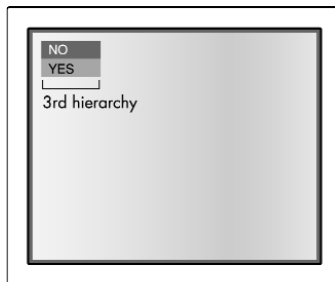
* [✓] indicates the factory default settings.

OSD (On-Screen Display) (Continued)

Display example of the top
and 2nd hierarchies



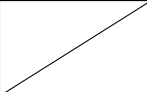
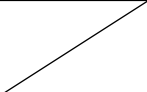

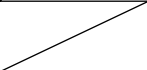


Display example of the 3rd hierarchy
(display for reconfirming the operation)



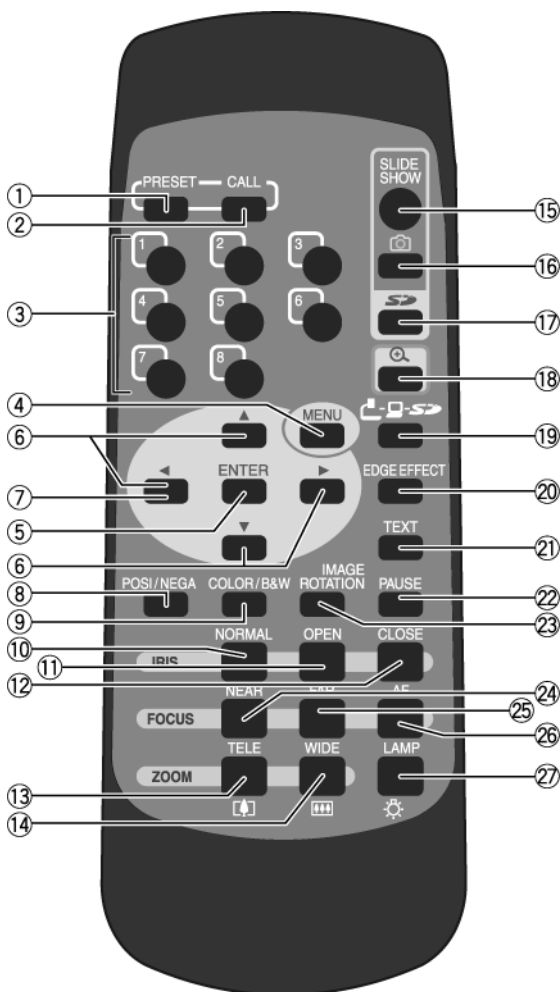
■ SD Mode (Menu when image stored in an SD card is in display)

| Name | | | Function |
|---------------------------------|-----------------------------|---------------|---|
| Top hierarchy | 2nd hierarchy | 3rd hierarchy | |
| Delete (Delete) | Current (Selected Image) | NO | To cancel the delete |
| | | YES | To delete the image in display on the full screen or the image selected from the split screen Locked image can not be deleted. |
| | All (All images) | NO | To cancel the delete |
| Lock (Lock) | Current (Selected image) | YES | To delete all images |
| | | | To lock the image in display on the full screen or the image selected from the split screen Can set the image not to be deleted or select image for slide-show. On the split screen, a green frame appears on the locked image. |
| | All (All Images) | | To lock all image files. Can select the delete-protected image or the image to be displayed on the slide show |
| Unlock (Lock Release) | Current (Selected Image) | | To release the lock of the image in display on the full screen or the image selected from the split screen |
| | All (All Images) | | To release the lock of all image files |
| Format Media (Initialize) | Format (Initialize) | NO | To cancel the format |
| | | YES | To format the SD card Since all records in the SD card will be cleared, use this function carefully. |












| Name | | | Function |
|---|---|---|---|
| Top hierarchy | 2nd hierarchy | 3rd hierarchy | |
| Slide Show Settings (Slide Show Set)  | Effect (Effect of Image Feed) | All <input checked="" type="checkbox"/> | To show all visual effects in sequence |
| | | Random | To show visual effect selectively at random |
| | | Top down | To slide from top to bottom |
| | | Left to right | To slide from left to right |
| | | Bottom up | To slide from bottom to top |
| | | Right to left | To slide from right to left |
| | | LT to RB | To slide diagonally from left top to right bottom |
| | | RT to LB | To slide diagonally from right top to left bottom |
| | | RB to LT | To slide diagonally from right bottom to left top |
| | | LB to RT | To slide diagonally from left bottom to right top |
| | | Random block | To disperse small blocks irregularly |
| | | Fade in/out | To fade out into the next image |
| | | Overlap | To mix with the next image into the next image |
| | | Shutter | To open from center to top and bottom into the next image |
| | | Door | To open from center to right and left into the next image |
| | | Stripe | To slide images spaced at regular intervals in a stripe from right or left |
| | | BW to color | To change gradually from black and white to color from left to right |
| | | Color to sepia | To change gradually from color to sepia |
| | | Joint V | To close from top and bottom to center into the next image |
| | | Joint H | To close from right and left to center into the next image |
| | | None | To show no visual effect |
| | Select (Object File) | All <input checked="" type="checkbox"/> | To set the slide-show objects to all displayable images in an SD card |
| | | Locked Only | To set the slide-show objects only to the locked image files |
| | | List File | To set the slide-show objects to the image files in the list file  |
| | Order (Order of Image Feed) | Forward <input checked="" type="checkbox"/> | To give slide show in order of file name serial No. from the smallest to the largest |
| | | Backward | To give slide show in order of file name serial No. from the largest to the smallest |
| | Interval (Interval of Image Feed) | 3 Sec <input checked="" type="checkbox"/> | To set the interval of slide show until displaying the next image from 3 to 30 sec |
| | | 5 Sec | |
| | | 10 Sec | |
| | | 15 Sec | |
| | | 30 Sec | |
| | Repeat (Repeat) | ON | To set whether the slide show should be played repeatedly or not |
| | | OFF <input checked="" type="checkbox"/> | |
| Start Slide Show (Slide Show Start) |  |  | To start the slide show  |
| Display (Display) | Single |  | To set the number of the images in an SD card to be displayed on the split screen |
| | 3×3 <input checked="" type="checkbox"/> | | |
| | 4×4 | | |

* [☒] indicates the factory default settings.

Wireless Remote Control



| | Name | Function |
|---|---------------------|--|
| ① | PRESET (State Save) | To save the current setting state of the unit Use this function together with the memory No. P.94 |
| ② | CALL (State Call) | To call the setting state Use this function together with the memory No. P.94 |
| ③ | (Memory No.) | To indicate the memory No. |

| | Name | Function |
|---|--|---|
| ④ | (OSD Operation) MENU (Menu) | To display/cancel the OSD To stop the slide-show operation P.67 |
| ⑤ | ENTER (Input) | To fix the OSD item To stop the slide-show operation P.67 |
| ⑥ | ▲ ▼ ◀ ▶ (Direction) | To select the OSD item, select an image from the split screen, scroll in digital zoom mode To stop slide-show operation P.67 |
| ⑦ | ◀ (Menu Cancel) | To cancel the OSD from the screen when the top OSD item is resumed P.67 |
| ⑧ | POSI/NEGA (Posi/Nega) | To switch the posi/nega of the camera image |
| ⑨ | COLOR/B&W (Color/Black and White) | To switch the Color/Black and White of the camera image Use this function to make the black-and-white document easy-to-read. |
| ⑩ | IRIS (Iris) NORMAL (Normal) | To return the Auto Iris to the factory default setting P.93 |
| ⑪ | OPEN (Open) | To brighten the camera image P.93 |
| ⑫ | CLOSE (Close) | To darken the camera image P.93 |
| ⑬ | ZOOM (Zoom)  (Telescopic) | To zoom in P.87 |
| ⑭ |  (Wide-angle) | To zoom out P.87 |
| ⑮ | SLIDE SHOW (Slide Show) | To start the slide show when the image in an SD card is in display P.82 |
| ⑯ |  (Image Save) | To save the image in an SD card P.81 |
| ⑰ |  (Play) | To display the image in an SD card P.81 |
| ⑱ |  (Electronic Zoom-in) | To zoom in the image to the double-size or quadruple-size When this button is pressed again, the image size returns to the full-size. |
| ⑲ |  (Image switch) | To switch the output image by pressing this button in order of Camera image () → RGB image () → SD mode () P.89  The image to be switched into depends on the video output terminal. P.65 |
| ⑳ | EDGE EFFECT (Edge Enhancement) | To give edge enhancement to sharpen the image |
| ㉑ | Text (Text Mode) | To sharpen the image with black-and-white characters and lines Use this function to shoot the document or the like. |
| ㉒ | PAUSE (Pause) | To pause the camera image. When this button is pressed again, the moving image is restored  The paused image cannot be processed in any other way. |
| ㉓ | IMAGE ROTATION (Image Turn) | To turn the camera image by 180° |
| ㉔ | FOCUS NEAR (Near) | To move the focus near P.92 |
| ㉕ | (Focus) FAR (Far) | To move the focus far P.92 |
| ㉖ | AF (Auto Focus) | To focus the camera automatically P.91 |
| ㉗ | LAMP (Lamp) | To switch ON/OFF the lighting P.86 |

■ Receivable Range



Point the infrared emitting part of the wireless remote control at the infrared sensor of the main unit, and press the button for desired function.

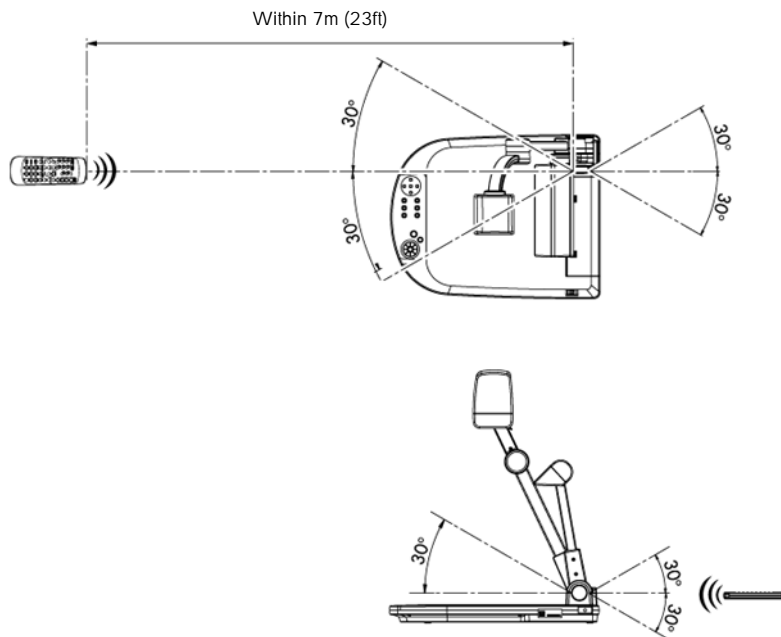
The receiving range may be reduced when the main unit is placed in direct sunlight, near an inverter fluorescent lamp or in any other unfavorable surrounding.

Depending on the conditions of fluorescent lamps, etc., the sensor may fail to receive the infrared light. In such case, relocate the main unit, or take other countermeasures.

• Receivable range

Distance: Approx. 7m (23ft) or less from the front of the infrared sensor

Angle: Approx. 30° or less to the right, leftward, upward and downward, respectively, from the infrared sensor



■ Battery Change

Remove the battery case cover on the rear side by pressing down the [↓ OPEN] mark part in the direction as indicated by the arrow.

Install 2 pcs of batteries (Type R03, AAA) in the battery case in the direction as indicated there.



Install the batteries with the correct polarity.



Although the battery life depends on the operating conditions and battery type, changing batteries once a year is recommended.

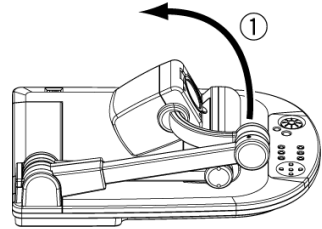


The supplied batteries are only for use in initially confirming the operation of this product. Therefore, it is not guaranteed that these batteries remain alive for the validated period.

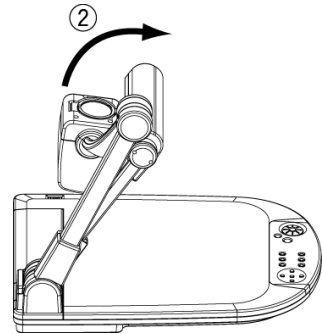
2 SETTING UP

Setting Up

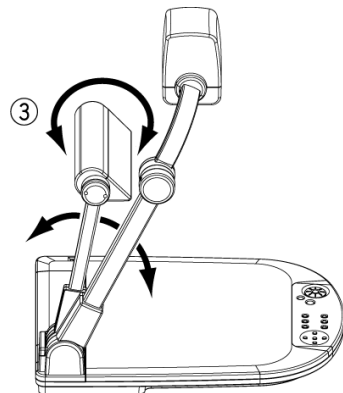
- (1) Lift the camera column. Simultaneously, the lamp column is also lifted.



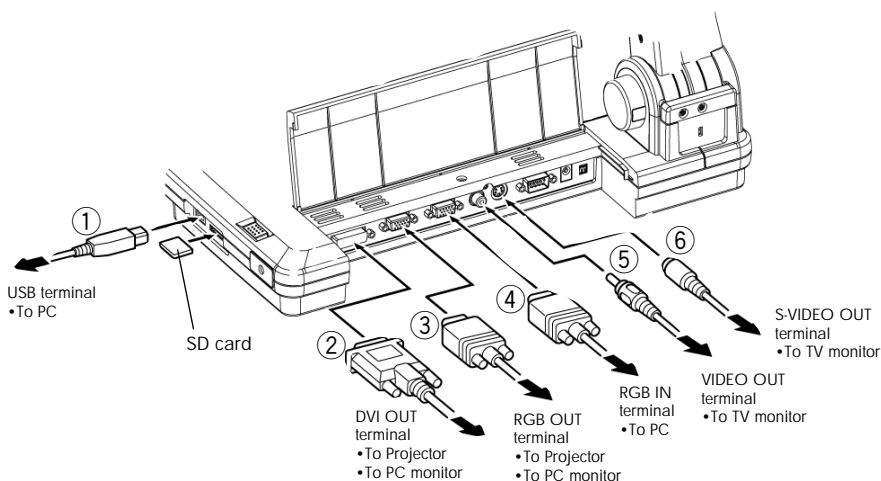
- (2) Turn the camera head.



- (3) Move the lamp column and the lamp head to an appropriate position as shown in the right figure.



Connecting of Video Cables



To protect this product and the peripheral units to be connected to this product, be sure to turn OFF the power supply to all units beforehand.



When plugging in/out the connection cable, hold the plug part of the cable.

① Connecting to the PC with a USB cable

Connect a USB cable to the [USB] terminal on the side panel.



The USB cable compliant with USB2.0 is recommended.



If you plug into a USB connector with power on, PC may not recognize this product.

② Connecting to the unit having the DVI input terminal

Connect the DVI cable to the [DVI OUT] terminal on the rear panel.

③ Connecting to the unit having the analog RGB input terminal

Connect the analog RGB cable to the [RGB OUT] terminal on the rear panel.



The display position may be displaced from the center of the screen. In such case, adjust the horizontal and vertical positions manually from the connected device.



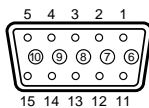
Vertical stripes may appear on the LCD projector screen or the monitor screen. This phenomenon can be mitigated by adjusting the dot clock manually from the connected device.

④ Connecting to the unit having the analog RGB output terminal

Connect the analog RGB cable to the [RGB IN] terminal on the rear panel.

- Specifications of the analog RGB input terminal of this product

Signal allocation



DSUB 15P shrink terminal (Female)

Video signal :

Analog 0.7V(p-p) 75Ω terminated

Horizontal synchronized signal : TTL level (Positive/negative polarity)

Vertical synchronized signal : TTL level (Positive/negative polarity)

Pin assignment

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

⑤ Connecting to the unit having the composite vide input terminal

Connect the video cable with RCA pin plug to the [VIDEO OUT] terminal on the rear panel.

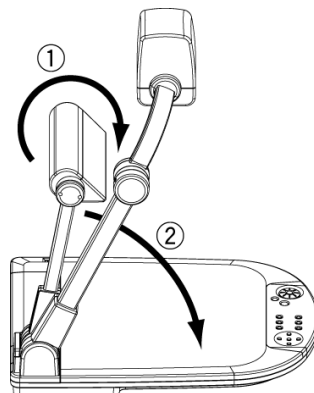
⑥ Connecting to the unit having S-video input terminal

Connect the S-video cable to the [S-VIDEO OUT] terminal on the rear panel. If the unit to be connected has a Y/C-separated connector, a conversion adapter is required.

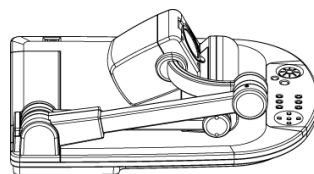
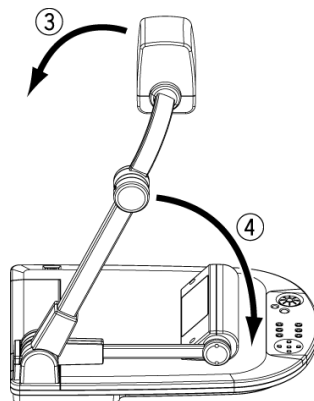
3 STORING

Storing

- (1) As shown in the right figure, turn the lamp head and the lamp column and fold them down on the stage.



- (2) Turn the camera head and the camera column and fold them down on the stage.

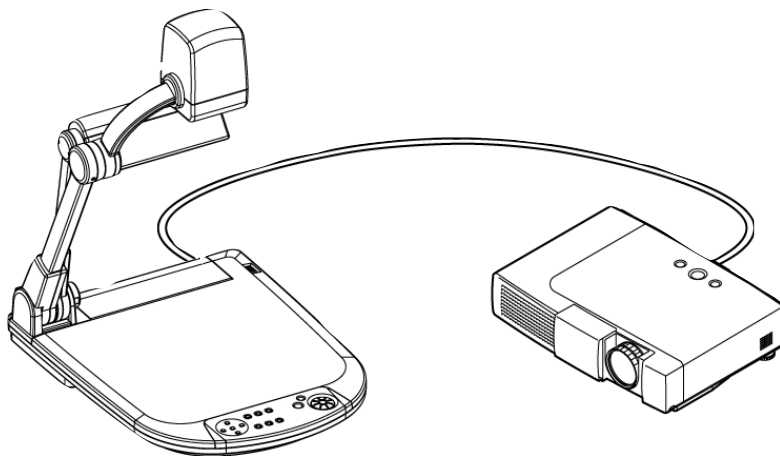


4 OPERATION PROCEDURE



When connecting this product and the peripheral units, be sure to turn OFF the power supply to all units beforehand.

Presentation using printed materials



① Setting the main unit

Set the main unit as show in the above figure, connect the main unit to the projector or the PC monitor, and then turn ON the power supply.

② Adjusting the lamp position

While watching the screen, adjust the angles of the lamp column and the lamp head until the illumination is provided uniformly over the stage. Bring the lamp column closer to the camera head as much as possible but only to such an extent that the lamp head is not seen on the screen, and then face the light emitting part of the lamp head right downward, and the illumination will flood over the stage evenly.



Depending on the lamp position, the camera column shadow may be seen on the screen.

P.86

③ Adjusting the size

Place an object on the stage, and adjust the position of the object with the zoom dial **[ZOOM]** on the front operating panel or the zoom button (**[ZOOM]**, **[ZOOM]**) on the wireless remote control so that the part of the object to be viewed can fit the screen size.

P.87

④ Adjusting the focus

Press the **[AF]** button on the front operating panel or wireless remote control to focus the camera on the object.

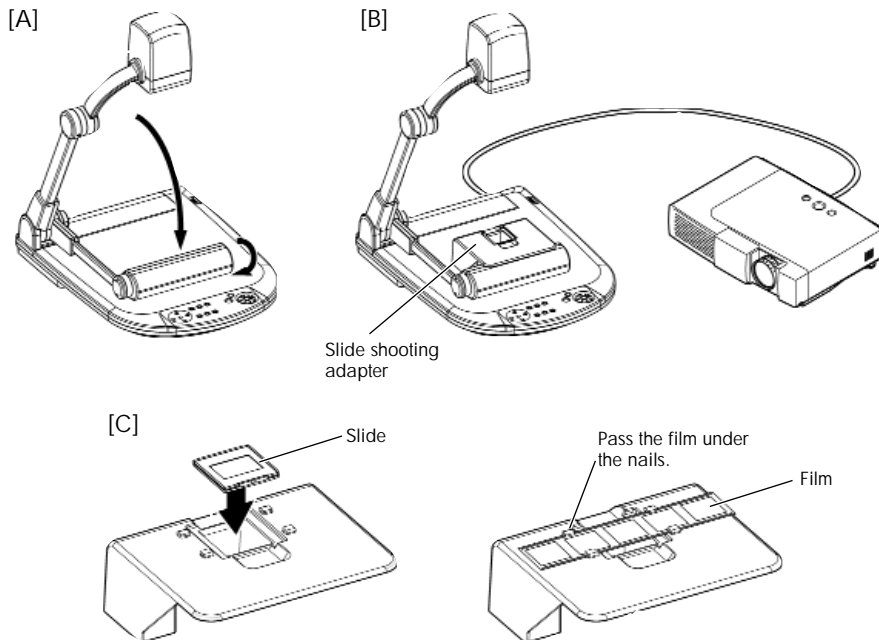
P.91

⑤ Adjusting the brightness

Press the **[IRIS · OPEN]** button and **[IRIS · CLOSE]** button on the front operating panel or wireless remote control to adjust the brightness of the image by the lens iris.

P.93

Presentation using films

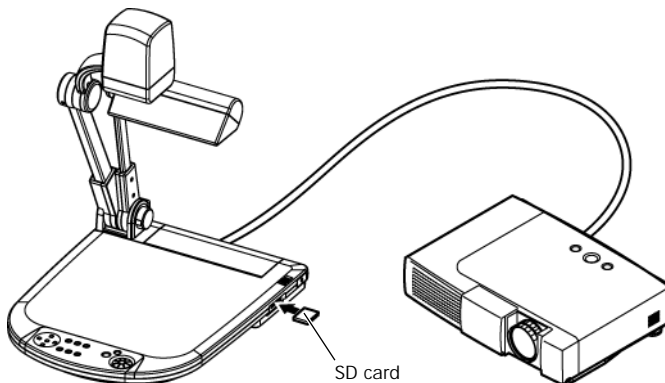


- ① **Setting the main unit**
Fold down only the lamp on the main unit (Fig. [A]), connect the main unit to the projector or the PC monitor, and then turn ON the power supply.
- ② **Adjusting the slide shooting adapter**
Place the attached slide shooting adapter laying over the lamp head. While watching the screen, adjust the position of the slide shooting adapter so that its window can come to the center of the screen (Fig. [B]).
- ③ **Adjusting the size**
Set the slide or film on the slide shooting adapter (Fig. [C]), and adjust the size of the slide or film with the zoom dial **[ZOOM]** on the front operating panel or the zoom button **[]**, **[]** on the wireless remote control so that the slide or the film can fit the screen size.
- ④ **Adjusting the focus**
Press the **[AF]** button on the front operating panel or wireless remote control to focus the camera on the slide or the film.
- ⑤ **Adjusting the brightness**
When the screen is too bright or too dark, adjust the brightness with the **[IRIS]** button **[OPEN]** **[CLOSE]** on the front operating panel or wireless remote control.



Based on film type, switch the display settings with the **[Posi/Nega]** setting on the OSD or the **[Posi/Nega]** button on the wireless remote control.

Presentation using SD card (Option)



Before starting the operation, insert an SD card (Option) into the SD card slot on the side panel. To remove the SD card, push it again, and it will come out.



Before inserting or removing the SD card or turning OFF the power supply, be sure to select [Camera] [C] with the [C]-[S]-[P] button on the front operating panel or wireless remote control, and confirm that the output image has turned to the camera image. Otherwise, the contents of the SD card could be destroyed or failure could be caused to the main unit.



The SD card is composed of parts vulnerable to static electricity. Therefore, due to the impact of static electricity, the SD card could malfunction or its contents could be destroyed. When handling the SD card, take care to avoid static electricity.



The image data that can be viewed on this product are limited only to those stored in this product and those converted by using the attached conversion software.



If the data of the system that is not compatible with this product, a black or gray image will be displayed.



If the image conversion to the image in the SD card is tried without inserting the SD card, a black image will be displayed.



After using the SD card, do not leave it inside this product but be sure to remove it.



The SD card of Panasonic 128MB or 256MB is recommended.
Resolution of saved image is 1024 × 768 (XGA).
This product can store images up to 2048 pcs.



ELMO is not liable for any damage caused by the loss of the data in the SD card or passive damage.

Presentation using SD card (Option) (Continued)

■ Saving the Image

- (1) Press the **[--]** button on the front operating panel or wireless remote control to switch the image mode to the Camera mode.
- (2) Press the **[]** button on the front operating panel or wireless remote control.
- (3) When the **[]** mark lights up on the screen, the image saving starts. When this mark goes out, the image saving is completed.



Be sure to try out shooting and saving beforehand to confirm the normal saving of the image. If the image fails to be saved due to some problems in the camera or SD card, ELMO is not liable for any compensation for the recorded contents.



The **[]** mark on the screen is displayed only when the **[Guide]** menu is set to ON.



When the SD card is write-protected, the image cannot be saved in the SD card.



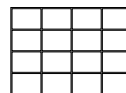
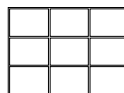
When the capacity of the SD card becomes full and no more images can be saved, the **[]** mark does not light up. Then, delete unnecessary images or use a new SD card.



When the SD card is in the read/write mode, do not remove the SD card, or failure could occur with this product.

■ Displaying the image

- (1) Press the **[--]** button on the front operating panel or wireless remote control or press the **[]** button on the wireless remote control to switch the output image mode to the SD mode. Then, the images in the SD card are displayed on the split screen. The number of images to be displayed on the split screen can be changed by the **[Display]** settings on the OSD. The number of divisions on default is 3×3.



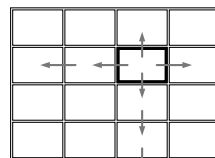
- (2) Move the selection frame (cursor) of the recorded image with the direction buttons **[]**, and select the images with the **[ENTER]** button on the front operating panel or wireless remote control to display them on the full-screen.

- When the images are displayed on the split screen (3×3, 4×4)

Move the selection frame (cursor) of the recorded image with the direction buttons **[]**, and display the images on the full-screen with the **[ENTER]** button on the front operating panel or wireless remote control. When the direction button **[]** is held down, the selection frame (cursor) moves as shown in the right figure.

- When the images are displayed on the full-screen

When the direction button **[]** or **[]** on the front operating panel or wireless remote control is pressed, the next image is displayed. When the direction button **[]** or **[]** on the front operating panel or wireless remote control is pressed, the previous image is displayed. The image displayed on the full screen can be zoomed in/out with the zoom dial on the front operating panel or the zoom button on the wireless remote control. When the image is zoomed in, the displayed part of the image can be scrolled with the direction buttons **[]**. When the **[ENTER]** button on the front operating panel or wireless remote control is pressed, the display on the split screen is resumed.



(To the top of the next page)

Cursor



■ Deleting the Image

- (1) Press the [--] button on the front operating panel or wireless remote control or press the [] button on the wireless remote control to have the images in the SD card displayed on the full-screen or split screen.
- (2) Select the image to be deleted with the direction buttons [] on the front operating panel or wireless remote control.
- (3) Press the **[MENU]** button on the front operating panel or wireless remote control, and select the [Delete] menu on the OSD. To delete only the selected image, select [Current]. To delete all images, select [All].

When [YES] is selected with the **[ENTER]** button on the front operating panel or wireless remote control, the delete is executed. (To go back without executing the delete, press [NO].)

■ Slide show

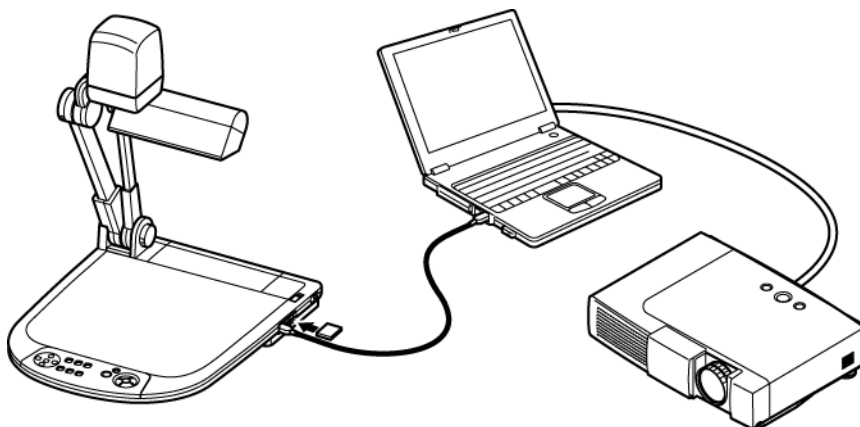
- (1) Press the [--] button on the front operating panel or wireless remote control or press the [] button on the wireless remote control to switch the outputted image mode to the SD mode.
- (2) Press the **[MENU]** button on the front operating panel or wireless remote control to display the OSD. When the [Start Slide Show] menu is selected, the slide show starts. The slide show can be started also by pressing the **[SLIDE SHOW]** on the wireless remote control.
- (3) When the direction button or the **[ENTER]** button is pressed, the slide show stops.
 - [Effect] (Visual effect), [Interval] (Display interval), [Repeat] (Repeat), etc. can be set on the [Slide Show Settings] on the OSD.
 - When the slides are arranged in order of the slide show by using the software bundled in the PC and the list file is stored in the SD card, the slide show can be held in any order. For details, refer to the Help folder in the Utility Software CD-ROM.

■ Formatting the SD card

When the SD card is formatted, insert the SD card into this product, and execute formatting.

- (1) Switch the image mode to the SD mode by pressing the [--] button on the front operating panel or press the [] button on the wireless remote control.
- (2) Press the **[MENU]** button on the front operating panel or wireless remote control button to display the OSD, and then select [Format Media].
- (3) Now, [Format] starts.

Presentation using the attached software with the USB-connected PC



Set [USB Mode] to [Application] on the OSD.

"Utility Software" is downloadable from the homepage of ELMO or in the CD-ROM supplied from ELMO.

"Utility Software" contains the PC link software "Image Mate for Presentation", "Image Mate for Movie Creation" and the TWAIN driver "ELMO TWAIN DS(P30)" for the following operations:

- Moving image saving to PC.
- Transfer of moving/still images to the PC
- Operation of this product from the PC

The PC equipped with Microsoft Windows 2000(SP4 or newer)/XP(SP2 or newer) is recommended.

For details, refer to the "Utility Software" Installation Manual and the help folder with the software.



When the front operating panel or the wireless remote control is in operation, do not connect/disconnect the USB cable, or malfunction will be caused to this product.

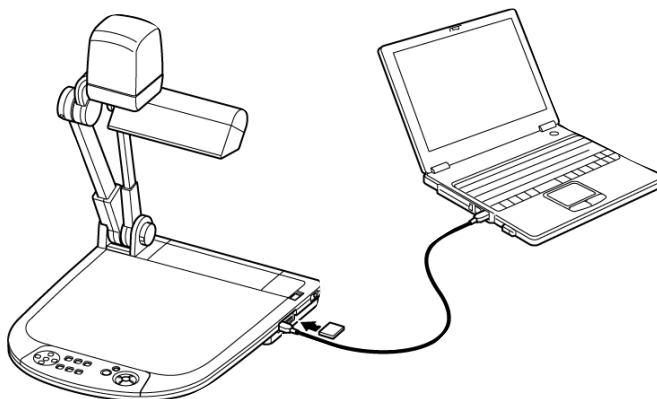


Do not switch [USB Mode] on the OSD when this product is in USB-connection.



The USB cable compliant with USB2.0 is recommended.

Transferring the images from the SD card into the USB-connected PC



Set [USB Mode] to [Mass Storage] on the OSD.

When this product is USB-connected to the PC, image data in the SD card can be transferred into the PC. The Operating System (OS) of the connected PC should be Microsoft Windows 2000(SP4 or newer)/XP(SP2 or newer).

- (1) Turn ON the power supply to this product and to the PC.
- (2) Connect this product to the PC with the attached USB cable.



When this product is connected to the PC for the first time, the required drivers are installed automatically due to the plug-and-play function of Windows. For the second time and thereafter, the drivers are no longer installed.

- (3) This product is recognized as a removable disk. The image data in an SD card can be viewed by using the viewer software of the PC.

- The image data are stored in JPEG format in the following folders:

```

My Computer
├── Removable disk
│   ├── DCIM
│       ├── 100_ELMO
│           ├── IMAG0001.JPG
│           ├── IMAG0002.JPG
│           :
    
```



An SD card set in this product cannot be formatted or written, deleted, locked, and unlocked with image data from the PC.



The image data cannot be recorded with the correct date and time.



When the front operating panel or wireless remote control is in operation, do not connect/ disconnect the USB cable, or malfunction will be caused to this product.

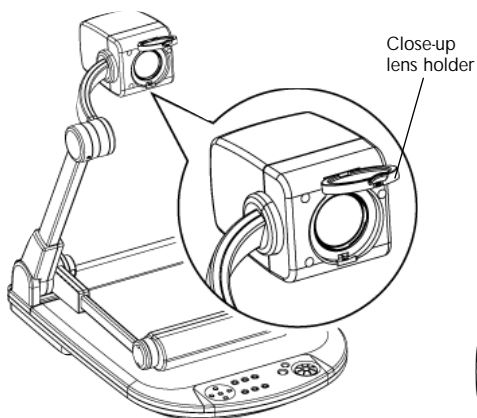


Do not switch [USB Mode] on the OSD when this product is in USB-connection.

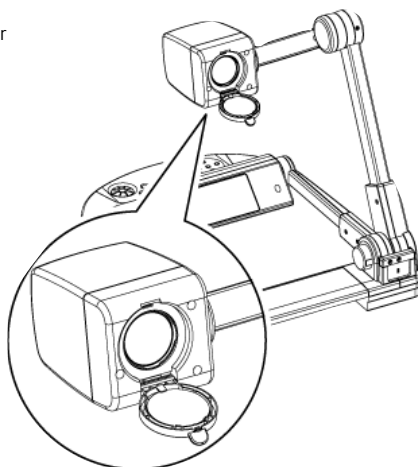


The USB cable compliant with USB2.0 is recommended.

Shooting off the stage



<Forward shooting>



<Backward shooting>

When the camera head is set horizontally, wall, distant view, etc. can be shot.

When the object is in the distant view, open the close-up lens holder forward.



To shoot horizontally, turn the image by 180° by pressing the [IMAGE ROTATION] button or setting the OSD accordingly.



Shooting enabled range when the close-up lens holder is opened:

TELE (Telescopic): 500mm – ∞ from the zoom lens

WIDE (Wide-angle): 50mm – ∞ from the zoom lens

5 VARIOUS FUNCTIONS AND OPERATIONS

Lighting

Front operating panel



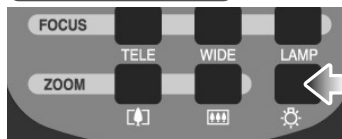
Wireless remote control



When the [☀️] button on the front operating panel or wireless remote control is pressed, the fluorescent lamp lights up in 1 – 3 seconds. Each time the [☀️] button is pressed, the fluorescent lamp turns ON/OFF alternately.

When the lighting lamp is used when the stage is not sufficiently bright or a 3D object is shot, a sharp image with high color rendering properties can be obtained.

Wireless remote control

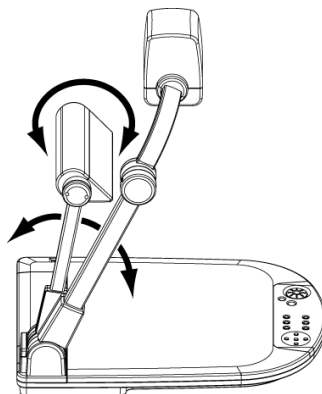


● Adjusting the lamp position

While watching the screen, adjust the angles of the lamp column and the lamp head until the illumination is provided uniformly over the stage. Bring the lamp column closer to the camera head as much as possible but only to such an extent that the lamp head is not shot on the screen, and then face the light emitting part of the lamp head right downward, and the illumination will flood over the stage evenly.



Depending on the lamp position, the camera column shadow may appear on the screen.



Zoom

Front operating panel



Wireless remote control



When the zoom dial [] , [] on the front operating panel is turned or the zoom button [] , [] on the wireless remote control is pressed, the document display range can be adjusted.

According to the zoom dial turning angle, the zooming speed varies in 3 steps (3-step speed change).

● Zoom magnification in the Camera mode

When the optical zoom is maximized (about 15×), the digital zoom is activated and the image can be zoomed in further up to 4× (about 60× combined with the optical zoom).

● Zoom magnification in the SD Card mode

The digital zoom is available up to 4×.



Within the digital zoom range, the image quality is degraded.



Within the digital zoom range, the zoom speed is locked.



When the digital zoom is in operation, the screen can be scrolled with the direction buttons [▲▼◀▶] on the front operating panel or wireless remote control.

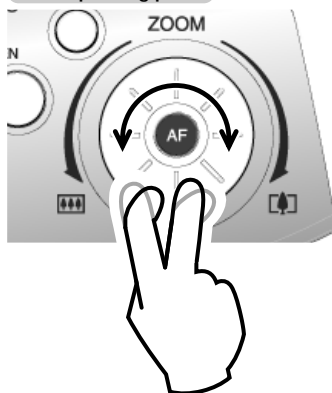


When the image is in transmission through the USB cable, the digital zoom speed is slow.

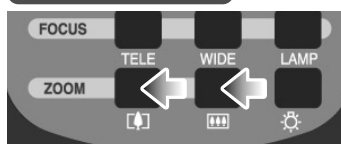


When [Guide] is set to [ON] on the OSD, whether the zoom is optical or digital can be distinguished on the screen.

Front operating panel



Wireless remote control



White Balance

Front operating panel



■ [Auto/One-Push] (Auto Track / Auto Adjust and Fix)

The Auto (auto track) mode for adjusting the white coloring automatically according to the document or lighting condition and the One-Push (auto adjust and fix) mode for maintaining the automatically adjusted state can be switched alternately.

If the image color balance is lost due to the document or lighting condition, shoot a sheet of white paper and then press the **[WB]** button on the front operating panel. Then, the white coloring is adjusted automatically according to the document or lighting condition, and then an automatically adjusted state is maintained.

When the **[WB]** button on the front operating panel is pressed, the Auto (auto track) mode is resumed.

■ [Manual] (Manual Adjust)

When [White Balance] is set to [Manual] on the OSD, the white balance is locked, and then, [R-Gain] (red element) and [B-Gain] (blue element) on the OSD can be adjusted.

When [White Balance] is set to [Auto/One-Push] on the OSD, manual adjustment is released, the white balance is adjusted once automatically, and then the W/B level is locked.



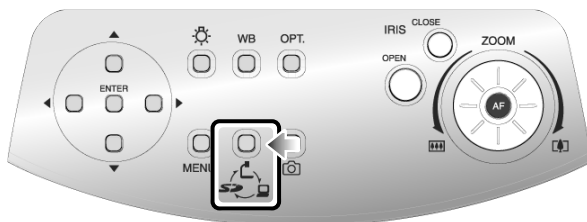
The color-temperature range that can be tracked automatically is approx. 3000K – 8000K.



When [Guide] is set to [ON] on the OSD, the setting contents are displayed on the screen.

Image Selection

Front operating panel



Wireless remote control



Each time the [- -] button on the front operating panel or wireless remote control is pressed, the image is switched in order of the camera image to the image inputted in the analog RGB input terminal [RGB IN], then to the image in the SD card, and then to the camera image again.

When the PC or other unit is connected to the analog RGB input terminal [RGB IN], the output image can be switched without spending time and labor exchanging the connection cables.

Wireless remote control



The image from the DVI output terminal [DVI OUT] cannot be switched to [RGB IN] image. **P.65**



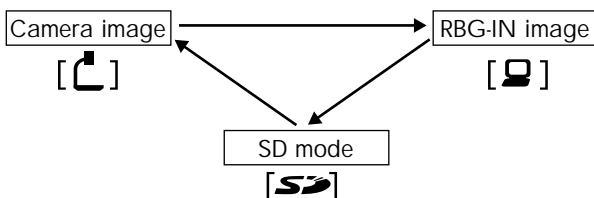
The display mode of the image from the video output terminal [VIDEO OUT] or [S-VIDEO OUT] cannot be switched when [Video Out] is set to [Camera & SD] on the OSD.



If the image mode switching is tried to the SD mode when an SD card is not in this product, the screen will turn black.



By setting [Guide] to [ON] on the OSD, the setting contents are displayed on the screen.



■ Input Image Signals to Analog RGB Input Terminal [RGB IN] That Enables Output from Video Output Terminal [VIDEO OUT] or [S-VIDEO OUT]

| Signal | Frequency | | | Resolution (Number of lines) | | Polarity of synchronized signal (P: Positive, N: Negative) |
|-----------|------------|----------|-------------|---------------------------------|----------|---|
| | Horizontal | Vertical | Pixel clock | Horizontal | Vertical | |
| Mode name | kHz | Hz | MHz | | | HS/VS |
| VGA1 | 37.861 | 84.889 | 31.500 | 640 | 350 | P / N |
| VGA2 | 37.861 | 85.080 | 31.500 | 640 | 400 | N / P |
| VGA3 | 37.927 | 85.039 | 35.500 | 720 | 400 | N / P |
| VGA@60Hz | 31.469 | 59.941 | 25.175 | 640 | 480 | N / N |
| VGA@72Hz | 37.861 | 72.809 | 31.500 | 640 | 480 | N / N |
| VGA@75Hz | 37.500 | 75.000 | 31.500 | 640 | 480 | N / N |
| VGA@85Hz | 43.269 | 85.008 | 36.000 | 640 | 480 | N / N |
| SVGA@56Hz | 35.156 | 56.250 | 36.000 | 800 | 600 | P / P |
| SVGA@60Hz | 37.879 | 60.317 | 40.000 | 800 | 600 | P / P |
| SVGA@72Hz | 48.077 | 72.188 | 50.000 | 800 | 600 | P / P |
| SVGA@75Hz | 46.875 | 75.000 | 49.500 | 800 | 600 | P / P |
| SVGA@85Hz | 53.674 | 85.061 | 56.250 | 800 | 600 | P / P |
| XGA@60Hz | 48.363 | 60.004 | 65.000 | 1024 | 768 | N / N |
| XGA@70Hz | 56.476 | 70.069 | 75.000 | 1024 | 768 | N / N |
| XGA@75Hz | 60.023 | 75.029 | 78.750 | 1024 | 768 | P / P |
| XGA@85Hz | 68.677 | 84.997 | 94.500 | 1024 | 768 | P / P |
| SXGA1 | 67.500 | 75.000 | 108.000 | 1152 | 864 | P / P |
| SXGA2 | 60.000 | 60.000 | 108.000 | 1280 | 960 | P / P |
| SXGA3 | 85.938 | 85.003 | 148.500 | 1280 | 960 | P / P |
| SXGA@60Hz | 63.981 | 60.020 | 108.000 | 1280 | 1024 | P / P |
| SXGA@75Hz | 79.976 | 75.025 | 135.000 | 1280 | 1024 | P / P |
| SXGA@85Hz | 91.146 | 85.024 | 157.500 | 1280 | 1024 | P / P |
| UXGA@60Hz | 75.000 | 60.000 | 162.000 | 1600 | 1200 | P / P |
| UXGA@65Hz | 81.250 | 65.000 | 175.500 | 1600 | 1200 | P / P |
| UXGA@70Hz | 87.500 | 70.000 | 189.000 | 1600 | 1200 | P / P |
| UXGA@75Hz | 93.750 | 75.000 | 202.500 | 1600 | 1200 | P / P |
| UXGA@85Hz | 106.250 | 85.000 | 229.500 | 1600 | 1200 | P / P |
| Mac 13 | 35.000 | 66.667 | 30.240 | 640 | 480 | N / N |
| Mac 16 | 49.725 | 74.550 | 57.283 | 832 | 624 | N / N |
| Mac 19 | 60.241 | 74.927 | 80.000 | 1024 | 768 | N / N |
| Mac 21 | 68.681 | 75.062 | 100.000 | 1152 | 870 | N / N |
| PC98 | 24.825 | 56.420 | 21.052 | 640 | 400 | N / N |



This product may not accommodate any signal other than those listed in the above table.



Depending on the input signal, the image may not be outputted in full size.



This product does not accommodate such synchronized signal as composite and SyncOnGreen.

Focus

Front operating panel



Wireless remote control



The focus on the object is adjusted.

■ Auto Focus

When the **[AF]** button on the front operating panel or wireless remote control is pressed, the camera is focused automatically. This product is of one-shot auto focus type. That is, once the camera is focused, the auto focus operation is released, and then focus position is maintained.



The objects listed below may not be brought into focus in the auto focus. In such case, use the manual focus mode.

- Objects having little contrast
- Objects with fine repeated patterns, such as lateral stripes and cross stripes
- Objects glittering or reflecting strong light
- Objects with bright background or excessive contrast
- Objects that are entirely dark
- Objects located near and far away at the same time
- Objects in motion



If the manual focus button **[FOCUS • NEAR]** or **[FOCUS • FAR]** on the wireless remote control is pressed when the auto focus is in operation, the auto focus operation will be cancelled.



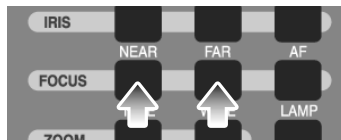
Limit of focus adjustment:

- With close-up lens
 - TELE (Telescopic) : 305 – 405mm (12.0 – 15.9 in) from close-up lens
 - WIDE (Wide-angle) : 50 – 405 mm (2.0 – 15.9 in) from close-up lens
- Without close-up lens
 - TELE (Telescopic) : 500mm – ∞ (19.7 in – ∞) from zoom lens
 - WIDE (Wide-angle) : 50mm – ∞ (2.0 in – ∞) from zoom lens

Wireless remote control



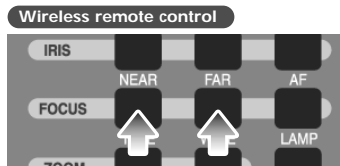
Wireless remote control



■ Manual Focus

When the focus button **[FOCUS · NEAR]** or **[FOCUS · FAR]** on the wireless remote control is pressed, the height on which the camera is focused changes.

This function is used for focusing the camera on any portion of a 3D object or the like.

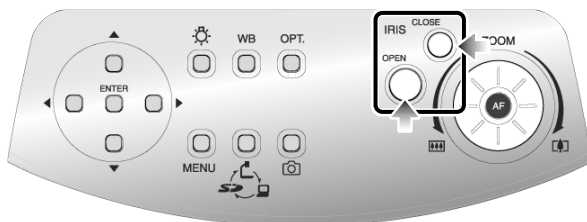


Limit of focus adjustment:

- With close-up lens
 - TELE (Telescopic) : 305 – 405mm (12.0 – 15.9 in) from close-up lens
 - WIDE (Wide-angle) : 50 – 405 mm (2.0 – 15.9 in) from close-up lens
- Without close-up lens
 - TELE (Telescopic) : 500mm – ∞ (19.7 in – ∞) from zoom lens
 - WIDE (Wide-angle) : 50mm – ∞ (2.0 in – ∞) from zoom lens

Iris

Front operating panel

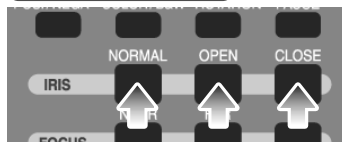


Wireless remote control



When the **[IRIS · OPEN]** button or **[IRIS · CLOSE]** button on the front operating panel or wireless remote control is pressed, the lens iris is adjusted for image brightness. This adjustment can be made in either of the following 2 modes, which are set in [Iris] on the OSD:

Wireless remote control



■ Auto Brightness Adjustment

([Iris] is set to [Auto] on the OSD.)

It is so set that the brightness to be tracked automatically can be adjusted.

When the **[OPEN]** button and **[CLOSE]** button on the front operating panel are pressed together or **[NORMAL]** is selected in **[IRIS]** on the wireless remote control, the current settings are reset to the default settings.

■ Manual Brightness Adjustment

([Iris] is set to [Manual] on the OSD.)

It is set so that the brightness can be locked to any level.



The default setting is [Auto] (Auto Brightness Adjustment).



In the Manual Brightness Adjustment, the brightness is locked and the change in the object brightness is not tracked.



In the Manual Brightness Adjustment, even if the **[OPEN]** button and **[CLOSE]** button on the front operating panel are pressed together or the **[NORMAL]** button on the wireless remote control is pressed, there will be no effect.



When [Guide] is set to [ON] on the OSD, the setting contents are displayed on the screen.

State Presetting

The setting position of this product can be saved/called. Up to 8 positions can be saved. The presets that can be saved are as follows:

- Current zoom field angle
- Iris state
- White Balance state
- Edge Effect settings
- Gamma value settings
- Lighting ON/OFF
- Color/B&W selection settings
- Image Rotation state
- Text mode settings
- Posi/Nega settings



The saved state can be retained even if the power supply is turned OFF.



Rotated position cannot be saved to "Power On" setting. (Memory No.8 on remote control)

Wireless remote control



■ Presetting

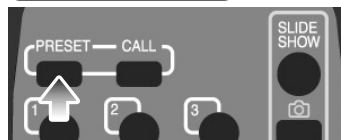
When the **[PRESET]** button on the wireless remote control is pressed and then the memory No. button on the wireless remote control is pressed within "approx. 4 seconds" or alternatively [Preset] is set to [Memory No.] on the OSD, the operation state of the current unit is saved in the specified memory No.

When the **[PRESET]** button on the wireless remote control is pressed and then **[8]** of the memory No. on the wireless remote control is pressed or alternatively [Preset] is set to [Power On] on the OSD and saved, such settings are called when the power supply is turned ON the next time.

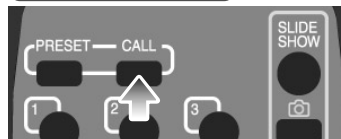
■ Calling

When the **[CALL]** button on the wireless remote control is pressed and then the memory No. button on the wireless remote control is pressed within "approx. 4 seconds" or alternatively [Call] is set to [Memory No.] on the OSD, the settings are set to those of the selected No. When [Call] is set to [Default] on the OSD, the settings are reset to the factory settings.

Wireless remote control

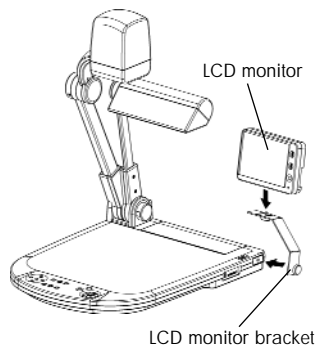


Wireless remote control



Mounting the LCD Optional Monitor

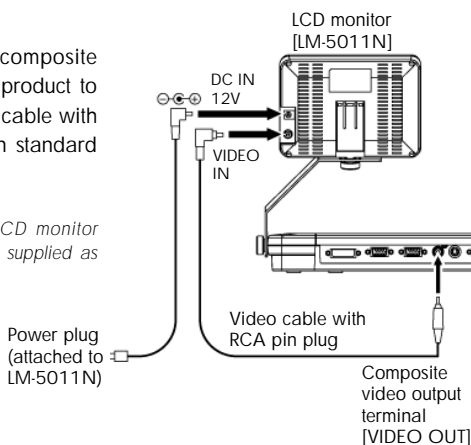
To mount the LCD monitor (LM-5011N) on option, the LCD monitor bracket (MS-30) is required.



As show in the right figure, connect the composite video output terminal [VIDEO OUT] of this product to the LCD monitor (LM-5011N) with the video cable with RCA pin plug (supplied as an accessory on standard or available in the market).



The LCD monitor (LM-5011N) and the LCD monitor bracket (MS-30) are options, which are not supplied as an accessory on standard with this product.



6 RS-232C SPECIFICATIONS

This product can be controlled from a PC connected to this product through the RS-232C terminal [RS-232C].

Setting Up

- ① Connect this product to a PC with an RS-232C cable.



When using an RS-232C cable available on the market, make sure that pin connections are the same as below.



To protect this product and the PC, be sure to turn OFF the power supply to all units before starting the connection work.

- ② Start the PC, and set the communication mode of the RS-232C to the communication mode of this product.



For the information how to set the communication mode of the RS-232C, refer to the instruction manual of the PC.

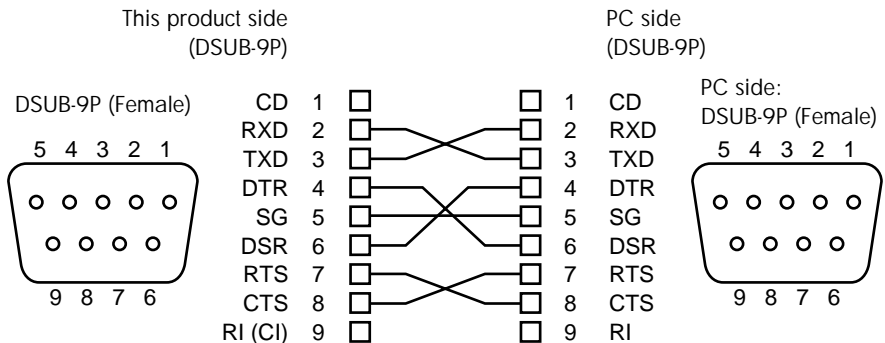
- ③ Start the PC program to operate this product.

- ④ Control through the RS-232C will start.



For communication control, be sure to take the above steps for settings.

Cable Connection



Data Format Specification

This command is executed in the form of 1-command/1-packet. The next command is not accepted until the previous processing is completed.

- The communication command always starts with STX (Start of Text), and ends with ETX (End of Text).
- If the communication format of command name is wrong, NAK (Negative Acknowledge) will be sent from this product as a result of failing to receive correctly.
- When communication format is received correctly, this product sends ACK (Normal Acknowledge).

■ Operation Command (PC → This product)

Each operation command is executed in ASCII code, and transmitted in a set of 7 bytes as follows:

| | | | | | |
|----------------|-------|---------|-----------|------|---|
| (PC) | S | Command | Parameter | Data | E |
| | T | | | | T |
| | X | | | | X |
| (This product) | → ACK | | | | |

■ Response Data Format (This product → PC)

All response data is transmitted as ASCII code, corresponding to the parameters in the operation command table.

- Status 0

| | | | | | | | | | |
|-------------|--------------------|--------------------|---------------|---------------|----------------------------|---------|-------|------------------|-------------|
| S T X | Lighting ON/OFF | Input selection | Posi/ Nega | Color/ B&W | Camera mode /SD mode | Display | Pause | Local lockout | E T X |
|-------------|--------------------|--------------------|---------------|---------------|----------------------------|---------|-------|------------------|-------------|

- Status 2

| | | | | | | | | | |
|-------------|--------------|--------------------|-------------------|----------------|------------------|------|-------------------|-------------|-------------|
| S T X | Iris mode | Gamma selection | Image rotation | Edge effect | White balance | Text | Monitor output | USB mode | E T X |
|-------------|--------------|--------------------|-------------------|----------------|------------------|------|-------------------|-------------|-------------|

AUTO:31H
MANUAL:32H

- ROM Ver0 (SUB)

| | | | | | | | |
|-------------|----------|----------|----------|-------|-------|-------|-------------|
| S T X | V 56H | H 48H | L 4CH | * * H | * * H | * * H | E T X |
|-------------|----------|----------|----------|-------|-------|-------|-------------|

ROM Ver.1

- ROM Ver1 (MAIN) . . . Upper 6 bytes

| | | | | | | | |
|-------------|-------|-------|-------|-------|-------|-------|-------------|
| S T X | * * H | * * H | * * H | * * H | * * H | * * H | E T X |
|-------------|-------|-------|-------|-------|-------|-------|-------------|

- ROM version 2 (MAIN) . . . Lower 4 bytes

| | | | | | | | |
|-------------|-------|-------|-------|-------|-----|-----|-------------|
| S T X | * * H | * * H | * * H | * * H | 20H | 20H | E T X |
|-------------|-------|-------|-------|-------|-----|-----|-------------|

Transmission Specifications

- Full duplex start-stop sync. mode
- Start bit : 1 bit
- Data bit : 8 bits
- Stop bit : 1 bit
- Parity bit : None
- X parameter : None
- Baud rate (Communication speed) : 9600bps

UART Communication Format

Commands, parameters and data are all transmitted in ASCII code.

| Function | Command | Parameter | Data | Contents |
|------------------------|---------|-----------------|------|---|
| Auto Focus | AF | 0 | ■■ | To perform the one-shot auto focus |
| Focus adjustment | FO | + (Near) | ■■ | To adjust the focus |
| | | - (Far) | | |
| | | 0 (Stop) | | |
| Zoom adjustment | ZO | + (Tele) | ■■ | To adjust the zoom |
| | | - (Wide) | | |
| | | 0 (Stop) | | |
| Iris adjustment | IR | + (Open) | ■■ | To adjust the iris |
| | | - (Close) | | |
| | | 0 (Stop) | | |
| | | 1 (Auto) | | |
| | | 2 (Manual) | | |
| Lighting selection | PL | 0 (OFF) | ■■ | To turn ON/OFF the lighting |
| | | 1 (ON) | | |
| Display mode selection | AV | 0 (Camera) | ■■ | To switch the display mode |
| | | 1 (RGB IN) | | |
| | | 2 (SD) | | |
| Video output selection | MO | 0 (All Mode) | ■■ | To switch the video output |
| | | 1 (Camera & SD) | | |
| Direction | KE | 0 (Menu) | ■■ | To scroll in the direction indicated by arrow when the digital zoom is in operation To select and determine an image on the split screen |
| | | 1 (Enter) | | |
| | | 2 (→) | | |
| | | 3 (←) | | |
| | | 4 (↑) | | |
| | | 5 (↓) | | |
| Pause | FZ | 0 (OFF) | ■■ | To freeze the image |
| | | 1 (ON) | | |
| Guide | GU | 0 (OFF) | ■■ | To set whether the main unit operation state should be displayed on the screen or not |
| | | 1 (ON) | | |
| Display | DP | 0 (Single) | ■■ | To select whether the images in the SD card mode should be displayed on the split screen or not |
| | | 1 (3×3) | | |
| | | 2 (4×4) | | |
| Slide show | SS | 0 (Stop) | ■■ | To start/stop the slide show |
| | | 1 (Start) | | |
| Electronic zoom-in | DZ | 0 | ■■ | To zoom in electronically |

| Function | Command | Parameter | Data | Contents |
|--------------------------------|---------|-----------------------|------|---|
| Slide-show image feed effect | SE | 0 (All) | ■■ | To set the visual effect of the slide show |
| | | 1 (Random) | | |
| | | 2 (Top down) | | |
| | | 3 (Left to right) | | |
| | | 4 (Bottom up) | | |
| | | 5 (Right to left) | | |
| | | 6 (LT to RB) | | |
| | | 7 (RT to LB) | | |
| | | 8 (RB to LT) | | |
| | | 9 (LB to RT) | | |
| | | A (Random block) | | |
| | | B (Fade in/out) | | |
| | | C (Overlap) | | |
| | | D (Shutter) | | |
| | | E (Door) | | |
| | | F (Stripe) | | |
| | | G (BW to color) | | |
| | | H (Clolor to sepia) | | |
| | | I (Joint V) | | |
| | | J (Joint H) | | |
| | | K (None) | | |
| Slide-show object file | ST | 0 (All) | ■■ | To select whether the object of the slide show should be all images in the SD card, only the locked image file or a file in the list file |
| | | 1 (Locked) | | |
| | | 2 (List) | | |
| Slide-show feed order | SO | 0 (FWD) | ■■ | To set whether the slide show should be proceeded in the ascending order or in the descending order |
| | | 1 (BWD) | | |
| Slide-show image feed interval | SI | 0 (3s) | ■■ | To set the interval of the image switching in the slide show |
| | | 1 (5s) | | |
| | | 2 (10s) | | |
| | | 3 (15s) | | |
| | | 4 (30s) | | |
| Slide-show repeat | SR | 0 (OFF) | ■■ | To proceed the slide show repeatedly |
| | | 1 (ON) | | |
| File delete | DE | 0 (Current) | ■■ | To delete an image file in the SD card |
| | | 1 (All) | | |
| File lock | SL | 0 (Current) | ■■ | To lock an image file in the SD card |
| | | 1 (All) | | |
| File unlock | SU | 0 (Current) | ■■ | To unlock the locked image file in the SD card |
| | | 1 (All) | | |
| Format | SF | 0 | ■■ | To format the SD card |
| Image save | CA | 0 | ■■ | To save the image in the SD card |
| USB mode | UM | 0 (Mass Storage) | ■■ | To switch the USB mode |
| | | 1 (Application) | | |
| Gamma setting | GM | 0 ($\gamma = 0.63$) | ■■ | To set the gamma value of the image |
| | | 1 ($\gamma = 0.56$) | | |
| | | 2 ($\gamma = 0.50$) | | |
| | | 3 ($\gamma = 0.45$) | | |
| | | 4 ($\gamma = 0.42$) | | |
| | | 5 ($\gamma = 0.38$) | | |
| | | 6 ($\gamma = 0.36$) | | |
| | | 7 ($\gamma = 0.33$) | | |

| Function | Command | Parameter | Data | Contents |
|----------------|---------|--------------|------|--|
| Image rotation | RO | 0 (0°) | ■■ | To turn the image |
| | | 1 (180°) | | |
| Edge effect | AP | 0 (OFF) | ■■ | To set the edge enhancement |
| | | 1 (Low) | | |
| | | 2 (Mid) | | |
| | | 3 (High) | | |
| White balance | AW | 0 (Manual) | ■■ | To switch the white balance mode |
| | | 1 (Auto) | | |
| | | 2 (One Push) | | |
| | | 3 (R_Up) | | |
| | | 4 (R_Down) | | |
| | | 5 (B_Up) | | |
| Text | CT | 0 (OFF) | ■■ | To set the contrast |
| | | 1 (ON) | | |
| Posi/Nega | NP | 0 (Posi) | ■■ | To set the Posi/Nega |
| | | 1 (Nega) | | |
| Color/B&W | CB | 0 (Color) | ■■ | To set the Color/B&W |
| | | 1 (B&W) | | |
| Local lockout | LL | 0 (OFF) | ■■ | To invalidate the operation of the front operating panel and wireless remote control |
| | | 1 (ON) | | |
| Default | DF | 0 | ■■ | To reset to the default settings |
| Status request | QS | 0 | ■■ | To inquire about the unit state |
| | | 2 | | |
| ROM version | QR | 0 | ■■ | To inquire about the ROM version |
| | | 1 | | |
| | | 2 | | |
| ACK check | SA | 0 (OFF) | ■■ | To switch the ACK check mode |
| | | 1 (ON) | | |
| CR addition | SC | 0 (OFF) | ■■ | To switch the CR addition settings |
| | | 1 (ON) | | |



For "■■" in the data column, transmit the SPACE [20H] twice.

About Connection


If the RS-232C cable is not connected correctly between this product and the PC, no acknowledgement is transmitted.

Connect the RS-232C cable correctly, and fix it firmly with the connector set screws before starting the operation.

7 TROUBLESHOOTING

Symptoms and Confirmation

Check the following items. If any abnormality is found, consult the seller from whom you have purchased this product or our branch/office near your location.

| Symptom | Check this item |
|--|---|
| No image is displayed on the TV monitor. | <ul style="list-style-type: none"> The cable is not connected correctly to the video-in terminal of the monitor. The power cord is disconnected from the wall AC outlet. The plug is disconnected from the power cord receptacle of this presenter. The power switch is not ON. Zoom is set at the TELE side, displaying only the white/black part of the document. The power switch is turned ON immediately after it is turned OFF. In this case, this product may not start immediately. Wait for several seconds after turning OFF the power switch, and then turn it ON. |
| The image is out of focus. | <ul style="list-style-type: none"> The document (object) is too close to the lens. Zoom is at the TELE side after focusing at a wide angle (at the WIDE side). Focus on the point of max. at the TELE side. In the auto focus, focusing is difficult in some cases. |
| The lamp does not light up quickly. | <ul style="list-style-type: none"> For the protection purpose, the lamp is arranged to light up after preheating for 2 seconds. This is not a fault. |
| The video output image is disarrayed. | <ul style="list-style-type: none"> The video output is set to the PAL system. If this product, set to the PAL system, is connected to the monitor specially designed for the NTSC system, the video image may not be outputted normally but be disarrayed or in black and white. In such case, switch the system of the video output by referring to "DIP Switch" at P. 65. |
| The image is too dark. | <ul style="list-style-type: none"> The intensity of the lighting is not sufficient. Press the  button on the front operating panel or wireless remote control to turn ON the lamp. The iris is adjusted to the CLOSE side. Adjust the iris to the OPEN side. |
| 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 CCD pixels. This may be mitigated by changing the projection range. When using an LCD projector, vertical stripes may appear on the screen. This may be mitigated by manually adjusting the dot clock frequency on the projector side. |
| The brightness tone is out of order. | <ul style="list-style-type: none"> This may be mitigated by switching gamma settings. |

Replacement of Lighting Lamp (Fluorescent Lamp)

The lighting lamps (fluorescent lamps) are expendables. When any of them begins to shimmer or dim, replace it.



For the replacement of the lamp, consult the dealer from whom you have purchased this product or our branch/office near your location.

8 SPECIFICATIONS

■ General

| Item | Specifications | | |
|-----------------------|--|--|----|
| Power source | 12VDC (AC adapter: 100 ~ 240VAC) | | |
| Power consumption | 30W (AC adapter included) | | |
| Outside dimensions | 377×482×180mm (14.8×19.0×7.1 in) (When folded) | | |
| | 377×482×582mm (14.8×19.0×22.9in) (When set up) | | |
| Weight | Approx. 4.7kg (10.4 lbs) (Main body only) | | |
| Input selection | Main body / External one system | | |
| Output terminal | DVI output | DVI-D 24P connector, female | ×1 |
| | RGB output | Mini DSUB 15P connector, female | ×1 |
| | Composite video output | RCA pin jack / 750Ω unbalanced (NTSC/PAL) | ×1 |
| | S-video output | Mini DIN 4P connector / 750Ω unbalanced (NTSC/PAL) | ×1 |
| Input terminal | RGB input | Mini DSUB 15P connector, female | ×1 |
| Ext. control terminal | RS-232C | Dsub 9P connector, male | ×1 |
| | USB (2.0 compliant) | Type B receptacle | ×1 |
| Memory interface | SD card slot | | |

■ Main Camera

| Item | Specifications | |
|------------------------------|--|--|
| Lens | f = 4.7 ~ 70.5mm (15-time zoom), F2.8 | |
| Shooting speed | 20 frames/sec | |
| Shooting area | 405×303mm (15.9×11.9 in) max. 30×23mm (1.2×0.9 in) min. | |
| Limit of focus adjustment | With close-up lens: TELE side : 305 ~ 405mm (12.0 ~ 15.9 in) from close-up lens WIDE side : 50 ~ 405 mm (2.0 ~ 15.9 in) from close-up lens Without close-up lens: TELE side : 500mm ~ ∞ (19.7 in ~ ∞) from zoom lens WIDE side : 50mm ~ ∞ (2.0 in ~ ∞) from zoom lens | |
| Optical zoom | 15× | |
| Digital zoom | 4× | |
| Focus | Auto/Manual | |
| Iris | Auto (Level adjustable) / Manual | |
| Image pick-up element | 1/3″ CCD | |
| Total picture elements | Horizontal 1077, Vertical 788 ... Approx. 850,000 pixels | |
| Effective picture elements | Horizontal 1034, Vertical 779 | |
| Synchronized signal | Internal | |
| Resolution | Analog RGB output: Horizontal 600TV lines or more Vertical 600TV lines or more Video output: Horizontal 450TV lines or more | |
| DVI output | TMDS data signal 0.5 (Vp-p) 50Ω (Terminated) | XGA: Horizontal frequency 48.363kHz; Vertical frequency 60.004Hz (1024×768 at 60Hz); Compliant with VESA |
| Analog RGB output | 0.7 (Vp-p) 75Ω unbalanced, Synchronized signal: Negative polarity | |
| Composite video output | Compliant with NTSC/PAL | |
| S-video output | Compliant with NTSC/PAL | |
| White balance | Full auto / One-push / Manual | |
| Video output selection | Provided (NTSC/PAL) | |
| Posi/Nega conversion | Provided | |
| Color/B&W selection | Provided | |
| Image rotation | Provided (0°/180°) | |
| Text mode | Provided | |
| Gamma setting | Provided | |
| Edge enhancement | Provided | |
| Pause | Provided | |
| Electronic image enlargement | Provided (2×, 4×, Scroll) | |
| Image recording | Provided (SD card) | |
| Split display | Provided (SD card image, 9-splits, 16-splits) | |
| Slide show | Provided (SD card image) | |

■ Lighting

| Item | Specifications |
|----------|---|
| Lighting | High frequency lighting mode, twin fluorescent lamp, Type 9 (Model: FPL9EX-N) |

■ Supplied Accessories

| Name | Quantity |
|--|----------|
| Power adapter | 1 |
| Power cord (1.5m) | 1 |
| Video cable (RCA pin connector) (3m) | 1 |
| S-video cable (Mini DIN 4P connector) (2m) | 1 |
| Analog RGB cable (DSUB 15P connector) (2m) | 1 |
| DVI cable (2m) | 1 |
| Infrared wireless remote control | 1 |
| Batteries (Type R03, AAA) | 2 |
| Instruction Manual for P30 | 1 |
| Warranty Card for P30 | 1 |
| USB cable (1.8m) | 1 |
| Slide shooting adapter | 1 |
| Utility Software Installation Manual | 1 |
| Utility Software CD-ROM | 1 |

■ Options

- 5" TFT LCD color monitor kit (LM-5011N)
- LCD monitor bracket (MS-30)



For the RCA pin, use a pin plug compliant with EIAJ RC-6703.



The above specifications are subject to change without notice.

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