

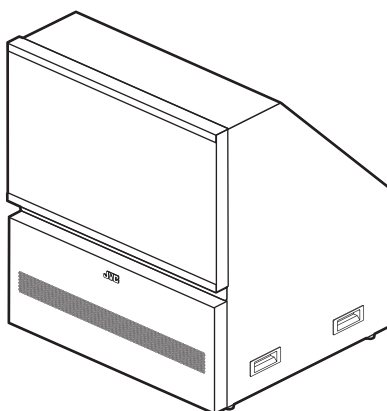
HDR REAR PROJECTION SYSTEM

LY-HDR36

DLA-HDR36 (D-ILA PROJECTOR)

DB-HDR36 (CABINET BOX)

D-ILA[®]
HDMI[®]
HIGH-DEFINITION MULTIMEDIA INTERFACE



For Customer use :

Enter below the serial No. which is located on the side of the cabinet. Retain this information for future reference.

Model No. LY-HDR36

Serial No. _____

Pour utilisation par le client :

Entrerci-dessous le N° de série qui est situé sous le boîtier. Garder cette information comme référence pour le futur.

N° de modèle LY-HDR36

N° de série _____

Instrucción para el cliente :

Introduzca a continuación el n° de serie que aparece en la parte inferior lateral de la caja. Conserve esta información como referencia para uso ulterior.

Modelo N° LY-HDR36

N° de serie _____

Safety Precautions

IMPORTANT INFORMATION

This product has a High Intensity Dis-charge (HID) lamp that contains mercury. Manage in accord with disposal laws.

Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information, please contact your local authorities or for USA, the Electronic Industries Alliance: <http://www.eiae.org>. or call 1-800-252-5722(For USA) or 1-800-964-2650(For Canada).

WARNING:

TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

WARNING:

THIS APPARATUS MUST BE EARTHED.

CAUTION:

To reduce the risk of electric shock, do not remove cover. Refer servicing to qualified service personnel.

This projector is equipped with a 3-blade grounding type plug to satisfy FCC rule. If you are unable to insert the plug into the outlet, contact your electrician.

NOISE EMISSION DECLARATION

The sound pressure level at the operator position is equal or less than 30dB(A) according to ISO7779.

For the customers in Taiwan only



廢電池請回收

FCC INFORMATION (U.S.A. only)

CAUTION:

Changes or modification not approved by JVC could void the user's authority to operate the equipment.

NOTE:

This equipment has been tested and found to comply with the limits for Class B digital devices, 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.

Declaration of Conformity

Model Number: DLA-HDR36

Trade Name: JVC

Responsible party: JVCKENWOOD USA Corporation

Address: 1700 Valley Road Wayne, N. J. 07470

Telephone Number: 973-317-5000

This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

About the installation place

Do not install the projector in a place that cannot support its weight securely.

If the installation place is not sturdy enough, the projector could fall or overturn, possibly causing personal injury.

IMPORTANT SAFEGUARDS

Electrical energy can perform many useful functions. This unit has been engineered and manufactured to assure your personal safety. But **IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARD**. In order not to defeat the safeguards incorporated into this product, observe the following basic rules for its installation, use and service. Please read these Important Safeguards carefully before use.

- All the safety and operating instructions should be read before the product is operated.
- The safety and operating instructions should be retained for future reference.
- All warnings on the product and in the operating instructions should be adhered to.
- All operating instructions should be followed.
- Place the projector near a wall outlet where the plug can be easily unplugged.
- Unplug this product from the wall outlet before cleaning.
- Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Do not use attachments not recommended by the product manufacturer as they may be hazardous.
- Do not use this product near water. Do not use immediately after moving from a low temperature to high temperature, as this causes condensation, which may result in fire, electric shock, or other hazards.
- Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. The product should be mounted according to the manufacturer's instructions, and should use a mount recommended by the manufacturer.
- When the product is used on a cart, care should be taken to avoid quick stops, excessive force, and uneven surfaces which may cause the product and cart to overturn, damaging equipment or causing possible injury to the operator.
- Slots and openings in the cabinet are provided for ventilation. These ensure reliable operation of the product and protect it from overheating. These openings must not be blocked or covered. (The openings should never be blocked by placing the product on bed, sofa, rug, or similar surface. It should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the manufacturer's instructions have been adhered to.)
- To allow better heat dissipation, keep a clearance between this unit and its surrounding as shown below. When this unit is enclosed in a space of dimensions as shown below, use an air-conditioner so that the internal and external temperatures are the same. Overheating can cause damage.

PORTABLE CART WARNING
(symbol provided by RETAC)



- Power source indicated on the label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.
- This product is equipped with a three-wire plug. This plug will fit only into a grounded power outlet. If you are unable to insert the plug into the outlet, contact your electrician to install the proper outlet. Do not defeat the safety purpose of the grounded plug.
- 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. Pay particular attention to cords at doors, plugs, receptacles, and the point where they exit from the product.
- For added protection of 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 cable system. This will prevent damage to the product due to lightning and power line surges.
- Do not overload wall outlets, extension cords, or convenience receptacles on other equipment as this can result in a risk of fire or electric shock.
- 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.
- Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltages and other hazards. Refer all service to qualified service personnel.
- Unplug this product from the wall outlet and refer service to qualified service personnel under the following conditions:
 - a) When the power supply cord or plug is damaged.
 - b) If liquid has been spilled, or objects have fallen on the product.
 - c) If the product has been exposed to rain or water.
 - d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the Operation Manual, as an improper adjustment of controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
 - e) If the product has been dropped or damaged in any way.
 - f) When the product exhibits a distinct change in performance, this indicates a need for service.
- When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or with same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- 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.
- The product should be placed more than one foot away from heat sources such as radiators, heat registers, stoves, and other products (including amplifiers) that produce heat.
- When connecting other products such as VCR's, and DVD players, you should turn off the power of this product for protection against electric shock.

- Do not place combustibles behind the cooling fan. For example, cloth, paper, matches, aerosol cans or gas lighters that present special hazards when over heated.
- Do not look into the projection lens while the illumination lamp is turned on. Exposure of your eyes to the strong light can result in impaired eyesight.
- Do not look into the inside of this unit through vents (ventilation holes), etc. Do not look at the illumination lamp directly by opening the cabinet while the illumination lamp is turned on. The illumination lamp also contains ultraviolet rays and the light is so powerful that your eyesight can be impaired.
- Do not drop, hit, or damage the light-source lamp (lamp unit) in any way. It may cause the light-source lamp to break and lead to injuries. Do not use a damaged light source lamp. If the light-source lamp is broken, ask your dealer to repair it. Fragments from a broken light-source lamp may cause injuries.
- The light-source lamp used in this projector is a high pressure mercury lamp. Be careful when disposing of the light-source lamp. If anything is unclear, please consult your dealer.
- Do not ceiling-mount the projector to a place which tends to vibrate; otherwise, the attaching fixture of the projector could be broken by the vibration, possibly causing it to fall or overturn, which could lead to personal injury.
- Use only the accessory cord designed for this product to prevent shock.
- For health reasons, please take a break of about 5-15 minutes every 30-60 minutes and let your eyes rest. Please refrain from watching any 3D-images when you feel tired, unwell or if you feel any other discomfort. Moreover, in case you see a double image, please adjust the equipment and software for proper display. Please stop using the unit if the double image is still visible after adjustment.
- Once every three years, please perform an internal test. This unit is provided with replacement parts needed to maintain its function (such as cooling fans). Estimated replacement time of parts can vary greatly depending on frequency of use and the respective environment. For replacement, please consult your dealer, or the nearest authorized JVC service center.
- When fixing the unit to the ceiling, Please note that we do not take any responsibility, even during the warranty period, if the product is damaged due to use of metal fixtures used for fixation to the ceiling other than our own or if the installation environment of said metal fixtures is not appropriate. If the unit is suspended from the ceiling during use, please be careful in regard to the ambient temperature of the unit. If you use a central heating, the temperature close to the ceiling will be higher than normally expected.
- Video images can burn into the electronic component parts. Please do not display screens with still images of high brightness or high contrast, such as found in video games and computer programs. Over a long period of time it might stick to the picture element. There is no problem with the playback of moving images, e.g. normal video footage.
- Video images can burn into the electronic component parts. Please do not display screens with still images of high brightness or high contrast, such as found in video games and computer programs. Over a long period of time it might stick to the picture element. There is no problem with the playback of moving images, e.g. normal video footage.
- Not using the unit for a long time can lead to malfunction. Please power it on and let it run occasionally. Please avoid using the unit in a room where cigarettes are smoked. It is impossible to clean optical component parts if they are contaminated by nicotine or tar. This might lead to performance degradation.
- Please watch from a distance three times the height of the projected image size. Persons with photosensitivity, any kind of heart disease, or weak health should not use 3D glasses.
- Watching 3D-images might be cause of illness. If you feel any change in your physical condition, please stop watching immediately and consult a physician if necessary.
- When watching 3D images, it is recommended to take regular breaks. As the length and frequency of the required breaks differ for every person, please judge according to your own condition.
- If your child watches while wearing 3D glasses, it should be accompanied by its parents or an adult guardian. The adult guardian should be careful to avoid situations where the child's eyes might become tired, as responses to tiredness and discomfort, etc., are hard to detect, and it is possible for the physical condition to deteriorate very quickly. As the visual sense is not yet fully developed in children under the age of 6, please consult a physician in regard to any problem concerning 3D-images if necessary.
- Note that when using the 3D feature, the video output may appear different from the original video image due to image conversion on the device.

*** DO NOT allow any unqualified person to install the unit.**

Be sure to ask your dealer to install the unit (e.g. attaching it to the ceiling) since special technical knowledge and skills are required for installation. If installation is performed by an unqualified person, it may cause personal injury or electrical shock.

POWER CONNECTION

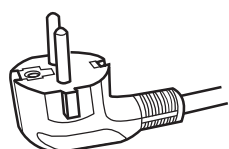
For USA and Canada only
Use only the following power cord.

Power cord



The power supply voltage rating of this product is AC100V – AC240V. Use only the power cord designated by our dealer to ensure Safety and EMC. Ensure that the power cable used for the projector is the correct type for the AC outlet in your country. Consult your product dealer.

Power cord



For European continent countries

WARNING:

Do not cut off the main plug from this equipment.

If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or adapter or consult your dealer. If nonetheless the mains plug is cut off, dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the main supply. If a new main plug has to be fitted, then follow the instruction given below.

WARNING:

THIS APPARATUS MUST BE EARTHED.

Dear Customer,

This apparatus is in conformance with the valid European directives and standards regarding electromagnetic compatibility and electrical safety.

European representative of

JVC KENWOOD Corporation is:

JVCKENWOOD Deutschland GmbH

Konrad-Adenauer-Allee 1-11

61118 Bad Vilbel

GERMANY

IMPORTANT (Europe only):

The wires in the mains lead on this product are colored Vert et jaune in accordance with the following cord:

Green-and-yellow : Earth

Blue : Neutral

Brown : Live

As these colors may not correspond with the colored making identifying the terminals in your plug, proceed as follows:

The wire which is colored green-and-yellow must be connected to the terminal which is marked M with the letter E or the safety earth or colored green or green-and-yellow. The wire which is colored blue must be connected to the terminal which is marked with the letter N or colored black.

The wire which is colored brown must be connected to the terminal which is marked with the letter L or colored red.

INFORMATION Manufacturer:

JVC KENWOOD Corporation

3-12, Moriya-cho, Kanagawa-ku, Yokohama-shi, Kanagawa, 221-0022, JAPAN

Importer (EU only):

JVC KENWOOD U.K. Limited

12 Priestley Way, London, NW2 7BA

UNITED KINGDOM

For more details, please refer to our website.
<http://www.jvc.net/>

Information for Users on Disposal of Old Equipment and Batteries



Products



Battery

[European Union only]

These symbols indicate that equipment with these symbols should not be disposed of as general household waste. If you want to dispose of the product or battery, please consider the collection systems or facilities for appropriate recycling.

Notice: The sign Pb below the symbol for batteries indicates that this battery contains lead.

Informations relatives à l'élimination des appareils et des piles usagés, à l'intention des utilisateurs



Produits



Pile

[Union européenne seulement]

Si ces symboles figurent sur les produits, cela signifie qu'ils ne doivent pas être jetés comme déchets ménagers. Si vous voulez jeter ce produit ou cette pile, veuillez considérer le système de collecte des déchets ou les centres de recyclage appropriés.

Notification: La symbole Pb en dessous du symbole des piles indique que cette pile contient du plomb.

Información para los usuarios sobre la eliminación de baterías/pilas usadas



Productos



Baterías/pilas

[Sólo Unión Europea]

Estos símbolos indican que el equipo con estos símbolos no debe desecharse con la basura doméstica. Si desea desechar el producto o batería/pila, acuda a los sistemas o centros de recogida para que los reciclen debidamente.

Atención: La indicación Pb debajo del símbolo de batería/pila indica que ésta contiene plomo.

Benutzerinformationen zur Entsorgung alter Geräte und Batterien



Produkte



Batterie

[Nur Europäische Union]

Diese Symbole zeigen an, dass derartig gekennzeichnete Geräte nicht als normaler Haushaltsabfall entsorgt werden dürfen. Wenden Sie sich zur Entsorgung des Produkts oder der Batterie an die hierfür vorgesehenen Sammelstellen oder Einrichtungen, damit eine fachgerechte Wiederverwertung möglich ist.

Hinweis: Das Zeichen Pb unterhalb des Batteriesymbols gibt an, dass diese Batterie Blei enthält.

Informazioni per gli utenti sullo smaltimento delle apparecchiature e batterie obsolete



Prodotti



Batteria

[Solo per l'Unione Europea]

Questi simboli indicano che le apparecchiature a cui sono relativi non devono essere smaltite tra i rifiuti domestici generici. Se si desidera smaltire questo prodotto o questa batteria, prendere in considerazione i sistemi o le strutture di raccolta appropriati per il riciclaggio corretto.

Nota: Il simbolo Pb sotto il simbolo delle batterie indica che questa batteria contiene piombo.

Informatie voor gebruikers over het verwijderen van oude apparatuur en batterijen



Producten



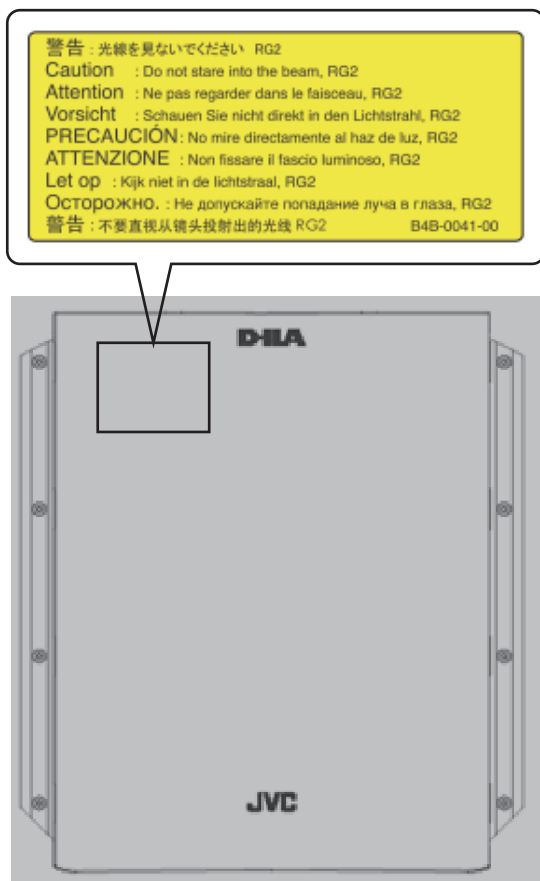
Batterij

[Alleen Europese Unie]

Deze symbolen geven aan dat apparatuur met dit symbool niet mag worden weggegooid als algemeen huishoudelijk afval. Als u het product of de batterij wilt weggoien, kunt u inzamelsystemen of faciliteiten voor een geschikte recycling gebruiken.

Opmerking: Het teken Pb onder het batterijsymbool geeft aan dat deze batterij lood bevat.

Location information of the labels



As with any bright light source, do not stare into the beam, RG2 IEC 62471-5:2015

* The warning label shown in the above diagram is stuck on the bottom of the projector inside this unit.

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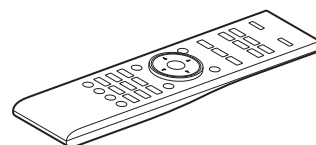
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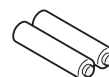
Accessories/Optional Accessories

Accessories

Remote control 1 piece



AAA-size batteries (for operational check) 2 pieces



- Quick User Guide, safety precautions, warranty card, and other printed material are also included.
- Be sure to read the “Safety Precautions” before using this projector.
- The contents in the “Safety Precautions” are for image display equipment in general; items not applicable to this unit are also included.

Optional Accessories

- Replacement lamp: Product no. PK-L2615U
- HDR rear projection screen:
Product no.: SF-HDR36G2, SF-HDR36N2, SF-HDR36G4, SF-HDR36N4, SF-HDR36G10

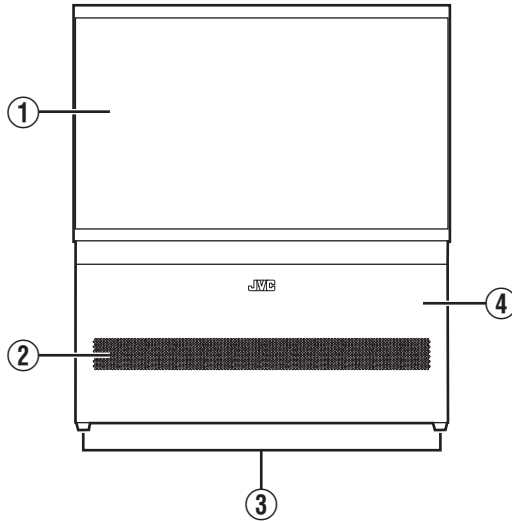
Screen Gain	Screen Type	
	Glossy	Matte
2.4	SF-HDR36G2	SF-HDR36N2
4.8	SF-HDR36G4	SF-HDR36N4
10	SF-HDR36G10	-

- HDR rear projection stand: Product no. EF-ST36
- Calibration software: Product no. PK-CS1501

Please check with your authorized dealer for details.

Names and Functions of Parts

Main Unit - Front



① **Screen**

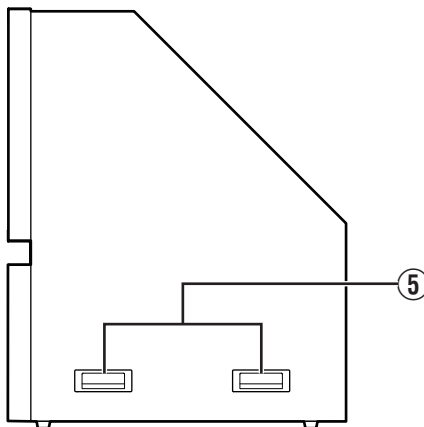
③ **Feet**

② **Air Inlets**

④ **Front Panel**

The inlets take in air to cool down the internal temperature.
Do not block or prevent the outflow of hot air. Doing so may cause the unit to malfunction.

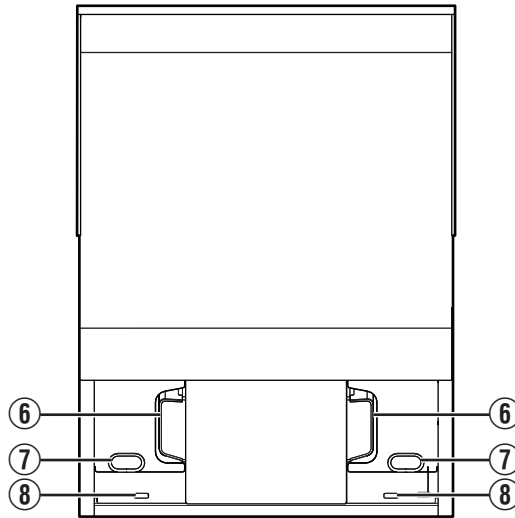
Main Unit - Side



⑤ **Handles**

There are two handles on each side.
Be sure to carry this unit using the handles when moving the unit.

Main Unit - Rear



⑥ Exhaust vent

Warm air is discharged to cool down the internal temperature.
Do not block the vents.

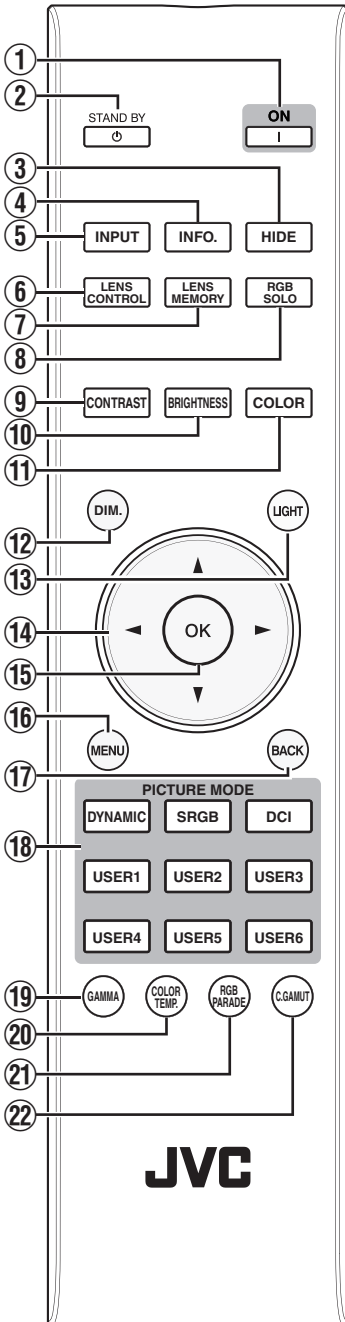
⑦ Cable Through-holes

Cables that are connected to the projector inside this unit are run through the holes to the outside of the unit.
(Up to five cables including the power cord, HDMI cable (x2), LAN cable and RS-232C cable)

⑧ Through-holes for Fall Prevention Wire (at the bottom side)

You are recommended to attach a commercially available fall prevention wire to the unit to prevent it from falling in the event of an earthquake etc.
Use these holes to attach the wire.

Remote Control



① [ON]

Turns on the power. (P. 18)

② [STAND BY]

Turns off the power. (P. 18)

③ [HIDE]

Hides the image temporarily. (P. 18)

④ [INFO.]

Displays the information menu. (P. 43)

⑤ [INPUT]

For selecting an input from [HDMI 1] and [HDMI 2]. (P. 18)

⑥ [LENS CONTROL]

For adjusting focus, zoom, and shift. (P. 19)

⑦ [LENS MEMORY]

Switches between saving, retrieving, and editing of the lens memory. (P. 20)

⑧ [RGB SOLO]

Switches the color component to be projected to “All Colors (Full Colors)”, “Red Component only”, “Green Component only” or “Blue Component only”. (P. 44)

⑨ [CONTRAST]

For adjusting the contrast. (P. 33)

⑩ [BRIGHTNESS]

For adjusting the brightness. (P. 33)

⑪ [COLOR]

For adjusting the color. (P. 34)

⑫ [DIM.]

Pressing the button adjusts the brightness to approximately 20 % (depending on the gamma setting). Pressing the button again restores the original brightness. (P. 44)

⑬ [LIGHT]

Illuminates the buttons on the remote control.

⑭ [▲▼◀▶] keys

For selecting an item.

⑮ [OK]

Confirms a selected item.

⑯ [MENU]

Displays the menu, or hides the menu if it is displayed.

⑰ [BACK]

Returns to the previous menu.

⑱ [PICTURE MODE]

Switches the Picture mode to [DYNAMIC], [SRGB], [DCI], or [USER1] to [USER6]. (P. 23)

⑲ [GAMMA]

For setting the gamma level. (P. 25)

⑳ [COLOR TEMP.]

For setting the color temperature. (P. 33)

㉑ [RGB PARADE]

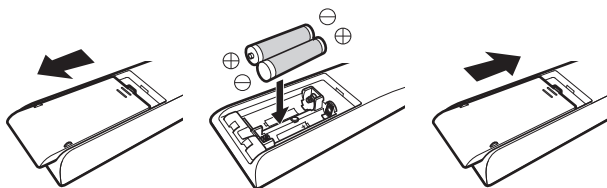
Displays the waveform monitor for red, green, blue and all colors at the bottom of the screen. (P. 44)

㉒ [C.GAMUT]

Displays the colors that are not correctly displayed by the projector with the current Picture mode in colors. Colors that are correctly displayed appear in monochrome. (P. 44)

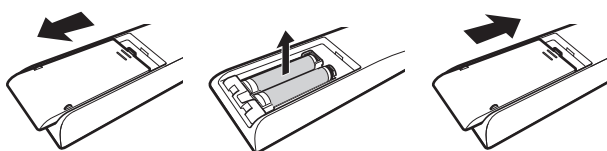
Loading Batteries into the Remote Control

Loading the batteries



- If the remote control has to be brought closer to the unit to operate, it means that the batteries are wearing out. Replace the batteries with new ones (AAA).
- Insert the batteries according to the $\oplus \ominus$ marks. Be sure to insert the \ominus end first. When removing the battery, do so from the \oplus end.
- If an error occurs while using the remote control, remove the batteries and wait for five minutes. Load the batteries again and operate the remote control.

Removing the batteries



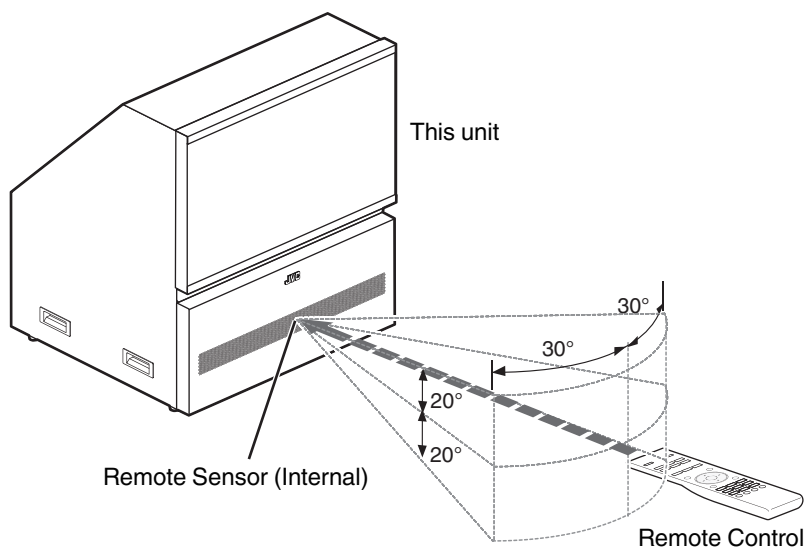
CAUTION

- Do not put the remote control in a place with an exposure to direct sun light or high temperature. It may be deformed due to heat, or the internal components may be adversely affected resulting in fire hazard.
- Remove the batteries from the remote control when storing the remote control. Storing the remote control for a prolonged period without removing the batteries can cause battery leakage.

Effective Range of Remote Control Unit

When aiming the remote control toward the front panel of this unit, ensure that the distance to the front panel is within 7 m.

If the remote control fails to operate properly, move it closer to the remote sensor.



Installing the Projector

Precautions during Installation

Please read the following carefully before installing this unit.

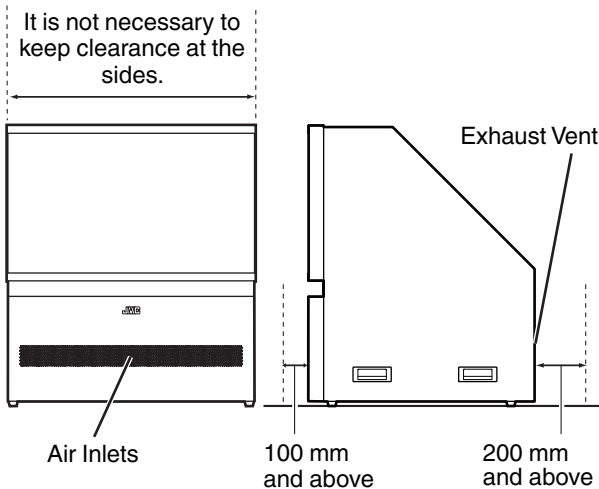
Do not install at the following

This unit is a precision device. Please refrain from installing or using it at the following locations. Otherwise, it may cause fire or malfunction.

- Dusty, wet and humid places
- Places subject to oily smoke or cigarette smoke (Even a small amount of smoke or oiliness can have a long-term impact on this unit.)
- On top of a carpet or bedding, or other soft surfaces
- Places exposed to direct sunlight
- Places with a high or low temperature
- * This unit produces a great amount of heat, and is designed to take in cool air to cool its optical components. Using the unit at the above locations may cause dirt to attach to the light path, thereby resulting in dark images or dull colors.
- * Dirt that sticks to the optical components cannot be removed.

Maintain clearance from the wall, etc.

As the unit discharges a large amount of heat, install it with adequate clearance from the surroundings as shown below.



Using the projector

You are recommended to attach a commercially available fall prevention wire to the unit to prevent it from falling in the event of an earthquake etc.

(“Main Unit - Rear”P. 11)

Moving/transporting the unit

Take care not to drop the product when moving and transporting the product. In addition, do not hold the screen as it can come off.

Do not lift up the product with the handles if they are defective.

To transport this unit, consult your authorized dealer.

Using the projector at a high altitude

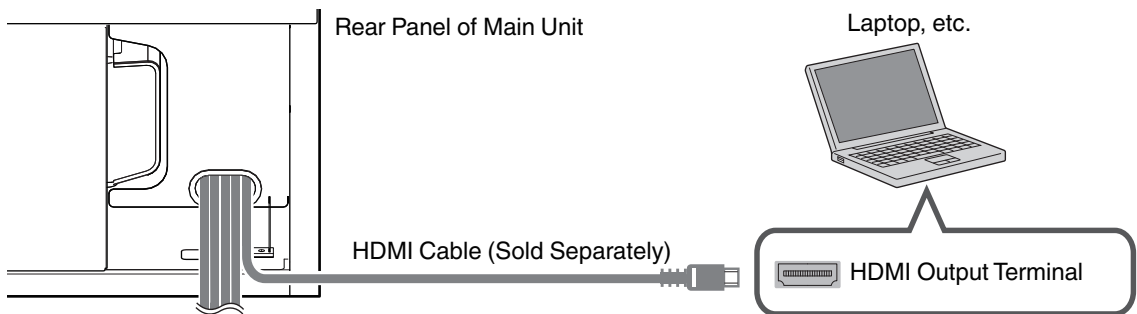
When using this unit at a location that is higher than 900 m above sea level (low air pressure), set the “High Altitude Mode” to “On”. (P. 41)

Connecting the Projector

- Do not turn on the power until connection is complete.
- The connection procedures differ according to the device used. For details, please refer to the instruction manual of the device to be connected.
- This unit is used for projecting images. To output the audio of connected devices, please connect a separate audio output device, such as an amplifier or speaker.
- * The actual cable connection may differ from the cable connection illustrated in the diagram depending on the condition of the default setting.

Connecting to the HDMI Input Terminal (Digital Input)

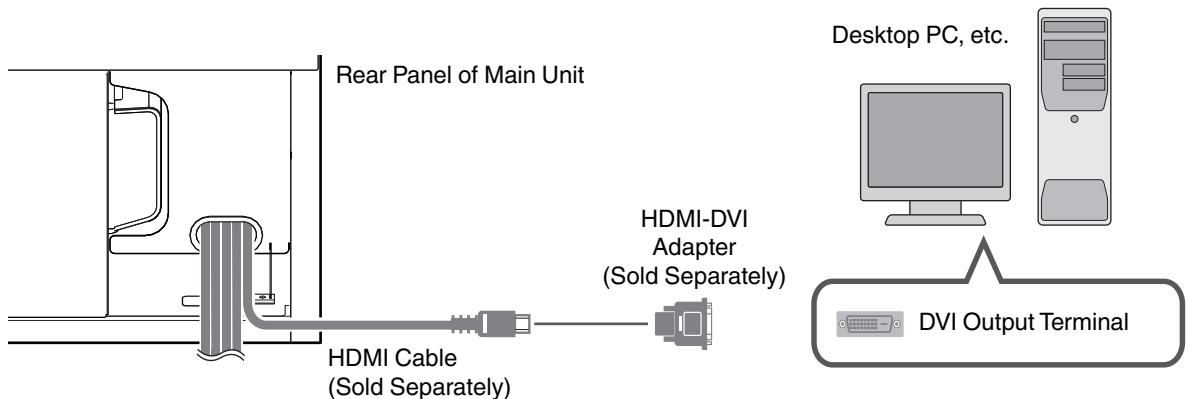
Connecting via HDMI cable



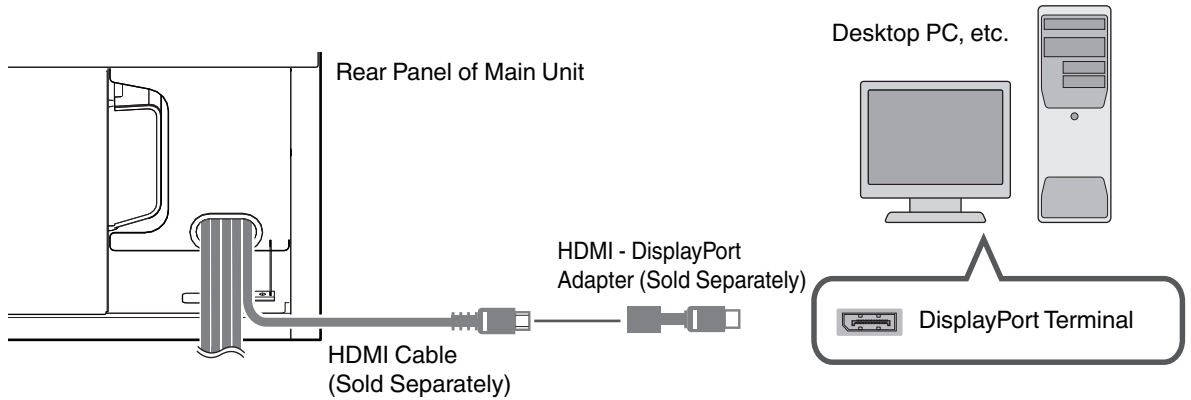
- If noise occurs, move the laptop away from this unit.

Connecting via an HDMI adapter

Connecting to a DVI output terminal

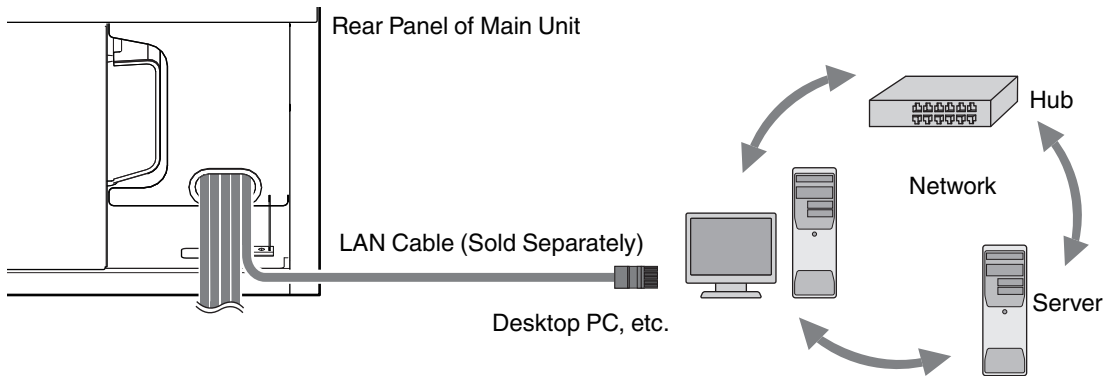


Connecting to a DisplayPort terminal



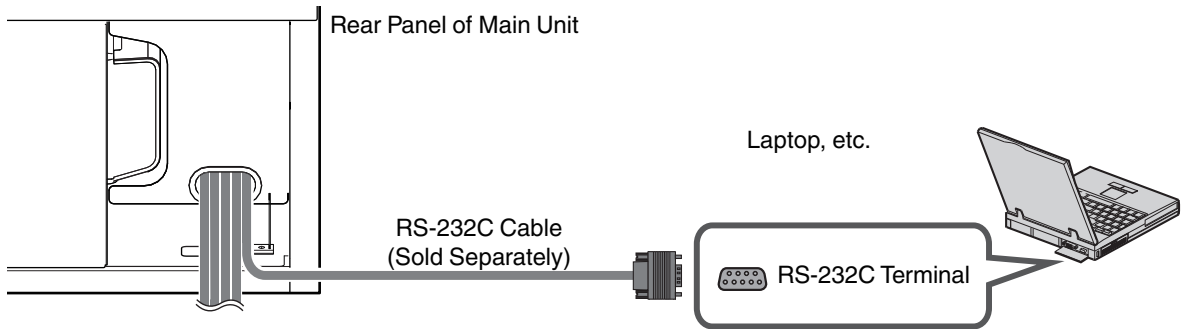
- If noise occurs, move the desktop PC away from this unit.
- If the video is not displayed, try to reduce the length of the cable or lower the resolution of the video transmitting equipment.

Connecting to the LAN Terminal



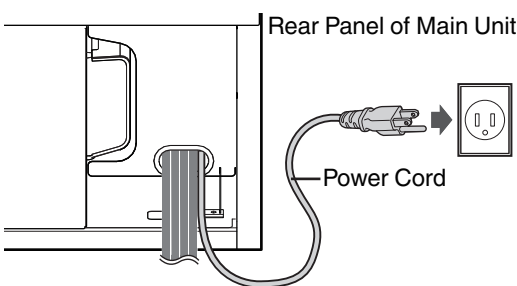
- The network is used to control this unit. It is not used for sending or receiving video signals.
- Please contact your network administrator for information concerning the network connection.
- For more information on control, please refer to "External Control" P. 51.

Connecting to the RS-232C Terminal



- For more information on control, please refer to “External Control”P. 51.

Connecting the Power Cord



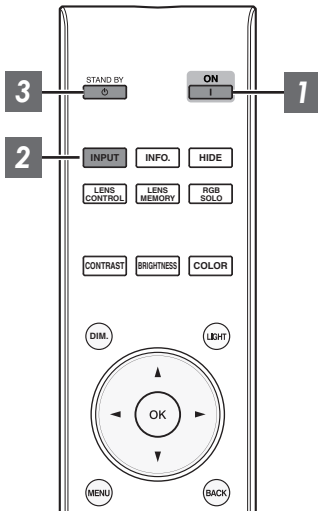
① Insert the power plug into the wall outlet.

* When the power cord is connected and power is supplied, the internal LED which is visible from the air inlets on the front panel of the main unit lights up in orange.

⚠ Precautions to prevent fire and electric shock

- The power consumption of this unit is large. Please connect it directly to the wall outlet.
- When you are not using the projector, please unplug the power cord from the outlet.
- If the use of an extension cord is necessary, use a cord with a current rating higher than that of the power cord of this unit. The current rating of the power cord of this unit is 10 A.
- The power supply voltage is AC 100 V to 240 V, 50 Hz/60 Hz.
Do not use other voltage.
- Do not damage, break or modify the power cord. Do not place a heavy object on the power cord, or heat or pull it. Doing so may damage the power cord.
- Do not unplug the power cord with wet hands.

Viewing Videos



1 Turn on the power

Press the I [ON] button

2 Select the image to project

Press the [INPUT] button

- Play back the selected device to project the image.

To hide the image temporarily

Press the [HIDE] button

- Press the [HIDE] button again to resume display of the image.
- The power cannot be turned off when the image is temporarily hidden.

3 Turn off the power

Press the ⏻ [STAND BY] button

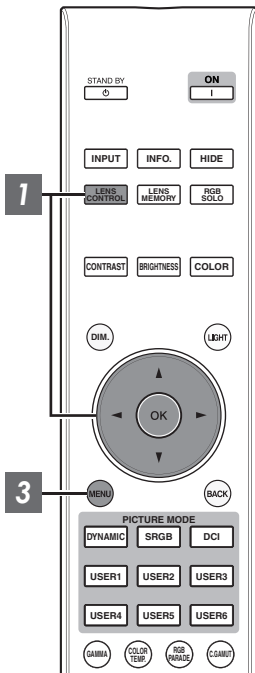
- While the “Are you sure you want to turn off?” message is displayed, press the ⏻ [STAND BY] button again.

CAUTION

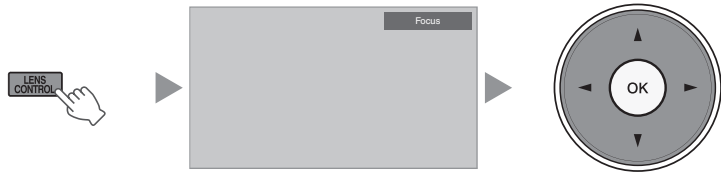
- The power cannot be turned off within approximately 60 seconds after it has been turned on.
- After the light goes off, the fan will run for about 100 seconds to cool down the lamp (Cool-down mode). Do not disconnect the power cable while cooling is in progress.
- The power cannot be turned on again while cooling is in progress (100 seconds).
- Pull out the power plug when the unit is not to be used for a prolonged period of time.

Adjusting the Projection Screen

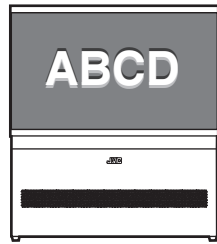
Adjusting the Lens According to the Projection Position



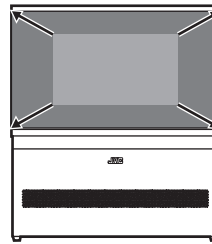
1 Press the [LENS CONTROL] button to select the item to be adjusted



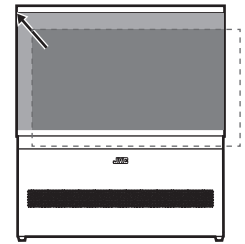
- Pressing the [LENS CONTROL] or [OK] button each time switches the mode in the following sequence: “Focus” → “Zoom” → “Shift” → “Focus”...
- Operation of the lens control feature is disabled when the lens lock is set to “On”. (P. 36)



Focus Adjustment



Zoom (Screen Size) Adjustment



Shift (Screen Position) Adjustment

2 Use the [▲▼◀▶] keys to adjust Focus, Zoom (screen size), and Shift (screen position)

- Use the [▲▼] keys to adjust Focus and Zoom (screen size), and the [▲▼◀▶] keys to adjust Shift (screen position).

3 Press the [MENU] button once or the [BACK] button four times to end adjustment

Saving and Retrieving Adjustment Data

The Focus, Zoom, and Shift adjustment data can be saved or retrieved, allowing you to easily switch and project images with different aspect ratio (screen size).

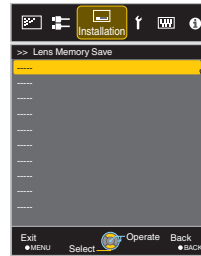
- Only “Lens Memory Save” is displayed when no adjustment data is saved (factory default).
- Operation of the lens control feature is disabled when the lens lock is set to “On”. (P. 36)

Saving Adjustment Data

1 Adjust focus, zoom, or shift (P. 19)

2 Press the [LENS MEMORY] button twice to display “Lens Memory Save”

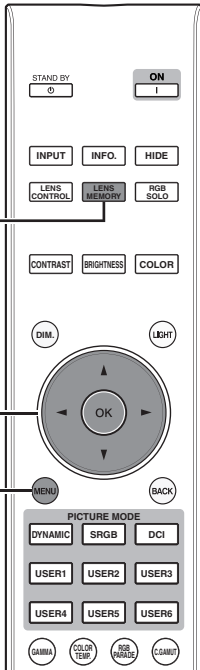
- You can also press the [MENU] button to display the menu followed by selecting “Installation”→“Lens Control”→“Lens Memory Save”.



3 Select the item to save, and press the [OK] button

- A message prompting you to confirm the saving of the adjustment data appears. Selecting “Yes” saves the adjustment data.
- Prior to saving the adjustment data, a message prompting you to rename the adjustment data to be saved appears. Selecting “Yes” allows you to rename the data. (P. 21)
- Items with no adjustment data saved are displayed as [---].
- If you have selected an item for which the adjustment data has already been saved, the old data will be overwritten.
- Up to 10 items can be saved.

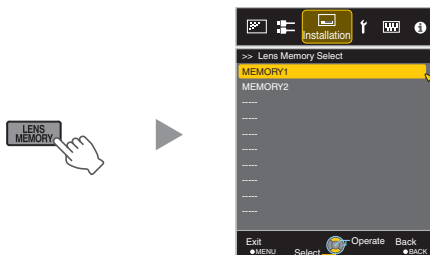
4 Press the [MENU] button to exit



Retrieving an adjustment data

1 Press the [LENS MEMORY] button to display “Lens Memory Select”

- You can also press the [MENU] button to display the menu followed by selecting “Installation”→“Lens Control”→“Lens Memory Select”.



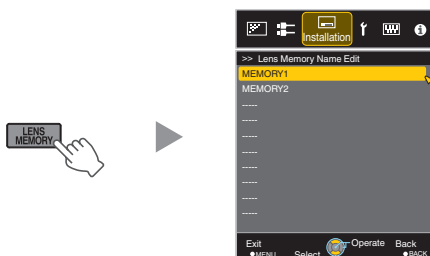
2 Select the adjustment data to retrieve, and press the [OK] button

- The retrieved data is adjusted automatically.
- If no adjustment data has been saved, the item will be grayed out and cannot be selected.

Renaming an adjustment data

1 Press the [LENS MEMORY] button three times to display “Lens Memory Name Edit”

- You can also press the [MENU] button to display the menu followed by selecting “Installation”→“Lens Control”→“Lens Memory Name Edit”.



2 Select the adjustment data to edit, and press the [OK] button

- An edit screen appears.



- You can input up to 10 characters.
- Characters that are usable include alphabets (upper or lower case), numeric characters, and symbols.
- Pressing the [Back] button cancels the content that is currently being edited, and exits the edit mode.

3 After renaming, select “OK” and press the [OK] button

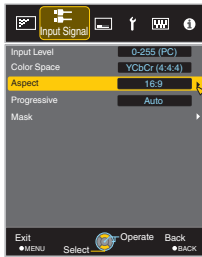
- A message prompting you to confirm the change appears. Selecting “Yes” changes the data name.

4 Press the [MENU] button to exit

Adjusting the Screen Size (Aspect)

The screen size of the projected image can be adjusted optimally according to the original screen size (aspect) that has been input.

- 1 Press the [MENU] button to display the menu
- 2 Select "Input Signal" → "Aspect" in the menu, then select the setting and press [OK]



Operate

Setting	Description	
4:3	Sets the screen size to 4:3. For HD signals, the two sides are reduced.	Displayed only during video signal input.
16:9	Sets the screen size to 16:9. For SD signals, the two sides are expanded.	
Zoom	Enlarges the entire image. * Not selectable in the case of HD signals.	
Auto	Positions the image at the center with the entire image enlarged.	Displayed only during PC signal input.
Just	Displays the input image in the actual size.	
Full	Fills the entire screen with the image with the size (aspect) of the input image ignored.	

- This item is grayed out and cannot be adjusted when there is no signal, signal is out of range, or when detecting the input.

- 3 Press the [MENU] button to exit

Example of input image and screen size

HDMI Signal Input

Output Image		Setting		
		4:3	16:9	Zoom
Input Image	4:3			
	2.35:1 (Cinema Scope)			

PC Signal Input

Output Image		Setting		
		Auto	Just	Full
Input Image	1280x1024			

Adjusting the Image Quality

Setting the Picture Mode

You can set the image quality according to the type of video image to be projected.

7

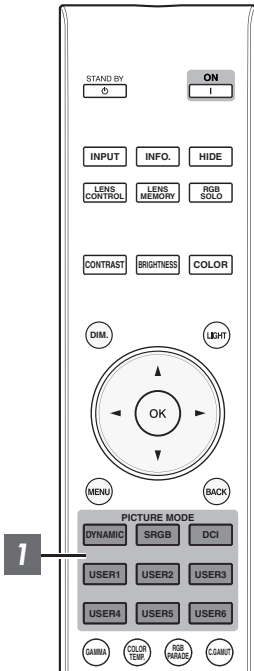
Press the button corresponding to the “Picture Mode” of the [PICTURE MODE] you want to set, and set the “Picture Mode”

- You can also perform the setting by pressing the [MENU] button to display the menu followed by selecting “Picture Adjust”→“Picture Mode”.

Button	Setting	Description
[DYNAMIC]	Dynamic	Disables color space adjustment.
[SRGB]	sRGB / REC709	Picture mode that has been set to sRGB / REC709 standard.
[DCI]	DCI*1	Picture mode with the color space set to “DCI P3” and the gamma set to “2.2”.
[USER1] to [USER6]	User 1 to User 6 *2	Enables user-defined image quality data to be saved and retrieved.

*1 DCI is the abbreviation for Digital Cinema Initiatives.

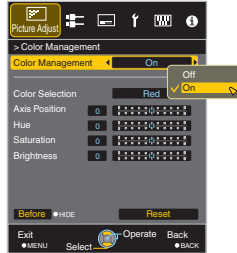
*2 The color gamut, gamma and color temperature can be configured using a calibration software (optional accessory). Please check with your authorized dealer for details.



Adjusting to the Preferred Color (Color Management)

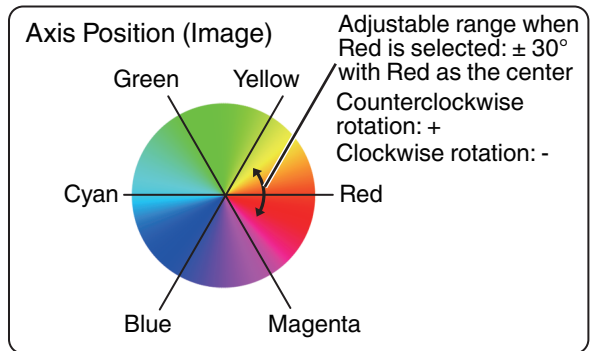
You can adjust each of the following colors according to your preference: Red, Yellow, Green, Cyan, Blue, and Magenta.

- 1 Press the [MENU] button to display the menu, select “Picture Adjust”→“Color Management” and set “Color Management” to “On”



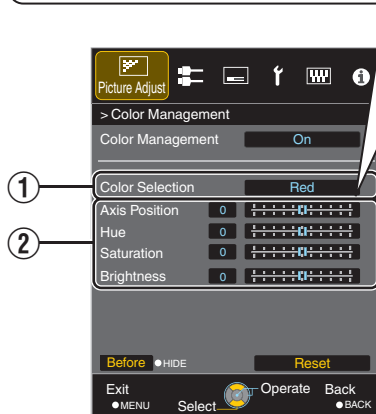
- 2 Adjust to the preferred color

- 1 Select “Color Selection”, and press the ◀▶ keys to select the color to adjust
 - For color adjustment, select the color from the following: “Red”, “Yellow”, “Green”, “Cyan”, “Blue”, “Magenta”.
- 2 Adjust the selected color



Item	Setting Range	Description
Axis Position	-30 to 30	Fine-tune the position of the central axis of the selected color.
Hue	-30 to 30	Adjusts the hue (color tone).
Saturation	-30 to 30	Adjusts the color saturation (vividness). -30 (dull) to +30 (vivid)
Brightness	-30 to 30	Adjusts the brightness. -30 (dark) to +30 (bright)

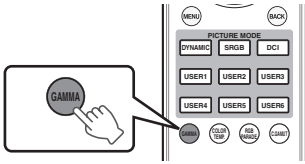
- Selecting “Reset” resets all the adjustment data.
- Pressing the [HIDE] button on the remote control enables you to check the image before adjustment. Press the [HIDE] button again to return to the adjustment screen.



- 3 Press the [MENU] button to exit

Adjusting the Output Value of the Projected Image (Gamma)

You can adjust the output value of the projected image with respect to the video signal input.



1 Press the [GAMMA] button

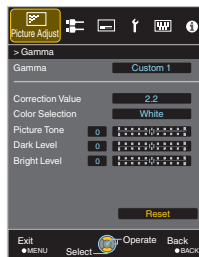
- Pressing the [GAMMA] button each time switches the setting in sequence.
- You can also perform the setting by pressing the [MENU] button to display the menu followed by selecting “Picture Adjust”→“Gamma”.

Setting	Description
Normal	Gamma value of “2.2”.
Custom 1 to Custom 3	Enables fine adjustment of gamma according to preference.

Fine-tuning to the Preferred Gamma Setting

You can perform fine adjustments based on the selected gamma adjustment setting.

1 Press the [MENU] button to display the menu, select “Picture Adjust”→“Gamma” and set “Gamma” to one of the “Custom 1” to “Custom 3” setting



2 Adjust to the preferred setting

Item	Description	Setting
Correction Value	For selecting a gamma setting as the adjustment origin.	1.0 / 1.8 / 2.0 / 2.2 / 2.4 / 2.6 / 3.0 / Import 1 / Import 2 / Import 3
Color Selection	For selecting the color for adjusting “Picture Tone”, “Dark Level” and “Bright Level”.	White / Red / Green / Blue
Picture Tone	Adjusts the overall brightness automatically for a well-balanced result without compromising the gradation of the image.	-16 (darkens image for an underexposed effect) to +16 (brightens image for an overexposed effect)
Dark Level	Adjusts the dark areas of the input image. (White / Red / Green / Blue can be adjusted individually.) • To do so, use the ◀▶ keys to move the cursor.	-7 (darkens the shadows) to +7 (brightens the shadows)
Bright Level	Adjusts the bright areas of the input image. (White / Red / Green / Blue can be adjusted individually.) • To do so, use the ◀▶ keys to move the cursor.	-7 (darkens the highlights) to +7 (brightens the highlights)

* Adjustment cannot be made when the input signal is set to “3840x1080 60/59.94”.

Selecting the Default Value for Making Adjustments

- When one of “Custom 1” to “Custom 3” is selected in “Gamma”, you can select a “Correction Value”.
- Select “Correction Value”, and press the ◀▶ keys to select a correction value (setting value) as a base value for adjustment.

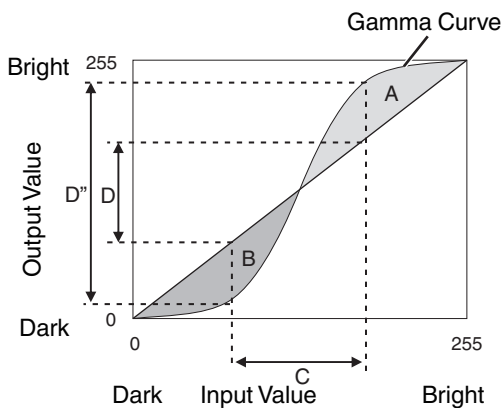
Setting

1.0, 1.8, 2.0, 2.2, 2.4, 2.6, 3.0, Import 1, Import 2, Import 3,

- The smaller the value, the brighter the dark areas of the image will become. At the same time, the bright areas will appear blown out.
- Selecting “Import 1”, “Import 2” or “Import 3” enables you to select the gamma data created externally. The factory setting for “Import” is the same as the “Normal” setting.
- You can use the calibration software (sold separately) to customize the gamma data adjustment, and import the created gamma data.

Please check with your authorized dealer for details.

Gamma Adjustment



- When the gamma curve is a straight line:
The brightness and contrast of the video input will be the same as that of the video output.
- Area for which the gamma curve is above the straight line (A):
Video output appears brighter than the input.
- Area for which the gamma curve is below the straight line (B):
Video output appears darker than the input.
- Area for which the slope of the gamma curve is steep (midtone) (C):
The grayscale range of the video output becomes wider, and the contrast increases (D→D').

Reducing the After-image of Fast-moving Images (Blur Reduction)

Clear Motion Drive (C.M.D.)

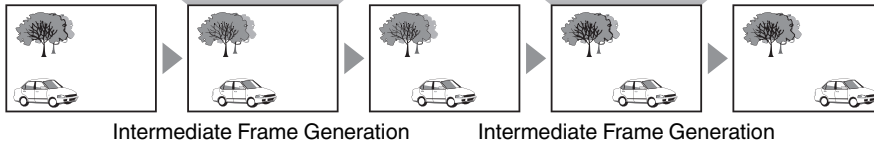
Optimal interpolation according to the content is made possible with the new high-definition image interpolation technique.

For some scenes, interpolation may cause distortion in the image. In this case, set to "Off".

Original Image



Interpolation Enabled



- 1 Press the [MENU] button to display the menu and select "Picture Adjust"→"Blur Reduction"→"Clear Motion Drive"

Setting	Description
Off	Interpolation is not performed.
On	Softens the image quality.

- 2 Press the [MENU] button to exit

Motion Enhance

Optimal image quality with reduced image blurring is made possible by enhancing the responsiveness of the liquid crystal device.

If the image outline is unnatural, set this item to "Off".

- 1 Press the [MENU] button to display the menu and select "Picture Adjust"→"Blur Reduction"→"Motion Enhance"

Setting	Description
Off	Does not perform correction.
Low	Reduces image blurring.
High	Further reduces image blurring than "Low".

- 2 Press the [MENU] button to exit

Adjusting the Contrast (Lens Aperture)

You can adjust the contrast according to your preference.

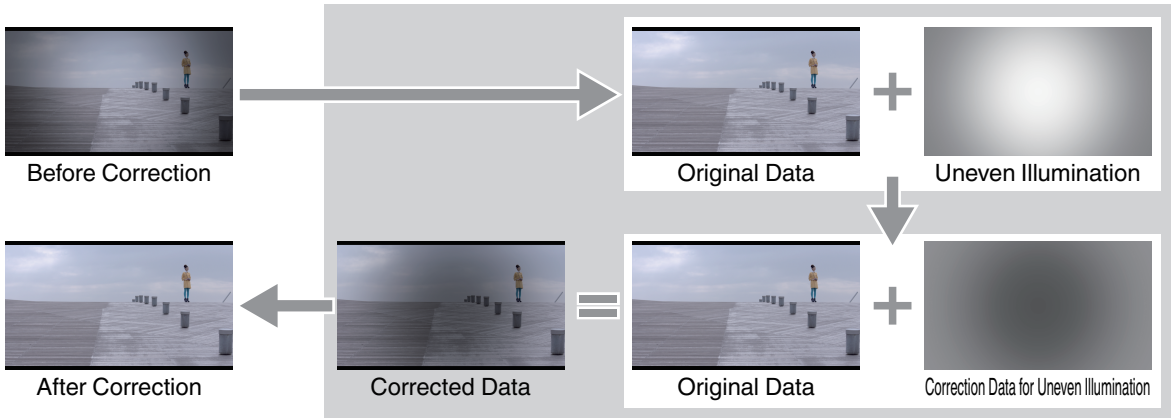
- 1 Press the [MENU] button to display the menu, select “Picture Adjust”→“Picture Mode” to select the picture mode to be adjusted
- 2 Select “Lens Aperture” and use the [◀▶] keys to move the slider to adjust the lens aperture
- 3 Press the [MENU] button to exit

Correcting Uneven Illumination (Uniformity Correction)

You can correct the brightness degradation at the periphery of the screen due to the effect of the screen and viewing distance.

- *1 Depending on the video input, the periphery of the image may appear slightly blurred due to digital processing.
- *2 This feature is disabled when "Picture Mode" is set to "Dynamic".

Image of Correction



- 1 Press the [MENU] button to display the menu, select "Installation" → "Uniformity Correction" and set to "On"
- 2 Select "Gain Adjustment" and "Viewing Position" to adjust the extent of uniformity correction and the viewing position respectively

Gain Adjustment

For setting the extent of uniformity correction.

Increasing the correction value further corrects the brightness degradation at the periphery.

The correction value varies depending on the screen type and viewing distance. Set to an appropriate configuration while looking at the actual screen.

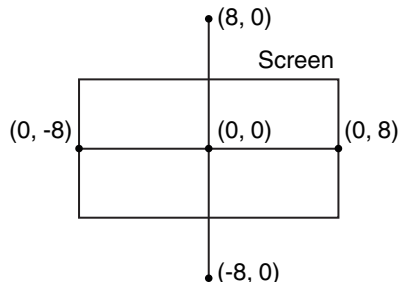
- Setting range: 0 to 15

Viewing Position

For setting the viewing position for uniformity correction.

The configuration (0, 0) indicates that the viewing position is at the center of the screen.

- Setting Value: -8 to 8 (vertical), -8 to 8 (horizontal)



- 3 Press the [MENU] button to exit

Adjustments and Settings in the Menu

Pressing the [MENU] button displays the menu.

Press the [▲▼◀▶] keys to select an item, followed by pressing the [OK] button to confirm the selection.

List of Menu Items

Picture Adjust

▶ Picture Mode	P. 32
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↳ Lamp Power	P. 32
↳ Lens Aperture	P. 32
↳ User Name Edit	P. 32
▶ Color Management	P. 32
▶ Color Temp.	P. 33
↳ Correction Value	P. 33
↳ Gain Red / Gain Green / Gain Blue	P. 33
↳ Offset Red / Offset Green / Offset Blue	P. 33
▶ Gamma	P. 33
↳ Picture Tone	P. 33
↳ Dark Level / Bright Level	P. 33
▶ Blur Reduction	P. 33
▶ Contrast	P. 33
▶ Brightness	P. 33
▶ Color	P. 34
▶ Tint	P. 34

Input Signal

▶ Input Level	P. 34
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▶ Lens Control	P. 36
↳ Focus / Zoom / Shift	P. 36
↳ Image Pattern	P. 36
↳ Lock	P. 36
↳ Lens Memory Select / Lens Memory Save / Lens Memory Name Edit	P. 36
▶ Pixel Adjust	P. 37
↳ Adjust	P. 37
↳ Adjust Area	P. 37
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↳ Adjust Pattern Color	P. 37
↳ Adjust (Pixel)	P. 37
↳ Adjust (Fine)	P. 37
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Display Setup

▶ Back Color	P. 41
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Function

▶ Network	P. 42
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Information

▶ Information	P. 43
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Picture Adjust

Picture Mode

You can adjust the image quality according to the type of video image you are viewing.

➔ “Setting the Picture Mode” (P. 23)

Sharpness

The sharpness of the image can be adjusted.

- Setting: 0 (low sharpness) to 50 (high sharpness)

Lamp Power

The brightness of the lamp can be set to “Low” or “High”.

- Using this unit with the brightness set to “Low” prolongs the lamp life.

Lens Aperture

You can adjust the contrast according to your preference.

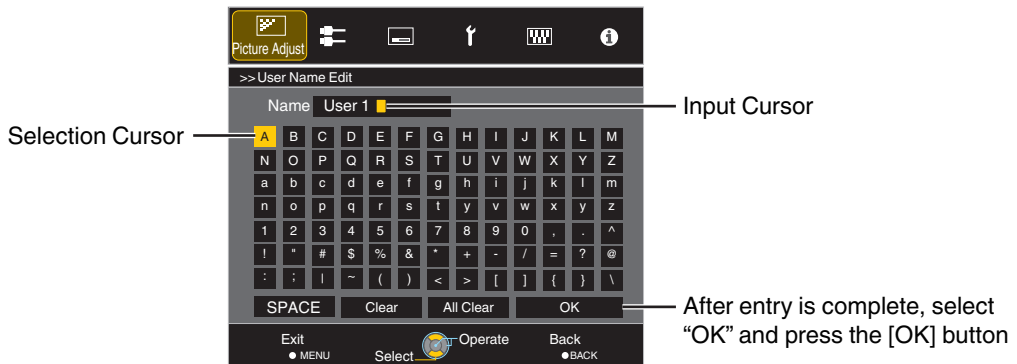
➔ “Adjusting the Contrast (Lens Aperture)” (P. 28)

- Stopping down the aperture reduces the brightness and increases the contrast.
- Setting range: -15 (stops down) to 0 (opens up)

User Name Edit

You can edit the “User 1” to “User 6” names in the Picture mode.

- Characters that are usable include alphabets (upper or lower case), numeric characters, and symbols.
- Enter not more than 10 characters.



Color Management

Each of the colors is adjustable according to the user's preference.

➔ “Adjusting to the Preferred Color (Color Management)” (P. 24)

Color Temp.

For setting the color temperature of the video image.

Setting	Description
5500K, 6500K, 7500K, 9300K	Increasing the value enhances the blue tone of the video image, while decreasing the value enhances the red tone.
Custom 1 to Custom 3	The color temperature of video images can be adjusted manually and saved as one of the three customized settings.
High Bright	Color temperature that gives priority to brightness.

- When “Picture Mode” is set to “Dynamic”, the setting is fixed at “High Bright”.

Correction Value

For setting the base color temperature for the adjustment of “Gain Red” / “Gain Green” / “Gain Blue” / “Offset Red” / “Offset Green” / “Offset Blue” when one of the “Custom 1” to “Custom 3” setting is selected in “Color Temp.”.

Gain Red / Gain Green / Gain Blue

Adjusts each color in the bright parts of the video image.

- Setting range: -255 (reduces the red/green/blue tone) to 0 (no adjustment)

Offset Red / Offset Green / Offset Blue

Adjusts each color in the dark areas of the video image.

- Setting range: -50 (reduces the red/green/blue tone) to 0 (no adjustment) to +50 (enhances the red/green/blue tone)

Gamma

You can adjust the output value of the projected image with respect to the video signal input.

- ➔ “Adjusting the Output Value of the Projected Image (Gamma)” (P. 25)

Picture Tone

Adjusts the overall brightness automatically for a well-balanced result without compromising the gradation of the image.

- ➔ “Fine-tuning to the Preferred Gamma Setting” (P. 25)

Dark Level / Bright Level

You can adjust the image quality to produce a sharp contrast in the brightness.

- ➔ “Fine-tuning to the Preferred Gamma Setting” (P. 25)

Blur Reduction

For reducing the after-image, which occurs in a fast-moving scene.

- ➔ “Reducing the After-image of Fast-moving Images (Blur Reduction)” (P. 27)

Contrast

For adjusting the difference in brightness to produce an image with contrast.

- Setting range: -50 (little difference in brightness) to +50 (large difference in brightness)

Brightness

For adjusting the brightness of the video image.

- Setting range: -50 (darker) to +50 (brighter)

Color

For adjusting the color density of the video image.

- Setting range: -50 (lighter) to +50 (deeper)

Tint

For adjusting the hue of the video image.

- Setting range: -50 (reddish) to +50 (greenish)

Input Signal

Input Level

For setting the dynamic range (gradation) of the video input.

- If the dynamic range is not appropriate, the bright areas become overexposed, and the dark areas become underexposed.

Setting	Description
0-255 (PC)	Select this setting if you are inputting PC signals (dynamic range: 0 - 255).
16-235 (Video)	Select this setting if you are inputting video signals (dynamic range: 16 - 235).

Color Space

For setting the color space of the input signal.

Setting	Description
YCbCr (4:4:4)	Select this setting when inputting YCbCr (4:4:4) video signals.
YCbCr (4:2:2)	Select this setting when inputting YCbCr (4:2:2) video signals.
RGB	Select this setting when inputting RGB video signals.

Aspect

The screen size of the projected image can be adjusted optimally according to the original screen size (aspect) that has been input.

➔ “Adjusting the Screen Size (Aspect)” (P. 22)

Progressive

For setting the interpolation method for the interlaced signals. If the image outline is unnatural, set this item to “Off”.

Setting	Description
Auto	Performs interpolation by automatically detecting whether the interlaced signals are converted from 24p video images or interlaced signals of video materials.
Off	Interpolates video images as interlaced signals of video materials, etc.

Mask

For hiding the peripheral area of the image with a mask (black strip).

■ Off



Setting	Description
Off	Not masked.
Custom 1 to Custom 3	Masks about 0 to 220 pixels of the four sides of the image. * The pixel count is 1920 pixels in the horizontal direction and 1080 pixels in the vertical direction.

■ On (Custom 1 to Custom 3)



Mask: black strip around the periphery

Installation

Lens Control

Focus / Zoom / Shift

For adjusting the lens according to the projection position.

- ➔ “Adjusting the Lens According to the Projection Position” (P. 19)

Image Pattern

For setting whether to display the lens adjustment pattern.

Setting	Description
On	Displays the lens adjustment pattern.
Off	Displays external signals, and does not display the lens adjustment pattern.

Lock

For setting whether to lock or unlock the lens.

Setting to “On” to lock the lens allows you to preserve the adjustment status of the lens.

Setting	Description
On	Locks the lens to prevent any erroneous operation on the adjustments.
Off	Does not lock the lens.

- When “On” is selected, all lens control functions other than “Lens Memory Select” cannot be operated.

Lens Memory Select / Lens Memory Save / Lens Memory Name Edit

The Focus, Zoom, and Shift adjustment data can be saved or retrieved, allowing you to easily switch and project images with different aspect ratio (screen size).

- ➔ “Saving and Retrieving Adjustment Data” (P. 20)

Pixel Adjust

For correcting the phase shifting between each RGB color by adjusting the pixel.

Adjust

For setting the adjustment feature to On or Off.

Adjust Area

Setting	Description
Whole	Adjusts the entire image.
Zone	Enables fine adjustment of each area by dividing the screen evenly into 10 vertical and horizontal zones.

Adjust Color

For selecting the color to adjust (“Red” or “Blue”).

Adjust Pattern Color

For setting the color of the adjustment pattern displayed during adjustment to “White” or “Yellow / Cyan”.

Adjust (Pixel)

When “Adjust Area” is set to “Whole”, adjustment can be made by moving in units of one pixel on the screen of the color selected in “Adjust Color”.

- ➔ “Whole Adjust (Pixel) Operation Procedure” (P. 38)
- Adjustment cannot be made when “Adjust Area” is set to “Zone”.

Setting	Description
H (Horizontal)	Setting range: -2 (moves red/blue to the left) to +2 (moves red/blue to the right)
V (Vertical)	Setting range: -2 (moves red/blue downward) to +2 (moves red/blue upward)

Adjust (Fine)

When “Adjust Area” is set to “Whole”, adjustment can be made by moving in units of 1/16 pixel on the screen of the color selected in “Adjust Color”.

- ➔ “Whole Adjust (Fine) Operation Procedure” (P. 39)

When “Adjust Area” is set to “Zone”, the screen is divided evenly into 10 vertical and horizontal zones, and fine adjustment of each area is possible.

- ➔ “Zone Adjust Operation Procedure” (P. 40)

Setting	Description
H (Horizontal)	Setting range: -31 (moves red/blue to the left) to +31 (moves red/blue to the right)
V (Vertical)	Setting range: -31 (moves red/blue downward) to +31 (moves red/blue upward)

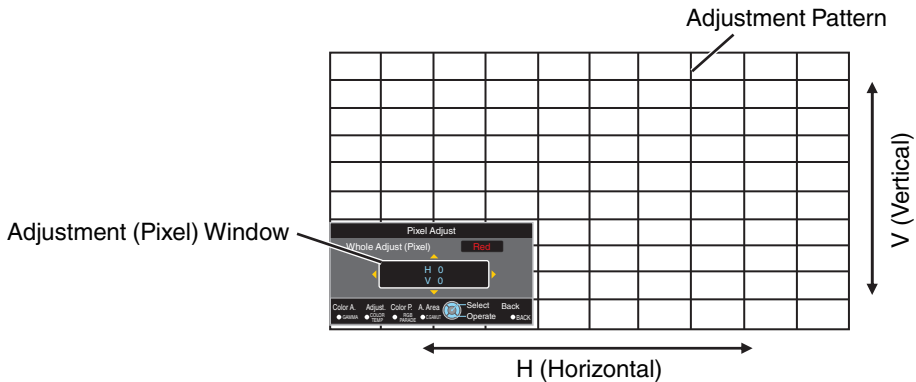
Reset

Restores all pixel adjustment data to the factory default.

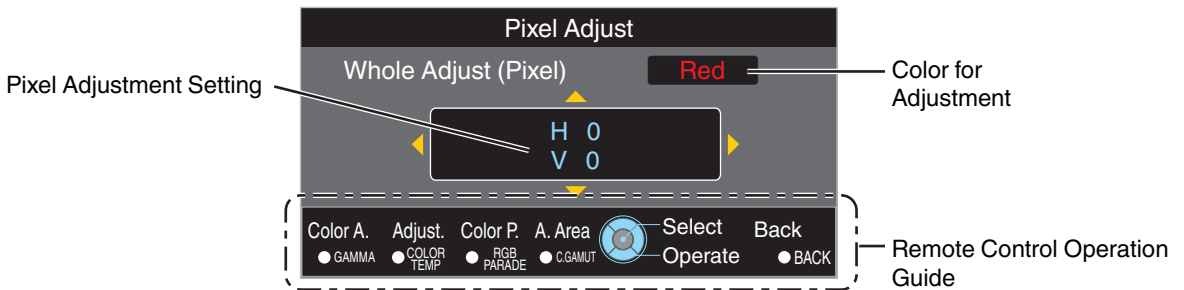
Whole Adjust (Pixel) Operation Procedure

For making general adjustments to slight color fringing in the horizontal/vertical directions of the video image.

- ① Set “Adjust Area” to “Whole”
- ② Select “Adjust Color” and “Adjust Pattern Color”
- ③ Select “Adjust (Pixel)”, and press the [OK] button
 - The Adjustment mode is activated, and the selected adjustment pattern and Adjustment (Pixel) window are displayed.



- ④ Use the [▲▼◀▶] keys to move and adjust the vertical and horizontal pixels of the entire zone
 - The adjustment setting appears at the center of the Adjustment (Pixel) window.



- ⑤ After adjustment is complete, press the [BACK] button twice to exit the Adjustment mode

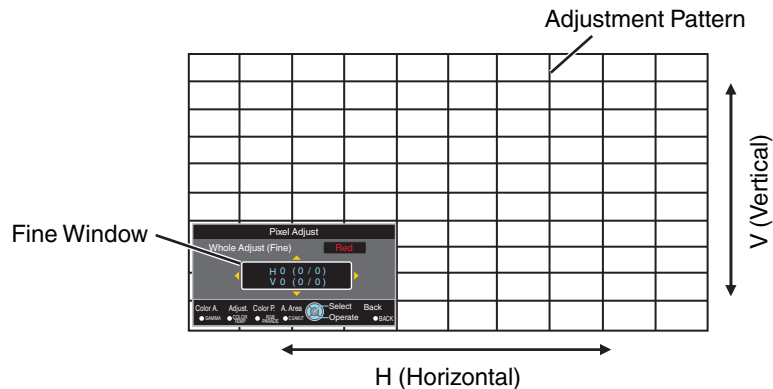
Remote Control Operation Guide

Button Name	Function	Description of Operation
[GAMMA]	Color A.	Changes “Adjust Color”.
[COLOR TEMP.]	Adjust	Switches between “Adjust (Pixel)” and “Adjust (Fine)”. <ul style="list-style-type: none"> • Switches to “Adjust (Pixel)” when “Adjust Area” is set to “Zone”.
[RGB PARADE]	Color P.	Changes “Adjust Pattern Color”.
[C.GAMUT]	A. Area	Switches “Adjust Area”. <ul style="list-style-type: none"> • A zone cursor appears on the adjustment pattern when the “Zone” setting is selected.

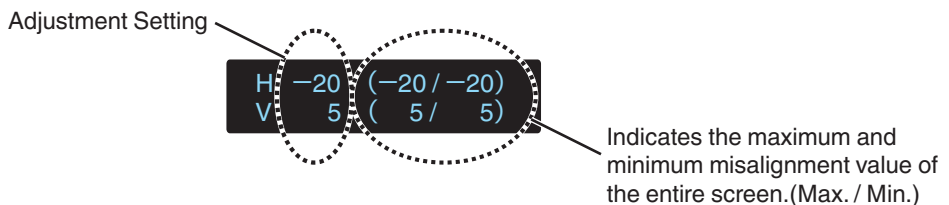
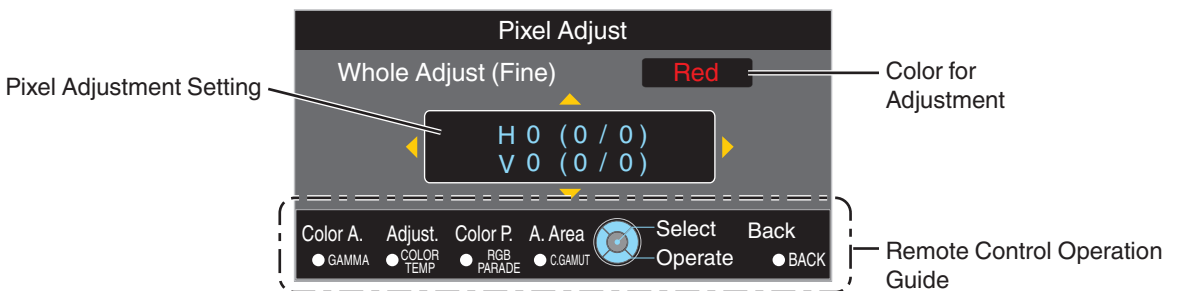
Whole Adjust (Fine) Operation Procedure

For making general adjustments on the misalignment of the entire screen using “Adjust (Pixel)”, followed by making fine adjustments.

- ① Set “Adjust Area” to “Whole”
- ② Select “Adjust Color” and “Adjust Pattern Color”
- ③ Select Adjust (Fine), and press the [OK] button
 - The Adjustment mode is activated, and the selected adjustment pattern and Fine window are displayed.
 - The adjustable range may be smaller depending on the pixels being adjusted on the entire screen.



- ④ Use the [\blacktriangle \blacktriangledown \blacktriangleleft \blacktriangleright] keys to move and adjust the vertical and horizontal pixels of the entire zone
 - The adjustment setting appears at the center of the Fine window.



- ⑤ After adjustment is complete, press the [BACK] button twice to exit the Adjustment mode

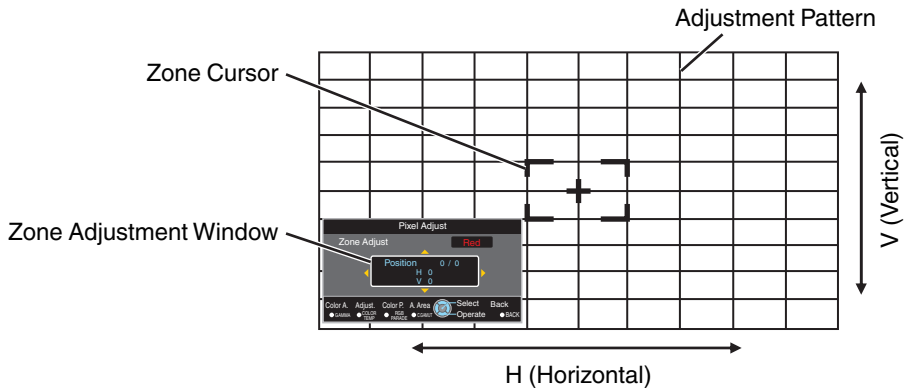
MEMO

- If both the maximum overall screen misalignment of H (horizontal direction) and V (vertical direction) are “31”, you cannot select a value that is larger than the displayed setting even when the adjustment setting is lower than the maximum value.
- If the minimum overall screen misalignment is “-31”, you cannot select a value that is smaller than the displayed setting even when the adjustment setting is higher than the minimum value.

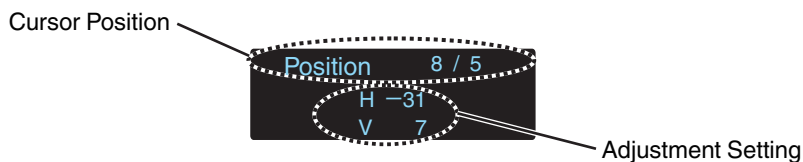
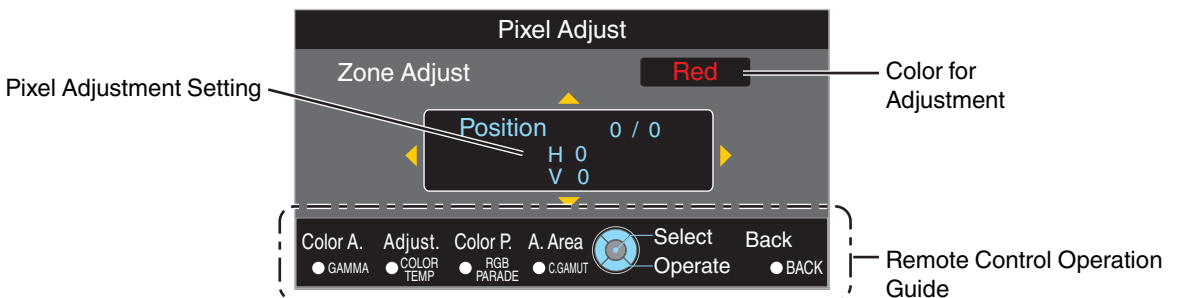
Zone Adjust Operation Procedure

For fine-tuning misalignments on a part of the screen after adjusting the overall screen misalignment using “Adjust (Pixel)” and “Adjust (Fine)”.

- The screen can be divided vertically and horizontally into 10 sections for partial adjustments to be made.
- ① Set “Adjust Area” to “Zone”
 - ② Select “Adjust Color” and “Adjust Pattern Color”
 - ③ Select Adjust (Fine), and press the [OK] button
 - The Adjustment mode is activated, and the selected adjustment pattern and Zone Adjustment window are displayed.
 - The adjustable range may be smaller depending on the pixels being adjusted on the entire screen.



- ④ Press the [▲▼◀▶] keys to move the cursor to the point to be adjusted
- ⑤ Press the [OK] button to enter the Adjustment mode
- ⑥ Use the [▲▼◀▶] keys to move and adjust the vertical and horizontal pixels of the entire zone
 - The adjustment setting appears at the center of the Zone Adjustment window.



- ⑦ After adjustment is complete, press the [BACK] button twice to exit the Adjustment mode

High Altitude Mode

For setting the high altitude mode to “On” or “Off”.

Set to “On” when using the projector at a location of low atmospheric pressure (higher than 900 m above sea level).

Uniformity Correction

For correcting the brightness degradation at the periphery of the screen due to the effect of the screen and viewing distance.

➔ “Correcting Uneven Illumination (Uniformity Correction)” (P. 29)

Gain Adjustment

For setting the extent of uniformity correction.

Viewing Position

For setting the viewing position for uniformity correction.

Display Setup

Back Color

For setting the color of the background to “Blue” or “Black” when there is no signal input.

It is recommended to set to “Blue” when there is no signal input as it can be difficult to confirm the on/off status of the power.

Menu Position

For setting the display position of the menu to the “top left” or “top right” position.

Signal Display

For setting the display of the input information to “On” or “Off”.

Setting	Description
On	Shows the input terminal for 5 seconds when input is switched.
Off	Not displayed.

Logo

For setting the display of logo during startup to “On” or “Off”.

Setting	Description
On	Displays the “D-ILA” logo for 5 seconds during startup.
Off	Not displayed.

Language

For setting the display language to “日本語”, “English”, “Deutsch”, “Español”, “Italiano”, or “Français”.

Function

Network

For specifying the settings for external control from a PC or smartphone.

Setting		Description
DHCP Client	On	Obtains the IP address automatically from the DHCP server inside the connected network.
	Off	For configuring the network settings manually.
IP Address		For configuring the IP address.
Subnet Mask		For configuring the subnet mask.
Default Gateway		For configuring the default gateway.
MAC Address		Displays the MAC address of the unit.
Set		Applies the network settings.

Glossary of Network Terminology

DHCP	: Abbreviation for Dynamic Host Configuration Protocol. This is a protocol for the network to assign an IP address automatically to the connected device.
IP Address	: Numeric characters for identifying the device that is connected to the network.
Subnet Mask	: Numeric characters that define the bit count used for the network address that is a segment of the IP address.
Default Gateway	: Server for communicating beyond the network that is divided by the subnet mask.
MAC Address	: Abbreviation for Media Access Control address. This is a number that is unique to each network adapter. Each of the network adapters is assigned with a unique MAC address.

Remote Code

For changing the remote control code.

Setting	Description
A	Change the remote control code from "B" to "A".
B	Change the remote control code from "A" to "B".

- You need to configure the remote control according to the settings of this unit. On the remote control unit, press the [MENU] and [BACK] buttons at the same time for three seconds or longer to switch the code.
 - The backlight of the remote control blinks 3 times: change the remote control code to "A"
 - The backlight of the remote control blinks 2 times: change the remote control code to "B"

Lamp Reset

For resetting the lamp time to "0".

Reset the lamp time only when you have replaced the lamp.

Request your authorized dealer to help with the lamp replacement.

Information

Setting	Description
Input	Displays video input terminal.
Source (Displayed only during video signal input)	Displays the input source.
Resolution (Displayed only during PC signal input)	Displays the image resolution.
H Frequency (Displayed only during PC signal input)	Displays the horizontal frequency.
V Frequency (Displayed only during PC signal input)	Displays the vertical frequency.
Deep Color	Displays the color bit depth of the input video signal. <ul style="list-style-type: none">• Not displayed when YCbCr (4:2:2) is input.• Displayed when Deep Color information is received from the source device.
Color Space	Displays the color space of the input signal.
Lamp Time	Displays the lamp time.
Soft Ver.	Displays the firmware version.
PS Ver.	Displays the version of image quality data.

Other Adjustments and Settings

RGB Solo

For displaying the RGB component individually.

Pressing the [RGB SOLO] button on the remote control switches the color component as follows.

“All Color” → “Red Component only” → “Green Component only” → “Blue Component only” → “All Color”...

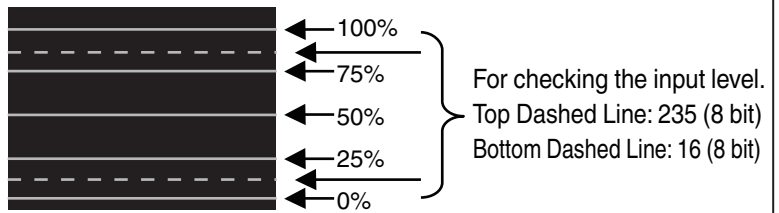
RGB Parade

Pressing the [RGB PARADE] button on the remote control displays the waveform monitor for red, green, blue and all colors at the bottom of the screen.

Pressing the button again restores the original display.



Waveform Monitor



Color Gamut Assist

Pressing the [C. GAMUT] button on the remote control displays the colors that are not correctly displayed by the projector with the current Picture mode in colors. Colors that are correctly displayed appear in monochrome.

Pressing the button again restores the original display.

* This feature is disabled when “Picture Mode” is set to “Dynamic”.

Dim

Pressing the [DIM.] button on the remote control adjusts the brightness to approximately 20% (depending on the gamma setting).

Pressing the button again restores the original brightness.

Mounting/Dismounting the Screen

The screen that comes with the main unit can be replaced with an optional screen. Refer to the catalog for the types of optional screens available.

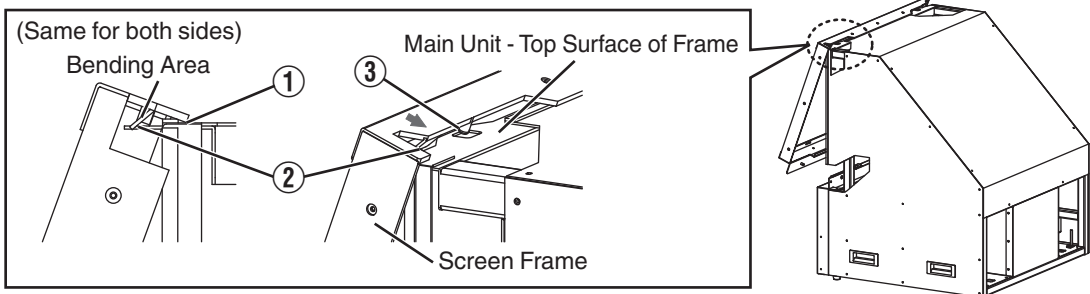
CAUTION

- Before replacing the screen, be sure to turn off the power or press the [HIDE] button on the remote control to hide the image.
- When dismantling the screen, take care not to touch the parts inside the main unit such as the mirror. This could cause significant deterioration in the performance of the equipment.
- Hold at the frame when carrying the screen. Avoid touching the screen surface. Failure to do so may cause the screen to become dirty.
- Avoid applying pressure to the screen. Failure to do so may result in deformation and damage.

Mounting the Screen

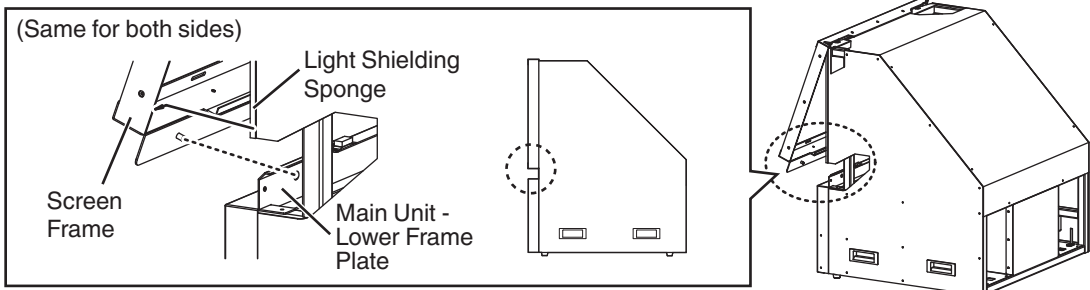
1 Insert the two pins inside the top surface of the screen frame into the holes on the top surface of the frame of the main unit

- ① Place the top edge of the screen frame on the top of the main unit.
- ② Bring the bending area inside the screen frame to the front side of the frame of the main unit.
 - Do not place on top of the main unit.
- ③ Insert the pin of the screen frame into the hole on the top surface of the frame of the main unit. (Both sides)



2 Insert the two pins on the inner side of the bottom of the screen frame into the holes on the lower frame plate of the main unit

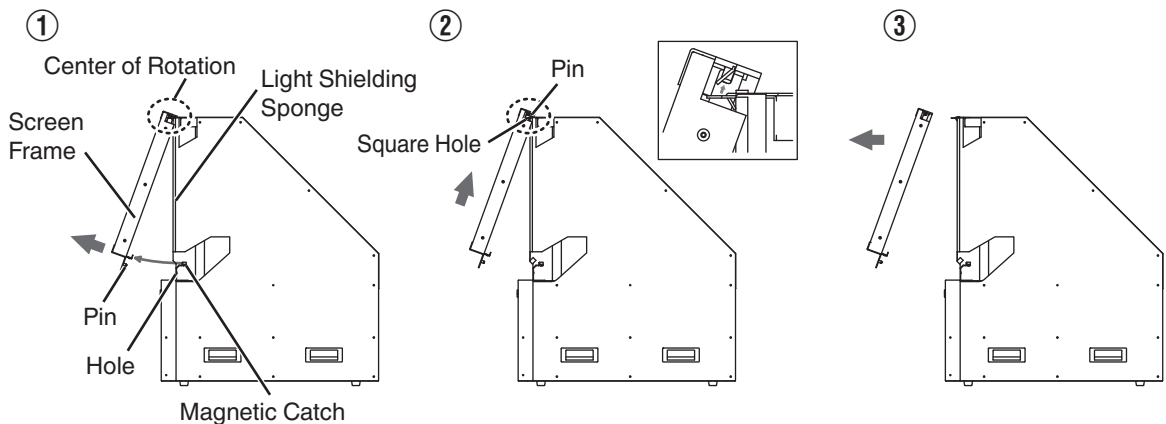
- Insert the pins by pushing the lower side of the screen frame.
- Mount in such a way that the light shielding sponges affixed on the side panels of the main unit are on the inside of the screen frame.
- Make sure the screen frame is fully inserted and fitted. (Both sides)



Dismounting the Screen

- The top of the screen frame is secured by inserting the two pins inside its top surface into the two square holes on top of the main unit.
- The bottom of the screen frame is held by the magnetic force of the three magnetic catches attached inside the main unit. And there are light shielding sponges between the inside of the sides of the screen frame and the outside of the sides of the main unit which will create some resistance when pulling out the bottom of the screen frame.
- It is not necessary to remove the screws on the top, bottom and sides of the screen frame.

- ① Pull the bottom of the screen frame out to disengage from the magnets
- ② Slide the screen frame upward until the two pins inside its top surface are pulled out of the square holes on top of the main unit
- ③ Remove the screen towards yourself



Cleaning the Screen

- When the screen is dirty, wipe gently with a soft cloth (flannel cloth recommended).
- If the screen is very dirty, wipe with a soft cloth dampened with isopropyl alcohol.
- Take note that rubbing the screen too hard can cause scratches.

Troubleshooting

Before sending the unit to your authorized dealer for repair, please check the following points.

The following symptoms are not malfunctions.

You do not need to worry about the following symptoms if there is no abnormality on the screen.

- The side and rear surface of the main unit is partially hot.
- A creaking sound is heard from the unit.
- An operating sound is heard from the inside of the unit.
- Color smear occurs on some screens.

This unit is a digital device. This unit may become unable to operate normally due to external static or noise. Perform the following operations when such malfunctions occur.

- ① During Standby mode (the power plug is inserted into the outlet, but the power is not turned on), pull out the power plug and then insert it again
- ② Press the I [ON] button on the remote control to turn on the power again

Power is not supplied

Check	Action	Refer to
Is the power cord disconnected?	Insert the power cord (plug) firmly.	P. 17
Is the lamp in the Cool-down mode?	After exiting the Cool-down mode, turn on the power again.	P. 18

Power shuts down automatically

Check	Action	Refer to
Are the air inlets and exhaust vent blocked?	Leave proper clearance when installing the unit.	P. 10, 11 P. 14

Video image does not appear

Check	Action	Refer to
Is the power turned on?	Check that the power is turned on.	P. 18
Is the correct external input selected?	Select the correct external input terminal.	P. 18
Is the power of the AV device or PC turned on?	Turn on the power of the AV device or PC and play the video.	P. 15
Is the AV device or PC properly connected?	Connect the AV device or PC properly.	P. 15
Are the correct signals being output from the AV device or PC?	Set the AV device or PC properly.	P. 15
Is the cable in use an HDMI-certified cable?	Use an HDMI-certified high-speed cable. Also, use as short a cable as possible.	P. 15
Is an intermediate device (AV amplifier, divider, etc.) in use?	Change the sequence of turning on the source device, intermediate device and this unit. And after turning on each device, ensure that the signal output is stable before turning on the next device.	P. 15
Is an old source device in use?	Change the resolution setting of the source device. For details on how to change the setting, please refer to the instruction manual of the source device.	—
Is the video image temporarily hidden?	Press the [HIDE] button	P. 18
Is the image adjusted to the bottom position using the lens shift function?	Return the lens shift to an appropriate position.	P. 19

Video image looks unnatural

Colors are unnatural

Check	Action	Refer to
Is the color space of the input signal correctly set?	The color may turn out unnatural when the input signal is different from the setting of this unit. Set the "Color Space" for "Input Signal" correctly.	P. 34
Is the image correctly adjusted?	Adjust "Color" and "Tint" accordingly.	P. 34
Is the AV device or PC properly connected?	Connect the AV device or PC properly.	P. 15

* The video image may appear slightly reddish immediately after starting up. This is not a malfunction.

Video image is fuzzy

Check	Action	Refer to
Is the focus correctly adjusted?	Adjust the focus.	P. 19

Projected image is dark

Check	Action	Refer to
Is the lamp near exhaustion?	Check the lamp time in the "Information" menu. Replace with a new lamp unit as soon as possible when the lamp is near exhaustion. To replace the lamp, consult your authorized dealer.	P. 43
Is the lens aperture closed?	Adjust the "Lens Aperture".	P. 28
Is "Lamp Power" set to "Low"?	Set "Lamp Power" to "High"	P. 32

Video images are missing

Check	Action	Refer to
Has screen mask been configured?	Set "Mask" to "Off".	P. 35

Remote control does not work

Check	Action	Refer to
Are the batteries correctly loaded?	Match the polarities (\oplus \ominus) correctly when loading the batteries.	P. 13
Are the batteries exhausted?	Replace with new batteries.	P. 13
Is there an obstructing object between the remote control and remote sensor?	Remove any obstructing object.	P. 13
Is the remote control held too far away from the unit?	Hold the remote control closer to the sensor during use.	P. 13

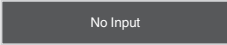

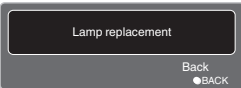
Noise is heard

Check	Action	Refer to
Is the exhaust vent blocked? Is the unit used near a heater or air-conditioner?	Check the installation condition of the unit. When the surrounding temperature of this unit is high, the fan revolution speed increases to protect the projector unit, hence a louder operating sound.	P. 14
Is "High Altitude Mode" set to "On"?	Check the "High Altitude Mode" setting. If "High Altitude Mode" is set to "On", the fan spins at a higher speed and produces a sound louder than usual.	P. 41

There are small black or colored dots on the screen

The D-ILA device is manufactured using high-precision technologies, but there may be some (less than 0.01%) missing pixels or pixels that remain permanently lit. This is not a malfunction.

When the Following Messages Appear...

Message	Description	Action
	<ul style="list-style-type: none"> No device is connected to the input terminal. The input terminal is connected but there is no signal. 	Input the video signals.
	A video signal that cannot be used with this unit has been input (The names of input terminals such as “HDMI-1” and “HDMI-2” will be displayed in yellow).	Input video signals that can be used. (P. 56)
	Indicates that the lamp needs to be replaced soon. To clear the message, press the [BACK] button on the remote control.	Replace with a new lamp unit as soon as possible. To replace the lamp, consult your authorized dealer.

Checking the Power and Startup Status

Checking the Power Status

You can check the power status of this unit using the following method.

Check if the internal LED is lit from the air inlets

- When the power cord is connected and power is supplied, the internal LED which is visible from the air inlets lights up in orange.

Checking the Startup Status

If there is no display on the screen when this unit is in use, you can check whether the unit has been started up using the following method.

Press the [INFO.] button on the remote control

- If the lamp of this unit is lit, pressing the [INFO.] button on the remote control displays the information menu.
- If the information menu is not displayed even after pressing the [INFO.] button on the remote control, the image may have disappear temporarily. Press the [HIDE] button on the remote control once, then press the [INFO.] button again.

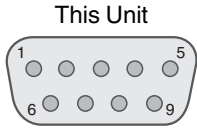
External Control

It is possible to control this unit by connecting it to a PC using an RS-232C cross cable (D-sub 9-pin). The projector can be controlled by connecting it to a PC through the computer network with a LAN cable for control commands to be sent to the projector.

➔ “ Network ” (P. 42)

- Please use it after you have gained proper understanding from professional books or consulting the system administrator.

RS-232C Specifications



Pin No.	Signal	Function	Signal Direction
2	RxD	Receive data	PC → This unit
3	TxD	Transmission data	This unit → PC
5	GND	Signal ground	—
1, 4, 6 - 9	N/C	—	—

- PC refers to the controller, such as a personal computer.

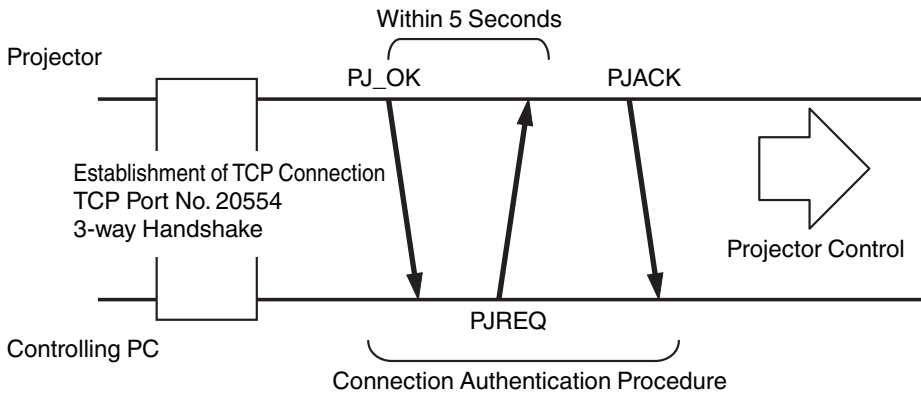


Mode	Non-synchronous
Character length	8 bit
Parity	None
Start bit	1
Stop bit	1
Data rate	19200 bps
Data format	Binary

TCP/IP Connection

Before controlling via LAN, it is necessary to establish connection of the TCP layer by a “3-way handshake”, followed by sending out “PJREQ” and receiving “PJACK” within 5 seconds after this unit sends out “PJ_OK” for connection authentication.

If you are unable to complete the sending within 5 seconds, or when “PJ_NG” or “PJNAK” is received, check the operating status of this unit, followed by performing the steps again starting from establishment of a TCP connection.



Command Format

The command between this unit and the computer consists of “Header”, “Unit ID”, “Command”, “Data” and “End”.

- Header (1 byte), Unit ID (2 bytes), Command (2 bytes), Data (n bytes), End (1 byte)

Header

This binary code indicates the start of communication.

Binary Code	Type	Description
21	Operating command	PC → This unit
3F	Reference command	PC → This unit
40	Response command	This unit → PC
06	ACK	This unit → PC (returns to PC after the command is accepted without error)

Unit ID

This is a code that specifies the unit. The binary code is fixed at “8901”.

Command and data

Operating command and data (binary code)

Command	Type	Description
0000	Connection check	Check whether communication is enabled between this unit and the PC during standby.
5057	Power supply	During standby 31: Turns on the power When power is on 30: Turns off the power (Standby mode)
4950	Input	When power is on 36: HDMI 1 37: HDMI 2
5243	Remote control	Sends the same code as the supplied remote control. • “Remote Control Code”P. 53

Reference command and data (binary code)

Command	Type	Description
5057	Power supply	During standby or when power is on 30: Standby mode 31: When power is on 32: In the Cool-down mode 34: When error occurs on this unit
4950	Input	When power is on 36: HDMI 1 37: HDMI 2

End

This code indicates the end of communication. The binary code is fixed at “0A”.

Remote Control Code

Binary code is sent during communication.

- The following applies to the case when the remote control code is “A”. In the case of “B”, add “36” to the beginning of the code.

Remote Control Button Name	Binary Code
STAND BY	37 33 30 36
ON	37 33 30 35
INFO.	37 33 37 34
INPUT	37 33 30 38
HIDE	37 33 31 44
LENS CONTROL	37 33 33 30
LENS MEMORY	37 33 44 34
RGB SOLO	37 33 46 31
CONTRAST	37 33 30 41
BRIGHTNESS	37 33 30 39
COLOR	37 33 31 35
DIM.	37 33 45 45
▲	37 33 30 31
▼	37 33 30 32
▶	37 33 33 34
◀	37 33 33 36
OK	37 33 32 46

Remote Control Button Name	Binary Code
MENU	37 33 32 45
BACK	37 33 30 33
DYNAMIC	37 33 36 42
SRGB	37 33 36 41
DCI	37 33 36 39
USER1	37 33 36 43
USER2	37 33 36 44
USER3	37 33 36 45
USER4	37 33 43 41
USER5	37 33 43 42
USER6	37 33 43 43
GAMMA	37 33 37 35
COLOR TEMP.	37 33 37 36
RGB PARADE	37 33 46 32
C.GAMUT	37 33 46 33

Communications Example

This section shows the communication examples of RS-232C.

Operating command

Type	Command	Description
Connection check	PC → This unit: 21 89 01 00 00 0A This unit → PC: 06 89 01 00 00 0A	Connection check
Power (On)	PC → This unit: 21 89 01 50 57 31 0A This unit → PC: 06 89 01 50 57 0A	When power is turned on from the Standby mode
Power (Off)	PC → This unit: 21 89 01 50 57 30 0A This unit → PC: 06 89 01 50 57 0A	When power is turned off (Standby mode) from power-on mode
Remote control (MENU)	PC → This unit: 21 89 01 52 43 37 33 32 45 0A This unit → PC: 06 89 01 52 43 0A	When the same operation as pressing the [MENU] button on the remote control is performed

Reference command

Type	Command	Description
Power (On)	PC → This unit: 3F 89 01 50 57 0A This unit → PC: 06 89 01 50 57 0A This unit → PC: 40 89 01 50 57 31 0A	When information on the power-on state is acquired
Input (HDMI 1)	PC → This unit: 3F 89 01 49 50 0A This unit → PC: 06 89 01 49 50 0A This unit → PC: 40 89 01 49 50 36 0A	When information on HDMI 1 input is acquired

Specifications

Product Name	HDR REAR PROJECTION SYSTEM	
Model Name	LY-HDR36-2	LY-HDR36-4
Display Panel/Size	D-ILA device *1, 2 0.7" (1920 x 1080 pixels) x 3 (total no. of pixels: approx. 6.22 million)	
Projection Lens	2.0 x power zoom lens (1.4:1 to 2.8:1), motorized zoom and focus	
Light-source Lamp	265 W ultra-high pressure mercury lamp [product no.: PK-L2615U] Average lifespan: 3500 hours (in "High" mode)	
Screen Size (Inch)	36-inch	
Display Area (Width x Height)	796 x 452 mm	
Input Compatibility Signal	Refer to P. 56.	
Display Resolution	1920x1080	
Screen Gain/Screen Type	2.4 (Glossy)	4.8 (Glossy)
Brightness	2800 cd/m ²	4500 cd/m ²
Contrast	40000:1	
Color Gamut	DCI P3 (Color Ratio of 98%)	
Input Terminal	HDMI Input	Dual, HDMI 19-pin x 2 (HDCP 1.4-compatible) *3
Control Terminal	RS-232C Terminal	1 system, D-sub 9-pin (male) (external control)
	LAN Terminal	1 system, RJ-45 plug
Power Requirements	AC 100 V to 240 V, 50 Hz/60 Hz	
Power Consumption	380 W (during standby mode: 1.5 W)	
Operation Environment	Temperature: 5°C to 35°C; humidity: 20% to 80%; storage temperature: -10°C to 60°C	
Installation Height	Below 5,000 ft (1524 m)	
Dimensions (Width x Height x Depth)	Approx. 803 mm x 906 mm x 730 mm	
Mass	67.8 kg	
Accessories	Refer to P. 9.	

*1 D-ILA is the abbreviation for Direct drive Image Light Amplifier.

*2 D-ILA devices are manufactured using extremely high-precision technology with a pixel effectiveness of 99.99%. Only 0.01% or less of the pixels are either missing or would remain permanently lit.

*3 HDCP is the abbreviation for High-bandwidth Digital Content Protection system. The image of the HDMI input terminal may not be displayed in some cases due to changes in the HDCP specifications.

- Design and specifications are subject to change without prior notice.
- This projector is designed for use in Japan only, and cannot be used in any other country due to the different power voltage.
This projector is designed for use in Japan only and can not be used in any other country.
- Please note that some of the pictures and illustrations may have been abridged, enlarged or contextualized in order to aid comprehension. Images may differ from the actual product.
- This unit is a "JIS C61000-3-2-compliant device".

About Trademarks and Copyrights



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Types of Possible Input Signals

Video

Digital Video Signal	480p, 576p, 720p/50 Hz, 720p/60 Hz, 1080i/50 Hz, 1080i/60 Hz, 1080p/24 Hz, 1080p/25 Hz, 1080p/30 Hz, 1080p/50 Hz, 1080p/60 Hz
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PC signal (HDMI)

No.	Designation	Resolution	fh [kHz]	fv [Hz]	dot CLK [MHz]	Total No. of Dots [dot]	Total No. of Lines [line]	No. of Effective Dots [dot]	No. of Effective Lines [line]
1	VGA 60	640×480	31.500	60.000	25.200	800	525	640	480
2	VGA 59.94	640×480	31.469	59.940	25.175	800	525	640	480
3	SVGA 60	800×600	37.879	60.317	40.000	1,056	628	800	600
4	XGA 60	1024×768	48.363	60.004	65.000	1,344	806	1,024	768
5	SXGA 60	1280×1024	63.981	60.020	108.000	1.688	1,066	1,280	1,024
6	3840×1080 60 *1, 2	3840×1080	67.500	60.000	297.000	4400	1125	3840	1080
7	3840×1080 59.94 *1, 2	3840×1080	67.433	59.940	296.703	4400	1125	3840	1080

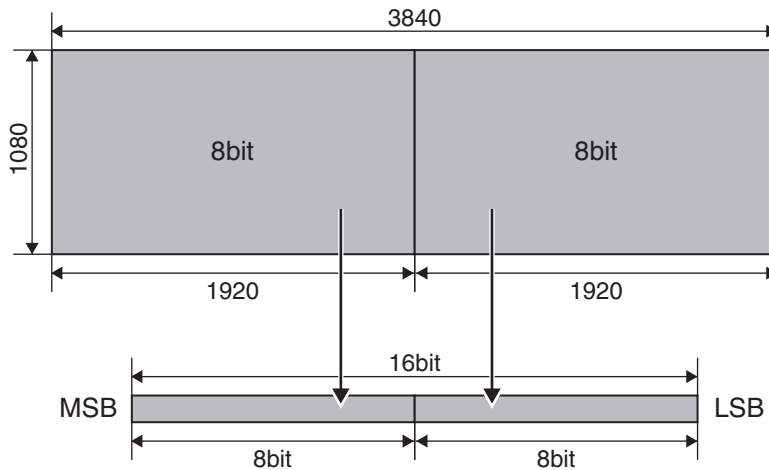
*1 Supports only 8 bit RGB.

*2 Supports 16 bit by means of JVC's unique signal formatting.

* Even when signals can be input, video images may not be projected properly depending on the PC or cable in use. When this occurs, switching to another compatible resolution or changing the cable may help to resolve the problem in some cases.

3840 × 1080 60/59.94 Format

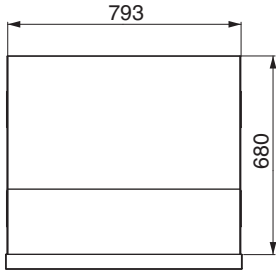
The 3840×1080 pixels (8 bit RGB) input data is a 16 bit input data with the left portion (1920×1080 pixels) as the high-order 8 bits and the right portion (1920×1080 pixels) as the low-order 8 bits.



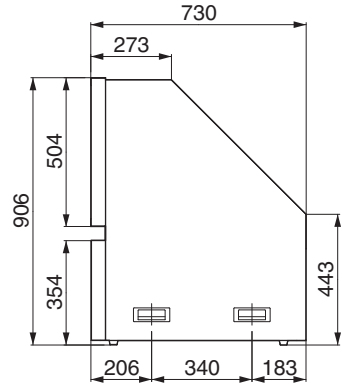
Dimensions

(Unit: mm)

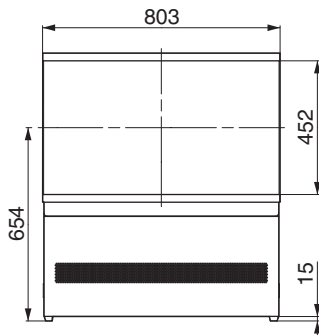
Top Surface



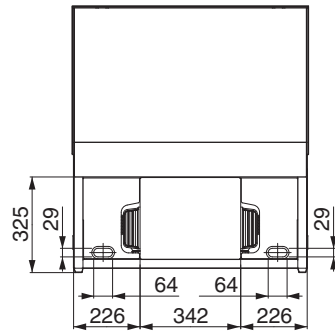
Side



Front



Rear Surface



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LY-HDR36
HDR REAR PROJECTION SYSTEM

JVC