JVC

INSTRUCTIONS

D-ILA
PROJECTOR

DLA-RS4810

D-ILA®

HDMI®
HIGH-DEFINITION MULTIMEDIA INTERFACE

Getting Started

Set up

Operate

Adjust/Set

Maintenance

Troubleshooting

Others
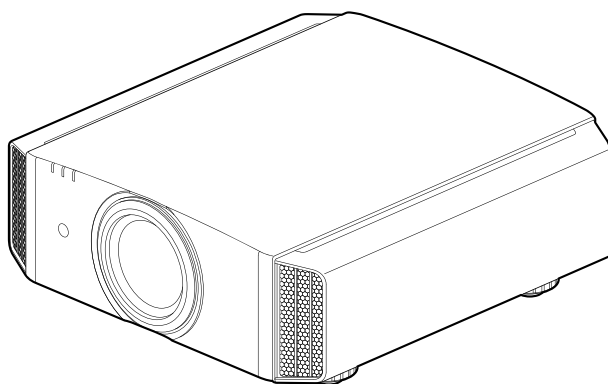
For Customer use :	**Pour utilisation par le client :**	**Instrucción para el cliente :**
Enter below the serial No. which is located on the side of the cabinet. Retain this information for future reference.	Entrerci-dessous le N°de série qui est situé sous le boîtier. Garder cetteinformation comme référence pour le futur.	Introduzca a continuación el nº de serie que aparece en la parte inferior lateral de la caja. Conserve esta información como referencia para uso ulterior.
Model No. DLA-RS4810	N° de modèle DLA-RS4810	Modelo Nº DLA-RS4810
Serial No.	N° de série	Nº de serie

PC023483199

Safety Precautions

IMPORTANT INFORMATION

This product has a High Intensity Dis-charge (HID) lamp that contains mercury.
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.

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.

MACHINE NOISE INFORMATION (Germany only)
Changes Machine Noise Information Ordinance 3. GSGV, January 18, 1991: The sound pressure level at the operator position is equal or less than 20 dB (A) according to ISO 7779.

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 protec tion 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 instruc tions, 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 encourage 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-RS4810U
Trade Name : JVC
Responsible party : JVC AMERICAS CORP.
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
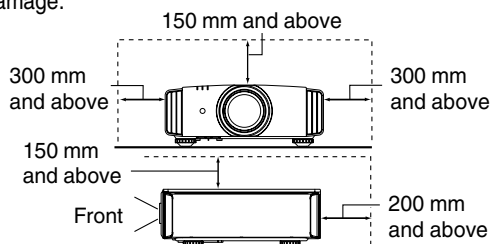Do not install the projector in a place that cannot support its weight securely.
If the installation place is not sturdy enough, the projector could fall or overturn, possibly causing personal injury.

2

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.

PORTABLE CART WARNING
(symbol provided by RETAC)

S3126A

- 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.

150 mm and above

300 mm and above

300 mm and above

150 mm and above

Front

200 mm and above

- 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 com ponent 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 com ponent 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 impos sible 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.

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* 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
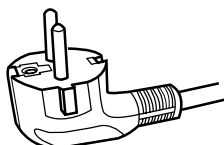Use only the following power cord.

Power cord

The power supply voltage rating of this product is
AC110V – 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
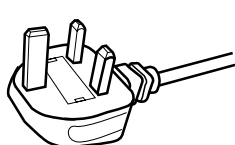
For United Kingdom   For European continent
countries

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.

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
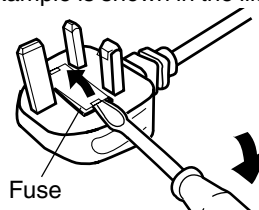colored red.

POWER CONNECTION (United Kingdom only)

IMPORTANT (Europe only):
When replacing the fuse, be sure to use only a
correctly rated approved type, re-fit the fuse cover.

**IF IN DOUBT —— CONSULT A COMPETENT
ELECTRICIAN.**
Open the fuse compartment with the blade
screwdriver, and replace the fuse.
(* An example is shown in the illustration below.)

Fuse

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:
JVC Technical Services Europe GmbH
Postfach 10 05 04
61145 Friedberg
Germany

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 fa cilities for appr opriate recycling.

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

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. We nden 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.

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 collection de déc hets ou les centres de recyclage appropriés.

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

Informatie voor gebruikers over het verwijderen van oude apparatuur en batterijen

Producten **Batterij**

[Alleen Europese Unie]
Deze symbolen geven aan dat appara tuur met dit symbool niet mag worden weggegooid als algemeen huishoudelijk afval. Als u het product of de batterij wilt weggooien, kun t u inzamelsystemen of faciliteiten voor een geschikte recycling gebruiken.

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

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 pro ducto 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.

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 sistem i o le strutture di raccolta appropriati per il riciclaggio corretto.

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

Informação para os utilizadores acerca da eliminação de equipamento usado e pilhas

Produtos **Pilha**

[Apenas União Europeia]
Estes símbolos indicam que o equipamento com estes símbolos não deve ser eliminado juntamente com o restante lixo doméstico. Se p retende eliminar o produto ou a pilha, utilize os sistemas de recolha ou instalações para uma reciclagem apropriada.

Aviso: O sinal Pb abaixo do símbolo para pilhas indica que esta pilha contém chumbo.

Πληροφορίες για την απόρριψη παλαιού εξοπλισμού και μπαταριών

Προϊόντα **Μπαταρία**

[Ευρωπαϊκή Ένωση μόνο]
Αυτά τα σύμβολα υποδηλώνουν ότι ο εξοπλισμός που τα φέρει δεν θα πρέπει να απορριφθεί ως κοινό οικιακό απόρριμμα . Εάν επιθυμείτε την απόρριψη αυτού του προϊόντος ή αυτής της μπαταρίας , χρησιμοποιήστε το σύστημα περισυλλογής ή εγκαταστάσεις για ανάλογη ανακύκλωση .

Σημείωση: Το σύμβολο Pb κάτω από το σύμβολο μπαταρίας υποδηλώνει ότι η μπαταρία περιέχει μόλυβδο .

Brugerinformation om bortskaffelse af gammelt udstyr og batterier

Produkter **Batteri**

[Kun EU]
Disse symboler angiver, at udstyr med disse symboler ikke må bortskaffes som almindeligt husholdningsaffald. Hvis du ønsker at smide dette produkt eller batteri ud, bedes du overveje at bruge indsamlingssystem et eller steder, hvor der kan ske korrekt gen brug.

Bemærk: Tegnet Pb under symbolet for batterierne angiver, at dette batteri indeholder bly.

Tietoja vanhojen laitteiden ja akkujen hävittämisestä

Tuotteet **Akku**

[Vain Euroopan unioni]
Nämä symbolit ilmaisevat, että symboleilla merk ittyä laitetta ei tulisi hävittää tavallisen kotitalousjätteen mukana. Jos haluat hävit tää tuotteen tai sen akun, tee se hyödyntämällä akkujen keräyspisteitä tai muita kier rätyspaikkoja.

Huomautus: Akkusymbolin alapuolella oleva Pb-merk intä tarkoit taa, että akku sisältää lyijyä.

Information för användare gällande bortskaffning av gammal utrustning och batterier

Produkter **Batteri**

[Endast den Europeiska unionen]
Dessa symboler indikerar att utrustning med dessa symboler inte ska hanteras som vanligt hushållsavfall. Om du vill bortsk affa produkten eller batteriet ska du använda uppsamlingssystem eller inrättningar för lämplig återvinning.

Observera: Märkningen Pb under symbolen för batterier indikerar att detta batteri innehåller bly.

Opplysninger til brukere om kassering av gammelt utstyr og batterier

Produkter **Batteri**

[Bare EU]
Disse symbolene viser at utstyr med dette symbolet, ikke skal kastes sammen med vanlig husholdningsavfall. Hvis du vil kass ere dette produkte t eller batteriet, skal du vurdere å bruke innsam lingssystemene eller andre muligheter for riktig gjenbruk.

Merk: Tegnet Pb under symbolet for batterie r, viser at batteriet inneholder bly.

Сведения для пользователей по утилизации старого оборудования и батарей

Изделия **Батарея**

[только для Европейского союза]
Данные символы указывают на то, что оборудование, на которое они нанесены, не должны утилизироваться, как обычные бытовые отходы. При необходимости утилизировать такое изделие или батарею обратитесь в специальный пункт сбора для их надлежащей переработки.

Уведомление: Надпись Pb под символом батар ей указывает на то, что данная батарея содержит свинец.

Informace pro uživatele k likvid aci starého zařízení a baterií

Produkty **Baterie**

[Pouze Evropská unie]
Tyto symboly označují, že produkty s těmito symboly se nesmí likvidovat jako běžný odpad. Pokud chcete produkt nebo baterii zlikvidovat, využijte sběrný systém nebo jiné zařízení, které zaji stí řádnou recyklaci.

Bemærk: Značka Pb pod symbolem pro ba te rie znamená, že tato baterie obsahuje olovo.

Informacje dla użytkowników dotyczące poz bywania się zużytego sprzętu i baterii

Produkty **Bateria**

[Tylko kraje Unii Europejskiej]
Te symbole oznaczają, że sprzę tu nie należy wyr zucać razem z odpadami gospodarczymi. Jeśli trzeba po zbyć się tego produktu lub ba terii, proszę skorzystać z systemu odbioru lub urządzeń do zbió rki odpadów elektronicznych, w celu odpowiedniego ponowne go ich przetworzenia.

Uwaga: Oznaczenie Pb, znajdujące się pod symbole m baterii wskazuje, że ta bateria zawiera ołów.

Felhasználói információ az elhasznált be rendezések és akkumulátorok elhelyezéséről

[Csak az Európai Unióban]
Ez a szimbólum azt jelzi, hogy a berendezés nem helyezhető az általános háztartási hulladék közé. Ha meg szeretne szabadulni a terméktől vagy az akkumulátortól, akkor legyen tekintettel az gyűjtő rendszerre vagy intézményekre a megfelelő hasznosítás érdekében.

Akkumulátor

Termékek

Megjegyzés: Az alábbi Pb szimbólum - ha az akkum ulátoron megtalálható - azt jelzi, hogy az akkumulátor ólmot tartalmaz.

Informacije za korisnike o odlaganju stare opreme i baterija

[Samo u zemljama gde se primenjuje]
Ovi simboli ukazuju da proizvod i baterije sa ovim simbolom ne smeju biti odloženi kao nesortiran kućni otpad. Ako želite da ih se rešite, molimo vas da ne upotrebljavate običnu kantu za đubre. Postoje zasebni sistemi za prikupljanje ovakvih proizvoda.

Baterija

Produkt

Naznaka: Hemijski simbol Pb ispod simbola za baterije ukazuje na to da li baterija sadrži olovo.

Contents

Accessories/Optional Accessories

Check the Accessories

Lens Cover .... 1 piece
*It is attached to the main unit at the time of shipment.

Remote control .... 1 piece

AAA-size batteries (for operational check) .... 2 pieces

Power cord (for USA) (about. 2 m) .... 1 piece

Power cord (for UK) (about. 2 m) .... 1 piece

Power cord (for EU) (about. 2 m) .... 1 piece
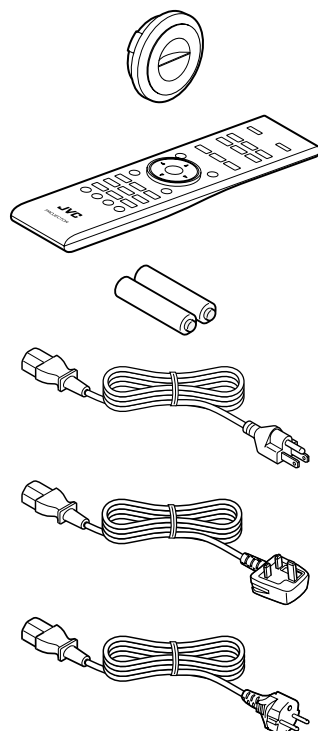
- INSTRUCTIONS (this book), warranty card, and other printed material are also included.

Optional Accessories

- Replacement lamp model: PK-L2312U
- 3D GLASSES models: PK-AG2, PK-AG3
- 3D SYNCHRO EMITTER: models PK-EM1, PK-EM2

Compatibility Chart for 3D SYNCHRO EMITTER and 3D GLASSES

|		3D GLASSES		
		PK-AG1 * (Communication Method: IR (Infrared))	PK-AG2 (Communication Method: IR (Infrared))	PK-AG3 (Communication Method: RF (Radio frequency))
3D SYNCHRO EMITTER	PK-EM1 (Communication Method: IR (Infrared))	○	○	—
	PK-EM2 (Communication Method: RF (Radio frequency))	—	—	○

* Discontinued product

Please check with your authorized dealer for details.

Main Features

High-definition 4K display that surpasses full HD quality

The optical engine equipped with a new e-shift2 device has achieved a resolution of 4K.

With JVC's newly-developed image-processing algorithm, you can now enjoy the enhanced expressiveness of the 4K quality. (p. 39)

Original   JVC's Image Technology

4K
3840×2160

Full HD
1920×1080
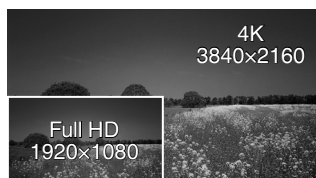
Delivers a clearer expression with the jaggedness and blurriness of the oblique lines reduced

Contrast is enhanced even for the details for them to be reproduced realistically

Noise is reduced to produce vivid and crisp images

The photos are for illustrative purposes only.

3D video expressions with a highly realistic feel

With the 3D feature, you can enjoy 3D movies with a more realistic effect. (p. 34)

With the 2D-3D conversion feature, you can now enjoy 3D movies by converting 2D videos of TV programs or those that are recorded using a home video camera into 3D ones. (p. 35)

The photos are for illustrative purposes only.

Optimal image quality adjustment according to the viewing environment

Halation that occurs in environments such as a living room with white walls is taken into consideration for optimal viewing. (p. 31)

Flexible installation

In addition to the 2x motorized zoom & focus lens, the wide coverage of the lens shift functions also makes installation of the projector more flexible. (p. 28)

The lens memory feature, which enables focus, zoom, or shift settings to be saved or retrieved, enables you to switch to different video size formats easily.

Customizable image quality adjustment feature

You can make adjustments according to the type of video images or your preferences to enjoy the videos in optimal quality. (p. 37)

Real Color Imaging Technology (a color reproduction technology developed by JVC) to enable reproduction in an image quality that is closer to the original image. (p. 38)
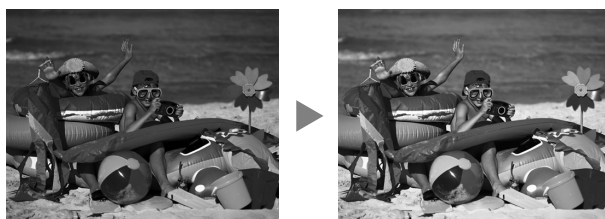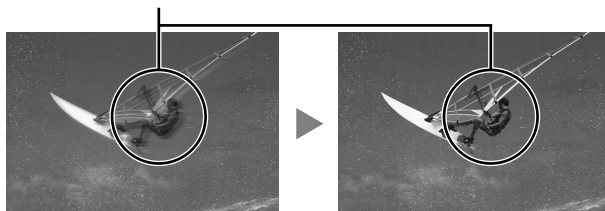
The photos are for illustrative purposes only.

Clear video expression with little after-image (C.M.D.)

By employing the high-definition image interpolation technology developed by JVC, you can enjoy videos with fast movements, such as sports, in a sharp quality. (p. 44)

* C.M.D. is the abbreviation for Clear Motion Drive.

Sharp depiction of details with minimal blur

The photos are for illustrative purposes only.

High-precision pixel adjustment feature

With the highly-precise "Pixel Adjust" feature, you can enjoy a clear video quality with little color fringing throughout the entire image. (p. 54)
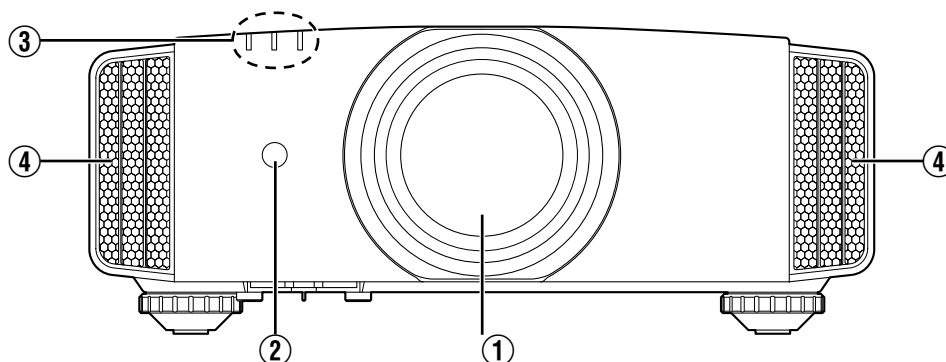
Before adjustment

After adjustment

The photos are for illustrative purposes only.

Controls and Features

Main Unit - Front

① Lens

This is a projection lens. Do not look through the lens while an image is projected.

② Remote Sensor (front)

Please aim the remote control at this area when using it.

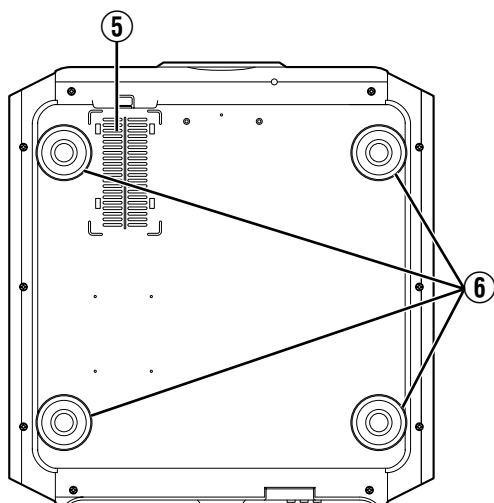* There is also a remote sensor at the rear.

③ Indicator

Refer to "Indicator Display on the Main Unit" (p. 79).

④ Exhaust vent

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

Main Unit - Bottom

⑤ Inlets (at 3 points on the rear/bottom)

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.
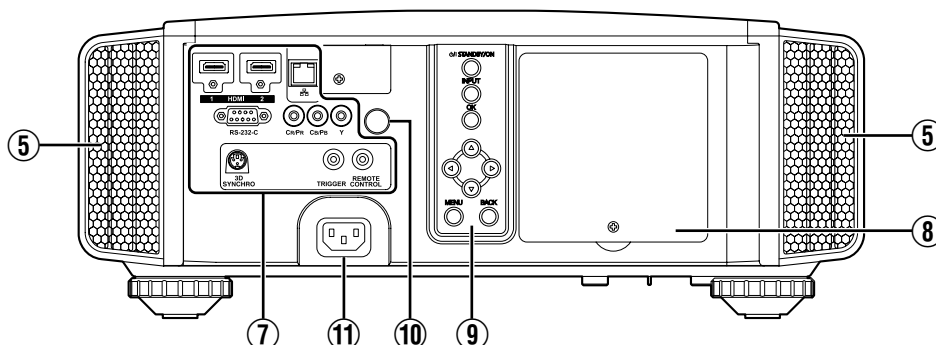
* There are two inlets on the right and left sides at the rear of the unit.

⑥ Feet

The height and angle of the projector can be adjusted by turning the foot. (0 to 5 mm) (p. 21)

When the foot is removed, it can be used as the mounting holes for the ceiling mount bracket.

Main Unit - Rear

⑦ Input terminals

In addition to the video input terminal, there are also other connection terminals for devices such as controllers and optional equipment.

Please see "Main Unit - Input Terminals"p. 16 for more details about the terminals.
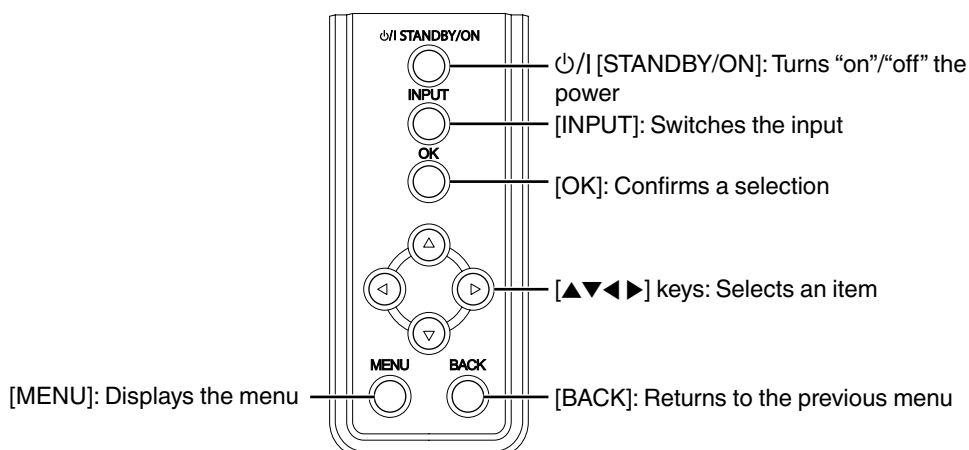
⑧ Lamp cover

When replacing the light source lamp, remove this cover.

⑨ Operation panel

For more details, please refer to the "Operation panel" in the diagram below.

Operation panel

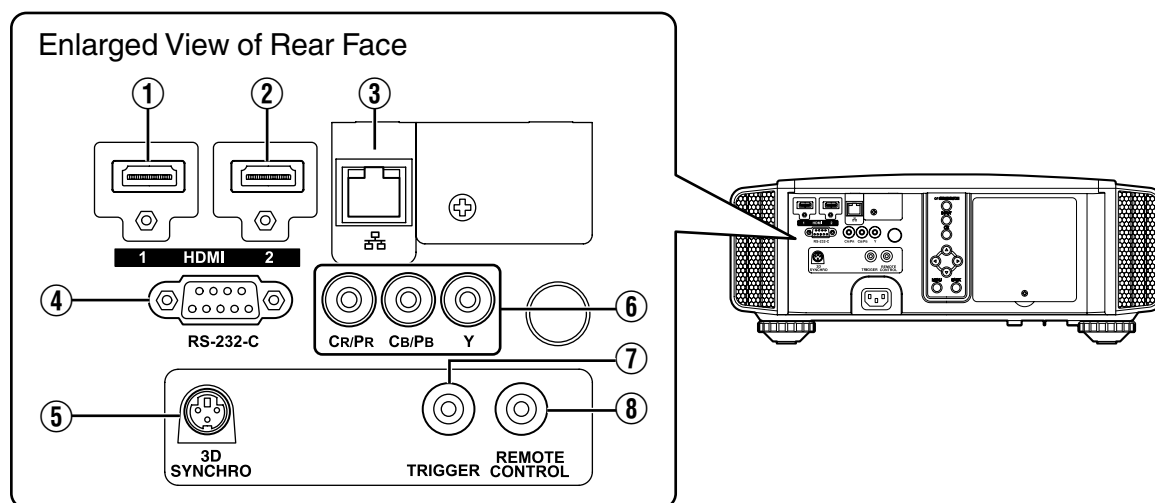### ⑩ Remote Sensor (rear)

Please aim the remote control at this area when using it.

* There is also a remote sensor at the front.

⑪ Power input terminal

Connect the supplied power cord to this terminal.

ᵔ/I [STANDBY/ON]: Turns "on"/"off" the power

[INPUT]: Switches the input

[OK]: Confirms a selection

[▲▼◀▶] keys: Selects an item

[MENU]: Displays the menu

[BACK]: Returns to the previous menu

Main Unit - Input Terminals

Enlarged View of Rear Face

① [HDMI 1] input terminal

② [HDMI 2] input terminal

For connecting to devices that support HDMI output. (p. 22)

It is fitted to the M3 lock hole. The depth of the screw hole is 3 mm.

③ [LAN] terminal (RJ-45)

The projector can be controlled by connecting it to a PC through the computer network for control commands to be sent to the projector.

④ [RS-232C] terminal (D-sub 9-pin male)

The projector can be controlled by connecting a PC to this terminal.

* The LAN and RS-232C terminals cannot be used at the same time. (p. 60)

⑤ [3D SYNCHRO] terminal

By connecting a 3D SYNCHRO EMITTER (sold separately) to this terminal, you can view 3D movies.

⑥ Component video input terminals (RCA x 3)

For connecting to devices that support component signal output.

It can be used as an input terminal for analog RGB (G on Sync), component (Y, Cb, Cr), or DTV format (Y, Pb, Pr) signals.

⑦ [TRIGGER] terminal (⊖-ⓒ-⊕)

Output terminal for DC 12V, 100 mA power supply. It is used for sending output signals to control elevating screens for which the use of a SCREEN TRIGGER is supported.

Note that improper connection may damage the projector. (Tip=DC +12 V, Sleeve=GND)
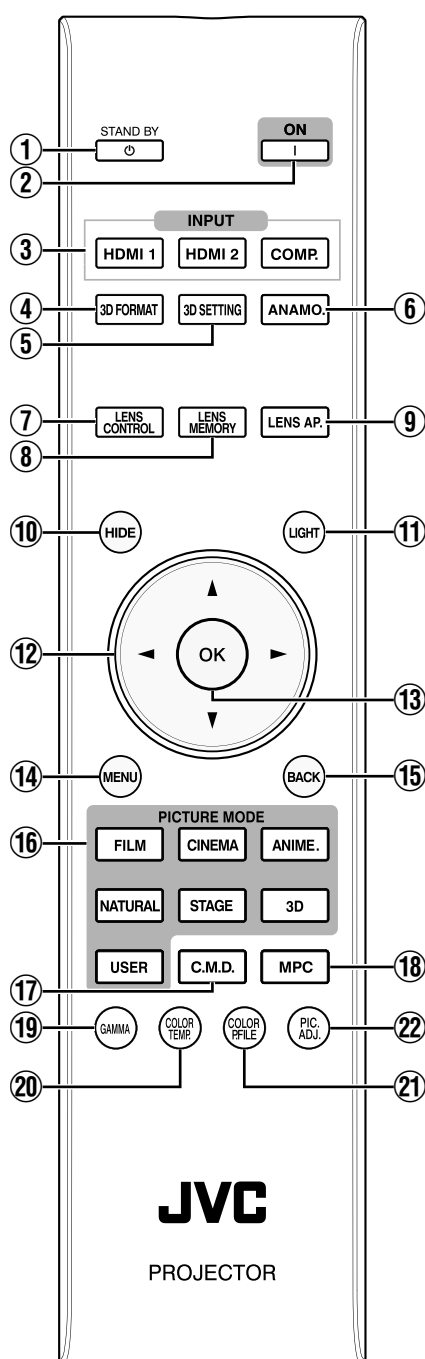
⑧ [REMOTE] terminal (stereo mini jack)

Use this terminal when a remote control unit is not usable, such as when the projector is installed in a dedicated box or for rear projection.
Connect an external remote sensor unit to the projector unit.
For details on the external infrared sensor and connecting cable, please contact your dealer.

Remote Control

① ⏻ **[STAND BY]**

Turns off the power. (p. 27)

② ❘ **[ON]**

Turns on the power. (p. 26)

③ **[INPUT]**

Select an input from [HDMI 1], [HDMI 2], and [COMP.]. (p. 26)

④ **[3D FORMAT]**

Switches the 3D format. (p. 35)

⑤ **[3D SETTING]**

Displays the 3D setting menu. (p. 35)

⑥ **[ANAMO.]**

Switches the anamorphic mode. (p. 55)

⑦ **[LENS CONTROL]**

For adjusting focus, zoom, and shift. (p. 28)

⑧ **[LENS MEMORY]**

Switches between saving, retrieving, and editing of the lens memory. (p. 29)

⑨ **[LENS AP.]**

For setting the lens aperture. (p. 50)

⑩ **[HIDE]**

Hides the image temporarily. (p. 26)

⑪ **[LIGHT]**

Illuminates the buttons on the remote control.

⑫ **[▲▼◀ ▶] keys**

For selecting an item.

⑬ **[OK]**

Confirms a selected item.

⑭ **[MENU]**

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

⑮ **[BACK]**

Returns to the previous menu.

⑯ **[PICTURE MODE]**

Switches the Picture mode to [FILM], [CINEMA], [ANIME], [NATURAL], [STAGE], [3D], or [USER]. (p. 37)

⑰ **[C.M.D.]**

For setting frame interpolation. (p. 44)

⑱ **[MPC]**

For setting the MPC level. (p. 39)

⑲ **[GAMMA]**

For setting the gamma level. (p. 40)

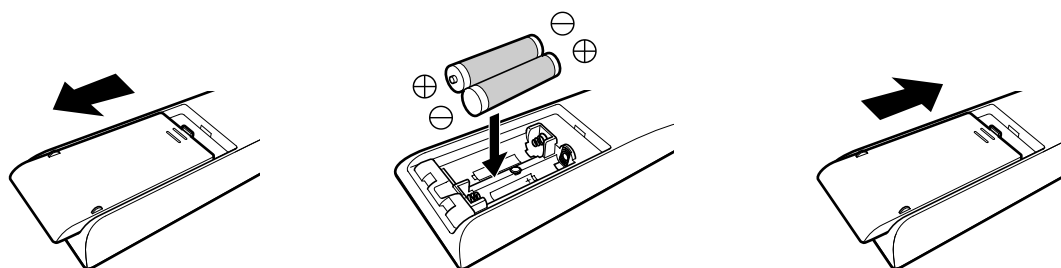⑳ **[COLOR TEMP]**

For setting the color temperature. (p. 47)

㉑ **[COLOR P.FILE]**

Switches the color profile. (p. 38)

㉒ **[PIC. ADJ.]**

Switches the items for adjusting the image quality, such as contrast, brightness, etc. (p. 48)

17

# Loading Batteries into the Remote Control

- If the remote control has to be brought closer to the projector to operate, it means that the batteries are wearing out. Replace the batteries with new ones (AAA).
- Insert the batteries according to the ⊕ ⊖ marks. Be sure to insert the ⊖ end first.
- 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.

Effective Range of Remote Control Unit

When aiming the remote control toward the sensor on this unit (front or rear), ensure that the distance to the sensor is within 7 m.
If the remote control fails to work properly, move closer to this unit.

This unit

30°
30°
20°
20°
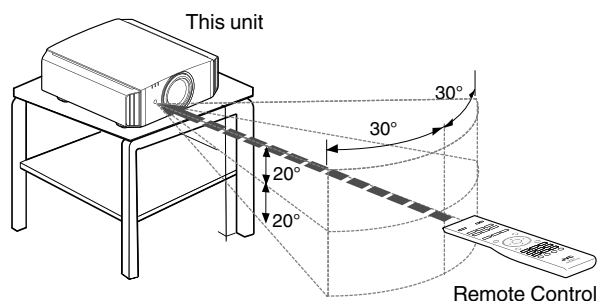
Remote Control

Control through reflection off a screen, etc.

Ensure that the total of distance A (between this unit and the screen) and distance B (between the remote control and the screen) is within 7 m.

* As the efficiency of signals reflected from the remote control unit varies with the type of screen used, the operable distance may decrease.

Screen

30°
30°
20°
20°
A
B
This unit
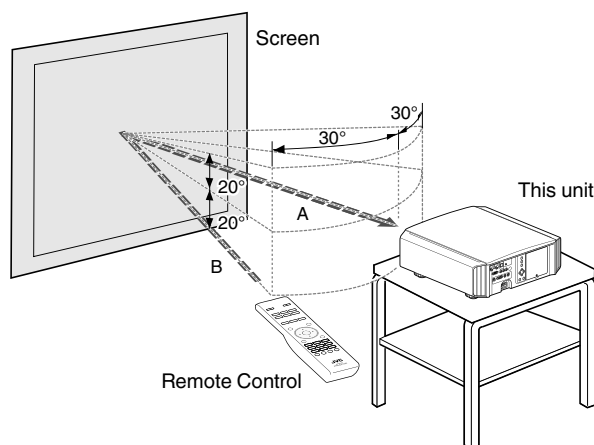
Remote Control

⛏ CAUTION

- Do not put the remote control in a place with an exposure to direct sun light or high temperature.

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
- On top of a carpet or bedding, or other soft surfaces
- Places exposed to direct sunlight
- Places with a high or low temperature
- Do not install this unit in a room that is oily or subject to cigarette smoke. Even a small quantity of smoke or oiliness can have a long-term impact on this unit.

* 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.

150 mm and above

300 mm and above

300 mm and above

150 mm and above

Front

200 mm and above
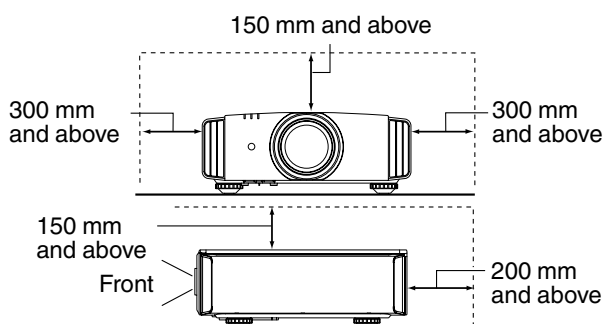
Leave the front area of the unit unblocked.
If there is any obstructing object in front of the exhaust vent, hot air will flow back to the unit and cause it to heat up. Hot air flowing out of the unit may cause shadows on the screen (heat haze phenomenon).

Using the projector

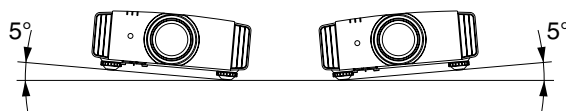This unit uses a projection lamp, which will heat up when in use.
Please refrain from projecting in the following circumstances. Otherwise, it may cause fire or malfunction.

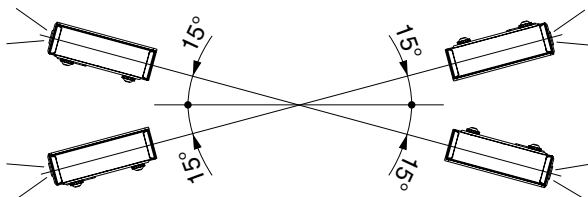- Projection with the unit stood vertically

- Projection with the unit inclined at an angle
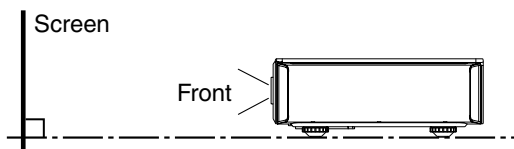
Horizontal inclination: within ± 5 °

5°   5°

Vertical inclination: within ± 15 °

15°   15°
15°   15°

- Malfunction may occur if the angle is not set within the abovementioned range.

Installing the screen

Install the unit and the screen such that they are perpendicular to each other.


Screen

Front

- Please choose a screen material with non-uniform patterns. Uniform patterns such as checks may cause interference patterns to occur.
- In this case, you can change the size of the screen to make the interference patterns less noticeable.

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. 60)
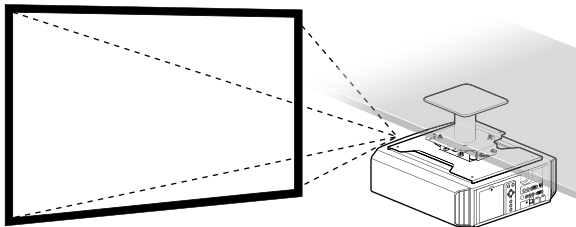
Precautions during Mounting
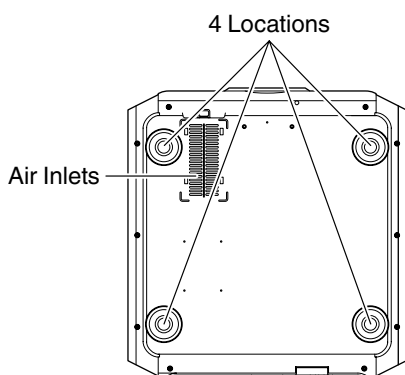
Securing (mounting) the projector
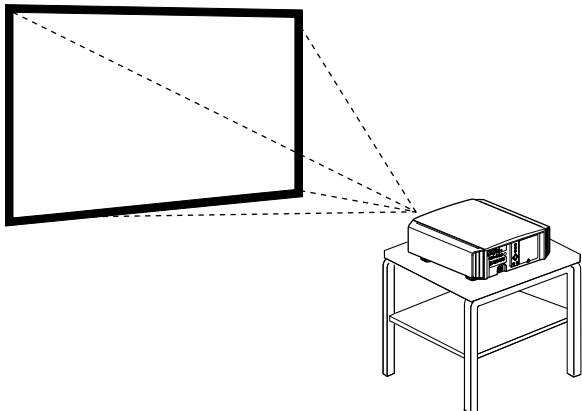
- When this unit is to be mounted to a fixed position for use, install it horizontally.
- Make sure to secure the main unit to prevent accidents such as during an earthquake.

Securing with screws

4 Locations

Air Inlets

Remove the four feet at the bottom, and fasten using the screws (M5 screws, 13 to 23 mm).

* Using screws other than those designated may cause the unit to break down.
* Leave a clearance of at least 10 mm from the bottom surface of the unit to allow it to take in cool air.

Securing the projector (ceiling mount)

- Special expertise and techniques are required for mounting this unit to the ceiling. Make sure that you get the authorized dealer or a specialist to install it.
- Take the necessary actions to prevent the main unit from falling off such as during an earthquake.
- Regardless of the warranty period, JVC is not liable for any product damage caused by mounting the unit with non-JVC ceiling fittings or to an environment that is not suited for ceiling mount.
- When using the unit with it suspended from a ceiling, pay attention to the surrounding temperature. When a heater is in use, the temperature around the ceiling may be higher than expected.

Set up

Adjusting the Position

Adjusting the elevation angle of the projector

The height and inclination of the unit (0 to 5 mm) can be adjusted by turning the feet.
Lift the unit and adjust the four feet.
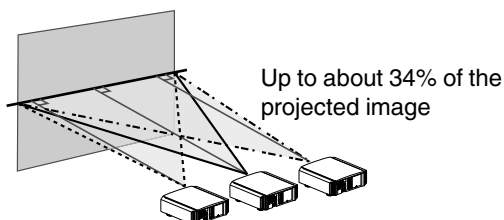

Feet

Extend   Contract
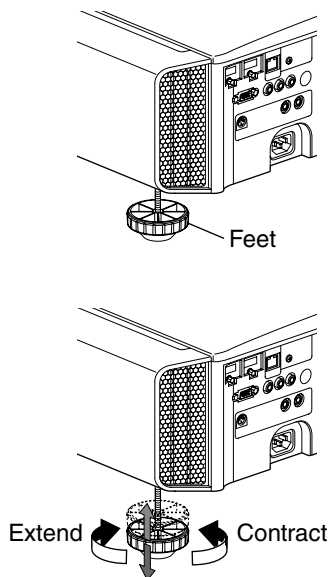
Adjusting the position of the image

By using the lens shift feature of this unit, you can shift the image upward/downward or to the left/right. Set it to your preferred position.
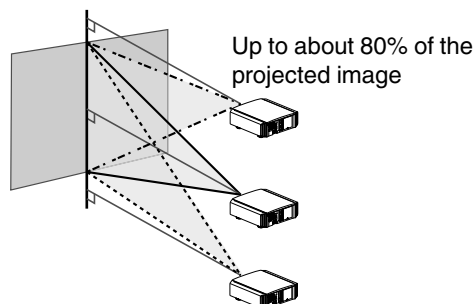
■ Horizontal Position

Vertical Position: 0% (Center)

Up to about 34% of the projected image

■ Vertical Position

Horizontal Position: 0 % (Center)

Up to about 80% of the projected image

■ Lens shift Range

Lens movement range

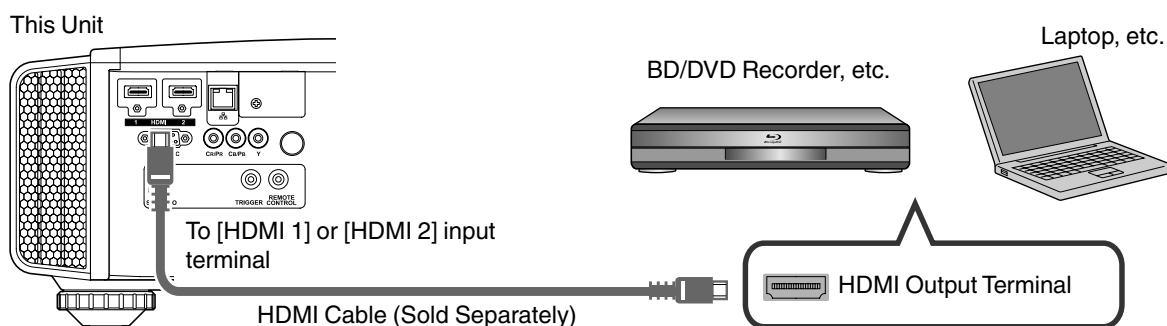Vertical lens shift (%)

Horizontal lens shift (%)
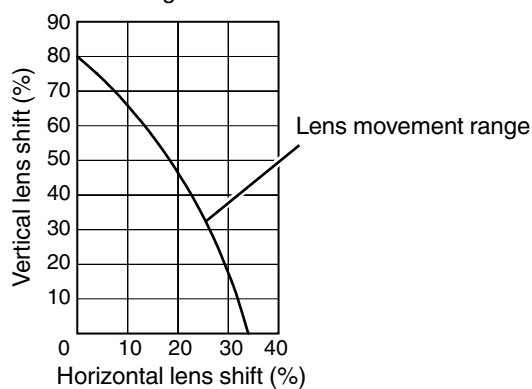
- The maximum vertical shift varies with the amount of horizontal shift. Similarly, the maximum horizontal shift also changes with the amount of vertical shift.
- The values on the graph are intended as a guide. Use them for reference during installation.

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 projector 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 images may not be displayed depending on the devices and cables to be connected.
  Use only HDMI cables (sold separately) that are HDMI-certified.
- Some cables cannot be connected to this unit due to the size of their connector cover.

Connecting to the HDMI Input Terminal (Digital Input)

Connecting via HDMI cable

This Unit

BD/DVD Recorder, etc.

Laptop, etc.

To [HDMI 1] or [HDMI 2] input terminal

HDMI Output Terminal

HDMI Cable (Sold Separately)

- If noise occurs, move the laptop away from this unit.
- For a transmission bandwidth in compliance with the HDMI standard, a 340 MHz cable is recommended. When using a cable with a bandwidth of 75 MHz, you are recommended to set the resolution of the equipment transmitting the video to 1080i or lower.
- If the video is not displayed, try to reduce the length of the cable or lower the resolution of the video transmitting equipment.

Connecting via HDMI-DVI conversion cable

Desktop PC, etc.

This Unit

To [HDMI 1] or [HDMI 2] input terminal

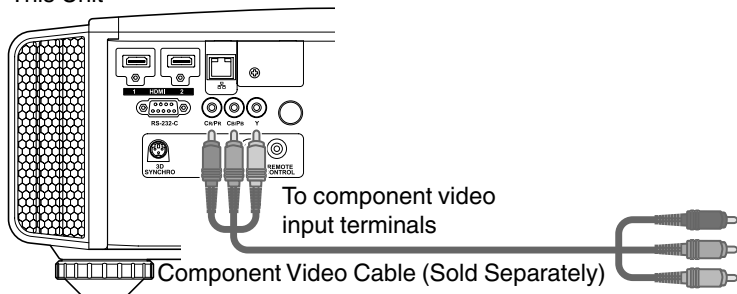HDMI-DVI Conversion Cable (Sold Separately)

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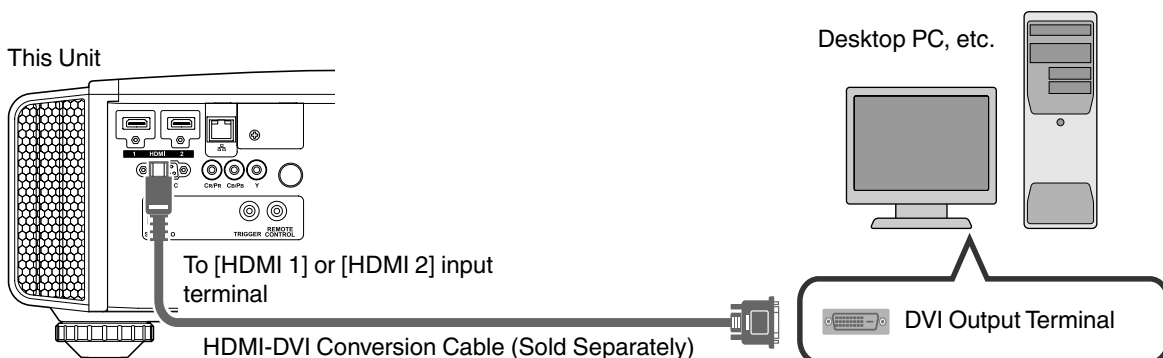
- If noise occurs, move the desktop PC away from this unit.
- If the video is not displayed, try to reduce the length of the cable or lower the resolution of the video transmitting equipment.

22

Connecting to the Component Video Input Terminal (Analog Input)
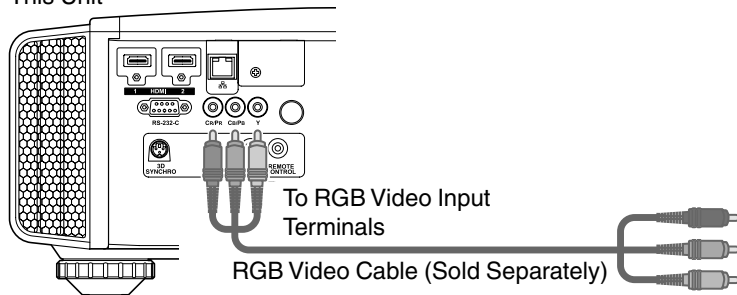
Connecting via component video cable

This Unit

BD/DVD Recorder, etc.

To component video
input terminals

Component Video Cable (Sold Separately)

Component Video Output Terminals
- ◉ C_R / P_R (Red)
- ◉ C_B / P_B (Blue)
- ◉ Y (Green)

• Set "COMP." to "Y Pb/Cb Pr/Cr" in the setting menu. (p. 51)

Connecting via RGB video cable

This Unit

Device Equipped with RGB
Output, etc.

To RGB Video Input
Terminals

RGB Video Cable (Sold Separately)

RGB Video Output Terminals
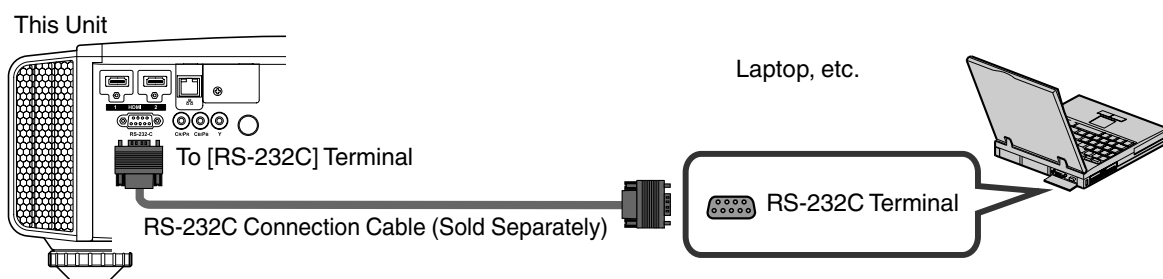- ◉ R (Red)
- ◉ B (Blue)
- ◉ G (Green) (Includes Sync Signal)

• Set "COMP." to "RGB" in the setting menu. (p. 51)

• For more information on compatible input signals, please refer to "Specifications"p. 74.

Set up

23

Connecting to the LAN Terminal

This Unit

To [LAN] Terminal

Connection Cable
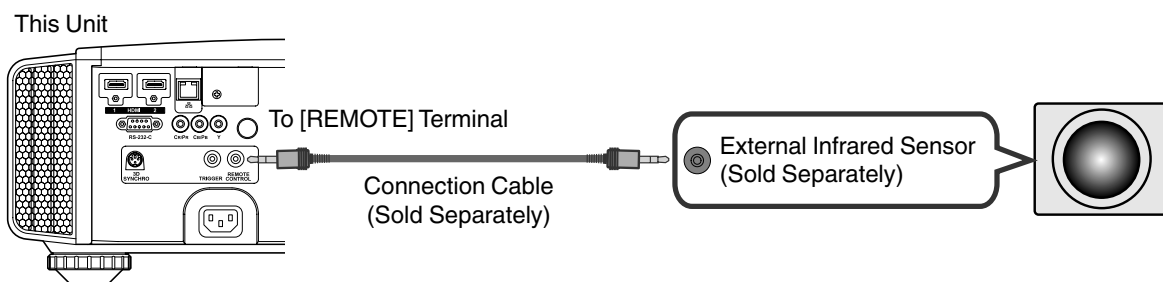(Sold Separately)

Hub

Network

Server

Desktop PC, etc.
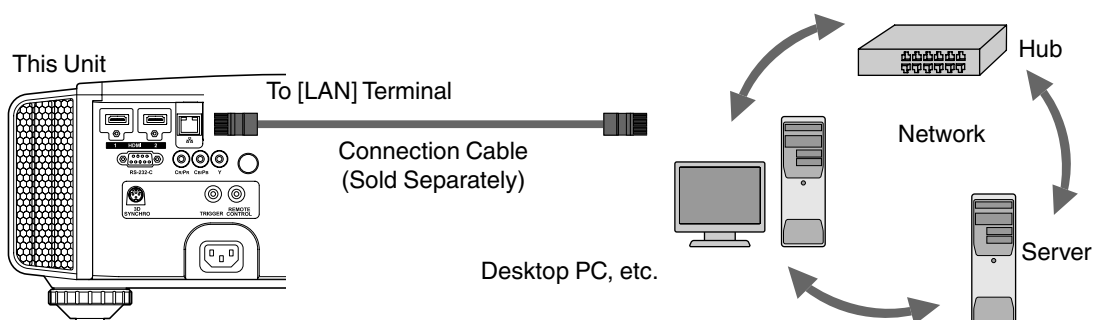
- The network is used to control this unit. It is not used for sending or receiving video signals.
- Please contact your network administrator for information concerning the network connection.
- Set "ECO Mode" to "Off" if RS-232C/LAN communication is performed or the HDMI link function is used in the Standby mode. (p. 60)
- For more information on control, please refer to "External Control" (p. 70).

Connecting to the RS-232C Terminal

This Unit

Laptop, etc.

To [RS-232C] Terminal

RS-232C Terminal

RS-232C Connection Cable (Sold Separately)

- Set "ECO Mode" to "Off" if RS-232C/LAN communication is performed or the HDMI link function is used in the Standby mode. (p. 60)
- For more information on control, please refer to "External Control" (p. 70).

# Connecting to the REMOTE Terminal

This Unit

To [REMOTE] Terminal

External Infrared Sensor
(Sold Separately)

Connection Cable
(Sold Separately)

- For more information on the external infrared sensor and connecting cable, please contact your dealer.

Connecting to the TRIGGER Terminal

Screen

This Unit

To [TRIGGER] Terminal

Trigger Cable (Sold Separately)

Trigger Input Terminal (Ø3.5)
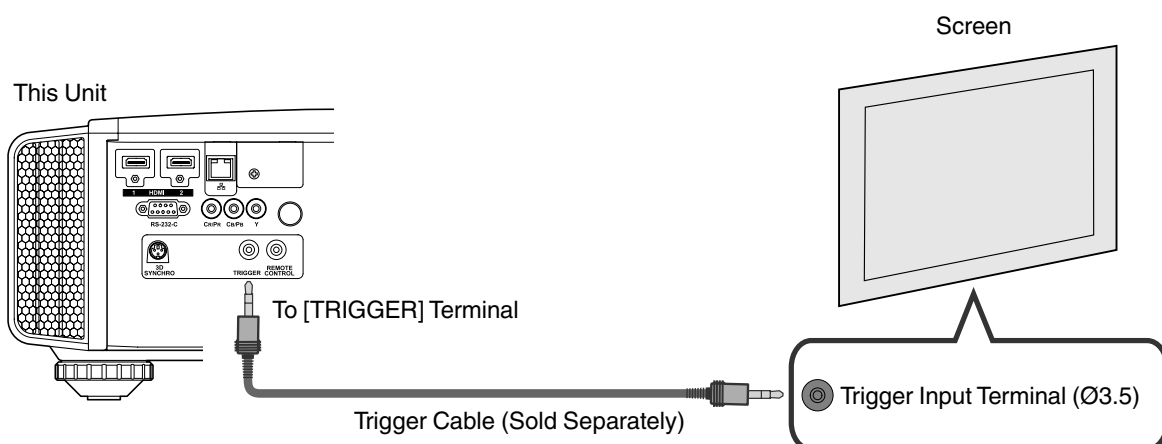
- Do not use it to supply power to other devices.
- Connecting to the audio terminal of another device may cause the device to malfunction or break down.
- Using beyond the rated value will cause the unit to malfunction.
- The trigger terminal outputs a voltage of 12 V. Exercise adequate caution to prevent short circuit.
- The factory setting is "Off". To change the setting, configure the "Trigger" item in the menu (p. 60).

Connecting the Power Cord (Supplied Accessory)
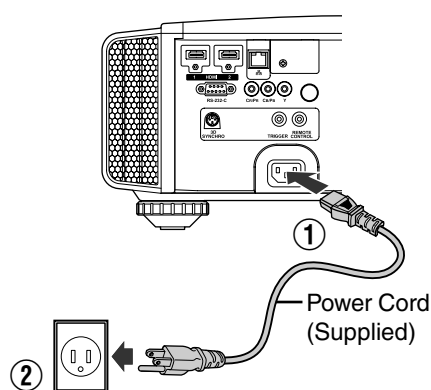
① Connect the power cord supplied to the power input terminal on the main unit

② Insert the supplied power plug into the wall outlet.

①

Power Cord
(Supplied)

②

📢 Precautions to prevent fire and electric shock

- The voltage capacity of this unit is large. Please connect it directly to the wall outlet.
- When you are not using the equipment, please unplug the power cord from the outlet.
- Connect it using only the power cord supplied.
- Do not use a voltage other than the indicated power 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

JVC
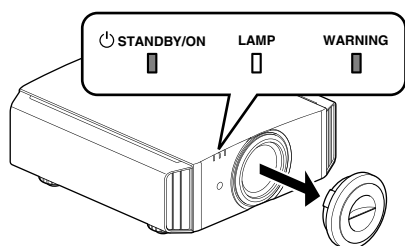
PROJECTOR

✏ MEMO

- When you are using, be sure to remove the lens cover.
- Connect the power cord, and ensure that the "STANDBY/ON" indicator lights up in red.

1 Turn on the power

Remote control: press the I [ON] button

Projector unit: press the ☉/I [STANDBY/ON] button

- The "STANDBY/ON" indicator light switches from red to green (light goes off after the unit starts up).
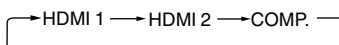
"STANDBY/ON" lights up (red)
In standby state

"STANDBY/ON" lights up (green)
During lamp startup

2 Choose the image to project

Remote control: press the [INPUT] button ([HDMI 1], [HDMI 2], [COMP.])

Projector unit: press the [INPUT] button (pressing the button each time switches the mode)
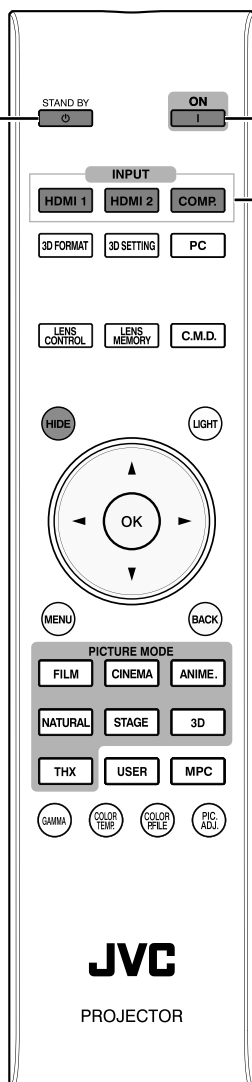
→ HDMI 1 → HDMI 2 → COMP. →

- Play back the selected device to project the image.

To hide the image temporarily

Press the [HIDE] button on the projector unit or remote control

- The "STANDBY/ON" indicator light starts to blink in green.
- 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

Remote control: press the ⏻ [STAND BY] button

Projector unit: press the ⏻/❙ [STANDBY/ON] button

- While the "Are you sure you want to turn off?" message is displayed, press the button again.
- The lamp turns off, and the "STANDBY/ON" indicator switches from a green light to a red blinking light.
- After the light goes off, the fan will run for about 60 seconds to cool down the lamp (Cool-down mode)
  Do not disconnect the power cable while cooling is in progress.
- After about 60 seconds, the "STANDBY/ON" indicator switches from a blinking red to a solid red light.

"STANDBY/ON" blinking (red)　　　"STANDBY/ON" lights up (red)

In the Cool-down mode　　　　　　In standby state

⏻ STANDBY/ON　　LAMP　　WARNING　　⏻ STANDBY/ON　　LAMP　　WARNING
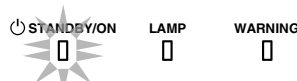
- Attach the lens cover.

🔖 CAUTION

- The power cannot be turned off within approximately 90 seconds after it has been turned on.
- After the light goes off, the fan will run for about 60 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 (60 seconds).
- Pull out the power plug when the unit is not to be used for a prolonged period of time.

Operate

Adjusting the Projector Screen

Adjusting the Lens According to the Projection Position

1 Press the [LENS CONTROL] button, and use the [▲▼◀ ▶] keys to adjust Focus, Zoom (screen size), and Shift (screen position)
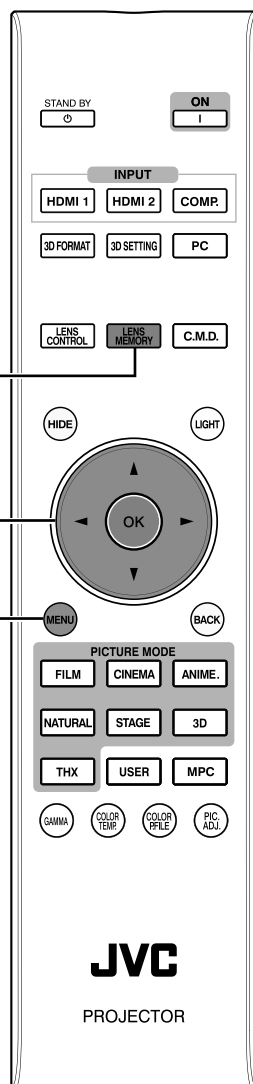

- Pressing the [LENS CONTROL] or [OK] button each time switches the mode in the following sequence: "Focus"→"Zoom"→"Shift" →"Focus"...

| Focus Adjustment | Zoom (Screen Size) Adjustment | Shift (Screen Position) Adjustment |

2 Press the [BACK] button once, or the [MENU] twice, to end adjustment.

Saving and Retrieving Adjustment Settings

The focus, zoom, and shift settings can be saved or retrieved, so you can switch easily to a different aspect ratio (screen size) according to the image.

- Pressing the [LENS MEMORY] button each time switches the mode in the following sequence: "Lens Memory Save"→"Lens Memory Select"→"Lens Memory Name Edit"→"Lens Memory Save"...
- In a state where no adjustment settings are saved (factory default), only "Lens Memory Save" is displayed.

Saving an adjustment data

1 Adjust focus, zoom, or shift (p. 28)

2 Press the [LENS MEMORY] button to display "Lens Memory Save"
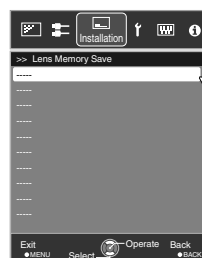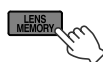
- You can also save an adjustment data by selecting "Installation" →"Lens Control"→"Lens Memory Save" from the menu.

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

- The adjustment data is saved.
- Items with no adjustment data saved are displayed as [----].
- If you have selected an item for which an adjustment data has already been saved, the old data will be overwritten.
- You can change the name when saving an item. (p. 30)
- The maximum number of items can be saved is 5.

4 Press the [MENU] button to exit

Operate

Retrieving an adjustment data

1 Press the [LENS MEMORY] button to display "Lens Memory Select"
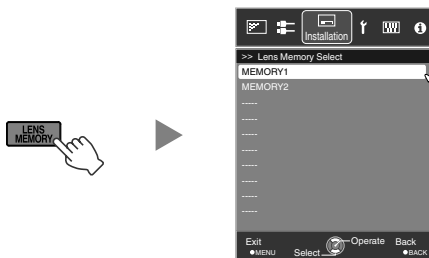
- You can also retrieve an adjustment data by selecting "Installation"→"Lens Control"→"Lens Memory Select" from the menu.

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 to display "Lens Memory Name Edit"

- You can also edit an adjustment data by selecting "Installation"→"Lens Control"→"Lens Memory Name Edit" from the menu.
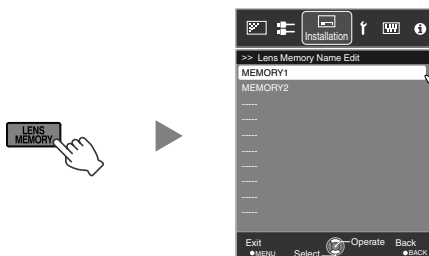
2 Select the adjustment data to edit, and press the [OK] button

- An edit screen appears.

Selection Cursor

Input Cursor
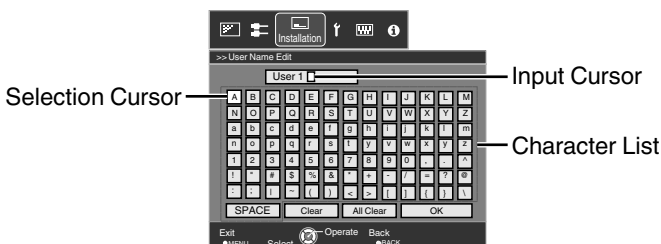
Character List

- 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

4 Press the [MENU] button to exit

Adjusting Image Quality Automatically According to the Viewing Environment

By configuring "Environment Setting" according to the viewing environment, image quality adjustment and correction according to environmental differences are performed automatically to minimize any influence on the image quality.

- "Environment Setting" is applied separately from the individual image adjustment settings (p. 47).

- Front View -

Screen

Screen Size

Viewing Distance

Viewer   Projector

1 Press the [MENU] button to display the menu

2 Select "Installation"→"Environment Setting"→"On" from the menu
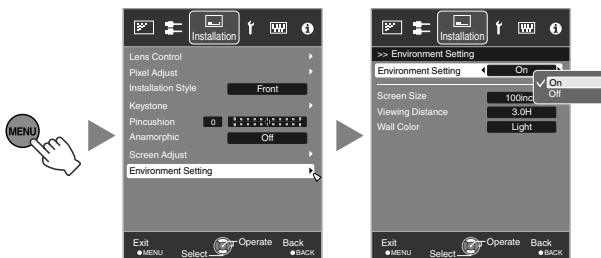
- When "Environment Setting" is set to "Off", "Screen Size", "Viewing Distance", and "Wall Color" are grayed out and cannot be selected.

3 Select "Screen Size" to configure the screen size to use

- Select the closest screen size setting from the range between "60inch" and "200inch" (in 10-inch increments).

4 Select "Viewing Distance" to configure the viewing distance (distance to the screen)

- Select the closest viewing distance setting from the range between "1 m" and "10 m".
- For more details on the height, please refer to "Screen Size and Projection Distance"p. 75.

5 Select "Wall Color" to configure the wall color

- If the wall is black in color, select "Dark". For walls with a color other than black, select "Light".

6 Press the [MENU] button to exit

Operate

Setting Screen Correction

By selecting the optimal correction mode according to the characteristics of the screen in use, corrections can be performed to reproduce natural images with balanced colors.

- This function is disactivated when "Color Profile" is set to "Off".

<table>
<tr><td>1</td><td>Press the [MENU] button to display the menu</td></tr>
</table>

<table>
<tr><td>2</td><td>Select "Installation"→"Screen Adjust" →"On" from the menu</td></tr>
</table>
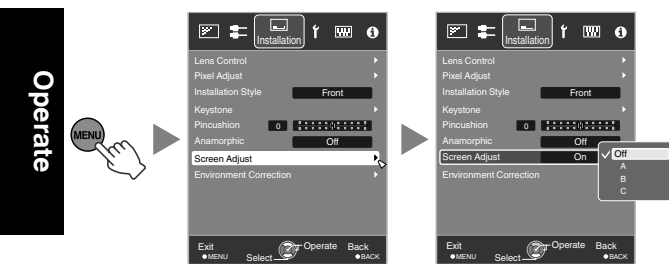
- Select one from the three types ("A", "B", or "C").
- For information on the screen and the corresponding correction mode, please visit our website.

http://www3.jvckenwood.com/english/projector/screen/

<table>
<tr><td>3</td><td>Press the [MENU] button to exit</td></tr>
</table>

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 (Video)" or "Aspect (PC)" from the menu
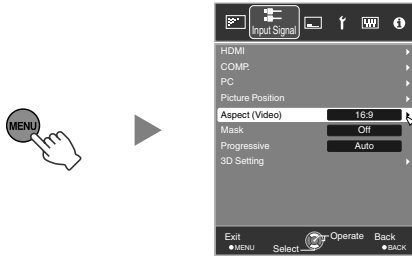
Input Signal	Setting	Description
Aspect (Video)	4:3	Sets the screen size to 4:3. For HD signals, the two sides are reduced.
	16:9	Sets the screen size to 16:9. For SD signals, the two sides are expanded.
	Zoom	Enlarges the entire image. Not selectable in the case of HD signals.
Aspect (PC)	Auto	Positions the image at the center with the entire image enlarged.
	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.

• During 3D signal input, the size is fixed at "16:9" .

3 Press the [MENU] button to exit

Example of input image and screen size

HDMI input, component video input

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

PC Input

Output Image / Input Image		Setting		
		Auto	Just	Full
1280×1024				
1920×1200				

Operate

33

Viewing 3D Movies

By using the 3D GLASSES (PK-AG1, PK-AG2, or PK-AG3) and 3D SYNCHRO EMITTER (PK-EM1 or PK-EM2), both sold separately, you can enjoy 3D video images.

• For 3D GLASSES and 3D SYNCHRO EMITTER that are compatible with this unit, please refer to "Optional Accessories"p. 11.

Installing the 3D SYNCHRO EMITTER

1 Connect 3D SYNCHRO EMITTER to the [3D SYNCHRO] terminal on the main unit

This Unit

3D SYNCHRO EMITTER
PK-EM1

3D GLASSES

3D SYNCHRO EMITTER
PK-EM2
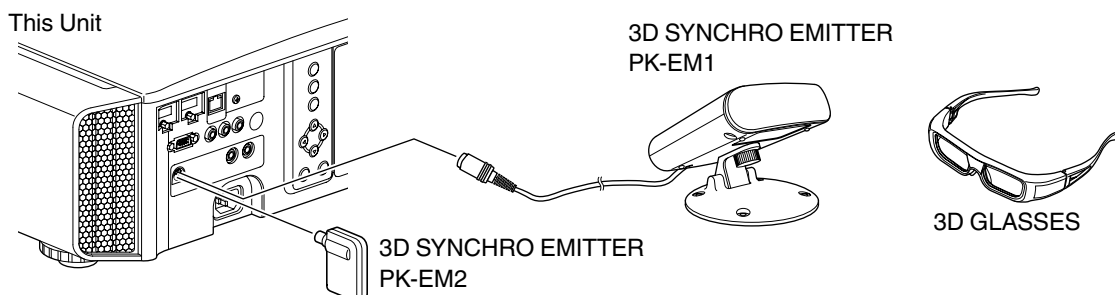
2 Adjust the 3D SYNCHRO EMITTER position so that the 3D GLASSES can receive signals from the 3D SYNCHRO EMITTER

• For more details, please refer to the instruction manuals 3D GLASSES and 3D SYNCHRO EMITTER.

Viewing 3D Movies

1 Connect this unit to a 3D-compatible HDMI device, and turn on the power to play back the 3D video image

- For details on how to play back 3D video images, please refer to the instruction manual of the player or recorder in use.
- When 3D signals are received, the video image switches automatically to the 3D format.
- This unit supports the following 3D formats.
  - Frame packing
  - Side-by-side
  - Top-and-bottom
- In the default setting, "3D Format" is set to "Auto" for automatic projection of 3D images.

If the image does not switch to 3D automatically

Press the [3D FORMAT] button on the remote control
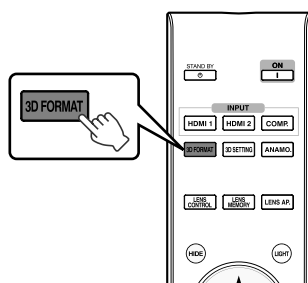
- Pressing the [3D FORMAT] button each time switches the mode in the following sequence: "Auto"→"Side by Side"→"Top and Bottom" →"2D"→"Auto"...

Format	Description
Auto	The format is detected and configured automatically.
Side by Side	Select this setting if the 3D input signal is of the side-by-side format.
Top and Bottom	Select this setting if the 3D input signal is of the top-and-bottom format.
2D	Select this setting if 2D images are falsely recognized as 3D ones.

2 Turn of the power of the 3D GLASSES and put them on

- The PK-AG1 powers on automatically.

Converting 2D Movies to 3D Movies for Viewing

1 Press the [3D SETTING] button to display "3D Setting"

2 Select "2D to 3D conversion" followed by "On", and press the [OK] button

3 Press the [MENU] button to exit

✎ MEMO

- Depending on the movies, 3D effect may be less than what you expected.

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Adjusting 3D Movies

3D video images may appear differently to different viewers. It may also be affected by your physical condition at the time of viewing.
You are therefore recommended to adjust the video images accordingly.

1 Press the [3D SETTING] button to display "3D Setting"

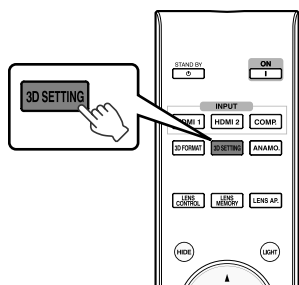#### Adjusting parallax (Parallax)

Adjust the displacement of the image for the left and right eyes separately to obtain the best 3D effect.

- To do so, use the ◀ ▶ keys to move the cursor.
- Setting range: -15 to +15

Adjusting crosstalk (Crosstalk Cancel)

Double images (overlapping of the left image with the one on the right or vice versa) can be reduced to deliver a clear quality.

- To do so, use the ◀ ▶ keys to move the cursor.
- Setting range: -8 to +8
- * Adjustment cannot be made when "2D to 3D conversion" is set to "On".

Adjust the depth perception (Intensity)

The depth of the image can be adjusted to deliver the best 3D effect during 2D-3D image conversion.

- To do so, use the ◀ ▶ keys to move the cursor.
- Setting range: 1 to 5
- * Adjustment can only be made when "2D to 3D conversion" is set to "On".

✎ MEMO

- Depending on the movies, 3D effect may be less than what you expected.

Adjusting the subtitle display (Sub Title Adjust)

If distortion occurs in the subtitle during 2D-3D image conversion, set to "On".

- * Adjustment can only be made when "2D to 3D conversion" is set to "On".

2 Press the [MENU] button to exit

Operate

Selecting an Image Quality According to the Video Type

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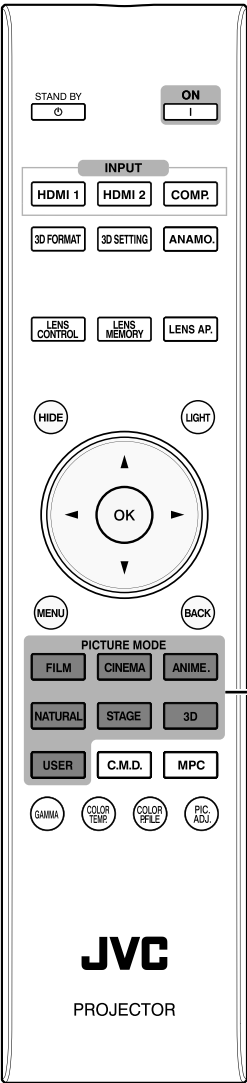
You can adjust the image quality according to the type of video image you are viewing.

1 Press the [PICTURE MODE] button to display "Picture Mode"

2 Select "Picture Mode"

Item	Description
Film	Reproduces the image in a film quality. Suitable for all movies.
Cinema	Reproduces the image in vivid colors based on the DCI* standard. Suitable for digital movies.
Animation	Suitable for animated works.
Natural	Image quality that focuses on natural color and gradation reproduction. Suitable for drama footage, etc.
Stage	Suitable for concerts or theatrical works.
3D	Sharp image quality suitable for 3D works.
User 1 to User 5	Enables user-defined image quality data to be saved and retrieved.

* DCI is the abbreviation for Digital Cinema Initiatives.

STAND BY ◻ ⏻
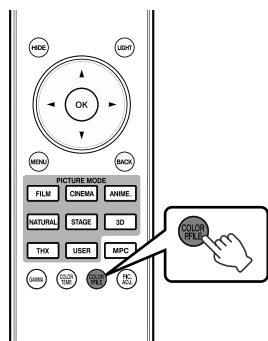
ON ◻ I

INPUT

HDMI 1   HDMI 2   COMP.

3D FORMAT   3D SETTING   ANAMO.

LENS CONTROL   LENS MEMORY   LENS AP.

HIDE   LIGHT

◀ OK ▶ ▲ ▼

MENU   BACK

PICTURE MODE

FILM   CINEMA   ANIME.

NATURAL   STAGE   3D

USER   C.M.D.   MPC

GAMMA   COLOR TEMP   COLOR PFILE   PIC. ADJ.

JVC

PROJECTOR

1

Adjust/Set

Setting the Color Profile

By setting the "Color Profile" (color space information) according to the "Picture Mode", you can fine-tune the image quality according to the movie you are viewing.

> **1** After configuring "Picture Mode" (p. 37), press the [COLOR P.FILE] button
>
> • Pressing the [COLOR P.FILE] button each time switches the "Color Profile" data for the "Picture Mode" in sequence.

List of "Color Profile" for "Picture Mode"

Picture Mode	Color Profile	Description
Film	Film	Color space that is suitable for all movies.
	Standard	Color space of the HDTV* standard.
Cinema	Cinema	Color space that is suitable for movies with vivid colors.
	Standard	Color space of the HDTV* standard.
Animation	Anime	Color space that is suitable for animated works.
	Standard	Color space of the HDTV* standard.
Natural	Natural	Color space that is suitable for drama footage, etc.
	Standard	Color space of the HDTV* standard.
Stage	Stage	Color space that is suitable for concerts, theatrical performances, etc.
	Standard	Color space of the HDTV* standard.
3D	3D	Color space that is suitable for 3D movies.
	Standard	Color space of the HDTV* standard.
User 1 to User 5	Stage	When "Picture Mode" is set to any of the settings from "User 1" to "User 5", you can select one of the color profiles shown on the left.
	Standard	• See above for the description of the respective color profiles.
	Cinema	
	Anime	
	Natural	
	Stage	
	3D	
	Off	Disables color space adjustment.

* HDTV is the abbreviation for High Definition Television.

Adjust/Set

Adjusting Movies for Increased Expressiveness (Multiple Pixel Control)

The new image-processing algorithm developed by JVC helps to create a natural impression that is sharper at areas in focus, and softer at areas that are not in focus, enabling you to enjoy highly expressive 4K images with a greater sense of depth.

1 Press the [MPC] button to display the adjustment menu
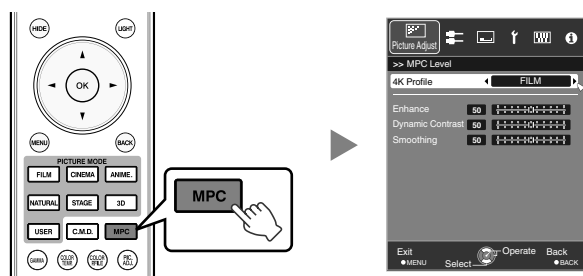
2 Select "4K Profile" and press the [OK] button to select the content type you are viewing

Content Type	Description
FILM	For viewing movies on Blu-ray disc produced using films
High Resolution	For viewing Blu-ray Disc works
HD	For viewing TV broadcasting and recorded works
SD	For viewing DVD works
Dynamic	For enhanced effects
Off	For displaying in the original resolution (2K)

* HD is the abbreviation for High Definition.

* SD is the abbreviation for Standard Definition.

• Select "SD" when viewing works broadcasted in the SD image quality.

3 Press the [MENU] button to exit

Fine-tuning

After selecting a content type, adjust "Enhance", "Dynamic Contrast", and "Smoothing" according to your preference.

Item	Setting Range	Description
Enhance	0 to 100	Enhances the sharpness of the image.
Dynamic Contrast	0 to 100	Enhances the contrast of the image.
Smoothing	0 to 100	Enhances the blurriness of the image for a softer effect.

• By increasing the setting range, you can expect enhanced effects.

• Images are displayed in the original resolution (2K) when "4K Profile" is set to "Off".

• "Enhance", "Dynamic Contrast", and "Smoothing" can be adjusted even when "4K Profile" is set to "Off".

* MPC is the abbreviation for Multiple Pixel Control.

About the analysis screen

By press the [MPC] button while the adjustment menu in the step 1 is on screen, the analysis screen is displayed.

In the analysis screen, parts where the effect appear are highlighted in colors when "Enhance", "Dynamic Contrast", and "Smoothing" are adjusted.

Adjustment menu display   Analysis screen
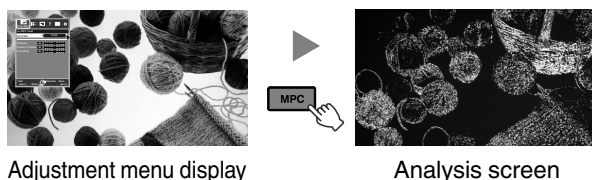
Highlighted color	Adjustment resulting in effects
Blue, green	Enhance
Red, yellow	Dynamic Contrast
Black	Smoothing

• To display the adjustment menu, operate any of the keys while the analysis screen is displayed.

• No adjustment can be made while the analysis screen is displayed. Make adjustments after returning to the adjustment screen.
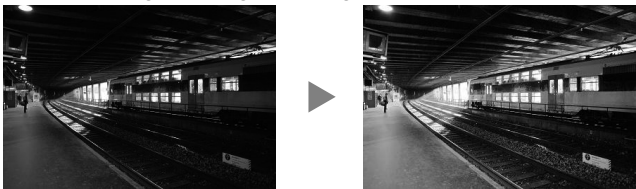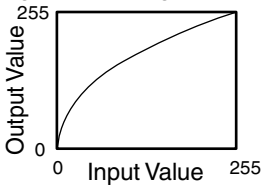
Adjust/Set

39

Fine-tuning the Image Quality

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.

Example of gamma adjustment

The overall image appear brighter with respect to the original image, making the dark areas more visible.

The photos are for illustrative purposes only.

Increases the contrast with respect to the original image, creating a greater sense of depth.
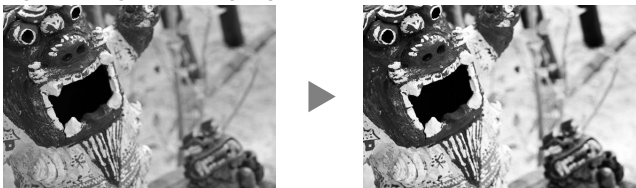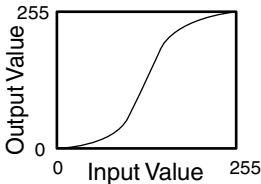
The photos are for illustrative purposes only.
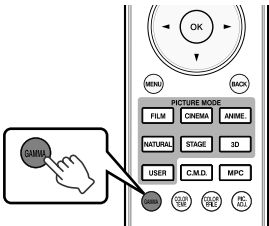
1 Press the [GAMMA] button

- Pressing the [GAMMA] button each time switches the setting in sequence.
- * The setting value varies with the model in use, as well as the input signal and Picture mode.

Gamma adjustment settings

Setting	Input Signal	Description
Normal	2D, 3D	Recommended setting for normal viewing.
A		Places more emphasis on the gradation compared to the "Normal" setting.
B		Image with a sense of depth that is characteristic of films.
C		Image contrast is enhanced compared to the "B" setting.
D		Image with brighter midtones compared to the "Normal" setting.
E		Recommended setting when viewing 3D movies.
F		The overall image is brighter than that in the "E" setting.
G		Recommended setting when viewing 3D TV, drama, and sports.
H		The overall image is brighter than that in the "G" setting.
Custom 1 to Custom 3	2D	Adjustable to a preferred gamma setting. (p. 41)

- During 3D signal input and when "Picture Mode" is set to "3D", Custom 1 to Custom 3 cannot be selected.

Adjusting to the Preferred Gamma Setting (Custom Gamma)

Gamma setting can be adjusted according to your preferred video quality.

* During 3D signal input and when "Picture Mode" is set to "3D", gamma setting cannot be adjusted.

1 Press the [MENU] button to display the menu

2 Select "Picture Adjust"→"Advanced" →"Custom Gamma" from the menu

3 Select the item to set (Custom 1 to Custom 3), and press the [OK] button.

Gamma Curve

Gradation diagram corresponding to the gamma curve
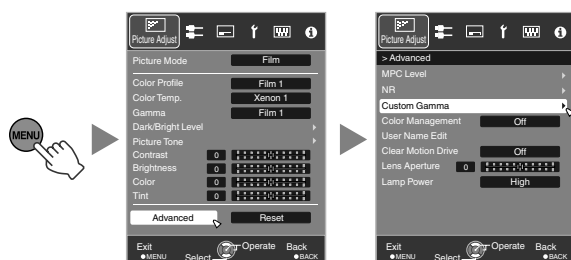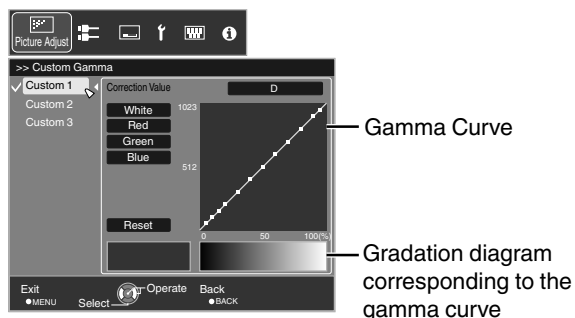
4 Select "Correction Value", and press the ◀ ▶ keys to select a value for correction to be based on (initial value)

• For details on the correction value, please refer to p. 40.

Normal, A, B, C, D, E, F, G, H, 1.8, 1.9, 2.0, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6

• 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.

• The factory settings for Custom 1 to Custom 3 are the same as that for the "Normal" setting.

5 Select the color to adjust, and press the [OK] button

6 Press the ◀ ▶ keys to select the area to adjust (from the 12 points on the gamma curve), followed by using the ▲▼ keys to adjust the brightness

• After adjustment is complete, press the [OK] button to confirm the setting.

• Selecting "Reset" restores the setting to the initial value (Normal).

7 Press the [MENU] button to exit

Adjust/Set

✎ About gamma adjustment

Gamma Curve

Bright 255

Output Value

D" D

Dark 0

0   255

C

Dark   Input Value   Bright

- 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.
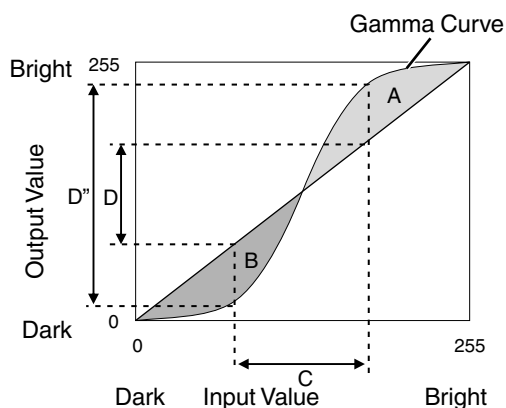- Area for which the slope of the gamma curve is steep (midtone) (C):
  The grayscale range of the video output becomes wider, and the contrast increases (D→D').

Compensating Highlights and Shadows (Dark/Bright Level)

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

1 Press the [MENU] button to display the menu

2 Select "Picture Adjust"→"Dark/Bright Level" from the menu

Shadow correction

Adjusts the shadows of the video input (the white, red, green, and blue tones can be adjusted separately).

- To do so, use the ◀ ▶ keys to move the cursor.
- Setting range: -7 (darkens the shadows) to +7 (brightens the shadows)

Highlight correction

Adjusts the highlights of the video input (the white, red, green, and blue tones can be adjusted separately).

- To do so, use the ◀ ▶ keys to move the cursor.
- Setting range: -7 (darkens the highlights) to +7 (brightens the highlights)

3 Press the [MENU] button to exit

Adjust/Set

Adjusting to the Preferred Color (Color Management)

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

1 Press the [MENU] button to display the menu

2 Select "Picture Adjust"→"Advanced" →"Color Management" from the menu
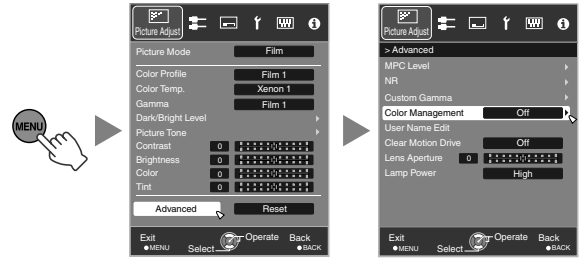
3 Adjust to the preferred color.

① Select the item to set (Custom 1 to Custom 3), and press the [OK] button.

② Select "Pause" and press the [OK] button to set the background for the current adjustment

  • While adjustment is in progress, the input image is displayed as the background.

  • "On": pauses when inputting the video images.

  • "Off": does not pause when inputting the video images.

③ Select "Color Selection", and press the ◄ ► keys to select the color to adjust

  • For color adjustment, select the color from the following: "Red", "Orange", "Yellow", "Green", "Cyan", "Blue", "Magenta".

  • Pressing the [HIDE] button enables you to check the image before adjustment.
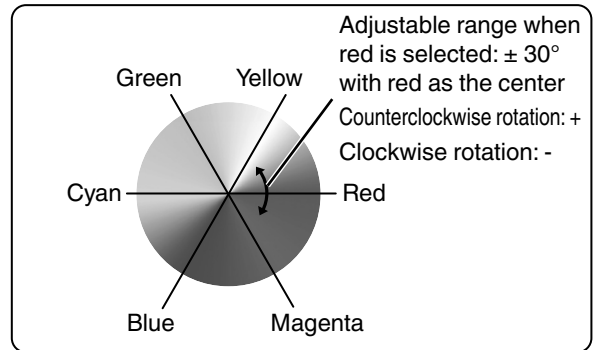
④ Adjust the selected color

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.
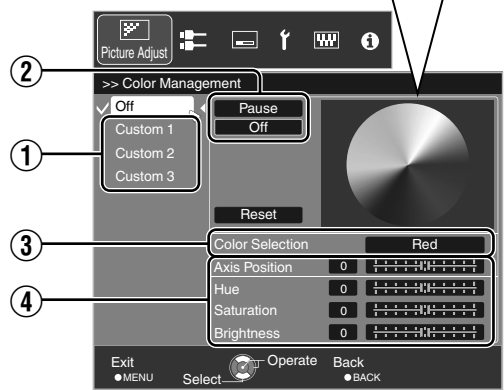
4 Press the [MENU] button to exit

Adjustable range when red is selected: ± 30° with red as the center

Counterclockwise rotation: +

Clockwise rotation: -

Reducing the After-image of Fast-moving Images (Clear Motion Drive (C.M.D.))

By using the high-definition image interpolation technology developed by JVC, after-images that appear in fast-moving scenes can be reduced.

- This option is disabled during PC signal input, 3D signal input, and when "2D to 3D conversion" is set to "On".
- For some scenes, interpolation may cause distortion in the image. In this case, set to "Off".

■ Original Image
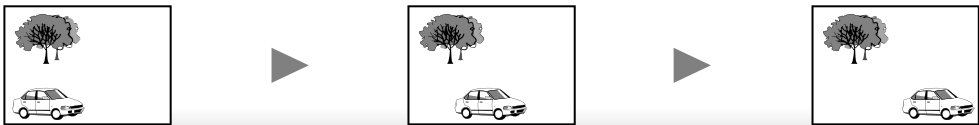
■ Interpolation Enabled

Intermediate Frame Generation   Intermediate Frame Generation
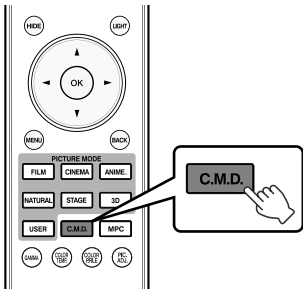
1 Press the [C.M.D.] button

- Pressing the [C.M.D.] button each time switches the mode in the following sequence: "Off"→"Low"→"High"→"Inverse Telecine"→"Off"...

Setting	Description
Off	Interpolation is not performed.
Low	Softens the image quality.
High	Image quality becomes softer than that of the "Low" setting.
Inverse Telecine	60i/60p video images such as those of TVs and DVDs. Suitable for original images that are 24-frame film sources. • Does not function for 24p video images.

* C.M.D. is the abbreviation for Clear Motion Drive.

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

Adjust/Set

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Adjust/Set

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. 37）

Color Profile

By setting the "Color Profile" (color space information) according to the "Picture Mode", you can fine-tune the image quality according to the movie you are viewing.
➡ "Setting the Color Profile"（p. 38）

Color Temp.

For setting the color temperature of the video image.

• When "Picture Mode" is set to "THX", the setting is fixed at 6500K.

Preset

Setting	Description
5500K to 9500K (9 levels in increments of 500K)	Increasing the value enhances the blue tone of the video image, while decreasing the value enhances the red tone.
High Bright *Selectable only when "Picture Mode" is set to "3D".	Color temperature that gives priority to brightness.
Custom 1 to Custom 3	The color temperature of video images can be adjusted manually and saved as one of the three customized settings.

Custom

Setting	Description
Gain Red, Gain Green, Gain Blue *Adjustable only when Custom 1 to Custom 3 is selected.	Adjusts each color in the bright parts of the video image. • Setting range: -255 (reduces the red/green/blue tone) to 0 (enhances the red/green/blue tone)
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 +50 (enhances the red/green/blue tone)

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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. 40)

Dark/Bright Level

You can adjust the image quality to produce a sharp contrast in the brightness.
➡ "Compensating Highlights and Shadows (Dark/Bright Level)" (p. 42)

Picture Tone

For reproducing the intensity of the exposure.

Setting	Description
Tone White	• Setting range: -16 (darkens image for an underexposed effect) to +16 (brightens image for an overexposed effect)
Tone Red, Tone Green, Tone Blue	• Setting range: -16 (underexposes red/green/blue) to +16 (overexposes red/green/blue)

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)

Adjust/Set

Advanced

For fine-tuning the image quality.

MPC Level

You can enjoy natural, expressive 4K images with a stronger sense of depth.
➡ "Adjusting Movies for Increased Expressiveness (Multiple Pixel Control)" (p. 39)

NR

For reducing the noise of the video image.

Setting	Description
RNR	Adjusts the intensity of random noise elimination from the image. • Setting range: 0 (weak) to +16 (strong)
MNR *Adjustment cannot be made when "Picture Mode" is set to "3D" or during HD signal input.	Adjusts the intensity of mosquito noise elimination from the image. • Setting range: 0 (weak) to +16 (strong)
BNR *Adjustment cannot be made when "Picture Mode" is set to "3D" or during HD signal input.	Setting to "On" reduces the block noise of the video image.

Custom Gamma

Gamma setting can be adjusted according to your preferred video quality.
➡ "Adjusting to the Preferred Gamma Setting (Custom Gamma)" (p. 41)

Color Management

Each of the colors is adjustable according to the user's preference.
➡ "Adjusting to the Preferred Color (Color Management)" (p. 43)

Adjust/Set

User Name Edit

You can edit the "User 1" to "User 5" 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.

Selection Cursor ——

Input Cursor

After entry is complete, select "OK" and press the [OK] button
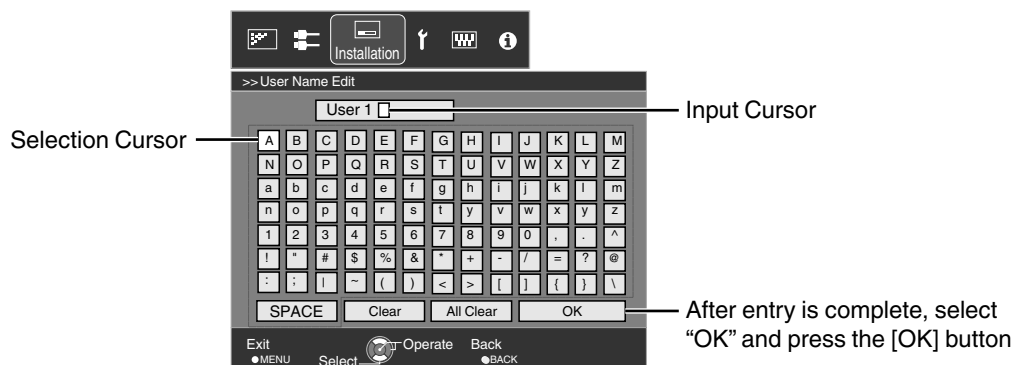
Clear Motion Drive

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

➡ "Reducing the After-image of Fast-moving Images (Clear Motion Drive (C.M.D.))" (p. 44)

Lens Aperture

For adjusting the amount of opening of the optical iris.

- Stopping down the iris reduces the brightness, while opening it up increases the contrast.
- Setting range: -15 (stops down) to 0 (opens up)

Lamp Power

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

- The factory setting varies with the "Picture Mode".
- Continuous use at the "High" setting may cause the lamp to darken faster.

Reset

For restoring the image quality adjustment settings to the factory default.

Adjust/Set

Input Signal

HDMI

Setting is enabled when the HDMI input terminal is selected.

Input

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
Standard	Select this setting if you are inputting video signals (dynamic range: 16 - 235).
Enhanced	Select this setting if you are inputting PC signals (dynamic range: 0 - 255).
Super White	Select this setting when inputting Super-white-compatible device signals (dynamic range: 16 - 255).

Level Check

For checking the dynamic range of the video input.

Color Space

For setting the color space of the input signal.

Setting	Description
Auto	Detects "YCbCr(4:4:4)", "YCbCr(4:2:2)", and "RGB" automatically.
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.

Control with HDMI (CEC)

For setting the HDMI link function.

- Setting to "On" enables this unit to be operated via operation on the connected device, such as power on/off and switching of input.

COMP. (Component Video)

Setting is enabled when the component video input terminal is selected.

Color Space

For setting the color space of the input signal.

Setting	Description
Y Pb/Cb Pr/Cr	Select this setting when inputting component video signals.
RGB	Select this setting when inputting RGB video signals.

Picture Position (Horiz./Vert.)

Adjust the position if the edges of the image are partially missing due to the timing of horizontal and vertical synchronization signals.

* Adjustment cannot be made during 3D signal input.

Aspect (Video) / Aspect (PC)

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. 33)

Mask

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

■ Off

Setting	Description
Off	Not masked.
2.5%	Masks about 2.5% of the peripheral area of the image.
5%	Masks about 5.0% of the peripheral area of the image.
Custom	Masks about 0% to 5% of the four sides of the image.

■ On

Mask: black strip around the periphery

Progressive

For converting the interpolation setting of the interlaced signals.

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

3D Setting

For setting 3D movies for viewing.
➡ "Viewing 3D Movies" (p. 34)

Adjust/Set

Installation

Lens Control

Focus / Zoom / Shift

For adjusting the lens according to the projection position
➡ "Adjusting the Lens According to the Projection Position"（p. 28）

Image Pattern

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

Lock

Setting	Description
On	Locks the lens to prevent any erroneous operation on the adjustments.
	• Operation of the lens control feature is disabled when "On" is selected.
Off	Does not lock the lens.

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

The focus, zoom, and shift settings can be saved or retrieved, so you can switch easily to a different aspect ratio (screen size) according to the image.
➡ "Saving and Retrieving Adjustment Settings"（p. 29）

Lens Center

Returns the lens position to the center.

Adjust/Set

Pixel Adjust

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 zone by dividing the screen into 11 vertical x 11 horizontal zones.

Adjust Color

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

Adjust Pattern Color

For setting the adjustment pattern color 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. 56）

* 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. 57）

When "Adjust Area" is set to "Zone", the screen is divided into 11 vertical x 11 horizontal zones, and fine adjustment of each zone is possible.
   ➡ "Zone Adjust Operation Procedure"（p. 58）

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.

Adjust/Set

Installation Style

For setting to "Front", "Ceiling Mount (F)", "Rear", or "Ceiling Mount (R)" according to the installation status of the projector.

- "Front" or "Ceiling Mount (F)" is set when projector is installed in the front with respect to the screen.
- "Rear" or "Ceiling Mount (R)" is set when projector is installed in the rear with respect to the screen.

Keystone

For correcting any keystone distortion that occurs when the projector is installed at an angle with respect to the screen.

- Horizontal setting range: -40 to +40
- Vertical setting range: -30 to +30

* Correction cannot be performed during 3D signal input.

Pincushion

For correcting distortion of the projection screen.

- Setting range: -20 (pin-cushion) to +20 (barrel)

* Correction cannot be performed during 3D signal input.

Anamorphic

Configure this setting when an anamorphic lens is used.

Setting	Description
A	Projects the 2.35:1 image with it stretched in the vertical direction only.
B	Projects the 16:9 image with it compressed in the horizontal direction only.
Off	Projects the 2.35:1 image without any changes.

Screen Adjust

By selecting the optimal correction mode according to the characteristics of the screen in use, corrections can be performed to reproduce natural images with balanced colors.
- ➡ "Setting Screen Correction"（p. 32）

Environment Setting

By configuring "Environment Setting" according to the viewing environment, image quality adjustment and correction according to environmental differences are performed automatically to minimize any influence on the image quality.
- ➡ "Adjusting Image Quality Automatically According to the Viewing Environment"（p. 31）

Adjust/Set

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 selected adjustment pattern and Adjustment (Pixel) window are displayed.
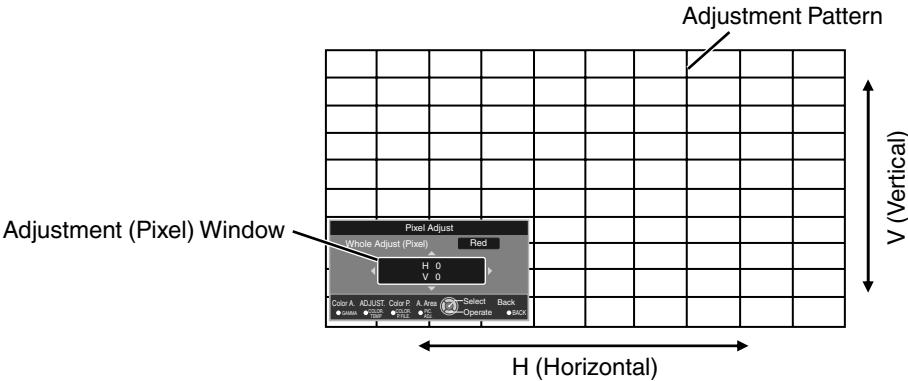
Adjustment Pattern

V (Vertical)

Adjustment (Pixel) Window

H (Horizontal)

④ Press the [OK] button to enter the Adjustment mode

⑤ Use the [▲▼◄▶] keys to move and adjust the pixels in the vertical and horizontal directions across the entire screen.

- The adjustment setting appears at the center of the Adjustment (Pixel) window.

Pixel Adjustment Setting

Color for Adjustment

Remote Control Operation Guide
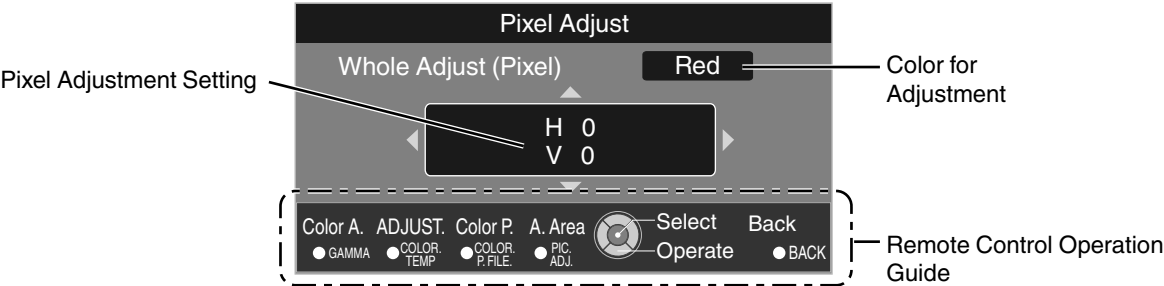
⑥ After adjustment is complete, press the [BACK] button to exit the Adjustment mode

Remote Control Operation Guide

Button Name	Description of Operation
[GAMMA]	Changes "Adjust Color".
[COLOR TEMP.]	Switches between "Adjust(Pixel)" and "Adjust(Fine)". • Switches to "Adjust(Pixel)" when "Adjust Area" is set to "Zone".
[COLOR P.FILE]	Changes "Adjust Pattern Color".
[PIC ADJ.]	Switches "Adjust Area". • A zone cursor appears on the adjustment pattern when the "Zone" setting is selected.

Adjust/Set

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 selected adjustment pattern and Fine window are displayed.
- The adjustable range may be smaller depending on the pixels being adjusted on the entire screen.

Adjustment Pattern

V (Vertical)

Fine Window

Pixel Adjust
Whole Adjust (Fine)   Red
H 0 (0 / 0)
V 0 (0 / 0)
Color A. ADJUST. Color P. A. Area   Select Back
● GAMMA ● COLOR. TEMP ● COLOR. P.FILE. ● PIC. ADJ.   Operate ● BACK
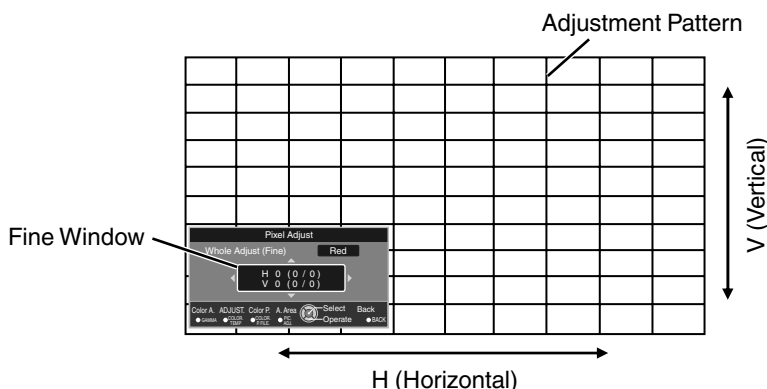
H (Horizontal)

④ Press the [OK] button to enter the Adjustment mode

⑤ Use the [▲▼◀▶] keys to move and adjust the pixels in the vertical and horizontal directions across the entire screen.

- The adjustment setting appears at the center of the Fine window.

Pixel Adjust

Pixel Adjustment Setting

Whole Adjust (Fine)   Red ── Color for Adjustment

H 0 (0 / 0)
V 0 (0 / 0)

Color A. ADJUST. Color P. A. Area   Select   Back
● GAMMA ● COLOR. TEMP ● COLOR. P.FILE. ● PIC. ADJ.   Operate   ● BACK

── Remote Control Operation Guide

Adjustment Setting

H −20 (−20 / −20)
V   5 (5 /   5)

Indicates the maximum and minimum misalignment value of the entire screen.(Max. / Min.)

⑥ After adjustment is complete, press the [BACK] button to exit the Adjustment mode

✎ MEMO

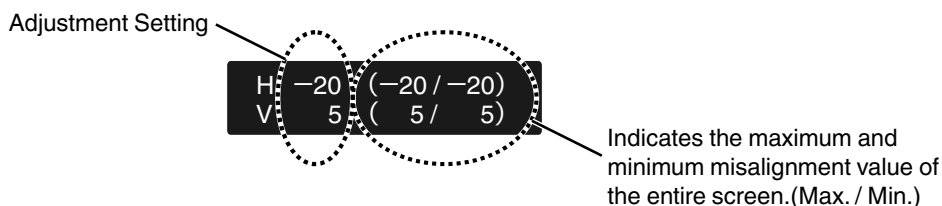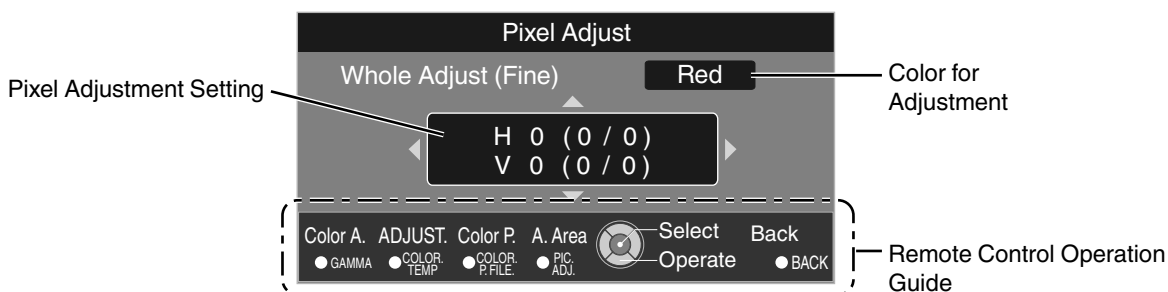- If both the maximum overall screen misalignment of H (horizontal direction) and V (vertical direction) are "31", you cannot select a value that is larger than the displayed setting even when the adjustment setting is lower than the maximum value.
- If the minimum overall screen misalignment is "-31", 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 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 pixels in the vertical and horizontal directions across the entire screen.

  • The adjustment setting appears at the center of the Zone Adjustment window.

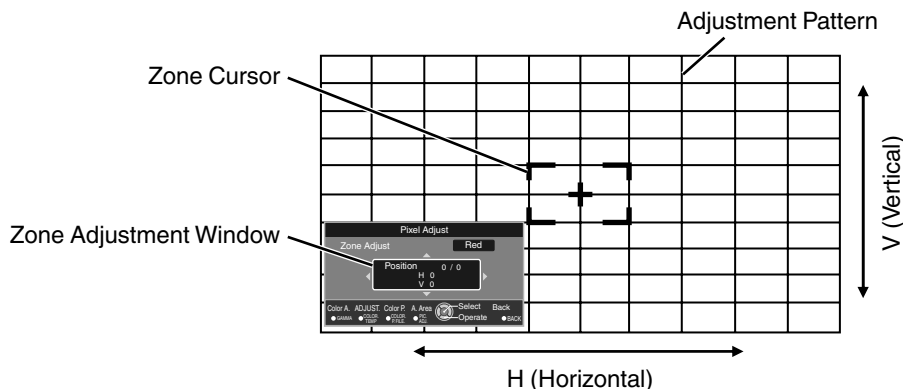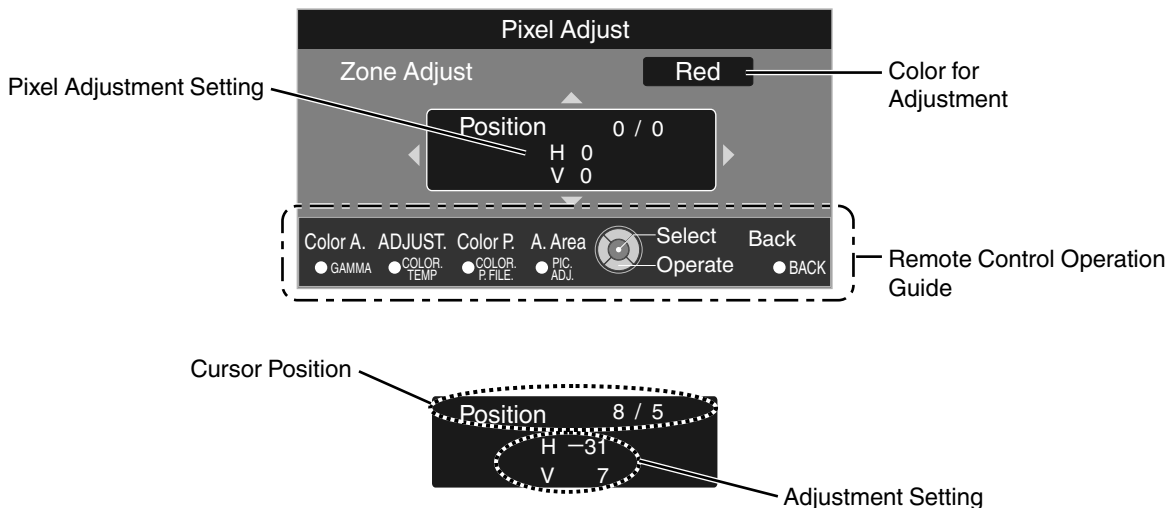⑦ After adjustment is complete, press the [BACK] button to exit the Adjustment mode

Adjust/Set

Display Setup

Back Color

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

Menu Position

For setting the display position of the menu.

Menu Display

Setting	Description
15sec	The menu display disappears if it is not operated for 15 seconds.
On	Displays the menu at all times.

Line Display

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

Source Display

Setting	Description
On	Displays the signal when input is switched.
Off	Not displayed.

Logo

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", "Français", "Português", "Nederlands", "Svenska", "Norsk", "Русский", "中文", or "繁體中文".

Adjust/Set

Function

Trigger

For configuring 12 V output to an external screen equipped with a trigger function.

Setting	Description
Off	No output.
On (Power)	Outputs control signals (12 V) from the trigger terminal when the power is turned on. • After the power is turned off, output stops when the unit shifts to the Standby mode after cooling is complete. • You can also output signals in the Standby mode by pressing the [OK] button.
On (Anamo)	Outputs control signals when the "Anamorphic" setting is switched from "Off" to "A" or "B".

Off Timer

For setting the timing to power off the unit automatically ("1 Hour", "2 Hours", "3 Hours", or "4 Hours") when it is not operated for a period of time.

High Altitude Mode

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

ECO Mode

Setting	Description
On	Minimizes power consumption in the Standby mode. • If there is no signal transmission or operation for 30 minutes while an image is projected, the power is turned off automatically.
Off	Set to "Off" if RS-232C / LAN communication is performed or the HDMI link function is used in the Standby mode.

Communication Terminal

For setting the external control terminal to be used to "RS-232C" or "LAN".

Network

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.

Adjust/Set

Remote Code

For changing the remote control code.

- 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"

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

Lamp Reset

For resetting the lamp time to "0".
  ➡ "Resetting the Lamp Time" (p. 65)

✎ 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.

Adjust/Set

Information

During video signal input

Setting	Description
Input	Displays video input terminal.
Source	Displays the input source.
Deep Color	Displays the color bit depth of the input video signal. • Not displayed when YCbCr(4:2:2) is input. • Displayed when Deep Color information is received from the source device.
Lamp Time	Displays the lamp time.
Soft Ver.	Displays the firmware version.

During PC signal input

Setting	Description
Input	Displays video input terminal.
Resolution	Displays the image resolution.
H Frequency	Displays the horizontal frequency.
V Frequency	Displays the vertical frequency.
Deep Color	Displays the color bit depth of the input video signal. • Not displayed when YCbCr(4:2:2) is input. • Displayed when Deep Color information is received from the source device.
Lamp Time	Displays the lamp time.
Soft Ver.	Displays the firmware version.

Adjust/Set

Replacing the Lamp

The lamp is a consumable item. If the image appears dark or the lamp goes out, replace the lamp unit.

• When the lamp replacement time approaches, the user is notified with a message displayed on the screen and by the indicator. (p. 79)

Lamp Replacement Procedure

✄ CAUTION

• Do not insert your hands into the opening of the lamp. This could cause significant deterioration in the performance of the equipment, or lead to injury and electric shock.

• Do not replace the lamp immediately after the unit has been used. Allow a cooling period of at least one hour before replacement. The temperature of the lamp is still high, and may cause burn injuries.

• Do not subject the lamp unit to shock. Doing so may cause lamp blowout.

• Do not use a flammable air duster to clean the internal parts of the unit. Doing so may cause fire.

• Use only genuine replacement parts for the lamp unit. Also, never attempt to reuse an old lamp unit. This may cause the unit to malfunction.

• Do not touch the surface of a new lamp. Doing so may shorten the lamp life and cause lamp blowout.

• When replacing the lamp, be careful not to injure yourself as the lamp may be broken.

• When replacing the lamp of a projector suspended from the ceiling, work at height is required. This is a dangerous operation. Please consult our service center.

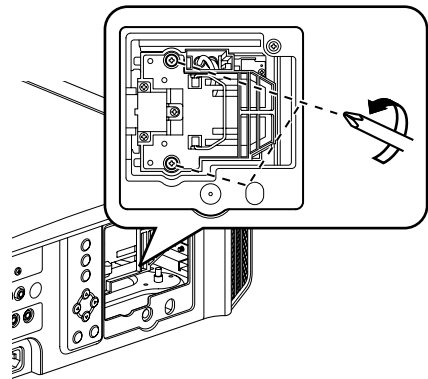**1** Pull out the power plug from the power outlet

2 Remove the lamp cover

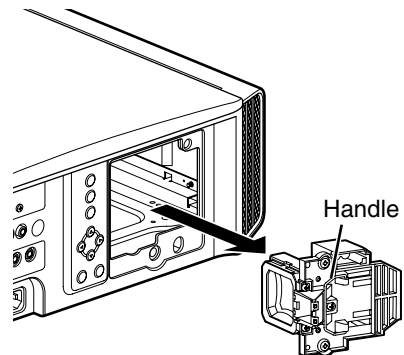• Remove the screws with a ⊕ screwdriver.
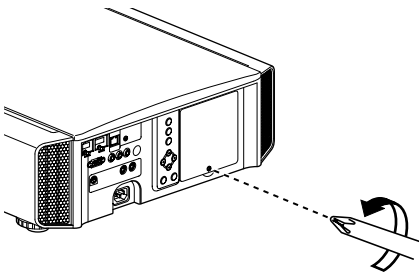
3 Loosen the screws of the lamp unit
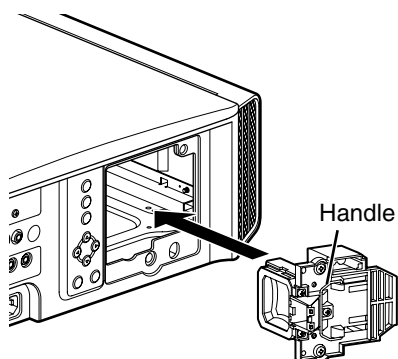
• Loosen the screws with a ⊕ screwdriver.

4 Pull out the lamp unit

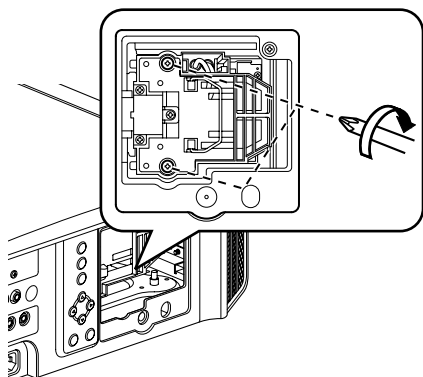• Grasp the handle and pull out the lamp unit.

Handle

Maintenance
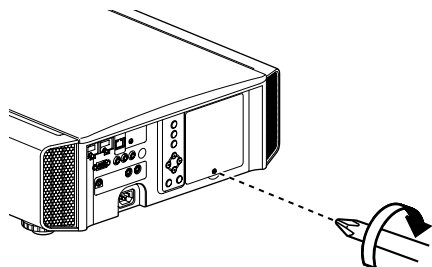
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5 Install the new lamp unit

Handle

6 Tighten the screws of the new lamp unit

• Tighten the screws with a ⊕ screwdriver.

7 Attach the lamp cover

• Insert the two tabs at the top and bottom of the lamp cover into the unit.

• Tighten the screws with a ⊕ screwdriver.

✎ MEMO

Usable lamp life

• When the lamp is used with "Lamp Power" set to "Low", the lamp life on this unit is approximately 4000 hours. This is the average usable time and not a guaranteed value.

• The lamp life may not reach 4000 hours depending on the operating conditions.

• When the lamp has reached the end of its usable life, deterioration progresses rapidly.

• When the video image appears dark, when the color tone looks unnatural, or when the image flickers, replace the lamp unit with a new one promptly.

Purchasing a lamp unit

Please consult your authorized dealer or nearby service center.

• Lamp unit
  Product no.: PK-L2312U

Lamps with a different product number or those for other projector models cannot be used.

Information about the lamp

An ultra-high pressure mercury lamp with a high internal pressure is used in the projector.

Due to the characteristics of this lamp, it may blow out with a loud noise or go out when it is subject to shock or after using for a prolonged period of time (the time before the lamp blows out or goes out varies considerably with each lamp as well as the operating conditions).

After replacing the lamp

• Do not place the removed lamp unit at a place that is within reach by children or anywhere near inflammable items.

• Dispose used lamp units in the same way as fluorescent lamps. Follow the regulations of your local community for disposal.

Resetting the Lamp Time

Resetting the lamp time from the menu screen

1 Press the [MENU] button to display the menu

**2** Select "Function"→"Lamp Reset" from the menu
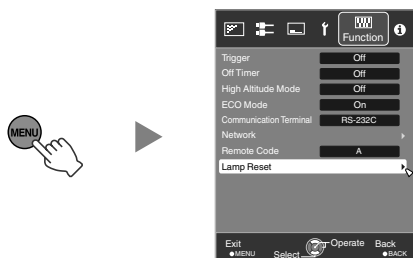
3 On the Reset Lamp Time? screen, select Yes and press the OK button

• The lamp time is reset to zero.

Resetting the lamp time using the remote control

1 Insert the power plug into the power outlet

2 Make sure that you operate the remote control in the Standby mode (the power plug is inserted into the outlet, but the power is not turned on)

• Press in the order as shown.
• Make sure that you press a button within two seconds after the last button is pressed. Press the last button for at least two seconds.

Press for 2 seconds or longer
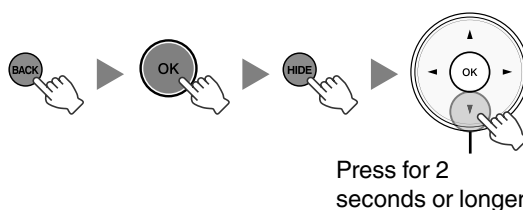
• The "LAMP" indicator and "STANDBY/ON" indicator blink alternately for three seconds. After that, the unit switches to the Standby mode.

✎ MEMO

• Reset the lamp time only when you have replaced the lamp.
  If the lamp time is reset while a lamp is in use, you may lose track of the timing for replacing the lamp. Doing so may result in using the lamp beyond the estimated limit, thereby causing lamp blowout.

Maintaining the Cabinet and Remote Control

• Gently wipe off dirt on the cabinet with a soft cloth.
• If it is extremely dirty, wet a cloth in water, wring dry and use it to wipe off the dirt, followed by wiping again with a dry cloth.
• Pay attention to the following as the cabinet may deteriorate in condition or the paint may come off.
  • Do not wipe with thinner or benzine
  • Do not allow prolonged contact with rubber or plastic products
 • Do not spray volatile chemicals such as insecticide

Maintenance

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Cleaning and Replacing the Filter

Clean the filter regularly Otherwise, the air intake efficiency may deteriorate, and malfunction may occur.
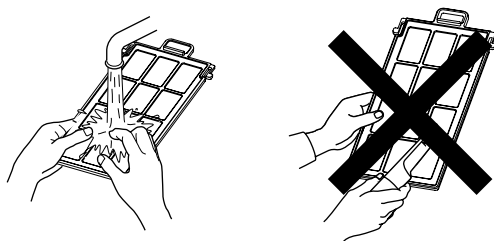
📢 CAUTION

- Make sure that you pull out the power plug from the outlet before cleaning or replacing the filter.
- Before turning this unit upside down and placing it on the floor or a table, make sure that you lay a soft rag in advance to prevent the projector from being scratched.

1 Remove the inner filter

Pull out while pushing down the tab
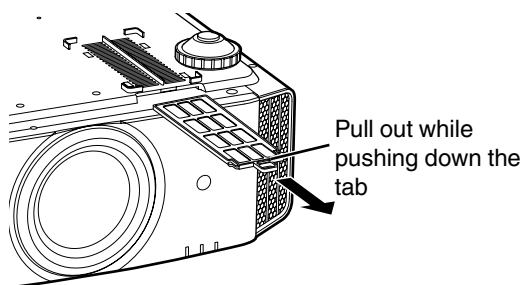
2 Clean the filter

- Wash the filter with water and dry it in a shaded area.
- If the filter is extremely dirty, clean it with a neutral detergent. Put on rubber gloves when using a neutral detergent.
- After washing the filter with water, make sure that it is completely dry before reinstalling. Otherwise, electric shock or malfunction may occur.
- Do not clean the filter with a vacuum cleaner or air duster. The filter is soft and may be easily damaged.

3 Reinstall the inner filter

Check that the left and right tabs are locked onto the unit
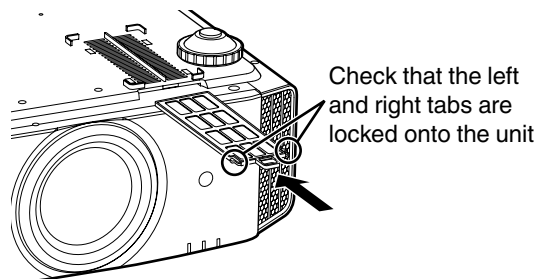
✎ If the filter is damaged or too dirty to be cleaned

- Replace with a new filter. A dirty filter will dirty the internal parts of the unit and cause shadows to appear on the video image.
- To purchase a new filter or when there is dirt in the internal parts of the unit, consult your authorized dealer or nearby service center.
- Inner filter (exchangeable filter) Product no.: PC010661199

Maintenance

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.

- A part of the top or front surface of the unit is 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 If the unit is in the Standby mode, pull out the power plug, followed by inserting it again

② Press the ⏻/I [STANDBY/ON] button on the main unit to turn on the power again

When "High Altitude Mode" is set to "On", and "Lamp Power" is set to "High" during 3D mode, the fan will make louder noise than usual since it is designed to run at high speed in 3D mode.

Power is not supplied

Check	Action	Refer to
Is the power cord disconnected?	Insert the power cord (plug) firmly.	p. 25
Is the lamp cover properly shut?	If the unit is in the Standby mode, remove the power plug and close the lamp cover properly. After that, insert the plug again.	p. 64
Is the lamp in the Cool-down mode?	After exiting the Cool-down mode, turn on the power again.	p. 27

The unit works when power is turned on, but stops abruptly after a few minutes

Check	Action	Refer to
Are the air inlets and exhaust vent blocked?	Leave proper clearance when installing the unit	p. 14, 15 p. 19
Is the filter dirty?	Clean the filter.	p. 66

Video image does not appear

Check	Action	Refer to
Is the correct external input selected?	Select the correct external input terminal.	p. 26
Is the power of the AV device turned on?	Turn on the power of the AV device and play the video.	p. 22
Is the AV device properly connected?	Connect the AV device properly.	p. 22
Are the correct signals being output from the AV device?	Set the AV device properly.	p. 22
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. 22
Is "Control with HDMI" set to "On"?	If the video image does not appear when "Control with HDMI" is set to "On", change the setting to "Off" and power on this unit and the external device again.	p. 51
Is the video image temporarily hidden?	Press the [HIDE] button	p. 26

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. 18
Are the batteries exhausted?	Replace with new batteries.	p. 18
Is there an obstructing object between the remote control and remote sensor?	Remove any obstructing object.	p. 18
Is the remote control held too far away from the unit?	Hold the remote control closer to the sensor during use.	p. 18
Are the IR (infrared) 3D GLASSES and 3D SYNCHRO EMITTER in use?	As there is a possibility of signal interference, when you are using the IR (infrared) 3D GLASSES together with the 3D SYNCHRO EMITTER, try adjusting the orientation of the 3D SYNCHRO EMITTER.	p. 34

Unable to view 3D images

Check	Action	Refer to
Is the power of the 3D GLASSES turned on?	If you are using the PK-AG2 or PK-AG33D GLASSES, turn on the power manually.	Check the instruction manual of the 3D GLASSES and 3D SYNCHRO EMITTER.
Are the 3D GLASSES charged?	Check the battery (charge) of the 3D GLASSES.	
Are the 3D GLASSES and 3D SYNCHRO EMITTER too far away from each other?	Position them at an appropriate distance.	
Is the correct 3D format selected?	If the format does not switch automatically, configure 3D Format in the setting menu.	p. 35

Color does not appear or looks unnatural

Check	Action	Refer to
Is the AV device properly connected?	Connect the AV device properly.	p. 22
Is the image correctly adjusted?	Adjust "Color" and "Tint" accordingly.	p. 48
Is the color space of the input signal correctly set?	Set "Color Space" properly.	p. 51

Video image is fuzzy

Check	Action	Refer to
Is the focus correctly adjusted?	Adjust the focus.	p. 28
Is the unit placed too near or too far away from the screen?	Set the unit at a correct distance from the screen.	p. 75

Video images are missing

Check	Action	Refer to
Has screen mask been configured?	Set "Mask" to "Off".	p. 52
Is the display position misaligned?	Alter the "Picture Position" value so that the entire image appears on the screen.	p. 52

Troubleshooting

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Projected image is dark

Check	Action	Refer to
Is the lamp near exhaustion?	Check the lamp time in the "Information" menu. Prepare a new lamp unit or replace as soon as possible when the lamp is near exhaustion.	p. 62 p. 63
Is the image quality correctly adjusted?	Adjust "Picture Adjust" and "Lens Aperture" accordingly.	p. 37 p. 50

Power is cut off suddenly

Check	Action	Refer to
Has "Off Timer" been configured?	Set "Off Timer" to "Off".	p. 60
Has "ECO Mode" been configured?	Set "ECO Mode" to "Off".	p. 60

The lens cover does not close

Check	Action	Refer to
Is "Lens Cover" set to "Open"?	Set "Lens Cover" under "Lens Control" in the setting menu to "Auto".	p. 53
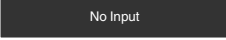
The internal cooling fan emits a loud noise

Check	Action	Refer to
Is the exhaust vent blocked? Is the unit used near a heater or air-conditioner?	Check the condition of installation.	p. 19

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
COMP. No Input	• No device is connected to the input terminal • The input terminal is connected but there is no signal	Input the video signals.
COMP.	A video signal that cannot be used with this unit has been input (The names of input terminals such as "COMP." will be displayed in yellow).	Input video signals that can be used.
Lamp replacement Back ●BACK	This message is displayed when the accumulated lamp time has exceeded 2900 hours. To clear the message, press the [BACK] button.	Get ready a new lamp unit and replace as soon as possible. Reset the lamp time after replacing the lamp. (p. 63, 65)

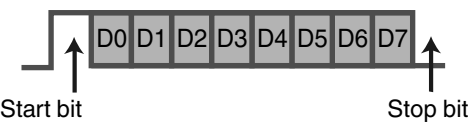**Troubleshooting**

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.

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

RS-232C Specifications

This Unit

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.

| D0 | D1 | D2 | D3 | D4 | D5 | D6 | D7 |

Start bit   Stop bit

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 five seconds after the projector sends out "PJ_OK" for connection authentication.
If you are unable to complete sending within five seconds, or when "PJ_NG" or "PJNAK" is received, check the operating status of the projector, followed by performing the steps again starting from establishment of a TCP connection,

Within 5 Seconds

Projector

PJ_OK   PJACK

Establishment of TCP Connection
TCP Port No. 20554
3-way Handshake

Projector Control

Controlling PC   PJREQ

Connection Authentication Procedure
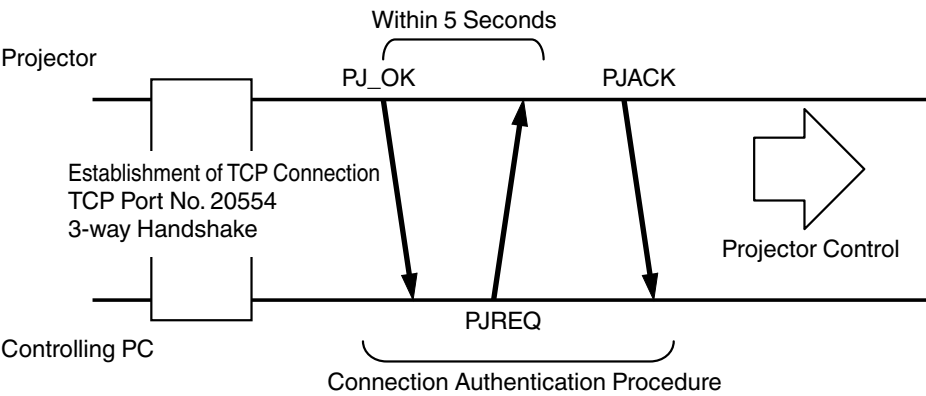
Command Format

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 32: COMP. 36: HDMI 1 37: HDMI 2
5243	Remote control	Sends the same code as the supplied remote control. • "Remote Control Code"p. 72

Operating 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 32: COMP. 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
HDMI 1	37 33 37 30
HDMI 2	37 33 37 31
COMP.	37 33 34 44
3D FORMAT	37 33 44 36
3D SETTING	37 33 44 35
LENS CONTROL	37 33 33 30
LENS MEMORY	37 33 44 34
LENS AP.	37 33 32 30
ANAMO.	37 33 43 35
HIDE	37 33 31 44
▲	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
FILM	37 33 36 39
CINEMA	37 33 36 38
ANIME	37 33 36 36
NATURAL	37 33 36 41
STAGE	37 33 36 37
3D	37 33 38 37
USER	37 33 44 37
C.M.D.	37 33 38 41
MPC	37 33 46 30
GAMMA	37 33 37 35
C. TEMP	37 33 37 36
COLOR PROFILE	37 33 38 38
PIC. ADJ.	37 33 37 32

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
Input (COMP.)	PC → This unit: 21 89 01 49 50 32 0A This unit → PC: 06 89 01 49 50 0A	When video input is set to component
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		D-ILA Projector
Model Name		DLA-RS4810
Display Panel/Size		D-ILA device *1, 2 0.7" (1980 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		230 W ultra-high pressure mercury lamp [model no.: PK-L2312U] Average lifespan: 4000 hours ("Low" mode)
Screen Size		Approx. 60" to 200" (Aspect ratio of 16:9)
Projection Distance		Refer to p. 75.
Input compatibility signal		Refer to p. 77.
Display Resolution		3840 x 2160 pixels *3
Input Terminal	Component Video Input	1 system, RCA pin jack x 3 Y: 1.0 Vp-p, 75Ω Pb/Cb, Pr/Cr: 0.7 Vp-p, 75Ω Also supports R/G/B Sync on G
	HDMI Input	2 system, HDMI 19-pin x 2 (HDCP-compatible) *4
Output Terminal	Trigger Terminal	1 system, Ø 3.5 mm DC Power Jack (⊖–ℂ–⊕) DC OUT 12 V, 0.1 A
	3D synchro	Dedicated terminal for 3D SYNCHRO EMITTER (1 system, mini-DIN 3-pin)
Control Terminal	RS-232C Terminal	1 system, D-sub 9-pin (male) (external control)
	Remote Terminal	1 system, stereo mini jack (remote control)
	LAN Terminal	1 system, RJ-45 plug
Power Requirements		AC 110 to 240 V, 50/60 Hz
Power Consumption		360 W (during standby: 0.4 W)
Operation Environment		Temperature: 5°C to 35°C; humidity: 20% to 80%; storage temperature: -10°C to 60°C
Installation Height		Below 5000 ft (1524 m)
Dimensions (Width x Height x Depth)		Approx. 455 mm x 179 mm x 472 mm (excluding feet and protrusions)
Mass		15.1 kg
Accessories		Refer to p. 11.

*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 During 3D playback, the pixel is set to 1920 x 1080.

*4 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.

• 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.

Others

About Trademarks and Copyrights

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Screen Size and Projection Distance

When a 16:9 screen is used

	Screen Size		Projection Distance	
Diagonal (Model)	Width (mm)	Height (mm)	Wide-end (m)	Tele-end (m)
60	1328	747	1.78	3.66
70	1549	872	2.09	4.28
80	1771	996	2.4	4.89
90	1992	1121	2.7	5.51
100	2214	1245	3.01	6.13
110	2435	1370	3.31	6.75
120	2656	1494	3.62	7.36
130	2878	1619	3.92	7.98
140	3099	1743	4.23	8.60
150	3320	1868	4.53	9.22
160	3542	1992	4.84	9.84
170	3763	2117	5.14	10.45
180	3984	2241	5.45	11.07
190	4206	2366	5.75	11.68
200	4427	2490	6.06	12.30

Others

When a 4:3 screen is used

Screen Size			Projection Distance	
Diagonal (Model)	Width (mm)	Height (mm)	Wide-end (m)	Tele-end (m)
60	1219	914	2.22	4.49
70	1422	1067	2.60	5.24
80	1626	1219	2.98	6.00
90	1829	1372	3.36	6.75
100	2032	1524	3.74	7.51
110	2235	1676	4.11	8.26
120	2438	1829	4.49	9.02
130	2642	1981	4.87	9.77
140	2845	2134	5.25	10.53
150	3048	2286	5.63	11.28
160	3251	2438	6.00	12.04

* Projection to a 4:3 screen larger than 163" is equivalent to a size that is larger than 200" in the 16:9 format, and is beyond our guarantee coverage.

When a 2.35:1 screen is used

Screen Size			Projection Distance	
Diagonal (Model)	Width (mm)	Height (mm)	Wide-end (m)	Tele-end (m)
60	1402	597	1.95	3.91
70	1636	696	2.28	4.56
80	1870	796	2.60	5.21
90	2103	895	2.93	5.86
100	2337	995	3.26	6.51
110	2571	1094	3.58	7.16
120	2805	1193	3.91	7.81
130	3038	1293	4.23	8.47
140	3272	1392	4.56	9.12
150	3506	1492	4.88	9.77
160	3740	1591	5.21	10.42
170	3973	1691	5.53	11.07
180	4207	1790	5.86	11.72
190	4441	1890	6.19	12.37
200	4674	1989	6.51	13.02

Types of Possible Input Signals

Video

Analog Video Signal	480i, 480p, 576i, 576p, 720p/50 Hz, 720p/60 Hz, 1080i/50 Hz, 1080i/60 Hz
Digital Video Signal	480i, 480p, 576i, 576p, 720p/50 Hz, 720p/60 Hz, 1080i/50 Hz, 1080i/60 Hz, 1080p/24 Hz, 1080p/50 Hz, 1080p/60 Hz
3D Signal	Frame Packing	720p/50 Hz, 720p/60 Hz, 1080p/24 Hz, 1080i/50 Hz, 1080i/60 Hz

3D Signal	Frame Packing	720p/50 Hz, 720p/60 Hz, 1080p/24 Hz, 1080i/50 Hz, 1080i/60 Hz
	Side-by-side	1080i/60 Hz, 1080p/60 Hz, 1080i/50 Hz, 1080p/50 Hz, 1080p/24 Hz, 720p/50 Hz, 720p/60 Hz
	Top-and-bottom	720p/50 Hz, 720p/60 Hz, 1080p/24 Hz

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	WXGA 60	1280×768	47,760	60,000	79,998	1.675	796	1.280	768
6	WXGA+ 60	1440×900	55,919	59,999	106,470	1.904	932	1.440	900
7	SXGA 60	1280×1024	63,981	60,020	108,000	1.688	1.066	1.280	1.024
8	WSXGA+ 60	1680×1050	65,222	60,002	147,140	2.256	1.087	1.680	1.050
9	WUXGA 60	1920×1200	74,038	59.95	154,000	2.080	1.235	1.920	1.200

PC signal (D-sub 3-line 15-pin)

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	25,175	800	525	640	480
2	VGA 72	640×480	37,900	72,000	31,500	832	520	640	480
3	VGA 75	640×480	37,500	75,000	31,500	840	500	640	480
4	VGA 85	640×480	43,300	85,000	36,000	832	509	640	480
5	SVGA 56	800×600	35,200	56,000	36,000	1024	625	800	600
6	SVGA 60	800×600	37,900	60,000	40,000	1056	628	800	600
7	SVGA 72	800×600	48,100	72,000	50,000	1040	666	800	600
8	SVGA 75	800×600	46,900	75,000	49,500	1056	625	800	600
9	SVGA 85	800×600	53,700	85,000	56,250	1048	631	800	600
10	XGA 60	1024×768	48,400	60,000	65,000	1344	806	1024	768
11	XGA 70	1024×768	56,500	70,000	75,000	1328	806	1024	768
12	XGA 75	1024×768	60,000	75,000	75,750	1312	800	1024	768
13	XGA 85	1024×768	68,700	85,000	94,500	1376	808	1024	768
14	WXGA 60	1280×768	47,760	60,000	79,998	1675	796	1280	768
15	WXGA+ 60	1440×900	55,919	59,999	106,470	1904	932	1440	900
16	SXGA 60	1280×1024	64,000	60,000	108,000	1688	1066	1280	1024
17	SXGA+ 60	1400×1050	63,981	60,020	108,000	1688	1066	1400	1050
18	WSXGA+ 60	1680×1050	65,222	60,002	147,140	2256	1087	1680	1050
19	1920×1080 60	1920×1080	67,500	60.00	148,500	2200	1125	1920	1080
20	MAC13"	640×480	35,000	66,667	30,240	864	525	640	480
21	MAC16"	832×624	49,107	75,087	55,000	1120	654	832	624
22	MAC19"	1024×768	60,241	74,927	80,000	1328	804	1024	768

* 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.

Indicator Display on the Main Unit

Meaning of the lighting figures

The indicator lights up.   The indicator appears blinking.

Operation mode display

Displays using the different colors and solid/blinking light of the "STANDBY/ON" indicator.

"STANDBY/ON" lights up (red)
In standby state

⏻ **STANDBY/ON**   **LAMP**   **WARNING**

"STANDBY/ON" lights up (green)
During lamp startup

⏻ **STANDBY/ON**   **LAMP**   **WARNING**
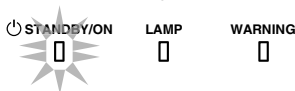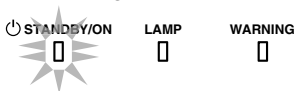
All lights off
During projection

⏻ **STANDBY/ON**   **LAMP**   **WARNING**
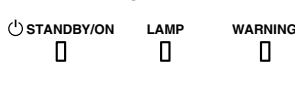
"STANDBY/ON" blinking (red)
In the Cool-down mode

⏻ **STANDBY/ON**   **LAMP**   **WARNING**
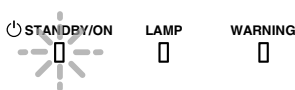
"STANDBY/ON" blinking (green)
When the video image is temporarily hidden (HIDE is on)

⏻ **STANDBY/ON**   **LAMP**   **WARNING**
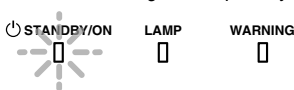
Estimated timing for lamp replacement

Displays using the solid/blinking light of the "LAMP" indicator. The "STANDBY/ON" indicator, which shows the operating mode of the unit, is displayed simultaneously as described above.

"LAMP" lights up (orange)

⏻ **STANDBY/ON**   **LAMP**   **WARNING**

When lamp replacement is near (lamp time has exceeded 2900 hours)

Warning display

You can tell the details of a warning from the (repeated) displays of the "WARNING" and "LAMP" indicators. The "STANDBY/ON" indicator, which shows the operating mode of the unit, is displayed simultaneously as described above.

The Warning mode is activated once the message is displayed. Projection is interrupted, and the cooling fan is turned on for about 60 seconds.

The power cannot be turned on again while cooling is in progress. Check the following after cooling is complete.

Indicator Status (Solid/Blinking)	Blinking Frequency	Description	Check and Countermeasure
STANDBY/ON **LAMP** **WARNING** Mode (*) (Red) Display	x1	Abnormality in the power supply	• Check that nothing is blocking the air inlets. • Check that the external temperature is normal. Countermeasure: Leave the unit unoperated until it cools down. After that, turn on the power again.
	x2	Cooling fan stopped abnormally	
	x3	Internal temperature is abnormally high	
	x4	External temperature is too high	
	x5	Abnormal circuit operation	
STANDBY/ON **LAMP** **WARNING** Mode (Orange) (Red) Display Blinking Simultaneously	x1	Abnormal circuit operation	
	x2		
	x3		
	x4	Abnormal operation of the automatic lens cover	• Check that nothing is blocking the auto lens cover. Countermeasure: Turn on the power again.
STANDBY/ON **LAMP** **WARNING** Mode (Orange) (Red) Display	x1	Lamp does not light up and unit is unable to project	• Check that the lamp unit and lamp cover are correctly installed. Countermeasure: Turn on the power again.
	x2	Lamp goes out during projection	
	x3	Lamp cover is removed	

If the Warning mode is activated again, wait for the cooling fan to stop, followed by pulling out the power plug from the outlet.
Request for repair at your authorized dealer or a nearby service center.

(*) If the scheduled time for lamp replacement is exceeded, the indicator may light up.

Dimensions

(Unit: mm)

Top Surface

472

455

5

Lens

Bottom Surface

290

91

59 337

Lens

Front

227.5

178.5

103.5

24

Lens Center

Ø60

Rear Surface

110

32

Lamp Cover

110 92

Index

Others

JVC