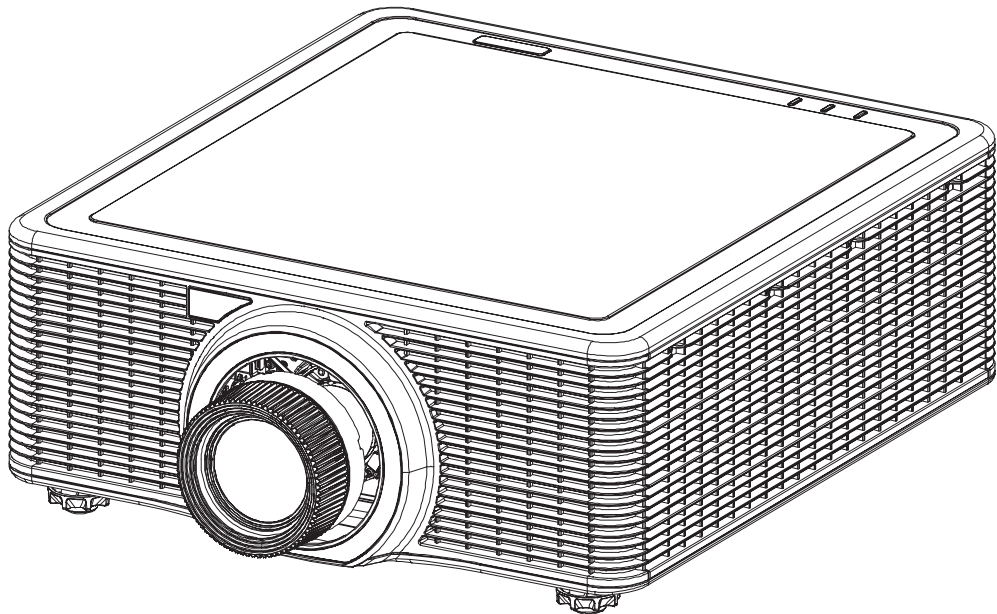




## Owner's Manual

---



### **Multimedia Projector**

Model EK-820U

(Projection lens is optional.)

## Features and Design

This Multimedia Projector is designed with the most advanced technology for portability, durability, and ease of use. This projector utilizes a high luminance and Eco friendly system, a palette of 1.07 billion colors, and digital light processing (DLP) technology.

### **Simple Computer System Setting**

The projector has the Multi-scan system to conform to almost all computer output signals quickly. Up to WUXGA resolution can be accepted.

### **Useful Functions for Presentations**

The digital zoom function allows you to focus on the crucial information during a presentation.

### **Laser Diode Control**

Brightness of the projection laser diode can be manually selected (Constant Power, Constant Luminance, or Eco Mode).

### **Background Color Function**

The Background Color function allows you to specify the screen background (“Logo”, “Blue”, “Black”, or “White” screen) when no signal is available.

### **Multilanguage Menu Display**

Operation menu is available in 13 languages; English, French, Spanish, German, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Indonesian, Dutch, and Arabic.

### **Security Function**

The Security function helps you ensure security of the projector.

### **LAN Network Function**

This projector is loaded with the Wired LAN network function. You can operate and manage the projector via network.

For details, refer to page 42 and pages 47-54.

### **Auto Setup Function**

This function enables auto input search and auto signal adjustment simply by pressing the Auto button on the remote control.

### **Power Management**

The Power management function reduces power consumption and maintains the laser diode life.

**Note:**

*The screen menu and pictures in the manual may slightly differ from the real product.  
The manual is subject to change without prior notice.*

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## **Disclaimer**

The information in this document is subject to change without notice. The manufacturer makes no representations or warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. The manufacturer reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation of the manufacturer to notify any person of such revision or changes.

## **Trademark Recognition**

All other product names used in this manual are the properties of their respective owners and are acknowledged.

## Important Safety Information

**Important:**

*It is strongly recommended that you read this section carefully before using the projector. These safety and usage instructions will ensure that you enjoy many years of safe use of the projector. Keep this manual for future reference.*

## Symbols Used

Warning symbols are used on the unit and in this manual to alert you of hazardous situations. The following styles are used in this manual to alert you to important information.

**Note:**

*Provides additional information on the topic at hand.*

**Important:**

*Provides additional information that should not be overlooked.*

**Caution:**

*Alerts you to situations that may damage the unit.*

**Warning:**

*Alerts you to situations that may damage the unit, create a hazardous environment, or cause personal injury.*

Throughout this manual, component parts and items in the OSD menus are denoted in bold font as in this example:

“Push the **Menu** button on the remote control to open the **Main** menu.”

## General Safety Information

- Do not open the unit case. There are no user-serviceable parts in the unit. For servicing, contact qualified service personnel.
- Follow all warnings and cautions in this manual and on the unit case.
- The projection laser diode is extremely bright by design. To avoid damage to eyes, do not look into the lens when the laser diode is on.
- Do not place the unit on an unstable surface, cart, or stand.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- Do not place heavy objects such as books or bags on the unit.

### **Safety Instructions**

- Please read this manual completely before installing and operating the projector.
- The projector provides many convenient features and functions. Proper operation may enable you to fully utilize the features and keep it in good condition. Otherwise, it will not only shorten the service life of the unit, but also may cause malfunction, a fire, or other accidents.
- If your projector cannot work properly, please read this manual again, check the operating methods and cable connection, and try the solutions in the part of Troubleshooting. If the problem still exists, contact the dealer or the service center.

**Caution:**



**ELECTRIC SHOCK DO NOT OPEN**



**Caution:**

**To reduce the risk of electric shock, do not remove cover (or back), no user serviceable parts inside. Refer servicing to qualified service personnel.**



*This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.*



*This symbol indicates that there are important operating and maintenance instructions in the user's manual with this unit.*

### **FOR EU USERS**

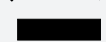
*The symbol mark and recycling systems described below apply to EU countries and do not apply to countries in other areas of the world.*

*Your product is designed and manufactured with high quality materials and components which can be recycled and/or reused.*

*The symbol mark means that electrical and electronic equipment, batteries and accumulators, at their end-of-life, should be disposed of separately from your household waste.*

**Note:**

*If a chemical symbol is printed beneath the symbol mark, this chemical symbol means that the battery or accumulator contains a heavy metal at a certain concentration. This will be indicated as follows: Hg: mercury, Cd: cadmium, Pb: lead In the European Union there are separate collection systems for used electrical and electronic equipment, batteries and accumulators. Please, dispose of them correctly at your local community waste collection/recycling centre. Please help us to conserve the environment we live in!*

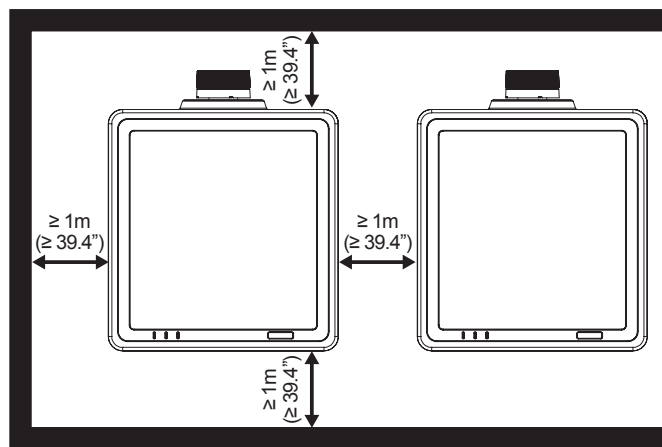




### Safety Precautions

#### Caution:

- *The projector must be grounded.*
  - *Do not expose the projector to raindrops or high humidity to avoid a fire or electric shock.*
- This projector produces intense light from the projection lens. Avoid staring directly into the lens, otherwise eye damage could be caused. Be especially careful that children do not stare directly into the beam.
  - Place the projector in a proper position. Otherwise it may result in fire hazard.
  - Leave an appropriate space from the top, sides, and back of the shell in order to ventilate and cool down the projector. The figures below indicate the minimum distance to be left. It must be satisfied if the projector is placed in sealed environment like a cabinet.




- Do not cover the vent of the projector. Poor radiation may shorten the service life or even cause dangers.
- Remove the AC power plug if the projector is not to be used for a long time.



#### Caution:

- *Do not set the projector in greasy, wet, or smoky conditions such as in a kitchen, to prevent a malfunction or accident. If the projector comes in contact with oil or chemicals, it may become deteriorated.*
- *Read and keep this manual for future reference.*
- *The mains plug/appliance coupler is used as disconnect device, the disconnect device shall remain readily operable.*

## **Safety Guide**

- All the safety and operating instructions should be read before the product is operated.
  - Read all of the instructions given here and retain them for later use. Unplug this projector from AC power supply before cleaning. Do not use liquid or aerosol cleaners.
  - Use a damp cloth for cleaning.
  - Follow all warnings and instructions marked on the projector.
  - For added protection to the projector during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage due to lightning and power line surges.
  - Do not expose this unit to rain or use near water... for example, in a wet basement, near a swimming pool, etc...
  - Do not use attachments not recommended by the manufacturer as they may cause hazards.
  - Do not place this projector on an unstable cart, stand, or table. The projector may fall, causing serious injury to a child or an adult, and serious damage to the projector.
- 
- Use only with a cart or stand recommended by the manufacturer, or sold with the projector. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturers.
  - An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
  - Slots and openings in the back and bottom of the cabinet are provided for ventilation, to ensure reliable operation of the equipment and to protect it from overheating.
  - The openings should never be covered with cloth or other materials, and the bottom opening should not be blocked by placing the projector on a bed, sofa, rug, or other similar surface. This projector should never be placed near or over a radiator or heat register.
  - This projector should not be placed in a build-in installation such as a book case unless proper ventilation is provided.
  - Never push objects of any kind into this projector through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the projector.
  - Do not install the projector near the ventilation duct of air-conditioning equipment.
  - This projector should be operated only from the type of power source indicated on the marking label.
  - If you are not sure of the type of power supplied, consult your authorized dealer or local power company.
  - Do not overload wall outlets and extension cords as this can result in fire or electric shock. Do not allow anything to rest on the power cord. Do not locate this projector where the cord may be damaged by persons walking on it.
  - Do not attempt to service this projector yourself as opening or removing the covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
  - Unplug this projector from wall outlet and refer servicing to qualified service personnel under the following conditions:
    - When the power cord or plug is damaged or frayed.
    - If liquid has been spilled into the projector.
    - If the projector has been exposed to rain or water.
    - If the projector does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the projector to normal operation.
    - If the projector has been dropped or the cabinet has been damaged.

- When the projector exhibits a distinct change in performance - this indicates a need for service.
- When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or injury to persons.
- Upon completion of any service or repairs to this projector, ask the service technician to perform routine safety checks to determine that the projector is in safe operating condition.

**Information for users in the European Union**

*This is a device to project images onto a screen, etc., and is not intended for use as indoor lighting in a domestic environment.*

*Directive 2009/125/EC.*

**Air circulation**

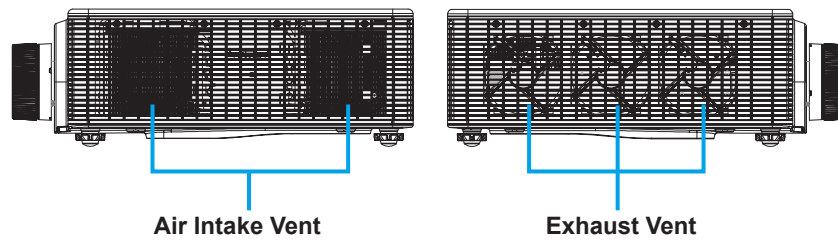
Vents in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered.



**Caution:**

- *Hot air is exhausted from the exhaust vent. When using or installing the projector, the following precautions should be taken.*
- *Do not put any flammable objects, or spray can near the projector. Hot air is exhausted from the air vents.*
- *Keep the exhaust vent at least 1m away from any objects.*
- *Do not touch a peripheral part of the exhaust vent, especially screws and metallic part. This area will become hot while the projector is being used.*
- *Do not put anything on the projector. Objects put on the cabinet will not only get damaged but also may cause fire hazard by heat.*
- *Cooling fans are provided to cool down the projector.*
- *The fan's running speed is changed according to the temperature inside the projector.*





### ***Moving the projector***

When moving the projector, take care of the lens and retract the adjustable foot to prevent damage to the lens and cabinet.

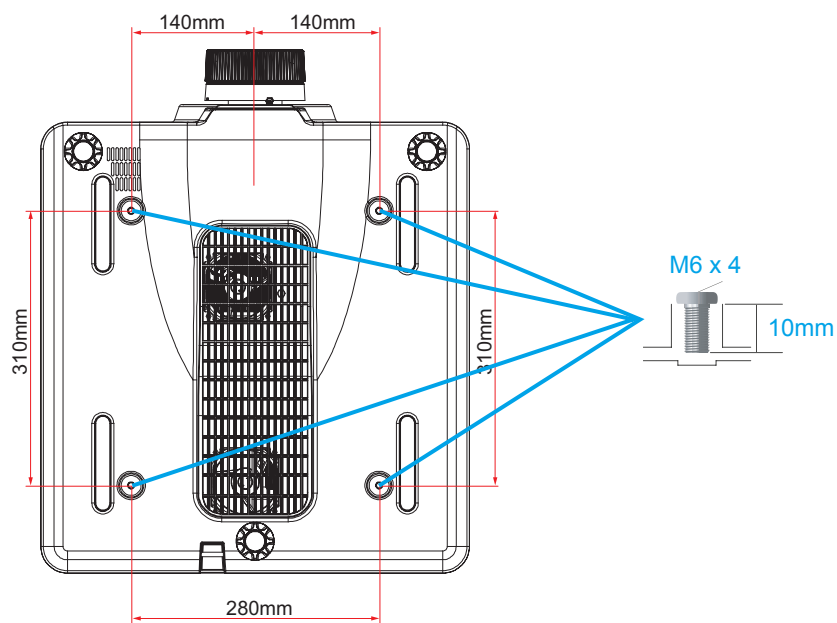
### ***Installing the projector properly***

- Please set the projector on nearly-level.
- Be sure to install the projector properly. Improper installation may reduce the laser diode lifetime and even cause a fire hazard.



#### ***Caution in ceiling installation the projector***

- *Only qualified personal is authorized for ceiling installation.*
- *We are not responsible for the hurt and damage caused by ceiling bracket that purchased from unauthorized dealer even in warranty period.*
- *Remove the ceiling bracket immediately while not use.*
- *While installing, torque screwdriver is suggested, don't use electric or impact-type screwdriver.*
- *Please read the manual of bracket for details.*
- *The bracket is subject to change without notice.*


**Caution in moving or transporting the projector**

- Do not drop or bump the projector, otherwise damages or malfunctions may result.
- When carrying the projector, use a suitable carrying case.
- Do not transport the projector by courier or any other transport service in an unsuitable transport case. This may cause damage to the projector. For information about transporting the projector by courier or any other transport service, consult your dealer.

## Important Information

### Laser Safety Cautions

This product is classified as CLASS 1 LASER PRODUCT - RISK GROUP 2 of IEC 60825-1:2014 and also complies with 21 CFR 1040.10 and 1040.11 as a Risk Group 2, LIP (Laser Illuminated Projector) as defined in IEC 62471:2006 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.



IEC 60825-1:2014 CLASS 1 LASER PRODUCT RISK GROUP 2  
Complies with 21 CFR 1040.10 and 1040.11 as a Risk Group 2, LIP  
(Laser Illuminated Projector) as defined in IEC 62471:2006 except for deviations  
pursuant to Laser Notice No. 50, dated June 24, 2007  
**CAUTION**  
Possibly hazardous optical radiation emitted from this product. Do not stare at  
operating beam. May be harmful to the eyes.

IEC 60825-1:2014 PRODUIT LASER DE CLASSE 1 GROUPE DE RISQUE 2  
Conforme aux normes 21 CFR 1040.10 et 1040.11 comme Groupe de risque 2,  
projecteur laser (LIP, Laser Illuminated Projector) défini par CEI 62471:  
2006 sauf les exceptions citées dans le document Laser Notice N° 50, daté du 24 Juin 2007.  
**AVERTISSEMENT**  
Rayonnement optique dangereux potentiel émis par ce produit. Ne pas regarder  
directement dans le faisceau. Ceci pourrait être nocif pour les yeux.

IEC 60825-1:2014 1类激光产品RG2危险等级  
除了根据激光公告第50号,日期2007年6月24日之差异外,符合 21 CFR 1040.10和1040.11同  
IEC 62471:2006所定义之LIP (激光照明投影机 ) RG2危险等级。  
**注意**  
此产品可能会产生危险激光辐射。请勿直视操作光束,以免对眼睛损害。

- This projector has built-in Class 4 laser module. Disassembly or modification is very dangerous and should never be attempted.
- Any operation or adjustment not specifically instructed in the user's guide creates the risk of hazardous laser radiation exposure.
- Do not open or disassemble the projector as this may cause damage by the exposure of laser radiation.
- Do not stare into beam when the projector is on. The bright light may result in permanent eye damage.
- When turning on the projector, make sure no one within projection range is looking at the lens.
- Without following the control, adjustment or operation procedure may cause damage by the exposure of laser radiation.
- Adequate instructions for the assembly, operation, and maintenance, including clear warnings concerning precautions to avoid possible exposure to laser.

## Compliance

### **FCC Caution**

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Use of shielded cable is required to comply with class A limits in Subpart B of Part 15 of FCC Rules.

Do not make any changes or modifications to the equipment unless otherwise specified in the instructions. If such changes or modifications should be made, you could be required to stop operation of the equipment.

Model Number : EK-820U

Trade Name : EIKI

Responsible party : EIKI International, Inc.

Address : 30251 Esperanza Rancho Santa Margarita CA 92688-2132

Telephone No. : 800-242-3454 (949-457-0200)

**Note:**

*For use in a commercial, industrial or business environment.  
Not for domestic use.*

### **AC Power Cord Requirement**

The AC Power Cord supplied with this projector meets the requirement for use in the country you purchased it.

### **AC Power Cord for the United States and Canada:**

AC Power Cord used in the United States and Canada is listed by the Underwriters Laboratories (UL) and certified by the Canadian Standard Association (CSA).

AC Power Cord has a grounding-type AC line plug. This is a safety feature to be sure that the plug will fit into the power outlet. Do not try to defeat this safety feature. Should you be unable to insert the plug into the outlet, contact your electrician.

**Warning:**

*A plug with bared flexible cord is hazardous if engaged in a live socket outlet.*

The Wires in this mains lead are coloured in accordance with the following code:

- Green-and-yellow ..... Earth
- Blue ..... Neutral
- Brown ..... Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

- The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol or coloured green or green-and-yellow.
- The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
- The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

**Warning:**

*This apparatus must be earthed.*

**Note:**

*The socket-outlet should be installed near the equipment and easily accessible.*

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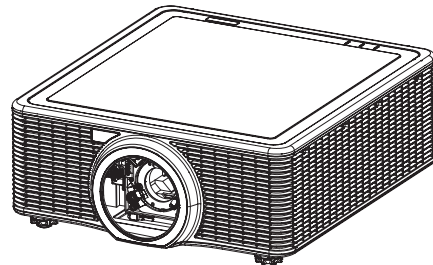
|                                    |           |
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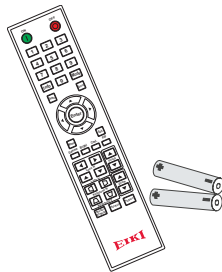
GETTING STARTED

Packing Checklist

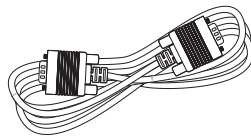
Carefully unpack the projector and check that the following items are included:



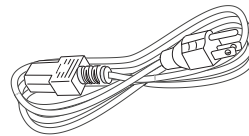
DLP PROJECTOR



REMOTE CONTROL  
(WITH TWO AAA  
BATTERIES)

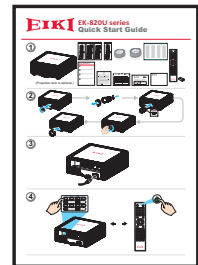


VGA CABLE

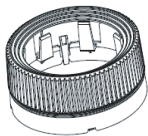


POWER CORD

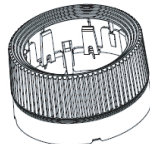
\* For other regions except China:  
POWER CORD x 2 (US and EU)  
\* For China: POWER CORD x 1



QUICK START GUIDE



LENS COVER  
\* For A01, A03, and A13 lens



LENS COVER  
\* For A06 lens



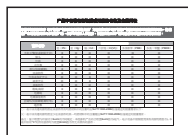
CD-ROM  
(THIS OWNER'S MANUAL)  
for China



SAFETY GUIDE



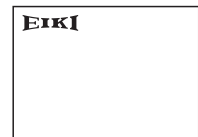
WARRANTY CARD  
for USA



RoHS CARD  
for China



QC PASS CARD  
for China



WARRANTY CARD  
for China

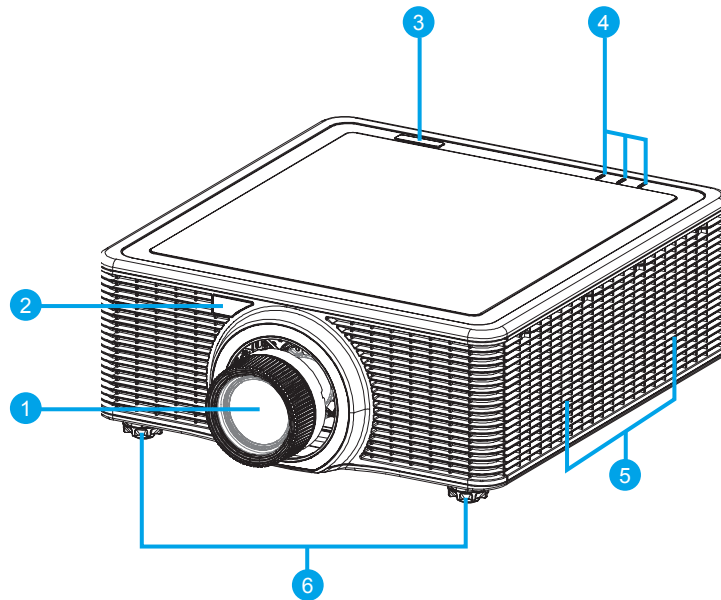
Contact your dealer immediately if any items are missing, appear damaged, or if the unit does not work. It is recommend that you keep the original packing material should you ever need to return the equipment for warranty service.

**Note:**

- Avoid using the projector in dusty environments.

## Views of Projector Parts

### Front-right View

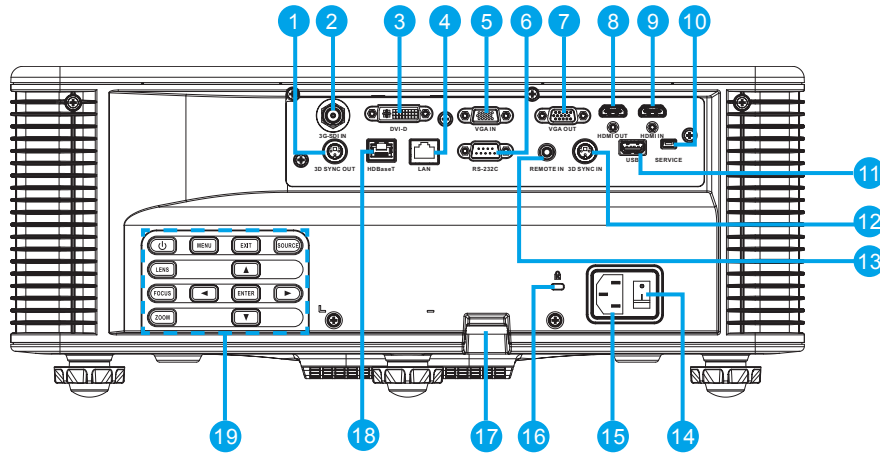


| ITEM | LABEL                      | DESCRIPTION  | SEE PAGE |
|------|----------------------------|--|----------|
| 1    | Projection Lens            | Allows automated lens control and adjustment: vertical and horizontal offsets, zoom and focus.   | -        |
| 2    | Front IR Sensor            | Receives signals from the IR remote. Keep the signal path to the sensor unobstructed for uninterrupted communication with the projector. | 8        |
| 3    | Top IR Sensor              |  |          |
| 4    | LED Status Indicators      | Displays the status of the projector.  | 59       |
| 5    | Cooling Air Vents (Intake) | Keep these vents unobstructed to prevent the projector from overheating.   | -        |
| 6    | Adjustable Feet            | Raise or lower the feet to level the projector.  | 13       |

**Important:**

*Ventilation openings on the projector allow for good air circulation, which keeps the projector laser diode cool. Do not obstruct any of the ventilation openings.*

Rear View



| ITEM | LABEL           | DESCRIPTION  | SEE PAGE |
|------|-----------------|--|----------|
| 1    | 3D SYNC OUT     | Connect the 3D IR glasses transmitter<br>(Note: For Specific 3D IR glasses only)                     | -        |
| 2    | 3G-SDI IN       | Connect the coaxial cable with BNC connector from a 3G-SDI device.                                   | -        |
| 3    | DVI-D           | Connect to DVI source.   | -        |
| 4    | LAN             | Connect a LAN cable from Ethernet.   | -        |
| 5    | VGA IN          | Connect the VGA cable from a computer or component device.   | -        |
| 6    | RS-232C         | Connect RS-232 serial port cable for remote control.   | -        |
| 7    | VGA OUT         | Connect the VGA cable to a display.  | -        |
| 8    | HDMI OUT        | Connect the HDMI cable to a display.   | -        |
| 9    | HDMI IN         | Connect the HDMI cable from a HDMI device.   | -        |
| 10   | SERVICE         | Service only.  | -        |
| 11   | USB             | Connect the WIFI dongle.   | -        |
| 12   | 3D SYNC IN      | Connect 3D sync in cable from your PC or other applicable device.                                    | -        |
| 13   | REMOTE IN       | Connect to the remote control wired terminal for serial control projector.                           | -        |
| 14   | Power Switch    | Switch the power button to turn on/off the power source.   | 12       |
| 15   | AC Input        | Connect to the supplied power adapter.   | 12       |
| 16   | Kensington Lock | Use to secure the projector to countertops, tables, etc.   | 57       |
| 17   | Security Bar    | Use to secure the projector.   | -        |
| 18   | HDBaseT         | Connect a RJ45 Cat5/Cat6 Ethernet cable to input uncompressed high-definition video control signals. | -        |
| 19   | Built-in Keypad | Control the projector.   | 4        |

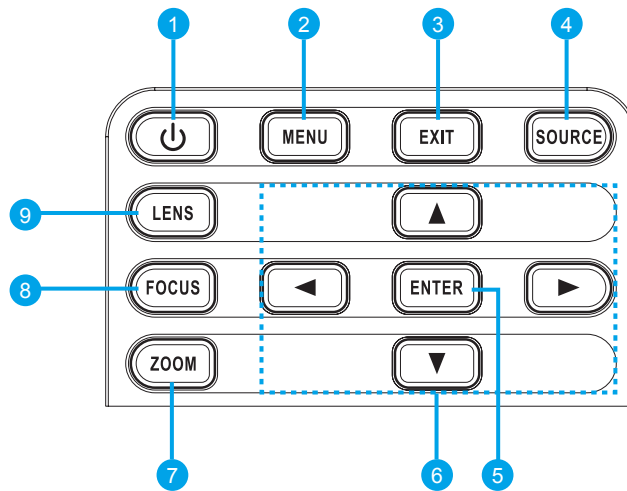
**Note:**

- To use this feature, you must plug in the power adapter/cable/cord before turn on/off the projector.
- Do not use this jack for anything other than intended use.

**Warning:**

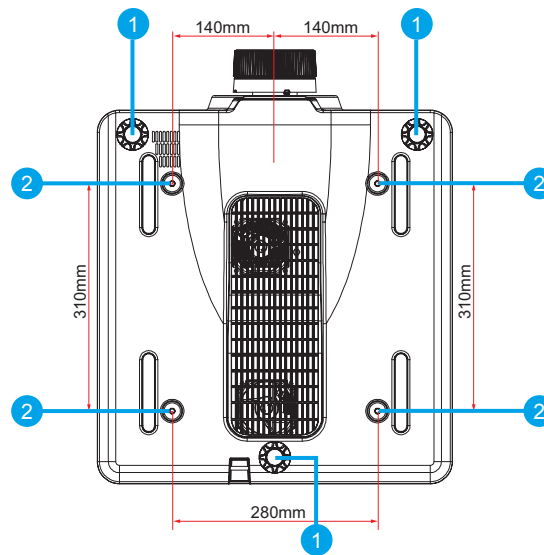
As a safety precaution, disconnect all power to the projector and connecting devices before making connections.

*Built-in Keypad*



| ITEM | LABEL      | DESCRIPTION  | SEE PAGE |
|------|------------|--|----------|
| 1    | Power      | Turn the projector on or off.  | 12       |
| 2    | Menu       | Display menus.   | 20       |
| 3    | Exit       | Return to previous level or exit menus if at top level.  | 20       |
| 4    | Source     | Select an input for the main or PIP/PBP image.   | -        |
| 5    | Enter      | <ul style="list-style-type: none"> <li>Select a highlighted menu item.</li> <li>Change or accept a value.</li> </ul> | 20       |
| 6    | Arrow keys | <ul style="list-style-type: none"> <li>Adjust a setting UP or DOWN.</li> <li>Navigate within a menu.</li> </ul>      | 20       |
| 7    | Zoom       | Adjust zoom.   | 14       |
| 8    | Focus      | Adjust focus.  | 14       |
| 9    | Lens       | Adjust the lens vertical or horizontal offset setting.   | -        |

Bottom View

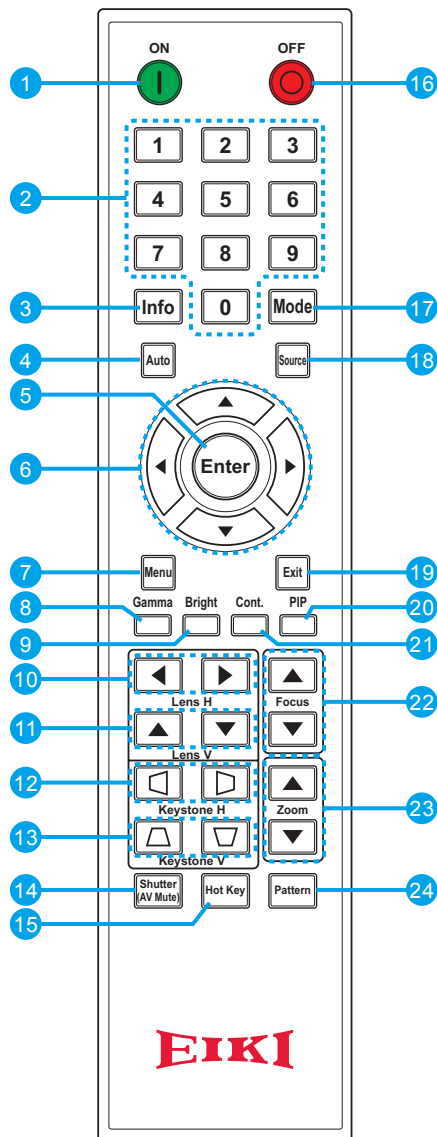


| ITEM | LABEL                 | DESCRIPTION   | SEE PAGE |
|------|-----------------------|---|----------|
| 1    | Adjustable Feet       | Raise or lower the feet to level the projector.                             | 13       |
| 2    | Ceiling support holes | Contact your dealer for information on mounting the projector on a ceiling. | -        |

**Note:**

- When installing, ensure that you use only UL Listed ceiling mounts.
- For ceiling installations, use approved mounting hardware and M6 screws with a maximum screw depth of 10 mm (0.39 inch).
- The construction of the ceiling mount must be of a suitable shape and strength. The ceiling mount load capacity must exceed the weight of the installed equipment, and as an additional precaution be capable of withstanding three times the weight of the equipment (not less than 71.4 kg) over a period of 60 seconds.

## Remote Control Parts



**Important:**

1. Avoid using the projector with bright fluorescent lighting turned on. Certain high-frequency fluorescent lights can disrupt remote control operation.
2. Be sure nothing obstructs the path between the remote control and the projector. If the path between the remote control and the projector is obstructed, you can bounce the signal off certain reflective surfaces such as projector screens.
3. The buttons and keys on the projector have the same functions as the corresponding buttons on the remote control. This owner's manual describes the functions based on the remote control.

**Note:**

Complies with FDA performance standards for laser products except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

| ITEM | LABEL                | DESCRIPTION   | SEE PAGE |
|------|----------------------|---|----------|
| 1    | Power on             | Turn projector ON.  | 12       |
| 2    | Number Keys          | Enter a number (such as PIN code) or source hotkey.<br>Source Hotkey Key:<br>1: VGA<br>2: HDMI<br>3: DVI-D<br>4: HDBaseT<br>5: LAN<br>6: 3G-SDI | -        |
| 3    | Info                 | Display source image information.   | -        |
| 4    | Auto                 | Automatically optimize image.   | -        |
| 5    | Enter                | <ul style="list-style-type: none"> <li>Select a highlighted menu item.</li> <li>Change or accept a value.</li> </ul>                            | 20       |
| 6    | Arrow Keys           | <ul style="list-style-type: none"> <li>Adjust a setting UP or DOWN.</li> <li>Navigate within a menu.</li> </ul>                                 | 20       |
| 7    | Menu                 | Display menus.  | 20       |
| 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 the horizontal keystone.   | 14       |
| 13   | Keystone V           | Adjust the vertical keystone.   | 14       |
| 14   | Shutter<br>(AV Mute) | Display or blank the video image.   | -        |
| 15   | Hot Key              | Select your preset keys quickly.  | -        |
| 16   | OFF                  | Turn projector OFF.   | 12       |
| 17   | Mode                 | Select the preset display mode.   | -        |
| 18   | Source               | Select an input for the main or PIP/PBP image.  | -        |
| 19   | Exit                 | Return to previous level or exit menus if at top level.   | 20       |
| 20   | PIP                  | Turn PIP/PBP ON/OFF.  | -        |
| 21   | Cont.                | Adjust difference between dark and light.   | -        |
| 22   | Focus                | Adjust focus to improve image clarity as desired.   | 14       |
| 23   | Zoom                 | Adjust zoom to achieve a desired image size.  | 14       |
| 24   | Pattern              | Display a test pattern.   | -        |



**Caution:**

*Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.*

## Remote Control Operating Range

The remote control uses infrared transmission to control the projector. It is not necessary to point the remote directly at the projector. Provided you are not holding the remote perpendicular to the sides or the rear of the projector, the remote will function well within a radius of about 10 meters (32.8 feet) and 30 degrees above or below the projector level. If the projector does not respond to the remote control, move a little closer.

## Projector and Remote Control Buttons

The projector can be operated using the remote control or the buttons on the rear of the projector. All operations can be carried out with the remote control; however, the buttons on the projector are limited in use.

## Remote Control Code

The ten different remote control modes (Code 0- Code 9) are assigned to this projector. Switching the remote control codes prevents interference from other remote controls when several projectors or video equipment next to each other are being operated at the same time. Change the remote control code for the projector first before changing that for the remote control. See “Projector Address” in the Communications Menu on page 42.

### **To change the code for the Remote Control:**

Press and hold the **Mode** button for more than three seconds. Then, press a number button (0-9) to switch among the codes.

Default setting: 0

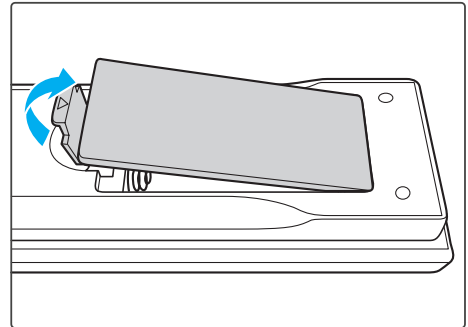


**To change the Projector Address for the projector:**

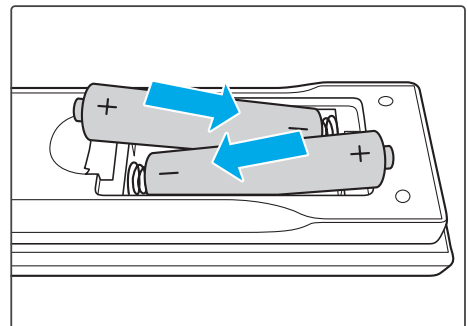
Select a Projector Address in the Setup Menu. (SETUP → Communications → Projector Address)

## Inserting the Remote Control Batteries

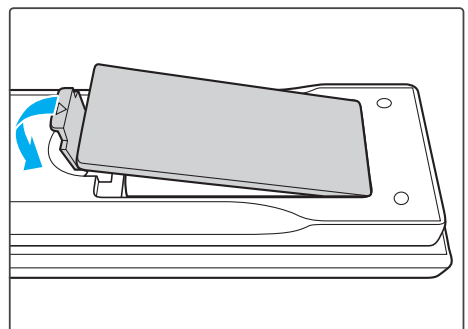
1. Remove the battery compartment cover as shown in the illustration.



2. Insert the batteries with correct polarity (+/-) as shown inside the battery compartment.



3. Replace the cover.



**Caution:**



- Only use AAA batteries (Alkaline batteries are recommended).
- Dispose of used batteries according to local ordinance regulations.
- Remove the batteries when not using the projector for prolonged periods.

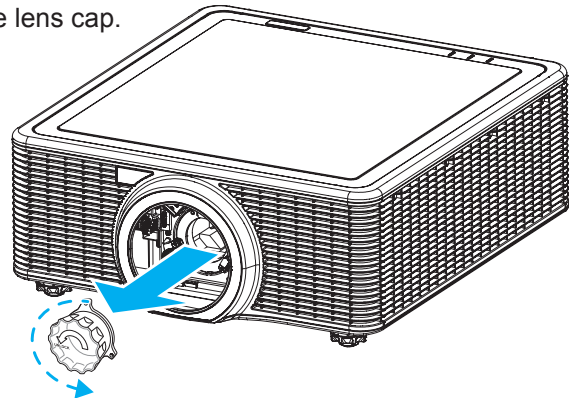
## Installing the Projection Lens

Before setting up the projector, install the projection lens on the projector.

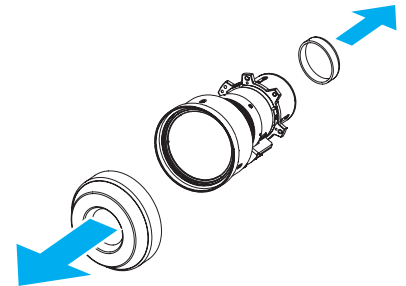
**Important:**

- Before installation, check where the projector is used and prepare a suitable lens.
- For details, contact the sales dealer where you purchased the projector.

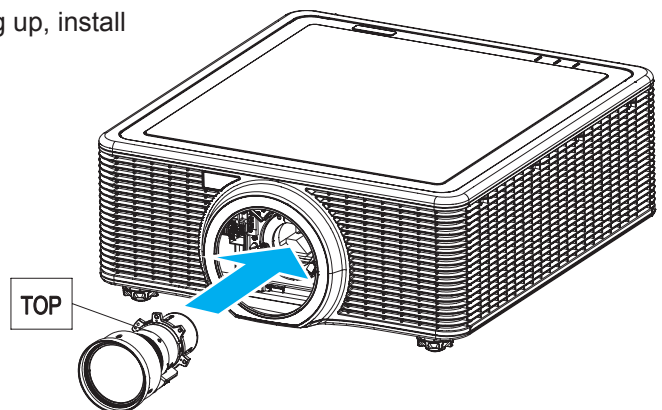
1. Press “” on the built-in keypad or press “” on the remote control twice to turn off the projector.
2. Rotate the lens cap counter-clockwise. Then remove the lens cap.



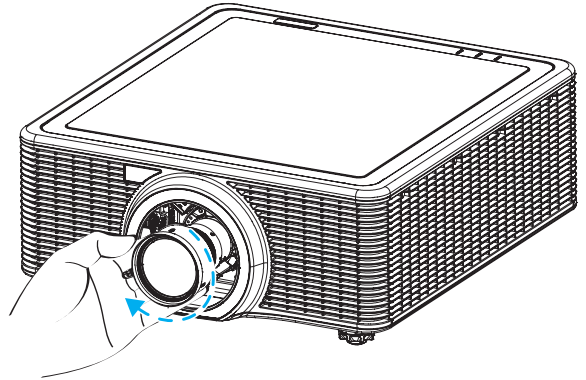
3. Remove both lens caps (front and back) on the lens.



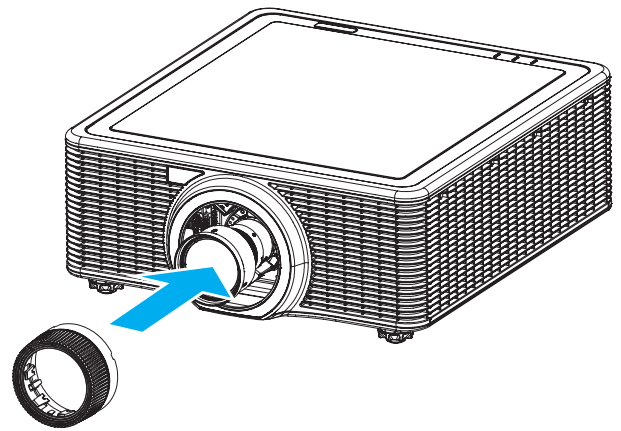
4. With the label “TOP” on the lens assembly facing up, install the assembly into the lens mount.



**5.** Rotate the lens clockwise to lock the lens in place.



**6.** Firmly install the lens cover onto the lens.



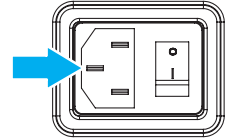
## Starting and Shutting down the Projector

### Turn the Projector On



1. Connect the power cord to the projector. Then connect the other end to a wall outlet. The Power button on the built in keypad is illuminated.

**Important:**

*Make sure that the Power switch is in the ON position.*









2. Turn on the connected devices.

3. Turn on the projector by pressing “” on the remote control or press “” on the built-in keypad. The Status LED is Orange with a long blink. The projector splash screen displays and connected devices are detected.



4. If more than one input device is connected, press the **Source** key on the remote control to select an input source (VGA, HDMI, DVI-D, HDBaseT, LAN, or 3G-SDI).
5. The projector detects the source you selected and displays the image.

### Turn the Projector Off

1. Press “” on the built-in keypad or press “” on the remote control to turn off the projector. A warning message will appear on the displayed image.
2. Press “” on the built-in keypad or press “” on the remote control again to confirm your selection. If you do not press “” or “” again, the warning message will disappear after 10 seconds.

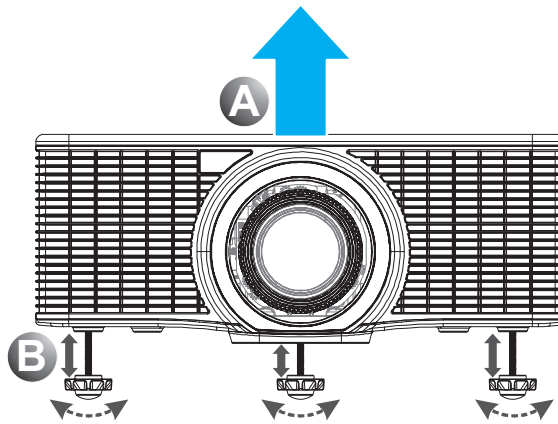
**Caution:**

*Do not unplug the power cord until all of fans are stop—indicating the projector has cooled down.*

## Adjusting the Projector Level

Take note of the following when setting up the projector:

- The projector table or stand should be level and sturdy.
- Position the projector so that it is perpendicular to the screen.
- Ensure the cables are in a safe location. You could trip over them.

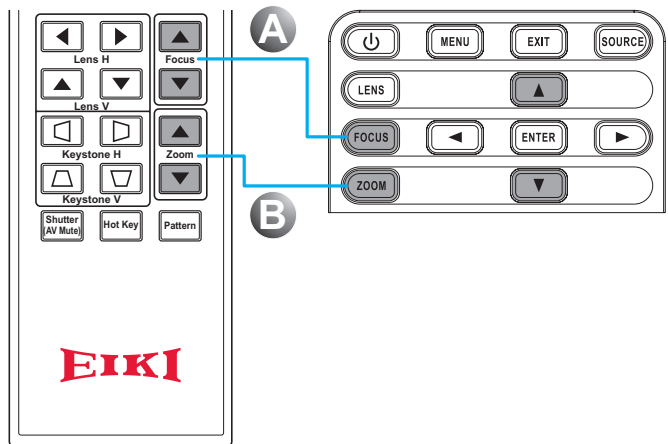


- 1.** To raise the level of the projector, lift the projector **A**.
- 2.** Locate the adjustable foot you wish to modify on the underside of the projector.
- 3.** Rotate the adjustable foot clockwise to raise the projector or counter-clockwise to lower it. Repeat with the remaining feet as necessary **B**.

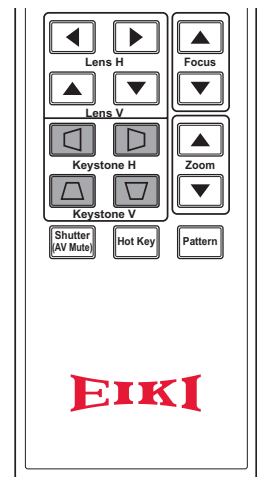
## Adjusting the Zoom, Focus, and Keystone

1. Use the **Zoom** button to resize the projected image and screen size **B**.

2. Use the **Focus** button to sharpen the projected image **A**.



3. Use the **Keystone H** buttons (on the remote control) to adjust the keystone horizontally and make a squarer image. Use the **Keystone V** buttons (on the remote control) to adjust keystone vertically and make a squarer image.

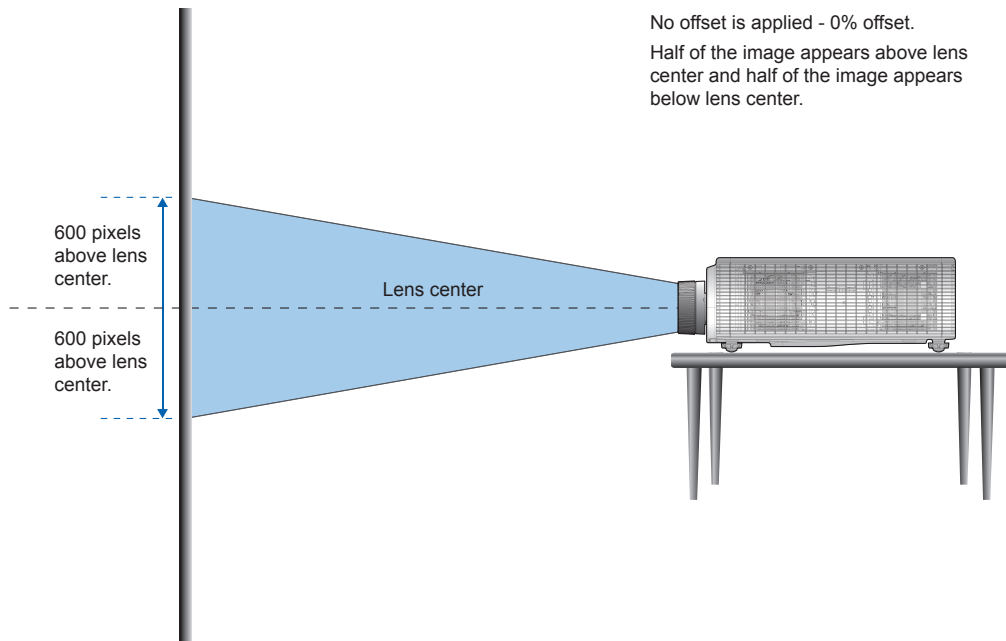


## Using the Lens Shift Adjustment

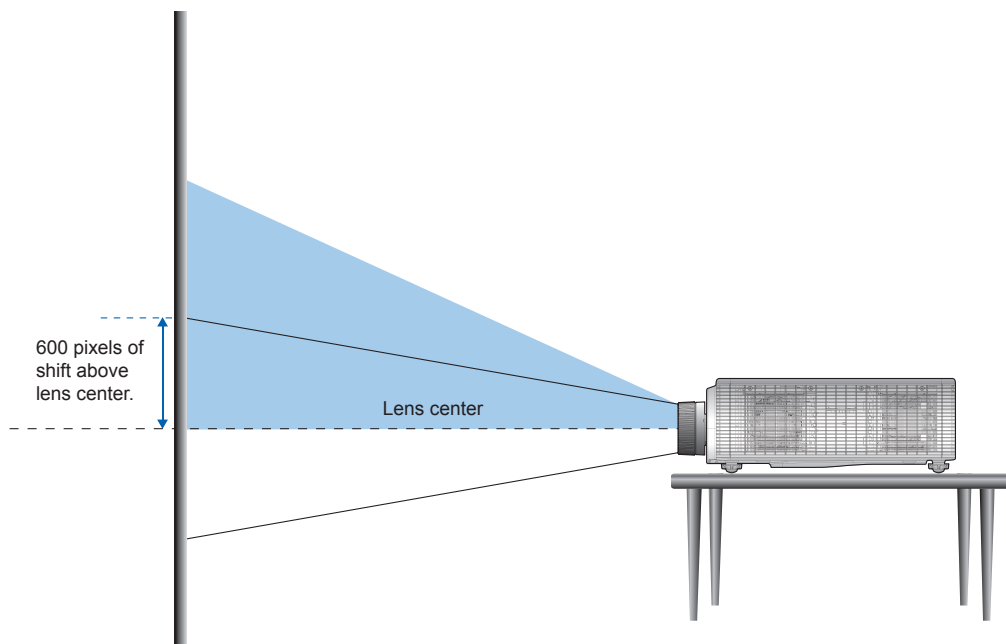
The projection lens can be moved up, down, right, and left with the motor-driven lens shift function. This function makes the positioning of images easy on the screen. Lens shift is generally expressed as a percentage of the image height or width, see below illustration.

### Vertical / Horizontal Lens Shift

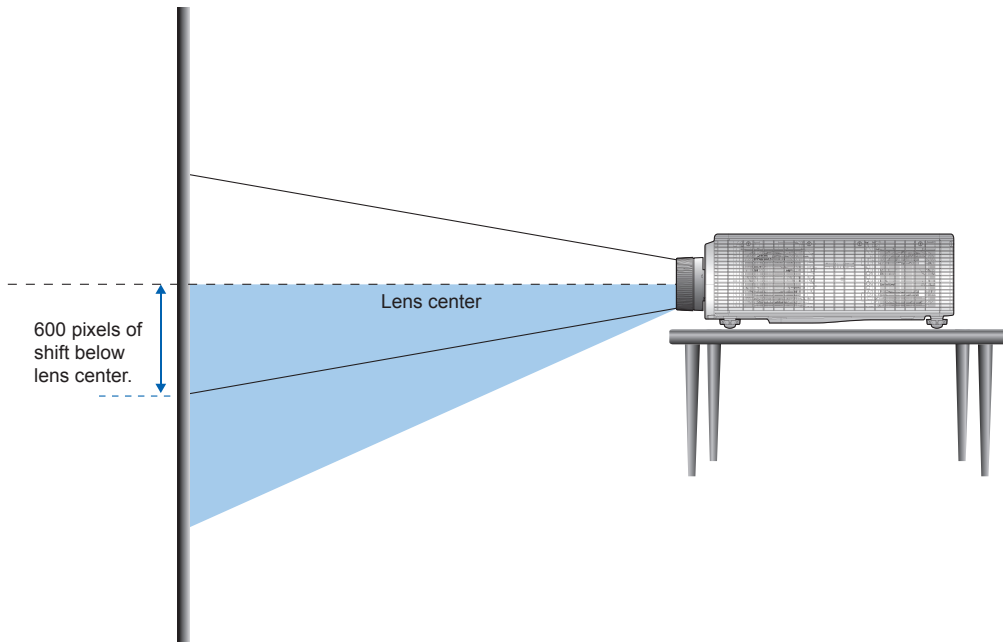
Vertical Image Offset: 0% Offset (WUXGA)



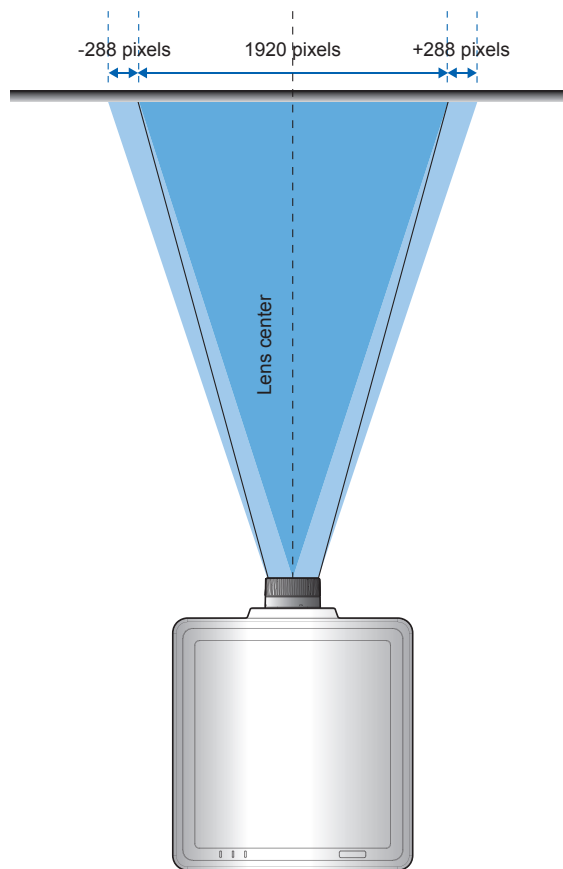
Vertical Image Offset: 50% Offset (WUXGA)



Vertical Image Offset: -50% Offset (WUXGA)



Horizontal Image Offset: +/-15% Offset (WUXGA)





## Optional Lenses and Projection Size

### Projection Lens

The complete projection lens series as below table.

| ITEM                               | LENS TYPE                             |                     |                    |                    |                    |                    |
|------------------------------------|---------------------------------------|---------------------|--------------------|--------------------|--------------------|--------------------|
| <b>Lens Model Name</b>             | A16<br>(AH-A25010)                    | A15<br>(AH-A22010A) | A01<br>(AH-A22020) | A06<br>(AH-A22050) | A03<br>(AH-A21010) | A13<br>(AH-A23010) |
| <b>Focal Length (f)</b>            | 9.49-9.55                             | 11.11-14.06         | 14.03-17.96        | 18.07-22.59        | 22.56-42.87        | 42.60-80.90        |
| <b>F number</b>                    | 2.4                                   | 2.30-2.53           | 2.30-2.57          | 2.00-2.32          | 2.30-3.39          | 2.30-2.74          |
| <b>Focus spec (MTF)</b>            | 67 lp/mm                              | 67 lp/mm            | 67 lp/mm           | 67 lp/mm           | 67 lp/mm           | 67 lp/mm           |
| <b>Zoom Range (Ratio)</b>          | no zoom                               | 1.26X               | 1.28X              | 1.25X              | 1.9X               | 1.9X               |
| <b>Zoom &amp; Focus Adjustment</b> | Motorized                             |                     |                    |                    |                    |                    |
| <b>Throw Ratio</b>                 | 0.361 (120")                          | 0.75-0.95           | 0.95-1.22          | 1.22-1.52          | 1.52-2.92          | 2.90-5.50          |
| <b>Throw Distance</b>              | 0.96~2.65m                            | 0.79-6.21m          | 1.01~7.98m         | 1.29~9.93m         | 1.61~19.00m        | 3.18~34.77m        |
| <b>Projection Image Size</b>       | 120"~350"                             | 50~300"             |                    |                    |                    |                    |
| <b>Motorized Lens Shift</b>        | Horizontal: ±15%<br>Vertical: ±50%    |                     |                    |                    |                    |                    |
|                                    | <b>Projection Lens: A01, A03, A13</b> |                     |                    |                    |                    |                    |
|                                    | <b>PLATFORM</b>                       | <b>H</b>            | <b>V</b>           | <b>△H</b>          | <b>△V</b>          |                    |
|                                    | 0.67" WUXGA                           | 15%                 | 50%                | 15%                | 50%                |                    |
|                                    | <b>Projection Lens: A06</b>           |                     |                    |                    |                    |                    |
|                                    | <b>PLATFORM</b>                       | <b>H</b>            | <b>V</b>           | <b>△H</b>          | <b>△V</b>          |                    |
|                                    | 0.67" WUXGA                           | 15%                 | 50%                | 10%                | 40%                |                    |
| <b>Projection Lens: A15</b>        |                                       |                     |                    |                    |                    |                    |
| <b>PLATFORM</b>                    | <b>H</b>                              | <b>V</b>            | <b>△H</b>          | <b>△V</b>          |                    |                    |
| 0.67" WUXGA                        | 15%                                   | 50%                 | 1%                 | 25%                |                    |                    |

**Motorized Lens Shift**

A01/A03/A13 lens shift range:

A06/A15 lens shift range:

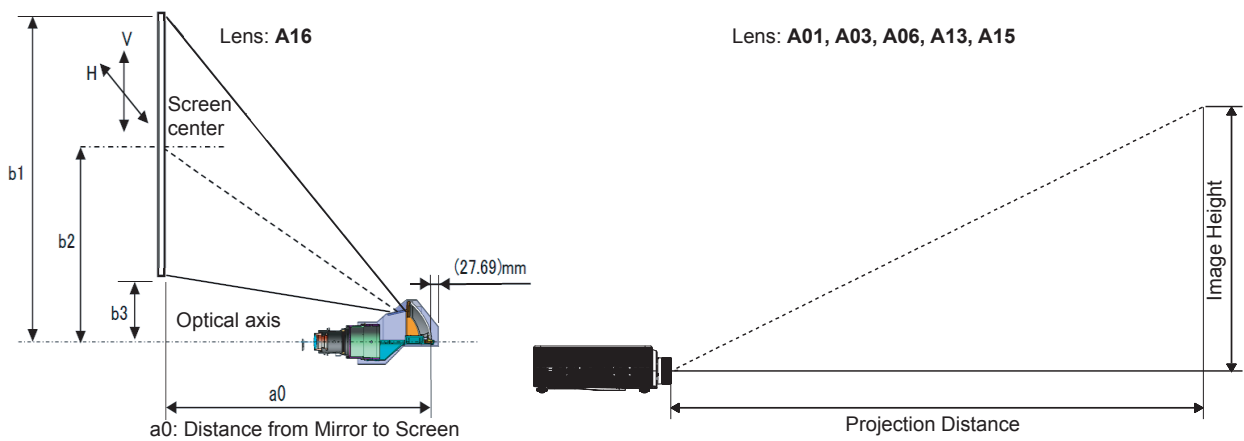
- Lens shift accuracy is 0.5 pixels per step.
- When the lens is shifted beyond the described range of operation, the screen edges may become darker or the images may become out of focus.

**Other Optional Parts:**

| PART NUMBER | ITEM               |
|-------------|--------------------|
| AH-B34020   | WiFi Dongle        |
| AH-B34030   | Wired Remote Cable |

Projection Size v.s Throw Distance

| PLATFORM                           |            |           | WUXGA (16:10)      |       |       |       |       |       |       |       |       |       |       |       |
|------------------------------------|------------|-----------|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DMD                                |            |           | 0.67"              |       |       |       |       |       |       |       |       |       |       |       |
| PROJECTION LENS                    |            |           | A16                |       | A15   |       | A01   |       | A06   |       | A03   |       | A13   |       |
| THROW RATIO SPEC. (WIDE/TELE)      |            |           | 0.361 (120")       |       | 0.75  | 0.95  | 0.95  | 1.22  | 1.22  | 1.52  | 1.52  | 2.92  | 2.90  | 5.50  |
| ZOOM RATIO                         |            |           | N/A                |       | 1.26X |       | 1.28X |       | 1.25X |       | 1.9X  |       | 1.9X  |       |
| THROW DISTANCE (M) (MIN/MAX)       |            |           | 0.96               | 2.65  | 0.79  | 6.21  | 1.01  | 7.98  | 1.29  | 9.93  | 1.61  | 19.00 | 3.18  | 34.77 |
| PROJECTION SCREEN SIZE             |            |           | THROW DISTANCE (M) |       |       |       |       |       |       |       |       |       |       |       |
| THROW RATIO CONSTANT C (WIDE/TELE) |            |           | 0.34               | 0.761 | 0.966 | 0.966 | 1.240 | 1.236 | 1.543 | 1.546 | 2.948 | 2.822 | 5.362 |       |
| THROW RATIO CONSTANT D (WIDE/TELE) |            |           | 5.606              | -2.66 | -2.71 | -3.00 | -2.84 | -4.14 | -4.01 | -5.94 | -5.18 | 13.63 | 11.74 |       |
| DIAGONAL (INCH)                    | HEIGHT (M) | WIDTH (M) | NA                 | WIDE  | TELE  | WIDE  | TELE  | WIDE  | TELE  | WIDE  | TELE  | WIDE  | TELE  |       |
| 50                                 | 0.67       | 1.08      | NA                 | 0.79  | 1.01  | 1.01  | 1.31  | 1.29  | 1.62  | 1.61  | 3.12  | 3.18  | 5.89  |       |
| 60                                 | 0.81       | 1.29      | NA                 | 0.96  | 1.22  | 1.22  | 1.57  | 1.56  | 1.95  | 1.94  | 3.76  | 3.78  | 7.05  |       |
| 70                                 | 0.94       | 1.51      | NA                 | 1.12  | 1.43  | 1.43  | 1.84  | 1.82  | 2.29  | 2.27  | 4.39  | 4.39  | 8.20  |       |
| 80                                 | 1.08       | 1.72      | NA                 | 1.28  | 1.64  | 1.63  | 2.11  | 2.09  | 2.62  | 2.60  | 5.03  | 5.00  | 9.36  |       |
| 90                                 | 1.21       | 1.94      | NA                 | 1.45  | 1.85  | 1.84  | 2.38  | 2.35  | 2.95  | 2.94  | 5.66  | 5.61  | 10.51 |       |
| 100                                | 1.35       | 2.15      | NA                 | 1.61  | 2.05  | 2.05  | 2.64  | 2.62  | 3.28  | 3.27  | 6.30  | 6.21  | 11.67 |       |
| 110                                | 1.48       | 2.37      | NA                 | 1.78  | 2.26  | 2.26  | 2.91  | 2.89  | 3.62  | 3.60  | 6.93  | 6.82  | 12.82 |       |
| 120                                | 1.62       | 2.58      | 0.96               | 1.94  | 2.47  | 2.47  | 3.18  | 3.15  | 3.95  | 3.94  | 7.57  | 7.43  | 13.98 |       |
| 130                                | 1.75       | 2.80      | 1.04               | 2.10  | 2.68  | 2.67  | 3.44  | 3.42  | 4.28  | 4.27  | 8.20  | 8.04  | 15.13 |       |
| 140                                | 1.88       | 3.02      | 1.11               | 2.27  | 2.89  | 2.88  | 3.71  | 3.69  | 4.61  | 4.60  | 8.84  | 8.65  | 16.29 |       |
| 150                                | 2.02       | 3.23      | 1.18               | 2.43  | 3.09  | 3.09  | 3.98  | 3.95  | 4.95  | 4.94  | 9.47  | 9.25  | 17.44 |       |
| 160                                | 2.15       | 3.45      | 1.26               | 2.60  | 3.30  | 3.30  | 4.24  | 4.22  | 5.28  | 5.27  | 10.11 | 9.86  | 18.60 |       |
| 170                                | 2.29       | 3.66      | 1.33               | 2.76  | 3.51  | 3.51  | 4.51  | 4.48  | 5.61  | 5.60  | 10.74 | 10.47 | 19.75 |       |
| 180                                | 2.42       | 3.88      | 1.40               | 2.92  | 3.72  | 3.72  | 4.78  | 4.75  | 5.94  | 5.93  | 11.38 | 11.08 | 20.91 |       |
| 190                                | 2.56       | 4.09      | 1.48               | 3.09  | 3.93  | 3.92  | 5.05  | 5.02  | 6.27  | 6.27  | 12.01 | 11.69 | 22.06 |       |
| 200                                | 2.69       | 4.31      | 1.55               | 3.25  | 4.13  | 4.13  | 5.31  | 5.28  | 6.61  | 6.60  | 12.65 | 12.29 | 23.22 |       |
| 250                                | 3.37       | 5.38      | 1.91               | 4.07  | 5.17  | 5.17  | 6.65  | 6.61  | 8.27  | 8.27  | 15.82 | 15.33 | 28.99 |       |
| 300                                | 4.04       | 6.46      | 2.28               | 4.89  | 6.21  | 6.21  | 7.98  | 7.95  | 9.93  | 9.93  | 19.00 | 18.37 | 34.77 |       |
| 350                                | 4.71       | 7.54      | 2.65               | N/A   |       |       |       |       |       |       |       |       |       |       |



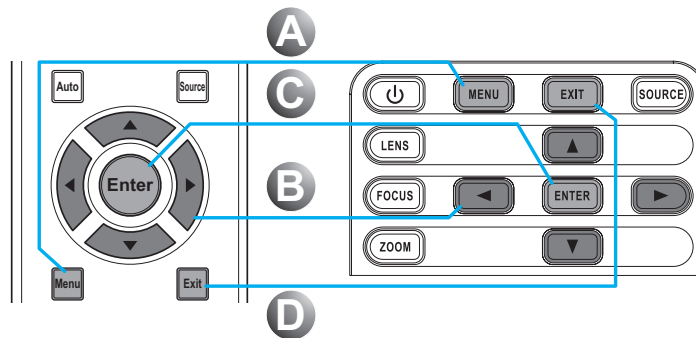
## ON-SCREEN DISPLAY (OSD) MENU SETTINGS

### OSD Menu Controls

The projector has an OSD that lets you make image adjustments and change various settings.

#### Navigating the OSD

You can use the remote control cursor buttons or the projector keypad to navigate and make changes to the OSD.



1. To enter the OSD, press the **Menu** button **A**.
2. Use the arrow keys (**▲▼◀▶**) to navigate within the menu and adjust a setting up or down **B**.
3. Press the **Enter** button to enter the submenu or confirm the selection/setting **C**.
4. Press the **Exit** button to return to the previous menu or exit menu if at top level **D**.

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

**Caution:**

Depending on the video source, not all items in the OSD are available. Items that are not available cannot be accessed and are grayed out.

## Setting the OSD Language

Set the OSD language to your preference before continuing.

1. Press the **Menu** button.

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

2. Use the arrow keys (▲▼) to select **SETUP** and press the **Enter** button to enter the **SETUP** menu.

| PICTURE |                     | SETUP |         |
|---------|---------------------|-------|---------|
|         | Language            |       | English |
|         | Ceiling Mount       |       | Auto    |
| OUTPUT  | Rear Projection     |       | Off     |
|         | Lens Function       |       |         |
| SETUP   | Menu Preferences    |       |         |
|         | Keypad LED Settings |       | On      |
|         | PIN                 |       |         |
| OPTION  | Communications      |       |         |

3. Use the arrow keys (▲▼) to select **Language** and press the **Enter** button to enter its submenu.
4. Use the arrow keys (▲▼) to select the desired language and press the **Enter** button to confirm.
5. Press the **Exit** button several times to exit the menu.

| Language   |
|------------|
| English    |
| Français   |
| Español    |
| Deutsch    |
| Italiano   |
| Русский    |
| 简体中文       |
| 日本語        |
| 한국어        |
| Português  |
| Indonesian |
| Nederlands |
| العربية    |

## OSD Menu Overview

Use the following illustration to quickly find a setting or determine the range for a setting.

| MAIN MENU      | SUB MENU / SETTINGS       |               |                  | DEFAULT       |      |
|----------------|---------------------------|---------------|------------------|---------------|------|
| PICTURE        | Display Mode              | Presentation  |                  | By source set |      |
|                |                           | Video         |                  |               |      |
|                |                           | Bright        |                  |               |      |
|                |                           | REC709        |                  |               |      |
|                |                           | DICOM SIM.    |                  |               |      |
|                |                           | 2D High Speed |                  |               |      |
|                |                           | 3D            |                  |               |      |
|                |                           | Blending      |                  |               |      |
|                |                           | 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            |      |
|                | 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            |                  |               |      |
| 3D Sync Out    | To Emitter                |               | To Emitter       |               |      |
|                | To Next Projector         |               |                  |               |      |
| Frame Delay    | 1~ n (by timing, Max 200) |               | 61               |               |      |
| HSG Adjustment | HSG Enable                | Off           |                  | Off           |      |
|                |                           | On            |                  |               |      |
|                | Auto Test Pattern         | Off           |                  | On            |      |
|                |                           | On            |                  |               |      |
|                | Red H.                    | 0 – 254       |                  | 127           |      |
|                | Red S.                    | 0 – 254       |                  | 127           |      |
|                | Red G.                    | 0 – 254       |                  | 127           |      |
|                | Green H.                  | 0 – 254       |                  | 127           |      |
| Green S.       | 0 – 254                   |               | 127              |               |      |

| MAIN MENU   | SUB MENU / SETTINGS |                   |          | DEFAULT       |
|-------------|---------------------|-------------------|----------|---------------|
| PICTURE     | HSG Adjustment      | Green G.          | 0 – 254  | 127           |
|             |                     | Blue H.           | 0 – 254  | 127           |
|             |                     | Blue S.           | 0 – 254  | 127           |
|             |                     | Blue G.           | 0 – 254  | 127           |
|             |                     | Cyan H.           | 0 – 254  | 127           |
|             |                     | Cyan S.           | 0 – 254  | 127           |
|             |                     | Cyan G.           | 0 – 254  | 127           |
|             |                     | Magenta H.        | 0 – 254  | 127           |
|             |                     | Magenta S.        | 0 – 254  | 127           |
|             |                     | Magenta G.        | 0 – 254  | 127           |
|             |                     | Yellow H.         | 0 – 254  | 127           |
|             |                     | Yellow S.         | 0 – 254  | 127           |
|             |                     | Yellow G.         | 0 – 254  | 127           |
|             |                     | White R Gain      | 0 – 254  | 127           |
|             |                     | White G Gain      | 0 – 254  | 127           |
|             |                     | White B Gain      | 0 – 254  | 127           |
|             |                     | Reset to Default  |          |               |
|             | Advanced            | White Peaking     | 0 - 100  | By source set |
|             |                     | Gamma             | Video    | Bright        |
|             |                     |                   | Film     |               |
|             |                     |                   | Bright   |               |
|             |                     |                   | CRT      |               |
|             |                     |                   | DICOM    |               |
|             |                     |                   | Gamma2.2 |               |
|             |                     | Color Temperature | Warmest  | Cool          |
|             |                     |                   | Warm     |               |
|             |                     |                   | Cool     |               |
| Bright      |                     |                   |          |               |
| Color Space | RGB                 | Auto              |          |               |
|             | REC709              |                   |          |               |
|             | REC601              |                   |          |               |
|             | RGB Video           |                   |          |               |
|             | Auto                |                   |          |               |

| MAIN MENU                | SUB MENU / SETTINGS |                   |                           | DEFAULT         |     |
|--------------------------|---------------------|-------------------|---------------------------|-----------------|-----|
| PICTURE                  | Advanced            | 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/<br>Offset |                 |     |
|                          |                     | Color Enhancement | 0 ~ 2                     | 1               |     |
|                          |                     | Color Wheel Speed | 2X                        |                 | 2X  |
|                          |                     |                   | 3X                        |                 |     |
|                          |                     | Film Mode         | Off                       |                 | Off |
|                          |                     |                   | On                        |                 |     |
|                          |                     | Extreme Black     | Off                       |                 | Off |
|                          |                     |                   | On                        |                 |     |
| DynamicBlack™            | Off                 |                   | Off                       |                 |     |
|                          | On                  |                   |                           |                 |     |
| OUTPUT                   | Aspect Ratio        | Auto              |                           | Auto            |     |
|                          |                     | 4:3               |                           |                 |     |
|                          |                     | 16:9              |                           |                 |     |
|                          |                     | 16:10             |                           |                 |     |
|                          |                     | Native            |                           |                 |     |
|                          | 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              |     |
|                          | Image Warping       | PC Mode           | Off                       |                 | Off |
|                          |                     |                   | On                        |                 |     |
|                          |                     | H Keystone        | 0 ~ 200                   | 100             |     |
|                          |                     | V Keystone        | 0 ~ 200                   | 100             |     |
|                          |                     | H Pincushion      | 0 ~ 100                   | 50              |     |
|                          |                     | V Pincushion      | 0 ~ 100                   | 50              |     |
|                          |                     | 4-Corner          | Top Left Horz Adjust      | 0 ~ 120 (pixel) | 0   |
|                          |                     |                   | Top Left Vert Adjust      | 0 ~ 80          | 0   |
| Top Right Horz Adjust    |                     |                   | 0 ~ 120                   | 0               |     |
| Top Right Vert Adjust    |                     |                   | 0 ~ 80                    | 0               |     |
| Bottom Left Horz Adjust  |                     |                   | 0 ~ 120                   | 0               |     |
| Bottom Left Vert Adjust  |                     |                   | 0 ~ 80                    | 0               |     |
| Bottom Right Horz Adjust |                     |                   | 0 ~ 120                   | 0               |     |



| MAIN MENU        | SUB MENU / SETTINGS |                    |                          |                | DEFAULT |
|------------------|---------------------|--------------------|--------------------------|----------------|---------|
| OUTPUT           | Image Warping       | 4-Corner           | Bottom Right Vert Adjust | 0 ~ 80         | 0       |
|                  |                     | Reset to Default   |                          |                |         |
|                  | PIP/PBP             | PIP/PBP Enable     | Off                      |                | Off     |
|                  |                     |                    | On                       |                |         |
|                  |                     | Main Source        | VGA                      |                | VGA     |
|                  |                     |                    | HDMI                     |                |         |
|                  |                     |                    | DVI-D                    |                |         |
|                  |                     |                    | HDBaseT                  |                |         |
|                  |                     |                    | LAN                      |                |         |
|                  |                     |                    | 3G-SDI                   |                |         |
|                  |                     | Sub Source         | VGA                      |                |         |
|                  |                     |                    | HDMI                     |                |         |
|                  |                     |                    | DVI-D                    |                |         |
|                  |                     |                    | HDBaseT                  |                |         |
|                  |                     |                    | LAN                      |                |         |
|                  |                     | 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        |         |
|                  |                     | French             |                          |                |         |
|                  |                     | Spanish            |                          |                |         |
|                  |                     | German             |                          |                |         |
|                  |                     | Italian            |                          |                |         |
|                  |                     | Russian            |                          |                |         |
|                  |                     | Chinese Simplified |                          |                |         |
|                  |                     | Japanese           |                          |                |         |
|                  |                     | Korean             |                          |                |         |
|                  |                     | Portuguese         |                          |                |         |
|                  |                     | Indonesian         |                          |                |         |
|                  |                     | Dutch              |                          |                |         |
|                  | Arabic              |                    |                          |                |         |
|                  | Ceiling Mount       | Off                |                          | Auto           |         |
| On               |                     |                    |                          |                |         |
| Auto             |                     |                    |                          |                |         |

| MAIN MENU           | SUB MENU / SETTINGS |                   |                  | DEFAULT                          |    |
|---------------------|---------------------|-------------------|------------------|----------------------------------|----|
| SETUP               | Rear Projection     | Off               |                  | Off                              |    |
|                     |                     | On                |                  |                                  |    |
|                     | Lens Function       | Focus             |                  | Focus in - motor stop            |    |
|                     |                     |                   |                  | Focus in - motor go step         |    |
|                     |                     |                   |                  | Focus in - motor run             |    |
|                     |                     |                   |                  | Focus out - motor stop           |    |
|                     |                     |                   |                  | Focus out - motor go step        |    |
|                     |                     |                   |                  | Focus out - motor run            |    |
|                     |                     | Zoom              |                  | Zoom in - motor stop             |    |
|                     |                     |                   |                  | Zoom in - motor go step          |    |
|                     |                     |                   |                  | Zoom in - motor run              |    |
|                     |                     |                   |                  | Zoom out - motor stop            |    |
|                     |                     |                   |                  | Zoom out - motor go step         |    |
|                     |                     |                   |                  | Zoom out - motor run             |    |
|                     |                     | Lens Shift        |                  | Left shift up - motor stop       |    |
|                     |                     |                   |                  | Left shift up - motor go step    |    |
|                     |                     |                   |                  | Left shift up - motor run        |    |
|                     |                     |                   |                  | Left shift down - motor stop     |    |
|                     |                     |                   |                  | Left shift down - motor go step  |    |
|                     |                     |                   |                  | Left shift down - motor run      |    |
|                     |                     |                   |                  | Left shift right - motor stop    |    |
|                     |                     |                   |                  | Left shift right - motor go step |    |
|                     |                     |                   |                  | Left shift right - motor run     |    |
|                     |                     |                   |                  | Left shift left - motor stop     |    |
|                     |                     |                   |                  | Left shift left - motor go step  |    |
|                     |                     |                   |                  | Left shift left - motor run      |    |
|                     |                     |                   | 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                |                  |                                  |    |
|                     | Change PIN          |                   |                  |                                  |    |

| MAIN MENU | SUB MENU / SETTINGS |                       |                       | DEFAULT   |        |
|-----------|---------------------|-----------------------|-----------------------|-----------|--------|
| SETUP     | Communications      | LAN                   | DHCP                  | OFF<br>ON | by set |
|           |                     |                       | IP Address            |           | by set |
|           |                     |                       | Subnet Mask           |           | by set |
|           |                     |                       | Default Gateway       |           | by set |
|           |                     |                       | MAC Address           |           | by set |
|           |                     |                       | Apply                 |           |        |
|           |                     | WLAN                  | Enable                |           | by set |
|           |                     |                       | Start IP              |           | by set |
|           |                     |                       | End IP                |           | by set |
|           |                     |                       | Subnet Mask           |           | by set |
|           |                     |                       | Default Gateway       |           | by set |
|           |                     |                       | MAC Address           |           | by set |
|           |                     |                       | SSID                  |           | by set |
|           |                     | Network               | Projector Name        |           | by set |
|           |                     |                       | Restart Network       |           |        |
|           |                     |                       | Network Factory Reset |           |        |
|           |                     | Serial Port Baud Rate | 9600                  |           | 19200  |
|           |                     |                       | 14400                 |           |        |
|           |                     |                       | 19200                 |           |        |
|           |                     |                       | 38400                 |           |        |
|           |                     |                       | 57600                 |           |        |
|           |                     |                       | 115200                |           |        |
|           |                     | Serial Port Path      | RS232                 |           | RS232  |
|           |                     |                       | HDBaseT               |           |        |
|           |                     | Projector Address     | 0 - 9                 |           | 0      |
|           |                     | IR Control            | Front                 | Off       | On     |
|           |                     |                       |                       | On        |        |
| Top       | Off                 |                       | On                    |           |        |
|           | On                  |                       |                       |           |        |
| HDBaseT   | Off                 |                       | Off                   |           |        |
|           | On                  |                       |                       |           |        |
| OPTION    | Auto Source         | Off                   | On                    |           |        |
|           |                     | On                    |                       |           |        |
|           | High Altitude       | Off                   | Off                   |           |        |
|           |                     | On                    |                       |           |        |
|           | Test Pattern        | Off                   | Off                   |           |        |
|           |                     | Grid                  |                       |           |        |
|           |                     | Red                   |                       |           |        |
|           |                     | Green                 |                       |           |        |
|           |                     | Blue                  |                       |           |        |
|           |                     | Yellow                |                       |           |        |
|           |                     | Magenta               |                       |           |        |
|           |                     | Cyan                  |                       |           |        |
|           |                     | White                 |                       |           |        |
|           |                     | Black                 |                       |           |        |

| MAIN MENU      | SUB MENU / SETTINGS   |                         |                    | DEFAULT            |
|----------------|-----------------------|-------------------------|--------------------|--------------------|
| OPTION         | Background Color      | Logo                    |                    | Logo               |
|                |                       | Blue                    |                    |                    |
|                |                       | Black                   |                    |                    |
|                |                       | White                   |                    |                    |
|                | Hot-Key settings      | Blank Screen            |                    | Blank Screen       |
|                |                       | Aspect Ratio            |                    |                    |
|                |                       | Freeze Screen           |                    |                    |
|                |                       | Overscan                |                    |                    |
|                | Power Settings        | Standby Power Mode      | 0.5W mode          | Communication 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            |                    |
|                |                       | Sleep Timer             | No                 | No                 |
|                |                       |                         | 2 Hours            |                    |
|                |                       |                         | 4 Hours            |                    |
|                |                       |                         | 6 Hours            |                    |
|                | Light Source Settings | Light Source Mode       | Constant Power     | Constant Power     |
|                |                       |                         | Constant Luminance |                    |
|                |                       |                         | Eco Mode           |                    |
|                |                       | Constant Power Settings | 0 – 99             | 99                 |
|                | Total Projector Hours |                         |                    |                    |
|                |                       |                         |                    |                    |
|                |                       |                         |                    |                    |
|                | Light Sensor          | Default                 | Default            |                    |
|                |                       | Auto                    |                    |                    |
|                |                       | Manual                  |                    |                    |
| Information    | Model Name            |                         |                    |                    |
|                | Serial Number         |                         |                    |                    |
|                | Native Resolution     |                         |                    |                    |
|                | Firmware              |                         |                    |                    |
|                | Main Source           |                         |                    |                    |
|                | - Resolution          |                         |                    |                    |
|                | - Signal Format       |                         |                    |                    |
|                | - Pixel Clock         |                         |                    |                    |
|                | - Horz Refresh        |                         |                    |                    |
| - Vert Refresh |                       |                         |                    |                    |

| MAIN MENU | SUB MENU / SETTINGS |                       |  | DEFAULT |
|-----------|---------------------|-----------------------|--|---------|
| OPTION    | Information         | Sub Source            |  |         |
|           |                     | - Resolution          |  |         |
|           |                     | - Signal Format       |  |         |
|           |                     | - Pixel Clock         |  |         |
|           |                     | - Horz Refresh        |  |         |
|           |                     | - Vert Refresh        |  |         |
|           |                     | Light Source Mode     |  |         |
|           |                     | Total Projector Hours |  |         |
|           |                     | Standby Power Mode    |  |         |
|           |                     | IP Address            |  |         |
|           |                     | DHCP                  |  |         |
|           | Factory Reset       | Yes/No (Dialog box)   |  |         |
|           | Service             |                       |  |         |

## Picture Menu

Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **PICTURE** and press the **Enter** button to enter the **PICTURE** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.

| PICTURE |  |
|---------|--|
|         | Display Mode <span style="float: right;">Presentation</span> |
|         | Brightness <span style="float: right;">50</span>             |
| OUTPUT  | Contrast <span style="float: right;">50</span>               |
|         | Sharpness <span style="float: right;">2</span>               |
| SETUP   | Color <span style="float: right;">50</span>                  |
|         | Tint <span style="float: right;">50</span>                   |
|         | Phase <span style="float: right;">50</span>                  |
| OPTION  | Frequency <span style="float: right;">50</span>              |
|         | Horz Position <span style="float: right;">50</span>          |
|         | Vert Position <span style="float: right;">50</span>          |

| ITEM           | DESCRIPTION  |
|----------------|--|
| Display Mode   | Optimize the projector for displaying images under certain conditions, such as Presentation, Video, Bright, REC709, DICOM SIM., 2D High Speed, 3D, Blending, and user-definable preset.  |
| Brightness     | Adjust the intensity of the image.   |
| Contrast       | Adjust the degree of difference between the lightest and darkest parts of the picture and change the amount of black and white in the image.   |
| Sharpness      | Select the edge clarity of the image.  |
| Color          | Adjust a video image from black and white to fully saturated color. The color setting applies to video sources only.   |
| Tint           | Adjust the red-green color balance in the image of video images. The tint setting applies to video sources only.   |
| Phase          | Analog signals only. Adjust pixel phase when the image still shows shimmer or noise after pixel tracking is optimized. Pixel phase can adjust the phase of the pixel-sampling clock relative to the incoming signal.   |
| Frequency      | Analog signals only. Steady flickering or several soft vertical stripes or bands across the entire image indicates poor frequency. Proper frequency ensures that the image quality is consistent across the screen, the aspect ratio is maintained, and that the pixel phase can be optimized. |
| Horz Position  | Move the image right or left within the area of available pixels.  |
| Vert Position  | Move the image up or down within the area of available pixels.   |
| 3D Display     | Configure the 3D display settings. See “3D Display Menu” on page 31.   |
| HSG Adjustment | Configure the color management settings. See “HSG Adjustment Menu” on page 32.   |
| Advanced       | Configure the advanced image settings. See “Advanced Menu” on page 33.   |

### 3D Display Menu

Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **PICTURE** and press the **Enter** button to enter the **PICTURE** menu. Press the arrow keys (▲▼) to select **3D Display** and press the **Enter** button to enter the **3D Display** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.

| 3D Display |                        |
|------------|------------------------|
| PICTURE    | 3D Enable Auto         |
|            | 3D Invert Off          |
| OUTPUT     | DLP Link On            |
|            | 3D Sync Out To Emitter |
| SETUP      | Frame Delay 61         |
| OPTION     |                        |

| ITEM        | DESCRIPTION  |
|-------------|--|
| 3D Enable   | Set 3D format. Supports Mandatory 3D formats and frame sequential 3D@120Hz and 1080p@50/60Hz.  |
| 3D Invert   | Invert 3D sync signal for the application of using single projector.   |
| DLP Link    | Select 3D Sync source: <ul style="list-style-type: none"> <li>• On: 3D Sync type is DLP link.</li> <li>• Off: 3D Sync source is from the <b>3D SYNC OUT</b> port.</li> </ul> |
| 3D Sync Out | Transmits a 3D sync signal by the 3D sync output corrector to the emitter or to the next projector for 3D blending purposes.   |
| Frame Delay | Corrects asynchronous displaying of images under 3D blending.  |

### HSG Adjustment Menu

Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **PICTURE** and press the **Enter** button to enter the **PICTURE** menu. Press the arrow keys (▲▼) to select **HSG Adjustment** and press the **Enter** button to enter the **HSG Adjustment** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.

| PICTURE |  | HSG Adjustment    |     |
|---------|--|-------------------|-----|
|         |  | HSG Enable        | On  |
|         |  | Auto Test Pattern | On  |
| OUTPUT  |  | Red H.            | 254 |
|         |  | Red S.            | 0   |
|         |  | Red G.            | 0   |
| SETUP   |  | Green H.          | 254 |
|         |  | Green S.          | 0   |
|         |  | Green G.          | 0   |
| OPTION  |  | Blue H.           | 254 |
|         |  | Blue S.           | 0   |

| ITEM   | DESCRIPTION  |
|--|--|
| HSG Enable   | Enable/Disable the HSG adjustment function.  |
| Auto Test Pattern  | Set to "On" to enable displaying a test pattern for the target color or set to "Off" to disable the auto test pattern. |
| Red H. / Green H. /<br>Blue H. / Cyan H. /<br>Magenta H. / Yellow H. | Adjust the hue of the red, green, blue, cyan, magenta, or yellow channel of the image.                                 |
| Red S. / Green S. /<br>Blue S. / Cyan S. / Magenta<br>S. / Yellow S. | Adjust the saturation of the red, green, blue, cyan, magenta, or yellow channel of the image.                          |
| Red G. / Green G. /<br>Blue G. / Cyan G. /<br>Magenta G. / Yellow G. | Adjust the gain of the red, green, blue, cyan, magenta, or yellow channel of the image.                                |
| White R Gain /<br>White G Gain /<br>White B Gain                     | Adjust the white balance of the red, green, or blue channel of the image.  |
| Reset to Default   | Reset the hue, saturation, gain, and white balance adjustments to the factory defaults.                                |



## Advanced Menu

Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **PICTURE** and press the **Enter** button to enter the **PICTURE** menu. Press the arrow keys (▲▼) to select **Advanced** and press the **Enter** button to enter the **Advanced** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.

| Advanced |                          |
|----------|--------------------------|
| PICTURE  | White Peaking 100        |
|          | Gamma Bright             |
| OUTPUT   | Color Temperature Bright |
|          | Color Space RGB          |
|          | Color Settings           |
| SETUP    | Color Enhancement 0      |
|          | Color Wheel Speed 2X     |
| OPTION   | Film Mode Off            |
|          | Extreme Black Off        |
|          | DynamicBlack™ Off        |

| ITEM              | DESCRIPTION   |
|-------------------|---|
| White Peaking     | (Video source only) Increase the brightness of whites that are near 100%.   |
| Gamma             | Select the appropriate gamma from Video, Film, Bright, CRT, DICOM, and Gamma2.2.  |
| Color Temperature | Change the intensity of the colors.   |
| Color Space       | Select a color space that has been specifically tuned for the input signal. Use only for analog signals and certain digital sources.  |
| Color Settings    | Adjust the gain of the red, green, or blue channel of the image. It will affect the black and white.<br>Adjust the offset of the red, green, or blue channel of the image. It will affect the black and white.<br>Reset RGB gain/offset to return the factory default settings for color adjustments. |
| Color Enhancement | The Color Enhancement control can 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.   |
| Film Mode         | Control film mode detection and determine whether the original source of the input video was film or video.   |
| Extreme Black     | 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.  |
| DynamicBlack™     | Enable or disable the dynamic black function. Enable this function raises the contrast ratio dynamically.   |

## Output Menu

Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **OUTPUT** and press the **Enter** button to enter the **OUTPUT** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.

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

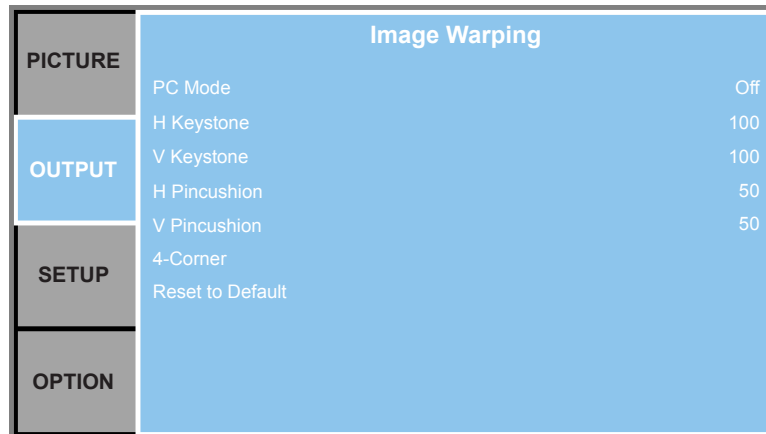
| ITEM            | DESCRIPTION  |
|-----------------|--|
| Aspect Ratio    | Display an image with the detected size, or resize the image by maximizing either the height, width or both, or resize to the maximum size possible while keeping the original aspect ratio. |
| Overscan        | Remove noise around the image. Overscan Zoom enlarges image 3% from original size. Overscan Crop cuts 3% of active pixels in four edges of original image.                                   |
| 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 setting.                     |
| 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 V Digital Shift setting.                       |
| H Digital Shift | Move the display area horizontally if its size has been changed by the H Digital Zoom setting.   |
| V Digital Shift | Move the display area vertically if its size has been changed by the V Digital Zoom setting.   |
| Image Warping   | Configure the image warping settings. See "Image Warping Menu" on page 35.   |
| PIP/PBP         | Configure the PIP/PBP settings. See "PIP/PBP Menu" on page 36.   |


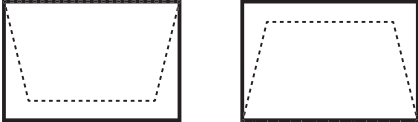
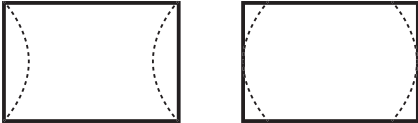
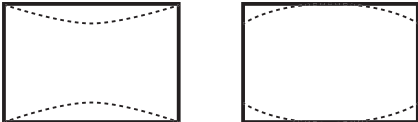
**Note:**

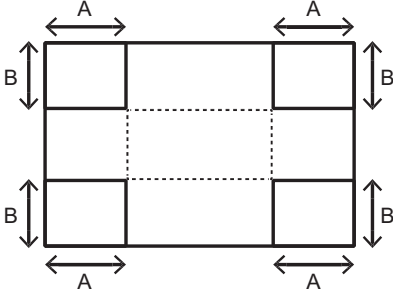
- If 16:9 aspect ratio is selected and input resolution is 1600x1200, the screen resolution will be automatically switched to 1600x900.
- If Auto is selected and input signal is 16:9, screen type will auto become (1920x1200).
- If Native is selected, the screen will automatically become 1:1 mapping centered.

### Image Warping Menu

Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **OUTPUT** and press the **Enter** button to enter the **OUTPUT** menu. Press the arrow keys (▲▼) to select **Image Warping** and press the **Enter** button to enter the **Image Warping** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.

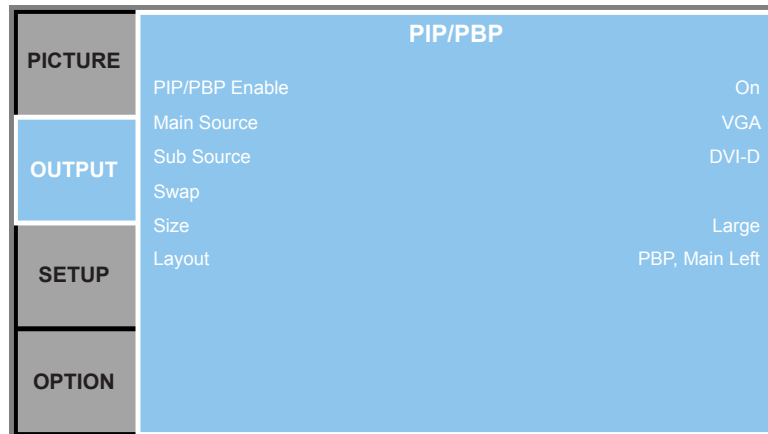


| ITEM         | DESCRIPTION  |
|--------------|--|
| PC Mode      | Enable PC software to control geometry.  |
| H Keystone   | Adjust the keystone horizontally and make a squarer image.<br>Horizontal keystone is used to correct a keystone image shape in which the left and right borders of the image are unequal in length. This is intended for use with horizontally on-axis applications.<br> |
| V Keystone   | Adjust the keystone vertically and make a squarer image.<br>Vertical keystone is used to correct a keystone 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.<br>             |
| H Pincushion | Adjust the pincushion horizontally and make a more square image.<br>   |
| V Pincushion | Adjust the pincushion vertically and make a more square image.<br>   |

| ITEM             | DESCRIPTION   |
|------------------|---|
| 4-Corner         | <p>Allow the image to be squeezed to fit an area defined by moving each of the four corners' x and y position.</p>  |
| Reset to Default | Reset image warping settings back to original setting.  |

### PIP/PBP Menu

Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **OUTPUT** and press the **Enter** button to enter the **OUTPUT** menu. Press the arrow keys (▲▼) to select **PIP/PBP** and press the **Enter** button to enter the **PIP/PBP** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.



| ITEM           | DESCRIPTION  |
|----------------|--|
| 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. See "PIP/PBP active input table." on page 37. |
| Sub Source     | From the list of active inputs, select one to be used as the PIP/PBP. See "PIP/PBP active input table." on page 37.    |
| Swap           | Change the main image to PIP/PBP, and the PIP/PBP to main image. Swapping is available only when PIP/PBP is enabled.   |
| Size           | Select the PIP/PBP size. Available options: Small, Medium, or Large.   |
| Layout         | Set the location of the PIP/PBP image on the screen.   |

PIP/PBP layout and size table as described below.

- P : indicates primary source region (lighter color).
- \* : Both source regions are the same size.

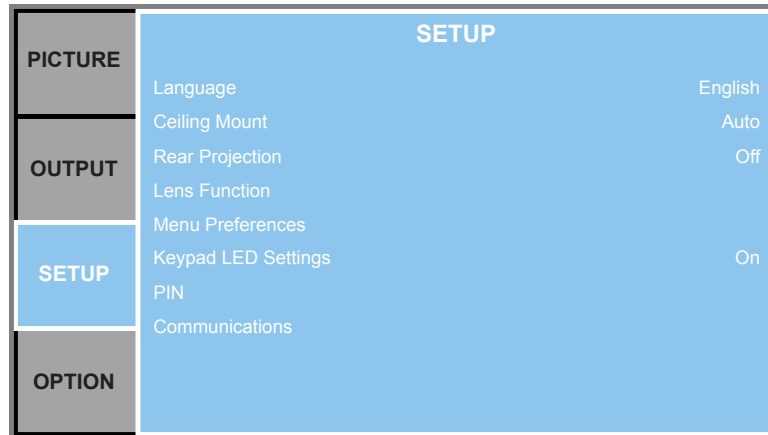
| PIP/PBP LAYOUT   | PIP/PBP SIZE |        |       |
|------------------|--------------|--------|-------|
|                  | SMALL        | MEDIUM | LARGE |
| PBP, Main Left   |              |        |       |
| PBP, Main Top    |              |        |       |
| PBP, Main Right  |              |        |       |
| PBP, Main Bottom |              |        |       |
| PIP-Bottom Right |              |        |       |
| PIP-Bottom Left  |              |        |       |
| PIP-Top Left     |              |        |       |
| PIP-Top Right    |              |        |       |

PIP/PBP active input table.

| PIP/PBP MATRIX | HDMI | HDBASET | LAN | DVI-D | VGA | 3G-SDI |
|----------------|------|---------|-----|-------|-----|--------|
| HDMI           | —    | —       | —   | V     | V   | V      |
| HDBaseT        | —    | —       | —   | V     | V   | V      |
| LAN(Presenter) | —    | —       | —   | V     | V   | V      |
| DVI-D          | V    | V       | V   | —     | —   | —      |
| VGA            | V    | V       | V   | —     | —   | —      |
| 3G-SDI         | V    | V       | V   | —     | —   | —      |

## Setup Menu

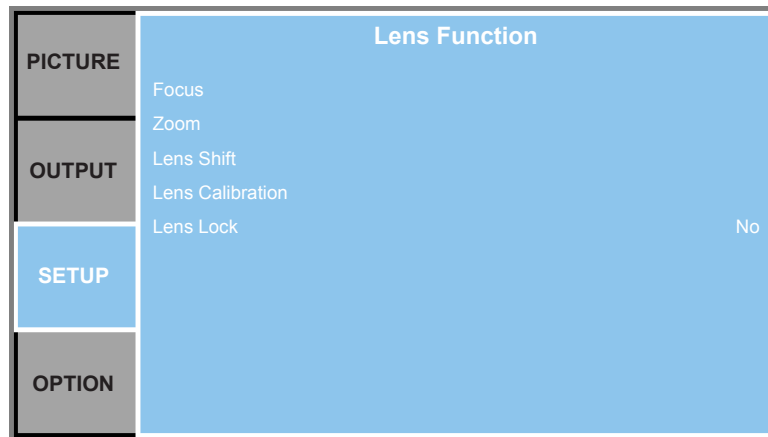
Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **SETUP** and press the **Enter** button to enter the **SETUP** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.



| ITEM                | DESCRIPTION  |
|---------------------|--|
| Language            | This item allows you to 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 Menu" on page 39.       |
| Menu Preferences    | Configure the menu preferences settings. See "Menu Preferences Menu" on page 40. |
| Keypad LED Settings | Turn the backlight of keypad on/off.   |
| PIN                 | Configure the PIN settings. See "PIN Menu" on page 41.                           |
| Communications      | Configure the communications settings. See "Communications Menu" on page 42.     |

### Lens Function Menu

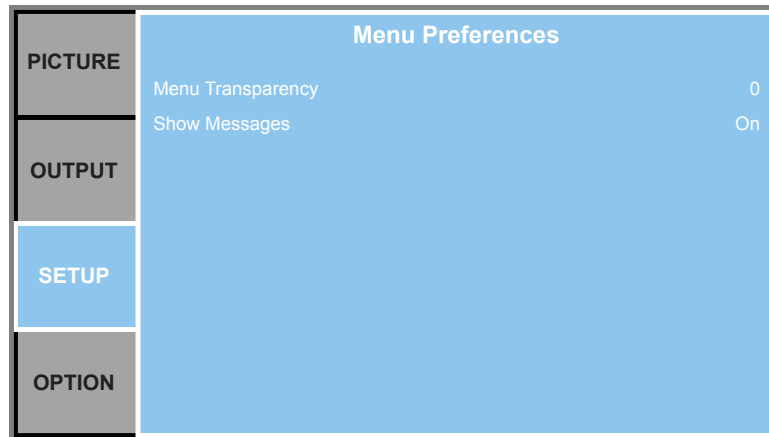
Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **SETUP** and press the **Enter** button to enter the **SETUP** menu. Press the arrow keys (▲▼) to select **Lens Function** and press the **Enter** button to enter the **Lens Function** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.



| ITEM             | DESCRIPTION   |
|------------------|---|
| 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. <ul style="list-style-type: none"> <li>• Yes: Lens shift will be locked.</li> <li>• No: Lens shift can be used by user.</li> </ul> |

### Menu Preferences Menu

Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **SETUP** and press the **Enter** button to enter the **SETUP** menu. Press the arrow keys (▲▼) to select **Menu Preferences** and press the **Enter** button to enter the **Menu Preferences** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.

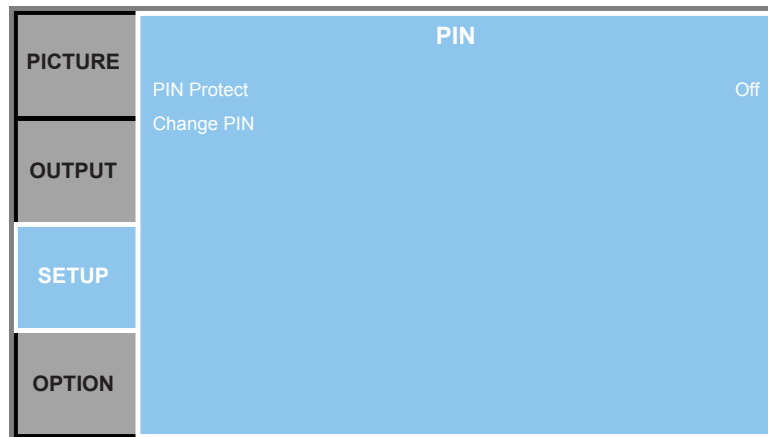


| ITEM              | DESCRIPTION                                   |
|-------------------|---|
| Menu Transparency | Change OSD menu background to be transparent. |
| Show Messages     | Display status messages on the screen.        |



### PIN Menu

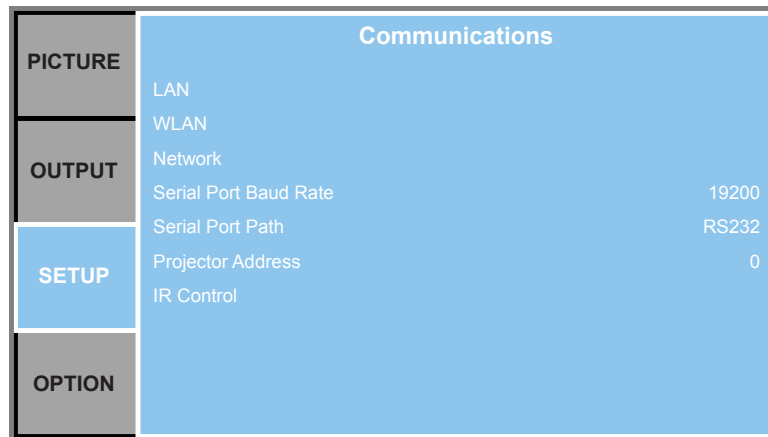
Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **SETUP** and press the **Enter** button to enter the **SETUP** menu. Press the arrow keys (▲▼) to select **PIN** and press the **Enter** button to enter the **PIN** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.



| ITEM        | DESCRIPTION   |
|-------------|---|
| PIN Protect | The PIN (personal identification number) feature allows you to protect your projector by setting a password. 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.   |

### Communications Menu

Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **SETUP** and press the **Enter** button to enter the **SETUP** menu. Press the arrow keys (▲▼) to select **Communications** and press the **Enter** button to enter the **Communications** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.



| ITEM                  | DESCRIPTION  |
|-----------------------|--|
| LAN                   | Configure the local area network (LAN) settings. <ul style="list-style-type: none"> <li>• DHCP: Turn the DHCP ON/OFF.</li> <li>• IP Address: Assign Network IP Address.</li> <li>• Subnet Mask: Assign Network Subnet Mask.</li> <li>• Default Gateway: Assign Network Default Gateway.</li> <li>• MAC Address: Display the network MAC Address value.</li> <li>• Apply: Apply Network settings.</li> </ul>  |
| WLAN                  | Configure the wireless local area network (WLAN) settings. <ul style="list-style-type: none"> <li>• Enable: Enable/Disable WLAN.</li> <li>• Start IP: Start of IP Address.</li> <li>• End IP: End of IP Address.</li> <li>• Subnet Mask: Assign Network Subnet Mask.</li> <li>• Default Gateway: Assign Network Default Gateway.</li> <li>• MAC Address: Display network MAC Address value.</li> <li>• SSID: Assign Network Service Set Identifier.</li> </ul> |
| Network               | Configure the general network settings. <ul style="list-style-type: none"> <li>• Projector Name: Display the projector hostname for Network.</li> <li>• Restart Network: Restart the network.</li> <li>• Network Factory Reset: Perform factory reset on the network settings. The Projector Name and network configuration settings will be reset.</li> </ul>   |
| Serial Port Baud Rate | Select the serial port its baud rate.  |
| 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.   |

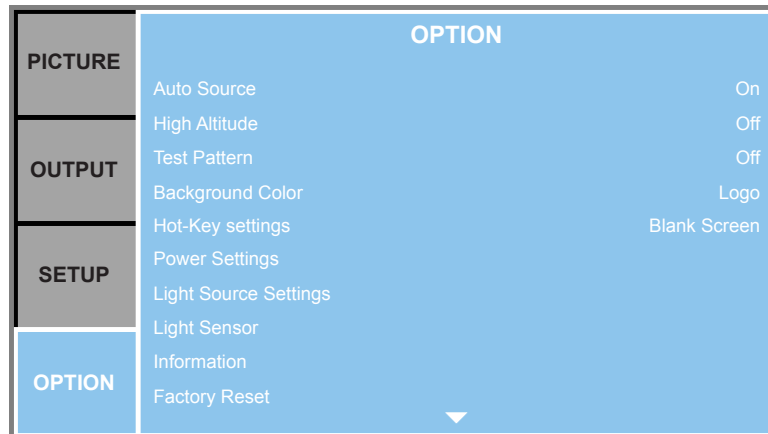
| ITEM       | DESCRIPTION |  |
|------------|-------------|--|
| IR Control | Front:      | ON: Enable the Front IR Sensor.<br>OFF: Disable the Front IR Sensor.                             |
|            | Top         | ON: Enable the Top IR Sensor.<br>OFF: Disable the Top IR Sensor.                                 |
|            | HDBaseT*    | ON: Enable control signal via HDBaseT device.<br>OFF: Disable control signal via HDBaseT device. |

**\*Note:**

- *Change the setting ON / OFF depending on the device, if IR remote control of the projector does not work.*

## Option Menu

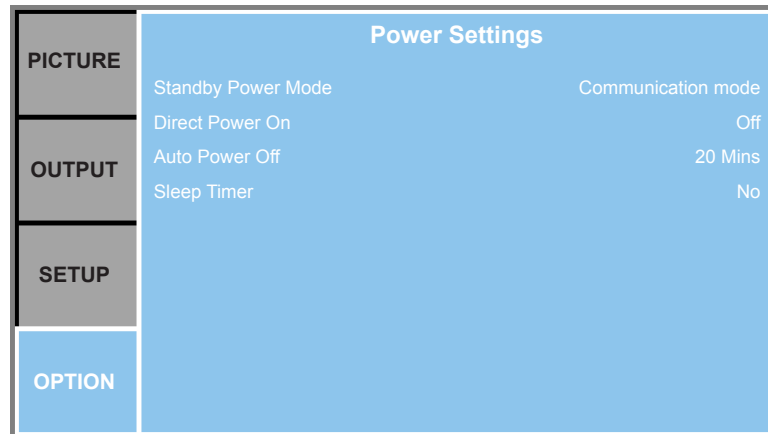
Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **OPTION** and press the **Enter** button to enter the **OPTION** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.



| ITEM                  | DESCRIPTION   |
|-----------------------|---|
| Auto Source           | Select "On" to allow the projector to search for other signals if the current input signal is lost. When the setting is disabled, 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 <b>Pattern</b> button 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 <b>Enter</b> 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 Menu" on page 45.   |
| Light Source Settings | Configure the light source settings. See "Light Source Settings Menu" on page 46.   |
| Light Sensor          | Set the light sensor calibration to "Auto", "Manual", or "Default". <ul style="list-style-type: none"> <li>• Default: Light sensor is calibrated at the cooling stage.</li> <li>• Auto: Light sensor is calibrated every 168 hours.</li> <li>• Manual: Calibrate light sensor manually.</li> </ul>                    |
| 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.<br><b>WARNING: After resetting, lens calibration is necessary.</b>  |
| Service               | For service only.   |

## Power Settings Menu

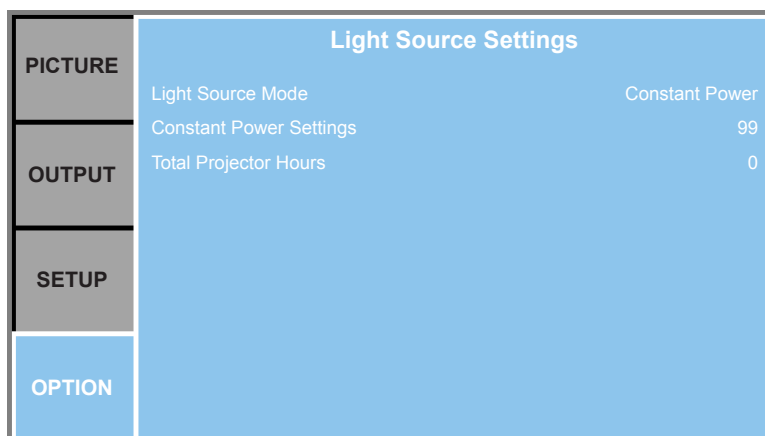
Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **OPTION** and press the **Enter** button to enter the **OPTION** menu. Press the arrow keys (▲▼) to select **Power Settings** and press the **Enter** button to enter the **Power Settings** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.



| ITEM               | DESCRIPTION  |
|--------------------|--|
| Standby Power Mode | Set the standby power mode. <ul style="list-style-type: none"> <li>0.5W mode: The projector is in standby mode when connected to AC power. (&lt;0.5W)</li> <li>Communication mode: The projector could be controlled via the LAN terminal during power standby.</li> </ul> |
| Direct Power On    | The projector automatically turns on when electrical power is connected.   |
| Auto Power Off     | Automatically turns the projector off after no signals are detected for a preset number of minutes. If an active signal is received before the projector powers down, the image will be displayed.   |
| Sleep Timer        | This item allows the projector to automatically power off after it has been on for a specified amount of time.   |

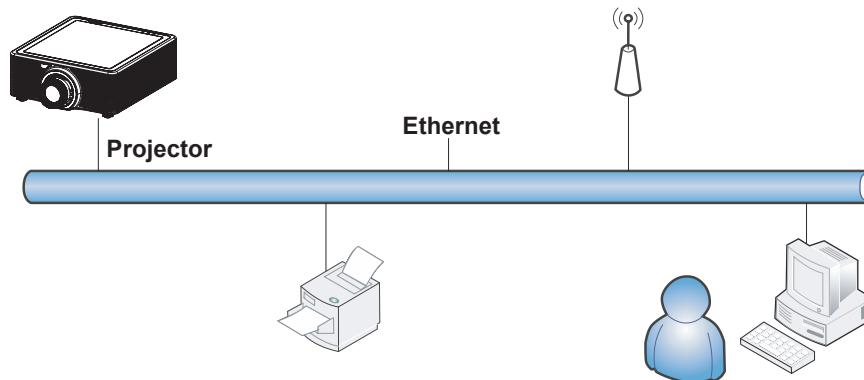
### Light Source Settings Menu

Press the **Menu** button to open the OSD menu. Press the arrow keys (▲▼) to select **OPTION** and press the **Enter** button to enter the **OPTION** menu. Press the arrow keys (▲▼) to select **Light Source Settings** and press the **Enter** button to enter the **Light Source Settings** menu. Press the arrow keys (▲▼) to select the menu option and press the **Enter** button to enter its submenu. Press the arrow keys (▲▼◀▶) to select or adjust the desired settings and press the **Enter** button to confirm.



| ITEM                    | DESCRIPTION   |
|-------------------------|---|
| Light Source Mode       | Select <b>Constant Power</b> , <b>Constant Luminance</b> , or <b>Eco Mode</b> . When in <b>Eco Mode</b> , 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).<br><br><b>Note:</b><br><ul style="list-style-type: none"> <li>This can be used for Constant Luminance. Set the value of light source power in Constant Power and change Light Source Mode to Constant Luminance to lock at current brightness.</li> </ul> |
| Total Projector Hours   | Display the projection time.  |

## Control Your Projector Using Web Browser



### Wired LAN Terminal functionalities

Remote control and monitoring of a projector from a PC (or Laptop) via wired LAN is also possible. Compatibility with Crestron control boxes enables not only collective projector management on a network but also management from a control panel on a PC (or Laptop) browser screen.

- Crestron is a registered trademark of Crestron Electronics, Inc. of the United States.

### Supported External Devices

This projector is supported by the specified commands of the Crestron Electronics controller and related software (ex, RoomView®).

<http://www.crestron.com/>

The projector supports AMX and PJ-Link as well.

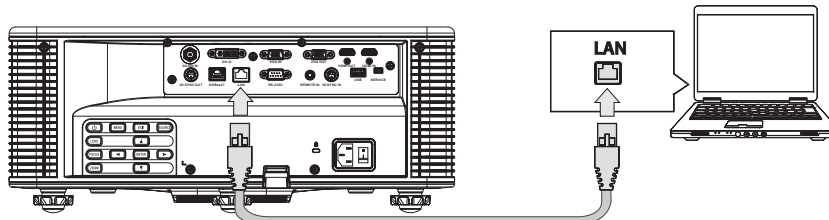
<http://www.amx.com/>

<http://pjlink.jbmia.or.jp/>

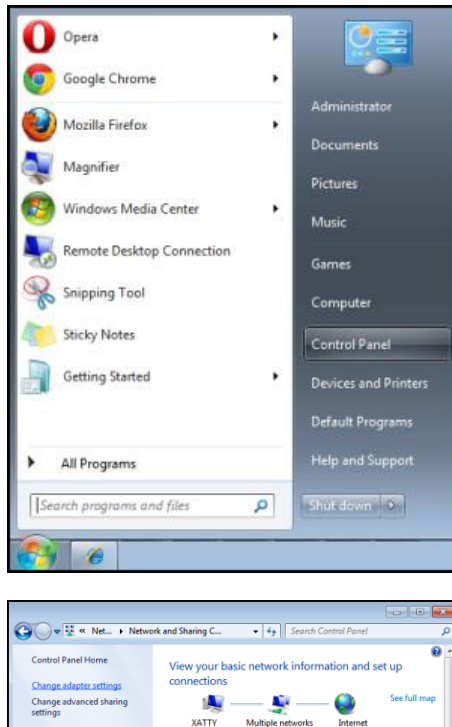
For more detail of information about the diverse types of external devices which can be connected to the Ethernet port and remote/control the projector, as well as the related control commands supporting for each external device, kindly please get contact with the Support-Service team directly.

### LAN\_RJ45

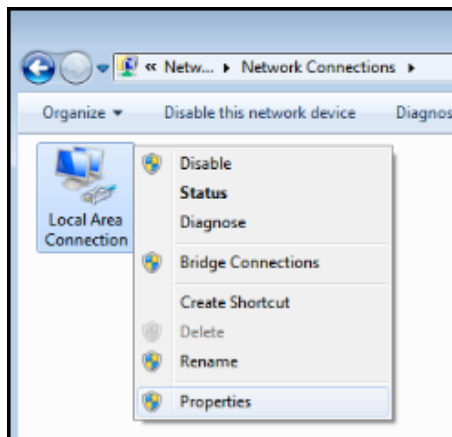
1. Connect an RJ45 cable to Ethernet port on the projector and the PC (Laptop).



2. On the PC (Laptop), select **Start** → **Control Panel** → **Network and Internet**.



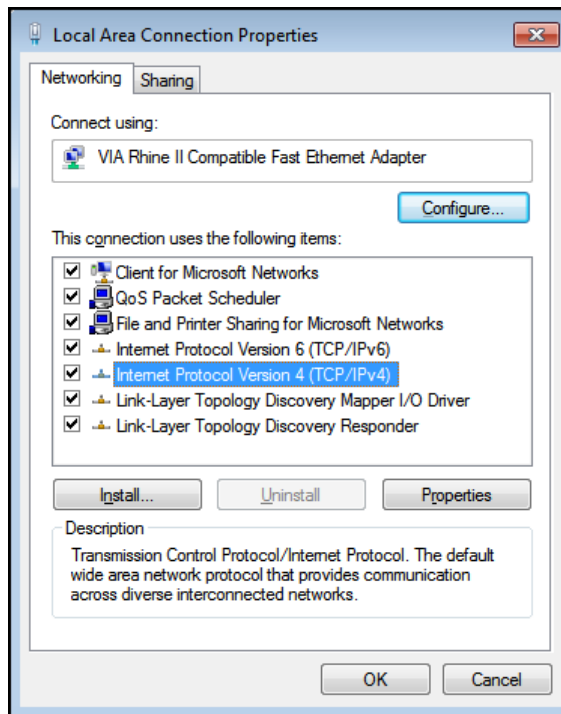
3. Right-click on **Local Area Connection**, and select **Properties**.



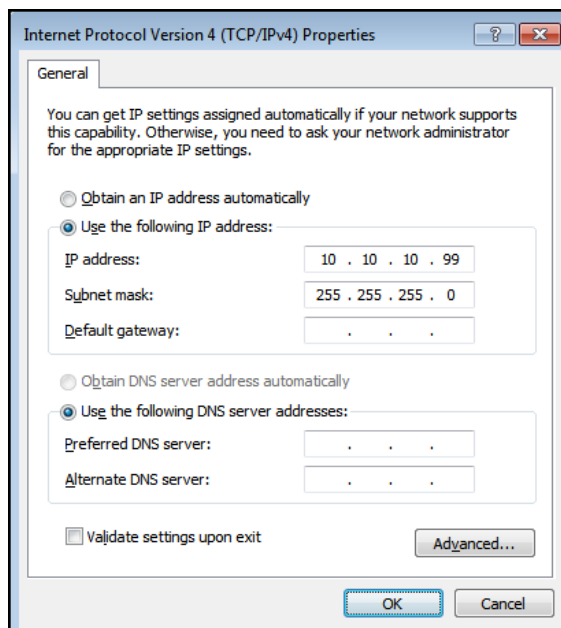
4. In the **Properties** window, select the **Networking** tab, and select **Internet Protocol Version 4 (TCP/IPv4)**.



5. Click **Properties**.



6. Click **Use the following IP address** and fill in the IP address and Subnet mask, then click **OK**.



7. Press the **Menu** button on the projector.

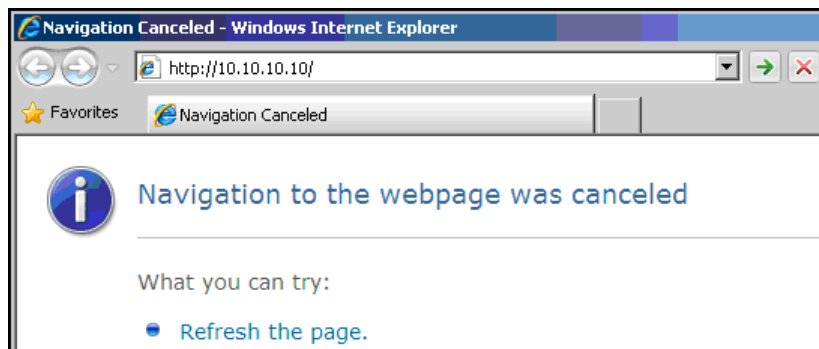
8. Select **SETUP** → **Communications** → **LAN**.

**9.** After getting into **LAN**, input the following:

- DHCP: Off
- IP Address: 10.10.10.10
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0

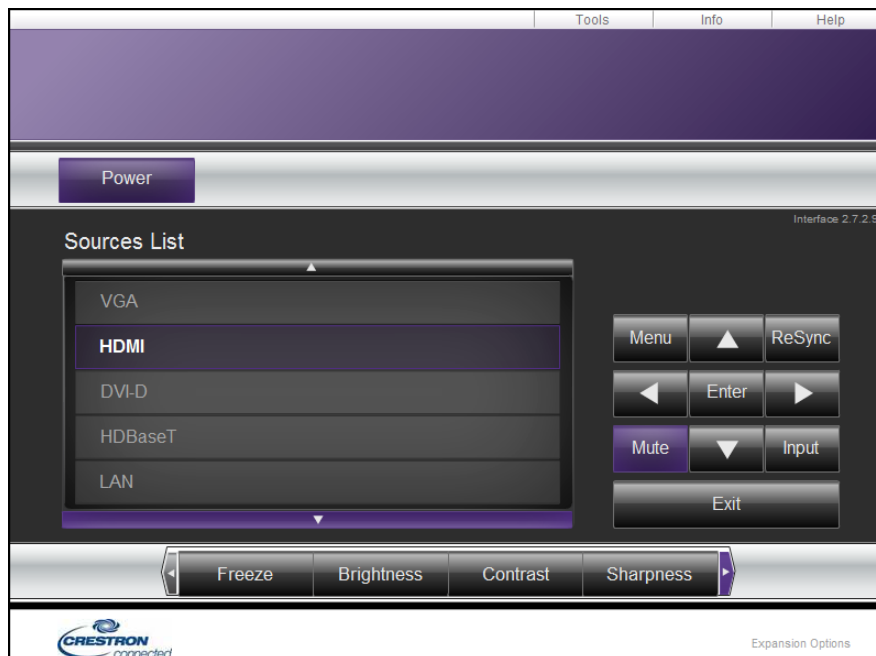
**10.** Select the **Apply** → **Yes** to confirm the settings, and then wait until finished.

**11.** Open a web browser (for example, Microsoft Internet Explorer with Adobe Flash Player 9.0 or higher). In the Address bar, input the IP address: 10.10.10.10.



**12.** Press the **Enter** / ► button.

The projector is setup for remote management. The LAN/RJ45 function displays as follows.



The screenshot shows a web interface with a purple header bar containing 'Tools', 'Info', and 'Help' links. Below the header, there are five main configuration sections:

- Crestron Control:** IP Address (192.168.0.2), IP ID (5), Port (41794). Includes a 'Send' button.
- Projector:** Projector Name (SSID@767110030), Location (Room), Assigned To (EK-820U). Includes a 'Send' button.
- Network Configuration:** DHCP (Enabled checkbox), IP Address (192.168.0.100), Subnet Mask (255.255.255.0), Default Gateway (192.168.0.100). Includes a 'Send' button.
- User Password:** Enabled checkbox, New Password field, Confirm field. Includes a 'Send' button.
- Admin Password:** Enabled checkbox, New Password field, Confirm field. Includes a 'Send' button.

At the bottom center is a large black 'Exit' button. The footer contains the 'CRESTRON connected' logo on the left and 'Expansion Options' on the right.

| CATEGORY              | ITEM            | INPUT-LENGTH |
|-----------------------|-----------------|--------------|
| Crestron Control      | IP Address      | 15           |
|                       | IP ID           | 3            |
|                       | Port            | 5            |
| Projector             | Projector Name  | 10           |
|                       | Location        | 10           |
|                       | Assigned To     | 10           |
| Network Configuration | DHCP (Enabled)  | (N/A)        |
|                       | IP Address      | 15           |
|                       | Subnet Mask     | 15           |
|                       | Default Gateway | 15           |
| User Password         | Enabled         | (N/A)        |
|                       | New Password    | 10           |
|                       | Confirm         | 10           |
| Admin Password        | Enabled         | (N/A)        |
|                       | New Password    | 10           |
|                       | Confirm         | 10           |

For more information, please visit <http://www.crestron.com>.

### Warping & Blending function

The Warping & Blending application software and its manual can be downloaded from EIKI website.

### Presentation function

The presenter application software and its manual can be downloaded from EIKI website.

URL: <http://www.eiki.com>

### RS232 by Telnet Function

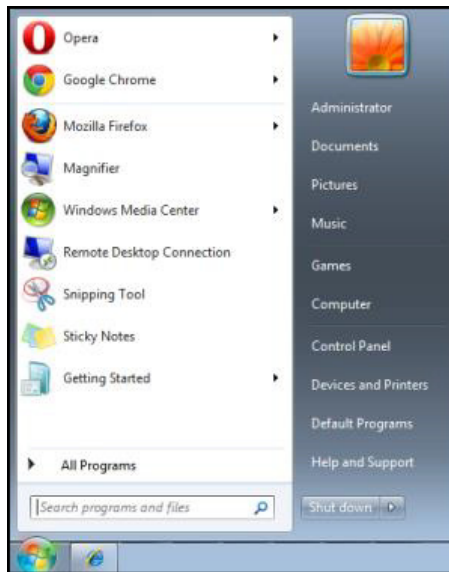
Besides projector connected to RS232 interface with “Hyper-Terminal” communication by dedicated RS232 command control, there is alternative RS232 command control way, so called “RS232 by TELNET” for LAN/RJ45 interface.

#### **Quick Start-Guide for “RS232 by TELNET”**

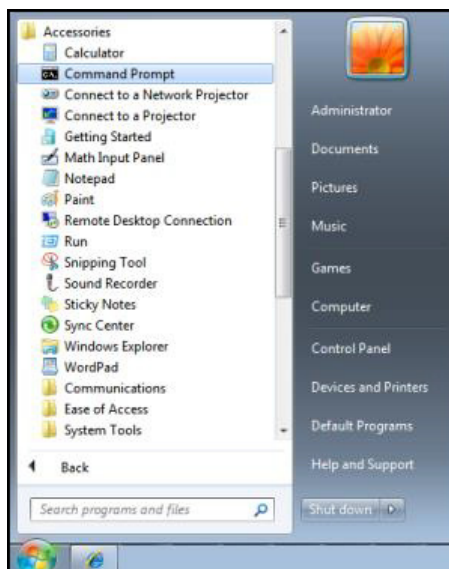
Check and get the IP-Address on OSD of the projector.

Make sure that laptop/PC can access the web-page of the projector.

Make sure that “Windows Firewall” setting to be disabled in case of “TELNET” function filtering out by laptop/PC.



**Start → All Programs → Accessories → Command Prompt**



Input the command format like the below:

**telnet ttt.xxx.yyy.zzz 3023** (the **Enter** button is pressed)

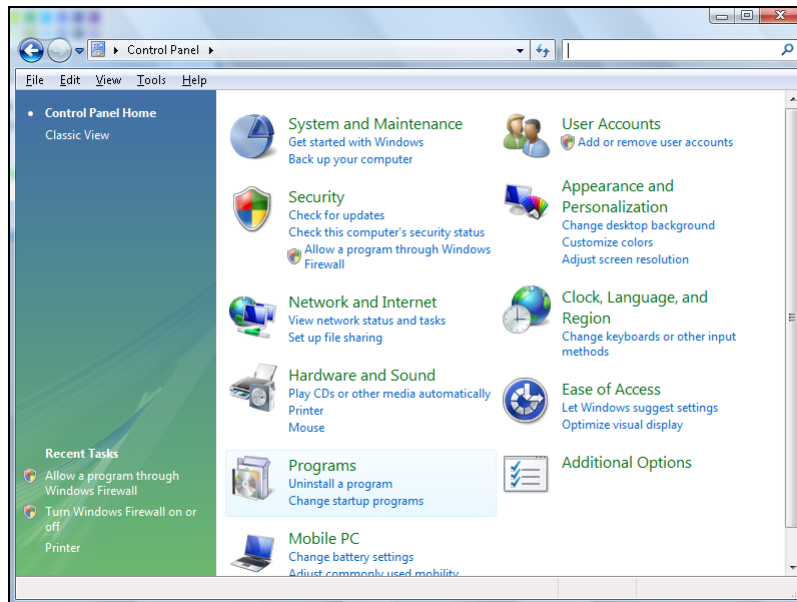
(**ttt.xxx.yyy.zzz**: IP-Address of the projector)

If Telnet-Connection ready, and user can have RS232 command input, then press the **Enter** button, the RS232 command will be workable.

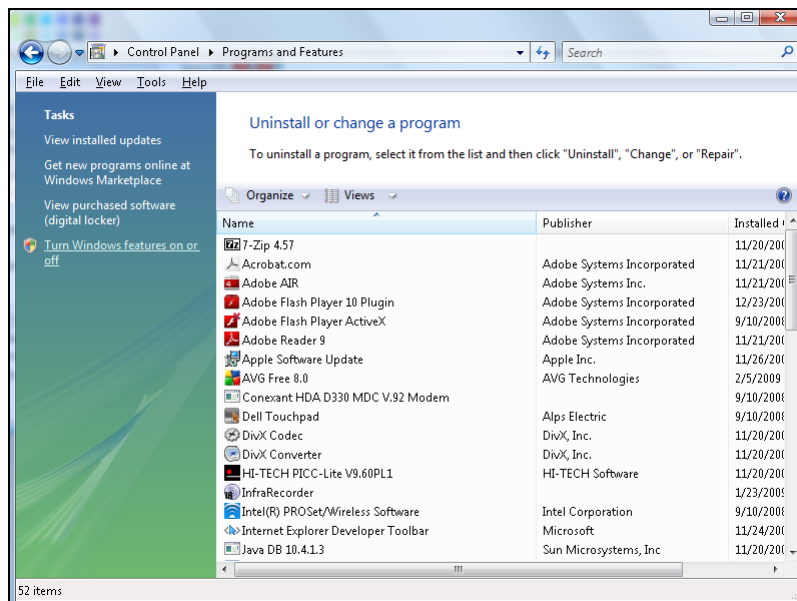
### How to have TELNET enabled in Windows VISTA / 7

By default installation for Windows VISTA, "TELNET" function is not included. But end-user can have it by way of "Turn Windows features On or Off" to be enabled.

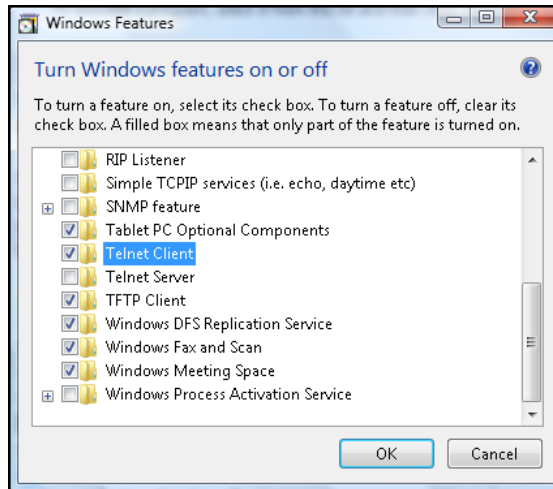
1. Open "Control Panel" in Windows VISTA.



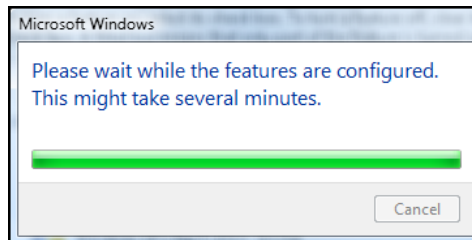
2. Open "Programs".



3. Select “Turn Windows features on or off” to open.



4. Have “Telnet Client” option checked, then click **OK**.



#### **Specsheet for “RS232 by TELNET”:**

1. Telnet: TCP
2. Telnet port: 3023  
(for more detail, kindly please get contact with the service agent or team)
3. Telnet utility: Windows “TELNET.exe” (console mode)
4. Disconnection for RS232-by-Telnet control normally: Close Windows Telnet utility directly after TELNET connection ready.
5. Limitation 1 for Telnet-Control: there is less than 50 bytes for successive network payload for Telnet-Control application.  
Limitation 2 for Telnet-Control: there is less than 31 bytes for one complete RS232 command for Telnet-Control.  
Limitation 3 for Telnet-Control: Minimum delay for next RS232 command must be more than 200 (ms).  
(\* , In Windows built-in “TELNET.exe” utility, pressing the **Enter** button will create a “Carriage-Return” and “New-Line” code.)

## MAINTENANCE AND SECURITY



### Replacing the Projection Lens

Perform the following to replace the projection lens:

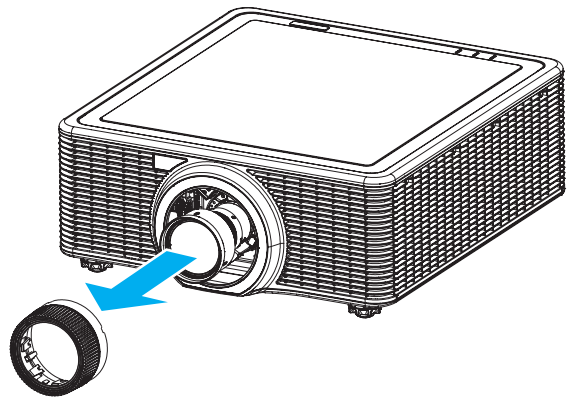
1. Center the lens. Use the **Lens H** or **Lens V** button (on the remote control) to adjust the lens at its center position.

**Important:**

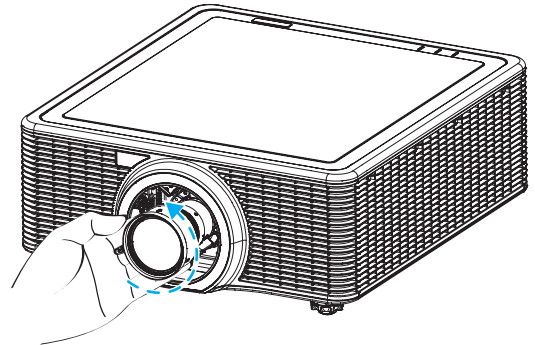
- Ensure that the lens is at or near its center position.
- Attempting to remove the lens when at a large offset may cause damage to the lens assembly.

2. Press “” on the built-in keypad or press “” on the remote control twice to turn off the projector after cooling down.

3. Remove the lens cover from the lens.

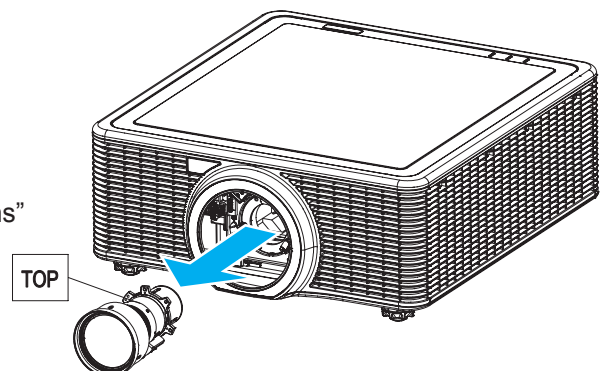


4. Rotate the lens counter-clockwise to disengage it from the lens mount.



5. Remove the lens out of the lens mount.

6. With the label “TOP” on the lens assembly facing up, install the new lens. See “Installing the Projection Lens” on page 10.



## **Cleaning the Projector**

Cleaning the projector to remove dust and grime will help ensure trouble-free operation.

**Warning:**

- *Be sure to turn off and unplug the projector at least 30 minutes before cleaning. Failure to do so could result in a severe burn.*
- *Use only a dampened cloth when cleaning. Do not allow water to enter the ventilation openings on the projector.*
- *If a little water gets into the projector interior while cleaning, leave unplugged in a well-ventilated room for several hours before using.*
- *If a lot of water gets into the projector interior when cleaning, have the projector serviced.*

### *Cleaning the Lens*

You can purchase Optical lens cleaner from most camera stores. Refer to the following to clean the projector lens.

- 1.** Apply a little Optical lens cleaner to a clean soft cloth. (Do not apply the cleaner directly to the lens.)
- 2.** Lightly wipe the lens in a circular motion.

**Caution:**

- *Do not use abrasive cleaners or solvents.*
- *To prevent discoloration or fading, avoid getting cleaner on the projector case.*

### *Cleaning the Case*

Refer to the following to clean the projector case.

- 1.** Wipe off dust with a clean dampened cloth.
- 2.** Moisten the cloth with warm water and mild detergent (such as used to wash dishes), and then wipe the case.
- 3.** Rinse all detergent from the cloth and wipe the projector again.

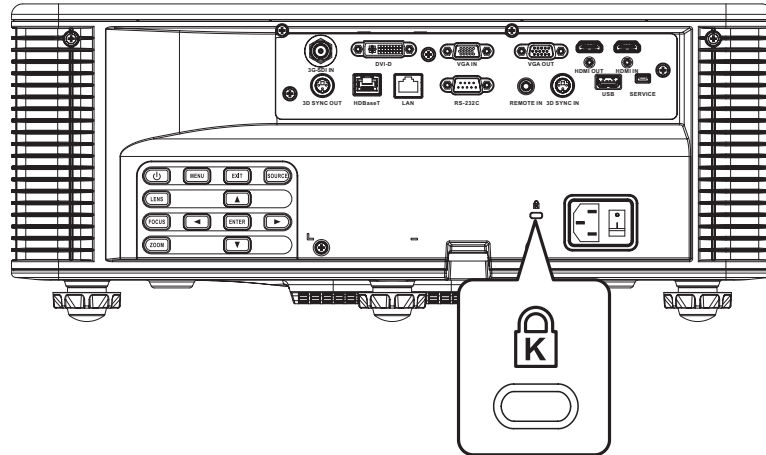
**Caution:**

*To prevent discoloration or fading of the case, do not use abrasive alcohol-based cleaners.*



## Using the Kensington® Lock

If you are concerned about security, attach the projector to a permanent object with the Kensington slot and a security cable.



**Note:**

Contact your vendor for details on purchasing a suitable Kensington security cable. The security lock corresponds to Kensington's MicroSaver Security System. If you have any comment, contact: Kensington, 2853 Campus Drive, San Mateo, CA 94403, U.S.A. Tel: 800-535-4242, <http://www.Kensington.com>.

## **Common Problems and Solutions**

These guidelines provide tips to deal with problems you may encounter while using the projector. If the problem remains unsolved, contact your dealer for assistance.

Often after time spent troubleshooting, the problem is traced to something as simple as a loose connection. Check the following before proceeding to the problem-specific solutions.

- Use some other electrical device to confirm that the electrical outlet is working.
- Ensure the projector is turned on.
- Ensure all connections are securely attached.
- Ensure the attached device is turned on.
- Ensure a connected PC is not in suspending mode.
- Ensure a connected notebook computer is configured for an external display. (This is usually done by pressing an Fn-key combination on the notebook.)

## **Tips for Troubleshooting**

- In each problem-specific section, try the steps in the order suggested. This may help you to solve the problem more quickly.
- Try to pin point the problem and thus avoid replacing non-defective parts. For example, if you replace batteries and the problem remains, put the original batteries back and go to the next step.
- Keep a record of the steps you take when troubleshooting: The information may be useful when calling for technical support or for passing on to service personnel.

## LED Error Messages

The LED status indicators are located on the top of the projector. Each LED is defined below.

| MESSAGE                                | LIGHT LED |        |     | STATUS LED |          |          | AV MUTE LED |        |
|--|-----------|--------|-----|------------|----------|----------|-------------|--------|
|  | GREEN     | ORANGE | RED | GREEN      | ORANGE   | RED      | GREEN       | ORANGE |
| Standby State                          | -         | -      | -   | Flashing   | -        | -        | -           | -      |
| Power on<br>(Warm up)                  | -         | -      | -   | -          | Flashing | -        | -           | -      |
| Power on &<br>Laser diode on           | Steady    | -      | -   | Steady     | -        | -        | Steady      | -      |
| Power off<br>(Cooling down)            | -         | -      | -   | -          | Flashing | -        | -           | -      |
| AV mute is off<br>(Image is displayed) | Steady    | -      | -   | Steady     | -        | -        | Steady      | -      |
| AV mute is on<br>(Image is black)      | Steady    | -      | -   | Steady     | -        | -        | -           | Steady |
| Projector<br>communication             | Steady    | -      | -   | Flashing   | -        | -        | Steady      | -      |
| Firmware upgrade                       | -         | -      | -   | Flashing   | Flashing | -        | -           | -      |
| Error<br>(Over temperature)            | -         | -      | -   | -          | -        | Steady   | -           | -      |
| Error<br>(Fan failure)                 | -         | -      | -   | -          | -        | Flashing | -           | -      |

## Image Problems

***Problem: No image appears on the screen***

1. Verify the settings on your notebook or desktop PC.
2. Turn off all equipment and power on again in the correct order.

***Problem: The image is blurred***

1. Press the **Focus** button to adjust the focus on the projector.
2. Press the **Auto** button on the remote control to automatically optimize image.
3. Ensure the projector-to-screen distance is within the specified range.
4. Check that the projector lens is clean.

***Problem: The image is wider at the top or bottom (trapezoid effect)***

1. Position the projector so it is as perpendicular to the screen as possible.
2. Press the **Keystone H** or **Keystone V** button on the remote control to correct the problem.

***Problem: The image is reversed***

Check the **Rear Projection** on the **Setup** menu of the OSD.

***Problem: The image is streaked***

1. Set the **Phase** and **Frequency** settings on the **Picture** menu of the OSD to the default settings.
2. Ensure the problem is not caused by a connected PC's video card, connect to another computer.

***Problem: The image is flat with no contrast***

Adjust the **Contrast** setting on the **Picture** menu of the OSD.

***Problem: The color of the projected image does not match the source image***



Adjust the **Color Temperature** and **Gamma** settings on the **Picture > Advanced** menu of the OSD.

## Laser Diode Problems

***Problem: There is no light from the projector***

1. Check that the power cable is securely connected.
2. Ensure the power source is good by testing with another electrical device.
3. Restart the projector in the correct order and check that the Light LED is in green.

***Problem: The laser diode goes off***

1. Power surges can cause the laser diode to turn off. Re-plug power cord. If the Light LED is in orange, this indicates that the laser diode time has expired. Then press “” on the built-in keypad or press “” on the remote control to turn off the projector.
2. Have the projector serviced.

## **Remote Control Problems**

***Problem: The projector does not respond to the remote control***

1. Direct the remote control towards remote sensor on the projector.
2. Ensure the path between remote and sensor is not obstructed.
3. Turn off any fluorescent lights in the room.
4. Make sure that the batteries are installed with the correct polarity.
5. Replace the batteries.
6. Turn off other Infrared-enabled devices in the vicinity.
7. Have the remote control serviced.

## **Having the Projector Serviced**

If you are unable to solve the problem, you should have the projector serviced. Pack the projector in the original carton. Include a description of the problem and a checklist of the steps you took when trying to fix the problem. The information may be useful to service personnel. For servicing, return the projector to the place you purchased it.

## **HDMI Q & A**

***Q. What is the difference between a “Standard” HDMI cable and a “High-Speed” HDMI cable?***

Recently, HDMI Licensing, LLC announced that cables would be tested as Standard or High-Speed cables.

- Standard (or “category 1”) HDMI cables have been tested to perform at speeds of 75Mhz or up to 2.25Gbps, which is the equivalent of a 720p/1080i signal.
- High Speed (or “category 2”) HDMI cables have been tested to perform at speeds of 340Mhz or up to 10.2Gbps, which is the highest bandwidth currently available over an HDMI cable and can successfully handle 1080p signals including those at increased color depths and/or increased refresh rates from the Source. High-Speed cables are also able to accommodate higher resolution displays, such as WQXGA cinema monitors (resolution of 2560 x 1600).

***Q. How do I run HDMI cables longer than 10 meters?***

There are many HDMI Adapters working on HDMI solutions that extend a cable's effective distance from the typical 10 meter range to much longer lengths. These companies manufacture a variety of solutions that include active cables (active electronics built into cables that boost and extend the cable's signal), repeaters, amplifiers as well as CAT5/6 and fiber solutions.

***Q. How can I tell if a cable is an HDMI certified cable?***

All HDMI products are required to be certified by the manufacturer as part of the HDMI Compliance Test Specification. However, there may be instances where cables bearing the HDMI logo are available but have not been properly tested. HDMI Licensing, LLC actively investigates these instances to ensure that the HDMI trademark is properly used in the market. We recommend that consumers buy their cables from a reputable source and a company that is trusted.

For more detail information check <http://www.hdmi.org/learningcenter/faq.aspx#49>.

## SPECIFICATIONS

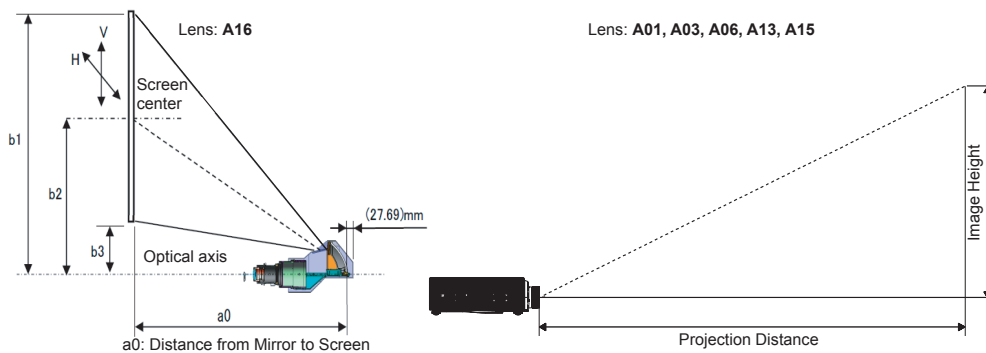
## Specifications

| ITEM                   | DESCRIPTION  |  |
|------------------------|--|--|
| Display type           | 0.67" WUXGA DMD  |  |
| Resolution             | WUXGA (1920 x 1200)  |  |
| Zoom/focus             | Motorized  |  |
| Zoom ratio             | Depend on Lens   |  |
| Keystone correction    | Vertical: +/- 20 degrees, Horizontal: +/- 20 degrees   |  |
| Projection methods     | Front, Rear, Desktop/Ceiling (Rear, Front)   |  |
| Data compatibility     | VGA, SVGA, XGA, WXGA, SXGA, SXGA+, UXGA, WUXGA, Mac  |  |
| Video compatibility    | 1080 i/p, 720p, 576 i/p, 480 i/p   |  |
| H-Sync                 | 15, 31~91.4KHz   |  |
| V-Sync                 | 24~30Hz, 47~120Hz  |  |
| Safety Certification   | UL/cUL, FCC, CE, CB, CCC (China), KC/KCC   |  |
| Operation temperature  | 5° ~ 40°C  |  |
| Dimensions (W x H x D) | 484 x 181 x 509 mm (without lens and elevators)  |  |
| Weight                 | 23.4 kg  |  |
| AC Input               | AC 100 – 240 V @ 50/60 Hz  |  |
| Power Consumption      | 480W (ECO brightness mode)<br>945W (Normal brightness mode)  |  |
| Laser Diode Power      | 35W@3A (Normal Mode)   |  |
| Laser Diode Life       | 20,000 Hours Standard @ 35W (Normal Mode)  |  |
| Input Terminals        | 1 x HDMI (version1.4) (with locking screw)<br>1 x DVI-D (only support digital signal)<br>1 x VGA IN (D-Sub 15pin) (Computer in or Component) | 1 x HDBaseT<br>1 x 3G-SDI IN<br>1 x 3D SYNC IN   |
| Output Terminals       | 1 x HDMI (version1.4) (with locking screw)<br>1 x VGA Out (Support VGA loops through to monitor) (Monitor Out)<br>1 x 3D SYNC Out            |  |
| Control Terminals      | 1 x RS232 (D-sub 9 pin) (PC Control)<br>1 x Wired in (3.5mm phone jack) (Remote In)<br>1 x USB type A (for WiFi dongle purpose)              | 1 x Mini USB (for LAN FW upgrade only) (Service)<br>1 x RJ45 (LAN)<br>1 x IR Receiver (On the Front side and Top side) |
| Security               | Kensington lock<br>Security bar  |  |

**Note:**

For questions regarding product specifications, please contact your local distributor.

## Projection Distance vs. Projection Size



### Projection Distance and Size Table

| PLATFORM                           |            |           | WUXGA (16:10)      |       |       |       |       |       |       |       |       |       |       |       |
|------------------------------------|------------|-----------|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DMD                                |            |           | 0.67"              |       |       |       |       |       |       |       |       |       |       |       |
| PROJECTION LENS                    |            |           | A16                |       | A15   |       | A01   |       | A06   |       | A03   |       | A13   |       |
| THROW RATIO SPEC. (WIDE/TELE)      |            |           | 0.361 (120")       |       | 0.75  | 0.95  | 0.95  | 1.22  | 1.22  | 1.52  | 1.52  | 2.92  | 2.90  | 5.50  |
| ZOOM RATIO                         |            |           | N/A                |       | 1.26X |       | 1.28X |       | 1.25X |       | 1.9X  |       | 1.9X  |       |
| THROW DISTANCE (M) (MIN/MAX)       |            |           | 0.96               | 2.65  | 0.79  | 6.21  | 1.01  | 7.98  | 1.29  | 9.93  | 1.61  | 19.00 | 3.18  | 34.77 |
| PROJECTION SCREEN SIZE             |            |           | THROW DISTANCE (M) |       |       |       |       |       |       |       |       |       |       |       |
| THROW RATIO CONSTANT C (WIDE/TELE) |            |           | 0.34               | 0.761 | 0.966 | 0.966 | 1.240 | 1.236 | 1.543 | 1.546 | 2.948 | 2.822 | 5.362 |       |
| THROW RATIO CONSTANT D (WIDE/TELE) |            |           | 5.606              | -2.66 | -2.71 | -3.00 | -2.84 | -4.14 | -4.01 | -5.94 | -5.18 | 13.63 | 11.74 |       |
| DIAGONAL (INCH)                    | HEIGHT (M) | WIDTH (M) | NA                 | WIDE  | TELE  | WIDE  | TELE  | WIDE  | TELE  | WIDE  | TELE  | WIDE  | TELE  |       |
| 50                                 | 0.67       | 1.08      | NA                 | 0.79  | 1.01  | 1.01  | 1.31  | 1.29  | 1.62  | 1.61  | 3.12  | 3.18  | 5.89  |       |
| 60                                 | 0.81       | 1.29      | NA                 | 0.96  | 1.22  | 1.22  | 1.57  | 1.56  | 1.95  | 1.94  | 3.76  | 3.78  | 7.05  |       |
| 70                                 | 0.94       | 1.51      | NA                 | 1.12  | 1.43  | 1.43  | 1.84  | 1.82  | 2.29  | 2.27  | 4.39  | 4.39  | 8.20  |       |
| 80                                 | 1.08       | 1.72      | NA                 | 1.28  | 1.64  | 1.63  | 2.11  | 2.09  | 2.62  | 2.60  | 5.03  | 5.00  | 9.36  |       |
| 90                                 | 1.21       | 1.94      | NA                 | 1.45  | 1.85  | 1.84  | 2.38  | 2.35  | 2.95  | 2.94  | 5.66  | 5.61  | 10.51 |       |
| 100                                | 1.35       | 2.15      | NA                 | 1.61  | 2.05  | 2.05  | 2.64  | 2.62  | 3.28  | 3.27  | 6.30  | 6.21  | 11.67 |       |
| 110                                | 1.48       | 2.37      | NA                 | 1.78  | 2.26  | 2.26  | 2.91  | 2.89  | 3.62  | 3.60  | 6.93  | 6.82  | 12.82 |       |
| 120                                | 1.62       | 2.58      | 0.96               | 1.94  | 2.47  | 2.47  | 3.18  | 3.15  | 3.95  | 3.94  | 7.57  | 7.43  | 13.98 |       |
| 130                                | 1.75       | 2.80      | 1.04               | 2.10  | 2.68  | 2.67  | 3.44  | 3.42  | 4.28  | 4.27  | 8.20  | 8.04  | 15.13 |       |
| 140                                | 1.88       | 3.02      | 1.11               | 2.27  | 2.89  | 2.88  | 3.71  | 3.69  | 4.61  | 4.60  | 8.84  | 8.65  | 16.29 |       |
| 150                                | 2.02       | 3.23      | 1.18               | 2.43  | 3.09  | 3.09  | 3.98  | 3.95  | 4.95  | 4.94  | 9.47  | 9.25  | 17.44 |       |
| 160                                | 2.15       | 3.45      | 1.26               | 2.60  | 3.30  | 3.30  | 4.24  | 4.22  | 5.28  | 5.27  | 10.11 | 9.86  | 18.60 |       |
| 170                                | 2.29       | 3.66      | 1.33               | 2.76  | 3.51  | 3.51  | 4.51  | 4.48  | 5.61  | 5.60  | 10.74 | 10.47 | 19.75 |       |
| 180                                | 2.42       | 3.88      | 1.40               | 2.92  | 3.72  | 3.72  | 4.78  | 4.75  | 5.94  | 5.93  | 11.38 | 11.08 | 20.91 |       |
| 190                                | 2.56       | 4.09      | 1.48               | 3.09  | 3.93  | 3.92  | 5.05  | 5.02  | 6.27  | 6.27  | 12.01 | 11.69 | 22.06 |       |
| 200                                | 2.69       | 4.31      | 1.55               | 3.25  | 4.13  | 4.13  | 5.31  | 5.28  | 6.61  | 6.60  | 12.65 | 12.29 | 23.22 |       |
| 250                                | 3.37       | 5.38      | 1.91               | 4.07  | 5.17  | 5.17  | 6.65  | 6.61  | 8.27  | 8.27  | 15.82 | 15.33 | 28.99 |       |
| 300                                | 4.04       | 6.46      | 2.28               | 4.89  | 6.21  | 6.21  | 7.98  | 7.95  | 9.93  | 9.93  | 19.00 | 18.37 | 34.77 |       |
| 350                                | 4.71       | 7.54      | 2.65               | N/A   |       |       |       |       |       |       |       |       |       |       |

**Note:**

- The values in the tables are approximate and may be slightly different from the actual measurements.
- In case of ceiling mount, it is necessary to match at the spot.



Timing Mode Table

| SIGNAL TYPE | RESOLUTION | FRAME RATE (Hz) | QD881    | VGA | HDMI | DVI | HDBaseT | 3G-SDI |
|-------------|------------|-----------------|----------|-----|------|-----|---------|--------|
| PC          | 640x480    | 60              | DMT0660  | V   | V    | V   | V       | —      |
|             | 640x480    | 72              | DMT0672  | V   | V    | V   | V       | —      |
|             | 640x480    | 75              | DMT0675  | V   | V    | V   | V       | —      |
|             | 640x480    | 85              | DMT0685  | V   | V    | V   | V       | —      |
|             | 640x480    | 66.6            | APP0667  | —   | V    | V   | V       | —      |
|             | 720x400    | 70              | IBM0770H | V   | V    | V   | V       | —      |
|             | 800x600    | 60              | DMT0860  | V   | V    | V   | V       | —      |
|             | 800x600    | 72              | DMT0872  | V   | V    | V   | V       | —      |
|             | 800x600    | 75              | DMT0875  | V   | V    | V   | V       | —      |
|             | 800x600    | 85              | DMT0885  | V   | V    | V   | V       | —      |
|             | 800x600    | 120             | CVR0812  | V   | V    | V   | V       | —      |
|             | 832x624    | 75              | 8362A75  | V   | V    | V   | V       | —      |
|             | 848x480    | 50              | CVT0850H | —   | V    | V   | V       | —      |
|             | 848x480    | 60              | CVT0860H | —   | V    | V   | V       | —      |
|             | 848x480    | 75              | CVT0875H | —   | V    | V   | V       | —      |
|             | 848x480    | 85              | CVT0885H | —   | V    | V   | V       | —      |
|             | 1024x768   | 60              | DMT1060  | V   | V    | V   | V       | —      |
|             | 1024x768   | 75              | DMT1075  | V   | V    | V   | V       | —      |
|             | 1024x768s  | 85              | DMT1085  | V   | V    | V   | V       | —      |
|             | 1024x768   | 120             | CVR1012  | V   | V    | V   | V       | —      |
|             | 1152x720   | 50              | CVT1150D | —   | V    | V   | V       | —      |
|             | 1152x720   | 60              | CVT1160D | —   | V    | V   | V       | —      |
|             | 1152x720   | 75              | CVT1175D | —   | V    | V   | V       | —      |
|             | 1152x720   | 85              | CVT1185D | —   | V    | V   | V       | —      |
|             | 1152x864   | 60              | CVT1160  | V   | V    | V   | V       | —      |
|             | 1152x864   | 70              | DMT1170  | V   | V    | V   | V       | —      |
|             | 1152x864   | 75              | DMT1175  | V   | V    | V   | V       | —      |
|             | 1152x864   | 85              | DMT1185  | V   | V    | V   | V       | —      |
|             | 1152x870   | 75              | APP1175  | —   | V    | V   | V       | —      |
|             | 1280x720   | 50              | CVT1250H | —   | V    | V   | V       | —      |
|             | 1280x720   | 60              | CVT1260H | V   | V    | V   | V       | —      |
|             | 1280x720   | 75              | CVT1275H | V   | V    | V   | V       | —      |
|             | 1280x720   | 85              | CVT1285H | V   | V    | V   | V       | —      |
|             | 1280x720   | 120             |          | V   | V    | V   | V       | —      |
|             | 1280x768   | 60              | CVT1260E | V   | V    | V   | V       | —      |
|             | 1280x768   | 75              | CVT1275E | V   | V    | V   | V       | —      |
|             | 1280x768   | 85              | CVT1285E | V   | V    | V   | V       | —      |
|             | 1280x800   | 50              | CVT1250_ | V   | V    | V   | V       | —      |
|             | 1280x800   | 60              | DMT1260D | V   | V    | V   | V       | —      |
|             | 1280x800   | 75              | CVT1275_ | V   | V    | V   | V       | —      |

| SIGNAL TYPE | RESOLUTION     | FRAME RATE (Hz) | QD881    | VGA | HDMI | DVI | HDBaseT | 3G-SDI |
|-------------|----------------|-----------------|----------|-----|------|-----|---------|--------|
| PC          | 1280x800       | 85              | CVT1285_ | V   | V    | V   | V       | —      |
|             | 1280x960       | 50              | CVT1250  | —   | V    | V   | V       | —      |
|             | 1280x960       | 60              | CVT1260  | V   | V    | V   | V       | —      |
|             | 1280x960       | 75              | CVT1275  | V   | V    | V   | V       | —      |
|             | 1280x960       | 85              | CVT1285  | V   | V    | V   | V       | —      |
|             | 1280x1024      | 50              | CVT1250G | —   | V    | V   | V       | —      |
|             | 1280x1024      | 60              | DMT1260G | V   | V    | V   | V       | —      |
|             | 1280x1024      | 75              | DMT1275G | V   | V    | V   | V       | —      |
|             | 1280x1024      | 85              | DMT1285G | V   | V    | V   | V       | —      |
|             | 1360x768       | 50              | CVT1350H | —   | V    | V   | V       | —      |
|             | 1360x768       | 60              | DMT1360H | —   | V    | V   | V       | —      |
|             | 1360x768       | 75              | CVT1375H | —   | V    | V   | V       | —      |
|             | 1360x768       | 85              | CVT1385H | —   | V    | V   | V       | —      |
|             | 1366x768       | 60              | DMR1360H | V   | V    | V   | V       | —      |
|             | 1400x1050      | 50              | CVT1450  | —   | V    | V   | V       | —      |
|             | 1400x1050      | 60              | CVT1460  | —   | V    | V   | V       | —      |
|             | 1400x1050      | 75              | CVT1475  | V   | V    | V   | V       | —      |
|             | 1440x900       | 60              | CVT1460D | V   | V    | V   | V       | —      |
|             | 1440x900       | 75              | CVT1475D | —   | V    | V   | V       | —      |
|             | 1600x900       | 60              | DMR1660H | —   | V    | V   | V       | —      |
|             | 1600x1200      | 60              | DMT1660  | V   | V    | V   | V       | —      |
|             | 1680x1050      | 60              | CVT1660D | V   | V    | V   | V       | —      |
|             | 1920x1080      | 50              | CVT1950H | —   | V    | V   | V       | —      |
|             | 1920x1080      | 60              | CVR1960H | V   | V    | V   | V       | —      |
| 1920x1200RB | 60             | CVR1960D        | V        | V   | V    | V   | —       |        |
| 1920x1200RB | 50             | CVT1950D        | V        | V   | V    | V   | —       |        |
| NTSC        | NTSC (M, 4.43) | 60              |          | —   | —    | —   | —       | —      |
| PAL         | PAL (B,G,H,I)  | 50              |          | —   | —    | —   | —       | —      |
|             | PAL (N)        | 50              |          | —   | —    | —   | —       | —      |
|             | PAL (M)        | 60              |          | —   | —    | —   | —       | —      |
| SECAM       | SECAM (M)      | 50              |          | —   | —    | —   | —       | —      |
| SDTV        | 480i           | 60              |          | V   | V    | V   | V       | —      |
|             | 576i           | 50              |          | V   | V    | V   | V       | —      |
| EDTV        | 480p           | 60              |          | V   | V    | V   | V       | —      |
|             | 576p           | 50              |          | V   | V    | V   | V       | —      |
| HDTV        | 1080i          | 25              |          | V   | V    | V   | V       | —      |
|             | 1080i          | 29              |          | V   | V    | V   | V       | —      |
|             | 1080i          | 30              |          | V   | V    | V   | V       | —      |
|             | 720p           | 50              |          | V   | V    | V   | V       | —      |
|             | 720p           | 59              |          | V   | V    | V   | V       | —      |
|             | 720p           | 60              |          | V   | V    | V   | V       | —      |
|             | 1080p          | 23              |          | V   | V    | V   | V       | —      |
| 1080p       | 24             |                 | V        | V   | V    | V   | —       |        |

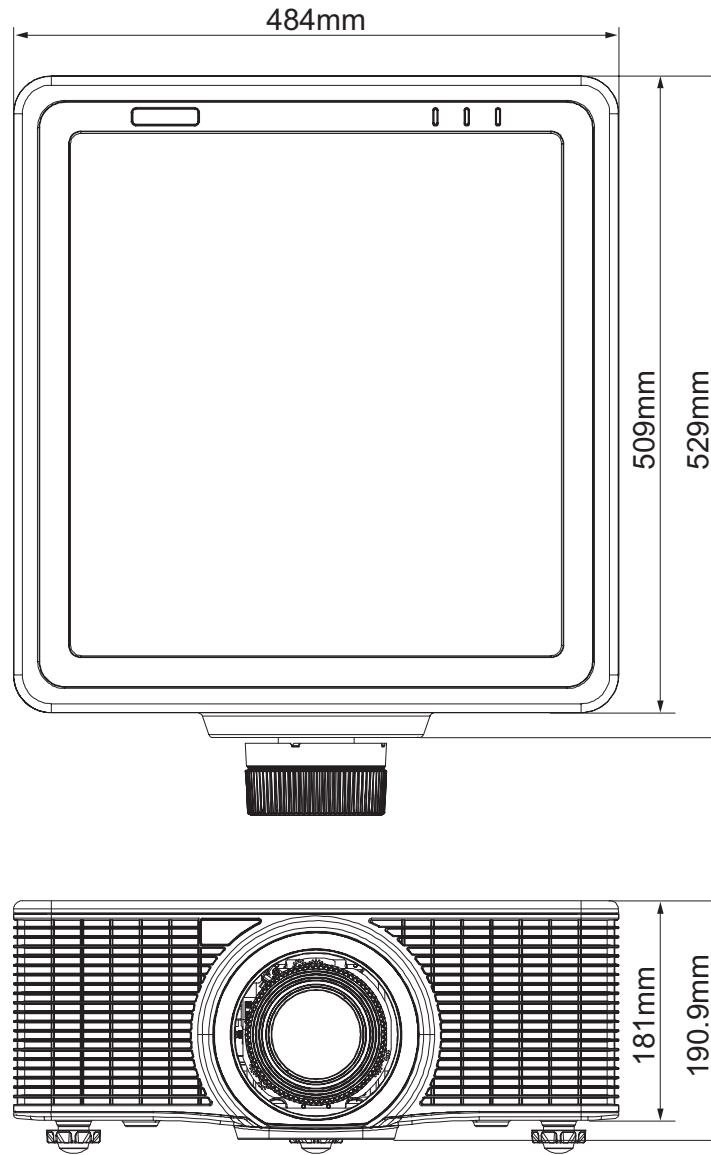
| SIGNAL TYPE         | RESOLUTION           | FRAME RATE (Hz) | QD881 | VGA | HDMI | DVI | HDBASET | 3G-SDI |
|---------------------|----------------------|-----------------|-------|-----|------|-----|---------|--------|
| HDTV                | 1080p                | 25              |       | V   | V    | V   | V       | —      |
|                     | 1080p                | 29              |       | V   | V    | V   | V       | —      |
|                     | 1080p                | 30              |       | V   | V    | V   | V       | —      |
|                     | 1080p                | 50              |       | V   | V    | V   | V       | —      |
|                     | 1080p                | 59              |       | V   | V    | V   | V       | —      |
|                     | 1080p                | 60              |       | 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              | 120             |       | —   | V    | —   | V       | —      |
|                     | 1024x768             | 120             |       | —   | V    | —   | V       | —      |
|                     | 1280x720             | 120             |       | —   | V    | —   | V       | —      |
|                     | 1080p                | 50              |       | —   | V    | —   | V       | —      |
|                     | 1080p                | 60              |       | —   | V    | —   | V       | —      |
|                     | 1920X1200RB          | 50              |       | —   | V    | —   | V       | —      |
|                     | 1920X1200RB          | 60              |       | —   | V    | —   | V       | —      |
| 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       |        |

| SIGNAL TYPE | RESOLUTION   | FRAME RATE (Hz) | QD881 | VGA | HDMI | DVI | HDBASET | 3G-SDI |
|-------------|--|-----------------|-------|-----|------|-----|---------|--------|
| HD-SDI      | 1080sF<br>YcbCr422<br>10bit                            | 25              |       | —   | —    | —   | —       | V      |
|             |  | 29.97           |       | —   | —    | —   | —       | V      |
|             |  | 30              |       | —   | —    | —   | —       | V      |
| 3GA-SDI     | 1080p<br>YcbCr422<br>10bit                             | 50              |       | —   | —    | —   | —       | V      |
|             |  | 59.94           |       | —   | —    | —   | —       | V      |
|             |  | 60              |       | —   | —    | —   | —       | V      |
| 3GB-SDI     | 1080p<br>YcbCr422<br>10bit<br>With 352M<br>Payload ID" | 50              |       | —   | —    | —   | —       | V      |
|             |  | 59.94           |       | —   | —    | —   | —       | V      |
|             |  | 60              |       | —   | —    | —   | —       | V      |

V : Frequency supported

— : Frequency not supported

## Projector Dimensions



## **FCC Warning**

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/her own expense.

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

## **Canada**

This class A digital apparatus complies with Canadian ICES-003.

## **Safety Certifications**

UL/cUL, FCC, CE, CB, CCC (China), KC/KCC

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