



User's Manual

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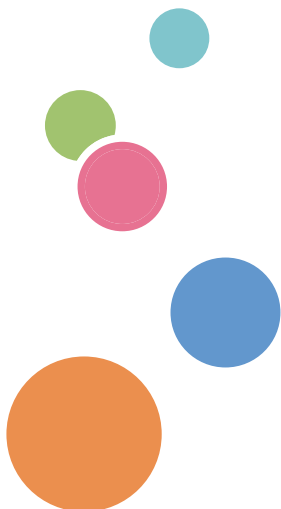
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Read this manual carefully before you use this machine and keep it handy for future reference. For safe and correct use, be sure to read the Precautions in this manual before using the machine.

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Precautions

Follow all warnings, precautions and maintenance as recommended in this user's guide to maximize the life of your unit.

- **Warning-** Indicates a potentially hazardous situation which, if instructions are not followed, could result in death or serious injury.

- **Caution-** Indicates a potentially hazardous situation which, if instructions are not followed, may result in minor or moderate injury or damage to property.
 - **Warning-** Do not place vases, plant pots, cups, toiletries, medicines, small metal objects, or containers holding water or any other liquids, on or close to this machine. Fire or electric shock could result from spillage or if such objects or substances fall inside this machine.
 - **Warning-** Do not use flammable sprays or solvents in the vicinity of this machine. Also, avoid placing these items in the vicinity of this machine. Doing so could result in fire or electric shock.
 - **Warning-** Keep the projector and attachments out of the reach of children. If the projector is near children, it may cause injury.
 - **Warning-** Plastic bags can be dangerous, please do not leave near babies and young children. To avoid the threat of suffocation, please keep away from their nose and mouth.
 - **Warning-** Do not use any power sources other than those that match the specifications shown in this manual. Doing so could result in fire or electric shock.
 - **Warning-** Do not damage, break, or modify the power cord. Also, do not place heavy objects on the power cord, or pull the cord or bend it severely. Doing so could result in fire or electric shock.
 - **Warning-** Touching the prongs of the power cable's plug with anything metallic constitutes a fire and electric shock hazard.
 - **Warning-** The supplied power cord is for use with this machine only. Do not use it with other appliances. Also, do not use it with other appliances. Also, do not use power

Usage Notice

- cord other than the one supplied with this machine. Doing so could result in fire or electric shock.
- Warning- It is dangerous to handle the power cord plug with wet hands. Doing so could result in electric shock.
 - Warning- Be sure to disconnect the plug from the wall outlet at least once a year and check for the following:
 - There are burn marks on the plug.
 - The prongs on the plug are deformed.If any of the above conditions exist, do not use the plug and consult your dealer or service representative. Use of the plug could result in fire or electric shock.
 - Warning- Be sure to disconnect the power cord from the wall outlet at least once a year and check for the following:
 - The power cord's inner wires are exposed, broken, etc.
 - The power cord's coating has a crack or dent.
 - When bending the power cord, the power turns off and on.
 - Part of the power cord becomes hot.
 - The power cord is damaged.If any of the above conditions exist, do not use the power cord and consult your dealer or service representative. Use of the power cord could result in fire or electric shock.
 - Warning- Do not use the connection cable if it is deformed, cracked, or damaged. Doing so could result in fire or electric shock. If the connection cable is deformed, cracked, or damaged, contact your service representative to request a replacement cable.
 - Warning- When using an extension cord or power strip, only connect equipment whose total power consumption is within the power rating for the extension cord or power strip. If the power rating is exceeded, it may cause heat buildup and result in fire.
 - Warning- If the projector emits smoke or odours, or if it behaves unusually, you must turn off its power immediately. After turning off the power, be sure to disconnect the power cord plug from the wall outlet. Then contact your service representative and report the problem. Do not use the projector. Doing so could result in fire or electric shock.
 - Warning- If metal objects, or water or other fluids fall inside

Usage Notice

this machine, you must turn off its power immediately. After turning off the power, be sure to disconnect the power cord plug from the wall outlet. Then contact your service representative and report the problem. Do not use the projector. Doing so could result in fire or electric shock.

- Warning- Never operate this unit on AC power during a thunderstorm. If you see lightning or hear thunder, never touch the unit, cables and/or peripherals. An electric surge caused by the storm, may result in an electrical shock or damage to the unit.
- Warning- If the projector topples, or if a cover or other part gets broken, you must turn off its power immediately. After turning off the power, be sure to disconnect the power cord plug from the wall outlet. Then contact your service representative and report the problem. Do not use the projector. Doing so could result in fire or electric shock.
- Warning- 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.
- Warning- Do not remove any covers or screws. There are high voltage components inside the projector that may cause electric shock. Contact your service representative if any of the projector's internal components require maintenance, adjustment, or repair.
- Warning- Do not disassemble or modify the projector. Doing so may cause injury or malfunction.
- Caution- Keep the projector away from humidity and dust. Otherwise a fire or an electric shock might occur.
- Caution- Do not place any objects on the projector. Doing so may cause the projector to topple over, possibly resulting in injury.
- Caution- Do not place the projector on an unstable or tilted surface. If it topples over, an injury might occur.
- Caution- Do not place the projector or use it in an environment where it might get wet such as from snow, rain, or being near water. Doing so could result in fire or electric shock.
- Caution- Do not place or store the projector in a location where direct sunlight or heat generation might occur. The

Usage Notice

heat may deform or wear out the exterior parts or negatively affect internal parts. Doing so could result in fire.

- Caution- The projector may be very hot after it is turned off, especially the vents.
- Caution- Do not place the projector on other equipment or vice versa. Doing so may cause heat buildup inside the projector or cause the other equipment to malfunction.
- Caution- Do not increase the volume unless you are listening while increasing the volume. Also, lower the volume before turning off the power, because a loud sound may be emitted when the power is turned on and cause hearing damage.
- Caution- Do not place anything in front of the lens while the projector is operating. Things placed in front of the lens may overheat and burn or start a fire.
- Caution- Do not put your face or hand near the exhaust vents. Doing so could result in burns or an accident due to hot air coming from the exhaust vents.
- Caution- Do not use the projector on soft material such as paper or cloth that might get sucked into the intake vents. Doing so may cause heat buildup inside the projector, resulting in malfunction, burns, or fire.
- Caution- Do not place the projector in a location where air flow is poor. Doing so may cause fire due to internal components becoming overheated.
- Caution- Do not place low heat resistant material near the exhaust vents. Hot air may come from the exhaust vents, resulting in damage to the projector or an accident.
- Caution- Do not obstruct the projector's vents. Doing so risks fire caused by overheated internal components.
- Caution- If the projector's interior is not cleaned regularly, dust will accumulate. Fire and breakdown can result from heavy accumulation of dust inside this machine. Contact your sales or service representative for details about and charges for cleaning the projector's interior.
- Caution- Do not use the product in a closed installation location. Do not place the product in a box or in any other closed installation location. Otherwise it may overheat, which could result in a risk of fire.
- Caution- Push the power plug all the way into the power outlet.

Usage Notice

Do not use a power outlet with a loose connection. Doing so may result in heat buildup. Plug the power cord in the correct direction into the base. If they are not plugged in correctly, it could result in smoke, fire, or electric shock.

- Caution- If this machine is not going to be used for several days or longer at a time, disconnect its power cord from the wall outlet.
- Caution- When disconnecting the power cord from the wall outlet, always pull the plug, not the cord. Pulling the cord can damage the power cord. Use of damaged power cords could result in fire or electric shock.
- Caution- Be sure to disconnect the plug from the wall outlet and clean the prongs and the area around the prongs at least once a year. Allowing dust to build up on the plug constitutes a fire hazard.
- Caution- When performing maintenance on the projector, always disconnect the power cord from the wall outlet.
- Caution- Do not place the power cord and connection cable in a way that might cause someone to trip and fall. The projector might fall over and cause an injury.
- Caution- Unplug the power cord from the wall outlet before you move the projector. While moving the projector, take care that the power cord is not damaged under the projector. Failing to take these precautions could result in fire or electric shock.
- Caution- Do not use attachments not recommended by RICOH. Use of an incompatible attachments could cause hazards or damage to the product.
- Caution- Unplug this product from the wall outlet and take the product to qualified service personnel if you encounter any of the following conditions:
 - a) The power supply cord or plug is damaged.
 - b) Liquid has been spilled, or objects have fallen into the product.
 - c) The product has been exposed to rain or water.
 - d) The product does not operate normally when following the operating instructions. Adjust only those controls that are covered by the operating instructions.
 - e) The product has been dropped or damaged in any way. (If the cabinet should break, please handle with care to avoid injury.)

Usage Notice

- Caution- This product incorporates glass components, including a lens. If this should break, please handle with care to avoid injury and contact your sales representative for repair service. Avoid any broken pieces of glass since they may cause injury.
- Caution- 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 verify that the product is in proper operating condition.

Remote Control Battery

Warning

- Do not touch the battery directly with bare hands if it leaks. If the liquid gets into your eyes, do not rub them. It may cause blindness. Immediately wash with clean water and consult a doctor.

- Keep new and used batteries away from children.

If the battery compartment does not close securely, stop using the product and keep it away from children. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

- Never throw batteries into a fire.

Using the batteries improperly may cause them to explode or leak and may result in serious injury. If battery-leaking fluid contacts skin, wash the fluid off immediately with clean water and consult a doctor. If the fluid spills on an instrument, avoid contact and wipe it off using tissue paper. Then dispose of the used tissue paper as flammable garbage after moistening the tissue with water.

- Do not mix new batteries with used batteries, old batteries, or batteries of different types. Otherwise, fluid leakage may occur.
- Risk of an explosion if battery is replaced by an incorrect type.
- Remove the batteries from the remote control when they are used up. Otherwise, fluid leakage may occur.

Notes

- Be sure to use two AA (R6) size batteries.
- Do not drop the remote control.
- Do not expose the remote control to moisture or heat.
- If the remote control does not operate correctly, or if the operating range becomes reduced, replace the batteries.
- Remove batteries from remote control when not using for extended periods.
- Avoid contact with water or liquid.
- If the batteries have leaked in the remote control, carefully wipe the case clean and install new batteries.
- Dispose of batteries according to local rules.
- Attention should be drawn to the environmental aspects of battery disposal
- When storing or disposing of batteries, insulate the terminals with tape or similar material. Do not mix with other batteries or metal objects.

Safety indications of this machine



WARNING

Class 1 laser product

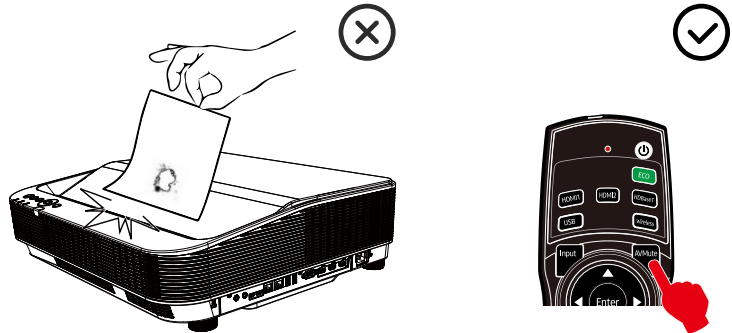
[IEC 60825-1:2014, EN60825-1:2014+A11:2011, EN50689:2021]

- The laser module is equipped in this product. Use of controls or adjustments of procedures other than those specified herein may result in hazardous radiation exposure.

This product is classified as Class 1 CONSUMER LASER PRODUCT of IEC/EN 60825-1 Third edition (2014) and RG2 of IEC/EN62471-5 First edition.

Regarding the installation and management of the equipment, please comply with the relevant laws and regulations of your country.

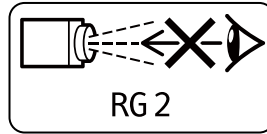
1. Do not place anything in front of the lens while the projector is operating. Things placed in front of the lens may overheat and burn or start a fire. If you want to temporarily stop the projected image, use the AVMute button on the remote control.



2. Projection light warning

- CLASS 1 CONSUMER LASER PRODUCT - RISK GROUP 2 IEC62471-5:2015
- Do not stare into the beam, maybe harmful to the eyes.
- Do not look into the light source light using optical instruments (such as magnifying glasses and mirrors). Visual impairment could result.
- When turning on the projector, make sure no one within projection range is looking at the lens. Be especially careful in an environment with children.

Usage Notice



- Keep any items (magnifying glass etc.) out of the light path of the projector. The light path being projected from the lens is extensive, therefore any kind of abnormal objects that can redirect light coming out of the lens, can cause an unpredictable outcome such as a fire or injury to the eyes.
3. **WARNING:** Do not remove any screws. Do not block or cover the vents. Doing so could result in electric shock.

4. Laser Notice

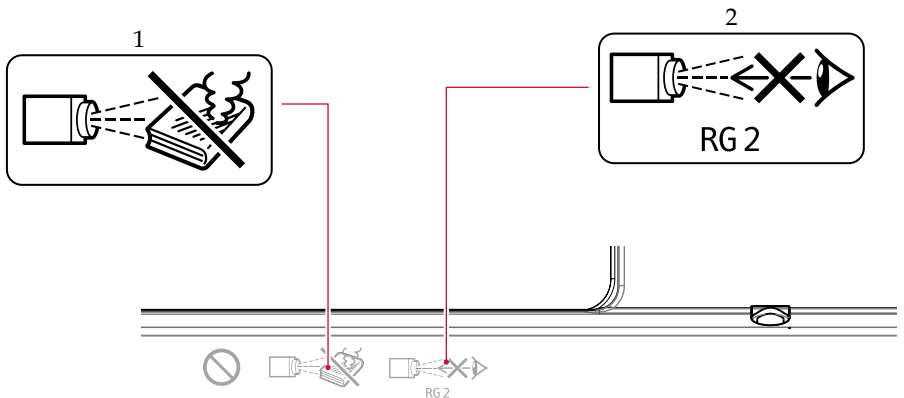
IEC 60825-1:2014, EN 60825-1:2014+A11:2021: CLASS 1 LASER PRODUCT - RISK GROUP 2.

The product's intended use as a consumer laser product and compliant with EN 50689:2021.

CLASS 1 CONSUMER LASER PRODUCT

EN 50689:2021

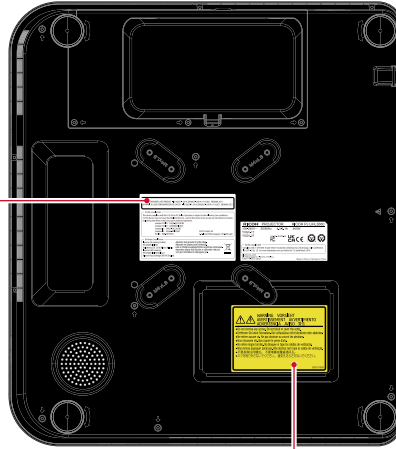
5. **WARNING:** This product contains a button cell or coin battery. (This label is affixed to products for USA and Canada only and is a warning statement for USA users.)



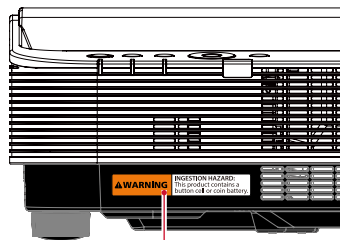
Usage Notice

CLASS1 CONSUMER LASER PRODUCT – IEC 60825-1:2014, EN60825-1:2014+A11:2021, EN50689:2021
APPAREIL À LASER CONSOMMATEUR DE CLASSE 1 – IEC 60825-1:2014, EN60825-1:2014+A11:2021, EN50689:2021

4



3



▲ WARNING **INGESTION HAZARD:**
This product contains a
button cell or coin battery.

5

Eye protection

Note

- ❖ If the approaching person or object does not move for more than 5 seconds, the protection display is canceled.

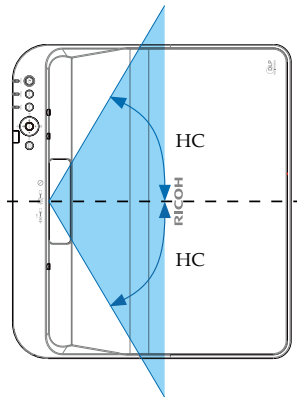
The projected light from a projector is strong and can cause eye damage if stared at. To prevent this, the projector has the Eye Protection function.

The range of the projected light is shown in the figure below. When [Eye Protection] is set to [On], the screen will automatically darken and the icon will appear when a person or object approaches this range. (Please refer to **“Eye Protection”** on page 82)



Horizontal Angle (Unit: degree)

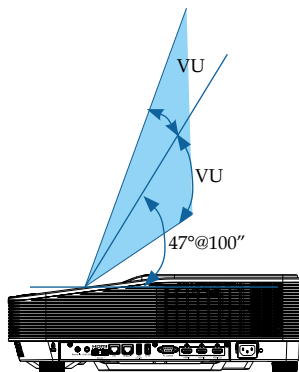
Center (Reference value)
HC
64



Vertical Angle (Unit: degree)

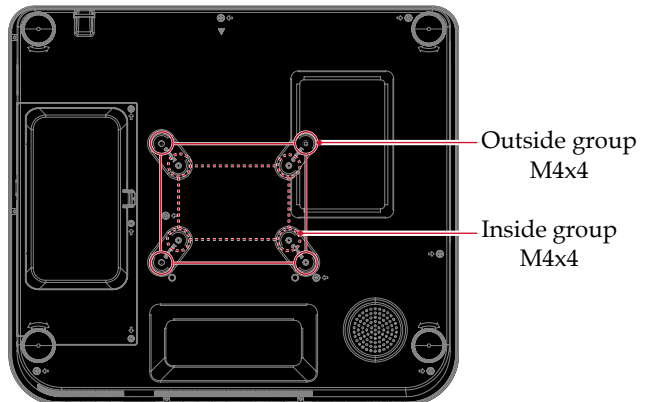
Center (Reference value)
VU
23

Usage Notice



About Ceiling Mount

- Warning- Installing the Projector on a Wall or Ceiling:
 - a) Do not attempt to clean or replace parts for a machine that is installed in a high location on a wall or ceiling. Doing so may cause it to fall down, resulting in an injury.
 - b) Contact your sales or service representative to clean or replace parts for a machine that is installed on a wall or ceiling.
 - c) If a machine is incorrectly installed on a wall or ceiling, it may fall down and cause an injury. Contact your sales or service representative if you want to install a machine on a wall or ceiling.
 - d) Do not obstruct the projector's vents. Doing so risks fire caused by overheated internal components.
 - e) For users, do not install the projector by yourself. Contact your sales or service representative if you want to install the projector on a wall or ceiling.
- les or service representatives:
 - Use brackets that are strong enough to support the projector. Projector's weight is approx. 12kg.
 - The projector must be installed in a location that is sturdy enough to support the full weight of the projector and brackets.
 - This machine has two groups of fixing screw holes (4 on the inside and 4 on the outside).
 - Secure the bracket using all screws in at least one group.
 - Make sure the screws are tightened.



Usage Notice

- g) Do not use the projector in oil-mist or smoke environment. Doing so may cause the projector case to crack and fall from its ceiling mount. This may cause serious injury.
- Caution- Use the drop proof chain to prevent projector dropping:
 - a) Connect the safety bolt of the projector to the solid part of the building with a drop proof chain by using common tools.
 - b) Make sure to use a drop chain that can support the weight of the projector and the drop tool.

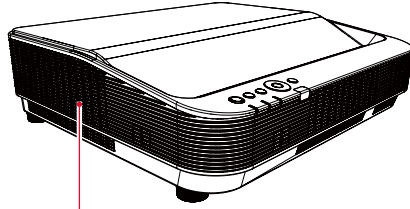
Installing this machine

Openings in the casing are designed for ventilation and overheating prevention.

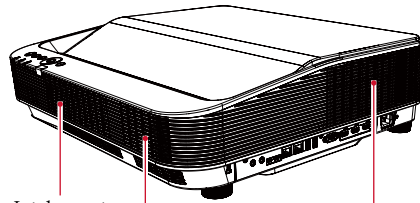
Heat exhaust at the air outlet. Keep the following in mind when using or installing your projector.

- Warning- Improper installation may shorten the life of the light source or cause serious accidents or fire.
- Warning-
 - a) Do not put your face or hand near the exhaust vents. Doing so could result in burns or an accident due to hot air coming from the exhaust vents.
 - b) Do not use the projector on soft material such as paper or cloth that might get sucked into the intake vents. Doing so may cause heat buildup inside the projector, resulting in malfunction, burns, or fire.
 - c) Do not place the projector in a location where air flow is poor. Doing so may cause fire due to internal components becoming overheated.
 - d) Do not place low heat resistant material near the exhaust vents. Hot air may come from the exhaust vents, resulting in damage to the projector or an accident.
 - e) Do not obstruct the projector's vents. Doing so risks fire caused by overheated internal components.
 - f) If the projector's interior is not cleaned regularly, dust will accumulate. Fire and breakdown can result from heavy accumulation of dust inside this machine. Contact your sales or service representative for details about and charges for cleaning the projector's interior.
 - g) Do not use the product in a closed installation location. Do not place the product in a box or in any other closed installation location. Otherwise it may overheat, which could result in a risk of fire.
 - h) Do not block the ventilation holes to prevent overheating.

Usage Notice



Exhaust vent
(Air outlet)



Intake vent
(Air intake)

Exhaust vent
(Air outlet)

Intake vent
(Air intake)

- Caution- Be sure to reserve proper space at the each side of projector.

Handling a Wireless LAN

Warning

- Before using a wireless LAN, make sure there is nobody with a pacemaker nearby. This machine may cause pacemakers to malfunction due to electromagnetic interference.
- Before using a wireless LAN, make sure there is no medical equipment nearby.
This machine may cause medical equipment to malfunction due to electromagnetic interference.
- Before using a wireless LAN, make sure there are no limitations or restrictions in the place you will be using it. There may be restricted use in places such as medical facilities due to electromagnetic interference.
- Do not use a wireless LAN if there is electromagnetic interference from other equipment.
Doing so may cause an accident due to the other equipment malfunctioning from the electromagnetic interference.

Wireless uses radio waves to exchange information instead of an Ethernet cable.

The wireless LAN radio waves pass through barriers such as walls within a fixed area, so the following problems may occur:

Leak of Personal Information

- Information such as IDs, passwords, credit card numbers, and the contents of e-mails, etc., may be stolen by a third party.

Illegal Access to the Network

- Data and systems may be corrupted or manipulated by a virus.
- An imposter may access information illegally.
- Confidential information may be accessed illegally.

To minimize the possibility of these problems occurring, it is recommended to check the functions built into the wireless LAN devices, such as the projector and wireless LAN access points, and to specify security settings.

Usage Notice

Regulation & Safety Notices

This appendix lists the general notices of your Projector.

Notice: Users in the United States of America FCC notice

MODEL NAME: RICOH PJ UHL3660

TRADE NAME: PROJECTOR
MODEL NAME: RICOHPJ UHL3660
Tested To Comply with FCC Standards
FOR HOME OR OFFICE USE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- Caution- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Usage Notice

Notice: Shielded cables

All connections to other computing devices must be made using shielded cables to maintain compliance with FCC regulations.

Caution

Changes or modifications not expressly approved by the manufacturer could void the user's authority, which is granted by the Federal Communications Commission, to operate this projector.

Notes to Users in the State of California

Perchlorate Material - special handling may apply,

See www.dtsc.ca.gov/hazardouswaste/perchlorate.

Notice to Users in EEA Countries and the UK

Manufacturer:

Ricoh Co., Ltd.

3-6 Nakamagome 1-chome, Ohta-ku, Tokyo. 143-8555, Japan

Importer (CE marking):

PFU (EMEA) LIMITED Viale Monza 259, 20126 Milano (MI) Italy

Importer (UKCA marking):

PFU (EMEA) LIMITED Belmont, Belmont Road, Uxbridge UB8 1HE
England

Declaration of Conformity

Notice to Users in EEA Countries:

This product complies with the essential requirements and provisions of Directive 2014/53/EU.

Usage Notice

The CE/UKCA Declaration of Conformity is available by accessing the URL: https://www.ricoh.com/products/ce_doc2/ and selecting the product applicable.

User Information on Electrical and Electronic Equipment

Users in the countries where this symbol shown in this section has been specified in national law on collection and treatment of E-waste.

Our Products contain high quality components and are designed to facilitate recycling.

Our products or product packaging are marked with the symbol below.



This product contains substances which are harmful to humans and the environment.

The symbol indicates that the product must not be treated as municipal waste. It must be disposed of separately via the appropriate return and collection systems available. By following these instructions you ensure that this product is treated correctly and help to reduce potential impacts on the environment and human health, which could otherwise result from inappropriate handling. Recycling of products helps to conserve natural resources and protect the environment.

For more detailed information on collection and recycling systems for this product, please contact the shop where you purchased it, your local dealer or sales/service representatives.

Notice: Users in Turkey

AEEE Yönetmeliğine Uygundur.

Bu sistem sarf malzemeleri ve yedek parçaları da dahil olmak üzere AEEE Yönetmeliğine Uygundur.

Usage Notice

All Other Users

If you wish to discard this product, please contact your local authorities, the shop where you bought this product, your local dealer or sales/service representatives.

Laser Notice

IEC 60825-1:2014, EN 60825-1:2014+A11:2021: CLASS 1 LASER
PRODUCT - RISK GROUP 2.

The product's intended use as a consumer laser product and
compliant with EN 50689:2021.

CLASS 1 CONSUMER LASER PRODUCT
EN 50689:2021

The following label is attached on the bottom side of the machine.

CLASS1 CONSUMER LASER PRODUCT - IEC 60825-1:2014, EN60825-1:2014+A11:2021, EN50689:2021
APPAREIL À LASER CONSOMMATEUR DE CLASSE 1 - IEC 60825-1:2014, EN60825-1:2014+A11:2021, EN50689:2021

Notice: Users in the EU and the UK Note for the Battery and/or Accumulator Symbol



In accordance with the Battery Directive 2006/66/EC Article 20 Information for end-users Annex II, the above symbol is printed on batteries and accumulators. This symbol means that in the European Union, used batteries and accumulators should be disposed of separately from your household waste.

In the EU, there are separate collection systems for not only used electrical and electronic products but also batteries and accumulators. Please dispose of them correctly at your local community waste collection/recycling centre.

COMMISSION REGULATION (EU) 2019/2020

The light source of this product is not intended for applications other than image projection.

Usage Notice

Notice: Wireless regulations

The light source of this product is not intended for applications other than image projection.

Further guidance for equipment used in general-population/uncontrolled or occupational/controlled environments is provided in various KDB Publications.

The operating conditions and required minimum separation distance between the user and a wireless device must be clearly specified in the manual instructions for ensuring compliance.

Notes to USA Users of Wireless Devices

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Frequency Tolerance: ± 20 ppm

Compliance with FCC requirement 15.407(c)

Data transmission is always initiated by software, which is the passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets is being transmitted. In other words, this device automatically discontinues transmission in case of either absence of information to transmit or operational failure.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment has very low levels of RF energy that it deemed to comply without maximum permissive exposure evaluation (MPE). But it is desirable that it should be installed and operated keeping the radiator at least 20cm or more away from person's body (excluding extremities: hands, wrists, feet and ankles).

Supplier's Declaration of Conformity

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

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

Usage Notice

interference that may cause undesired operation.

Responsible Party: PFU America, Inc.

Address: 3900 Freedom Circle, Suite 240, Santa Clara, CA 95054

Phone Number: (408) 992-2900

Product Name: Projector

Model Number: RICOH PJ UHL3660

Notes to Canadian Users of Wireless Device

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that is deemed to comply without maximum permissive exposure evaluation (MPE).

But it is desirable that it should be installed and operated keeping the radiator at least 20cm or more away from person's body.

5150-5350 MHz band and is restricted to indoor operation only.

Compliance with ISED requirement RSS-247 6.4 a) Data transmission is always initiated by software, which is passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets is being transmitted. In other words, this device automatically discontinues transmission in case of either absence of information to transmit or operational failure.

Notes to EEA Users of Wireless Device

Outdoor use of the 5150 - 5350 MHz band is prohibited.

Operating frequency band: 2400 - 2483.5 MHz

Maximum radio-frequency power: less than 20.0dBm

Usage Notice

Operating frequency band: 5150-5250MHz (W52)

maximum radio-frequency power (EIRP): less than 23.0 dBm

Operating frequency band: 5250-5350MHz (W53)

maximum radio-frequency power (EIRP): less than 20.0 dBm
(without TPC)

Operating frequency band: 5470-5725MHz (W56)

maximum radio-frequency power (EIRP): less than 20.0 dBm
(without TPC)

Operating frequency: 5725-5875MHz (W58)

maximum radio-frequency power (EIRP): less than 13.98 dBm

*EIRP: Equivalent Isotropic Radiation Power

TPC: Transit Power Control

As this equipment with the radiating part is not intended to be used in close proximity to the human body, it is recommended to use at least 20 cm apart from the user.

Usage Notice

Power Switch Symbols

The meaning of the symbols for the switches on this machine as follows:



: On/Standby(Off)

Other Information

Copyrights to Images

When projecting images using the projector, be careful not to infringe the copyright of protected materials.

The following are examples that may infringe the copyright of protected materials.

- Broadcasting images or movies for commercial purposes
- Modifying images or movies using functions such as freeze, magnify, or zoom to broadcast images for commercial purposes or public viewing
- Varying the aspect ratio of images or movies using a function that changes the screen size to broadcast images for commercial purposes or public viewing

Disclaimer of Liability

We will not be liable for any damage caused by malfunction of this machine, loss of registered information, or any other damage caused by the use or inability to use this product or its user manual, except in cases in which we are legally liable for compensation.

Be sure to keep a copy of the information you have registered with this machine. If you make a mistake in operation or if a malfunction occurs, the registered information may be lost. Please note that we are not responsible for the consequences of the operation of documents or data created by the customer using this machine.

About DLP chip

Although DLP chips are made with very precise technology, in rare cases, missing pixels (black dots) or constant lighting of pixels may occur. These are not malfunctions. Please understand this in advance.

About the laser light source

The laser diode used as the light source of this machine has the following characteristics. Please understand this in advance.

- The brightness of the light source may decrease depending on the ambient temperature in which this machine is used.
- The brightness of the light source decreases with time of use.

Copyrights of third party software

This projector uses open source and/or third party software. To check the information about software copyrights/licenses, please refer to “**Software License**” on page 98.

You can also view and download the source code from:

http://www.support-download.com/bb/html/dr_ut_e/oss/index.htm

- This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)
- This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).
- This product includes software written by Tim Hudson (tjh@cryptsoft.com).

Cautions when using LAN

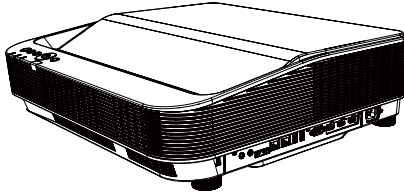
When connecting to a LAN, be sure to read and understand the security risks described in the manual and use the unit as safe as possible.

Use a network separated by a firewall to prevent unauthorised access from the Internet.

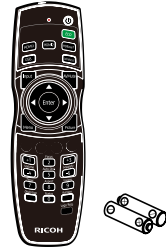
Pay careful attention to the installation location, management of the devices, and the network device to which the device is connected, in order to prevent malicious third parties from viewing the communication data.

Package Overview

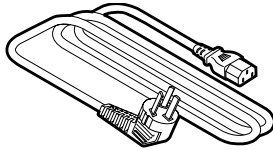
The projector is provided with the following accessories. Make sure that everything is included in the package. If anything is missing, contact your dealer immediately.



Projector

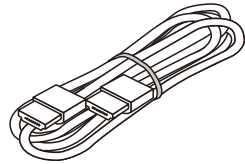


Remote control &
AA/R06 battery x2

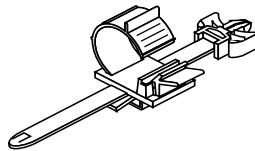


Power Cord (1.8m)

* Models for Europe are packed with two different codes, one for EU and one for UK.



HDMI cable (1.5m)



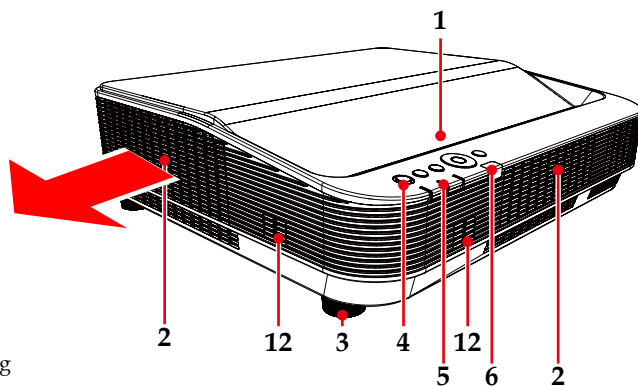
Power cord stopper

Document

- Read this first
- Warranty flyer

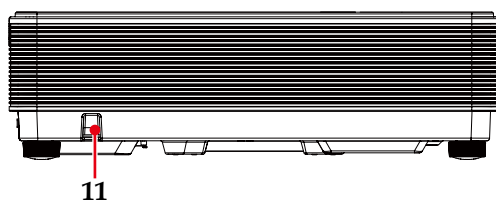
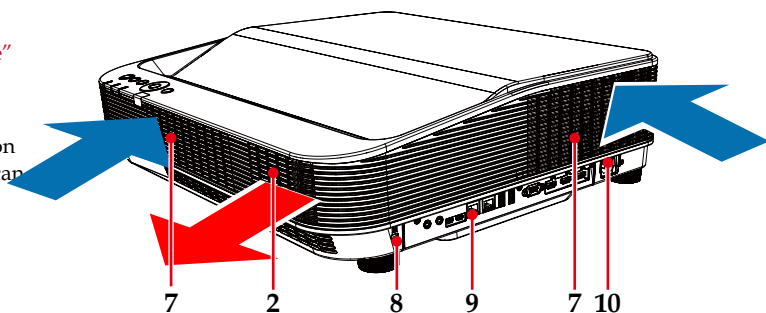
Introduction

Product Overview



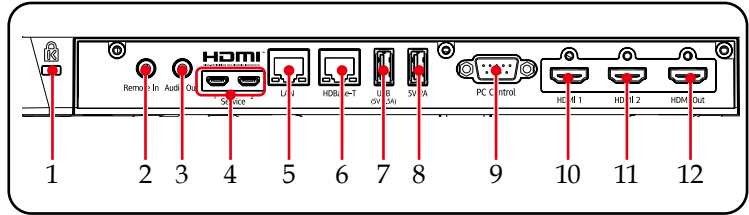
Note

- ❖ (*1)Adjust the projection angle with the adjusting feet. Please refer to “Adjust the projected image” on page 51 for details.
- ❖ (*2)A Kensington anti-theft wire can be connected.
- ❖ (*3)A commercially available anti-theft chain (wire) can be installed. Please check the shape carefully and prepare it.



- | | |
|-------------------------|---|
| 1. Projection window | 8. Anti-theft lock hole (Kensington™ lock) (*2) |
| 2. Exhaust | 9. Connection ports |
| 3. Adjustment feet (*1) | 10. AC Inlet |
| 4. Control panel | 11. Safety bar(for fixing with wire) (*3) |
| 5. Indicators | 12. Speaker |
| 6. Remote sensor | |
| 7. Air intake | |

Connection Ports



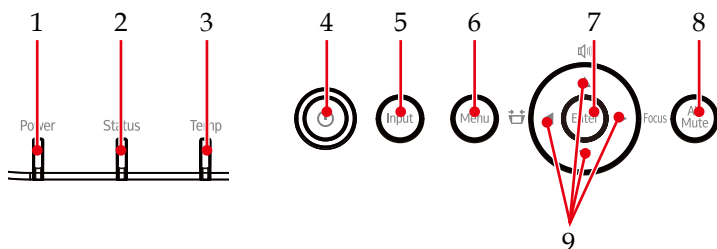
Note

- ❖ (*1) Inserts the USB memory to implement the Memory Viewer function.
- ❖ (*2) Supports HDMI 2.0 and HDCP 2.2 when [HDMI mode] is set to [High Speed Mode] (See “HDMI Mode” on page 80).

1. Anti-theft lock hole (Kensington™ lock)
2. Remote In terminal
3. Audio Out terminal
4. Service 1&2 terminal
5. LAN terminal
6. HDBaseT terminal
7. USB 5V 0.5A terminal (*1)
8. 5V/2.0A terminal
9. PC Control terminal
10. HDMI 1 In terminal (*2)
11. HDMI 2 In terminal (*2)
12. HDMI Out terminal


Introduction

Control Panel and Indicators

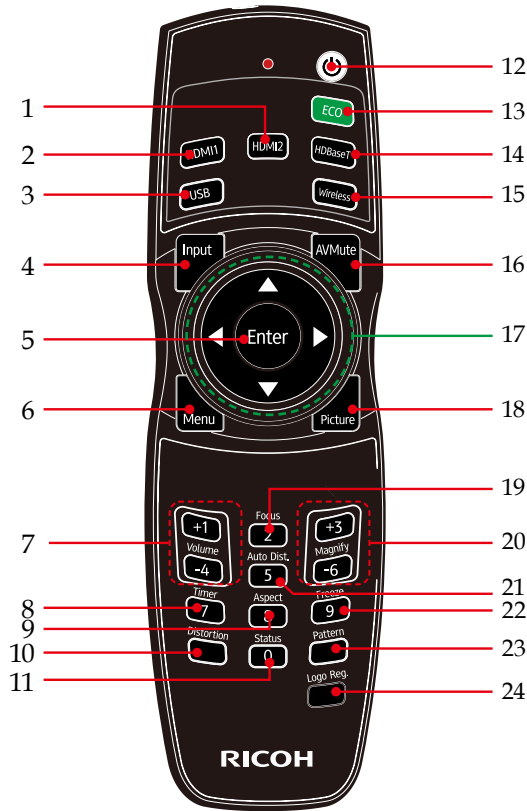


Note

- ❖ For details of the indicators, please see “Problem: Indicators lights up or Flashes” on page 113.






1~3 Indicator	These indicators inform the status of the projector.
4 Power button 	Press to turn on the power or put it in standby mode. (See page 47~48)
5 Input button	Selects the input source.
6 Menu button	Press “Menu” to launch the menu screen, or go back to the previous menu. (See page 62)
7 Enter button	Select or confirm settings.
8 AV Mute button	Temporarily erase images and sound. Press again to restore.
9 Four directional arrow buttons	Use ▲, ▼, ◀ or ▶ to select the desired menu items and to make adjustments. The ▲, ▼ keys can be used to adjust the volume, ◀ key to display the keystone correction adjustment menu, and ▶ key to display the Focus adjustment menu.

Remote Control



1	HDMI 2	Press "HDMI 2" to select the HDMI 2 input source.
2	HDMI 1	Press "HDMI 1" to select the HDMI 1 input source.
3	USB	Press "USB" to select the Memory Viewer input source.
4	Input	Press "Input" to select your desired input source.
5	Enter	Confirm your section of items in sub menu operation.
6	Menu	Press "Menu" to launch the menu screen (OSD), or go back to the previous menu. (See page 62)

Introduction

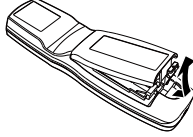
7	Volume +/Volume -	Adjust the projector's volume.
8	Timer	Display presentation timer. (See page 57)
9	Aspect	Select the aspect ratio.
10	Distortion	Adjust the image to correct for distortion caused by tilting the projector.
11	Status	Display the projector status.
12	Power()	Refer to the "Power On/Off the Projector" section. (See page 47~48)
13	ECO	Display Laser Power Mode. (See page 82)
14	HDBaseT	Press "HDBaseT" to select the HDBaseT input source.
15	Wireless	Press "Wireless" to select Network source.
16	AVMute	Temporarily erase images and sound. Press again to restore.
17	Four Directional Buttons	Use  ,  ,  , or  to select items or make adjustments to your selection.
18	Picture	Select the picture mode.
19	Focus	Enter the focus adjustment mode. (See page 50)
20	Magnify +/Magnify-	- Zoom in or out the projector display image. (See page 55) - Magnified area can be moved by four directional buttons.
21	Auto Dist.	This button is not supported with this projector.
22	Freeze	Pause the screen image. Press again to resume the screen image.
23	Pattern	Display the built-in test image.
24	Logo Reg.	Press the button to make logo registration when memory viewer input is selected. (See page 88)

Note

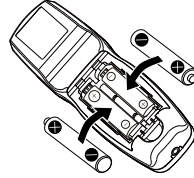
- ❖ Partial enlargement or distortion correction will make the image less clear than before enlargement or correction.

Installation of Remote Control Batteries

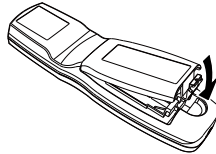
- 1 Push the clip to release the battery cover.



- 2 Install new batteries (AA/R06 or LR06). Ensure that you have the batteries' polarity (+/-) aligned correctly.



- 3 Close the battery cover and press it down until it clicks into place. Do not mix different types of batteries or new and old batteries.



For safe operation, note the following precautions:

- Be sure to use two AA (R6) size batteries.
- Do not drop the remote control.
- Do not expose the remote control to moisture or heat.
- If the remote control does not operate correctly, or if the operating range becomes reduced, replace the batteries.
- Remove batteries from remote control when not using for extended periods.
- Avoid contact with water or liquid.
- If the batteries have leaked in the remote control, carefully wipe the case clean and install new batteries.
- Dispose of batteries according to local rules.
- Attention should be drawn to the environmental aspects of battery disposal.

Remote Control Operating Range

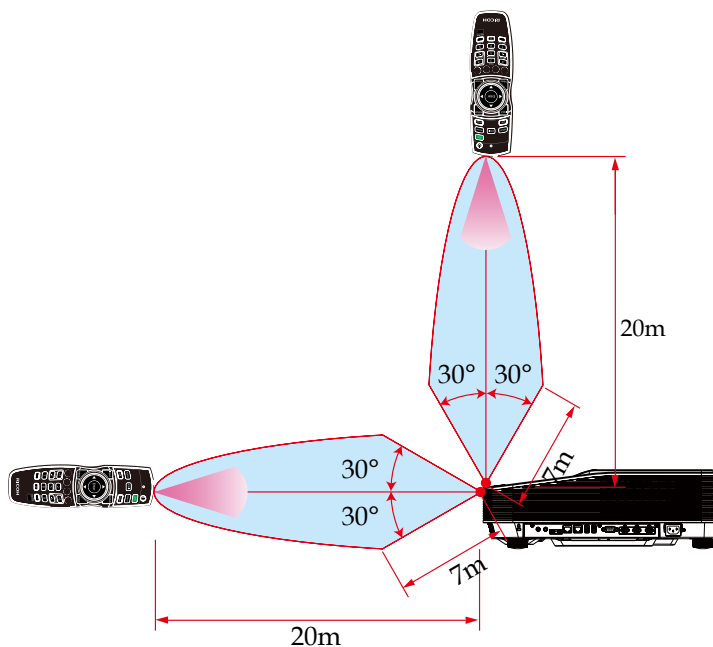
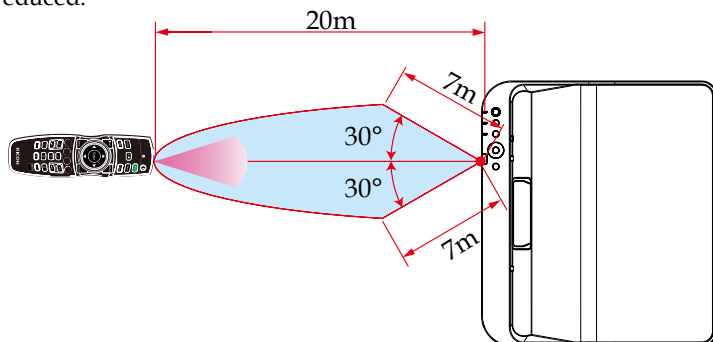
Point the remote control at the remote control sensing windows in front of projector.

When the remote control is pointed at the signal receiver on the projector, the effective range of the remote control is an area of radius 7 meters or about 20 meters in straight line from the receiver.

The remote control is effective within vertical and horizontal $\pm 30^\circ$ to the receiving direction of the remote control signal receiver. When the angle exceeds this range, the effective control distance will be reduced.

Note

- ❖ This remote control uses infrared light and may not work when it is exposed to bright light or fluorescent light.
- ❖ The guaranteed operation range of the remote control is shown in the figure on the right, but there is also a receiver on the top side, so the remote control can be operated from the top side.



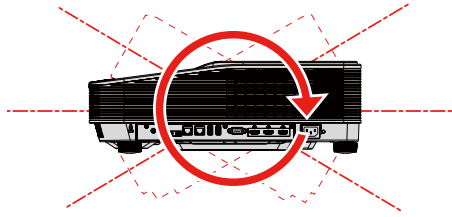
Installing the Projector

When you select a position for the projector, consider the size and shape of your screen, the location of your power outlets, and the distance between the projector and the rest of your equipment. Follow these general guidelines:

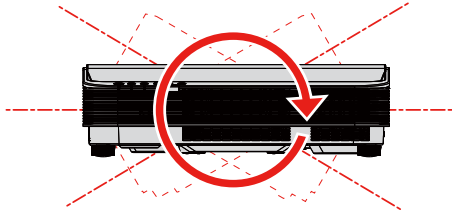
Note

- ❖ When using a LAN, use the network separated by a firewall to prevent unauthorized access from the Internet.
- ❖ Pay careful attention to the installation location, management of the devices, and the network device to which the device is connected, in order to prevent malicious third parties from viewing the communication data.
- ❖ Pay careful attention to the installation location and management of the devices, in order to prevent unauthorized tampering by a malicious third party who can operate the devices.

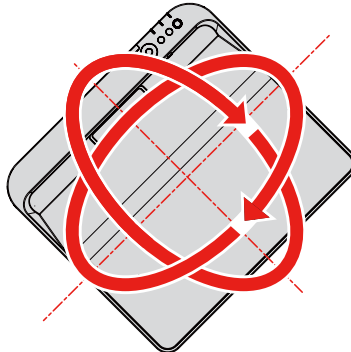
- ❖ Position the projector on a flat surface at a right angle to the screen. The projector (with the standard lens) must be at least 4.3 feet (1.3 m) from the projection screen.
- ❖ Position the projector to the desired distance from the screen. The distance from the lens of the projector to the screen, the zoom setting, and the video format determine the size of the projected image.



Vertical 360°



Horizontal 360°



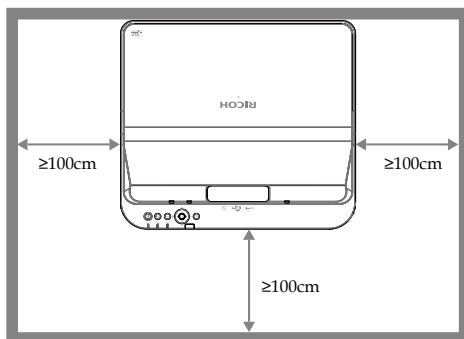
Vertical & Horizontal 360°

Precautions for installing the projector

When installing the projector, keep sufficient space around it, as described below. If not, the hot exhaust emitted from the projector may be taken back in.

Also, make sure no wind from an air-conditioner hits the projector. The projector's heat control system may detect an abnormality (temperature error) and automatically shut off the power.

- The distance between the air intake grill and the wall is not less than 100 cm
- The distance between the exhaust grill and the wall is not less than 100 cm.
- The internal temperature rises will cause the projector breaking down.

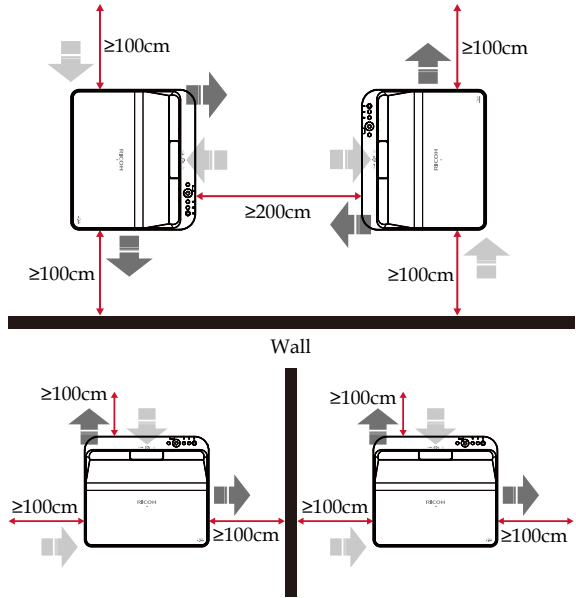


When the air intake and exhaust port are set in the upper and lower direction:

- The distance between the air intake and the wall should be more than 100cm.
- The distance between the exhaust grill and the wall should be more than 100cm.
- The internal temperature rises will cause the projector breaking down.

In addition, when the two are installed side by side, in order to prevent the hot air from directly entering the air intake, please set a wall in the middle.

Introduction

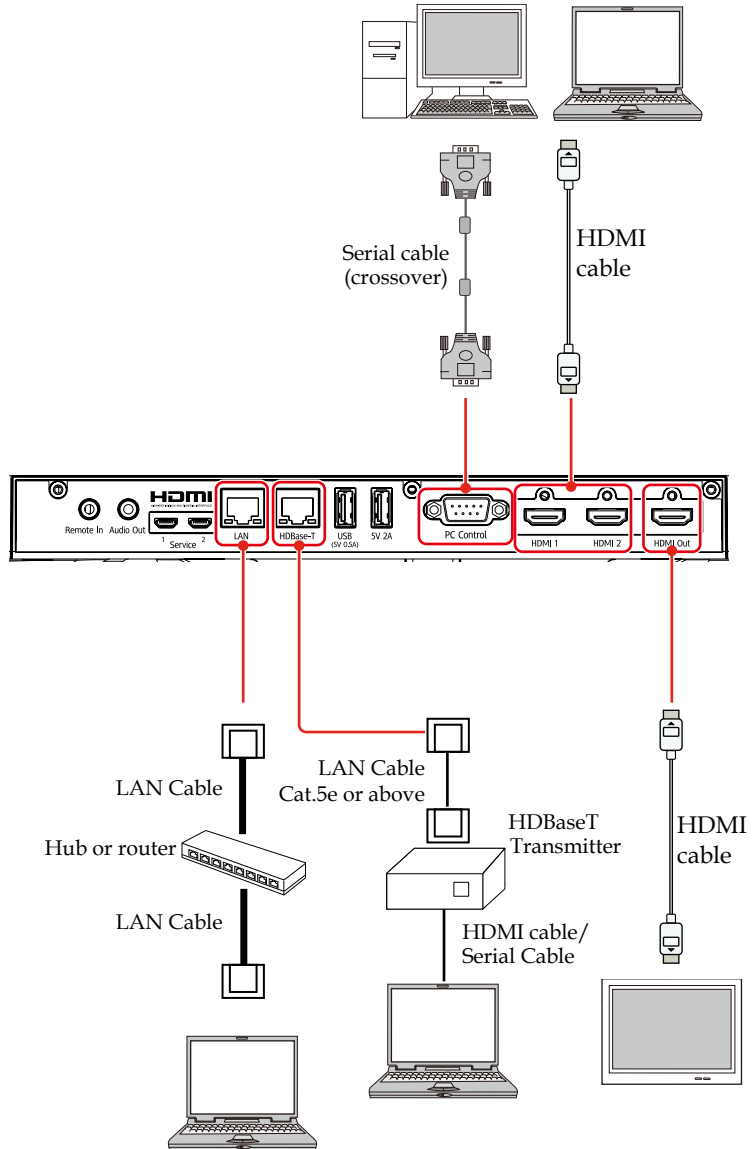


Basic Operations

Connecting a Computer (Connect to Computer/ Notebook)

Note

- ❖ To ensure the projector works well with your computer, please make sure the timing of the display mode is compatible with your projector. (See page 117).
- ❖ Use the cable that comes with the projector, if any.
- ❖ To display 4K/60Hz signal such as UHD Blu-ray player output, make sure to use Premium certified HDMI cable.
- ❖ The HDBaseT terminal supports serial communication functions, but not LAN functions.



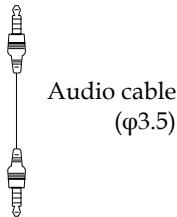
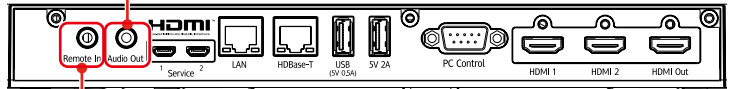
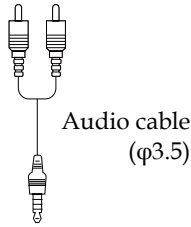
Basic Operations

Connecting a Audio Device (Audio) and the Remote Controller



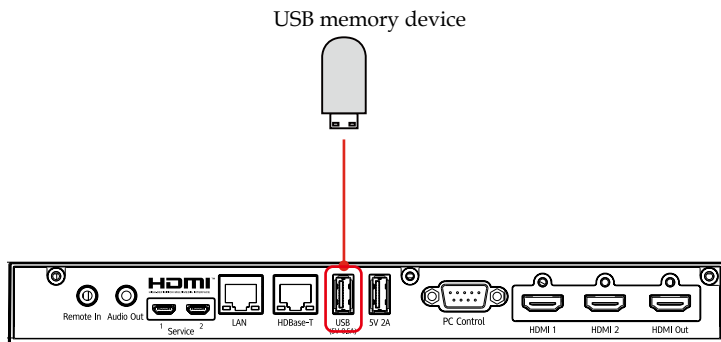
Note

- ❖ If speakers without built-in amplifiers are used, prepare a separate amplifier.
- ❖ When external speakers are connected, no sound is output from the main unit's speakers.
- ❖ The volume of the external speaker can be adjusted with the [Volume +/-] button.



Basic Operations

Connecting a USB Device



Using the power cord stopper

To prevent the power cord from accidentally removing from the AC IN of the projector, use the power cord stopper.

Note

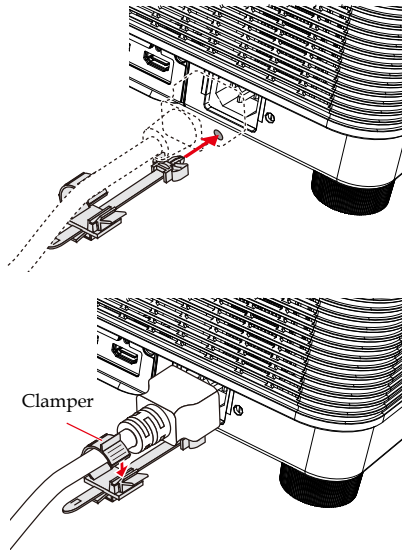
- ❖ If you pull on the power supply cord while the connector is fixed, the main unit may fall down and be damaged.

CAUTION:

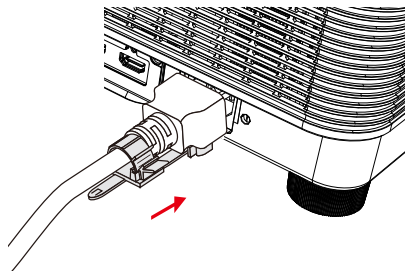
To prevent the power cord from coming loose, make sure that all the prongs of the power cord are fully inserted into the AC IN terminal of the projector before using the power cord stopper to fix the power cord. A loose contact of the power cord may cause a fire or electric shock

Installing the power cord stopper

1. With the clammer facing the power supply cord, align the tip of the power supply cord stopper with the hole below the AC IN terminal and push it in.
2. Pass the power supply cord through the clammer and press the clammer to fix it.
3. Pass the power supply cord through the clammer and press the clammer to fix it.

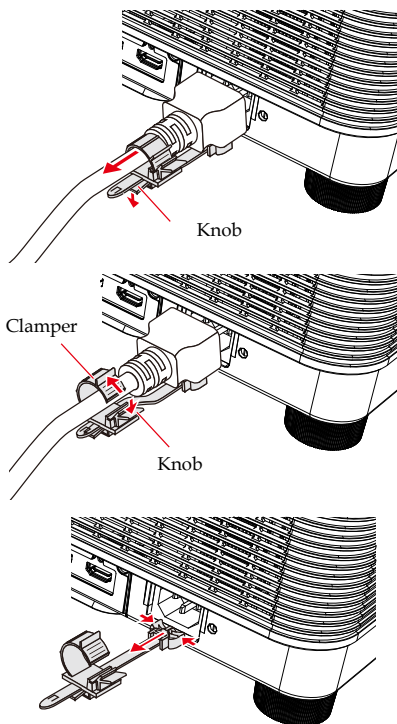


Basic Operations



Disconnecting the power cord stopper

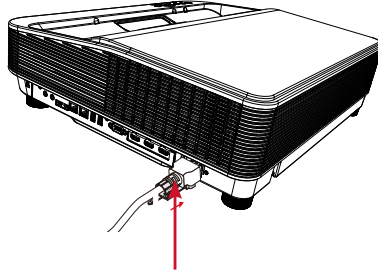
1. Pull to an appropriate position while pushing down the knob of the power cord stopper.
2. Press down the knob on the clamber to open the clamber and take out the power cord.
3. Push and pull the fitted part of the power cord stopper from the left and right to remove it from the main unit.




Powering On/Off the Projector

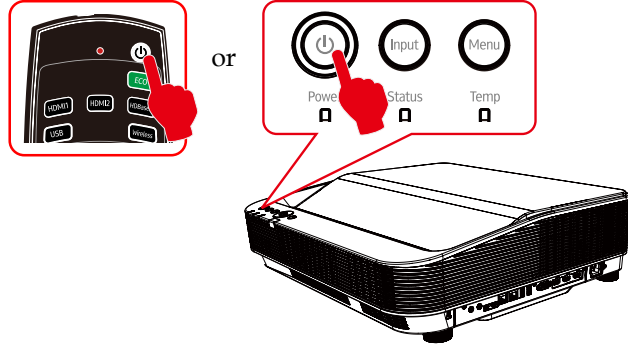
Powering on the Projector

1. Please make sure the power cord and power cord stopper are securely connected. The Power indicator will turn red.



Connect the power cord and stopper to the projector.

2. Turn on the projector by pressing the “” button on the top control panel or on the remote control.



The Power indicator will flash blue.

The startup screen will display and the Power indicator will turn blue.

3. The first time you use the projector, you will be asked to select the preferred language. Turn on your source (computer, notebook, video player, etc.) The projector will detect your source automatically.

Make sure that the [Auto Source] has been set to [On].

* [Auto Source] is set to [On] as a factory default value.

Note

- ❖ Make sure that the power plug is fully inserted into both the projector AC inlet and the wall outlet.
- ❖ The AC outlet must be near this equipment and must be easily accessible.

Note

- ❖ If you connect multiple sources at the same time, press “Input” to switch inputs.

Note


- ❖ Turn on the projector first and then the signal sources.

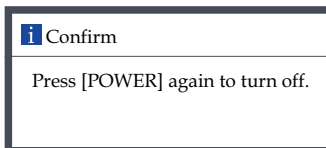
Basic Operations


Note

- ❖ When the Power indicator Flashes red, the light source is cooling down, and the projector cannot be turned on at this moment. When the Power indicator turns red steadily, the projector can be turned on again.

Power off the projector

1. Press the “” button on the control panel or on the remote control. The following dialog box will pop up.



2. Press the “” button again. The projector will shut down.
 - The Power indicator will Flash red, while the cooling fan continues running. You may set up noise level and speed of the fan when it is cooling down. Until when the projector goes to standby mode, the Power indicator will be steady red.
3. Unplug the power cord out of the socket and projector connector.

Input Source Signal Selection

Basic Operations

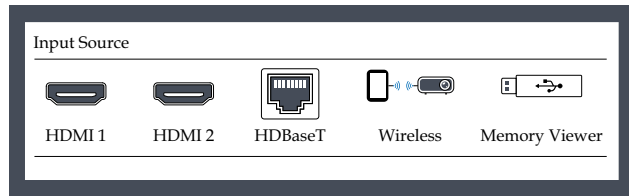
Press the Input button on the remote control or the control panel and choose HDMI1, HDMI2, HDBaseT, Wireless or Memory Viewer as the input source.

Note

- ❖ You can also change the input source by direct buttons on the remote control.

Menu operation

- 1) Press the Input button on the remote control to enter the input source menu.
- 2) Press ◀▶ buttons to choose HDMI1, HDMI2, HDBaseT, Wireless or Memory Viewer and press Enter to select the input source.



Note

- ❖ [Memory Viewer] and [Wireless] does not support Automatic search function.

HDMI1

If the input source is a device that connects to the HDMI 1 In terminal with an HDMI cable, choose "HDMI 1".

HDMI 2

If the input source is a device that connects to the HDMI 2 In terminal with an HDMI cable, choose "HDMI 2".

HDBaseT

Select input source HDBaseT if a device is connected to the HDBaseT terminal

Wireless

Select the wireless input source if you want to use the wireless projection function.
For further information, please see [page 90](#) for instruction.

Memory Viewer

Select input source Memory Viewer if a device is connected to the USB terminal.
To use Memory Viewer function, please see [page 86](#) for instruction.

Basic Operations

Adjust the Projector Focus

Adjust the sharpness of the projected picture with the focus function.

Note

- ❖ Adjusting the focus may shift the screen position. Adjust the focus before positioning the projected image.

Note

- ❖ Due to the characteristics of the lens, the size and position of the projected image may shift if a bright image is projected for a while.

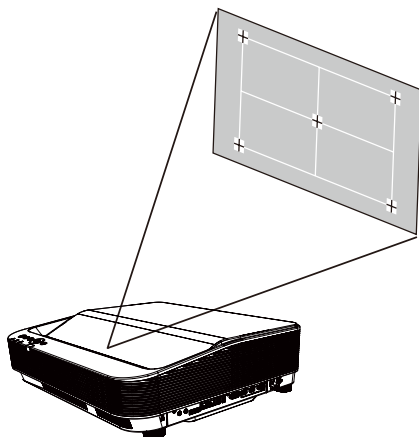
Note

- ❖ In rare cases, the motorized focus may get stuck when projecting a bright image for a long period of time. If this happens, please refer to "Troubleshooting" on page 109 for details.
- ❖ The projected image becomes unsharp when Distortion correction is enabled. This is a limitation of digital correction.

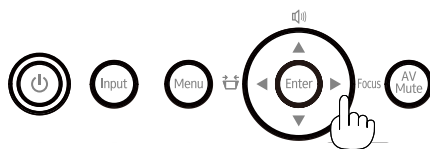
Operation procedure:

Select **Screen > Focus** on the menu and adjust the screen. Focus adjustment pattern is automatically displayed. Use the ◀▶ buttons to move the motorized focus and adjust it so that the five cross patterns are evenly visible. Press Enter to switch between the focus adjustment pattern and the input signal. Press Menu button after adjustment.

The image is not stable immediately after the projector is turned on. It is recommended to wait at least 30 minutes with the focus adjustment pattern displayed before adjusting the focus.



- * Another method is to press the Focus button on the control panel or remote control. Press the ◀ or ▶ button to make adjustment.



Adjust the projected image

Adjust the position of the projected image

1. Place the projector so that it is perpendicular to the screen.
2. Rotate the adjustable feet and tilt the projector to an appropriate height, the max height will up to 20mm, just as follow Image ①.
3. To raise the projector, rotate the two feet clockwise. To lower the projector or retract the adjustable feet, rotate the two feet counterclockwise, just as follow Image ②.
4. Using the adjustable feet, you can adjust the projection angle up to 3 degrees, just as follow Image ③.

Note

- ❖ The image is not stable immediately after the projector is turned on. Adjust the image at least 30 minutes after the projector is turned on.
- ❖ Adjusting the focus may shift the screen position. first adjust the position roughly, then adjust the focus, and finally adjust the position.
- ❖ If a bright image is projected for a while, the projected image may become slightly larger and the projection position may shift. Check the position using the image that will actually be projected, and adjust it to a position with sufficient margin.

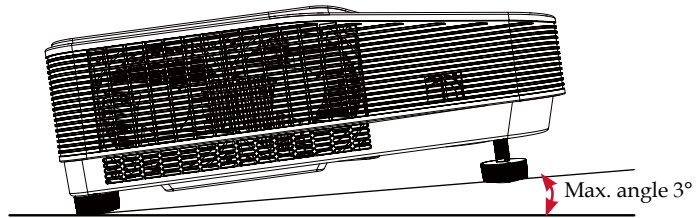


Image ①

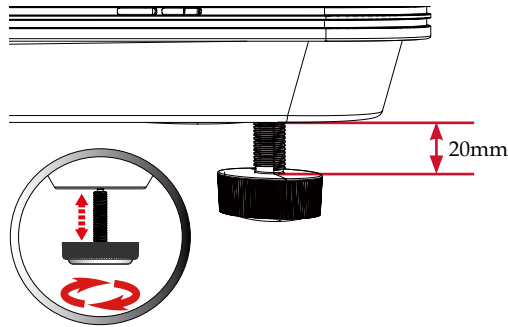


Image ②

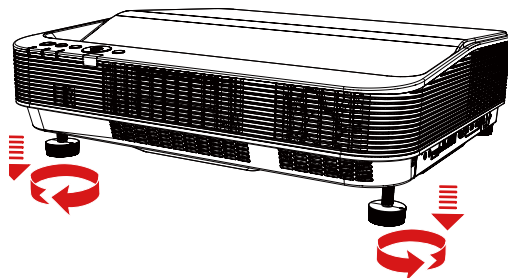
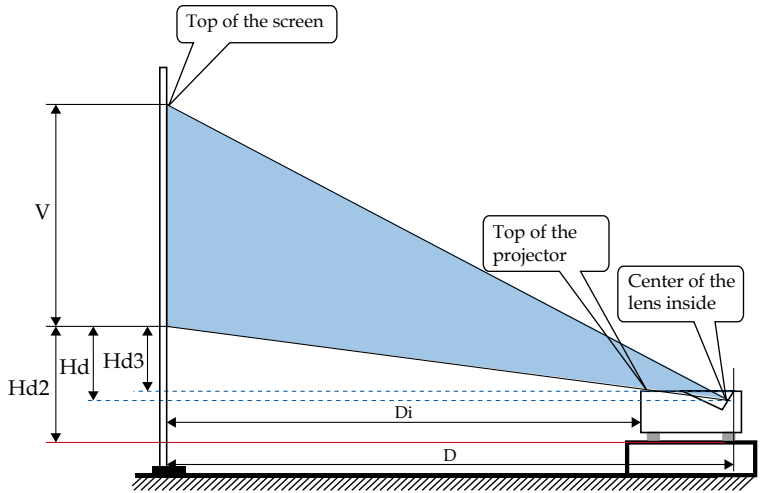


Image ③

Basic Operations

Adjust the screen size



- Hd: Vertical distance from the center of the lens to the bottom of the projection screen.
- Hd2: Vertical distance from the bottom of the projector to the bottom of the projection screen.
- Hd3: Vertical distance from the top of the projector to the bottom of the projection screen.
- Di: Distance from the edge of the projector (screen side) to the screen surface.
- D: Distance from the mirror vertex to the screen surface.

Note

❖ The values in the table are theoretical values and may differ from the actual values. When installing the projector, we recommend that you check the actual installation environment using the projector itself.

Aspect ratio 16:9 (Native)							
Size	Distance		Offset			Screen	
Inch	D(m)	Di(m)	Hd(m)	Hd2(m)	Hd3(m)	H(m)	V(m)
85	0.46	0.01	0.20	0.29	0.14	1.88	1.06
90	0.49	0.03	0.21	0.31	0.15	1.99	1.12
100	0.54	0.08	0.23	0.33	0.17	2.21	1.25
110	0.58	0.13	0.26	0.35	0.20	2.44	1.37
120	0.63	0.18	0.28	0.38	0.22	2.66	1.49
130	0.68	0.23	0.30	0.40	0.24	2.88	1.62
140	0.73	0.28	0.33	0.42	0.27	3.10	1.74
150	0.78	0.33	0.35	0.45	0.29	3.32	1.87
160	0.83	0.38	0.37	0.47	0.31	3.54	1.99

Basic Operations

Aspect ratio 16:10							
Size	Distance		Offset			Screen	
Inch	D(m)	Di(m)	Hd(m)	Hd2(m)	Hd3(m)	H(m)	V(m)
80	0.47	0.02	0.20	0.30	0.14	1.72	1.08
85	0.50	0.04	0.22	0.31	0.16	1.83	1.14
90	0.52	0.07	0.23	0.32	0.17	1.94	1.21
100	0.57	0.12	0.25	0.35	0.19	2.15	1.35
110	0.63	0.18	0.28	0.37	0.22	2.37	1.48
120	0.68	0.23	0.30	0.40	0.24	2.58	1.62
130	0.73	0.28	0.33	0.42	0.27	2.80	1.75
140	0.78	0.33	0.35	0.45	0.29	3.02	1.88
148	0.83	0.37	0.37	0.47	0.31	3.19	1.99

Aspect ratio 4: 3							
Size	Distance		Offset			Screen	
Inch	D(m)	Di(m)	Hd(m)	Hd2(m)	Hd3(m)	H(m)	V(m)
70	0.47	0.01	0.20	0.30	0.14	1.42	1.07
75	0.50	0.04	0.21	0.31	0.16	1.52	1.14
80	0.52	0.07	0.23	0.33	0.17	1.63	1.22
85	0.55	0.10	0.24	0.34	0.18	1.73	1.30
90	0.58	0.13	0.26	0.35	0.20	1.83	1.37
100	0.64	0.19	0.29	0.38	0.23	2.03	1.52
110	0.70	0.25	0.31	0.41	0.25	2.24	1.68
120	0.76	0.31	0.34	0.44	0.28	2.44	1.83
130	0.82	0.37	0.37	0.46	0.30	2.64	1.98
131	0.83	0.38	0.38	0.47	0.31	2.66	2.00

Aspect ratio 21:9							
Size	Distance		Offset			Screen	
Inch	D(m)	Di(m)	Hd(m)	Hd2(m)	Hd3(m)	H(m)	V(m)
81	0.46	0.01	0.33	0.42	0.27	1.89	0.81
90	0.51	0.05	0.36	0.46	0.30	2.10	0.90
100	0.56	0.10	0.40	0.50	0.34	2.33	1.00
110	0.61	0.15	0.44	0.54	0.38	2.57	1.10
120	0.66	0.21	0.48	0.58	0.42	2.80	1.20
130	0.72	0.27	0.52	0.62	0.46	3.04	1.30
133	0.73	0.28	0.54	0.63	0.48	3.11	1.33

Operations while Projecting Images

This section describes the detailed basic operation during projecting the images.

Adjusting the Volume of the Speaker

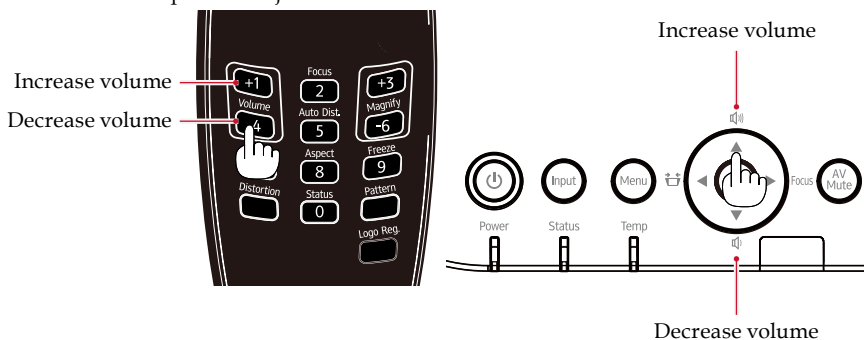
Sound level from the speaker or audio output can be adjusted.

Operation procedure:

Select **Audio > Volume** in the menu system to display the menu and adjusts the sound. Then press the ◀ or ▶ button to adjust the volume. For procedures to adjust and set up, please see [page 79](#) of this manual for details.



* In another way, press the Volume +/- button on the remote control or control panel to adjust the volume.



Basic Operations

Enlarging the Image

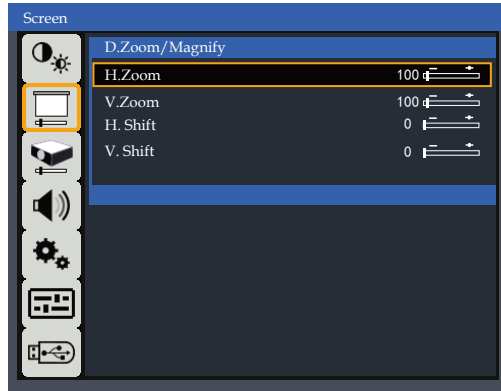
You can enlarge a part of the image using a remote control or through the menu.

Note

- ❖ The projected image becomes unsharp when distortion function is enabled. This is a limitation of digital correction.
- ❖ When [D.Zoom/Magnify] is enabled, the menu may not be visible. If this happens, change the setting in [Screen]>[Advanced]>[Menu position] in the menu system.

Operation procedure:

1. Press the menu button of the remote control to enter the menu page.
2. Select **Screen > D.Zoom/Magnify > H. Zoom/V. Zoom/H. Shift/V. Shift** in the menu system as required, use the **▲, ▼, ◀** or **▶** button to make adjustment. For details, see D.Zoom/Magnify on the [page 69](#).



Note

- ❖ Pressing the Menu button will cancel the magnification operation.
- ❖ When [D.Zoom/Magnify] in the menu system is enabled, the Magnify +/- buttons on the remote are disabled.

- * In another way, press the Magnify +/- button to magnify the picture. To move the magnified image, use the Magnify + button to enlarge and the Magnify - to reduce.



Press the Enter button to enter the mode of moving the magnified area.

Press the **▲, ▼, ◀** or **▶** button in the direction you want to see to move. If you want to change the magnification rate again, press the Magnify +/- button or the Enter button.

Basic Operations

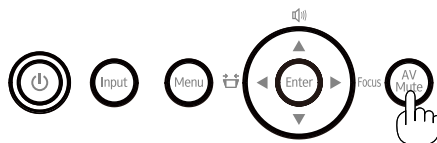
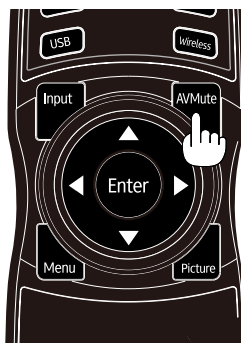
Temporarily Blanking the Image and Muting the Audio

Press the AV Mute button to turn off the image and sound for a short period of time. Press again to restore the image and sound.

1. Press the AV Mute button on the remote or control panel to pause the picture and sound.

Note

- ❖ Sound from the AUDIO OUT jack (Stereo mini) can be turned off.

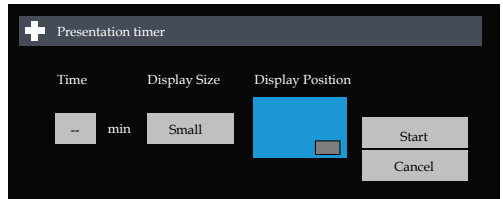


Basic Operations

Using the Presentation Timer

Press the timer button on the remote control. Timer animation (00:00) is displayed on the screen and starts timing in format (00:00-99:00). Press the timer button to stop the timer. Press the timer button again to turn off the timing function.

1. Press the Timer button, and then the screen will pop up the Presentation Timer page to adjust.



- ▶ Time: Set the time as required, Time can be set in 1-minute increments from 1 to 99 minutes.
- ▶ Display Size: Resize the time display box. The available options: Small/large.
- ▶ Display Position: Adjust the position of the time display box.
- ▶ Start: Make sure to apply the set options and exit.
- ▶ Cancel : Cancel the application and exit.

Basic Operations

The dongle storage cover

This projector has a cover on the bottom where you can store so-called “dongles” such as casting devices and digital media players.



Since the unit is placed upside down during work, prepare a spacer that is 3.5cm-4.0cm thick, 15cm wide or more, and 5cm-10cm deep to prevent the unit from tilting due to its inclined part. Make sure that the spacer is strong enough. If the spacer is made of a hard material, wrap it in a cloth to prevent scratches.

How to store the dongle inside the cover

- 1) The storage compartment is on the bottom of the unit, so you will need to place the unit upside down.
- 2) Prepare a flat table that is large enough to place the projector on and work on. (It is recommended that there be a margin of 10cm in both length and width beyond the size of the projector.) You will be working on this table, so make sure it is strong enough.
- 3) Place a sheet of cloth or similar on the table that is larger than the projector to prevent scratches.
- 4) Turn off the power to the projector and unplug the power cable. Also, unplug all connected signal cables.
- 5) Place the projector upside down on the sheet. The front of the device is inclined, it may be unstable when placed on the sheet, so please be careful.
- 6) Place the prepared spacer on the front of the projector. At this time, make sure that the projector does not tilt or the spacer does not fall out by applying force to the unit.

Note

- ❖ Due to the size of the dongle and the way the cables are routed, it may not be possible to store it inside the cover.
- ❖ The device that has been confirmed to be able to be stored is the Google Chromecast (3rd generation).

Basic Operations

Note

- ❖ Make sure that the bottom surface of the projector is not tilted when placed between the spacer. A dongle placed on the bottom may slip off and be damaged.



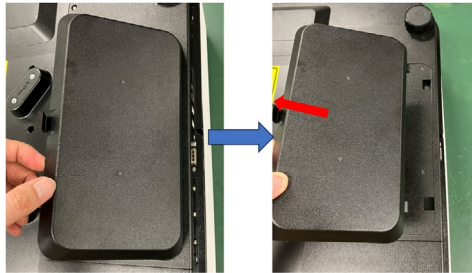
- 7) Hook your finger into the tab on the cover and push and lift in the direction of the arrow to remove the cover.



Note

- ❖ Depending on the shape of the dongle, it may not be possible to store it inside the cover.
- ❖ If you use the USB power terminal (5V2A) of this projector to power the dongle, make sure that the dongle's power supply voltage is 5V and the current is 2A or less. Even if the power supply voltage and current are compatible, it may not actually work. In such cases, use an AC adapter.

- 8) The cover can be removed by lifting it up and sliding it off.



- 9) Insert the dongle's HDMI connector into the HDMI1 terminal. (If you insert the connector into the HDMI2 terminal, it will interfere with the claw on the cover and cannot be used.) Place the dongle on top of the bottom of the projector. Connect the dongle's power supply.

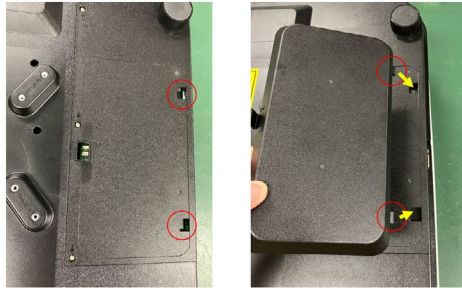
Basic Operations

Note

- ❖ Before closing the dongle cover, make sure there is enough space around the dongle and that there is no unnecessary strain on the cable.
- ❖ When closing the cover, do so slowly and without using excessive force. Closing the cover with too much force may damage the dongle.



- 10) Insert the two claws of the cover into the holes on the bottom of the projector.



- 11) There is a gap on the underside of the cover, through which the dongle cable is threaded. Close the cover, making sure that no force is applied to the dongle.

Make sure it locks into place with a click.



- 12) Remove the spacer, return the unit to its normal orientation and place it where you want to use it.
- 13) Connect the power cable and signal cable and turn the power on.

Basic Operations

Caution

Note

- ❖ To display video from the dongle, select HDMI1 as the input.

- Please use the dongle cover and power terminal (5V2A) at your own risk. RICOH is not responsible for any problems that may occur when using the dongle due to the use of the dongle cover or power terminal (5V 2A).
- Placing the dongle inside the cover may cause the dongle to overheat. If the dongle becomes unstable, remove it from the cover and use it.
- If the dongle is placed inside the cover, the dongle's wireless communication may become unstable. If this occurs, remove the dongle from the cover and use it.
- Radio waves from the dongle may cause the projector's wireless communication to become unstable. If this occurs, remove the dongle from the cover and place it away from the projector.
- Do not move the projector with the dongle still inside the cover as this may cause the dongle to break.
- Be careful not to allow clips or other metal objects to enter the hole where the cover's fingernail used to be.
If metal should enter, never turn on the power.
Please request repairs as soon as possible.
- Please keep the cover on at all times except when installing or removing the dongle.
- If the cover is broken or lost, cover the holes where the cover's tabs were with insulating tape or something similar. Then, request repairs immediately.

User Settings

The Menu Screen (OSD)

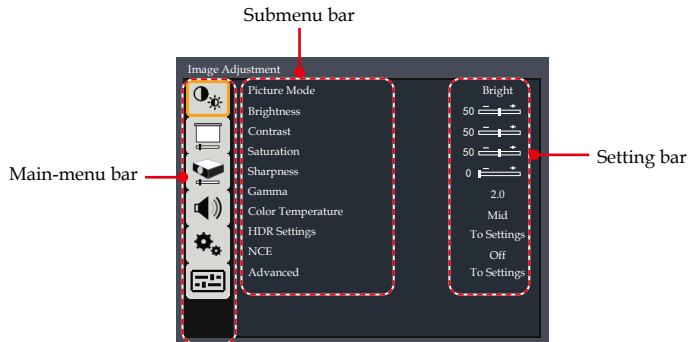
The Projector has a multilingual the Menu Screen that allows you to make image adjustments and change a variety of settings

How to operate the Menu

1. To open the Menu, press "Menu" on the control panel or remote control.
2. When OSD is displayed, use ▲ ▼ buttons to select any item in the main menu. While making a selection on a particular page, press ► or "Enter" button to enter sub menu.
3. Use ▲ ▼ buttons to select the desired item in the sub menu and press the Enter button to view further settings. Adjust the settings by using ◀▶ button or ▲ ▼ button.
4. Select the next item to be adjusted in the sub menu and adjust as described above.
 - When there is no next menu in the submenu, press the ◀▶ buttons to set related options.
 - When there is a next menu in the submenu, the screen will display the text "To Settings". Press the ▲ ▼ buttons to set related options. If the next submenu contains option settings, press the Enter button to proceed with the next submenu option setting (as above).
5. Press the Menu button to return to the previous menu setting.
6. Press the ◀▶ buttons to change or adjust the setting and press "Enter" button to confirm the change.
7. After exiting, press the Menu button again, the menu will close, and the projector will automatically save the new settings.

Note

- ❖ If no button operation is made for approximately 30 seconds, the Menu will be closed automatically.



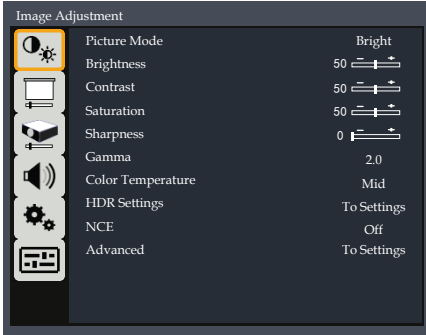


Image Adjustment

Picture Mode

Note

- ❖ When [Picture Mode] is set to [Bright], [Constant Luminance] cannot be selected for [Laser Power Mode]. Also, when [Constant Luminance] is selected for [Laser Power Mode], [Bright] cannot be selected for [Picture Mode].

There are factory presets optimized for various types of images. The available options:

- ▶ **Bright:** Mode for emphasizing brightness.
- ▶ **Standard:** Mode for optimizing the balance between brightness and color reproduction.
- ▶ **Vivid:** Enrich the details of the picture, make the picture more vivid.
- ▶ **Natural:** Images suitable for natural portraits.
- ▶ **DICOM SIM :** In this image mode, the images are adjusted to simulate the DICOM format. DICOM is a global standard for storing and transmitting medical images. However, this mode only simulates these formats, so the image may be projected differently from the original DICOM format. It should not be used for actual diagnoses.

Brightness

Adjust the brightness of the image.

- ▶ Press the ◀ button to darken image.
- ▶ Press the ▶ button to lighten the image.

Contrast

The contrast controls the degree of difference between the lightest and darkest parts of the picture. Adjusting the contrast changes the amount of black and white in the image.

- ▶ Press the ◀ button to decrease the contrast.

User Settings

- ▶ Press the ► button to increase the contrast.

Saturation

Adjust the color saturation of the image.

- ▶ Press the ◀ button to decrease the amount of color in the image.
- ▶ Press the ► button to increase the amount of color in the image.

Sharpness

Adjust the sharpness of the image.

- ▶ Press the ◀ button to soften the image.
- ▶ Press the ► button to sharpen the image.

Gamma

Adjust the gamma to adjust the brightness of the projection image. Choose the right gamma values according to different projection environments to adjust the best picture brightness effect.

The available options:1.8/2.0/2.2/2.4/Shine.

- ▶ Shine: The midtones of the image are brightest.
- ▶ 2.4: The midtones of the image are darkest.

Color Temperature

Use this function to set the color temperature of the image. The available options:Low/Mid/High/Native.

HDR Settings

Use this function to adjust the HDR (High Dynamic Range) related settings.

Note

- ❖ The projector supports HDR10 as the HDR method.

- ▶ HDR: Enable or disable the HDR function.
 - Auto: Enable HDR function automatically.
 - Off: Disable HDR function.
- ▶ EOTF: Adjust the dynamic range of the displayed image.
 - Low: The image is with the low contrast.
 - Mid: The image is with the middle contrast.
 - High: The image is with the high contrast.

NCE

Note

- ❖ When the NCE Settings function is set to [On], the NCE settings can be valid.

Adjust the advanced color adjustment to adjust the quality of the projection image. You can adjust the different colors by adjusting saturation, hue and gain values.

- ▶ On: Enable this function.
- ▶ Off: Disable this function.

Advanced

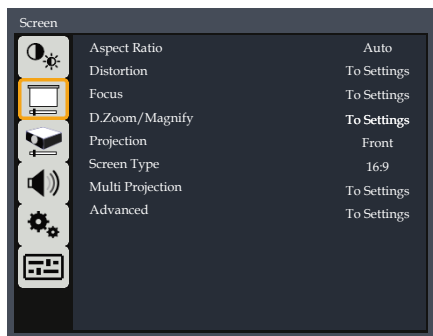
Select this function for users to adjust the color parameters of the picture more accurately to obtain the best image effect.

Note

- ❖ When [Image Adjustment] > [Picture Mode] is set to other than [Bright], [High Contrast Mode] is set to [Off].
- ❖ When [High Contrast Mode] is set to other than [Off], [Laser Power Mode] is set to [Constant Power] and [Laser Power] is set to [100] in [Options] > [Laser Settings].

- ▶ Wall Color Mode: Obtain an optimized screen image according to the wall color. The available options: Off/Light Yellow/Light Blue/Pink/Dark Green.
- ▶ NCE Settings: Adjust the quality of the projection image by adjusting the saturation, hue and gain values of different colors (RGBCMYW). The available options: Red/Green/Blue/Cyan/Magenta/Yellow/White/Reset.
- ▶ High Contrast Mode: Switches the control of the light source according to the input video signal. The available options: Off/LD Cutoff/Normal.
 - Off.
 - LD Cutoff: Turns off the light source when a black signal is input. The brightness of the light source is automatically controlled according to the input video.
 - Normal: Automatically controls the brightness of the light source according to the input video.

User Settings



Screen

Aspect Ratio

Use this function to choose your desired aspect ratio of the projected image.

- ▶ Auto: Selects the appropriate display format automatically.
- ▶ 4:3: Displays 4:3 aspect ratio.
- ▶ 16:9: Displays 16:9 aspect ratio.
- ▶ 16:10: Displays 16:10 aspect ratio.

Distortion

Adjust image distortion caused by tilting the projector.

- ▶ H/V keystone: Selects this function to correct distortion when projecting from an angle to the screen..



Note

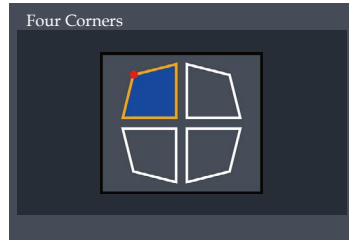
- ❖ H/V Keystone and geometric corrections make the image less clear than it was before correction. This is due to digital signal processing and is not a malfunction.
- ❖ Only one function in [Distortion] can be applied at the same time.



Use the ▲, ▼ keys to select Horizontal/Vertical keystone correction and the ◀, ▶ keys to adjust.

- ▶ Four Corners: Select this function to correct the four corners of the image to match the screen.

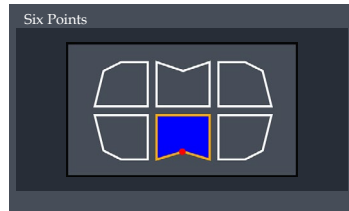
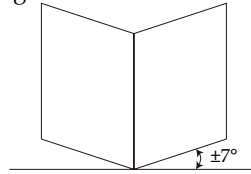
User Settings



Note

- ❖ [Six Points] can be used when [Aspect] and [Screen Type] are set to [16:9] and [D.Zoom/Magnify] is disabled.

- Press the Enter button to select the corner and press the ▲ ▼ ◀ ▶ button for adjustment.
- ▶ Six points: Corrects distortion when projecting on a folded screen as shown below. The range of fold angle that can be corrected is ± 7 degrees.

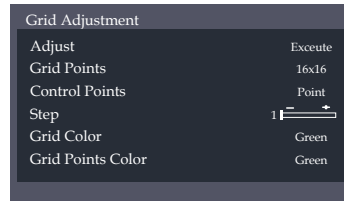


- Press the Enter button to select the corner and press the ▲ ▼ ◀ ▶ buttons for adjustment.

Note

- ❖ [Grid adjustment] can be used when [Aspect] and [Screen Type] are set to [16:9] and [D.Zoom/Magnify] is disabled.

- ▶ Grid adjustment: Select this function to correct slight distortions that occur in parts of the image.



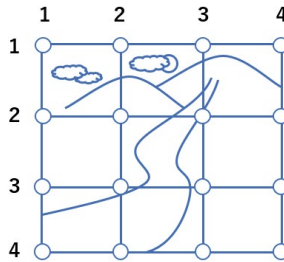
- Adjust: Select this function to adjust the local points of the projected image .

User Settings

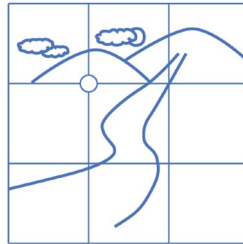
Note

- ❖ If [Grid points] is changed, grid adjustment value will be reset.

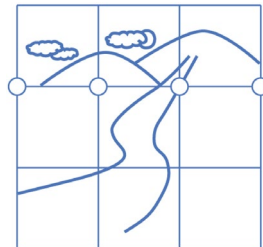
- Grid Points: Selects this function to set the number of grid point both horizontally and vertically.



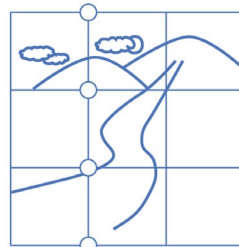
- Control Points: Selects this function to set the adjustment way.



Point



H. Line

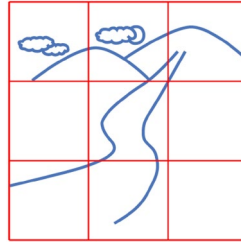


V. Line

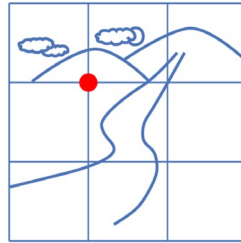
- Step: The ability to set the amount of pixel movement when adjusting the grid.

User Settings

- Grid Color: Selects this function to change the color of the grid.



- Grid Points Color: Selects this function to set the magnitude of the adjustment.



Note

- ❖ [D.Zoom/Magnify] function is available only when chosen the [HDMI1], [HDMI2] and [HDBaseT] as the input signal.
- ❖ H.(V.) Shift adjustment range depends on the H.(V.) Zoom setting value. And When H.(V.) Zoom is set to 100, H.(V.) Shift cannot be adjusted.
- ❖ H.Zoom/V. Zoom/H.Shift/V. Shift have values that cannot be set. Such values are not set during adjustment and are skipped.

- ▶ Reset: Select this function to make adjustment value back to the factory default.

Focus

Adjust the focus according to the picture displayed on the screen to make the picture fresher. Long press ◀ or ▶ button to adjust the value (For more information, see [page 50](#)).

D.Zoom/Magnify

Use the D.Zoom/Magnify function to adjust the size or position of a projected image. Use the ◀ or ▶ button to adjust the value.

- ▶ H. Zoom: Selects this function to magnify or reduce the size of the projected image horizontally.
 - Press the ▶ button to magnify the image size .
 - Press the ◀ button to reduce the image size.
- ▶ V. Zoom: Selects this function to magnify or reduce the image size vertically.
 - Press the ▶ button to magnify the image size .

User Settings

- Press the ◀ button to reduce the image size.
- ▶ H. Shift: Selects this function to shift the position of the projected image horizontally.
 - Press the ▶ button to shift the image to the right.
 - Press the ◀ button to reduce the image to the left.
- ▶ V. Shift: Selects this function to shift the position of the projected image vertically.
 - Press the ▶ button to shift the image up.
 - Press the ◀ button to reduce the image down.

Projection Mode

Use this function to select the projector mode, depending upon how the projector is mounted.

- ▶ Normal: This is the default selection. The image is projected directly onto the screen.
- ▶ Rear: When selected, the image will appear upside down.
- ▶ Ceiling : When selected, the image will appear reversed.
- ▶ Rear Ceiling: When selected, the image will appear reversed in upside down position.

Screen Type

The user can choose the appropriate screen ratio for the projection. The available options: 4:3/16:9/16:10.

Multi Projection

This projector has built-in multi projection function, in which two projectors are lined up horizontally and project one large image.

Note

- ❖ When using Multi projection function, please set [Image Adjusting] > [Advanced]>[High Contrast Mode] to [Off].

- ▶ Multi Projection: Set [On] to enable built-in Multi Projection function.
- ▶ Position: Set the projector position. [1]:Left [2]:Right.
- ▶ Edge Blending
 - Blending:
 - Control: Select [On] to darken the edges of the overlapping area.
 - Width:Set Blending area width.

Note

- ❖ Make sure that the [Image Adjustment] and [Options]>[Laser settings] of the two projectors have the same settings.
- ❖ The Overlapped area of [Black Level] adjustment will not match the actual overlapped area when [Four Corners (M.P.)] is adjusted. This is a limitation of this projector.
- ❖ After adjusting the Black Level, Four Corners (M.P.) cannot be adjusted. If you wish to readjust Four Corners (M.P.) function, please return Black Level to the default value.

- Pattern: Displays Blending pattern. If any key is pressed, it will disappear.
- Four Corners (M.P.)
 - Adjust: Adjust Four corner adjustment for Multi Projection.
 - Reset: Reset Four corner adjustment for Multi Projection.

▶ Black Level

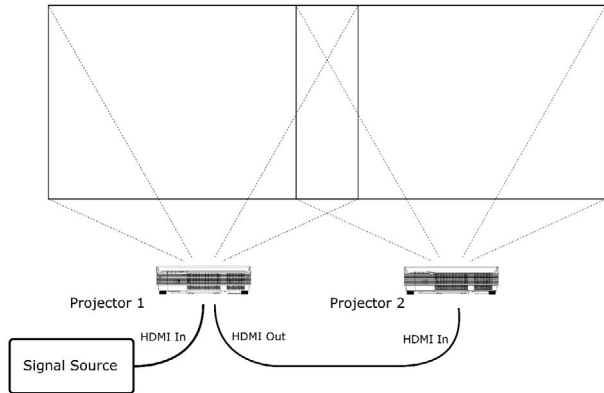
- Auto Test Pattern: When set to [On], the test pattern will be displayed when adjusting the Black level.
- Non-overlapped black level
 - Interlocked: When set to [On], only the brightness (white) can be adjusted.
 - White: Adjust the brightness of Non-overlapped area black level.
 - Red/Green/Blue: Adjust the color of Non-overlapped area black level.
- Overlapped Black Level
 - Interlocked: When set to [On], only the brightness (white) can be adjusted.
 - White: Adjust the brightness of Overlapped area black level.
 - Red/Green/Blue: Adjust the color of Overlapped area black level.
- ▶ Reset: Reset settings related to the Multi Projection to factory defaults.

How to set the Multi projection.

- Preparations:

Input the same image to the two projectors. This unit has an HDMI output terminal, so it is convenient to connect it as shown in the diagram below.

User Settings



The part of the image output from the signal source using two projectors, surrounded by the red frame shown below, is displayed.



The image projected from each projector is shown below. The overlapping areas of both projectors become darker toward the edges due to the blending function, making the overlapping areas appear natural.



-Settings and Adjustments

User Settings

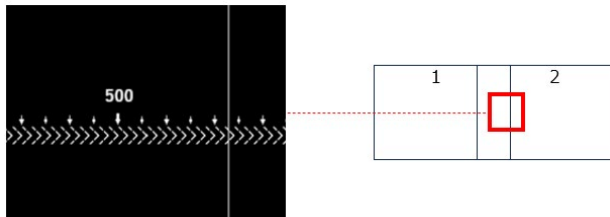
- Install two projectors side by side. It is recommended that at least 20% of the width of the projectors overlap.

When installing, adjust the projectors so that they are oriented squarely to the screen. Since this is an ultra-short-throw projector, even a slight tilt will not result in a rectangular screen.

It is relatively easy to adjust the position and tilt of the projector by attaching a piece of paper with a rectangle of the desired projection size drawn on it to the screen in advance and adjusting the position and tilt of the projector to match the rectangle.

- Set **[Screen] > [Multi Projection] > [Multi Projection] > [On]** in the menu system.
- Set **[Screen] > [Multi Projection] > [Position]**. Set the left projector to [1] and the right projector to [2] in the menu system.
- Open **[Screen] > [Multi Projection] > [Edge Blending]>[Pattern]** to display the Blending Pattern on both projectors.

This Blending Pattern can be used to measure the width of the area where the images from the two projectors overlap. The image below shows the red frame of the projected image of the two projectors, where the scale displayed from the right projector overlaps the outer frame of the left projector. From this image, the position of the intersection of the scale and the outer frame is read. The distance between the small arrows is 50, and in this case the width of the overlapped area is 730.



The left projector's scale is oriented in the opposite direction, allowing the overlap width to be measured in the same manner.

Adjust the projection position of the left and right projectors by operating **[Screen]>[Multi Projection]>[Edge Blending]>[Four Corners (M.P.)]** in menu system.

Make the outer frames of the left and right projectors in the overlapping area to be the same position. Also, adjust the

User Settings

overlap width read from the scale so that the values are the same as much as possible for the three locations of the left and right projectors (6 locations in total).

If the overlap width is different between the left and right projectors, adjust the position of the non-overlapping corner. Once all overlap widths are approximately the same, note the values.

Open **[Screen]>[D.Zoom/Magnify]** and the value to be the image enlargement ratio (in %) in **[H.Zoom]/[V.Zoom]**. (Adjust both projectors to the same value).

Adjust the vertical cropping position of the screen you want to display with **[V.Shift]**. Set the same value for both projectors.

Adjust the horizontal cropping position of each projector's image with **[H.Shift]**. Then use **[H.Shift]** on one projector to make fine adjustments so that the images in the overlapping area do not become double.

Enter the overlap width you noted down in **[Screen]>[Multi Projection]>[Edge Blending]>[Blending]>[Width]** menu system.

Set **[Screen]>[Multi Projection]>[Edge Blending]>[Blending]>[Control]** to **[On]** in the menu system.

Adjust the Black Level if necessary.

Advanced

Preset advanced screen setting.

- ▶ **Menu position:** Selects this function to set the menu display position from the following nine options.
 - Top Left
 - Top Center
 - Top Right
 - Center Left
 - Center
 - Center Right
 - Bottom Left
 - Bottom Center
 - Bottom Right
- ▶ **Startup Screen:** Select this function to preset the startup screen when powering on as you like.

Note

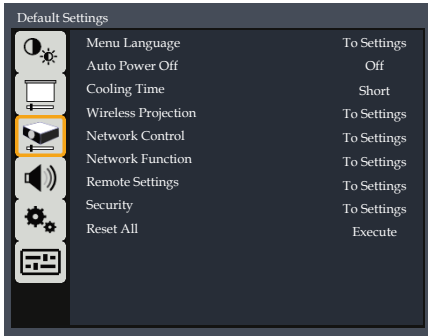
- ❖ When enlarged, the menu may become invisible and difficult to operate. If this happens, change the menu position by changing **[Screen] > [Advanced] > [Menu position]** in the menu system.

User Settings

Note

- ❖ You can take a screenshot only when you go to the [Memory Viewer] Input Source menu page and select the image. Click the [User Logo] application screenshot and it will take effect when the projector is turned on again.
 - ❖ To register the User Logo, please refer to [page 88](#) for details.
 - ❖ [RGB input range] function is available only when chosen the [HDMI] as the input signal.
- Logo: Selects this function to display the factory default RICOH logo screen.
 - User Logo: Selects this function to enable us to capture images being projected and use it for a startup display.
 - Off: Selects this function to display the blue screen.
 - ▶ Background Color: Select this function to preset the background if no signal is connected.
 - Blue: Selects this function to enable the projector display blue when no signal is connected to it.
 - Gray: Selects this function to enable the projector display gray when no signal is connected to it.
 - Black: Selects this function to enable the projector display black when no signal is connected to it.
 - ▶ RGB input range: Adjust the RGB aberration range in the HDMI input source.
 - Auto: Automatically detect RGB range.
 - Limited Range: Selects this function to process the input image with a limited RGB range.
 - Full Range: Selects this function to process the input image with a full RGB range from AV equipment.
 - ▶ Test pattern: Display the test patterns built in the projector. Select the mode of the needed patterns: Off, Grid, Color Bar, White, Black, Red, Green, Blue, Yellow, Magenta and Cyan. Select "Off" or press the Menu button to cancel this function.
 - ▶ 4K Shift: Select this function to enable or disable the pixel shift device.
 - On: Enables the 4K shift function (4K resolution).
 - Off: Disable the 4K shift function (1080P resolution).

User Settings



Default settings

Language

This function is used for multi-language switch. Select **Default settings > Language**, press the Enter button to enter the sub-menu, and press the ▲▼◀▶ button to select the required language. Press the Enter button again for confirmation.

Note

- ❖ Default value of [Auto Power Off] is 20 min.
- ❖ Changing [Auto Power Off] may increase energy consumption.

Auto Power Off

Set the time interval of screen countdown. The projector will enter the state of countdown when there is no signal input. Auto Power Off is activated when the set time interval is due. The light source will turn off to cool down, and enter the standby mode.

Cooling Time

After your projector is powered off, select the cooling time.

- ▶ Normal: Running in normal way.
- ▶ Short: Shorten cooling time. Increases fan speed, resulting in higher noise level.

Wireless Projection

Use the projector wireless screen projection function, please refer to **page 90** for specific operations.

Network Control

Configure the Network Control settings.

- ▶ Wired LAN Settings: This function can be set to adjust the parameters of the wired network.
 - DHCP: Select [On] to allow the projector to obtain an IP

User Settings

Note

- ❖ To change the wireless LAN settings, connect to the projector via a wired LAN and configure the settings from the Web control page (See page 97).
- ❖ When Reset option is performed, the password for wireless LAN is updated to a random 8 characters each time.

address automatically from your network. Select [Off] to manually assign IP, Subnet Mask and Gateway configuration.

- IP Address: Set an IP address.
- Subnet mask: Set subnet mask.
- Default gateway: Set default gateway.
- DNS: Set DNS address.
- Apply: Execute all settings.
- ▶ Wired LAN Status: This feature allows you to view Wired LAN Status.
- ▶ Wireless LAN (*1) : Set the option to [On] to Enable Wireless LAN.
*1: This item is not supported if the Main firmware version is 1507.1.04 or lower.
- ▶ Wireless LAN Status: This feature allows you to view Wireless LAN Status.
 - Mode: Displays the projector's wireless mode. Access Point/ Infrastructure
 - SSID: Display the current SSID.
 - Password: The password is displayed when in access point mode. It is not displayed in infrastructure mode. Please contact your network administrator for the password in infrastructure mode.
 - IP Address: Display the current IP address.
 - MAC Address: Display MAC address of the projector's wireless LAN interface.
- ▶ Reset: Select this function to make adjustment value back to the factory default.
- ▶ Restart: Restart the network controller. Execute this when a problem occurs with the network control function. Restarting takes approximately 8 seconds, and other menu operations cannot be performed during this time.

Network Functions

Configure some network functions.

Note

- ❖ To prevent unauthorized access, it is recommended to disable features that are not used.

- ▶ Web Control: Users can view and set the projector's status information through using a Web browser. Set the option to [On] to enable web control function. Set the option to [Off] to disable web control function.
- ▶ Wireless Projection: Set the option to [On] to enable Wireless

User Settings

Note

- ❖ When [Remote Sensor] is set to [Off], the wired remote control is also disabled.

Projection function.

- ▶ PJLink: Set the option to [On] to enable PJLink function. Set the option to [Off] to disable PJLink function.
- ▶ PJLink Notification: You can manually set the IP address of the computer currently communicating with the projector.
- ▶ AMX: Supports AMX device discovery function.
- ▶ Telnet: Connect the projector using serial commands through Telnet connection. (Port:3023).

Remote Settings

Set remote control parameters.

- ▶ Remote Sensor: The receiver of the projector can be turned [On] or [Off] as required.
- ▶ Remote ID: The value ranges from 0 to 9. The projector accepts operation from a remote control set to the same ID and from a remote control set to ID 0. The projector can accept all remote ID when set to 0.

How to set the remote ID of the remote controller.

Hold down Enter and 0-9 button for 5s until the remote control indicator blinks red.

Note

- ❖ The default Startup password is "000000".
- ❖ Enter the start-up password from the remote control. The control panel cannot be used at that time.

Security

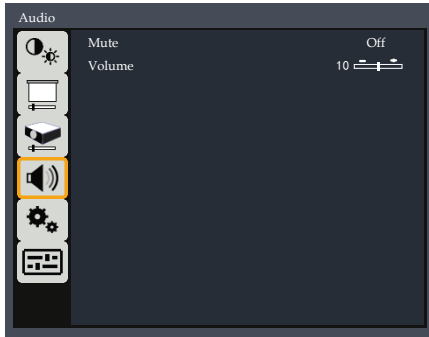
Configure the security settings

- ▶ Startup Password: Select [On] to use the security verification when the turning on the projector. Select [Off] to be able to switch on the projector without security verification.
- ▶ Change Password
According to the prompt box, enter the modified 6 digits and click OK. Enter again and confirm again. The password is changed successfully. Make sure you remember the new password.

Reset All

Return the adjustments and settings to the factory default values. (not including the Focus, Network Control, Wireless Projection and Security setting)

Choose "Execute" to return the display parameters on all menus to the factory default settings.



Audio

Note

- ❖ [Mute] function affects both internal and external speaker volume.

Mute

Disable audio temporarily.

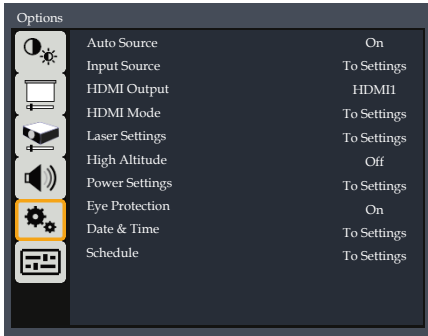
- ▶ Select "Off" to output audio.
- ▶ Select "On" to disable audio.

Volume

Adjust the volume

- ▶ Press the ◀ button to turn down the volume.
- ▶ Press the ▶ button to turn up the volume.

User Settings



Options

Note

- ❖ [Memory Viewer] and [Wireless Projection] does not support [Auto Source] function.

Auto Source

When this function is turned [On], the projector will search for other signals if the current input signal is lost. When this function is turned [Off], it will only search a specified connection terminal.

Input Source

Use this option to enable/disable input sources for “Auto Source”. Press the Enter button to enter the sub menu and select which sources you require. Press “Enter” to finalize the selection. The projector will only search for inputs that are enabled.

HDMI Output

Use this option to select which signal to output. The available options are HDMI1/HDMI2/HDBaseT. Press the Enter button to enter the submenu and select the signal source you want to output. Press Enter to complete the selection. The projector can only output to a connected signal source.

HDMI Mode

Switches the mode of the HDMI terminal. The projector can change the EDID information to control the signal source output.

- ▶ High Speed Mode: In this mode, the projector can accept 4k/60Hz, HDR signal (HDMI2.0) through the HDMI terminal.
- ▶ Normal Mode: In this mode, the projector don't accept 4K/60Hz, HDR signal through the HDMI terminal (HDMI1.4).

Laser Settings

Note

- ❖ When [Picture Mode] is set to [Bright], [Constant Luminance] cannot be selected for [Laser Power Mode]. Also, when [Constant Luminance] is selected for [Laser Power Mode], “[Bright] cannot be selected for [Picture Mode].
- ❖ The expected life of the light source indicates the time it takes for the brightness in that mode to reach 50% of the brightness at the start of projector use.

Note

- ❖ When you switches the light source module, the brightness of the projected picture may change or flicker.

This function is used to set the laser mode.

- ▶ Laser Power Mode: Adjust the projector’s energy saving settings and brightness during projection period.
 - Constant Power: Select this mode and the projector displays the projection at normal brightness. The brightness of the projected light gradually dims as it is used, and the expected life of the light source is 20,000 hours.
 - Constant Luminance: Select this mode and the projector displays the projection at a constant brightness. The brightness of the projected light is approximately 90% of that when Laser Power is set to 100% in Constant Power mode. The initial brightness is maintained for up to 10,000 hours of use. After that, the light gradually dims as it is used, and the expected life of the light source is 26,000 hours.
 - Eco: Select this mode, the projector displays a low brightness to reduce the power consumption of the light source, thereby extending the service life of the light source. The brightness of the projected light is approximately 50% of that when Laser Power is set to 100% in Constant Power mode. The light gradually dims as it is used, and the expected life of the light source is 30000 hours.
 - Long Life: Select this mode and the brightness of the projector will be reduced by half. In addition, the color uniformity of the picture may be noticeable compared to other laser power mode. The brightness of the projected light is approximately 55% of that when Laser Power is set to 100% in Constant Power mode. The light gradually dims as it is used, and the expected life of the light source is 40000 hours.
- ▶ Laser Power: Adjust laser power 51% to 100%. This function is available when Laser Power mode is set to “Constant Power”.
- ▶ Auto Switching: Set light source module switching timing in Long Life mode.
 - At Power-up: Each time the power is turned on, the light source is switched.
 - After 24H: The light source is switched every 24 hours of use.
 - After 100H: The light source is switched every 100 hours of use.

User Settings

High Altitude Mode

If the projector is used at altitudes below 1400m, select [Off]. If the projector is used at altitudes from 1400m to 3000m, select [On].

Power Settings

Use this option to configure the power settings. Press the Enter button to enter the sub menu and configure the desired settings.

If changes are made, they will take effect the next time the projector is powered on.

Note

- ❖ [Start on Input Detection] can be used when HDMI1/HDMI2 is selected.
- ❖ Setting [Network Control (Standby)] to [On] increases standby power consumption.
- ❖ This function will not work if you update from a version earlier than MAIN FW ver.1507.*.11 (* is an arbitrary number).

- ▶ Direct Power On: When it is set to [On], the projector is automatically powered on when an AC power supply is connected. Wait at least 30 seconds before connecting the power cord again, after disconnecting the power cord.
- ▶ Start on Input Detection: Select [On] to automatically power on the projector when the input source is detected.
- ▶ Network Control(Standby): Specify the standby mode.
 - Off: In this mode, no network function is available on Standby.
 - Wired: In this mode, only wired LAN is available on Standby.
 - On: In this mode, all functions are available on Standby.

If the projector is not connected to the network for 20 minutes during standby, the network function will be disabled until the next power-on even when setting to [On] or [Wired].

Note

- ❖ If the approaching person or object does not move for more than 5 seconds, the protection display will be canceled.

Eye Protection

When [Eye Protection] is set to [On], the screen will automatically darken and the icon will appear when a person or object approaches this range (For projection light area, please refer to “Eye protection” on page 14).

Note

- ❖ When the “Time Synchronization” is set to “Auto”, the time is obtained from the Internet, so this projector must be connected to the Internet.

Date and Time

Displays Date and Time information of the internal Clock.

- ▶ Time Synchronization: If you select “Auto”, the time is automatically adjusted to the current time. If “Manual” is selected, you need to manually enter the time information.
- ▶ Date & Time: Manually adjust the year, month, day and time.
- ▶ Daylight Saving Time: Set daylight saving time. The time is set

User Settings

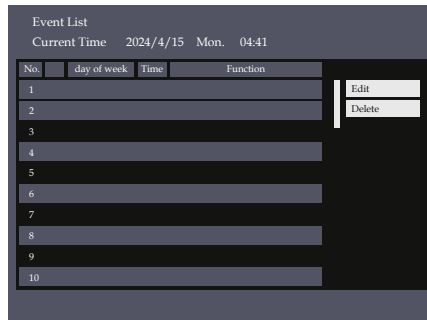
one hour earlier than the original time.

- ▶ NTP Server: Select NTP server to use for automatic date and time settings.
- ▶ Time Zone: Select time zone.
- ▶ Update Interval: Set the frequency of automatic time and date settings.
- ▶ Apply: Apply the settings in [Date and Time].

Schedule

Select this function to allows you to automatically turn on or off the projector, switch the input source of the projector and select the laser power mode at a specified time.

- ▶ Timer: Select or disable the schedule function.
- ▶ Event List: Select this function to set the detailed schedule information.



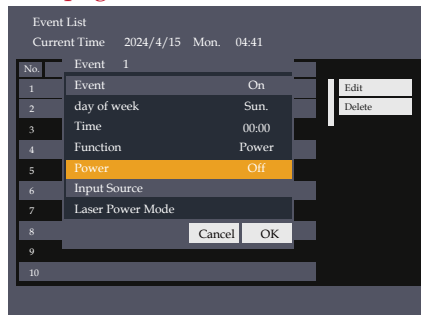
No.	day of week	Time	Function
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Select "Edit" option to enter to create a event list.

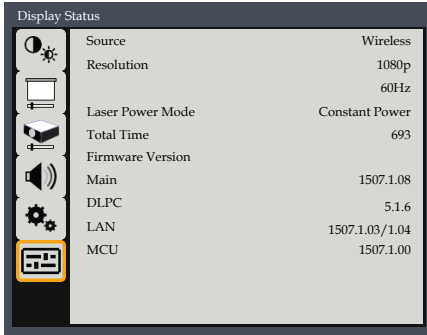
- ▶ Event: Enable or disable the event function.
If the event is enabled, the set operation is executed when the set day of the week/time arrives.
If disabled, nothing is done.
- ▶ Day of week: Set a specific day of the week from monday to sunday.
- ▶ Time: Set a specific time of the day between 0:00 and 23:59.
- ▶ Function: Set the specific function to creat a event lsit, including power, input source and laser power mode.

User Settings

- When the function is set to [Power], you can set a event to automatically turn on or off the projector at a specified time.
 - When the function is set to [Input Source], you can set a event to automatically switch the input source of the projector at a specified time.
 - When the function is set to [Laser Power Mode], you can set a event to automatically select the laser power mode at a specified time.
- ▶ Power: Turn on or off the projector. Please refer to “**Powering On/Off the Projector**” on page 47 for details.
- ▶ Input Source: Set the input source. Please refer to “**Input Source Signal Selection**” on page 49 for details.
- ▶ Laser Power Mode: Set the laser mode. Please refer to “**Laser Settings**” on page 81 for details.



Select [Delete] option to delete the event list.



Display Status	
Source	Wireless
Resolution	1080p
Laser Power Mode	Constant Power
Total Time	693
Firmware Version	
Main	1507.1.08
DLPC	5.1.6
LAN	1507.1.03/1.04
MCU	1507.1.00

Display Status

This chapter mainly display the projector information for you to quickly grasp the projector status settings.

Source

Displays selected input source.

Resolution

Display the resolution and refresh rate of the projected image. And displays [----] when no input signal is detected.

Laser Power Mode

Displays the mode of the laser power mode.

Total Time

Displays the number of hours the light source has been used.

Firmware Version

Displays the firmware versions information of the Main system, DLPC, LAN/WEB and MCU.

Viewing via USB Memory

When a USB memory device is inserted into the projector, the Memory Viewer function enables the projector to project images stored in the USB memory device.

Supported File Formats by Memory Viewer

Memory Viewer function supports the following files.

Image	File Format (Extensions)	Maximum Number of Pixels	Remarks	
	JPEG (.jpg, .jpeg, .JPG, .JPEG)	8192 x 8192	Support Baseline	
	BMP (.bmp, .BMP)	9600 x 6400		
	PNG (.png, .PNG)	9600 x 6400	Support Non-interlace	

Video	File Format (Extensions)	Maximum Number of Pixels	Maximum Frame Rate	Maximum Bit Rate
	MOV (.mov)	1920 x 1080	60fps	40Mbps
	MP4 (.mp4)	1920 x 1080	60fps	40Mbps
	MPG (.mpeg, .mpg)	1920 x 1080	30fps	40Mbps
	TS (.m2ts, .ts)	1920 x 1080	30fps	40Mbps

For USB memory requirement

1. Format.
FAT, FAT32, NTFS.
2. Supported USB Version : USB 2.0
3. Maximum number of folders/files that can be displayed is 500.
4. Cannot play digital rights management (DRM) protected files.

Important

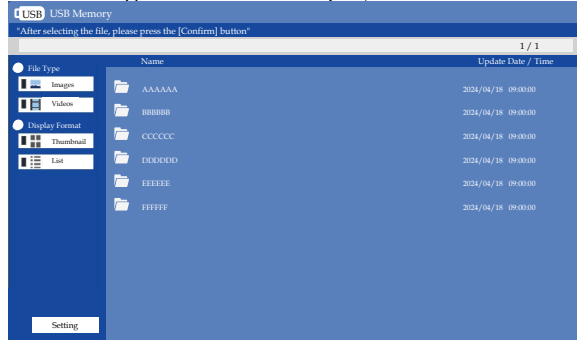
- We recommend that you back up the data stored on the USB memory device before use. Please note that we are not responsible for any damage caused by the loss of your data.
- Do not unplug the power supply while accessing the USB memory device. Doing so may cause malfunction or data corruption.
- Use a USB memory device that is compatible with USB2.0.
- Use a USB memory device formatted with FAT, FAT32 or NTFS file system.
- Keep magnetic or static-charged objects away from the USB memory device. They may interfere with USB file projection.

Displaying the Memory Viewer Screen

1. Press the [USB] button on the remote control or press the [Input] button on the control panel, and select [Memory Viewer].
2. Directly insert a USB memory device into the <USB > terminal.
 - The following screen will be displayed.

Note

- ❖ If the OSD Menu is displayed while the Memory Viewer screen is being displayed, the Memory Viewer screen will disappear.
- ❖ If an unsupported video file is played, the error is not displayed and the file will not display properly.
- ❖ When [Thumbnail] is selected under [Display Format], it may take some time to display the thumbnail depending on the contents of the file.



File Type

- ▶ Images: The picture files in the USB Memory are displayed.
- ▶ Videos: The video files in the USB Memory are displayed.

Display Format

- ▶ Thumbnail: Files in USB memory are displayed by thumbnails.
- ▶ List: Files in USB memory are displayed in a list.

Play the image

Only one picture is displayed at a time when the picture is played manually.

1. Press the ▲▼ buttons to select the Images item and press [Enter] button to confirm.
2. Press the ▲▼ buttons to select a file.
3. Press the Enter button to start to play the image.
 - You can operate the Memory Viewer using the operation bar below.
 - To display the operation bar, press the [Enter] button after projection of a image begins.

Memory Viewer

Note

- ❖ It takes around 30sec. to register a user logo.
- ❖ Registering complex images in [User Logo] menu may fail. At this time, the User Logo will be blacked out and the already registered Logo will be deleted. If this happens, try a simpler image instead.
- ❖ The User Logo will be enlarged to match the screen during registration. If you wish to display the logo in the center, please register an image with the logo placed in the center of a larger size image in advance.

- To hide the operation bar, press the [Menu] button.



	Return to previous image or play the next image.
	Start/Pause the slideshow.
	Each time press the icon, the projected image will rotate clockwise or counterclockwise.
	Exit image playback
	Register the picture played for User Logo.

Play the video

Only one video is displayed at a time when the video is played manually.

1. Press the ▲▼ buttons to select the Videos item and press [Enter] button to confirm.
2. Press the the ▲▼ buttons to select a file.
3. Press the [Enter] button to start to play the video.
 - You can operate the Memory Viewer using the operation bar below.
 - To display the operation bar, press the [Enter] button after projection of a video begins.
 - To hide the operation bar, press the [Menu] button.



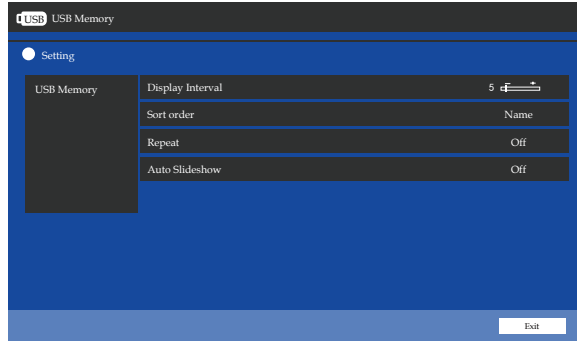
	Return to previous video or play the next video.
	Play/pause the video.
	Rewind/Fast forward the video at 2x to 32x speed.
	Exit video playback.

Additional setting

Here are some additional settings for Memory Viewer.

Select [Settings] button in the bottom left corner to enter the USB Memory Viewer page.

Memory Viewer



Display Interval

Sets the interval between the display of each image in the slideshow. The unit is seconds and can be set between 5 and 15 seconds. Some files may take longer to display and the display interval may be longer than the setting.

Sort Order

Sets the order for files to be displayed and for slideshows to be projected.

- ▶ Name: Displays by file name and folder name.
- ▶ Date: Displays by file time and folder time.

Repeat

After displaying the last file in the folder, choose whether to repeat the first file and continue the slideshow.

- ▶ Off: After displaying the last file in the folder, returns to the file listing view. The slideshow ends.
- ▶ On: After the last file in the folder is displayed, the first file is displayed repeatedly. The slideshow will continue.

Auto Slideshow

Set whether to automatically run Slideshow when turning on the power or switching source to Memory Viewer. The files to be displayed are the files specified by [File Type] in the root directory of the USB memory.

- ▶ Off: Disable this function.
- ▶ On: Enable this function.

Note

- ❖ Slideshow does not allow mixed playback of video and image files.

Wireless Projection

Viewing via WiFi

This projector has a built-in wireless projection module. Wireless projection using Miracast is possible from a Windows PC or Android device.

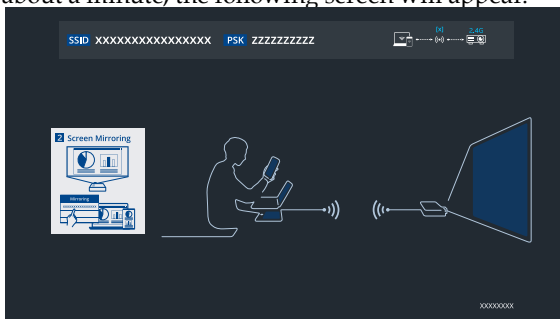
Note

- ❖ If you are using a windows PC, press [windows]+[k] key and select the projector name from the list that appears.
- ❖ This feature can be used with Miracast-compatible devices, but does not guarantee connectivity with all devices.
- ❖ To prevent unauthorised access, it is recommended to set the input source to "Wireless" only when using the Wireless Projection function.

Use of wireless projection

Using wireless projection through WiFi

1. Set **Network Function > Wireless Projection > On** in the menu system.
2. Switch the projector input source to Wireless.
3. After about a minute, the following screen will appear.



The Projector Name is displayed as "SSID" in the wireless projection stand-by screen.

The operating method varies depending on the device. For information on how to use Miracast, please refer to the instruction manual of the device to be connected.

Select the projector name from the list displayed on the device.

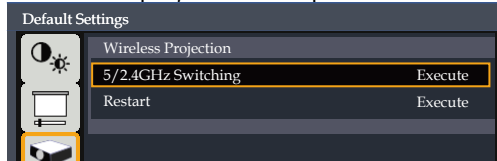
Wireless Projection

Wireless Projection Settings

Note

- ❖ When selecting **Screen > Advanced > Menu Position > Bottom Center**, please note that the message displayed when switching between 2.4GHz/5GHz in “Wireless Projection” will be hidden by the Menu and will not be visible.
- ❖ During wireless projection, block noise may appear when the screen changes. This occurs when the speed of wireless projection is not fast enough for the image to change, and is not a malfunction.

Select **Default Settings>Wireless Projection** in the menu system, and adjust the wireless projection as required.



- ▶ 5/2.4GHz Switching: Switch wireless channel (5G/2.4G).
- ▶ Restart: Reboot the internal wireless projection module.

Control the projector via LAN

Function: This function is for remote control from a computer or other device in the same LAN.

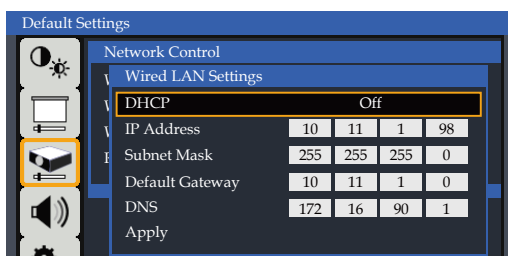
To connect to a wired LAN

Preparation

1. Required equipment.
Prepare the projector, computer, and network cable.
2. Connection.
Connect your projector to a router or network hub in the LAN with network cable.
3. Turn on the computer.
The LAN port on computer and projector are flashing after power on the projector.

Operation steps

1. Power on your projector.
2. Configure wired LAN settings in **Default Settings > Network Control > Wired LAN Settings**.
Note the IP address of the projector displayed.



3. Confirm the wired LAN status by selecting **Default Settings > Network Control > Wired LAN Status** in the menu system.
Please note the IP address of the projector displayed.

To connect a wireless LAN

Preparation

1. Open **Default Settings > Network Control > Wireless LAN Status** in the Menu system.
If [Mode] is set to [Access Point], connect the computer or other device to the wireless LAN with [SSID] using [Password].

Note

- ❖ Select the function you want to use in **Default Settings > Network Functions** and turn it on in the menu system.
- ❖ Pay careful attention to the installation location, management of the devices, and the network device to which the device is connected, in order to prevent malicious third parties from viewing the communication data.

LAN Control

If [Mode] is set to [Infrastructure], connect the computer or other device to the existing LAN of displayed [SSID].

Note

- ❖ To change the wireless LAN settings, connect to the projector via LAN and configure the settings from the Web control page. (See [page 97](#))

Operation Steps

1. Power on your projector.
2. Open [**Default Settings**]>[**Network Functions**] in the Menu system.
Set [Web Control] to [On]
3. Open [**Default Settings**]>[**Network Control**]>[**Wireless LAN Status**] in the Menu system.
Note the IP address of the projector displayed.

Control the Projector with Web Browser (Web Control)

You can control the projector from a computer or other device by using a web browser.

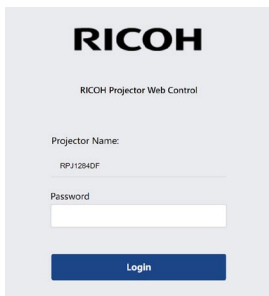
Note

- ❖ To control with web browser, set to [On] of **Network Functions > Web Control** in the menu of this device.
- ❖ The Web Control function does not support simultaneous connections from multiple terminals.
- ❖ Wireless LAN supports 2.4GHz only.

Access from the Web Browser (PC)

1. Start the web browser.
2. Enter the IP address of the projector set in the URL input field of the Web browser.
3. Open the web control page.

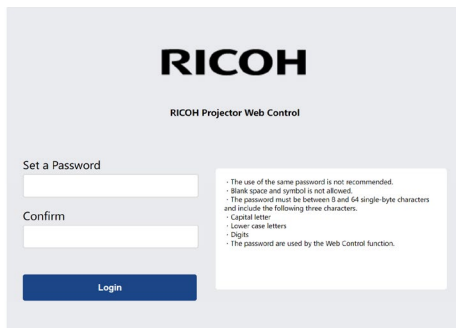
Enter the password in [Password] field and click [Login].



* The password setting screen will be displayed when you start up for the first time. Please set a password to use the web page.

Note

- ❖ Communication with the web server is not encrypted. Do not use the same password as other information devices.



When you log in, a navigation bar for setting the projector will be displayed on the left side of the home screen.

System Status

The current status of the projector is displayed.

RICOH Projector Web Control		Projector Name:RPJ1284DF		Detail		Language	
System Status							
Projector Information							
Projector Name	RPJ1284DF	Model Name	PJ_UHL3660_R1500UST_series				
Input Source	HDMI1	Laser Power Mode	Constant Power				
Source Info	No Signal	Laser Power	100%				
Projector Status	Normal	Total Time	9 Hour				
FAN Information							
FAN1	51% 1501RPM	FAN4	32% 1373RPM				
FAN2	57% 1676RPM	FAN5	37% 1363RPM				
FAN3	56% 2029RPM						

▶ Projector Information: Basic information about the projector is displayed.

▶ FAN Information: The rotation status of each FAN is displayed.

LD Information			
LD1	2.4A/42.0°C	LD2	2.4A/41.0°C
Temp. Information			
Ambient Temp.	27.4°C	LD1 Temp.	42.0°C
DMD Temp.	43.9°C	LD2 Temp.	41.0°C
Continuous operation time			
Over 4 hours	0 time	Over 10 hours	0 time
Over 6 hours	0 time	Over 12 hours	0 time
Over 8 hours	0 time		
Firmware Version			
MAIN FW	1507.0.29	LAN FW	1507.0.28/0.27
DLPF FW	5.1.2	MCLF FW	1507.0.24

▶ LD Information: The LD usage status is displayed.

▶ Temp. Information: The temperature of each component is displayed.

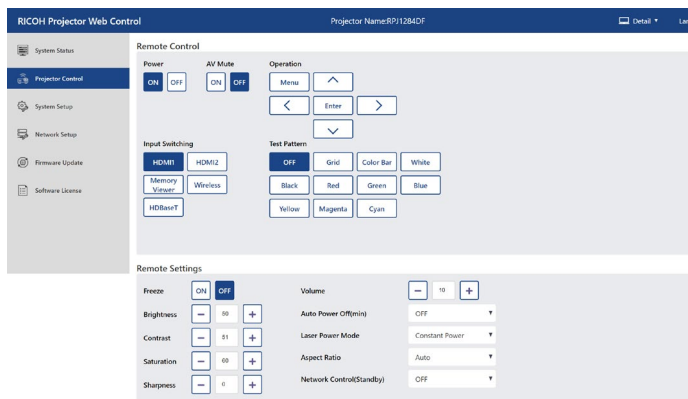
▶ Continuous operation time: The number of uses is displayed for each continuous use time range.

▶ Firmware Version: The firmware versions are displayed.

LAN Control

Projector Control

You can adjust some basic Settings remotely here.



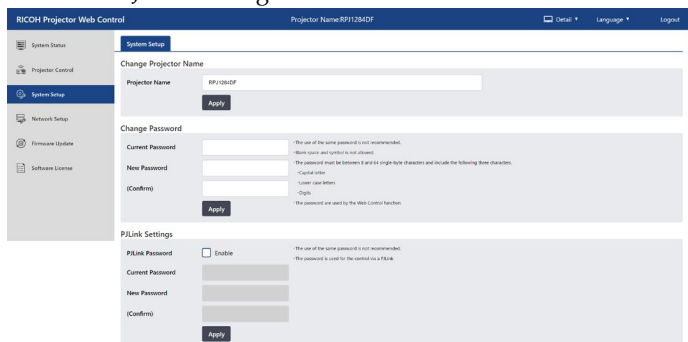
- ▶ Remote Control: Power on/off, input signal switching, test pattern display, and menu operations can be performed.
- ▶ Remote Settings: Adjusting video, audio and some settings can be performed.

Note

- ❖ The [Projector Name] can be 2 to 32 alphanumeric characters and symbols.
- ❖ Passwords can be 8 to 64 alphanumeric characters and symbols and must contain uppercase and lowercase letters and numbers.
- ❖ PJLink passwords can be 1-32 alphanumeric characters.
- ❖ When setting a PJLink password for the first time, leave the [Current Password] blank.

System Setup

Here you can change the name of the projector, change the password and PJLink Settings.



- ▶ Change Projector Name: Enter a new name of the projector and click [Apply].
- ▶ Change Password: Enter your current password, a new password, and a new password for confirmation and click [Apply].
- ▶ PJLink Settings: Set the password for PJLink. When using the password,

LAN Control

check “Enable” and enter the password.

You can change the password by entering the current password, a new password, and a new password for confirmation.

Network Setup

Note

- ❖ When Wireless LAN is not in use, it is recommended to turn it Off.
- ❖ SSID can be set up to 32 alphanumeric characters and symbols.
- ❖ Password can be set from 8 to 63 alphanumeric and symbolic characters or 64 hexadecimal digits.
- ❖ SSID and Password can only display up to 16 characters in the projector’s menu system.
- ❖ [Encryption] can be set only in Infrastructure Mode, and [Channel Number] only in Access Point Mode.

The screenshot shows the 'Network Setup' page in the RICOH Projector Web Control. The page is divided into two main sections: 'Wired LAN Setup' and 'Wireless LAN Setup'. The 'Wired LAN Setup' section includes fields for DHCP (set to ON), IP Address (192.168.0.100), Subnet Mask (255.255.255.0), Default Gateway (192.168.0.1), DNS Server (0.0.0.0), and MAC Address (40:84:32:12:84:DF). The 'Wireless LAN Setup' section includes a 'Wireless LAN' toggle (set to ON), a 'Wired LAN' toggle (set to OFF), and fields for DHCP (set to ON), IP Address (192.168.0.1), Subnet Mask (255.255.255.0), Default Gateway (192.168.0.1), DNS Server (192.168.0.1), Mode (Access Point selected), SSID (RPL321284DF), Password (12345678), Encryption (WPA2-PSK (AES) selected), and Channel number (10). There are 'Edit', 'Cancel', and 'Apply' buttons.

Wired LAN Setup: View and set up a wired LAN.

Wireless LAN Setup: View and set up wireless LAN.

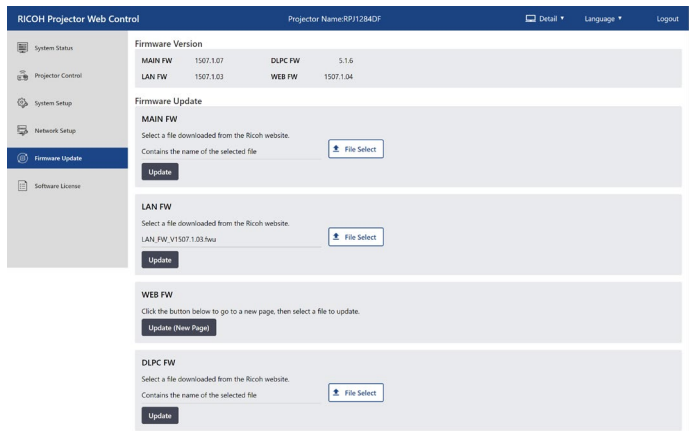
- ▶ DHCP: Select On or Off to enable DHCP function. If you want to enable the DHCP, set [DHCP] to [On].
- ▶ IP address: If no DHCP is used, enter the IP address.
- ▶ Subnet Mask: If no DHCP is used, enter the subnet.
- ▶ Default Gateway: If no DHCP is used, enter the gateway IP address.
- ▶ DNS Server: If no DHCP is used, enter the DNS server IP address.
- ▶ Mode: Select the operating mode of the wireless LAN from “Access Point” mode or “Infrastructure” mode.
- ▶ SSID: Click the gear icon to the right of the SSID field and select the SSID from the list that appears, or check the “Manual Input” checkbox and enter the SSID.
- ▶ Password: Enter the password.
- ▶ Encryption: Select the encryption method from “WPA2-PSK” or “None”.
- ▶ Channel Number: Select the wireless channel number.

LAN Control

Firmware Update

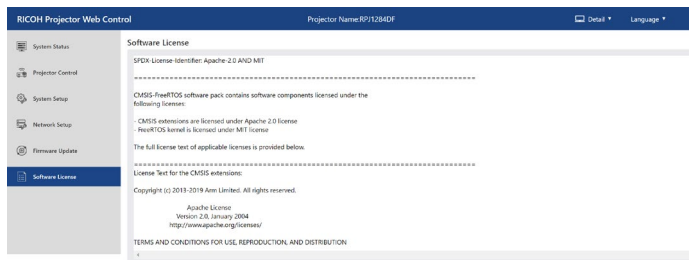
Note

- ❖ Do not turn off the power during firmware update. Doing so will require repair by a service person.
- ❖ In rare cases, an error message “Problem occurred during firmware update.” may appear during the firmware update even if the firmware update was successful. If the error message is displayed, please wait for about 20 seconds. If a message indicating that the update was successful is displayed, the update was successful. If the success message is not displayed, update again.



- ▶ Firmware Version: Displays the projector firmware version number.
- ▶ Firmware Update: Please upload files downloaded from RICOH website (See page 99) as required. Click [Update].

Software License



- ▶ Software License: Software license information is displayed.

How to update the firmware

Web Control allows you to update the firmware of the projector. There are three types of firmware that can be updated:

- MAIN FW (firmware for controlling the entire projector)
- LAN FW (firmware for network control)
- WEB FW (firmware for Web Control)
- DLPC FW (firmware for image projection) *1
 - *1: This item is not supported if the firmware is less than the following versions:
Main: 1507.1.04, LAN: 1507.1.01, WEB: 1507.1.01

* When updating the firmware, all four firmware must be updated to the latest version. If all the firmware is not updated (e.g. one of the three firmware is old one), the projector may not work properly.

However, if the same version of firmware is already installed in the projector, you don't have to update it again.

Notes on firmware updates

- Please update the firmware at your own risk. If firmware update fails due to power outage, communication error, etc., repair costs may be charged.
- Please use the firmware for this projector.
- Do not perform any operation on the PC other than updating or touch the projector while the firmware is being updated. The firmware may not be updated properly.

Get the latest firmware

The latest firmware can be downloaded from RICOH's website.

<NA>

<https://www.pfu-us.rioh.com/support/warranties-manuals-datasheets>

<EMEA>

<https://www.pfu-emea.rioh.com/en-gb/support/smart-meeting/projectors/>

Firmware update procedure

1. Please save the firmware file downloaded from Ricoh's website

LAN Control

- on your computer.
- If you are using a laptop computer, connect the computer to a power source.
 - Make sure that the power cables of the PC and the product are securely connected.
2. Connect the PC and the projector to the network via a wired LAN.
 3. Start a Web browser on the PC, enter the IP address of the projector, and open Web Control.
 4. Open the firmware update page.
(In the case of MAIN FW/LAN FW/DLPC FW)
 5. Click [File Select] to select the firmware file on your PC.
 6. Click [Update] to start updating. The update will take several minutes.
 7. After the update is complete, turn the power of the projector off and on before use it.
(In the case of WEB FW)
 8. Click [Update] to go to the update page.
 9. Click [File Select] to select the firmware file on your PC.
 10. Click [Upload] to start updating.

Note.

During the firmware update, please note the followings points.

- Do not disconnect network communication.
- Do not turn off the power to the projector.
- Do not close the web browser.
- Do not turn off the power of the PC.

The firmware version can be checked at

-[System Status] page of Web Control

-[Display Status]>[FW Version] in the projector's menu.

LAN Control

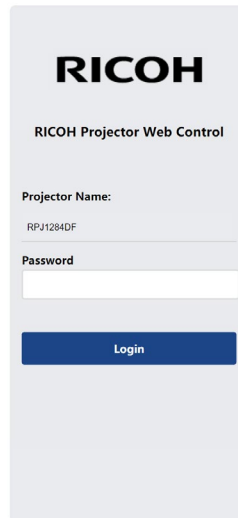
Access from the Web Browser (Smart Phone)

Login

Open the web control page.

Enter the password to the [Password] field and click [Login].

* The password setting screen will be displayed when you start up for the first time. Please set a password to use the web page.



RICOH

RICOH Projector Web Control

Projector Name:
RPJ1284DF

Password

Login

Control and view status of the projector.

For details, see Access from the Web Browser (PC) on [page 94](#).

When accessed from a smartphone or tablet, a simple screen is displayed. Some adjustments, settings and firmware update cannot be made as compared to accessing Web Control from a PC. Press the Menu button in the upper right corner of the screen and select [Display Selection]. Select [Detail] to display the same screen as when accessed from a PC.

LAN Control

The screenshot shows a projector control interface. At the top, a dark blue bar displays 'Projector Name:RPJ1284DF' (callout 1) and a menu icon (callout 2). Below this is a light blue bar labeled 'System Status' (callout 3). The main content area is titled 'Projector Information' (callout 4) and contains a table of projector details. A second table, titled 'FAN Information', is located below the first table. Callout 5 points to the top right corner of the 'Projector Information' table.

Projector Information	
Projector Name	RPJ1284DF
Input Source	HDMI1
Source Info	No Signal
Projector Status	Normal
Model Name	PJ_UHL3660_RK500UST_series
Laser Power Mode	Constant Power
Laser Power	100%
Total Time	9 Hour

FAN Information	
FAN1	51% 1506RPM
FAN2	57% 1675RPM
FAN3	56% 2029RPM
FAN4	32% 1369RPM

1. Projector Name: Displays the name of the projector.
2. Main menu button, click the selected menu to switch the page.
3. The main menu of the current page is displayed.
4. The title of the secondary menu under the main menu.
5. You can check the information and change the settings.

Control the Projector via the Projector Management Utility

Note

❖ This software is to control and monitor projectors manufactured by our company. The software may not work properly when used to control other projectors.

Projector Management Utility conforms to the PJLink class 1 standards, and is compatible with all class 1 commands.

A maximum of 100 projectors connected to the network can be managed using one computer.

Projector Management Utility operating environment is described below.

- Supported operating system
 - Windows 10 (32-bit/64-bit version) , Windows 11
- Memory size

Recommended memory size for the operating system of the computer you are using
- Display resolution

800 × 600 pixels or more

Installing the software

Note

❖ Log in to the computer with administrator privileges to install or uninstall the utilities.

❖ [PJ]Link Password] is not specified by factory defaults. It is recommended to register a password as soon as possible. If you forget the password, register a new password in [System Setup] in the Network Control pages. (See [page 96](#))

You can download the Utility from the RICOH website via the Internet.

<NA>

<https://www.pfu-us.ricoh.com/support/warranties-manuals-datasheets>

<EMEA>

<https://www.pfu-emea.ricoh.com/en-gb/support/smart-meeting/projectors/>

1. Close all applications.
2. Double click the installer file.
3. Execute the installation procedure according to the instruction displayed on the screen.
4. After installation is complete, start Projector Management Utility from the [Start] menu or desktop shortcut.

LAN Control

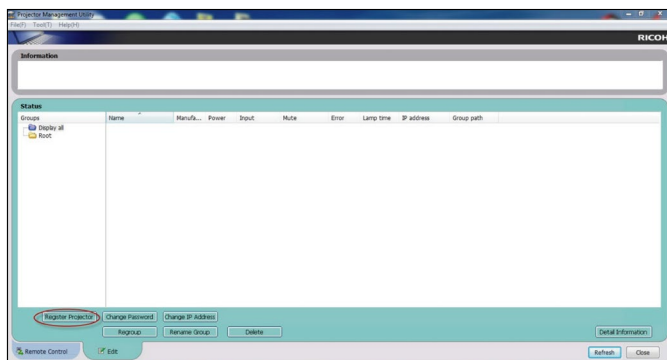
Specify the following settings to use the Utility:

- Connect the projector to a network. Set [**Default Settings**] > [**Network control**] in the menu system appropriately.
- Make sure to set [**Default Settings**] > [**Network Functions**] > [**PJLink**] to [On] in the menu system.
- Make sure to set [**Options**] > [**Power Settings**] > [**Network Control (Standby)**] to [On] in the menu system.

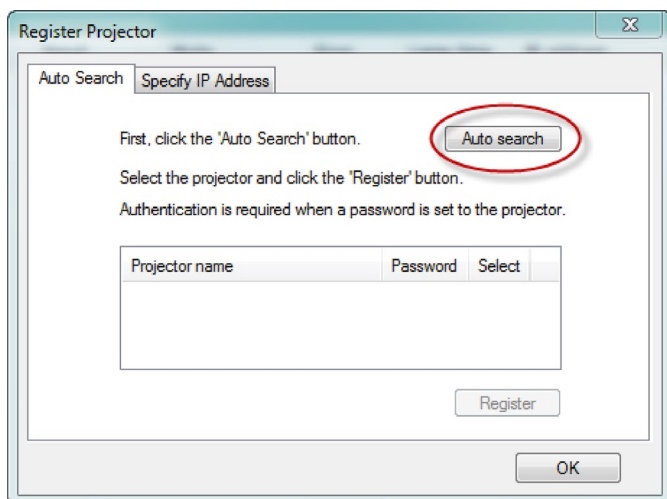
Register projectors

1. Registers the projectors with Auto search

-Click [**Register Projector**] button.

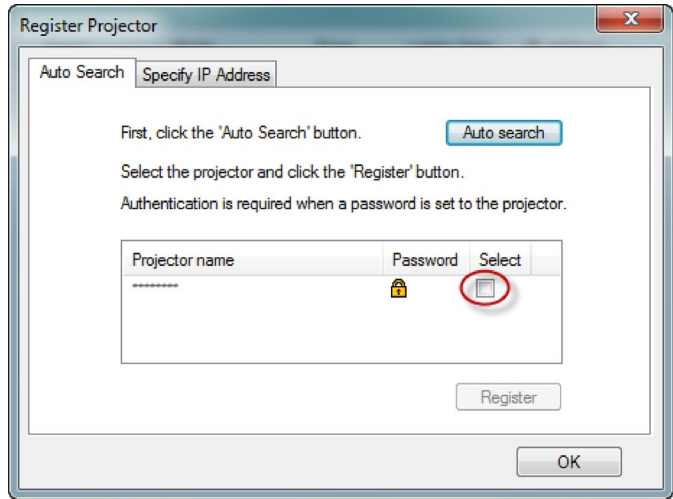


-Click [**Auto Search**] button.



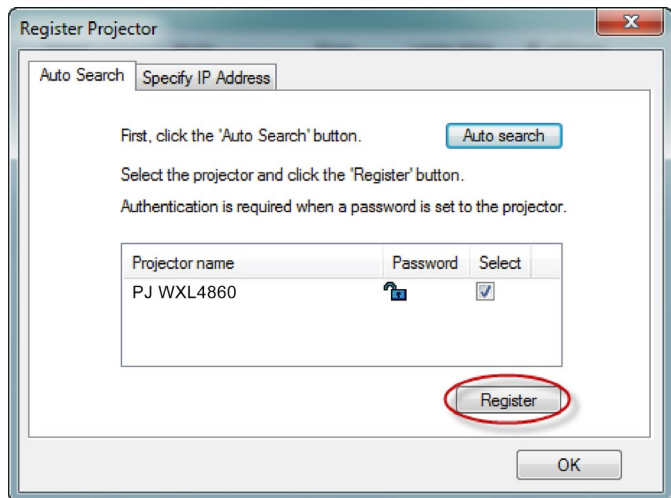
LAN Control

-List of projectors which support PJLink are displayed in the window. Projector name is displayed as "*****" until authorization if password is enable.



-Select the desired projector and click [**Register**] button. Password authorization is required if password of the projector is set to enable.

-Click [**OK**] button to return to the original screen.



2. Directly specifies the IP address and registers the projector.

LAN Control

-Enter IP address of the desired projector and click [Confirm] button then the projector name will be displayed. After confirming the projector name, click [Register] button.

Click [**Remote Control**] tab and select the desired projector in the list. You can control the selected projector by clicking control buttons in the bottom of the window.

[Power] button

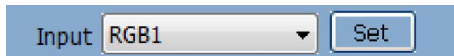
Turn On/Off the power of the projectors or groups selected from the Projector (/Group) List.



[Input] button

Switches the input source of the projectors or groups selected from the Projector (/Group) List.

Input source will not be changed if the projector doesn't support the selected input source.



A Table of input source name in the projector and the projector management utility.

The projector	The projector Management Utility
HDMI1	DIGITAL 1
HDMI2	DIGITAL 2
Memory Viewer	STRAGE 1
Wireless	NETWORK 1
HDBaseT	NETWORK 2

[MUTE] button

Turn on or turn off the muting of the projectors or groups selected form the Projector (/Group) List.

[Detail Information] button

Show detail information of the selected projector.

Monitoring the Projector Using RICOH PJ Monitoring & Setting Software

Note

- ❖ See the RICOH PJ Monitoring & Setting Software Manual for how to use RICOH PJ Monitoring & Setting Software.

RICOH PJ Monitoring & Setting Software allows you to perform batch management and remote control of multiple projectors on a Windows terminal.

RICOH PJ Monitoring & Setting Software operating environment is described below.

Supported operating system.

- Windows 10
- Windows 11
- Windows Server 2019

Installing the software

You can download RICOH PJ Monitoring & Setting Software from the RICOH website via the Internet.

<NA>

<https://www.pfu-us.ricoh.com/support/warranties-manuals-datasheets>
<EMEA>

<https://www.pfu-emea.ricoh.com/en-gb/support/smart-meeting/projectors/>

1. Double click the installer file.
2. Execute the installation procedure according to the instruction displayed on the screen.
3. After installation is complete, start RICOH PJ Monitoring & Setting Software from the [Start] menu or desktop shortcut.

Settings Required to Use the software

Specify the following settings to use RICOH PJ Monitoring & Setting Software:

- Connect the projector to a network. Set **[Default Settings] > [Network Control]** in the menu system appropriately.

LAN Control

- Make sure to set [Default Settings] > [Network Functions] > [Telnet] to [On] in the menu system.
- Make sure to set [Options] > [Power Settings] > [Network Control (Standby)] to [On] in the menu system.

For details, please see “Network Control” on page 76 , “Network Functions” on page 77 and “Power Settings” on page 82.

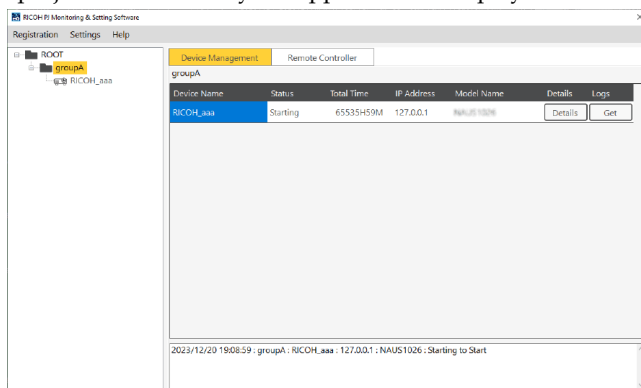
Note

- ❖ Depending on the setting in [Network Control (Standby)], the projector does not respond in standby mode. In such case, press the [Power] button or change the set [Network Control (Standby)] to [On] so that the projector can be turned on from standby mode via a network.

Monitor the projector with the software

The projector must be registered in advance. For details, see the RICOH PJ Monitoring & Setting Software Manual.

The information (Status, Total time, IP Address, Model Name) for the projectors detected by the application is displayed.



The available functions are as follows.

- Projector Status Monitoring
- Email notification when the projector is in an error state
- Confirm projected image from network camera
- Save projector monitoring log
- Remote control of the projector
- Setting the Distortion Correction

Troubleshooting

If you experience trouble with the projector, refer to the following information. If the problem persists, please contact your local dealer or service center.

- Ensure that the projector is correctly connected to the peripheral device.
- Ensure that all devices are connected to an power socket and the power supply is connected.

Problem: Image cannot be displayed

- ▶ Make sure all cables and power sources are properly connected.
- ▶ Make sure that the power of the projector is turned on. It takes up to 30 seconds for the screen to appear after the power is turned on.
- ▶ Check if the signal you are inputting is on the “Compatible signal list.
- ▶ Check whether the temperature exceeds the specified operating temperature.
- ▶ Make sure that [AV Mute] is not set to [On].

Problem: Image is displayed partially, incorrectly, or in rolling mode

- ▶ Adjust the display settings of the computer. Ensure that the resolution is set to less than or equal to 3840×2160 pixels. View the operating system help file.

Problem: Image is not clear

- ▶ Adjust the focus.
- ▶ The image is not stable immediately after the power is turned on. Wait at least 30 minutes after the start of projection before adjusting the size and focus of the image.
- ▶ Make sure the projection window is free of dirt.
- ▶ Ensure that there is no condensation in the projection window. For example, if the projector is moved from a cool environment to a warmer environment, there might be condensation on the

Troubleshooting

projection lens or projection window. If this happens, wait until the condensation disappears before turning on the projector.

- ▶ After distortion correction or partial enlargement, the image is less clear than before correction or enlargement. This is due to digital signal processing and is not a malfunction.

Problem: Image is not bright enough

- ▶ Check whether the contrast or brightness is appropriate.
- ▶ Check whether an appropriate image mode is specified.
- ▶ Check that [Laser Power] and [Laser Setting] settings are appropriate.
- ▶ Ensure that the projection screen is within the required projection range.

Problem: Image is deformed

- ▶ Press the [Aspect] button on the remote control, or on the OSD menu, choose [Screen] > [Aspect Ratio], and specify an appropriate display aspect ratio.
- ▶ Make sure the projector is placed at a right angle to the screen.
- ▶ If necessary, use [Distortion] to adjust the shape of the image.

Problem: Projected image is too small or too big

- ▶ Adjust the distance between the projector and the projection screen.
- ▶ Press the [Aspect] button on the remote control, or on the OSD menu, choose [Screen] > [Aspect Ratio], and specify an appropriate display aspect ratio.

Problem: Projected image rotated upside down

- ▶ Press the [Menu] button on the control or on the remote control, then choose [Screen] > [Projection Mode].

Problem: Unable to adjust the focus. The motorized focus may get stuck when projecting a bright image in Bright mode for a long period of time.

Troubleshooting

- ▶ Turn off the power and wait for 15 minutes. Then turn on the power and adjust Focus according to the normal procedure, please refer to “Adjust the Projector Focus” on page 50 for details.

Problem: The image position shifts when the focus is adjusted.

- ▶ When the focus is adjusted, the position of the projected image may shift. The position of the image shifts significantly when you change the focus adjustment direction. For this reason, we recommend that you adjust the focus in one direction. If you go too far, adjust it in the opposite direction and then adjust it again in the original direction.

Problem: Problems occur when using the Web Control.

- The screen displayed in the browser does not change.
- Items cannot be edited.
- Nothing is displayed on the browser screen.
- ▶ Refresh the page in your browser.
- ▶ Reopen the Web Control page in your browser.
- ▶ Execute **Default Settings > Network Control > Restart** in the menu system.

Problem: Unable to connect to access point in infrastructure mode.

- ▶ Make sure the access point is turned on.
- ▶ Check whether access restrictions such as MAC address filtering are set on the access point.
- ▶ Turn on the access point before the projector.
- ▶ Make sure SSID and Password are correct.
- ▶ The projector supports only WPA2-PSK (AES) as the Wi-Fi encryption method. It may not be able to connect to access points with other encryption methods.

Troubleshooting

Problem: A problem occurred with the LAN connection.

- The access point's SSID is not displayed in the list.
 - Unable to connect even after selecting the SSID of the access point and entering the correct password.
 - Wired LAN/wireless LAN communication has stopped.
- ▶ Execute **Default Settings > Network Control > Restart** in the Menu system.

Problem: Clicking sound is heard from the projector during projection.

- ▶ When **Image Adjustment > Advanced > High Contrast mode** is [LD Cutoff], you may hear a clicking sound from the projector. If this bothers you, switch the [High Contrast Mode] to [Normal] or [Off].

Problem: 4K/60Hz signal cannot be input via HDMI input.






- ▶ Switch **Options > HDMI mode > HDMI 1** or **HDMI2** to [**High-Speed mode**] in the menu system.
- ▶ Use Premium HDMI cables that support 4K/60Hz signal transmission. A length of 5m or less is recommended.
- ▶ Make sure that the signal source, AV amplifier, distributor, etc. is compatible with 4K/60Hz.

Troubleshooting


































Problem: Indicators lights up or Flashes

Note

- ❖ The time marked in the preceding table is an Indicators Flashing interval.
- ❖ Flash*1 Repetition to light on for 0.5 seconds/off for 0.5 seconds.
- ❖ Flash*2 Repetition to light on for 0.5 seconds/off for 1.0 seconds.
- ❖ Flash*3 Repetition to light on for 0.5 seconds/off for 2.0 seconds.
- ❖ Flash*4 Repetition to light on for 0.5 seconds/off for 0.5 seconds/on for 0.5 seconds/off for 2.0 seconds







-  ...Red
-  ...Flashes red
-  ...Blue
-  ...Flashes blue
-  ...Off

- Normal: Indicates the indicator display status of the projector during normal operation.
- Error: The display status of the indicator when the projector has a problem and an error is reported.
- Warning: The display status of the indicator when the projector has a warning.

Projector status	NO.	Indicators			Content (condition, sequence, check item, etc.)
		Power (Red,Blue)	Status (Red)	Temp (Red)	
Normal	1				Standby
	2				Power On
	3	 Blue (Flash*1)			Warming up
	4	 Red (Flash*1)			Cooling down
Error	5				Fan 1 Error
	6		 Red (Flash*1)		Fan 2 Error
	7			 Red (Flash*1)	Fan 3 Error
	8		 Red (Flash*2)		Fan 4 Error
	9			 Red (Flash*2)	Fan 5 Error
	10				Temperature1 Error (external temperature)
	11			 Red (Flash*1)	Temperature 2 Error (laser1)


















Troubleshooting

Problem: Indicators lights up or Flashes (Continued)

Projector status	NO.	Indicators			Content (condition, sequence, check item, etc.)
		Power (Red,Blue)	Status (Red)	Temp (Red)	
Error	12	○	○	 Red (Flash*2)	Temperature 3 Error (laser2)
	13	○	○	 Red (Flash*3)	Temperature 4 Error (LD driver)
	14	○	○	 Red (Flash*4)	Temperature 5 Error (DMD)
	15	●	●	○	1) Phosphorwheel 1 error 2) Phosphorwheel 2 error 3) Colorwheel error
Normal	16	●	●	●	Initialize
	17	●	●	○	Buttonlock/RC ID mismatch
Warning	18	●	●	○	Laser1 error
	19	●	●	○	Laser2 error
Error	20	●	●	○	Laser1&2 error
Warning	21	●	●	○	Network IC communication is abnormal
	22	●	●	○	HDMI Receiver communication is abnormal
Error	23	 Red (Flash*1)	●	○	DLPC communication is abnormal
	24	 Red (Flash*1)	 Red (Flash*1)	○	Temperature sensor communication is abnormal

Troubleshooting

Problem: Indicators lights up or Flashes (Continued)

Projector status	NO.	Indicators			Content (condition, sequence, check item, etc.)
		Power (Red,Blue)	Status (Red)	Temp (Red)	
Error	25	 Red (Flash*1)	 Red (Flash*2)	○	Fan control IC communication is abnormal
	26	 Red (Flash*1)	 Red (Flash*3)	○	Main IC communication is abnormal
Normal	27	 Red (Flash*2)	 Red (Flash*1)	○	Main firmware update is in progress
	28	 Red (Flash*2)	 Red (Flash*3)	○	DLPC firmware update is in progress
Error	29	 Red (Flash*2)	 Red (Flash*2)	○	Main firmware update is failed
	30	 Red (Flash*2)	 Red (Flash*4)	○	DLPC firmware update is failed
	31	 Red (Flash*3)	 Red (Flash*1)	○	LAN firmware update is failed
Normal	32				Remote off

Maintenance

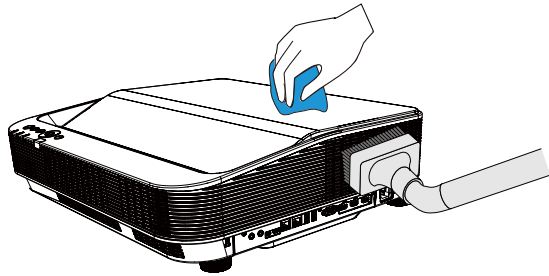
Before Maintenance

Before maintaining or replacing a component, ensure that the power is turned off. For details, see the section of "Turn off the projector".

Clean casing of your projector

Gently wipe the casing with clean and soft cloth dampened with small amount of neutral detergent to remove heavy dirt. Do not over apply cleaner to the casing. Abrasive cleaner, solution, or other rough chemical may scratch the casing surface.

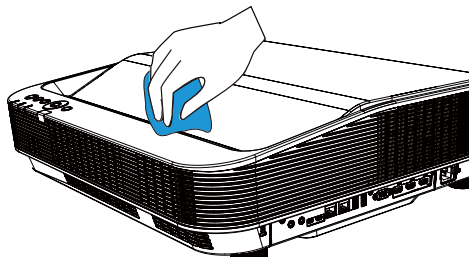
Place your projector in proper container after use to protect it from dirt and dust and being scratched.



Clean the projection window

Wipe the lens with clean cloth dampened with non-abrasive camera lens cleaner or clean it with lens cleaning paper or air blower.

Do not over apply cleaner to the lens. Abrasive cleaner, solution, or other rough chemical may scratch the lens.



List of Compatible Signals

A. HDMI Signal							
No	OSD Display	Source		Resolution	Pixelrate/ MHz	V frequent- cy(Hz)	H frequent- cy(KHz)
		HDMI	HDBT				
1	640X480@60Hz	o	o	640X480@60Hz	25.175	60	31.5
2	800X600@60Hz	o	o	800X600@60Hz	40	60.32	37.88
3	480p@60Hz	o	o	720X480P@60Hz	27.027	60	31.5
4	576P@50Hz	o	o	720X576P@50Hz	27	50	15.63
5	480i@60Hz	o	o	720(1440)X480i@60Hz	27.028	59.94	15.734
6	576i@50Hz	o	o	720(1440)X576i@50Hz	27	50	15.625
7	1024X768@60Hz	o	o	1024X768@60Hz	65	60	48.36
8	1152X864@75Hz	o	o	1152X864@75Hz	108	75	67.5
9	720P@50Hz	o	o	1280X720P@50Hz	74.25	50	37.5
10	720P@60Hz	o	o	1280X720P@60Hz	74.25	60	45
11	1280X800@60Hz	o	o	1280X800@60Hz	83.5	59.81	49.702
12	1280X960@60Hz	o	o	1280X960@60Hz	108	60	60
13	1280x1024@60Hz	o	o	1280x1024@60Hz	108	60.02	63.981
14	1440X900@60Hz	o	o	1440X900@60Hz	106.5	59.887	55.935
15	1440X900@75Hz	o	o	1440X900@75Hz	136.75	74.98	70.64
16	1600X1200@60Hz	o	o	1600X1200@60Hz	162	60	75
17	1680X1050@60Hz	o	o	1680X1050@60Hz	146.25	59.954	65.29
18	1080i@50Hz	o	o	1920X1080i@50Hz	74.25	50	28.13
19	1080i@60Hz	o	o	1920X1080i@60Hz	74.25	60	33.75
20	1080P@24Hz	o	o	1920X1080P@24Hz	74.25	24	27
21	1080P@25Hz	o	o	1920X1080P@25Hz	74.25	25	28.13
22	1080P@30Hz	o	o	1920X1080P@30Hz	74.25	30	33.75
23	1080P@50Hz	o	o	1920X1080P@50Hz	148.5	50	56.25
24	1080P@60Hz	o	o	1920X1080P@60Hz	148.5	60	67.5
25	2560X1080P@60Hz	o	o	2560X1080P@60Hz	198	60	66
26	3840X2160P@24Hz	o	o	3840X2160P@24Hz	297	24	54
27	3840X2160P@25Hz	o	o	3840X2160P@25Hz	297	25	56.25
28	3840X2160P@30Hz	o	o	3840X2160P@30Hz	297	30	67.5

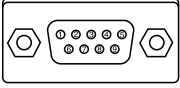


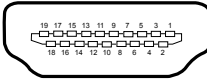
Appendices

29	3840X2160P@50Hz	○	-	3840X2160P@50Hz	594	50	112.5
30	3840X2160P@60Hz	○	-	3840X2160P@60Hz	594	60	135
31	4096X2160P@24Hz	○	○	4096X2160P@24Hz	297	24	54
32	4096X2160P@25Hz	○	○	4096X2160P@25Hz	297	25	56.25
33	4096X2160P@30Hz	○	○	4096X2160P@30Hz	297	30	67.5
34	4096X2160P@50Hz	○	-	4096X2160P@50Hz	594	50	112.5
35	4096X2160P@60Hz	○	-	4096X2160P@60Hz	594	60	135

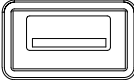
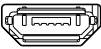
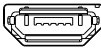
Note

- ❖ "○" Shows input signal source support this format.
- ❖ "-" Shows input signal source DO NOT support.

Configurations of Terminals

PC Control Terminal (D-SUB-9)				
	1	-----	6	-----
	2	RXD	7	-----
	3	TXD	8	-----
	4	-----	9	-----
	5	GND		
LAN terminal				
	1	TX +	5	-----
	2	TX -	6	RX -
	3	RX +	7	-----
	4	-----	8	-----
HDBaseT terminal				
	1	TX +	5	-----
	2	TX -	6	RX -
	3	RX +	7	-----
	4	-----	8	-----
HDMI terminal (HDMI Type A 19)				
	1	TMDS Data2+	11	TMDS Clock Shield
	2	TMDS Date2 Shield	12	TMDS Clock-
	3	TMDS Date2-	13	CEC
	4	TMDS Date1+	14	Reserved(N.C. on device)
	5	TMDS Date1 Shield	15	SCL
	6	TMDS Date1-	16	SDA
	7	TMDS Date0+	17	DDC/CEC Ground
	8	TMDS Date0 Shield	18	+5V Power
	9	TMDS Date0-	19	Hot Plug Detect
	10	TMDS Clock+		

Appendices

USB terminal				
	1	VBUS	5	----
	2	D-	6	----
	3	D+	7	----
	4	GND	8	----
Service terminal				
 	1	VBUS	6	----
	2	D-	7	----
	3	D+	8	----
	4	NC	9	----
	5	GND	10	----

Specifications

Item	RICOH PJ UHL3660 series		
Optical			
Projection System	DLP		
DMD Type	0.65" DMD		
Display Resolution	4K UHD (3840*2160) (1080p DMD under Pixel shift)		
Throw Ratio	0.24		
Zoom	Fixed		
Focus	Powered		
Throw Distance (m)	0.46m to 0.83m		
Image Size(inch)	85" ~ 160"		
Dust Proof (Optical engine)	IP5X certified		
Electrical			
Terminal Interface	<ul style="list-style-type: none"> ● Remote In ● Audio Out ● Service 1&2 ● LAN 	<ul style="list-style-type: none"> ● HDBaseT(*) ● USB Type-A ● 5V 2A ● PC Control 	<ul style="list-style-type: none"> ● HDMI 1 In ● HDMI 2 In ● HDMI Out
Power consumption	<ul style="list-style-type: none"> ● Normal(Constant Power): 460W MAX. ● ECO: 225W MAX. ● Standby: <0.5W ● Network Standby: ≤2W 		
Rating Current(A)	4.3A-2.1A (100-240V~ 50/60Hz)		
Noise	<ul style="list-style-type: none"> ● Normal(Constant Power)(Typ.): 36dB(A) ● ECO(Typ.): 32dB(A) 		
Mechanical			
Keystone	V: -20 ~ +5° H: ± 15°		
Adjust feet	Max 3°		
Dimensions	530 mm (W)×470mm (D)×139 mm(H) (not including feet) 530 mm (W)×470mm (D)×159 mm(H) (including feet)		
Weight	Approx. 11.9kg		

Appendices

Environment	<ul style="list-style-type: none">● Operating temperature Laser Power Mode: Constant Power/Constant Luminance/Long Life 0°C~40°C (0~2500ft/0~760m Altitude) / 0°C~35°C (2501ft~10000ft/761m~3000m Altitude) Laser Power Mode: ECO 0°C~45°C(0~10000ft/0~3000m Altitude)● Operating Humidity: 20~85%RH (non-condensing)● Storage temperature: -10°C~60°C● Storage Humidity: 20~85%RH (non-condensing)
-------------	--

Note

- This model complies with the above specifications.
- Designs and specifications are subject to change without notice.
- This model may not be compatible with features and/or specifications that may be added in the future.
- If the operating ambient temperature exceeds 38°C, the power of the light source is automatically reduced.
- * The HDBaseT terminal supports serial communication functions, but not LAN functions.
- The wireless projection function of this projector uses a wireless projection module manufactured by Action Microelectronics.
- This projector is compatible with Extron systems. For more information, please visit the Extron website: <https://www.extron.com>

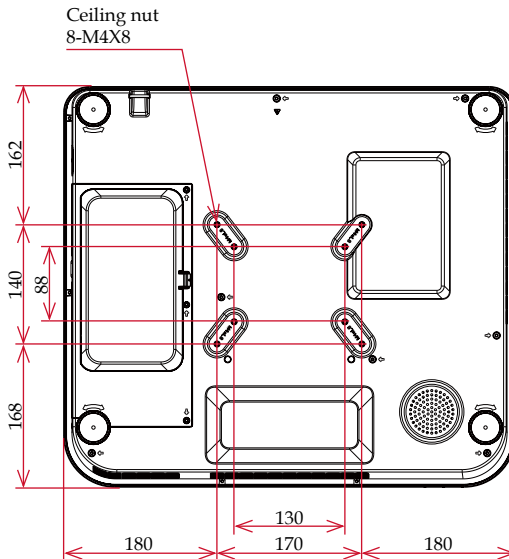
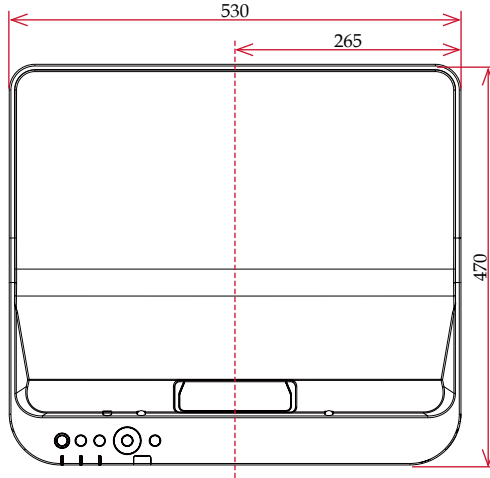
External Dimensions

Tapped holes used for ceiling installation.

Screw: M4

Depth: 8mm

Unit: mm



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