

User's Manual

1. Usage Notice

2. Introduction

3. Basic Operations

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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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Usage Notice

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-** Keep the machine and attachments out of the reach of children. If the machine 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. 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:

Usage Notice

- 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- 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- If the machine 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 machine. Doing so could result in fire or electric shock.
- Warning- If metal objects, or water or other fluids fall inside 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 machine. Doing so could result in fire or

Usage Notice

- Warning- electric shock.
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 machine 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 machine. Doing so could result in fire or electric shock.
- Warning- Do not use lens cap when projector is powered on
- 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 place or keep the projector within the reach of the children. It may fall or tip over, possibly causing serious injury
- Warning- Do not remove any covers or screws that are not mentioned in this manual. There are high voltage components inside the machine that may cause electric shock. Contact your service representative if any of the machine's internal components require maintenance, adjustment, or repair.
- Warning- Do not disassemble or modify the machine. Doing so may cause injury or malfunction.
- 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) Do not open the lamp cover of a machine that is installed on a wall or ceiling. Doing so may cause the lamp cover to fall down. If the lamp is broken, pieces of glass may fall and cause an injury.
 - c) Contact your sales or service representative to clean or replace parts for a machine that is installed on a wall or ceiling.
 - d) If a machine is incorrectly installed on a wall or ceil-

Usage Notice

ing, 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.

e) Do not obstruct the machine's vents. Doing so risks fire caused by overheated internal components.

f) 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.

g) For sales or service representatives:

- Use brackets that are strong enough to support the projector.

- * PJ HDC5420 Series weighs less than 3.0kg.

- The projector must be installed in a location that is sturdy enough to support the full weight of the projector and brackets.

- Use only the screws (three M4~16 screws) provided with the projector to attach the brackets to the projector.

- Caution- Keep the machine away from humidity and dust. Otherwise a fire or an electric shock might occur.
- Caution- Do not place any objects on the machine. Doing so may cause the machine to topple over, possibly resulting in injury.
- Caution- Do not place the machine on an unstable or tilted surface. If it topples over, an injury might occur.
- Caution- Do not place the machine 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 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 machine on soft material such as paper or cloth that might get sucked into the intake vents. Doing so may cause heat buildup inside the machine, resulting in malfunction, burns, or fire.
- Caution- Do not place the machine in a location where air flow is poor. Doing so may cause fire due to internal components becoming overheated.
- Caution- Do not place or store the machine in a location where direct sunlight or heat generation might occur. The heat may deform or wear out the exterior parts or negatively affect internal parts. Doing so could result in fire.

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- 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 machine or an accident.
- Caution- Do not obstruct the machine's vents. Doing so risks fire caused by overheated internal components.
- Caution- Push the power plug all the way into the power outlet. 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 machine, 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 machine might fall over and cause an injury.
- Caution- The machine may be very hot after it is turned off, especially the vents and the lower part of the unit where the lamp is located. Avoid touching these areas. Doing so may result in burns.
- Caution- Do not place the machine on other equipment or vice versa. Doing so may cause heat buildup inside the machine 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 tilt the machine horizontally more than ± 20 degrees. Doing so may cause the entrance of foreign objects in the housing of the machine which could result in fire or electric shock.
- Caution- If the machine's interior is not cleaned regularly, dust will accumulate. Fire and breakdown can result from heavy accumulation of dust inside this machine. Contact

Usage Notice

- your sales or service representative for details about and charges for cleaning the machine's interior.
- **Caution-** Unplug the power cord from the wall outlet before you move the machine. While moving the machine, take care that the power cord is not damaged under the machine. 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.)
 - **Caution-** This product incorporates glass components, including a lens and a lamp. If these 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. In the unlikely event that the lamp ruptures, thoroughly clean the area around the projector and discard any edible items placed in that area since they may be contaminated.
 - **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-** Unauthorized substitutions may result in fire, electric shock, or other hazards. (Only the replacement of the lamp should be made by users.)

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.

Usage Notice

- 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 over-heat, which could result in a risk of fire

ABOUT THE LAMP

- **Warning-** When the lamp reaches the end of its life, it will burn out and may make a loud popping sound. If this happens, the projector will not turn back on until the lamp module has been replaced. To replace the lamp, follow the procedures listed under “Replacing the Lamp”.
- **Warning-** Before replacing the lamp, turn off the power and wait at least one hour to allow the machine to cool completely. If it is not completely cool, you may burn or injure yourself due to the inside of the machine and lamp unit being hot. If you replace the lamp without unplugging the power cord from the power outlet, electric shock or explosion may occur.
- **Warning-** Be careful when handling the used lamp so that it does not break. If it breaks, it may cause injury.
- **Caution-** This projector will detect the life of the lamp itself. Be sure to change the lamp when it shows warning messages.
- **Caution-** The machine’s light uses a mercury vapor lamp that becomes high pressure when it is turned on. The lamp has the following characteristics, so be sure to handle it with care after understanding the contents. If the lamp explodes and you are either injured from broken pieces of glass, think you have gotten glass particles or mercury vapour in your eyes, or have inhaled glass particles or mercury vapour, contact a doctor immediately.
 - Deterioration or shock can cause the lamp’s life span to end or the lamp to explode. If the lamp explodes, it may make a big noise.
 - The time that it takes for the lamp to reach its life span or explode depends on each individual lamp and its operating conditions. It is possible that it might explode the first time it is used.
 - If you use the lamp past its replacement period, the possibility of explosion increases.
 - If the lamp explodes, broken glass pieces may be scattered around the inside of the machine and ejected from the vent or other opening.

Usage Notice

■ If the lamp explodes, a very small amount of mercury vapor in the lamp tube and broken glass pieces may be ejected from the vents or other opening.

What to do if a lamp has exploded

If the lamp explodes, remove the power cord from the projector, leave the room while making sure it is thoroughly ventilated.

If the lamp explodes and you think that you have gotten glass particles or mercury vapor in your eyes or have inhaled either, contact a doctor immediately.

Clean up the area around the projector completely while being careful not to get injured from any broken glass pieces.

Throw away any food that was near the projector.

Ask your service representative to replace the lamp and inspect the projector.

REMOTE CONTROL BATTERY

Warning

- 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.

- 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.

Notes

- Be sure to use AAA (R03) size batteries.
- Dispose of batteries in a designated disposal area.
- Attention should be drawn to the environmental aspects of battery disposal.
- If the remote control does not operate correctly, or if the operating range becomes reduced, replace the batteries.
- Avoid contact with water or liquid.
- Do not expose the remote control to moisture or heat.
- Do not drop the remote control.
- If the batteries have leaked in the remote control, carefully wipe the case clean and install new batteries.
- Dispose of used batteries according to the instructions.
- The remote control may fail to operate if the infrared remote sensor is exposed to bright sunlight or fluorescent lighting.

Important:

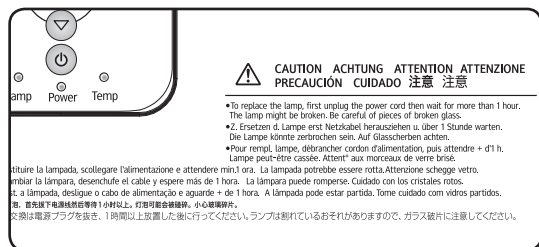
Contents of this manual are subject to change without prior notice. In no event will the company be liable for direct, indirect, special, incidental, or consequential damages as a result of handing or operating this product.

Usage Notice

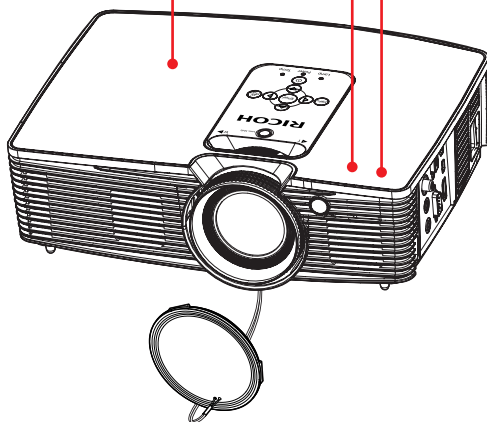
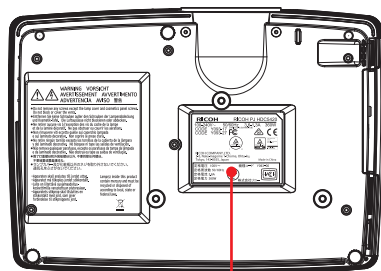
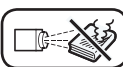
Safety Labels of This Machine

1. To replace the lamp, unplug the power cord and then wait for 60 minutes.
2. Do not look into the lens while the lamp is on. The strong light from the lamp may cause damage to your eyesight.
3. 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 AV mute on the remote control or the keypad.
4. This product should be operated only from the type of power source which does not exceed the voltage range specified on the rating label and the power cord.

1



3



4

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 HDC5420

TRADE NAME: PROJECTOR MODEL NAME: RICOH PJ HDC5420 Tested To Comply With FCC Standards FOR HOME OR OFFICE USE

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 interference that may cause undesired operation.

This device 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 device 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 device does cause harmful interference to radio or television reception, which can be determined by turning the device 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 device and receiver.
- Connect the device into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Usage Notice

RESPONSIBLE PARTY: Ricoh Americas Corporation
5 Dedrick Place, West Caldwell, NJ 07006
Phone: 973-882-2000

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.

LAMP(S) INSIDE THIS PRODUCT CONTAIN MERCURY AND MUST BE RECYCLED OR DISPOSED OF ACCORDING TO LOCAL, STATE OR FEDERAL LAWS.

Notes to Users in the State of California

Perchlorate Material - special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate.

WARNING: Handling the cord on this product will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm.
Wash hands after handling.

Notes to Canadian Users

Remarques à l'attention des utilisateurs au Canada

Contains mercury / Contient du mercure

For more information on safe handling procedures, the measures to be taken in case of accidental breakage and safe disposal option visit:

www.ec.gc.ca/mercure-mercury

Dispose of or recycle in accordance with applicable laws.

Pour plus d'informations sur les procédures de manutention sécuritaire, les mesures à prendre en cas de bris accidentel et option d'élimination sécuritaire visitez:

www.ec.gc.ca/mercure-mercury/default.asp?lang=Fr&n=DB6D2996-1

Éliminez ou les recyclez conformément aux lois applicables.

Usage Notice

Declaration of Conformity for EU countries

- EMC Directive 2004/108/EC (including amendments)
- Low Voltage Directive 2006/95/EC

Notice: Users in EU countries

CE Marking Traceability Information (For EU Countries Only)

Manufacturer:
Ricoh Co., Ltd.
3-6 Nakamagome 1-chome, Ohta-ku, Tokyo. 143-8555,
Japan

Importer:
Ricoh Europe PLC
20 Triton Street, London. NW1 3BF, United Kingdom

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.

Usage Notice

- The lamp contains mercury.

Please dispose of this product or used lamps in accordance with local regulations.

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

EEE Yönetmeliğine Uygundur.

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

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.

Usage Notice

Notice: Users in the EU

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.

Notice: Users in Taiwan



廢電池請回收

請勿將電池當作一般垃圾丟棄。這個標誌表示電池不應視為一般垃圾丟棄。僅適用於台灣。

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

Note to Users Viewing 3D Images

Pay attention to the following points when viewing images using 3D glasses with projector:

- How 3D images are viewed may vary according to the individual.
- Do not use 3D glasses for viewing any material other than 3D images.
- Before viewing 3D images, make sure to read the manuals provided with your 3D glasses and 3D compatible content.
- Avoid viewing 3D images for a long period of time. Take a break of 15 minutes or longer after every hour of viewing.
- If you feel sick while viewing 3D images, stop viewing them. If you continue to feel sick, consult a doctor.
- When viewing 3D image in a room where on LED lighting system or fluorescent lights are used, you may feel that the light in the room flickers. If this is the case, dim the lights until you do not notice any flickers, or turn off the lights.
- If you or any member of your family has a history of light-sensitive seizures, consult a doctor before viewing 3D images.

Product Features

Outstanding features include:

- True 1920X1080(1080p) resolution with 1073M True colors
- Light weight <6.61 lbs (3.0 kg)
- Manual focus projection 1:1.4 zoom lens
- Built-in full screen NTSC/PAL/SECAM video capability with S-video/Composite component through D-sub terminals
- UXGA / WXGA / Quad VGA / SXGA+ / SXGA / XGA / SVGA / VGA / MAC compatibility
- User friendly multilingual on screen display
- Automatic image resizing to 1920×1080(1080P) full screen

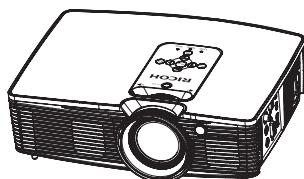
Introduction

Package Overview

This projector comes with all the items shown below. Check to make sure your unit is complete. Contact your dealer immediately if anything is missing.

Note

❖ Due to the difference in applications for each country, some regions may have different accessories.



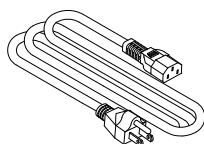
Projector



Lens Cap



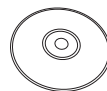
Remote Control
(with Batteries,
please see page 26)



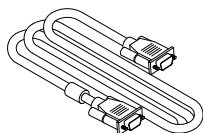
Power Cord



Carrying Bag



CD-ROM



RGB Cable



Read This First

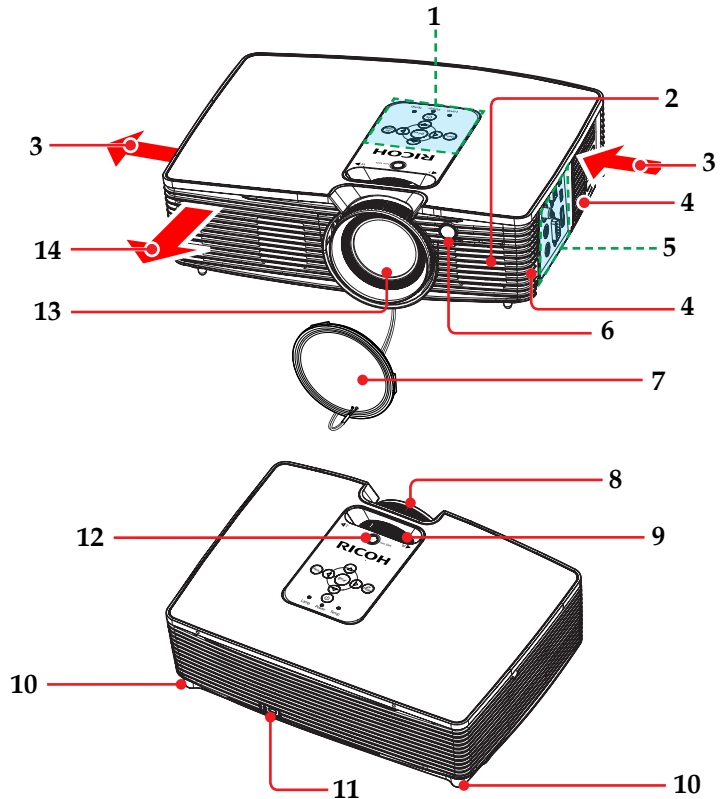
❖ About the CD-ROM

Contains an user's manual in PDF format.

Support languages are English and Chinese.

Introduction

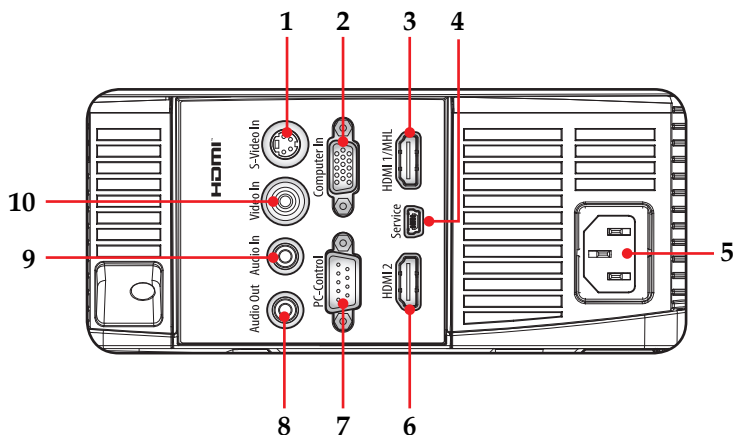
Product Overview



- | | |
|------------------------|------------------------------------------------|
| 1. Control panel | 9. Zoom lever |
| 2. Speaker | 10. Adjustable feet |
| 3. Ventilation (inlet) | 11. Anti-theft lock hole
(Kensington™ lock) |
| 4. Filter | 12. Lens Shift |
| 5. Connection ports | 13. Lens |
| 6. Remote receiver | 14. Ventilation (outlet) |
| 7. Lens cap | |
| 8. Focus ring | |

Introduction

Connection Ports



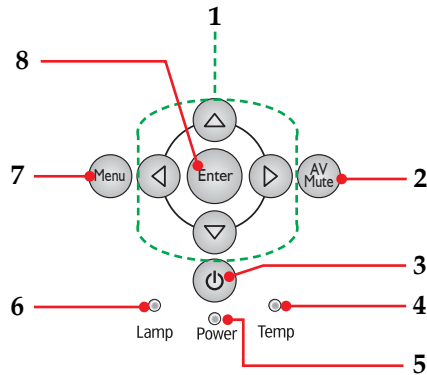
Note

- ❖ The interface is subject to model's specifications.
- ❖ Compatible with MHL version 2.2, the charging current 5V@0.9A.

1. S-Video In terminal
2. Computer In terminal
3. HDMI 1/MHL In terminal
4. Service terminal
5. AC In socket
6. HDMI 2 In terminal
7. PC Control terminal
8. Audio Out terminal
9. Audio In terminal
10. Video In terminal

Introduction

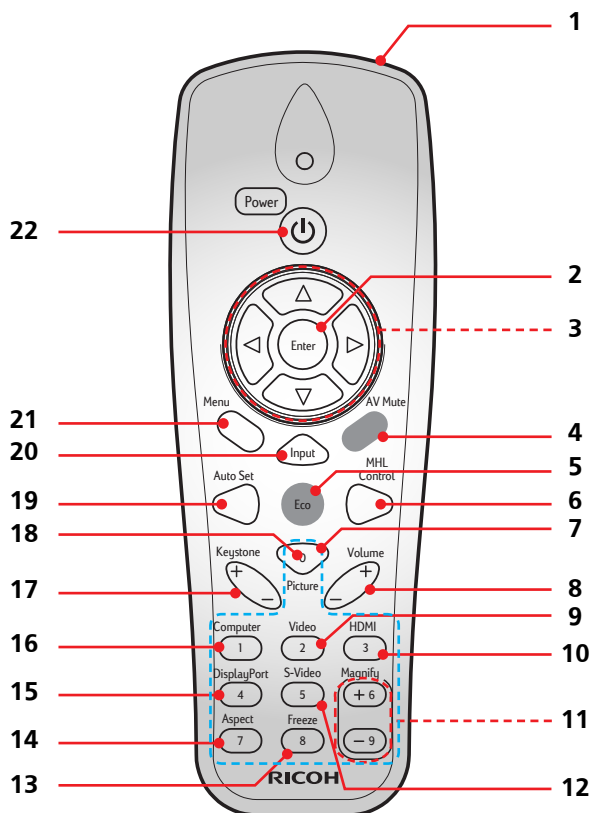
Control Panel



1	Four Directional Select Keys	Use ▲, ▼, ◀ or ▶ to select items or make adjustments to your selection.
2	AV Mute	Momentarily turn off/on the audio and video.
3	Power	Refer to the “Power On/Off the Projector” section. (pages 30 ~ 31)
4	Temp indicator	Indicate the inside of the projector’s temperature status.
5	Power indicator	Indicate the projector’s power status.
6	Lamp indicator	Indicate the projector’s lamp status.
7	Menu	Press “Menu” to launch the on screen display (OSD), or go back to the previous menu. (See page 37)
8	Enter	Select or confirm settings.

Introduction

Remote Control



1	Infrared transmitter	Send signals to the projector.
2	Enter	Confirm your selection of items in sub menu operation.
3	Four Directional Select Keys	Use ▲, ▼, ◀, or ▶ to select items or make adjustments to your selection.
4	AV Mute	Momentarily turn off/on the audio and video.

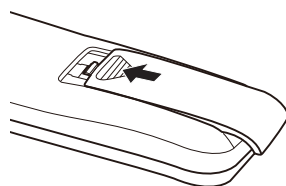
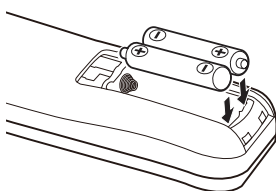
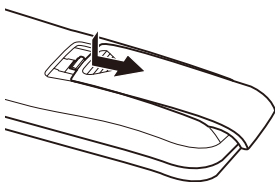
Introduction

5	Eco	Dim the projector lamp which will lower power consumption and extend the lamp life.
6	MHL Control	Press “MHL Control” to control your MHL device.
7	Number (0~9)	Input numbers.
8	Volume +/-	Increase/decrease speaker volume.
9	Video	Press “Video” to choose Video in terminal.
10	HDMI	Press “HDMI” to choose HDMI1/ MHL in and HDMI2 in terminal.
11	Magnify	Zoom in the projector display.
12	S-Video	Press “S-Video” to choose S-Video in terminal.
13	Freeze	Pause the screen image. Press again to resume the screen image.
14	Aspect	Use this function to choose your desired aspect ratio.
15	DisplayPort	This key is not available on this machine..
16	Computer	Press “Computer” to choose Computer in terminal.
17	Keystone +/-	Adjust the image to compensate for distortion caused by tilting the projector.
18	Picture	Select the preset picture mode.
19	Auto Set	Automatically synchronize the projector to the input source.
20	Input	Press “Input” to choose your desired input source.
21	Menu	Press “Menu” to launch the On Screen Display (OSD), back to the top level of OSD for the OSD main menu operation. (See page 37)
22	Power	Refer to the “Power On/Off the Projector” section. (See pages 30 ~ 31)

Introduction

Remote Control Battery Installation

- ❶ Press firmly and slide the battery cover off.
- ❷ Install new batteries (AAA/R03). Ensure that you have the batteries' polarity (+/-) aligned correctly.
- ❸ Slip the cover back over the batteries until it snaps into place. Do not mix different types of batteries or new and old batteries.



To ensure safe operation, please observe the following precautions :

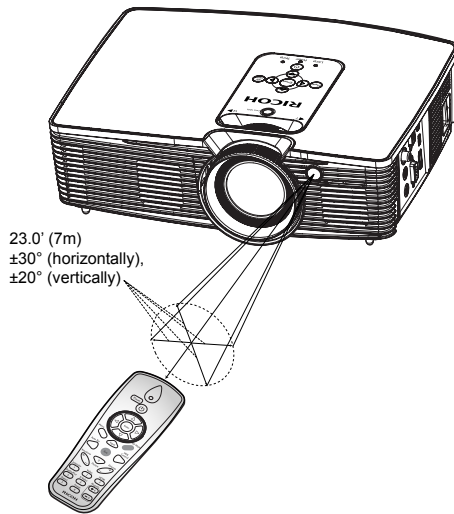
- Use AAA/R03 type battery.
- Avoid contact with water or liquid.
- Do not expose the remote control to moisture or heat.
- Do not drop the remote control.
- If the battery has leaked in the remote control, carefully wipe the case clean and install new battery.
- Risk of an explosion if battery is replaced by an incorrect type.
- Dispose of used battery according to the instructions.
- Remove batteries from remote control when not using for extended periods.
- The remote control may fail to operate if the infrared remote sensor is exposed to bright sunlight or fluorescent lighting.

Introduction

Remote Control Operating Range

Point the remote control toward the projector (Remote Receiver) when pressing any button.

Maximum operating range for the remote control is about 23.0' (7m) and $\pm 30^\circ$ (horizontally), $\pm 20^\circ$ (vertically) in front of the projector.



Basic Operations

Connecting the Projector

Connect to Computer/Notebook

Note

❖ Make sure that the power plug is fully inserted into both the projector AC inlet and the wall outlet.

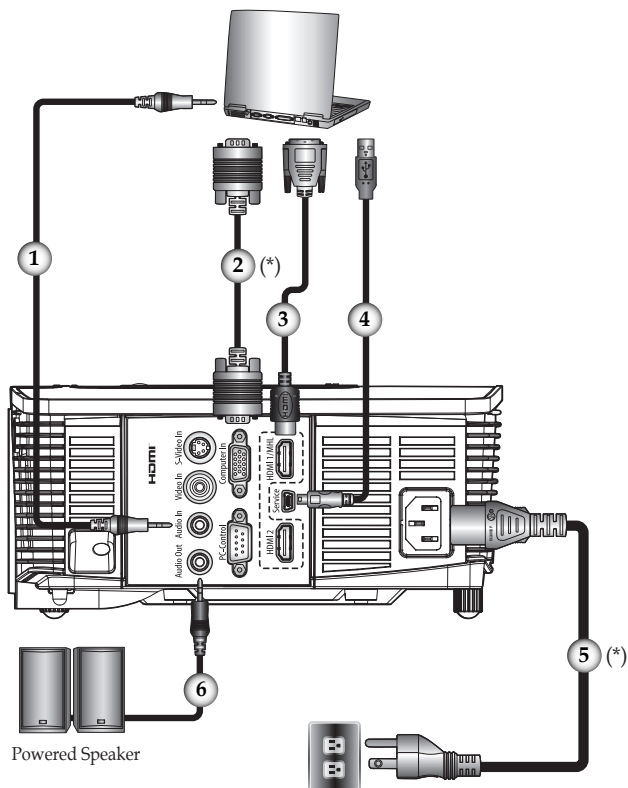
❖ The AC outlet must be near this equipment and must be easily accessible.

Note

❖ Due to the difference in applications for each country, some regions may have different accessories.

Note

❖ When Audio Out is connected, the built-in speaker doesn't produce sound.



- | | |
|--------|-----------------------|
| 1..... | Audio cable |
| 2..... | RGB cable (supplied) |
| 3..... | HDMI/MHL cable |
| 4..... | USB cable |
| 5..... | Power cord (supplied) |
| 6..... | Audio cable |

❖ To ensure the projector works well with your computer, please make sure the timing of the display mode is compatible with your projector. (See pages 59 ~ 63)

❖ Use the cables that come with the projector. (*)

Basic Operations

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.

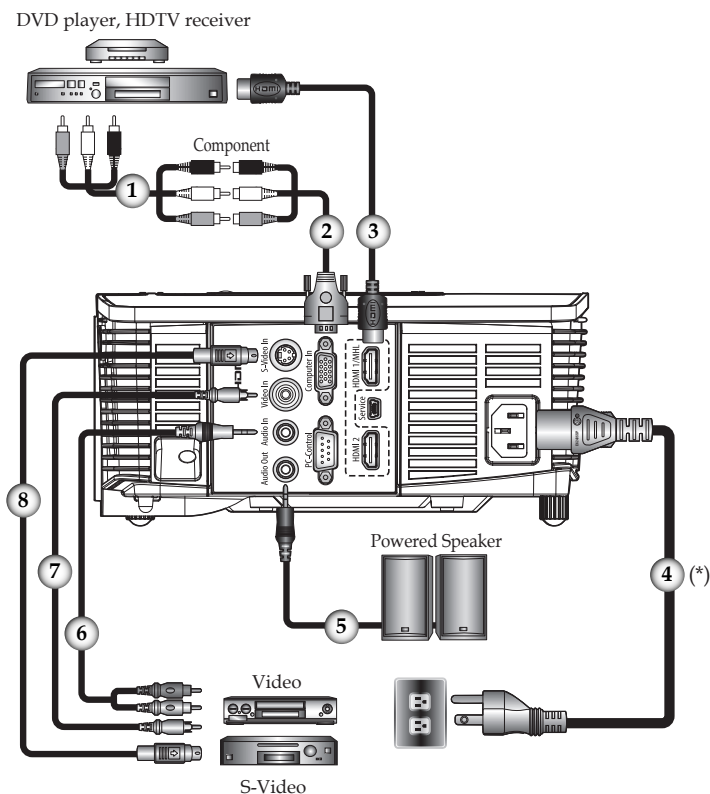
Note

- ❖ Due to the difference in applications for each country, some regions may have different accessories.

Note

- ❖ When HDMI input is selected, only audio signal with HDMI can be output.
- ❖ When Audio Out is connected, Built-in speaker doesn't sound.

Connect to AV Equipment



- | | |
|--------|-----------------------|
| 1..... | Component cable |
| 2..... | Component-RGB cable |
| 3..... | HDMI/MHL cable |
| 4..... | Power cord (supplied) |
| 5..... | Audio cable |
| 6..... | Audio cable |
| 7..... | Video cable |
| 8..... | S-Video cable |

- ❖ Use the cables that come with the projector. (*)

Basic Operations

Powering On/Off the Projector

Powering On the Projector

1. Ensure that the power cord and signal cable are securely connected. The Power indicator will turn red.
2. Remove the lens cap. ❶
3. Turn on the lamp by pressing the ❷ button on the control panel or the ❷ button on the remote control. ❸ The Power indicator will flash blue.
The startup screen will display and the Power indicator will turn blue.
4. 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".

CAUTION:

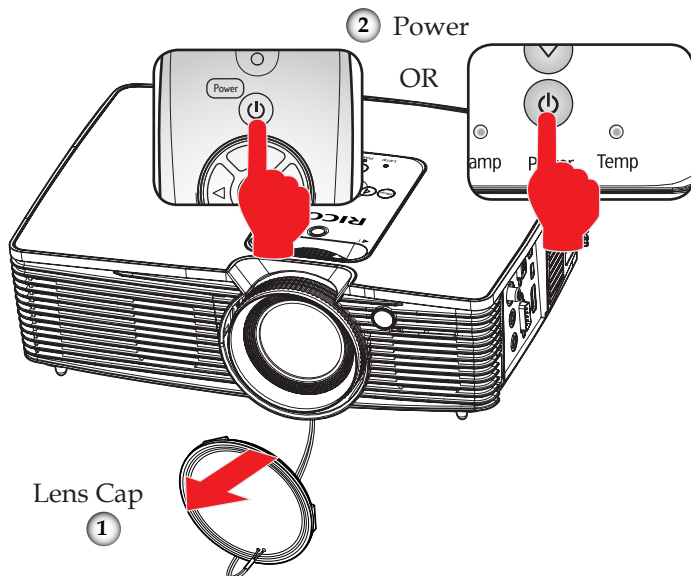
- Do not look into the lens while the lamp is on. The strong light from the lamp may cause damage to your eyesight.
- Do not block the air intake or exhaust. Doing so could cause a fire due to internal overheating.
- Do not place your hands, face, or other objects near the air exhaust, the lamp cover or the bottom of the unit. Doing so could result in injury and/or damage the object.

Note


❖ If you connect multiple sources at the same time, press "Input" on the control panel or the desired source button on the remote control to switch inputs.

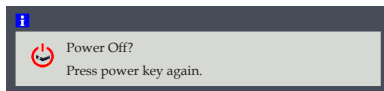
Note


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




Powering Off the Projector

1. Press the  button and you will see a message as below on the on-screen display.



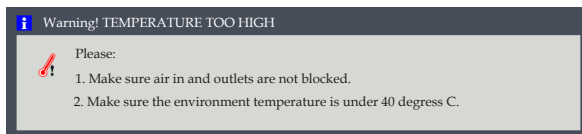
2. Press the  button to turn off the projector lamp.
3. The cooling fan continues to operate for about 30 seconds for cooling cycle and the Power indicator will flash red. After cooling down, the light stops flashing, and then the projector will enter the standby mode.

If you wish to turn the projector back on, you must wait until the projector has completed the cooling cycle and has entered standby mode. Once in standby mode, simply press the  button to restart the projector.

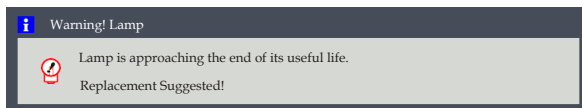
4. Disconnect the power cord from the electrical outlet and the projector.

Warning Indicator

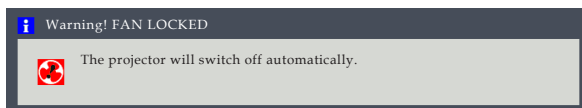
- ❖ When the “Temp” indicator lights red, it indicates the projector has overheated. The projector will automatically shut itself down.



- ❖ When the “Lamp” indicator lights red, and you see the message below displays on-screen, the projector has detected that the lamp is approaching its end of life. Please change the lamp as soon as possible or contact your local dealer or our service center.



- ❖ When the “Temp” indicator flashes red (0.5 sec on, 0.5 sec off) and the message below displays, it indicates the cooling fan failed. Stop using the projector and disconnect the power cord from the electrical outlet, then contact your local dealer or our service center.



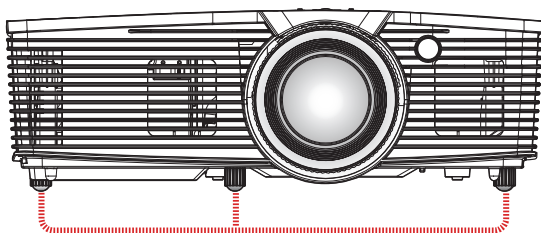
For more information of the warning indicator, please see pages 52 ~ 54.

Adjusting the Projected Image

Adjusting the Position of Projector Image

The projector is equipped with adjustable feet to raise and lower the image to fill the screen.

1. Locate the adjustable foot you wish to modify on the underside of the projector.
2. Rotate the adjustable ring clockwise to raise the projector or counter clockwise to lower it. Repeat with the remaining feet as necessary.



Note

❖ You can incline the projector up to 7° $\pm 0.5^\circ$ by rotating the adjustable feet.

Front Adjustable feet
Maximum Length: 20mm

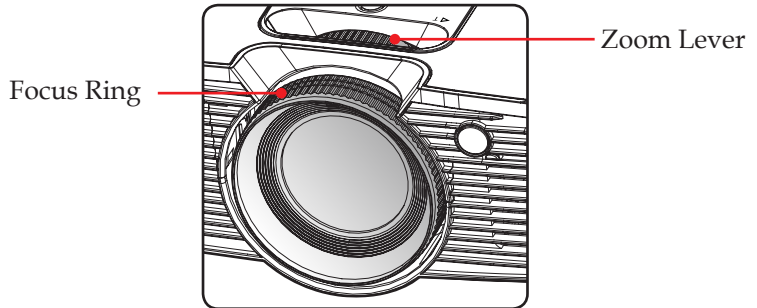


Basic Operations

Adjusting the Projector Zoom and Focus

You may turn the zoom lever to zoom in or out. To focus the image, rotate the focus ring until the image is clear.

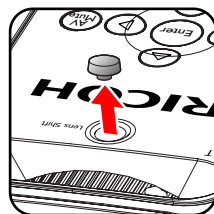
- Focus at distances from 4.27 to 23.29 feet (1.3 to 7.1 meters).



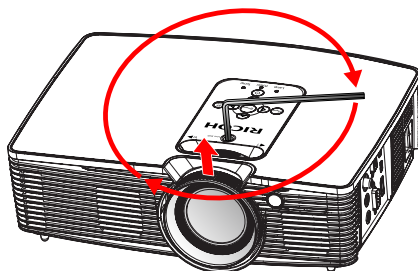
Basic Operations

Adjusting the Lens Position

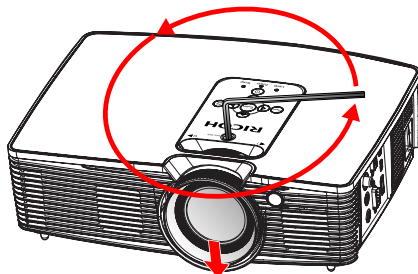
- ▶ To shift the lens upward:
 - Remove a rubber cap covered the Lens Shift slot on the control panel.



- Using a 4mm hex key, place it into the Lens Shift slot and turn it clockwise to move the projected image up.



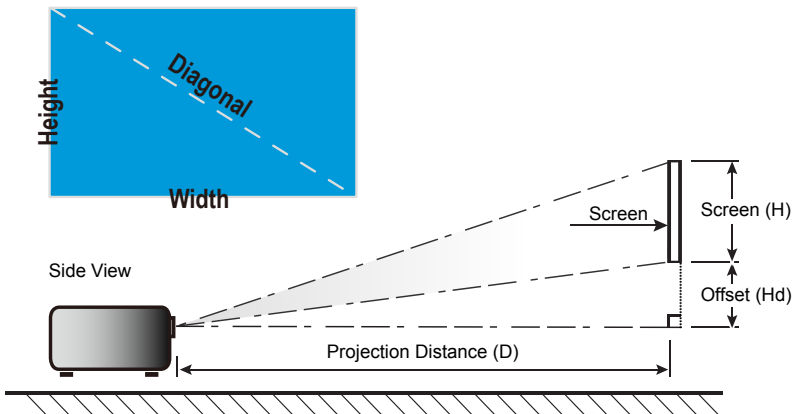
- ▶ To shift the lens downward:
 - Remove a rubber cap covered the Lens Shift slot on the control panel.
 - Using a 4mm hex key, place it into the Lens Shift slot and turn it counter-clockwise to move the projected image down.



Basic Operations

Adjusting Projection Image Size

► Projection Image Size from 40" to 300" (1.03 to 7.62 meters).



Diagonal length (inch) size of 16:9 Screen	Screen Size W x H				Projection Distance (D)				Offset (Hd)			
	(m)		(inch)		(m)		(feet)		(cm)		(feet)	
	Width	Height	Width	Height	Wide	Tele	Wide	Tele	Max	Min	Max	Min
30	0.66	0.37	26.15	14.71	0.71	0.96	2.34	3.18	5.98	0.37	0.20	0.012
40	0.89	0.50	34.86	19.61	0.95	1.28	3.12	4.24	7.97	0.50	0.26	0.016
50	1.11	0.62	43.58	24.51	1.18	1.61	3.90	5.30	9.96	0.62	0.33	0.021
60	1.33	0.75	52.29	29.41	1.42	1.93	4.68	6.36	11.95	0.75	0.39	0.025
70	1.55	0.87	61.01	34.32	1.65	2.25	5.46	7.42	13.95	0.87	0.46	0.029
80	1.77	1.00	69.72	39.22	1.89	2.57	6.24	8.48	15.94	1.00	0.53	0.033
90	1.99	1.12	78.44	44.12	2.13	2.89	7.02	9.54	17.93	1.12	0.59	0.037
100	2.21	1.25	87.16	49.02	2.36	3.21	7.80	10.60	19.92	1.25	0.66	0.041
120	2.66	1.49	104.59	58.83	2.84	3.85	9.36	12.72	23.91	1.49	0.79	0.049
150	3.32	1.87	130.73	73.54	3.55	4.82	11.70	15.90	29.89	1.87	0.99	0.062
180	3.98	2.24	156.88	88.24	4.26	5.78	14.04	19.08	35.86	2.24	1.18	0.074
200	4.43	2.49	174.31	98.05	4.73	6.42	15.60	21.20	39.85	2.49	1.31	0.082
250	5.53	3.11	217.89	122.56	5.91	8.03	19.51	26.50	49.81	3.11	1.64	0.103
300	6.64	3.74	261.47	147.07	7.09	9.64	23.41	31.80	59.77	3.74	1.97	0.123

❖ This table is for user's reference only.

Using the On Screen Display (OSD)

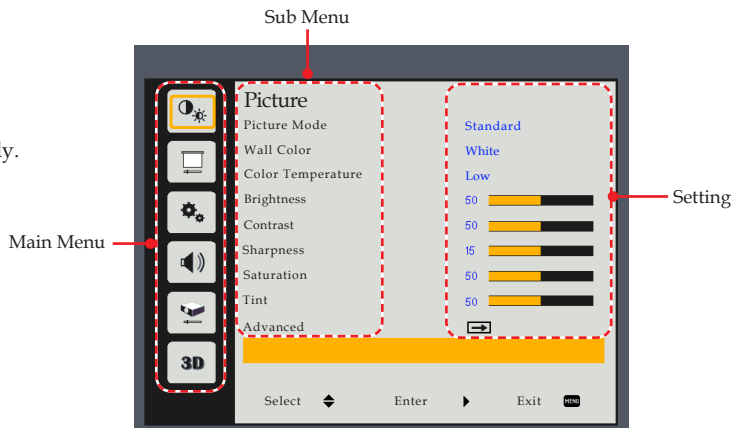
The Projector has a multilingual On Screen Display that allows you to make image adjustments and change a variety of settings.

How to operate

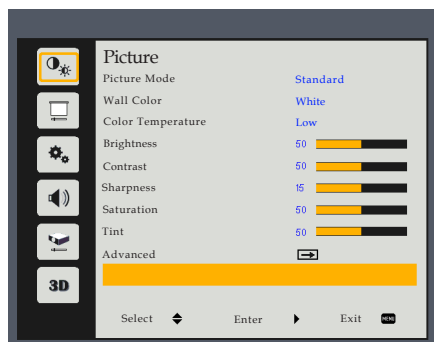
1. To open the OSD, press “Menu” on the Control Panel or Remote Control.
2. When OSD is displayed, use ▲ ▼ keys to select any item in the main menu. While making a selection on a particular page, press ► or “Enter” key to enter sub menu.
3. Use ▲ ▼ keys to select the desired item in the sub menu and press ► or “Enter” key to view further settings. Adjust the settings by using ◀▶ key or ▲ ▼ key.
4. Select the next item to be adjusted in the sub menu and adjust as described above.
5. Press “Enter” or “Menu” to confirm, and the screen will return to the previous menu.
6. To exit, press “Menu” again. The OSD menu will close and the projector will automatically save the new settings.

Note

❖ If no button operation is made for approximately 10 seconds, the OSD will be closed automatically.



User Settings



PICTURE

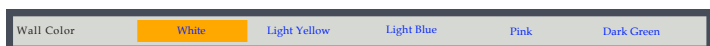
Picture Mode

There are many 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.
- ▶ Natural: Mode for emphasizing color reproduction.
- ▶ Cinema: For viewing movies.
- ▶ User: User defined settings.

Wall Color

Use this function to obtain an optimized screen image according to the wall color. The available options: White/ Light Yellow/ Light Blue/ Pink / Dark Green.



Color Temperature

Use this function to select the preset color temperature. The available options: Low/ Middle / High.



User Settings

Note

❖ “Sharpness”, “Saturation” and “Tint” functions are only supported under Video/S-Video/Component Signal sources.

Brightness

Adjust the brightness of the image.



- ▶ Press the ◀ key to darken image.
- ▶ Press the ▶ key 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 ◀ key to decrease the contrast.
- ▶ Press the ▶ key to increase the contrast.

Sharpness

Adjust the sharpness of the image.



- ▶ Press the ◀ key to decrease the sharpness.
- ▶ Press the ▶ key to increase the sharpness.

Saturation

Adjust the color saturation of the image.



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

User Settings

Tint

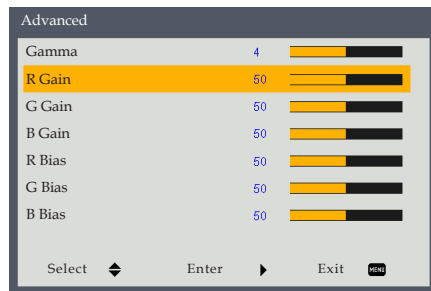
Adjust the color balance of the image.



- ▶ Press the ◀ key to adjust the image color greenish.
- ▶ Press the ▶ key to adjust the image color reddish.

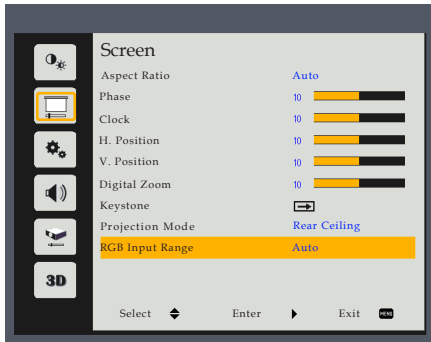
Advanced

Configure the advanced settings for projected image.



- ▶ Gamma: Adjust the color gamma differences between the dark and bright portions of the input signal.
- ▶ R Gain / G Gain / B Gain: Adjust the red, green, or blue channel of the image to obtain the desired contrast of color.
- ▶ R Bias / G Bias / B Bias: Adjust the red, green, or blue channel of the image to obtain the desired brightness of color.

User Settings



SCREEN

Aspect Ratio

Use this function to choose your desired aspect ratio.

- ▶ Auto: Automatically selects the appropriate display format. When input is 4:3, the image is displayed as 4:3. When input is 16:9 above, the image is displayed as 16:9.
- ▶ 4:3: Displays 4:3 aspect ratio.
- ▶ 16:9: Displays 16:9 aspect ratio.

Phase

Eliminate flicker from the image displayed. Use the ◀ or ▶ key to adjust the value.



Clock

Adjust the number of total dots in one horizontal period. Use the ◀ or ▶ key to adjust number to match your PC image.



User Settings

Note

❖ “H. Position” and “V. Position” functions are only supported under Computer Signal source.

H. Position (Horizontal Position)

Shift the projected image position horizontally.



- ▶ Press the ◀ key to move the image left.
- ▶ Press the ▶ key to move the image right.

V. Position (Vertical Position)

Shift the projected image position vertically.



- ▶ Press the ◀ key to move the image down.
- ▶ Press the ▶ key to move the image up.

Digital Zoom

Adjust the digital zoom ratio of the projected image.



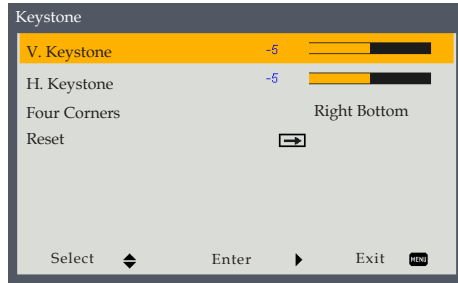
- ▶ Press the ◀ key to reduce the size of an image.
- ▶ Press the ▶ key to magnify an image on the projection screen.

User Settings

Keystone

Press the ◀ or ▶ key to adjust image distortion vertically. If the image looks trapezoidal, this option can help make the image rectangular.

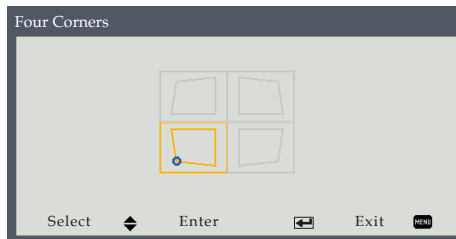
Use this function to make an image look visually correct when it is projected onto the screen.



- ▶ V. Keystone: Press the ◀ or ▶ key to adjust image distortion vertically. If the image looks trapezoidal, this option can help make the image rectangular.
- ▶ H. Keystone: Press the ◀ or ▶ key to adjust image distortion horizontally.
- ▶ Four Corners: Adjust any distortion in the four corners of the projected image.

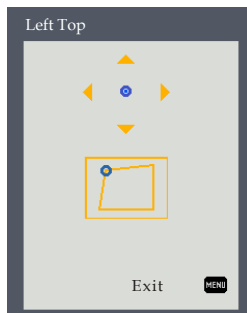
To adjust the desired corner, perform the following:

- a. Use the ▲ or ▼ key to select the item to select which corner to adjust and press the "Enter" key to enter its submenu.



User Settings

b. Use the ◀, ▶, ▲, or ▼ key to adjust the setting.



- ▶ Reset: Resets the projected image adjustment to its original settings.

Projection Mode

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



- ▶ Front: This is the default selection. The image is projected straight on the screen.
- ▶ Front Ceiling: When selected, the image will turn upside down.
- ▶ Rear: When selected, the image will appear reversed.
- ▶ Rear Ceiling: When selected, the image will appear reversed in upside down position.

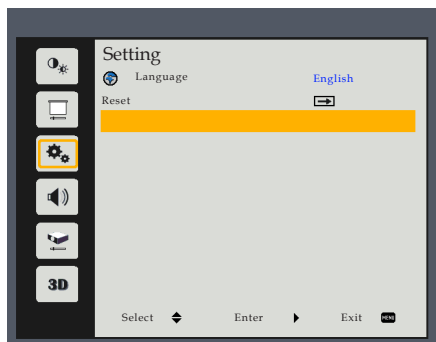
RGB Input Range

Adjust the color range of the HDMI image data.



- ▶ Auto: Automatically detect RGB range.
- ▶ Standard: Process the input image as standard range data.
- ▶ Full: Select this mode when computer signal or full range signal from AV equipment is input.

User Settings



SETTING

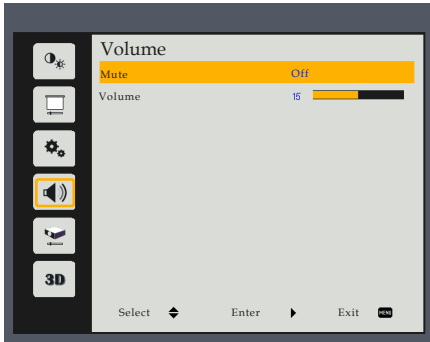
Language

Choose the multilingual OSD. Press "Enter" to open the sub menu and then use the ▲, ▼, ◀, or ▶ key to select your preferred language. Press "Enter" to finalize the selection.

Reset

Return the adjustments and settings to the factory default values. Choose "Yes" to return the display parameters on all menus except Language and Lamp Hours Used to the factory default settings.





VOLUME

Note

❖ “Mute” function affects both internal and external speaker volume.

Mute

Temporarily turn off the sound.

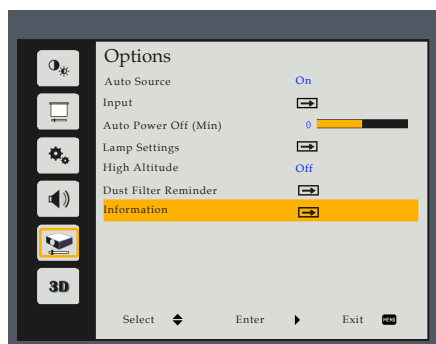
- ▶ Choose “On” to mute the sound.
- ▶ Choose “Off” to turn mute off.

Volume

Adjust the volume level.

- ▶ Press the ◀ key to decrease the volume.
- ▶ Press the ▶ key to increase the volume.

User Settings



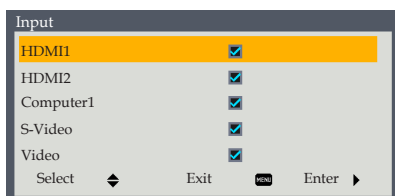
OPTIONS

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 port.

Input

Use this option to enable/disable input sources. Press the ► key 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.



❖ Default value of “Auto Power Off (Min)” is 20 min.

Auto Power Off (Min)

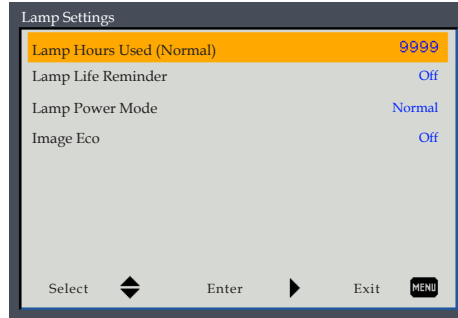
Sets the countdown timer interval. The countdown timer will start, when there is no signal being sent to the projector. The projector will automatically power off when the countdown has finished (in minutes). When countdown timer is selected to “0”, auto power off is disabled.



User Settings

Lamp Settings

Use this option to view the lamp life status and configure the lamp settings. Press the ► key to enter the sub menu and configure the desired settings.



Note

❖ When ambient temperature is over 40°C in operating, the projector will switch to “ECO” automatically.

- ▶ **Lamp Hours Used (Normal):** Display the projection time. Lamp Hours Used in Eco mode or “Image Eco” mode “On” will be converted to Lamp Hours Used in “Normal” mode.
- ▶ **Lamp Life Reminder:** Choose this function to show or to hide the warning message when the changing lamp message is displayed. The message will appear 30 hours before suggested replacement of lamp.
- ▶ **Lamp Power Mode:** Set the brightness mode. Choose “Normal” to increase the brightness or choose “ECO” to dim the projector lamp which will lower power consumption and extend the lamp life.
- ▶ **Image Eco:** Choose “On” to dim the lamp power, depending on the brightness level of images, and significantly reduce the lamp power consumption. The lamp life will be extended.

High Altitude

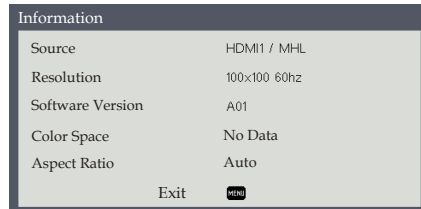
When “On” is selected, the fans will spin faster. Set High Altitude mode to “On” when the projector is used over 2500ft (750m) elevation.



User Settings

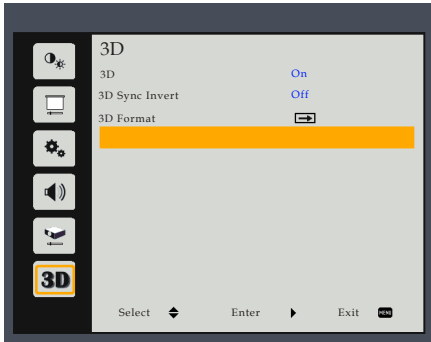
Information

Display the projector information.



- ▶ Source: Display the input source that is currently connected to.
- ▶ Resolution: Display the resolution setting of the current input source.
- ▶ Software Version: Display the firmware version.
- ▶ Color Space: Display the currently used color matrix type.
- ▶ Aspect Ratio: Display the currently used aspect ratio setting.

User Settings



3D

Note

❖ Compatible 3D source, 3D content and Optical 3D glasses are required for 3D viewing.

❖ “3D Sync Invert” is only available when 3D is enabled.

❖ This setting may need to change when re-start running 3D movie.

❖ 3D function is turned on automatically when Blu-ray 3D source is input.

3D

Use this option to disable/enable the 3D function.

- ▶ Off: Choose “Off” to display normal (2D) picture.
- ▶ On: Choose “On” to display 3D format.

3D Sync Invert

Use this option to enable/disable the 3D sync invert function.

- ▶ Off: Choose “Off” for default frame contents.
- ▶ On: Choose “On” to invert left and right frame contents.

3D Format

Use this option to select the appropriate 3D format content.

- ▶ Side by Side: Use this mode for “Side by Side” format 3D content.
- ▶ Top and Bottom: Use this mode for “Top and Bottom” format 3D content.
- ▶ Frame Sequential: Use this mode for “Frame Sequential” format 3D content.

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.

Problem: No image appears on screen

- ▶ Ensure all the cables and power connections are correctly and securely connected as described in the “Connecting the Projector” section.
- ▶ Ensure the pins of terminals are not crooked or broken.
- ▶ Check if the projection lamp has been securely installed. Refer to the “Replacing the lamp” section for more information.
- ▶ Make sure you have removed the lens cap and the projector is switched on.
- ▶ Ensure that the “AV Mute” feature is not turned on.

Problem: Partial, scrolling or incorrectly displayed image

- ▶ Press “Autoset” on the remote control.
- ▶ Adjust the computer display settings. Verify the resolution setting is less than or equal to 1600 x 1200 resolution. See your operating system’s Help file.
- ▶ If you are using a Notebook:
 1. First, follow the steps above to adjust resolution of the computer.
 2. Press the toggle output settings. For example: [Fn]+[F3]

PANASONIC, NEC => Fn+F3
HP, SHARP, TOSHIBA => Fn+F5
IBM, SONY => Fn+F7
DELL, EPSON => Fn+F8
FUJITSU => Fn+F10
APPLE => F7

- ▶ If you experience difficulty changing resolutions or your monitor freezes, restart all equipment including the projector.

Problem: The screen of the Notebook computer is not displaying a presentation

▶ If you are using a Notebook PC:

Some Notebook PCs may deactivate their own screens when a second display device is in use. Each has a different way to be reactivated. Refer to your computer's documentation for detailed information.

Problem: Image is unstable or flickering

- ▶ Adjust the "Phase" or "Clock" to correct it. Refer to the "H. Position" or "V. Position" section for more information.
- ▶ Check and reconfigure the display mode of your graphic card to make it compatible with the product.

Problem: Image is out of focus

- ▶ Adjust the Focus Ring on the projector lens.
- ▶ Make sure the projection screen is between the required distance. (refer to pages 33 ~ 36)

Problem: The image is stretched when displaying 16:9 DVD

Change the aspect ratio by pressing the "Aspect" button on the remote control or select "SCREEN > Aspect Ratio" from the OSD menu to show image with proper aspect ratio.

Problem: Image is too small or too large

- ▶ Adjust the Zoom lever on the top of the projector.
- ▶ Move the projector closer to or further from the screen.
- ▶ Press the "Aspect" button on the remote control or press the "Menu" button on the projector panel, go to "SCREEN > Aspect Ratio" and try the different settings.

Troubleshooting

Problem: Image is reversed

- ▶ Select "SCREEN > Projection Mode" from the OSD menu to adjust the image.



Problem: Lamp burns out or makes a popping sound






























- ▶ When the lamp reaches its end of life, it will burn out and may make a loud popping sound. If this happens, the projector will not turn on until the lamp module has been replaced. To replace the lamp, follow the procedures in the "Replacing the Lamp".

Troubleshooting

Problem: Indicator lighting message

Note

Steady light => 
No light => 

Status	POWER indicator		LAMP indicator	TEMP indicator
	(Blue)	(Red)	(Red)	(Red)
Normal Operation				
Standby				
Normal (Power ON)				
Powering up	Flashing (0.5 sec)			
Cooling		Flashing (0.5 sec)		
Programming				
Warning				
Lamp failed				
Over Temperature				
Fan Lock				Flashing (0.5 sec)

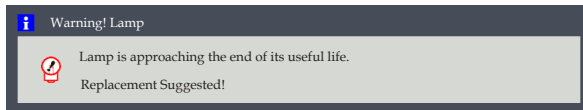
Troubleshooting

Problem: Message Reminders

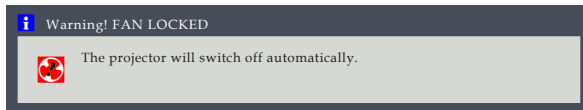
- ▶ Temperature Error - the projector is overheat inside. Check the environmental condition.



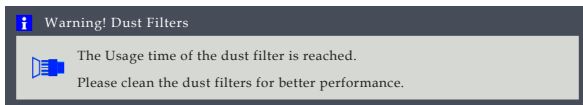
- ▶ Replacing the lamp - the lamp is about to reach its maximum lifetime. Prepare to replace it soon.



- ▶ Fan Error - the cooling system fan is not working.

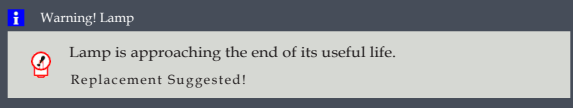


- ▶ Replacing the filter - the filter is about to reach its maximum usage time. Clean or replace the filter soon.



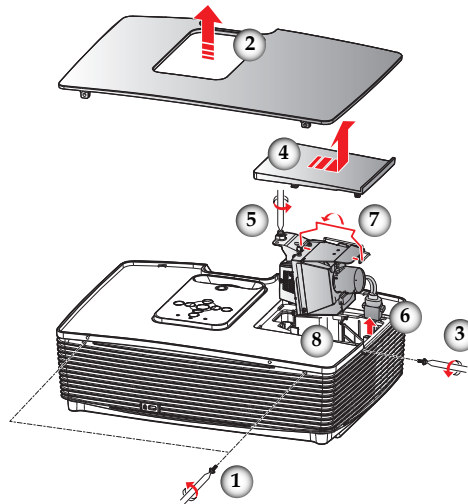
Replacing the lamp

The projector will detect the lamp life itself. It will show you a warning message



Warning: To avoid burns, allow the projector to cool for at least 60 minutes before you replace the lamp!

When you see this message, change the lamp as soon as possible. Make sure the projector has been cooled down for at least 60 minutes before changing the lamp.



Warning: Do not drop the lamp module or touch the glass parts. The glass parts may shatter and cause injury if it is dropped.

Warning: For continued safety replace with Replacement Lamp Type 23.

Caution: If the lamp should break, handle with care to avoid injury due to broken pieces and contact your sales representative for repair service.

Lamp Replacing Procedure:

1. Switch off the power to the projector by pressing the ⏻ button.
2. Allow the projector to cool down at least 60 minutes.
3. Disconnect the power cord.
4. Remove the screws on the top cover. ①
5. Remove the top cover. ②
6. Remove the screw on the lamp cover. ③
7. Slide the lamp cover to the side and remove the cover. ④
8. Remove the screw on the lamp module. ⑤
9. Pull out the lamp connector. ⑥
10. Lift up the lamp handle. ⑦
11. Carefully remove the lamp module. ⑧
12. Install the new lamp module by reversing the previous steps. See the lamp's manual for instructions on resetting the lamp time.

Replacing the lamp

Used Lamps

This projector's lamp contains trace amounts of environmentally harmful inorganic mercury. Be careful not to break used lamps, and dispose of them in accordance with local regulations or contact your sales representative.

List of Compatible Signals

A. VGA Analog			
(1) VGA Analog - PC Signal			
Modes	Resolution	V.Frequency (Hz)	H.Frequency (kHz)
VGA	640 x 480	60	31.47
	640 x 480	72	37.86
	640 x 480	75	37.5
	640 x 480	85	43.27
SVGA	800 x 600	56	35.2
	800 x 600	60	37.88
	800 x 600	72	48.08
	800 x 600	75	46.88
	800 x 600	85	53.67
XGA	1024 x 768	60	48.36
	1024 x 768	70	56.48
	1024 x 768	75	60.02
	1024 x 768	85	68.67
SXGA	1152 x 864	70	63.8
	1152 x 864	75	67.5
	1152 x 864	85	77.1
	1280 x 1024	60	63.98
	1280 x 1024	72	77.9
	1280 x 1024	75	79.98
	1280 x 1024	85	91.15
Quad VGA	1280 x 960	60	60
	1280 x 960	75	75
SXGA+	1400 x 1050	60	65.32
UXGA	1600 x 1200	60	75
PowerBook G4	640 x 480	60	31.5
	640 x 480	66.6(67)	35
	800 x 600	60	37.88
	1024 x 768	60	48.36
	1152 x 870	75	68.68
	1280 x 960	75	75.2
i Mac DV(G3)	1024 x 768	75	60.3

Appendices

A. VGA Analog			
(2) VGA Analog - Extended Wide Timing			
Modes	Resolution	V.Frequency (Hz)	H.Frequency (kHz)
WSVGA	1024 x 600	60	37.3
WXGA	1280 x 768	60	47.78
	1280 x 768	75	60.29
	1280 x 768	85	68.63
	1280 x 720	60	44.8
	1280 x 800	60	49.6
	1366 x 768	60	47.71
WXGA+	1440 x 900	60	55.9
WSXGA	1680 x 1050	60	65.3
WUXGA	1920 x 1080-RB	60	66.6
	1920 x 1080-EIA	60	67.5
(3) VGA Analog - Component Signal			
480i	720 x 480	59.94(29.97)	27
480p	720 x 480	59.94	31.47
576i	720 x 576	50(25)	27
576p	720 x 576	50	31.25
720p	1280 x 720	60	45
720p	1280 x 720	50	37.5
1080i	1920 x 1080	60(30)	33.75
1080i	1920 x 1080	50(25)	33.75
1080p	1920 x 1080	60	67.5
1080p	1920 x 1080	50	56.25

Appendices

B. HDMI			
(1) HDMI - PC Signal			
Modes	Resolution	V.Frequency (Hz)	H.Frequency (kHz)
VGA	640 x 480	60	31.47
	640 x 480	72	37.86
	640 x 480	75	37.5
	640 x 480	85	43.27
SVGA	800 x 600	56	35.2
	800 x 600	60	37.88
	800 x 600	72	48.08
	800 x 600	75	46.88
	800 x 600	85	53.67
XGA	1024 x 768	60	48.36
	1024 x 768	70	56.48
	1024 x 768	75	60.02
	1024 x 768	85	68.67
SXGA	1152 x 864	70	63.8
	1152 x 864	75	67.5
	1152 x 864	85	77.1
	1280 x 1024	60	63.98
	1280 x 1024	72	77.9
	1280 x 1024	75	79.98
	1280 x 1024	85	91.15
Quad VGA	1280 x 960	60	60
	1280 x 960	75	75
SXGA+	1400 x 1050	60	65.32
UXGA	1600 x 1200	60	75
PowerBook G4	640 x 480	60	31.5
	640 x 480	66.6(67)	35
	800 x 600	60	37.88
	1024 x 768	60	48.36
	1152 x 870	75	68.68
	1280 x 960	75	75.2
i Mac DV(G3)	1024 x 768	75	60.3

Appendices

B. HDMI

(2) HDMI - Extended Wide Timing

Modes	Resolution	V.Frequency (Hz)	H.Frequency (kHz)
WSVGA	1024 x 600	60	37.3
WXGA	1280 x 768	60	47.78
	1280 x 768	75	60.29
	1280 x 768	85	68.63
	1280 x 720	60	44.8
	1280 x 800	60	49.6
	1366 x 768	60	47.71
WXGA+	1440 x 900	60	55.9
WSXGA	1680 x 1050	60	65.3
WUXGA	1920 x 1080-RB	60	66.6
	1920 x 1080-EIA	60	67.5
	1920 x 1200-RB	59.95	74.04

(3) HDMI - Video Signal

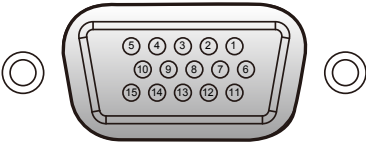
480i	720 x 480	59.94(29.97)	27
480p	720 x 480	59.94	31.47
576i	720 x 576	50(25)	27
576p	720 x 576	50	31.25
720p	1280 x 720	60	45
720p	1280 x 720	50	37.5
1080i	1920 x 1080	60(30)	33.75
1080i	1920 x 1080	50(25)	33.75
1080p	1920 x 1080	60	67.5
1080p	1920 x 1080	50	56.25
1080p	1920 x 1080	23.97/24	27

Appendices

C. 3D Timing				
Input Resolutions	HDMI 3D Input (with 3D Info Frame information)	Input timing		
		1280 X 720P @ 50Hz	Top - and - Bottom	
		1280 X 720P @ 60Hz	Top - and - Bottom	
		1280 X 720P @ 50Hz	Frame packing	
		1280 X 720P @ 60Hz	Frame packing	
		1920 X 1080i @ 50 Hz	Side- by-Side (Half)	
		1920 X 1080i @ 60 Hz	Side- by-Side (Half)	
		1920 X 1080P @ 24 Hz	Top - and - Bottom	
		1920 X 1080P @ 24 Hz	Frame packing	
	HDMI 3D Input (without 3D Info Frame information)	1920 x 1080i @ 50Hz	Side-by-Side (Half)	SBS mode is on
		1920 x1080i @ 60Hz		
		1280 x 720P @ 50Hz		
		1280 x 720P @ 60Hz	Top-and-Bottom	TAB mode is on
		1920 x 1080i @ 50Hz		
		1920 x1080i @ 60Hz		
		1280 x 720P @ 50Hz		
		1280 x 720P @ 60Hz		
		480i	HQFS	
	VGA (PC)	800x600 @ 60Hz	SBS or TAB	
		1024x768 @ 60Hz		
		800x600 @ 120Hz	Frame Sequential	
		1024x768 @ 120Hz		
	Composite	NTSC	HQFS	
	S-Video	NTSC	HQFS	

Configurations of Terminals

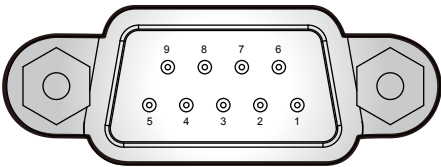
Terminal: Computer In 1/2 (Mini D-sub 15 pin) [Monitor Out]



1	Red (R/Cr) Input [R Output]	9	DDC 5V [NC*]
2	Green (G/Y) Input [G Output]	10	Ground (Ver. sync.)
3	Blue (B/Cb) Input [B Output]	11	NC*
4	NC*	12	DDC Data [NC*]
5	Ground (Horiz.sync.)	13	Horiz. sync. Input [Output] (Composite H/V sync. Input)
6	Ground (Red)		
7	Ground (Green)	14	Vert. sync. Input [Output]
8	Ground (Blue)	15	DDC CLK [NC*]

* Do not connect anything.

Terminal: PC Control (D-sub 9 pin)



Note

❖ Contact your dealer for control cable and commands.

1	NC*	6	NC*
2	TXD (Sending Data)	7	NC*
3	RXD (Receiving Data)	8	NC*
4	NC*	9	NC*
5	GND	* Do not connect anything.	

Specifications

■ List of general specifications

Item	RICOH PJ HDC5420
DLP chip	0.65" DMD 1080P
Lamp Type	260W
Projection Lens	F#2.5 - 2.93, f=15.98 - 21.42mm @ 60", 1:1.4 Manual Zoom
Projection Distance (Focus range)	0.7~9.6m
Throw Ratio (distance/width)	1.068 ~ 1.451distance/width @60"
Dimension (WxDxH)	314x224x92 mm (w/o feet)
	314x234x105 mm (with feet)
Weight	Approx. 3.0 kg
I/O Terminal	<ul style="list-style-type: none"> • Computer In • S-Video In • Video In • PC-Control • Audio In • Audio Out • HDMI1/MHL • HDMI2 • Service
Speaker	10W
Lamp life	<ul style="list-style-type: none"> • Normal: 3000 hours • ECO: 5000 hours
Noise Level (Typ.)	<ul style="list-style-type: none"> • Full: 37 dB (A) at 23±2°C for the full power mode (260W) • ECO: 32 dB (A) at 23±2°C for the eco mode (220W)
Standby Power	0.5W or less
Environment	<ul style="list-style-type: none"> • Operational Temperatures: 41° to 104°F (5° to 40°C); 20% to 80% humidity (non-condensing) • Storage Temperatures: -4° to 140°F (-20° to 60°C); 20% to 80% humidity (non-condensing)
Power Consumption	<ul style="list-style-type: none"> • Eco Mode: Typ. 266W, max. 293W @ 110Vac; Typ. 256W, max. 282W @ 220Vac • Full Mode: Typ. 320W, max. 352W @ 110Vac; Typ. 307W, max. 338W @ 220Vac

Note

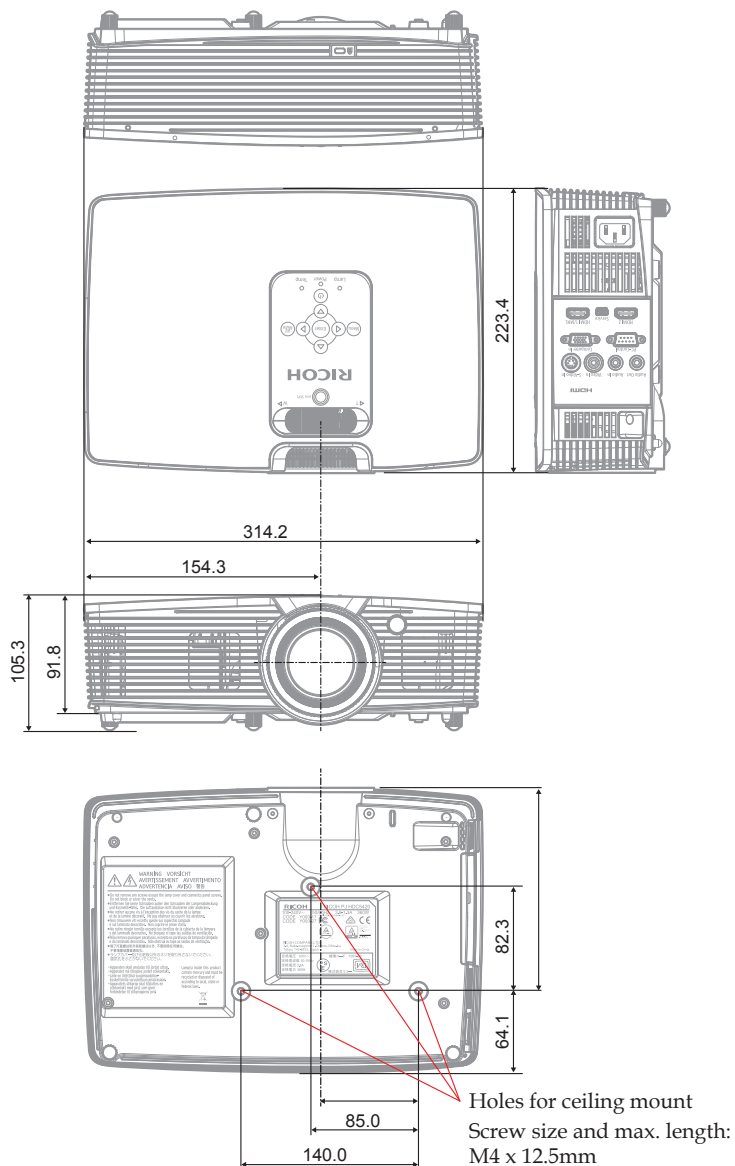
- This model complies with the above specifications.
- Designs and specifications are subject to change without notice.
- This model may not be compatible with features and/or specifications that may be added in the future.

■ Separately sold product

PJ Replacement Lamp Type 23

Cabinet Dimensions

Unit: mm



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