RICOH

RICOH PJ KU12000 Series

User's Manual

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.

Safety Information

This chapter describes safety information for this machine.

Information

Introduction

This manual contains detailed instructions and notes on the operation and use of this machine. For your safety and benefit, read this manual carefully before using the machine. Keep this manual in a handy place for quick reference.

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 handling or operating the machine.

Some illustrations in this manual might be slightly different from the machine.

Please ask the specialists to replace the lamp.

The description of the lamp replacement is for the specialists.

Caution

The manufacturer shall not be responsible for any damage or expense that might result from the use of parts other than genuine parts from the manufacturer with your office products.

Safety Information

When using this machine, the following safety precautions should always be followed.

Safety During Operation

In this manual, the following important symbols are used:

> ⚠️ **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.

Safety Precautions to Be Followed

This section explains safety precautions that should always be followed when using this machine.

Environments where the machine can be used

This section explains safety precautions about environments where the machine can be used.

⚠️ **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 product and attachments out of the reach of children. If the product is near children, it might fall over and cause an injury.

⚠ 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 product 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 product on soft material such as paper or cloth that might get sucked into the intake vents. Doing so may cause heat buildup inside the product, resulting in malfunction, burns, or fire.

⚠ CAUTION

- Do not place the power cord and connection cable in a way that might cause someone to trip and fall. The product might fall over and cause an injury.

⚠ CAUTION

- Do not place the product 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 product 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.

⚠ 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 product or an accident.

⚠ CAUTION

- Do not expose the product to salt air or corrosive gas. Also, do not place the product in a laboratory or other location where a chemical reaction might occur. Doing so may cause the product to malfunction.

⚠ CAUTION

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

Handling power cords and power cord plugs

This section explains safety precautions about handling power cords and power cord plugs.

⚠ WARNING

- Do not use any power sources other than those that match the specifications shown. Doing so could result in fire or electric shock.

⚠ WARNING

- Do not use any frequencies other than those that match the specifications shown. 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.
    - 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.
    - 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

- Do not place the power cord and connection cable in front of the lens or exhaust vents when the product is turned on. Doing so may result in fire.

⚠ 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.

Handling the main machine

This section explains safety precautions about handling the main machine.

⚠ 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 electric shock.

⚠ WARNING

■ Do not touch this machine if a lightning strike occurs in the immediate vicinity. Doing so could result in electric shock.

⚠ WARNING

■ The following explains the warning messages on the plastic bag used in this product's packaging.
  ■ Keep the polythene materials (bags, etc.) supplied with this machine away from babies and small children at all times. Suffocation can result if polythene materials are brought into contact with the mouth or nose.

⚠ 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

- Contact your sales or service representative to clean or replace parts for a projector that is installed on a wall or ceiling.
  - Do not attempt to clean or replace parts for a projector that is installed in a high location on a wall or ceiling. Doing so may cause it to fall down, resulting in an injury.
  - Do not open the lamp cover of a projector 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.

⚠ WARNING

- If a projector 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 projector on a wall or ceiling.
  - Use brackets that are strong enough to support the projector. The projector weighs about 23.8kg (52.5lbs) (Projector weight without lens).
  - The projector must be installed in a location that is sturdy enough to support the full weight of the projector and brackets.

⚠ 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 product on other equipment or vice versa. Doing so may cause heat buildup inside the product 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.

Handling the machine's interior

This section explains safety precautions about handling the machine's interior.

⚠ WARNING

- Do not remove any covers or screws that are not mentioned in this manual. There are high voltage components inside the product that may cause electric shock. Contact your service representative if any of the product's internal components require maintenance, adjustment, or repair.
- Do not disassemble or modify the product. Doing so may cause injury or malfunction.

⚠ 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 your sales or service representative for details about and charges for cleaning the machine's interior.

About the batteries

Explains things that you should follow in regard to the batteries.

⚠ WARNING

- For safe operation, follow the warnings below regarding the batteries used in the remote control. If you use the batteries incorrectly, it may result in fire or injury due to batteries leaking or exploding.
  - Do not use batteries other than the ones specified.
  - Do not mix and use batteries that are different types or that are new and old.
  - Correctly insert batteries according to the polarity (+/-).
  - Do not charge non-rechargeable batteries.
  - Do not heat or throw the batteries into fire or water.
  - Do not connect the positive and negative terminals on a battery with a wire.
  - Remove the batteries from the remote control that are past their suggested use period or that are depleted.
  - Remove the batteries when they will not be used for extended periods.
  - Keep the batteries out of the reach of children. Children may swallow or choke on the batteries. If this happens, contact a doctor immediately.

⚠ WARNING

- What to do if a battery has leaked
  - If leakage from a battery adheres to your skin, rinse it with water immediately, and then contact a doctor.
  - Wipe off the leakage with tissue paper while being careful not to touch it.
  - Soak the tissue paper that you used in water, and then throw it away as burnable trash.

About the lamp

Explains things that you should follow in regard to the lamp.

⚠ WARNING

- Do not look into the lens or vent when the product is on. The bright light may damage your eyes. Be especially careful in an environment with children.

⚠ WARNING

- Before replacing the lamp, turn off the power and wait at least one hour to allow the product to cool completely. If it is not completely cool, you may burn or injure yourself due to the inside of the product 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.

- Be careful when handling the used lamp so that it does not break. If it breaks, it may cause injury.

⚠ CAUTION

- The product'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.

    - 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 product and ejected from the vent or other opening.

    - 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.

⚠ CAUTION

- ■ What to do if a lamp has exploded
  - ■ If the lamp explodes, remove the power cord from the product, 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 product completely while being careful not to get injured from any broken glass pieces.
  - ■ Throw away any food that was near the product.
  - ■ Ask your service representative to replace the lamp and inspect the product.

⚠ CAUTION

- ■ Do not block the projection light when it is on. If you do so, the part that is blocking the projection light may get quite hot and deform, deteriorate or cause a burn or fire. The reflected light may make the lens hot and cause a product failure. To temporarily suspend projection, select the mute function. To suspend longer, turn off the product.

⚠ CAUTION

- ■ Be sure to always use a dedicated replacement lamp that is new when replacing the lamp. If you use a lamp that is not dedicated, it may result in an explosion and injury.

Moving

This section explains safety precautions about moving the machine.

⚠ 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.

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 lightsensitive seizures, consult a doctor before viewing 3D images.

Safety Marks of This Machine

Positions of WARNING and CAUTION marks

This machine has marks for WARNING and CAUTION at the positions shown below. For safety, please follow the instructions and handle the machine as indicated.

Main unit
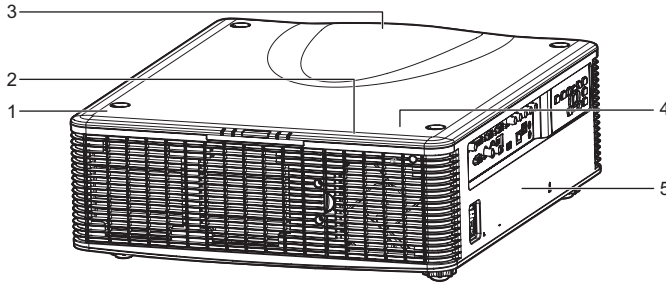
1

⚠ CAUTION ACHTUNG ATTENTION
ATTENZIONE PRECAUCIÓN CUIDADO 注意

- To replace the lamp, first unplug the power cord then wait for more than 1 hour. The lamp might be broken. Be careful of pieces of broken glass.
- Z. Ersetzen d. Lampe erst Netzkabel herausziehen u. über 1 Stunde warten. Die Lampe könnte zerbrochen sein. Auf Glasscherben achten.
- Pour rempl. lampe, débrancher cordon d'alimentation, puis attendre + d'1 h. Lampe peut-être cassée. Attent° aux morceaux de verre brisé.
- Per sostituire la lampada, scollegare l'alimentazione e attendere min.1 ora. La lampada potrebbe essere rotta. Attenzione schegge vetro.
- Para cambiar la lámpara, desenchufe el cable y espere más de 1 hora. La lámpara puede romperse. Cuidado con los cristales rotos.
- P/ subst. a lâmpada, desligue o cabo de alimentação e aguarde + de 1 hora. A lâmpada pode estar partida. Tome cuidado com vidros partidos.
- 要更换灯泡，首先拔下电源线然后等待1小时以上。灯泡可能会被碰碎。小心玻璃碎片。
- ランプ交換は電源プラグを抜き、1時間以上放置した後に行ってください。ランプは割れているおそれがありますので、ガラス破片に注意してください。

The lamp attention is for the specialists only.

2

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.

3

Do not look into the lens when the product is on. The bright light may damage your eyes.

Do not place anything in front of the lens. The object may become very hot and cause a fire or burn. To blank the image temporarily, turn on the mute function.

4

Do not remove any screws except the lamp cover screws.

Do not block or cover the vents.

5

Lamp(s) inside this product contain mercury and must be recycled or disposed of according to local, state or federal laws.

Power Switch Symbols

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

- ■ ⏻ : STANDBY

Laws and Regulations

User Information on Electrical and Electronic Equipment

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.

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 KU12000

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 safedisposal 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.

Declaration of Conformity for EU countries

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

Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures

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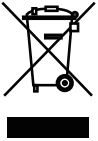
This product contains substances which are harmful to humans and the environment.

• 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 re-duce 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 representa-tives.

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.

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。

Table of Contents

Introduction   22

Installation   31

User Controls   44

Appendices   76

Introduction

Product Features

- ▶ Supported resolution up to WUXGA @60Hz (Reduced Blanking)
- ▶ Single/Dual lamp system
- ▶ Power Zoom/Focus
- ▶ Power lens shift
- ▶ Dynamic Aperture
- ▶ Filter module (optional)
- ▶ Support PIP/POP function
- ▶ Embedded HDBaseT solution, support HD video streaming through RJ45
- ▶ Embedded warping design for geometry correction & curve blending
- ▶ Support 360 degrees operation & Portrait mode

Package Overview

Unpack and inspect the box contents to ensure all parts listed below are in the box. If something is missing, please contact our customer service.
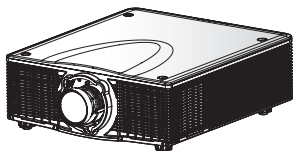
Projector without lens cover	Power Cord	VGA Cable
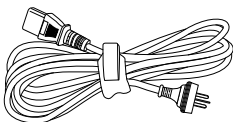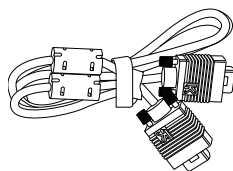
DVI-HDMI adapter	Remote Control	AAA Batteries x 2 (For remote control)
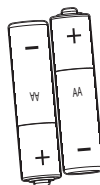
Documentation:

- User's Manual (CD)
- Read This First

NOTE

- *Due to different applications in each Country, some regions may have different accessories.*

Product Overview

Main Unit
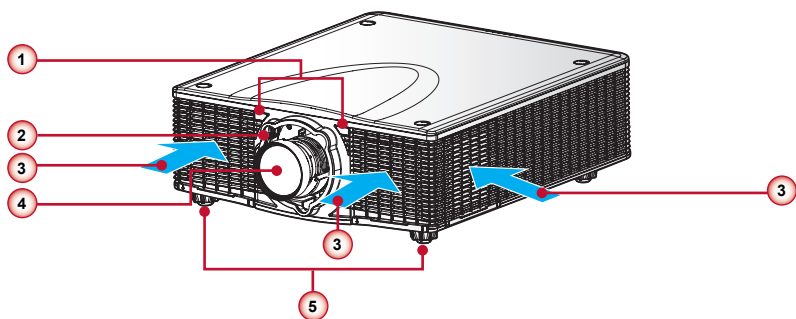
(Front View)

(Rear View)

1. IR Receivers
2. Lens Release Button
3. Inlet Vent
4. Lens
5. Adjustable Feet
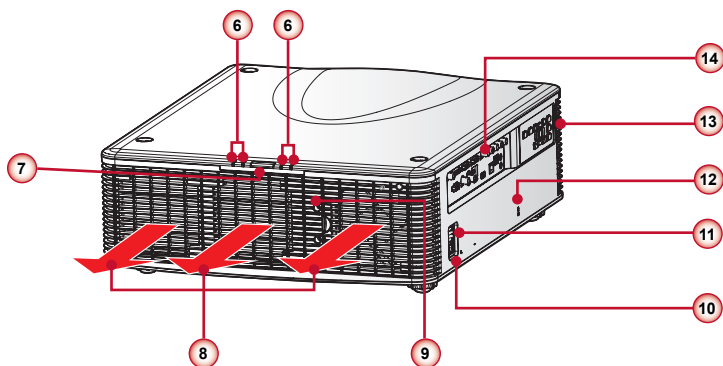
6. LED Status Indicators
7. IR Sensor
8. Outlet Vent
9. Lamp Door
10. Power Connector

11. Power Switch
12. Anti-Theft Lock Hole (Kensington™ Lock)
13. Keypad Panel
14. Connector Panel

NOTE

■ *Do not block projector in/out air vents and keep 25.4cm clearance around vents for air flow concern.*

Min. 25.4cm

Min. 25.4cm

Min. 25.4cm
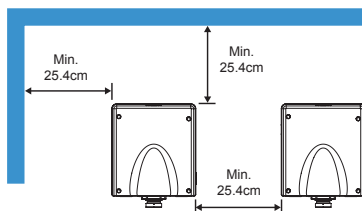
Control Panel
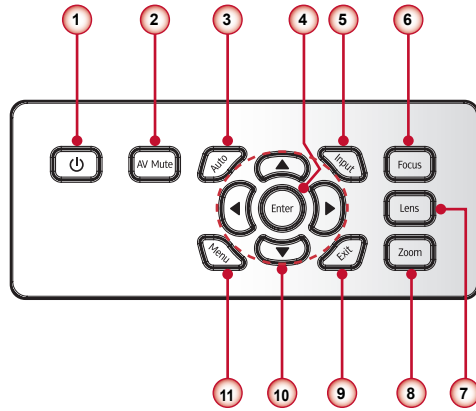
1. ⏻ / Power key

2. AV Mute key

3. Auto key

4. Enter key

5. Input key

6. Focus key

7. Lens key

8. Zoom key

9. Exit key

10. Four directional select keys

11. Menu key

Connection Ports
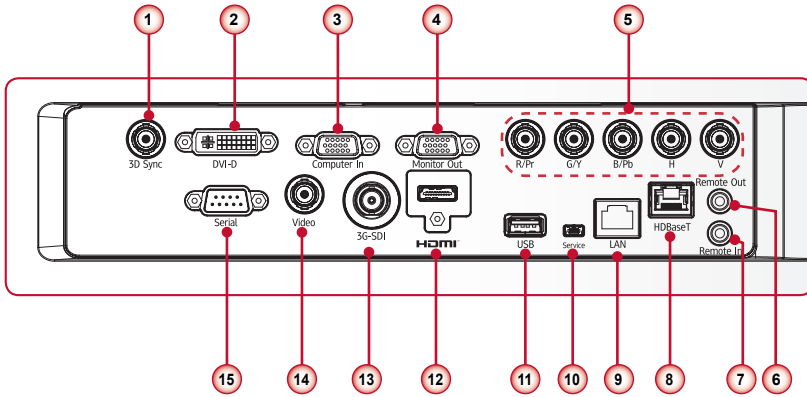
1. 3D Sync OUT Connector
2. DVI-D Connector
3. Computer IN Connector
4. Monitor OUT Connector
5. Component/RGBHV IN Connector
6. REMOTE OUT Connector
7. REMOTE IN Connector
8. HDBaseT Connector
9. LAN Connector
10. Service Connector
11. USB Connector
12. HDMI Connector
13. 3G-SDI IN Connector
14. VIDEO IN Connector
15. Serial Connector

NOTE

■ *Use cross cable for serial control with a PC.*

Remote Control

1. Power ON
   Power on the projector.

2. Numeric Keypad

3. Information
   Display the projector information.

4. Auto
   Auto adjust projector with source.

5. Enter
   Confirm your item selection.

6. Four Directional Select Keys
   Press up, down, left, right direction buttons to select items or make adjustments.

7. Menu
   Launch the OSD main menu.

8. Gamma
   Adjust mid-range levels.

9. Bright
   Adjust amount of light in the image.

10. Lens H
    Adjust the position of the image horizontally.

11. Lens V
    Adjust the position of the image vertically.

12. Keystone H
    Adjust image distortion caused by tilting the projector horizontally.

13. Keystone V
    Adjust image distortion caused by tilting the projector vertically.

14. AV Mute
    Display or blank the video image.

15. Hot Key
    Select your preset keys quickly.

16. OFF
    Turn off the projector.

27
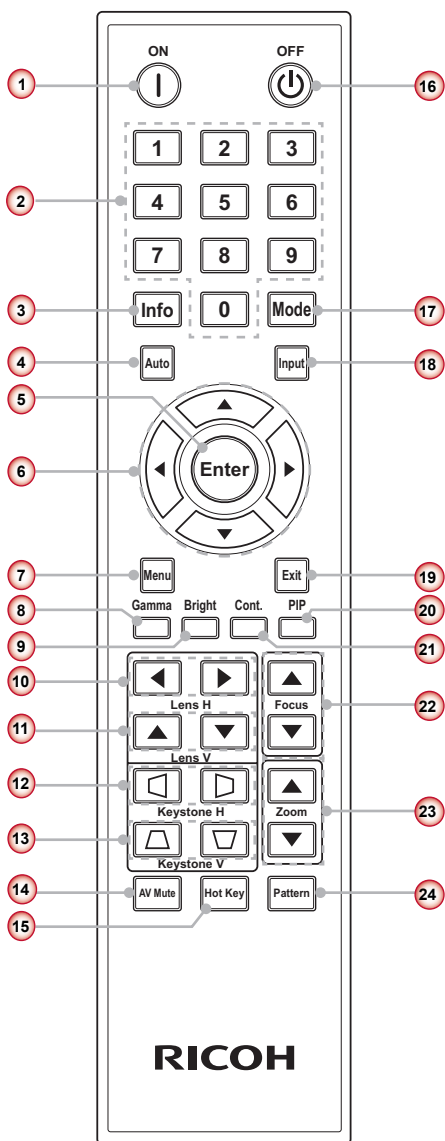
17. Mode
    Select the preset display mode.
18. Input
    Automatically scans for connected source.
19. Exit
    Exit a menu.
20. PIP
    Turn PIP/PBP ON/OFF.
21. Cont.
    Adjust difference between dark and light.
22. Focus
    Adjust the lens focus.
23. Zoom
    Adjust the lens zoom function.
24. Pattern
    Display a test pattern.

Remote Control Battery Installation

(1) Remove the battery compartment cover as shown in the illustration.
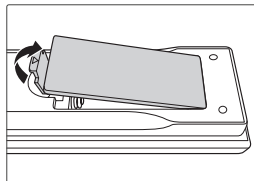
(2) Install new batteries (AAA/R03). Ensure that you have the batteries' polarity (+/–) aligned correctly.
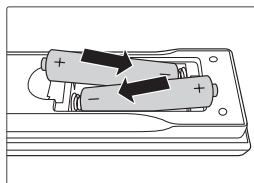
(3) Replace the cover. Do not mix different types of batteries or new and old batteries.
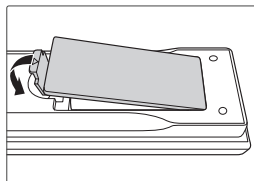
⚠ **To ensure safe operation, please observe the following precautions**:
- Use AAA/R03 type battery.
- Avoid contact with water or liquid.
- Do not expose the remote control to moisture or heat.
- Do not drop the remote control.
- If the battery has leaked in the remote control, carefully wipe the case 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.

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 33'(10m) and ±40° (horizontally), and ±15° (vertically) in the front and on the rear of the projector.

33'(10m)
23'(7m) ±40° (horizontally)
23'(7m) ±15° (vertically)

33'(10m)
23'(7m) ±40° (horizontally)
23'(7m) ±15° (vertically)
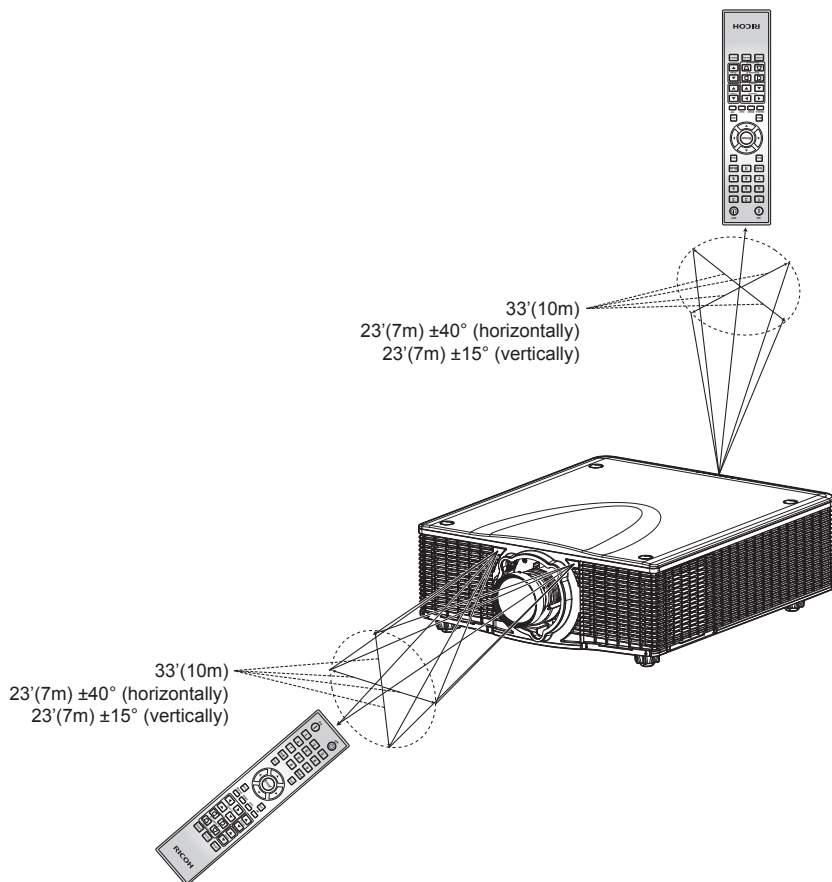
Installation

Adjust the Projector Position

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:

- Position the projector on a flat surface at a right angle to the screen. The projector (with the standard lens) must be at least 3 feet (0.9m) 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.

- For the fixed short lens, the image exits at a default angle. However, the lens shift feature makes the image offset variable.

- 360° free orientation operation:
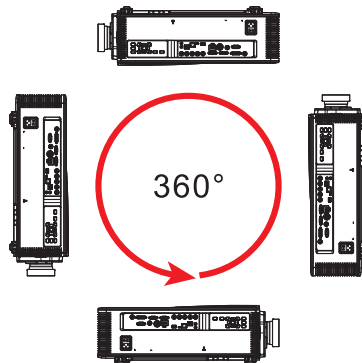
Portrait Mode

- The projector is in portrait mode when the viewing angle is from 70° to 110° as illustrated below.

Portrait mode 70~90° Portrait mode 90° Portrait mode 90~110°
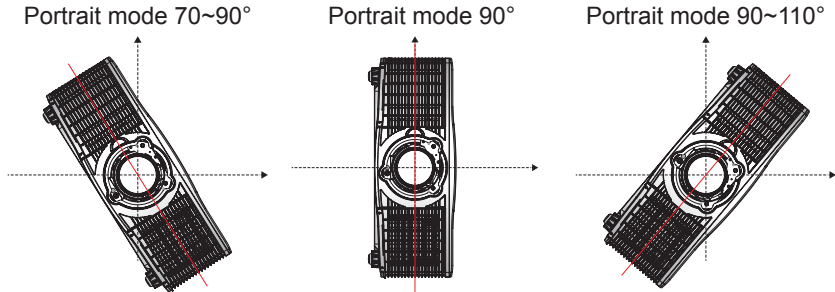
Non-Portrait Mode

- The projector is in non-portrait mode when the viewing angle is 250° to 290° as illustrated below.

- The "green and red" (amber) status LED on projector lights on.

250~270° 270° 270~290°
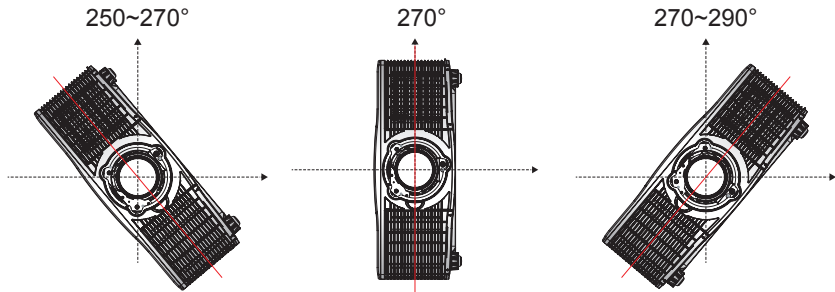
⚠ The projector should not be operated in Non-Portrait Mode.

Installing the Projector Lens

When handling the projector after lens installation, make sure the front lens cap is placed on the lens to protect the lens surface from potential damage. When carrying or moving the projector, do not handle by the lens. This may damage the lens, the chassis or other mechanical parts within the projector.

1. **Center the lens**: Ensure that the lens is at or near its center position. Attempting to remove the lens when at a large offset may cause damage to the lens assembly. Center the lens while the projector is switched on by pressing the lens horizontal or vertical button and then pressing "Enter".

2. **Turn Off the projector**: Turn the projector OFF.

3. **Wait for projector to cool down**: Allow the projector to cool down into standby mode before replacing the lens. Remove power cord after the projector has cooled down and prior to replacing the lens.

4. **Remove the lens**: Press lens release button and rotate the lens counterclockwise by a quarter to release the lock. Remove the lens through the front of the projector.
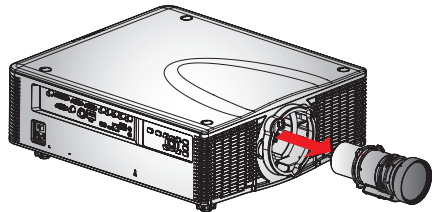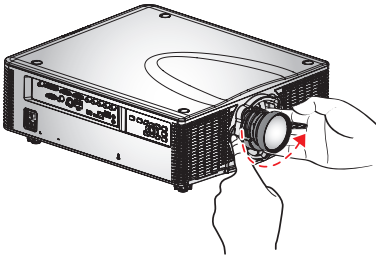
5. **Install the new lens**: Fully insert the lens assembly straight into the lens mount without turning. Rotate the lens cap clockwise to lock the lens in place.

⚠️   Warning: Do not transport the projector with any lens installed.

Connecting to Computer/Notebook
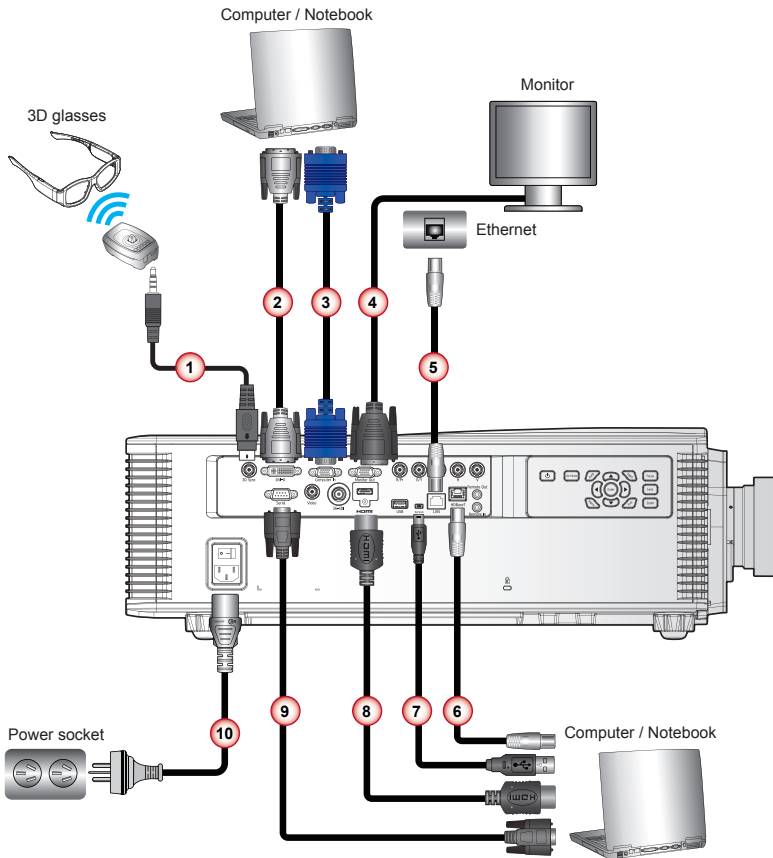
1. 3D Emitter Cable
2. DVI Cable
3. VGA IN Cable
4. VGA OUT Cable
5. LAN (RJ45) Cable

6. HDBaseT Cable
7. USB Cable (service)
8. HDMI Cable
9. RS232 Cable
10. Power Cord

NOTE

■ *Due to the difference in applications for each country, some regions may have different accessories.*
■ *Connect the cable directly to the HDBaseT transmitter without going through a hub or router.*
■ *This projector is not guaranteed to work with all HDBaseT transmitter sold commercially.*

Connecting to Video Sources

DVD player

DVD player, Set-top box, HDTV receiver

Second projector

Remote control

Power socket

DV camera (for live broadcasting)

DVD player
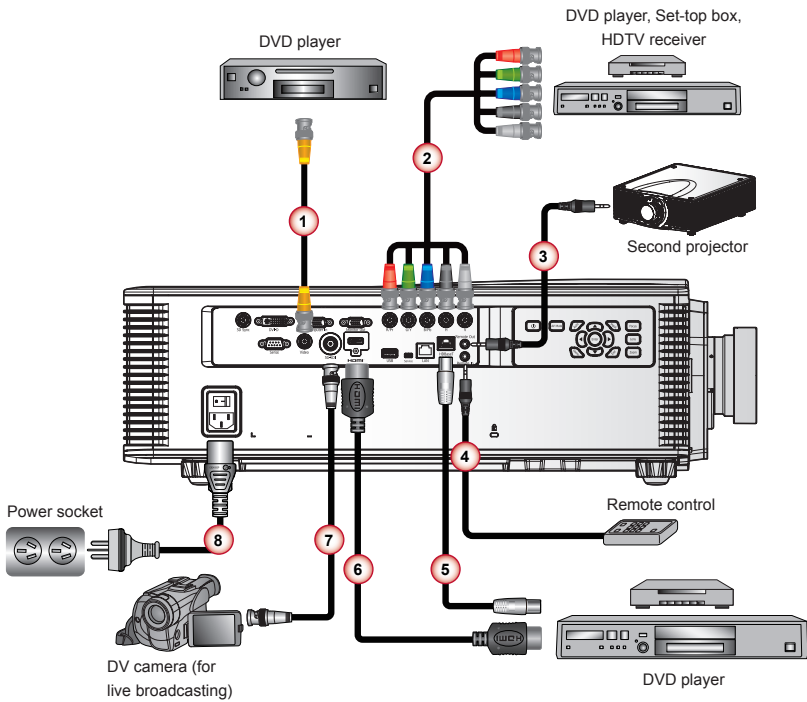
1. Composite Video cable
2. Component (YPbPr) Cable + Stereo Audio Cable
3. M3 Stereo Mini Jack Cable
4. M3 Stereo Mini Jack Cable

5. HDBaseT Cable
6. HDMI Cable
7. BNC Cable
8. Power Cord

NOTE

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

Powering On/Off the Projector

Powering On the Projector

1. Securely connect the power cord and signal cable. Power on the switch and the "Power" button on the built in keypad is illuminated ①.

2. Turn on the projector by pressing the " ⏻ " button on the control panel of the projector or ① button on the remote control ②. The Status LED is green with a long blink.

   The startup screen will display in approximately 10 seconds. The first time you use the projector, you will be asked to select the preferred language and power saving mode.

3. Turn on and connect the source that you want to display on the screen (computer, notebook, video player, etc). Press "Input" on the remote control or built in keypad to select an input source (VGA, BNC, HDMI, HDBaseT, or Component) ▪.
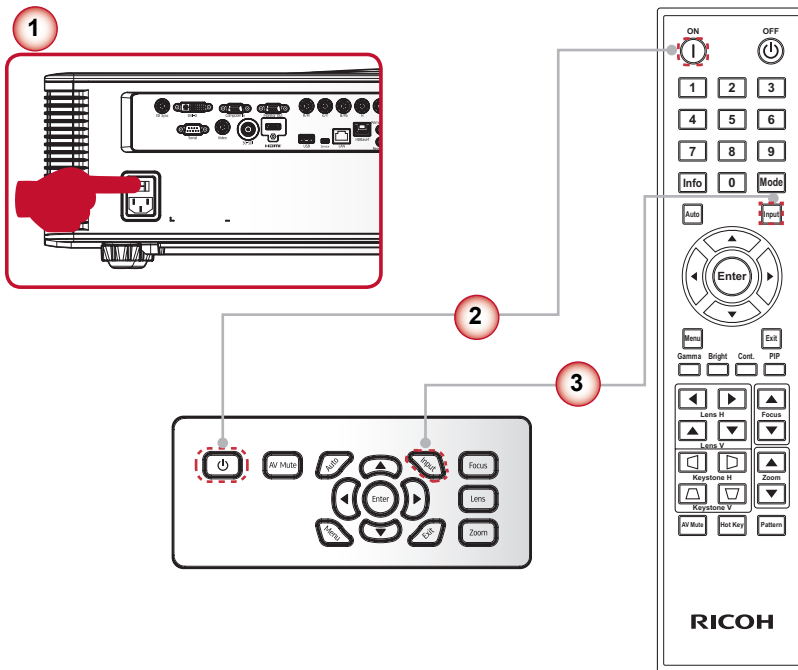
NOTE
- *Turn on the projector first and then select the signal sources.*

Powering Off the Projector

1. Press the ⓞ button on the remote control or the "⏻" button on the control panel to turn off the projector ①. The following message will be displayed on the screen.

> **Power OFF?**
>
> **Press OFF key again.**

   Press the ⓞ button on the remote control or the "⏻" button on the control panel again ① to confirm otherwise the message will disappear after 3 seconds. When you press for the second time, the projector will shut down.

2. The cooling fans will complete the cooling cycle for about 180 seconds and the both Status LEDs (green and red) will flash. The projector has entered 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 on the control panel of the projector or ⓘ button on the remote control to restart the projector. ②

3. Power off the switch ③.

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

> **NOTE**
> ■ *Do not turn on the projector immediately following the power off procedure.*
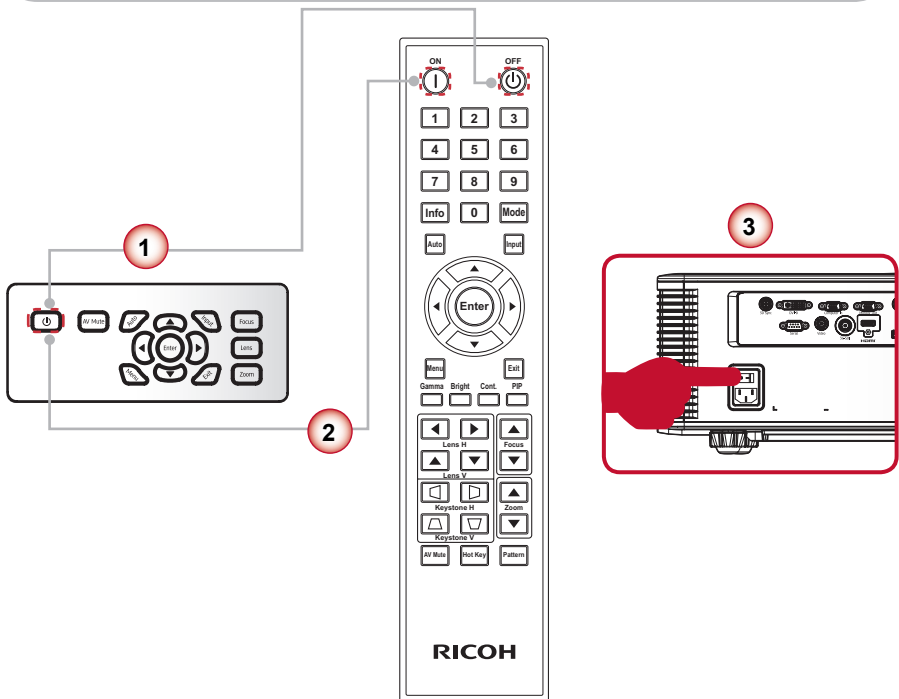
Warning Indicator

When the warning indicators (see below) come on, the projector will go to cooling state or automatically shutdown:

- Both "LAMP1" LED or "LAMP2" LED indicators (Orange) light up. This indicates the lamp 1 or lamp 2 time has expired and lamp should be replaced.

- "LAMP1" LED or "LAMP2" LED indicators are flashing red. This indicates the lamp 1 or lamp 2 failed to strike after 5 attemps or the lamp 1 or lamp 2 has unexpectedly shut down. The system goes to cooling state.

- "STATUS" LED, "LAMP1" LED and "LAMP2" LED indicators are lit red. This indicates the projector has overheated. Under normal conditions, the projector can be switched back on.

Unplug the power cord from the projector, wait for 30 seconds and try again. If the warning indicator light up again, please contact your nearest service center for assistance.

LED Lighting Message

Message	AV Mute LED	Status LED	Lamp 1 LED	Lamp 2 LED	Note
Color wheel unexpectedly Stop			Orange Flashing	Orange Flashing	*
Lamp1 time has expired and lamp should be replaced			Orange		Lamp 1should be replaced
Lamp1 is on and operating correctly			Green		Normal
Lamp1 is switching on			Green Flashing		Normal
Failed to strike lamp1 after 5 attempts (strike attempts will stop)			Red Flashing		*
Lamp1 has unexpectedly shut down (system goes into cooling down state).			Red Flashing		*
Lamp1 driver communica-tion fail			Red		*
Lamp2 time has expired and lamp should be replaced				Orange	Lamp 2 should be replaced
Lamp2 is on and operating correctly				Green	Normal
Lamp2 is switching on				Green Flashing	Normal
Failed to strike lamp2 after 5 attempts (strike attempts will stop)				Red Flashing	*

Message	AV Mute LED	Status LED	Lamp 1 LED	Lamp 2 LED	Note
Lamp2 has unexpectedly shut down (system goes into cooling down state).				Red Flashing	*
Lamp2 driver communication fail				Red	*
AC power is off (without AC plug in)					Normal
AC has been applied, projector is in standby mode.		Off			Normal
AC has been applied, projector is in communication standby mode.		Red			Normal
Projector is powered up and operating normally		Green			Normal
Projector is in cooling down mode or startup mode		Orange Flashing			Normal
Need to change dust filter		Orange			Need to change dust filter
Over temperature		Red	Red	Red	*
Fan failure		Red Flashing			*
Picture mute is off and Shutter is Off (image is displayed)	Off				Normal
Picture mute is on and Shutter is On (image is black)	Green Flashing				Normal

*Unplug the power cord from the projector, wait for 30 seconds and try again. If the warning indicator light up again, please contact your nearest service center for assistance.

Adjusting the Projected Image

Adjusting the Projector's Height

The projector is equipped with elevator rubber feet for adjusting the image height.

1. Locate the adjustable foot you wish to modify on the underside of the projector.

2. Rotate the adjustable ring counter clockwise to raise the projector or clockwise to lower it. Repeat with the remaining feet as needed.
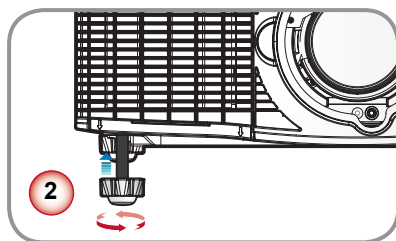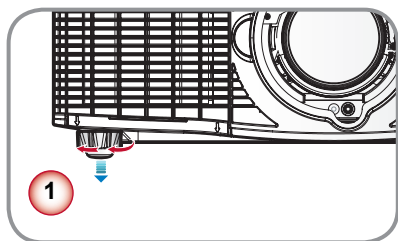
Adjusting the Projecting Image's Position

To determine where to position 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.

Platform	H	V
0.96"WUXGA	25%	60%

Platform	RICOH PJ KU12000 (WUXGA1920 x 1200)
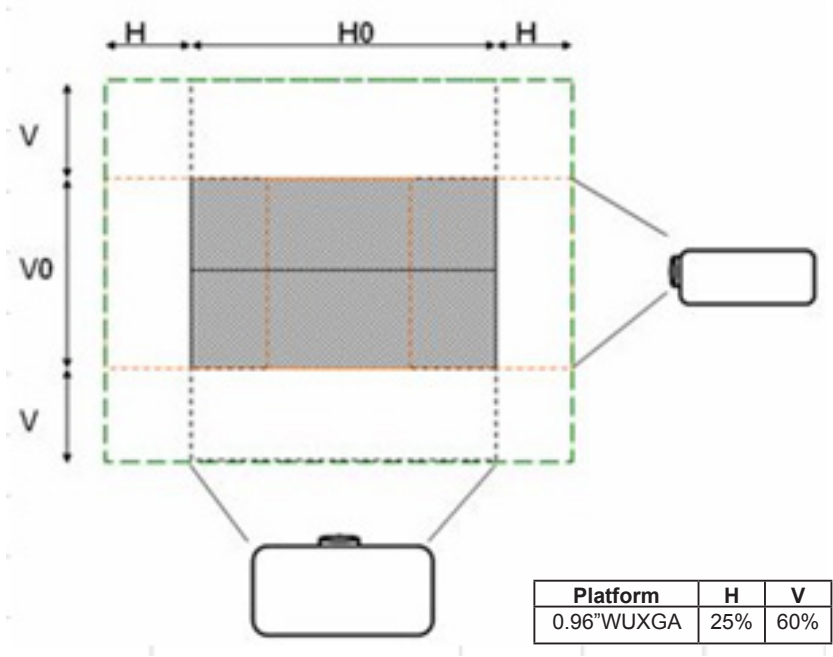
Platform	RICOH PJ KU12000 (WUXGA1920 x 1200)											
DMD	0.96"											
Projection Lens	B1		B2		B3		B4		B5		B6	
Lens Type	Wide Zoom		Wide Zoom		Wide Zoom		Standard		Long Zoom		Ultra-Long Zoom	
Zoom Type	Wide	Tele	Wide	Tele	Wide	Tele	Wide	Tele	Wide	Tele	Wide	Tele
Throw Ratio	0.84	1.02	1.02	1.36	1.2	1.5	1.5	2	2	4	4	7.2
Focal Length(EFL) (mm)	21.5	28.7	21.5	28.7	25.5	31.8	31.8	42.1	42.4	84.5	84.1	149.8
Zoom Ratio	1.2X		1.33X		1.25X		1.33X		2X		1.8X	
Projection screen size	Projection distance (m)											

Projection screen size			Projection distance (m)											
Diagonal (inch)	Width (m)	Height (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)
50	1.08	0.67	0.9	1.1	1.1	1.5	1.3	1.6	1.6	2.2	2.2	4.3	4.3	7.8
60	1.29	0.81	1.1	1.3	1.3	1.8	1.6	1.9	1.9	2.6	2.6	5.2	5.2	9.3
70	1.51	0.94	1.3	1.5	1.5	2.1	1.8	2.3	2.3	3.0	3.0	6.0	6.0	10.9
80	1.72	1.08	1.4	1.8	1.8	2.3	2.1	2.6	2.6	3.4	3.4	6.9	6.9	12.4

Diagonal (inch)	Width (m)	Height (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)
90	1.94	1.21	1.6	2.0	2.0	2.6	2.3	2.9	2.9	3.9	3.9	7.8	7.8	14.0
100	2.15	1.35	1.8	2.2	2.2	2.9	2.6	3.2	3.2	4.3	4.3	8.6	8.6	15.5
110	2.37	1.48	2.0	2.4	2.4	3.2	2.8	3.6	3.6	4.7	4.7	9.5	9.5	17.1
120	2.59	1.62	2.2	2.6	2.6	3.5	3.1	3.9	3.9	5.2	5.2	10.3	10.3	18.6
130	2.80	1.75	2.4	2.9	2.9	3.8	3.4	4.2	4.2	5.6	5.6	11.2	11.2	20.2
140	3.02	1.89	2.5	3.1	3.1	4.1	3.6	4.5	4.5	6.0	6.0	12.1	12.1	21.7
150	3.23	2.02	2.7	3.3	3.3	4.4	3.9	4.8	4.8	6.5	6.5	12.9	12.9	23.3
160	3.45	2.15	2.9	3.5	3.5	4.7	4.1	5.2	5.2	6.9	6.9	13.8	13.8	24.8
170	3.66	2.29	3.1	3.7	3.7	5.0	4.4	5.5	5.5	7.3	7.3	14.7	14.7	26.4
180	3.88	2.42	3.3	4.0	4.0	5.3	4.7	5.8	5.8	7.8	7.8	15.5	15.5	27.9
190	4.09	2.56	3.4	4.2	4.2	5.6	4.9	6.1	6.1	8.2	8.2	16.4	16.4	29.5
200	4.31	2.69	3.6	4.4	4.4	5.9	5.2	6.5	6.5	8.6	8.6	17.2	17.2	31.0
210	4.53	2.83	3.8	4.6	4.6	6.2	5.4	6.8	6.8	9.1	9.1	18.1	18.1	32.6
220	4.74	2.96	4.0	4.8	4.8	6.4	5.7	7.1	7.1	9.5	9.5	19.0	19.0	34.1
230	4.96	3.10	4.2	5.1	5.1	6.7	5.9	7.4	7.4	9.9	9.9	19.8	19.8	35.7
240	5.17	3.23	4.3	5.3	5.3	7.0	6.2	7.8	7.8	10.3	10.3	20.7	20.7	37.2
250	5.39	3.37	4.5	5.5	5.5	7.3	6.5	8.1	8.1	10.8	10.8	21.5	21.5	38.8
260	5.60	3.50	4.7	5.7	5.7	7.6	6.7	8.4	8.4	11.2	11.2	22.4	22.4	40.3
270	5.82	3.64	4.9	5.9	5.9	7.9	7.0	8.7	8.7	11.6	11.6	23.3	23.3	41.9
280	6.03	3.77	5.1	6.2	6.2	8.2	7.2	9.1	9.1	12.1	12.1	24.1	24.1	43.4
290	6.25	3.91	5.2	6.4	6.4	8.5	7.5	9.4	9.4	12.5	12.5	25.0	25.0	45.0
300	6.46	4.04	5.4	6.6	6.6	8.8	7.8	9.7	9.7	12.9	12.9	25.9	25.9	46.5
310	6.68	4.17	5.6	6.8	6.8	9.1	8.0	10.0	10.0	13.4	13.4	26.7	26.7	48.1
320	6.90	4.31	5.8	7.0	7.0	9.4	8.3	10.3	10.3	13.8	13.8	27.6	27.6	49.6
330	7.11	4.44	6.0	7.3	7.3	9.7	8.5	10.7	10.7	14.2	14.2	28.4	28.4	51.2
340	7.33	4.58	6.2	7.5	7.5	10.0	8.8	11.0	11.0	14.7	14.7	29.3	29.3	52.8
350	7.54	4.71	6.3	7.7	7.7	10.3	9.1	11.3	11.3	15.1	15.1	30.2	30.2	54.3
360	7.76	4.85	6.5	7.9	7.9	10.6	9.3	11.6	11.6	15.5	15.5	31.0	31.0	55.9
370	7.97	4.98	6.7	8.1	8.1	10.8	9.6	12.0	12.0	15.9	15.9	31.9	31.9	57.4
380	8.19	5.12	6.9	8.4	8.4	11.1	9.8	12.3	12.3	16.4	16.4	32.8	32.8	59.0
390	8.40	5.25	7.1	8.6	8.6	11.4	10.1	12.6	12.6	16.8	16.8	33.6	33.6	60.5
400	8.62	5.39	7.2	8.8	8.8	11.7	10.3	12.9	12.9	17.2	17.2	34.5	34.5	62.1
410	8.83	5.52	7.4	9.0	9.0	12.0	10.6	13.3	13.3	17.7	17.7	35.3	35.3	63.6
420	9.05	5.66	7.6	9.2	9.2	12.3	10.9	13.6	13.6	18.1	18.1	36.2	36.2	65.2
430	9.27	5.79	7.8	9.5	9.5	12.6	11.1	13.9	13.9	18.5	18.5	37.1	37.1	66.7
440	9.48	5.93	8.0	9.7	9.7	12.9	11.4	14.2	14.2	19.0	19.0	37.9	37.9	68.3
450	9.70	6.06	8.1	9.9	9.9	13.2	11.6	14.5	14.5	19.4	19.4	38.8	38.8	69.8
460	9.91	6.20	8.3	10.1	10.1	13.5	11.9	14.9	14.9	19.8	19.8	39.6	39.6	71.4
470	10.13	6.33	8.5	10.3	10.3	13.8	12.2	15.2	15.2	20.3	20.3	40.5	40.5	72.9
480	10.34	6.46	8.7	10.6	10.6	14.1	12.4	15.5	15.5	20.7	20.7	41.4	41.4	74.5
490	10.56	6.60	8.9	10.8	10.8	14.4	12.7	15.8	15.8	21.1	21.1	42.2	42.2	76.0
500	10.77	6.73	9.1	11.0	11.0	14.7	12.9	16.2	16.2	21.5	21.5	43.1	43.1	77.6

Lens shift range for B3/B4/B5/B6

Resolution	ΔH0	ΔV0	ΔHm	ΔVm
WUXGA	0% H	15% V	25% H	60% V
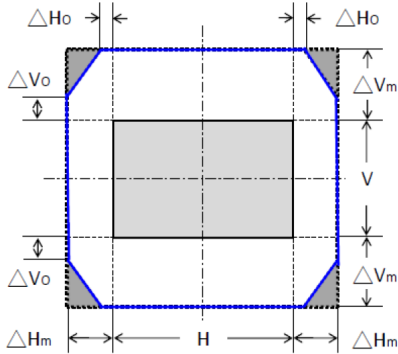
When the lens is shifted beyond the described range of operation, the screen edges may become darker or the images may become out of focus.

Description	WUXGA
Horizontal offset ranges for B1,B2	+/- 50% of ½ image width (+/- 480 pixels)
Vertical offset ranges for B1,B2	+/- 120% of ½ image height (+/-720 pixels)

Lens shift range for B1/B2

Resolution	ΔH0	ΔV0	ΔHm	ΔVm
WUXGA	5% H	13% V	25% H	60% V
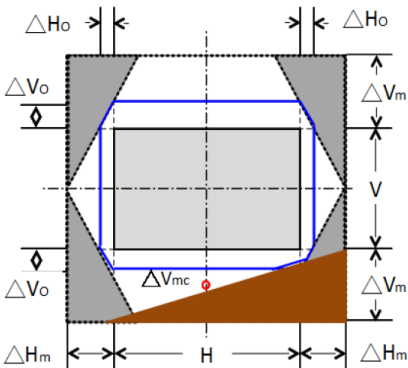
When the lens is shifted beyond the described range of operation, the screen edges may become darker or the images may become out of focus.

The lens cannot be shifted to this area by system control.
ΔVmc < 50%

Note: Lens shift accuracy: 0.5 pixel per step

User Controls

Using the Control Panel
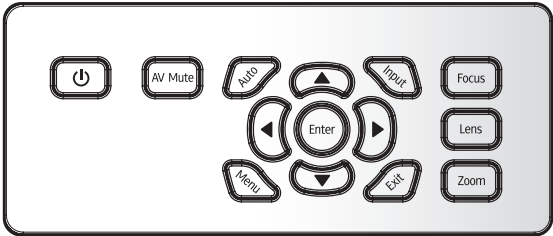
Name	Description
Power ⏻	Turn the projector on/off.
AV Mute	Display or blank the video image.
Auto	Automatically optimize image.
Enter	Confirm a selected item.
Input	Select an input signal.
Focus	Adjust the lens focus function.
Lens	Adjust the lens vertical or horizontal offset setting.
Zoom	Adjust the lens zoom function.
Four Directional Select Keys	Select items or make adjustments to your selection.
Exit	Exit a menu.
Menu	Launch the on-screen display (OSD).

On-screen Display Menus

The Projector has multilingual On-screen Display menus that allow you to make image adjustments and change a variety of settings. The projector will automatically detect the source.

How to operate

1. To open the OSD menu, press "Menu" on the remote control or the projector keypad.

2. When OSD is displayed, use ▲▼ keys to select any item in the main menu. While making a selection on a particular page, press "Enter" key to enter sub menu.

3. Use ▲▼ keys to select the desired item in the sub menu and then press "Enter" key to view further settings. Adjust the settings by ◄► key.

4. Select the next item to be adjusted in the sub menu and adjust as described above.

5. Press "Enter" to confirm, and the screen will return to the main menu.

6. To exit, press "Exit" button. The OSD menu will close and the projector will automatically save the new settings.

Main Menu

PICTURE	PICTURE	
PICTURE	Display Mode	Presentation
	Brightness	50
	Contrast	50
OUTPUT	Sharpness	2
	Color	50
	Tint	50
SETUP	Phase	50
	Frequency	50
	Horz Position	50
OPTION	Vert Position	50
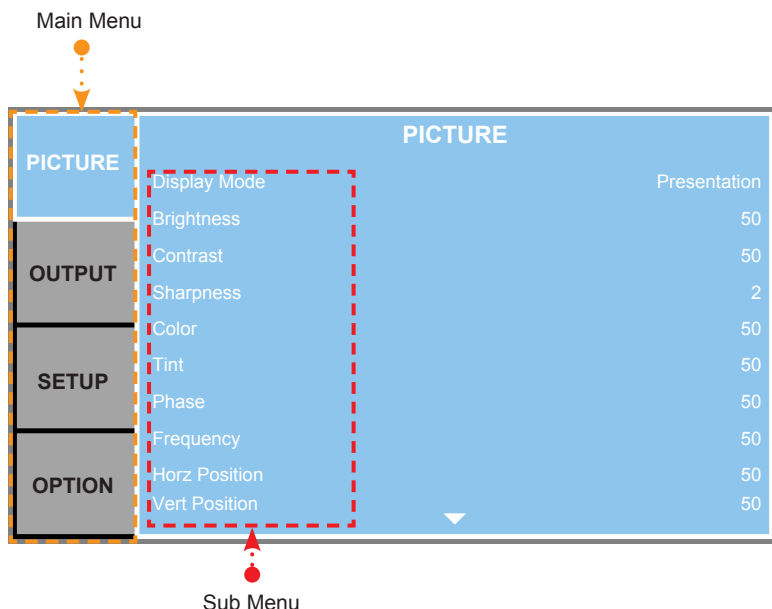
Sub Menu

Structure

> ■ *Please note that the on-screen display (OSD) menus vary according to the signal type selected and the projector model you are using.*

Main Menu	Sub Menu / Settings			Default
PICTURE	Display Mode	Presentation		By source set
		Video		
		Bright		
		DICOM SIM		
		2D High Speed		
		3D		
		User		
		Save to User		
	Brightness	0 ~ 100		50
	Contrast	0 ~ 100		50
	Sharpness	0 ~ 4		2
	Color	0 ~ 100		50
	Tint	0 ~ 100		50
	Phase	0 ~ 100		50
	Frequency	0 ~ 100		50
	Horz Position	0 ~ 100		50
	Vert Position	0 ~ 100		50
	Auto Image			
	3D Display	3D Enable	Auto	Auto
			Frame Packing	
			Side by Side	
			Top and Bottom	
			Frame Sequential	
			Off	
		3D Invert	Off	Off
			On	
		DLP Link	Off	On
			On	
	Color Matching	Enable	On/Off	Off
		Auto Test Pattern	On/Off	On
		Red Part of Red	0 - 1000	1000
		Green Part of Red	0 - 1000	0
		Blue Part of Red	0 - 1000	0
		Green Part of Green	0 - 1000	1000
		Red Part of Green	0 - 1000	0
		Blue Part of Green	0 - 1000	0
		Blue Part of Blue	0 - 1000	1000
		Red Part of Blue	0 - 1000	0
		Green Part of Blue	0 - 1000	0
		Red Part of White	0 - 1000	1000
		Green Part of White	0 - 1000	1000
		Blue Part of White	0 - 1000	1000
		Reset to Default	Yes/No	

Main Menu			Sub Menu / Settings			Default
PICTURE	Advanced	BrilliantColor™	Normal Look			Bright Look
			Bright Look			
		White Peaking	0 - 100			By source set
		Gamma	VIdeo			By source set
			Film			
			Bright			
			CRT			
			DICOM			
		Color Temperature	Warmest			By source set
			Warm			
			Cool			
			Bright			
		Color Space	RGB			Auto
			REC709			
			REC601			
			RGB Video			
			Auto			
		Color Settings	Red Gain	0 ~ 100		50
			Green Gain	0 ~ 100		50
			Blue Gain	0 ~ 100		50
			Red Offset	0 ~ 100		50
			Green Offset	0 ~ 100		50
			Blue Offset	0 ~ 100		50
			Reset RGB Gain/ Offset			
		Color Enhancement	0 ~ 2			0
		Color Wheel Speed	2X			2X
			3X			
		DynamicBlack™	Off			Off
			On			
		Noise Reduction	0 ~ 100			0
		Flesh Tone Correction	0 ~ 100			0
		Video Black Level	Off			Off
			On			
		Film Mode	Off			Off
			On			
OUTPUT	Aspect Ratio		Auto			Auto
			4:3			
			16:10			
			Native			
			3D Mode			
	Overscan		Off			By source set
			Zoom			
			Crop			
	H Digital Zoom		50% ~ 400%			100
	V Digital Zoom		50% ~ 400%			100
	H Digital Shift		0 ~ 100			50
	V Digital Shift		0 ~ 100			50

Main Menu	Sub Menu / Settings				Default
OUTPUT	Image Warping	PC Mode	Off		Off
			On		
		H Keystone	0 ~ 40		20
		V Keystone	0 ~ 40		20
		H Pincushion	0 ~ 100		50
		V Pincushion	0 ~ 100		50
	PIP/PBP	PIP/PBP Enable	Off		Off
			On		
		Main Source	VGA		VGA
			BNC		
			HDMI		
			DVI-D		
			3G-SDI		
			HDBaseT		
			CVBS		
			Network Display		
		Sub Source	VGA		
			BNC		
			HDMI		
			DVI-D		
			3G-SDI		
			HDBaseT		
			CVBS		
			Network Display		
		Swap			
		Size	Small		Large
			Medium		
			Large		
		Layout	PBP, Main Left		PBP, Main Left
			PBP, Main Top		
			PBP, Main Right		
			PBP, Main Bottom		
			PIP-Bottom Right		
			PIP-Bottom Left		
			PIP-Top Left		
			PIP-Top Right		
SETUP	Language	English			English
		Français			
		Español			
		Deutsch			
		Italiano			
		Русский			
		简体中文			
		繁體中文			
		日本語			
		한국어			
		Português			
		Bahasa Indonesia			
		Nederlands			
	Ceiling Mount	Off			Auto
		On			
		Auto			
	Rear Projection	Off			Off
		On			

Main Menu	Sub Menu / Settings				Default
SETUP	Lens Function	Focus			
		Zoom			
		Lens Shift			
		Lens Calibration	Yes/No (Dialog box)		
		Lens Lock	No		No
			Yes		
	Menu Preferences	Menu Transparency	0 ~ 9		0
		Show Messages	Off		On
			On		
	Keypad LED Settings	Off			On
		On			
	Pin	Pin Protect	Off		Off
			On		PIN default : 12345
		Change PIN			
	Closed Captioning	Off			Off
		CC1			
		CC2			
	Communications	LAN	DHCP		Off
					On
			IP Address		192.168.000.100
			Subnet Mask		255.255.255.000
			Default Gateway		192.168.000.100
			MAC Address		XX:XX:XX:XX:XX:XX
			Apply		Off
					On
		Network	Projector Name		SSID@XXXXX
			Restart Network		Off
					On
			Network Factory Reset		Off
					On
		Serial Port Baud Rate	9600		19200
			14400		
			19200		
			38400		
			57600		
			115200		
		Serial Port Echo	Off		Off
			On		
		Serial Port Path	RS232		RS232
			HDBaseT		
		Projector Address	0-99		0

Main Menu	Sub Menu / Settings				Default
OPTION	Auto Source	Off			On
		On			
	High Altitude	Off			Off
		On			
	Test Pattern	Off			Off
		Grid			
		Red			
		Green			
		Blue			
		Yellow			
		Magenta			
		Cyan			
		White			
		Black			
	Background Color	Logo			Logo
		Blue			
		Black			
		White			
	Hot-Key settings	Blank Screen			Blank Screen
		Aspect Ratio			
		Freeze Screen			
		Overscan			
		Closed Captions			
	Power Settings	Standby Power Mode	0.5W mode		0.5W mode
			Communication mode		
		Direct Power On	Off		Off
			On		
		Auto Power Off	No		20 Mins
			5 Mins		
			10 Mins		
			15 Mins		
			20 Mins		
			25 Mins		
			30 Mins		
		Sleep Timer	No		No
			2 Hours		
			4 Hours		
			6 Hours		

Main Menu	Sub Menu / Settings				Default
OPTION	Light Source Settings	Light Source Mode	Constant Power		Constant Power
			Constant Luminance		
			Eco Mode		
		Constant Power Settings	0 - 10		10
		Constant Luminance Settings	0 - 10		7
		Current Light Source	Lamp 1		Both
			Lamp 2		
			Both		
		Auto Switch	On Failure Only		On Failure Only
			At Power-Up		
			After X Hours		
		Auto Switch Time (Hours)	5 - 3000		100
		Light Source Info	Lamp 1 Hours		
			Lamp 2 Hours		
			Total Projector Hours		
		Reset Light Source Hours	1/2/Both (Dialog box)		
	Light Sensor	Light Sensor Calibration			
		Calibrated?	(Display Yes/No)		
		Native Resolution			
		Firmware			
		Main Source			
		- Resolution			
		- Signal Format			
		- Pixel Clock			
		- Horz Refresh			
		- Vert Refresh			
		Sub Source			
		- Resolution			
		- Signal Format			
		- Pixel Clock			
		- Horz Refresh			
		- Vert Refresh			
		Light Source Mode			
		Current Light Source			
		Lamp 1 Hours			
		Lamp 2 Hours			
		Standby Power Mode			
		IP Address			
		DHCP			
		System Temperature			
	Factory Reset	Yes/No (Dialog box)			
	Service				

PICTURE

PICTURE	PICTURE	
PICTURE	Display Mode	Presentation
	Brightness	50
OUTPUT	Contrast	50
	Sharpness	2
	Color	50
SETUP	Tint	50
	Phase	50
	Frequency	50
OPTION	Horz Position	50
	Vert Position	50

Display Mode

There are many factory presets optimized for various types of images.

▶ Presentation: For good color and brightness for PC input.

▶ Video: For video or TV source.

▶ Bright: Maximum brightness for PC input.

▶ DICOM SIM: This mode can project a monochrome medical image such as an X ray radiography, MRI, etc.

▶ 2D High Speed: Displays the status of 2D High Speed mode.

> (NOTE) ■ *If the resolution of the input source is 800x600 at 120Hz, 1024x768 at 120Hz, or 1280x720 120Hz then the display mode will automatically switch to 2D High Speed.*

▶ 3D: Recommended setting for 3D mode enabled. Any further adjustments by the user in 3D will be saved in this mode for further use.

▶ User: User's settings.

▶ Save to User: Save display mode settings in user profile.

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 the 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.

▶ Press the ▶ button to increase the contrast.

Sharpness

Adjust the sharpness of the image.

▶ Press the ◄ button to decrease the sharpness.

▶ Press the ► button to increase the sharpness.

Color

Adjust a video image from black and white to fully saturated color. The color setting applies to video sources only.

▶ Press the ◄ button to decrease the color saturation in the image.

▶ Press the ► button to increase the color saturation in the image.

Tint

Adjust the color balance of red and green.

▶ Press the ◄ button to increase the amount of green in the image.

▶ Press the ► button to increase the amount of red in the image.

> NOTE
> ■ *"Color" and "Tint" are only supported for video and component sources.*

Phase

Synchronize the signal timing of the display with the graphic card. If the image appears to be unstable or flickers, use this function to correct it.

▶ Press the ◄ or ► buttons to adjust the value.

Frequency

Change the display data frequency to match the frequency of your computer's graphic card. Use this function only if the image appears to flicker vertically.

▶ Press the ◄ or ► buttons to adjust the value.

Horz Position

Move the image right or left within the area of available pixels.

▶ Press the ◄ button to move the image left.

▶ Press the ► button to move the image right.

Vert Position

Move the image up or down within the area of available pixels.

▶ Press the ◄ button to move the image down.

▶ Press the ► button to move the image up.

Auto Image

Force the projector to reacquire and lock to the input signal. This is useful when signal quality is marginal.

PICTURE | 3D Display

	3D Display	
PICTURE	3D Enable	Auto
	3D Invert	Off
	DLP Link	On
OUTPUT		
SETUP		
OPTION		

3D Enable

Set 3D format. Supports Mandatory 3D formats and frame sequential 3D@120Hz.

▸ Auto: When a 3D identifi cation signal is detected, the 3D format is selected automatically.

▸ Frame Packing: Display 3D signal in "Frame Packing" format.

▸ Side by Side: Display 3D signal in "Side-by-Side" format.

▸ Top and Bottom: Display 3D signal in "Top and Bottom" format.

▸ Frame Sequential: Display 3D signal in "Frame Sequential" format.

▸ Off: Select "Off" to turn off 3D mode.

3D Invert

Choose to enable or disable inverting 3D sync signal for the application of using single projector.

▸ Press the "On" button to invert left and right frame contents.

▸ Press the "Off" button for default frame contents.

DLP Link

Select 3D Sync source.

▸ Press the "On" button if the 3D Sync type is DLP Link.

▸ Press the "Off" button if the 3D Sync source is from 3D SYNC port.

PICTURE | Color Matching

Color Matching	
PICTURE	
Enable	On
Auto Test Pattern	On
OUTPUT Red Part of Red	1000
Green Part of Red	0
Blue Part of Red	0
SETUP Green Part of Green	1000
Red Part of Green	0
Blue Part of Green	0
OPTION Blue Part of Blue	1000
Red Part of Blue	0

Enable

You may require a unique color gamut (range) for a single projector or application, or you may need to precisely match colors across multiple adjacent displays. Enable this feature to allow color matching.

Auto Test Pattern

Set to "On" to enable displaying an internal solid colored test pattern or set to "Off" to disable the auto test pattern.

Red Part of Red

Adjust the intensity of the red color component in red color. This will also affect the hue of the color.

Green Part of Red

Adjust the intensity of the green color component in red color. This will also affect the hue of the color.

Blue Part of Red

Adjust the intensity of the blue color component in red color. This will also affect the hue of the color.

Green Part of Green

Adjust the intensity of the green color component in green color. This will also affect the hue of the color.

Red Part of Green

Adjust the intensity of the red color component in green color. This will also affect the hue of the color.

Blue Part of Green

Adjust the intensity of the blue color component in green color. This will also affect the hue of the color.

Blue Part of Blue

Adjust the intensity of the blue color component in blue color. This will also affect the hue of the color.

Red Part of Blue

Adjust the intensity of the red color component in blue color. This will also affect the hue of the color.

Green Part of Blue

Adjust the intensity of the green color component in blue color. This will also affect the hue of the color.

Red Part of White

Adjust the intensity of the red color component in white color. This will also affect the hue of the color.

Green Part of White

Adjust the intensity of the green color component in white color. This will also affect the hue of the color.

Blue Part of White

Adjust the intensity of the blue color component in white color. This will also affect the hue of the color.

Reset to Default

Select "Yes" to reset all the color adjustments to the factory defaults or select "No" to keep the current values.

PICTURE | Advanced

	Advanced	
PICTURE	BrilliantColor™	Bright Look
	White Peaking	100
	Gamma	VIdeo
OUTPUT	Color Temperature	Bright
	Color Space	Auto
	Color Settings	
SETUP	Color Enhancement	0
	Color Wheel Speed	2X
	DynamicBlack™	Off
OPTION	Noise Reduction	

BrilliantColor™

Enable the BrilliantColor™ function to enhance the brightness while providing true, more vibrant colors in picture.

White Peaking

(Video source only) Increase the brightness of whites that are near 100%.

Gamma

This allows you to choose a gamma table that has been finetuned to bring out the best image quality for the input.

▶ Video: For video or TV source.

▶ Film: For home theater.

▶ Bright: Mode for emphasizing brightness.

▶ CRT: For CRT monitor.

▶ DICOM: For simulated DICOM.

Color Temperature

Use this function to select the preset color temperature. The available options: Warmest, Warm, Cool, and Bright.

Color Space

Select an appropriate color matrix type from AUTO, RGB, REC709, REC601, or RGB Video.

Color Settings

Configure the brightness (gain) and contrast (offset) of an image.

▸ Red Gain/Green Gain/Blue Gain/Red Offset/Green Offset/Blue Offset: Adjust the gain of the red, green, or blue channel of the image. Adjust the offset of the red, green, or blue channel of the image. It will affect the black and white.

▸ Reset RGB Gain/Offset: Reset the gain and offset adjustments to factory defaults.

Color Enhancement

Adjust to improve the picture quality of pictures with a high saturation of color.

Color Wheel Speed

Higher speed will reduce the appearance of color artifacts seen by some people.

DynamicBlack™

DynamicBlack enables the projector to automatically optimize the display of dark movie scenes enabling them to be shown in incredible detail.

Noise Reduction

The motion Adaptive Noise Reduction reduces the amount of visible noise interlaced signals.

Flesh Tone Correction

Control the amount of flesh tone correction applied to the image.

Video Black Level

Analyze the current input image and calculate an offset value which is then added to the analog to digital converter black level value. This ensures optimum black level for each analog source.

Film Mode

Control film mode detection and determine whether the original source of the input video was film or video.

OUTPUT

	OUTPUT	
PICTURE	Aspect Ratio	Auto
	Overscan	Off
OUTPUT	H Digital Zoom	100
	V Digital Zoom	100
	H Digital Shift	50
SETUP	V Digital Shift	50
	Image Warping	
OPTION	PIP/PBP	

Aspect Ratio

Use this function to choose your desired aspect ratio.

▶ Auto: Automatically selects the appropriate display format.

▶ 4:3: This format is for 4:3 aspect input sources.

▶ 16:10: This format is for 16:10 aspect input sources, like HDTV and DVD enhanced for Wide screen TV.

▶ Native: This format displays the original image without any scaling.

▶ 3D Mode: This format is for 3D input source.

Overscan

Remove noise around the image. Overscan Zoom enlarges image 3% from original size. Overscan Crop cuts 3% of active pixels in four edges of original image.

> NOTE
>
> ■ *Each I/O has different settings of "Overscan".*

H Digital Zoom

Change the size of projector's display area horizontally. If the display area has been resized by this setting, it can be moved by changing the H Digital Shift and V Digital Shift settings.

V Digital Zoom

Change the size of projector's display area vertically. If the display area has been resized by this setting, it can be moved by changing the H Digital Shift and V Digital Shift settings.

H Digital Shift

Shift the display area horizontally if its size has been changed by the Digital Zoom setting.

V Digital Shift

Shift the display area vertically if its size has been changed by the Digital Zoom setting.

Image Warping

Configure the image warping settings. See Image Warping on pages 61-62.

PIP/PBP

Configure the PIP/PBP settings. See PIP/PBP on pages 63-64.

OUTPUT | *Image Warping*

Image Warping	
PICTURE	
PC Mode	Off
H Keystone	20
OUTPUT	V Keystone	20
H Pincushion	50
V Pincushion	50
SETUP	
OPTION	

PC Mode

Enable PC software to control geometry.

H Keystone

Adjust image distortion horizontally and make a squarer image. Horizontal keystone is used to correct a keystoned image shape in which the left and right borders of the image are unequal in length. This is intended for use with horizontally on-axis applications.
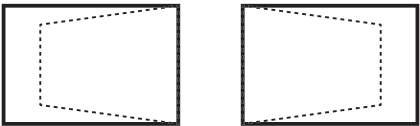
V Keystone

Adjust image distortion vertically and make a squarer image. Vertical keystone is used to correct a keystoned image shape in which the top and bottom are slanted to one of the sides. This is intended when for use with vertically on-axis applications.
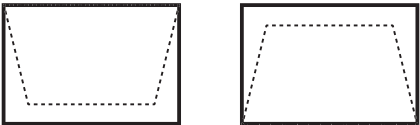
H Pincushion

Adjust the pincushion horizontally and make a more square image.
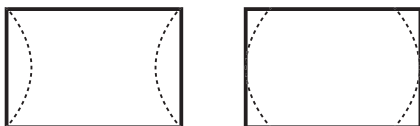
V Pincushion

Adjust the pincushion vertically and make a more square image.
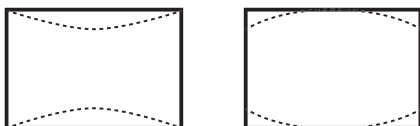
OUTPUT | PIP/PBP

PIP/PBP	
PICTURE	
PIP/PBP Enable	On
Main Source	VGA
Sub Source	DVI-D
OUTPUT Swap	
Size	Large
SETUP Layout	PBP, Main Left
OPTION	

PIP/PBP Enable

Toggle between displaying two sources at once (Main and PIP/PBP images) or one source only.

Main Source

From the list of active inputs, select one to be used as the main image.

Sub Source

From the list of active inputs, select one to be used as the sub image.

Swap

Press to swap the sources of main window and PIP/PBP window.

> [NOTE]
> ■ Remote control function when PIP is on:
> Source key: Change main window's source.
> Direct input source keys: Change the source in a window which signal in the same group (HDMI/Computer or DVI/BNC/Video) is displayed

Size
Select the PIP/PBP size.

Layout
Set the location of the PIP/PBP image on the screen.

PIP/PBP Layout	PIP/PBP Size		
	Small	**Medium**	**Large**
PBP, Main Left	P	P	P

PIP/PBP Layout	PIP/PBP Size		
	Small	Medium	Large
PBP, Main Top			
PBP, Main Right			
PBP, Main Bottom			
PIP-Bottom Right			
PIP-Bottom Left			
PIP-Top Left			
PIP-Top Right			

SETUP

	SETUP	
PICTURE	Language	English
	Ceiling Mount	Auto
OUTPUT	Rear Projection	Off
	Lens Function	
	Menu Preferences	
SETUP	Keypad LED Settings	On
	Pin	
	Closed Captioning	Off
OPTION	Communications	

Language

Select an available language for the OSD display.

Ceiling Mount

Turn the image upside down for ceiling-mounted projection.

Rear Projection

Reverse the image so you can project from behind a translucent screen.

Lens Function

Configure the lens function settings. See Lens Function on page 66.

Menu Preferences

Configure the lens function settings. See Menu Preferences on page 67.

Keypad LED Settings

Turn the backlight of keypad on or off.

Pin

Configure the pin settings. See Pin on page 67.

Closed Captioning

The closed captioning broadcasting multiplexes caption signals (character information) in the video signal to allow the displaying of characters on the screen.

▸ Off: To turn off the closed captioning feature.

▸ CC1: CC1 language.

▸ CC1: CC2 language.

Communications

Configure the communications settings. See Communications on pages 68-71.

SETUP | Lens Function

	Lens Function	
PICTURE	Focus	
	Zoom	
	Lens Shift	
OUTPUT	Lens Calibration	
	Lens Lock	No
SETUP		
OPTION		

Focus

Adjust focus function on the projected image.

Zoom

Adjust zoom function on the projected image.

Lens Shift

Shift the projected image.

Lens Calibration

Perform calibration and return lens to the center position.

Lens Lock

Select this function to prevent all lens motors from moving.
- ▸ Yes: Lens shift will be locked.
- ▸ No: Lens shift can be used by user.

SETUP | Menu Preferences

	Menu Preferences	
PICTURE	Menu Transparency	0
	Show Messages	On
OUTPUT		
SETUP		
OPTION		
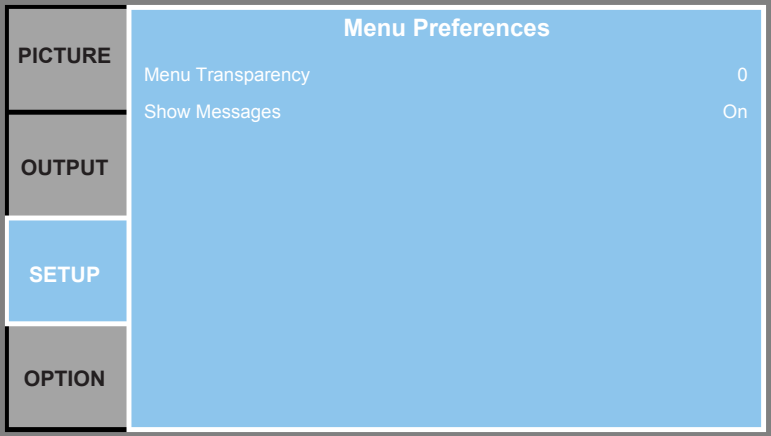
Menu Transparency

Change OSD menu background to be transparent.

Show Messages

Display status messages on the screen.

SETUP | Pin

	Pin	
PICTURE	Pin Protect	Off
	Change PIN	
OUTPUT		
SETUP		
OPTION		
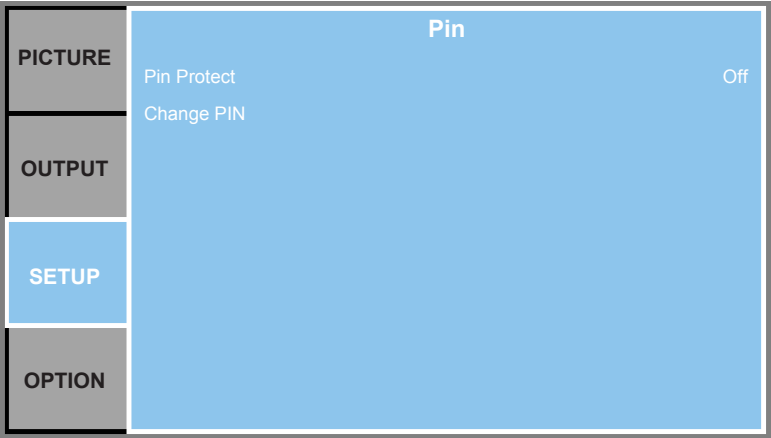
PIN Protect

The PIN (personal identification number) feature allows you to password protect your projector. Once you enable the PIN feature, you must enter the PIN before you can project an image. (PIN Default : 12345)

Change PIN

Change the PIN.

SETUP | Communications

	Communications	
PICTURE	LAN	
	Network	
OUTPUT	Serial Port Baud Rate	19200
	Serial Port Echo	Off
	Serial Port Path	RS232
SETUP	Projector Address	0
OPTION		

LAN

Configure the local area network (LAN) settings.

▶ DHCP: Turn the DHCP ON/OFF.

▶ IP Address: Select an IP address.

▶ Subnet Mask: Select subnet mask number.

▶ Default Gateway: Select the default gateway of the network connected to the projector.

▶ MAC Address: Display the network MAC Address value.

▶ Apply: Apply Network settings.

Crestron RoomView Control Tool

Crestron RoomView™ provides a central monitoring station for 250+ control systems on a single Ethernet network (more are possible, the number depends on the combination of IP ID and IP address). Crestron RoomView monitors each projector, including projector's online status, system power, lamp life, network setting and hardware faults, plus any custom attribute as defined by the Administrator.

The Administrator can add, delete, or edit room information, contact information and events, which are logged automatically by the software for all users. (Operation UI as following image)

> **NOTE**
> ■ *Crestron RoomView function support is dependent on models.*

1. Main Screen
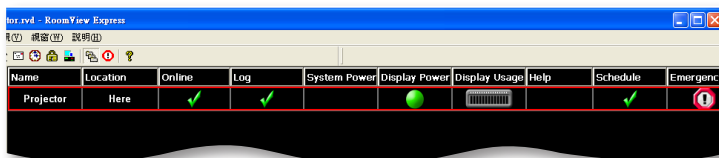
2. Edit Room

    On the "Edit Room" page, enter the IP Address (or hostname) as shown on the projector's on-screen display (OSD) menu, and "02" for IPID, "41794" for the reserved Crestron control port.
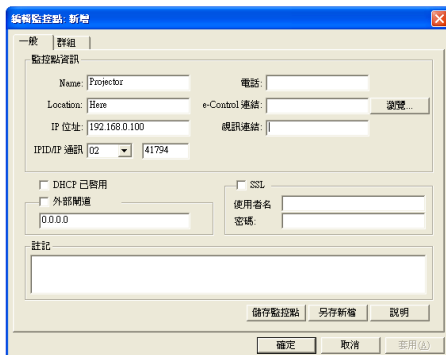
    About Crestron RoomView™ setting and command method, please access below website to get RoomView™ User Guide and more information:
    http://www.crestron.com/products/roomview_connected_embedded_
    projectors_devices/resources.asp

3. Edit Attribute

4. Edit Event

For more information, please visit
http://www.crestron.com & www.crestron.com/getroomview.

Network supports Crestron (Room View), AMX (Device Discovery Beacon Validation Tool) , PJLink and RS232 control.

Network

Configure the general network settings.

▶ Projector Name: Display the projector hostname for Network.

▶ Restart Network: Restart the network.

▶ Network Factory Reset: Perform factory reset on the network settings. The Projector Name, LAN IP, and SNMP settings will be reset.

Serial Port Baud Rate

Select the serial port and baud rate.

Serial Port Echo

Control whether the serial port echoes characters.

Serial Port Path

Select the serial port path from either RS232 or HDBaseT.

Projector Address

Set the projector address. The projector will respond to IR remotes set either at the same address as the projector or to IR remotes set to address 0.

OPTION

	OPTION	
PICTURE	Auto Source	On
	High Altitude	Off
	Test Pattern	Off
OUTPUT	Background Color	Logo
	Hot-Key settings	Blank Screen
	Power Settings	
SETUP	Light Source Settings	
	Light Sensor	
OPTION	Information	
	Factory Reset	

Auto Source

▸ On: The projector will search for other signals if the current input signal is lost.

▸ Off: The projector will only search current input connection.

High Altitude

Set high altitude mode On/Off. When On, the fan will operate at high speed to ensure sufficient air flow for high altitudes.

Test Pattern

Choose the desired internal test pattern to display. Press the PATTERN key to display next test pattern.

Background Color

Use this feature to display a Logo, Blue, Black, or White screen when no signal is available.

Hot-Key Settings

Assign a different function to the hot-key on the remote control by highlighting the function in the list and pressing the "Enter" button. Choose a function that does not already have a dedicated button, and assign the hot-key to that function, allowing you to quickly and easily use the chosen function.

Power Settings

Configure the power settings. See Power Settings on page 73.

Light Source Settings

Configure the light source settings. See Light Source Settings on pages 74-75.

Light Sensor

Calibrate the Light Sensor for use with the Constant Luminance lamp mode, which allows the projector to be set for constant brightness. If the Light Sensor has not been calibrated, Constant Luminance mode will be disabled. Light Sensor calibration should be repeated when new lamps are installed.

Information

Display the projector information for source, resolution, and software version on the screen.

Factory Reset

Restore all settings to their default value. It will not reset network.

Service

For service only.

OPTION | Power Settings

PICTURE	Power Settings	
	Standby Power Mode	0.5W mode
	Direct Power On	Off
OUTPUT	Auto Power Off	20 Mins
	Sleep Timer	No
SETUP		
OPTION		

Standby Power Mode

▸ 0.5W mode: The projector is in standby mode when connected to AC power. (<0.5W)

▸ Communication mode: The projector could be controlled via the LAN terminal during power standby.

Direct Power On

Choose "On" to activate Direct Power mode. The projector will automatically power on when AC power is supplied, without pressing the " ⏻ " button on the control panel of the projector or ⓘ button on the remote control.

Auto Power Off

Sets the countdown timer. 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).

Sleep Timer

Sets the countdown timer. The countdown timer will start, with or without a signal being sent to the projector. The projector will automatically power off when the countdown has finished (in minutes).

OPTION | Light Source Settings

	Light Source Settings	
PICTURE	Light Source Mode	Constant Power
	Constant Power Settings	10
	Constant Luminance Settings	0
OUTPUT	Current Light Source	Both
	Auto Switch	On Failure Only
	Auto Switch Time (Hours)	100
SETUP	Light Source Info	
	Reset Light Source Hours	
OPTION		

Light Source Mode

Select Constant Power, Constant Luminance, or Eco Mode. When in Eco Mode, the projector will adjust to the lowest fan speed and switch the light source power to the minimum setting.

Constant Power Settings

Set the value of the light source power (in Watts).

Constant Luminance Settings

Set the value for the Constant Luminance to maintain constant brightness. The light sensor will monitor the light level and will apply more power as the light source brightness decays naturally over time. When the light source setting reaches maximum power, it will remain at this setting. Note that the light sensor needs to be calibrated for Constant Luminance mode to work properly.

Current Light Source

Select which lamp(s) is in use.

Auto Switch

Control when the projector switches lamps. Options include: on failure only, at power-up, or after a set number of hours.

Auto Switch Time (Hours)

Set the number of hours for Lamp Auto Switch.

For example:

1 Lamp conditions: lamp 1 = 50 hours, lamp 2 = 60 hours.

2 Set the current lamp to lamp 1 - the lamp with the lower lamp hour usage.

3 Set the Lamp Auto Switch to After (N) hours and the Lamp Auto Switch Time to 100 hours.

4 When lamp 1 reaches 150 hours, projector will auto switch to lamp 2.

5 When lamp 2 reaches 160 hours, projector will auto switch to lamp 1.

Light Source Info

Display current lamp(s) settings (read-only).

Reset Light Source Hours

Reset the lamp used hours counter to zero. Do this after changing the lamp.

Appendices

Troubleshooting

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

Image Problems

[?] **No image appears on-screen**

- ▶ Ensure all the cables and power connections are correctly and securely connected as described in the "Installation" section.

- ▶ Ensure the pins of connectors are not crooked or broken.

- ▶ Check if the projection lamp has been securely installed.

- ▶ Make sure you have removed the lens cover and the projector is switched on.

[?] **Partial, scrolling or incorrectly displayed image**

- ▶ Press "SYNC" on the control panel or the remote control.

- ▶ If you are using a PC:

    - For Windows Vista and Windows 7:

        1. Open the "My Computer" icon, the "Control Panel" folder, and then double click on the "Display" icon.
        2. Select the "Settings" tab.
        3. Verify that your display resolution setting is lower than or equal to WUXGA (1920x1200).
        4. Click on the "Advanced Properties".

If the projector is still not projecting the whole image, you will also need to change the monitor display you are using. Refer to the following steps.

1. Verify the resolution setting is lower than or equal to WUXGA (1920x1200).
2. Select the "Change" button under the "Monitor" tab.
3. Click on "Show all devices". Next, select "Standard monitor types" under the SP box; choose the resolution mode you need under the "Models" box.
4. Verify that the resolution setting of the monitor display is lower than or equal to WUXGA (1920x1200).

▶ If you are using a Notebook:

    - First, follow the steps above to adjust resolution of the computer.

    - Press the toggle output settings. example: [Fn]+[F4]

Notebook Brand	Function Keys
Acer	[Fn]+[F5]
Asus	[Fn]+[F8]
Dell	[Fn]+[F8]
Gateway	[Fn]+[F4]
IBM/Lenovo	[Fn]+[F7]
HP/Compaq	[Fn]+[F4]
NEC	[Fn]+[F3]
Toshiba	[Fn]+[F5]
Mac Apple	System Preference -> Display -> Arrangement -> Mirror display

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

The screen of the Notebook or PowerBook computer is not displaying your presentation

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.

Image is unstable or flickering

▶ Adjust the "Phase" to correct it.

▶ Change the monitor color setting from your computer.

Image has vertical flickering bar

▶ Use "Frequency" to make an adjustment.

▶ Check and reconfigure the display mode of your graphic card to make it compatible with the projector.

Image is out of focus

▶ Adjust the Focus function for the projector lens.

▶ Make sure the projection screen is between the required distance.

⁇ The image is stretched when displaying 16:10 DVD title

▸ When you play anamorphic DVD or 16:10 DVD, the projector will show the best image when the projector display mode is set to 16:9 in the OSD.

▸ If you play 4:3 format DVD titles, please change the format to 4:3 in the projector OSD.

▸ If the image is still stretched, you will also need to adjust the aspect ratio by referring to the following:

▸ Please setup the display format as 16:10 (wide) aspect ratio type on your DVD player.

⁇ Image is too small or too large

▸ Move the projector closer to or further from the screen.

▸ Press "Menu" on the control control or keypad. Go to "OUTPUT" --> "Aspect Ratio" and try the different settings.

⁇ Image has slanted sides:

▸ If possible, reposition the projector so that it is centered on the screen and below the bottom of the screen.

▸ Press the "Keystone H" or "Keystone V" button on the remote control, until the sides are vertical.

⁇ Image is reversed

▸ Adjust the "SETUP" --> "Rear Projection" to correct it.

⁇ Image does not display in 3D

▸ Check if the battery of 3D glasses is drained

▸ Check if 3D glasses is turned on

▸ Check 3D supported format timings is correct

  • HDMI 1.4a mandatory 3D format

  • 1280x720@120Hz frame sequential

  • 1024x768@120Hz frame sequential

  • 800x600@120Hz frame sequential

Projector Problems

? **The projector stops responding to all controls**

▸ If possible, turn off the projector, then unplug the power cord and wait at least 60 seconds before reconnecting power.

? **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" section.

? **When making a direct connection from your computer to the projector**

▸ If you have network connection problem from your computer to the projector, please refer to the computer setting as below or contact with web administrator.

Step 1: Find an IP Address (192.168.0.100) from LAN function of projector.

Step 2: Select "Apply" and push the "Enter" button. Once the setting is saved, exit the OSD by pushing "Menu" button.

Step 3: To open Network Connections, click **Start**, click **Control Panel**, click **Network and Internet Connections**, and then click **Network Connections**. Click the connection you want to configure, and then, under **Network Tasks**, click **Change settings of this connection**.

Step 4: On the **General** tab, under **This connection use the following items**, click Internet Protocol(TCP/IP), and then click "**Properties**".
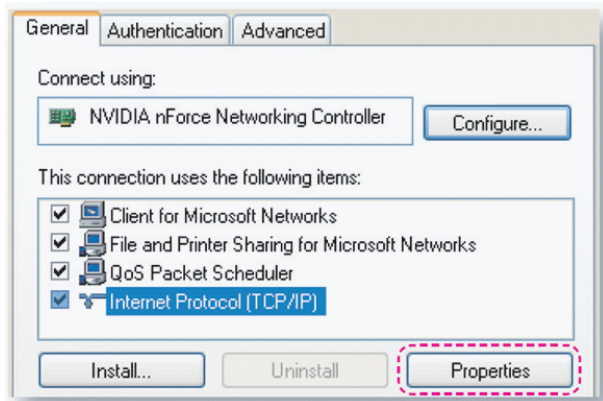
Step 5: Click **Use the following IP address**, and type in as below:

    1) IP address: 192.168.0.101

    2) Subnet mask: 255.255.255.0

    3) Default gateway: 192.168.0.254
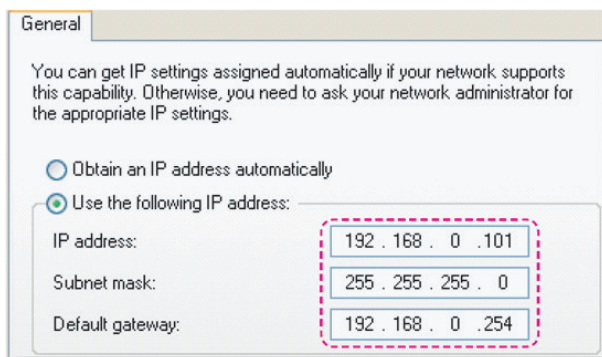
Step 6: To open Internet Options, click IE web browser, click Internet
Options, click the **Connections** tab and click "**LAN Setting…**".
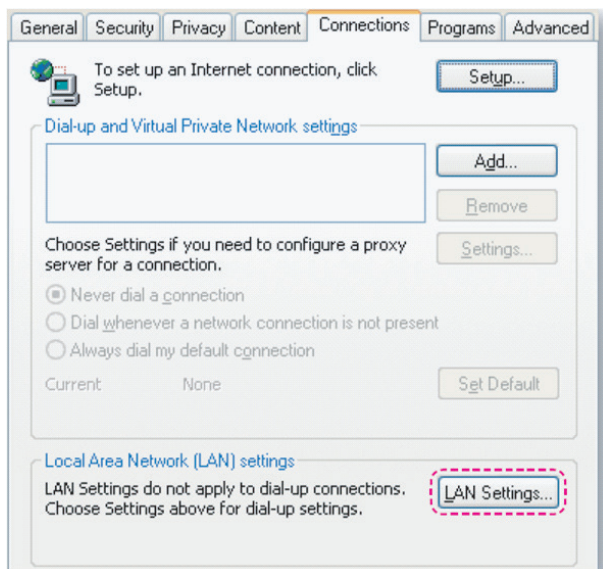
Step 7: All items in the **Local Area Network (LAN) Setting** window must
unchecked. Then click "OK" button twice.
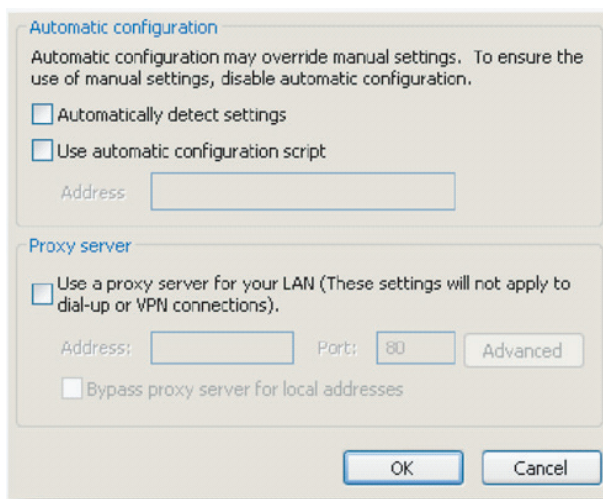
Step 8: Connect a cat5 Ethernet cross-over cable between the projector and
the computer.

On Screen Messages

- Power off confirm

> **Power OFF?**
>
> **Press OFF key again.**

- Lamp 1 life warning

> **Lamp 1 and filters are going to expire;**
>
> **change the lamp and filters.**

- Lamp 2 life warning

> **Lamp 2 and filters are going to expire;**
>
> **change the lamp and filters.**

- Both lamp life warning

> **Lamps and filters are going to expire;**
>
> **change the lamps and filters.**

- Filter error

> **Filter positions or types are not installed correctly.**
>
> **Check the filter installation.**

Replacing the Lamp

A warning message will be displayed once the lamp has surpassed life expectancy. Please ask the specialists to replace the lamp.

Lamp 1:

Lamp 1 and filters are going to expire;

change the lamp and filters.

Lamp 2:

Lamp 2 and filters are going to expire;

change the lamp and filters.

Lamp 1 and lamp 2:

Lamps and filters are going to expire;

change the lamps and filters.

At this point, it is recommended to change the lamp as soon as possible. Please contact the dealer to acquire a lamp.

Type number: RICOH replacement lamp type 25

⚠ ⚠ ⚠ CAUTION!
HIGH PRESSURE LAMP MAY EXPLODE IF
IMPROPERLY HANDED. REFER TO
LAMP REPLACEMENT INSTRUCTIONS.
ATTENTION:
Les lampes à haute pression peuvent exploser
si elles sont mal utilisées.
Confier l'entretien à une personne qualifiée.

⚠ Warning: If ceiling mounted, please use caution when opening the lamp access panel. It is recommended to wear safety glasses if changing the bulb when ceiling mounted. "Caution must be used to prevent any loose parts from falling out of projector."

⚠ Warning: Lamp compartment is hot! Allow it to cool down before changing lamp!

⚠ Warning: To reduce the risk of personal injury, do not drop the lamp module or touch the lamp bulb. The bulb may shatter and cause injury if it is dropped.
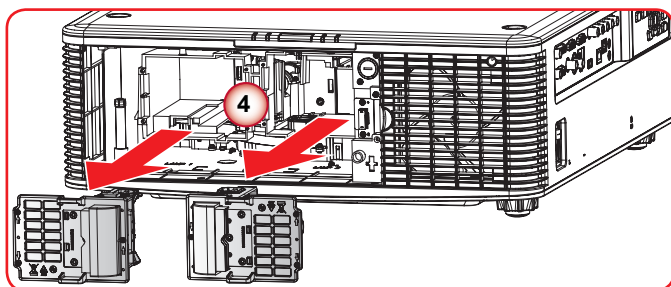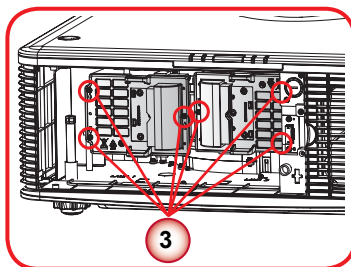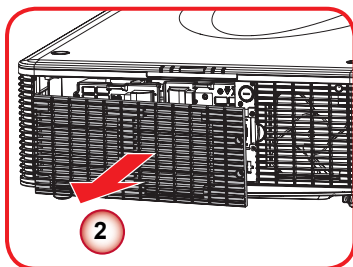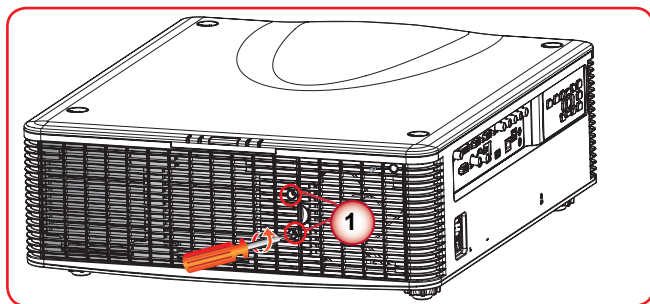
Lamp Replacing Procedure:

1. Switch off the power to the projector by pressing the "⏻" button.
2. Wait for projector to cool down: Allow the projector to cool down into standby mode.
3. Disconnect the power cord.
4. Unscrew the two screws on the lamp door. ①
5. Open the lamp door. ②
6. Unscrew the six screws on the lamp housing. ③
7. Pull out the lamp module(s) slowly and carefully. ④

To replace the lamp module(s), reverse the previous steps.

8. Turn on the projector.

Filter maintenance
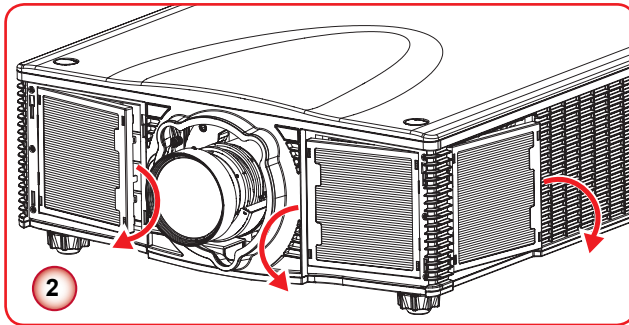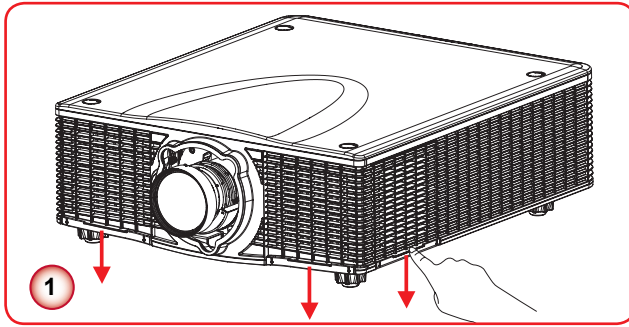
Filter Replacing Procedure:

1. Switch off the power to the projector by pressing the "⏻" button.
2. Wait for projector to cool down: Allow the projector to cool down into standby mode.
3. Disconnect the power cord.
4. Remove the filter covers by pushing down them. ①
5. Release the filters by pulling out and replace them. ②

Compatibility Modes

Signal Type	Resolution	Frequency H. (kHz)	Frame Rate (Hz)	VGA	BNC	HDMI	DVI	3G-SDI	HDBaseT	CVBS
PC	640x480	60	60	V	V	V	V		V	
	640x480	37,861	72	V	V	V	V		V	
	640x480	37,500	75	V	V	V	V		V	
	640x480	43,269	85	V	V	V	V		V	
	640x480	35,000	66.6			V	V		V	
	720x400	31,469	70	V	V	V	V		V	
	800x600	37.9	60	V	V	V	V		V	
	800x600	48.1	72	V	V	V	V		V	
	800x600	46.9	75	V	V	V	V		V	
	800x600	53.7	85	V	V	V	V		V	
	800x600	77.285	120	V		V	V		V	
	832x624		75	V	V	V	V		V	
	848x480	24.621	50			V	V		V	
	848x480	29.829	60			V	V		V	
	848x480	37.683	75			V	V		V	
	848x480	42.968	85			V	V		V	
	1024x768	48.4	60	V	V	V	V		V	
	1024x768	60.022	75	V	V	V	V		V	
	1024x768	68.7	85	V	V	V	V		V	
	1024x768	98.726	120	V		V	V		V	
	1152x720	37.024	50			V	V		V	
	1152x720	44.858	60			V	V		V	
	1152x720	56.414	75			V	V		V	
	1152x720	64.453	85			V	V		V	
	1152x864	53.783	60	V	V	V	V		V	
	1152x864	63.851	70	V	V	V	V		V	
	1152x864	67.500	75	V	V	V	V		V	
	1152x864	77.093	85	V	V	V	V		V	
	1152x870	68.681	75			V	V		V	
	1280x720	37.071	50			V	V		V	
	1280x720	44.771	60	V	V	V	V		V	
	1280x720	56.456	75	V	V	V	V		V	
	1280x720	64.398	85	V	V	V	V		V	

Signal Type	Resolution	Frequency H. (kHz)	Frame Rate (Hz)	VGA	BNC	HDMI	DVI	3G-SDI	HDBaseT	CVBS
PC	1280x720	90.1	120	V		V	V		V	
	1280x768	47.776	60	V	V	V	V		V	
	1280x768	60.288	75	V	V	V	V		V	
	1280x768	68.633	85	V	V	V	V		V	
	1280x800	41.262	50	V	V	V	V		V	
	1280x800	49.702	60	V	V	V	V		V	
	1280x800	62.795	75	V	V	V	V		V	
	1280x800	71.554	85	V	V	V	V		V	
	1280x960	49.404	50			V	V		V	
	1280x960	59.699	60	V	V	V	V		V	
	1280x960	75.231	75	V	V	V	V		V	
	1280x960	85.792	85	V	V	V	V		V	
	1280x1024	52.678	50			V	V		V	
	1280x1024	64	60	V	V	V	V		V	
	1280x1024	80	75	V	V	V	V		V	
	1280x1024	91.1	85	V	V	V	V		V	
	1360x768	39.564	50			V	V		V	
	1360x768	47.719	60			V	V		V	
	1360x768	60.287	75			V	V		V	
	1360x768	68.667	85			V	V		V	
	1366x768	48	60	V	V	V	V		V	
	1400x1050	54.112	50			V	V		V	
	1400x1050	65.316	60			V	V		V	
	1400x1050	82.278	75	V	V	V	V		V	
	1440x900	55.935	60	V	V	V	V		V	
	1440x900	70.635	75			V	V		V	
	1600x900	60	60			V	V		V	
	1600x1200	75	60	V	V	V	V		V	
	1680x1050	65.29	60	V	V	V	V		V	
	1920X1080	74.17	50			V	V		V	
	1920X1080	66.586	60	V	V	V	V		V	
	1920X1200RB	74.038	60	V	V	V	V		V	
	1920X1200RB	61.816	50	V	V	V	V		V	
NTSC	NTSC (M, 4.43)	15.734	60							V

Signal Type	Resolution	Frequency H. (kHz)	Frame Rate (Hz)	VGA	BNC	HDMI	DVI	3G-SDI	HDBaseT	CVBS
PAL	PAL (B,G,H,I)	15.625	50							V
	PAL (N)	15.625	50							V
	PAL (M)	15.625	60							V
SECAM	SECAM (M)		50							V
SDTV	480i	15.734	60	V	V	V	V		V	
	576i	15.625	50	V	V	V	V		V	
EDTV	480p	31.469	60	V	V	V	V		V	
	576p	31.25	50	V	V	V	V		V	
HDTV	1080i	28.125	25	V	V	V	V		V	
	1080i	33.716	29	V	V	V	V		V	
	1080i	33.75	30	V	V	V	V		V	
	720p	37.5	50	V	V	V	V		V	
	720p	44.955	59	V	V	V	V		V	
	720p	45	60	V	V	V	V		V	
	1080p	26,973	23	V	V	V	V		V	
	1080p	27	24	V	V	V	V		V	
	1080p	28.125	25	V	V	V	V		V	
	1080p	33.716	29	V	V	V	V		V	
	1080p	33.75	30	V	V	V	V		V	
	1080p	56.25	50	V	V	V	V		V	
	1080p	67.433	59	V	V	V	V		V	
	1080p	67.5	60	V	V	V	V		V	
Mandatory 3D	Frame Packing 1080p		24			V			V	
	Frame Packing 720p		50			V			V	
	Frame Packing 720p		60			V			V	
	Side by Side 1080i		50			V			V	
	Side by Side 1080i		60			V			V	
	Top and Bottom 720p		50			V			V	
	Top and Bottom 720p		60			V			V	
	Top and Bottom 1080p		24			V			V	
Frame sequential 3D	800x600	77.285	120			V			V	
	1024x768	98.726	120			V			V	
	1280x720	90.1	120			V			V	

Signal Type	Resolution	Frequency H. (kHz)	Frame Rate (Hz)	VGA	BNC	HDMI	DVI	3G-SDI	HDBaseT	CVBS
SD-SDI	480i YcbCr422 10bit		59.94					V		
	576i YcbCr422 10bit		50					V		
HD-SDI	720p YcbCr422 10bit		50					V		
			59.94					V		
			60					V		
	1080i YcbCr422 10bit		50					V		
			59.94					V		
			60					V		
	1080p YcbCr422 10bit		23.98					V		
			24					V		
			25					V		
			29.97					V		
			30					V		
	1080sF YcbCr422 10bit		25					V		
			29.97					V		
			30					V		
3GA-SDI	1080p YcbCr422 10bit		50					V		
			59.94					V		
			60					V		
3GB-SDI	1080p YcbCr422 10bit With 352M Payload ID		50					V		
			59.94					V		
			60					V		

V : Frequency supported

: Frequency not supported

Remote Key Code

Default custom code => 0x80EB

ID code 01 ~ 99 => 0x0010~0x0073

Format => NEC

Key Legend	Key position	Repeat format	Address		Data	
			Byte 1	Byte 2	Byte 3	Byte 4
ON	1	F1	80	EB	12	ED
OFF	2	F1	80	EB	02	FD
1	3	F1	80	EB	31	CE
2	4	F1	80	EB	32	CD
3	5	F1	80	EB	33	CC
4	6	F1	80	EB	34	CB
5	7	F1	80	EB	35	CA
6	8	F1	80	EB	36	C9
7	9	F1	80	EB	37	C8
8	10	F1	80	EB	38	C7
9	11	F1	80	EB	39	C6
INFO	12	F1	80	EB	4C	B3
0	13	F1	80	EB	30	CF
Mode	14	F1	80	EB	23	DC
Auto Sync	15	F1	80	EB	15	EA
Source	16	F1	80	EB	14	EB
UP	17	F1	80	EB	40	BF
LEFT	18	F1	80	EB	42	BD
Enter	19	F1	80	EB	13	EC
RIGHT	20	F1	80	EB	43	BC
DOWN	21	F1	80	EB	41	BE
Menu	22	F1	80	EB	1B	E4
Exit	23	F1	80	EB	1D	D2
Gamma	24	F1	80	EB	0A	F5
Bright	25	F1	80	EB	0B	F4
Contr	26	F1	80	EB	0C	F3
PIP	27	F1	80	EB	0D	F2
LENS H ◄	28	F1	80	EB	0E	F1
LENS H ►	29	F1	80	EB	0F	F0
FOCUS ▲	30	F1	80	EB	16	E9
LENS V ▲	31	F1	80	EB	1E	E1
LENS V ▼	32	F1	80	EB	1F	E0
FOCUS ▼	33	F1	80	EB	17	E8

Key Legend	Key position	Repeat format	Address		Data	
			Byte 1	Byte 2	Byte 3	Byte 4
KEYSTONE ⬜	34	F1	80	EB	2C	D3
KEYSTONE ⬜	35	F1	80	EB	2D	D2
ZOOM ▲	36	F1	80	EB	18	E7
KEYSTONE ◁	37	F1	80	EB	2E	D1
KEYSTONE ▷	38	F1	80	EB	2F	D0
ZOOM ▼	39	F1	80	EB	19	E6
Shutter (AV Mute)	40	F1	80	EB	11	EE
Hot key	41	F1	80	EB	1A	E5
Pattern	42	F1	80	EB	1C	E3

Projector addressing

ID code	Change mode	Customer code
1	Press the "Hot key" for 3 sec, release, enter 0 then enter 1 within 2 sec	0010
2	Press the "Hot key" for 3 sec, release, enter 0 then enter 2 within 2 sec	0011
3	Press the "Hot key" for 3 sec, release, enter 0 then enter 3 within 2 sec	0012
....	....	....
10	Press the "Hot key" for 3 sec, release, enter 1 then enter 0 within 2 sec	0019
11	Press the "Hot key" for 3 sec, release, enter 1 then enter 1 within 2 sec	001A
....	....	....
98	Press the "Hot key" for 3 sec, release, enter 9 then enter 8 within 2 sec	0071
99	Press the "Hot key" for 3 sec, release, enter 9 then enter 9 within 2 sec	0072

NOTE

■ *The original code: Press "Hot key" for 3 sec, then release, enter 0 then enter 0 within 2 seconds.*

RS232 Pin Assignments
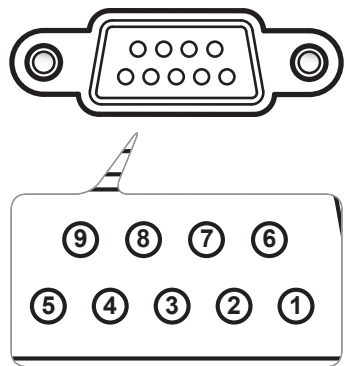
Pin No.	PC Side	Projector Side (RS232 Terminal)
1	N/A	N/A
2	RXD	RXD
3	TXD	TXD
4	N/A	N/A
5	GND	GND
6	N/A	N/A
7	N/A	N/A
8	N/A	N/A
9	N/A	N/A

Setup Information

RS-232 protocol	
Baud Rate	9600 bps (default)
Data Length	8 bit
Parity Check	None
Stop Bit	1 bit
Flow Control	None

NOTE
- *RS232 shell is grounded.*
- *RS232 interface need use swap pin for RS232 communication.*

Specifications

Technology	KU12000:DMD,0.96" WUXGA
ASIC	DDP4422 + PW392C
Native Resolution	WUXGA (1920x1200)
Computer compatibility	IBM PC Compatible, support HDTV (1080i/p, 720p, 576i/p, 480i/p) include both PC and component inputs
Video compatibility	NTSC M(3.58MHz), 4.43MHz PAL (B, D, G, H, I, M, N), 4.43MHz SECAM (B, D, G, K, K1, L), 4.25/4.4MHz HDTV 720p (50/60Hz), 1080i/p (50/60Hz), 1080p (24/25/30/50/60Hz) SDTV 480i/p, 576i/p
Horizontal scan rate	15.734kHz to 91.146kHz
Vertical scan rate	24Hz to 120Hz
Keystone correction	V: +/-20 degrees, H: +/-20 degrees
Weight	Net weight (w/o lens): 23.8 kg
Dimensions (W x D x H)	520mm(W) x 591mm(D) x 194.0mm(H) (without lens) (20.47"(W) x 23.27"(D) x 7.64"(H))
Lamp power	WUXGA Dual Lamps 465W:
Power supply	100~240VAC, with 15A fuse
Power consumption	• ECO Mode: 920W +/-10% @110V, 870W +/-10% @220V • Max. Brightness Mode: 1150W +/-10% @110V, 1080W +/-10% @220V
Operating temperature	0ºC to +40ºC / 32°F~104°F

I/O connectors	• HDMI In x 1
	• Computer In x 1
	• CVBS In x 1 (Composite Video)
	• BNC x 5 (YPbPr In (Component Video), RGBHV In, BNC Connector)
	• USB x 1 (Type A)
	• 3G-SDI x 1 (BNC Connector)
	• 3D Sync x 1
	• DVI-D x 1
	• Monitor Out x 1
	• LAN x 1
	• HDBaseT x 1
	• Remote In x 1
	• Remote out x 1
	• Service x 1
	• Serial x 1
Standard package contents	• AC power cord x 1
	• VGA cable x 1
	• DVI-HDMI adapter x 1
	• Remote control (with batteries) x 1
	• User's Manual CD x 1
	• Read This First x 1

■ *Design and specifications are subject to change without prior notice.*

Cabinet dimension

Unit: mm

520.0

591.0

208.3
194.0

96.4

175.0   175.0

355.0

355.0

115.0   115.0
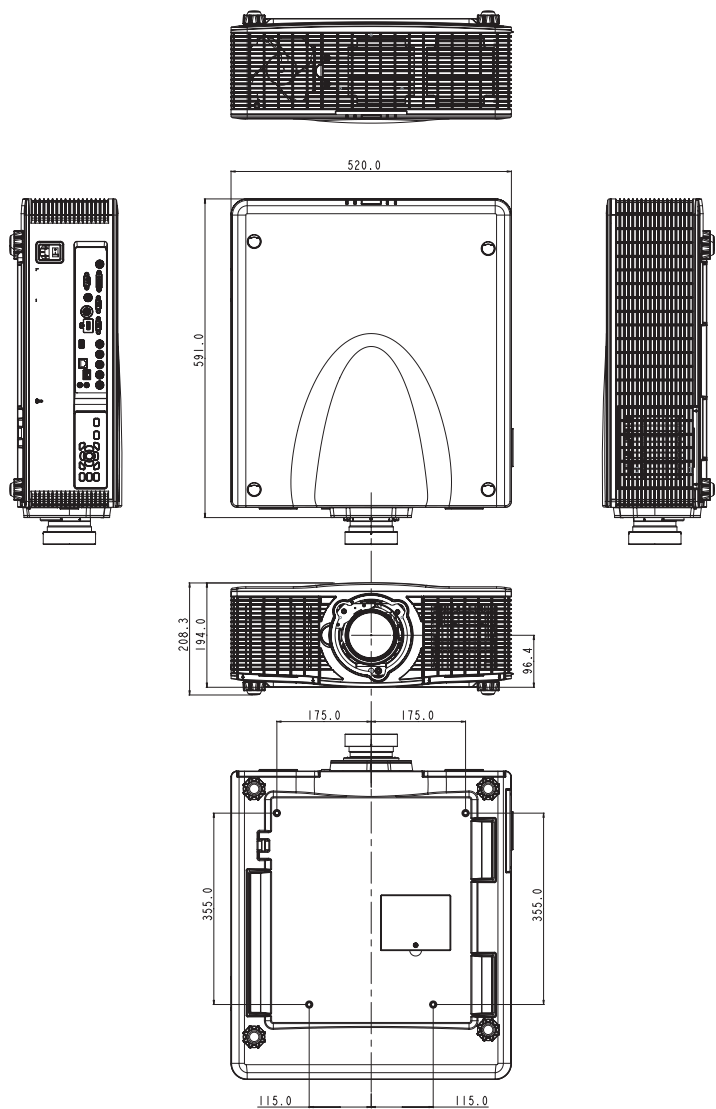
Screw type: M8 x 4

Maximum screw hole depth: 20mm

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