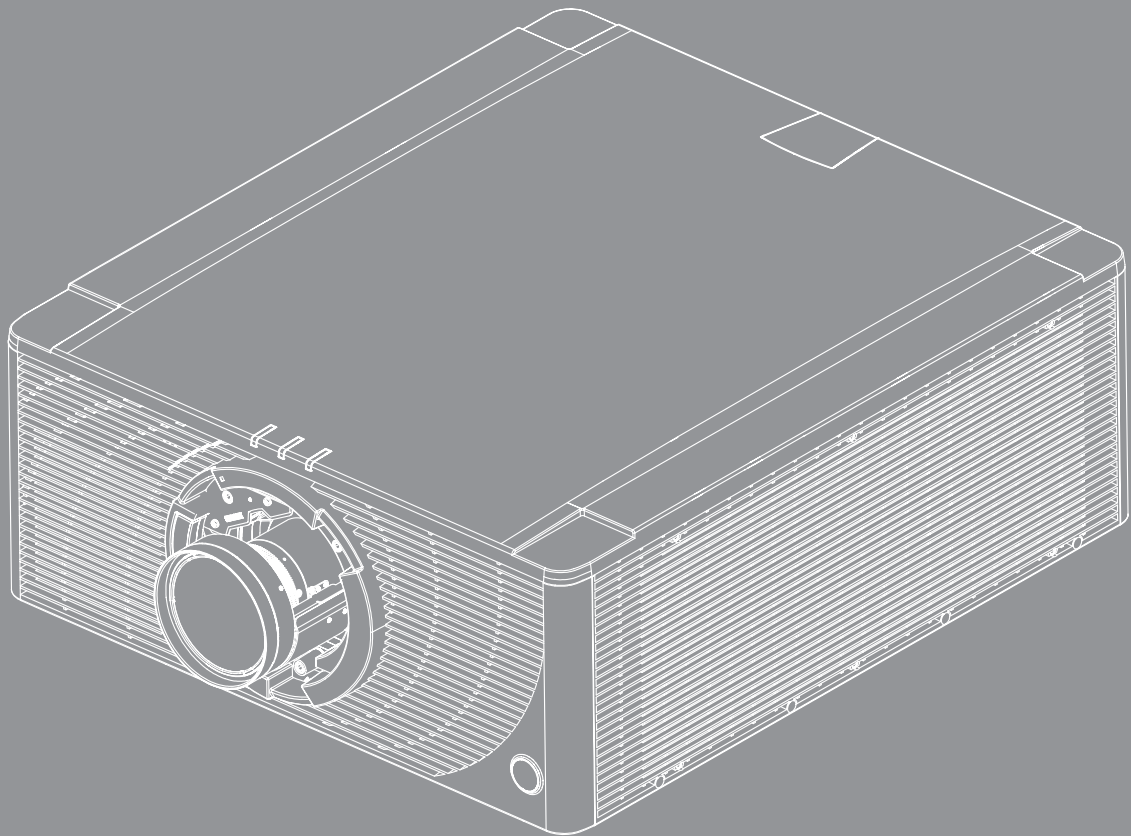




# DLP<sup>®</sup> Projector



# TABLE OF CONTENTS



<b>SAFETY .....</b>	<b>4</b>
<i>Important safety instruction .....</i>	<i>4</i>
<i>Laser radiation safety information .....</i>	<i>5</i>
<i>Copyright .....</i>	<i>6</i>
<i>Disclaimer.....</i>	<i>6</i>
<i>Trademark recognition.....</i>	<i>6</i>
<i>FCC .....</i>	<i>6</i>
<i>Declaration of conformity for EU countries.....</i>	<i>7</i>
<i>WEEE.....</i>	<i>7</i>
<b>INTRODUCTION.....</b>	<b>8</b>
<i>Package overview .....</i>	<i>8</i>
<i>Standard accessories.....</i>	<i>8</i>
<i>Optional accessories.....</i>	<i>8</i>
<i>Product overview.....</i>	<i>9</i>
<i>Connections.....</i>	<i>11</i>
<i>Keypad .....</i>	<i>12</i>
<i>Remote control.....</i>	<i>13</i>
<b>SETUP AND INSTALLATION.....</b>	<b>14</b>
<i>Installing the projection lens.....</i>	<i>14</i>
<i>Adjusting the projector position.....</i>	<i>16</i>
<i>Connecting sources to the projector.....</i>	<i>18</i>
<i>Adjusting the projector image.....</i>	<i>19</i>
<i>Remote setup.....</i>	<i>20</i>
<b>USING THE PROJECTOR.....</b>	<b>22</b>
<i>Powering on / off the projector.....</i>	<i>22</i>
<i>Selecting an input source.....</i>	<i>23</i>
<i>Menu navigation and features.....</i>	<i>24</i>
<i>OSD menu tree.....</i>	<i>25</i>
<i>Display menu.....</i>	<i>29</i>
<i>Image Settings .....</i>	<i>29</i>
<i>3D menu.....</i>	<i>32</i>
<i>Aspect Ratio.....</i>	<i>32</i>
<i>Digital Zoom .....</i>	<i>33</i>
<i>Image Shift.....</i>	<i>33</i>
<i>Geometric Correction.....</i>	<i>33</i>
<i>PIP/PBP.....</i>	<i>34</i>
<i>Setup menu.....</i>	<i>36</i>
<i>Projection .....</i>	<i>36</i>
<i>Lens Settings.....</i>	<i>36</i>
<i>Power Settings.....</i>	<i>37</i>

Security .....	37
Test Pattern .....	37
Remote Settings.....	38
12V Trigger.....	38
Projector ID .....	38
Light Sensor .....	38
Keypad LED Settings .....	38
Options .....	38
System Update.....	39
Reset.....	39
Network menu .....	40
WLAN.....	40
LAN .....	40
Control.....	40
Network Reset.....	41
Using the web control panel.....	41
Using RS232 command by Telnet.....	43
Information menu.....	44

## **ADDITIONAL INFORMATION ..... 45**

Compatible resolutions.....	45
Image size and projection distance .....	49
Projector dimensions and ceiling mount installation.....	51
IR remote codes .....	52
Troubleshooting.....	54
LED status indicators.....	55
Specifications .....	56
Optoma global offices.....	57

# SAFETY

	The lightning flash with arrow head within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Please follow all warnings, precautions and maintenance as recommended in this user's guide.

## Important safety instruction

- Do not block any ventilation openings. To ensure reliable operation of the projector and to protect from over heating, it is recommended to install the projector in a location that does not block ventilation. As an example, do not place the projector on a crowded coffee table, sofa, bed, etc. Do not put the projector in an enclosure such as a book case or a cabinet that restricts air flow.
- To reduce the risk of fire and/or electric shock, do not expose the projector to rain or moisture. Do not install near heat sources such as radiators, heaters, stoves or any other apparatus such as amplifiers that emits heat.
- Do not let objects or liquids enter the projector. They may touch dangerous voltage points and short out parts that could result in fire or electric shock.
- Do not use under the following conditions:
  - In extremely hot, cold or humid environments.
    - (i) Ensure that the ambient room temperature is within 5°C ~ 40°C
    - (ii) Relative humidity is 10% ~ 85%
  - In areas susceptible to excessive dust and dirt.
  - Near any appliance generating a strong magnetic field.
  - In direct sunlight.
- Do not use the unit if it has been physically damaged or abused. Physical damage/abuse would be (but not limited to):
  - Unit has been dropped.
  - Power supply cord or plug has been damaged.
  - Liquid has been spilled on to the projector.
  - Projector has been exposed to rain or moisture.
  - Something has fallen in the projector or something is loose inside.
- Do not place the projector on an unstable surface. The projector may fall over resulting in injury or the projector may become damaged.
- Do not block the light coming out of the projector lens when in operation. The light will heat the object and cause melt, burns or start a fire.
- Please do not open or disassemble the projector as this may cause electric shock.
- Do not attempt to service the unit yourself. Opening or removing covers may expose you to dangerous voltages or other hazards. Please call Optoma before you send the unit for repair.
- See projector enclosure for safety related markings.
- The unit should only be repaired by authorized service personnel.
- Only use attachments/accessories specified by the manufacturer.
- Do not look into straight into the projector lens during operation. The bright light may harm your eyes.
- When switching the projector off, please ensure the cooling cycle has been completed before disconnecting power. Allow 90 seconds for the projector to cool down.

- Turn off and unplug the power plug from the AC outlet before cleaning the product.
- Use a soft dry cloth with mild detergent to clean the projector housing. Do not use abrasive cleaners, waxes or solvents to clean the unit.
- Disconnect the power plug from AC outlet if the product is not being used for a long period of time.
- Do not setup the projector in places where it might be subjected to vibration or shock.
- Do not touch the lens with bare hands.
- Do not clean the lens when the projector is turned on. Any damage resulting from doing so will void the warranty.
- Remove battery/batteries from remote control before storage. If the battery/batteries are left in the remote for long periods, they may leak.
- Do not use or store the projector in places where smoke from oil or cigarettes may be present, as it can adversely affect the quality of the projector performance.
- Please follow the correct projector orientation installation as non standard installation may affect the projector performance.
- Use a power strip and or surge protector. As power outages and brown-outs can KILL devices.

## Laser radiation safety information

This product is classified as CLASS 1 LASER PRODUCT - RISK GROUP 2 according to IEC 60825-1:2014, IEC 62471:2006, IEC 62471-5:2015, 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.



CLASS 1 LASER PRODUCT - RISK GROUP 2.

Do not look into the laser light when the projector is on. The extremely high brightness may cause permanent eye damage.



**Failure to comply with the following could result in death or serious injury.**

- This projector has a built-in Class 4 laser module. Never attempt to disassemble or modify the projector.
- Any operation or adjustment not specifically instructed in the User manual creates the risk of hazardous laser radiation exposure.
- Do not open or disassemble the projector as this may cause damage or exposure to 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 into the lens.
- Follow the control, adjustment, or operation procedures to avoid damage or injury from exposure of laser radiation.
- The instructions for the assembly, operation, and maintenance include clear warnings concerning precautions to avoid possible exposure to hazardous laser radiation.

## Copyright

This publication, including all photographs, illustrations and software, is protected under international copyright laws, with all rights reserved. Neither this manual, nor any of the material contained herein, may be reproduced without written consent of the author.

© Copyright 2018

## 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

Kensington is a U.S. registered trademark of ACCO Brand Corporation with issued registrations and pending applications in other countries throughout the world.

HDMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

DLP®, DLP Link and the DLP logo are registered trademarks of Texas Instruments and BrilliantColor™ is a trademark of Texas Instruments.

HDBaseT™ and the HDBaseT Alliance logo are trademarks of the HDBaseT Alliance.

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

## FCC

This device 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 device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on is encouraged to try to correct the interference by one or more of the following measures:

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

### **Notice: Shielded cables**

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

### **Caution**

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

### **Operation conditions**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference and
2. This device must accept any interference received, including interference that may cause undesired operation.

**Notice: Canadian users**

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

Remarque à l'intention des utilisateurs canadiens

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

**Declaration of conformity for EU countries**

- EMC Directive 2014/30/EU (including amendments)
- Low Voltage Directive 2014/35/EU
- Radio Equipment Directive 2014/53/EU (if product has RF function)
- RoHS Directive 2011/65/EU

**WEEE****Disposal instructions**

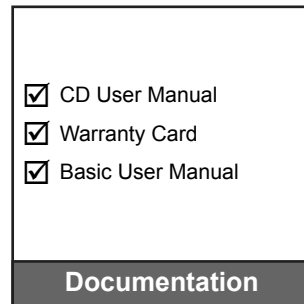
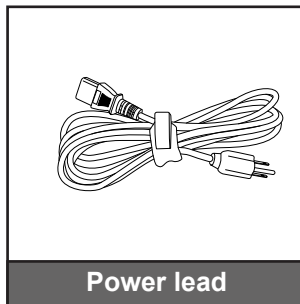
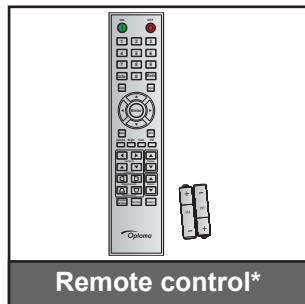
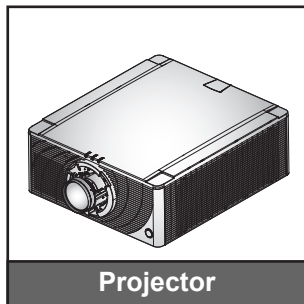
Do not throw this electronic device into the trash when discarding. To minimize pollution and ensure utmost protection of the global environment, please recycle it.

# INTRODUCTION

## Package overview

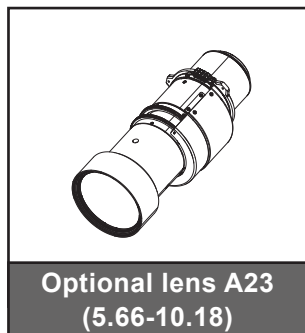
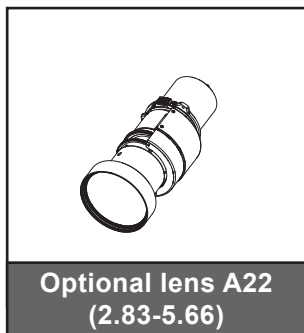
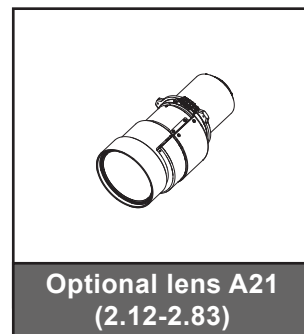
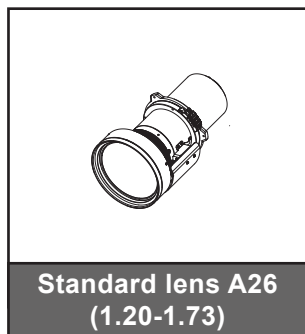
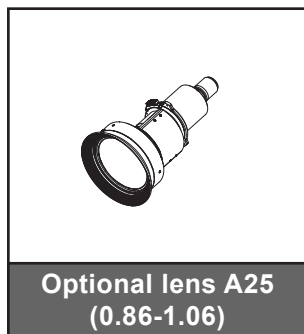
Carefully unpack and verify that the projector comes with all the standard accessories shown below. Some accessories may not be available depending on the projector model, specification and your region of purchase. The warranty card is only supplied in specific regions. Please check with your place of purchase or consult your dealer for more information.

## Standard accessories



**Note:** Two AAA batteries are supplied with the remote control. See *Installing/replacing the batteries* on page 20 for more information.

## Optional accessories



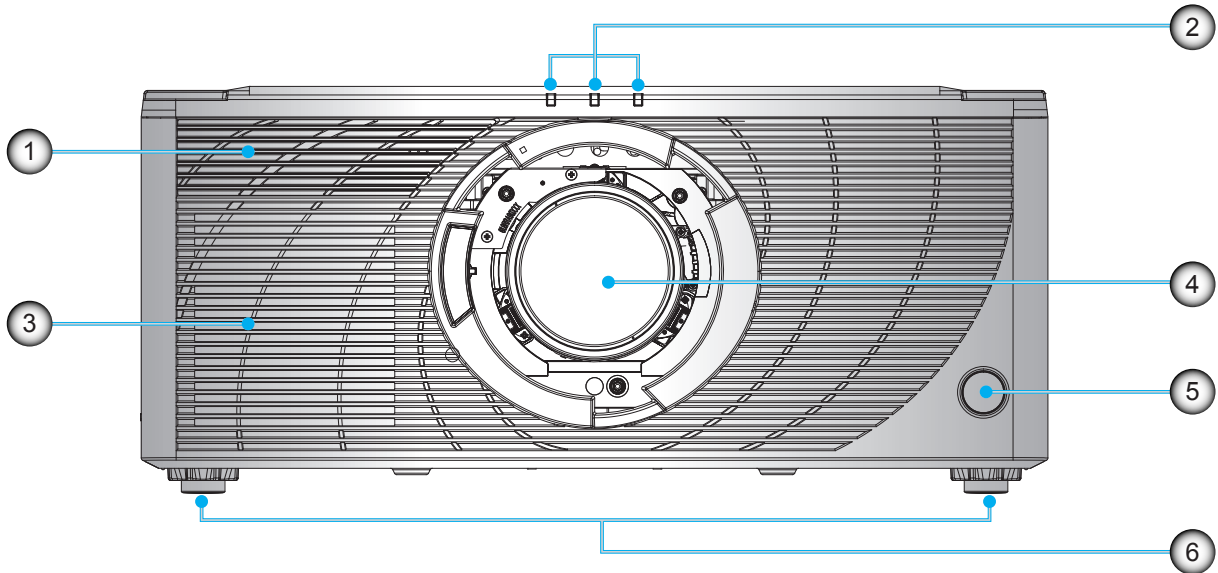
**Note:** The accessories may vary depending on model, specification and region.



# INTRODUCTION

## Product overview

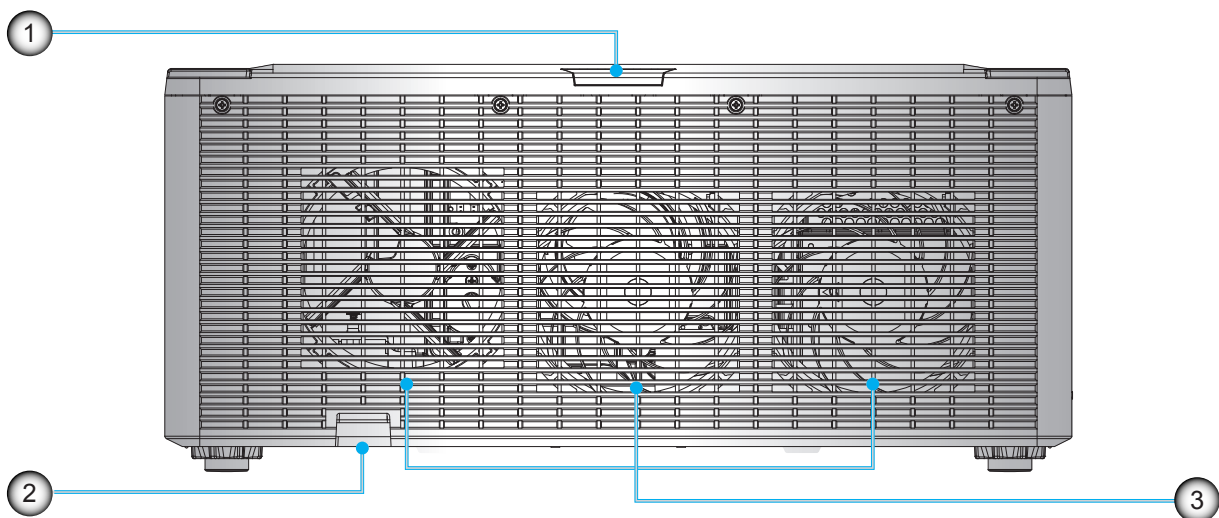
### Front view



No	Item	No	Item
1.	Front I/O panel cover	4.	Projection lens
2.	Status LED	5.	Front IR sensors
3.	Cooling air vents (intake)	6.	Adjustment feet

**Note:** Press the front I/O panel cover to open it and access the front I/O.

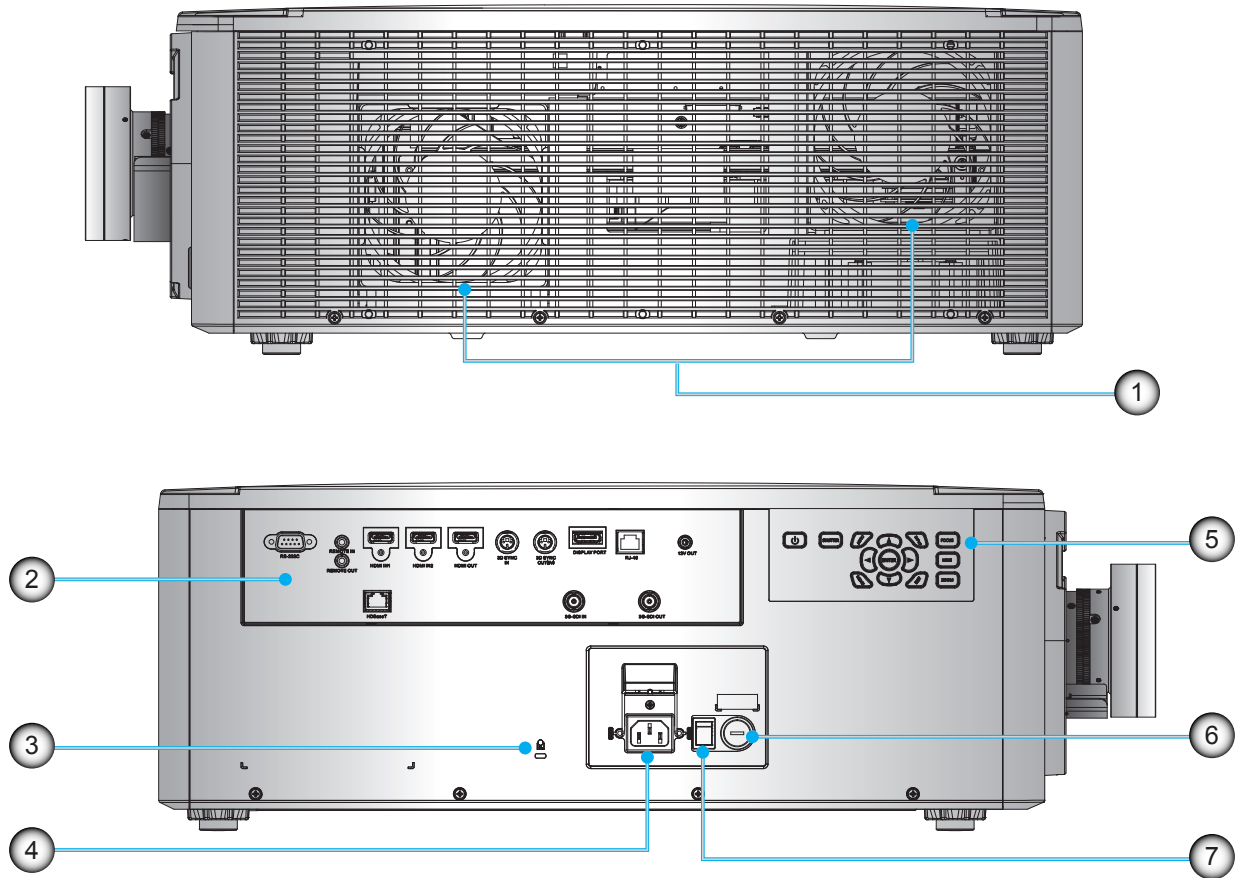
### Rear view



No	Item	No	Item
1.	Rear IR sensor	3.	Cooling air vents (exhaust)
2.	Security bar		

# INTRODUCTION

## Side view



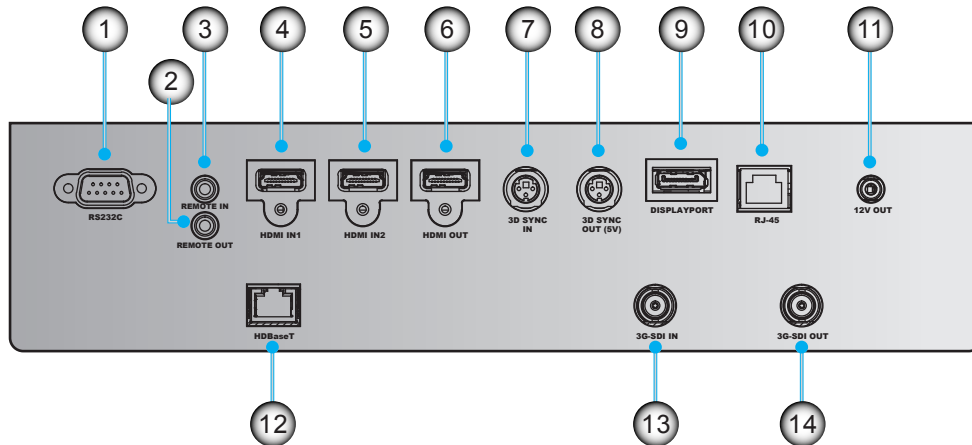
No	Item	No	Item
1.	Cooling air vents (intake)	5.	Built-in keypad
2.	Input/Output (I/O) panel	6.	Fuse
3.	Kensington lock	7.	Power switch
4.	AC input		

**Note:** Do not block projector inlet or outlet air vents.

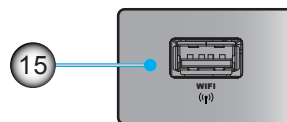
# INTRODUCTION

## Connections

### Side I/O panel

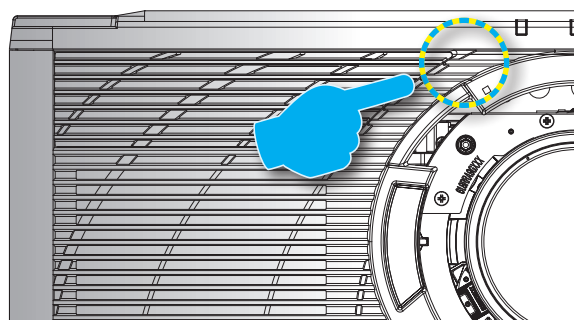


### Front I/O panel



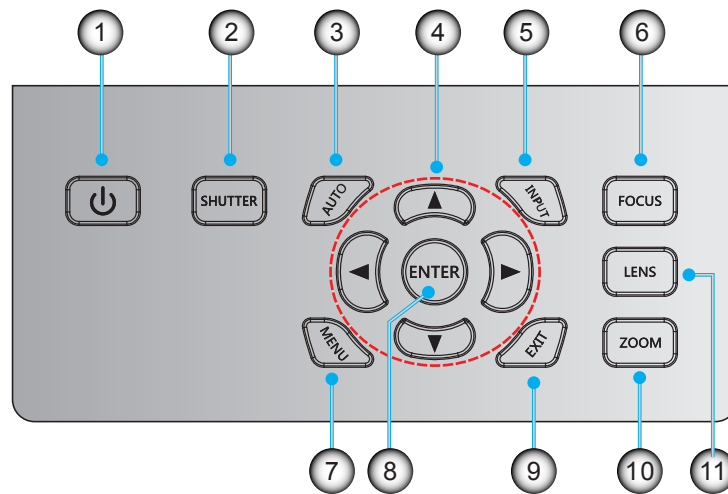
No	Item	No	Item
1.	RS232C	9.	DISPLAYPORT
2.	REMOTE OUT	10.	RJ-45
3.	REMOTE IN	11.	12V OUT
4.	HDMI IN1	12.	HDBaseT
5.	HDMI IN2	13.	3G-SDI IN
6.	HDMI OUT	14.	3G-SDI OUT
7.	3D SYNC IN	15.	WIFI
8.	3D SYNC OUT (5V)		

**Note:** Press the right-top corner of the front cover to open the cover and access the front I/O panel.



# INTRODUCTION

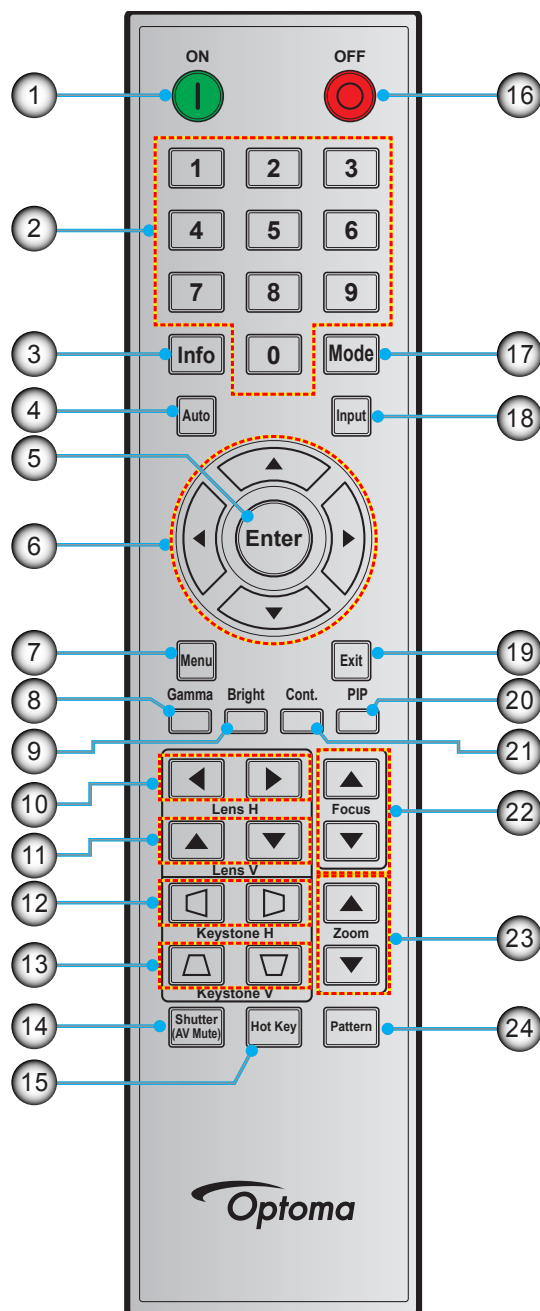
## Keypad



No	Item	No	Item
1.	Power key	7.	MENU
2.	SHUTTER	8.	ENTER
3.	AUTO	9.	EXIT
4.	Arrow keys	10.	ZOOM
5.	INPUT	11.	LENS
6.	FOCUS		

# INTRODUCTION

## Remote control



No	Item	No	Item	No	Item
1.	Power On	9.	Bright	17.	Mode
2.	Number Keys	10.	Lens H	18.	Input
3.	Info	11.	Lens V	19.	Exit
4.	Auto	12.	Keystone H	20.	PIP
5.	Enter	13.	Keystone V	21.	Cont. (Contrast)
6.	Arrow keys	14.	Shutter (AV Mute)	22.	Focus
7.	Menu	15.	Hot Key	23.	Zoom
8.	Gamma	16.	Power Off	24.	Pattern

# SETUP AND INSTALLATION

## Installing the projection lens

Before setting up the projector, install the projection lens in to the projector.

在安装或替换镜头前，关掉投影机的电源。

在镜头安装联接过程中，避免使用遥控器或投影机按键板的按钮调节侧平移镜头或缩放/聚焦。

Before install or replacing the lens, switch off the power to the projector.

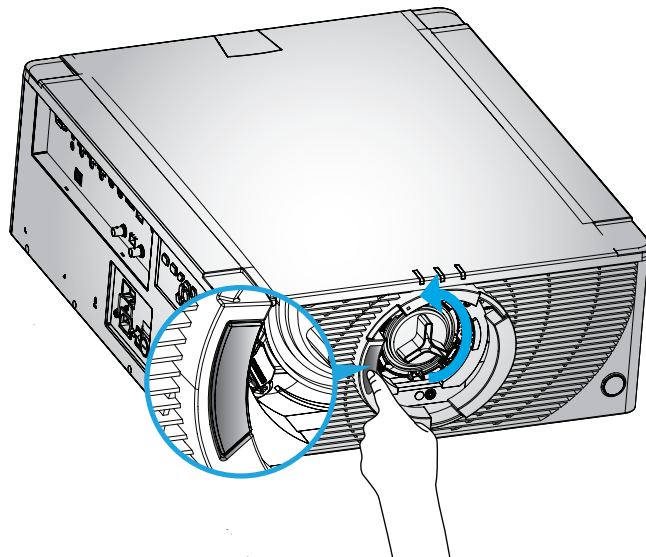
Avoid using the remote control or projector keypad button to adjust the lens shift or zoom/focus while the lens attachment process is carried out.

### IMPORTANT!

- *Before installing or replacing the lens, make sure the projector's power switch is turned off.*
- *During lens installation, do not adjust the lens shift, zoom, or focus either using the remote control or the projector keypad.*
- *To prevent damage to the lens and avoid personal injury, do not clean the lens when the projector is turned on. Any damage resulting from doing so will void the warranty.*

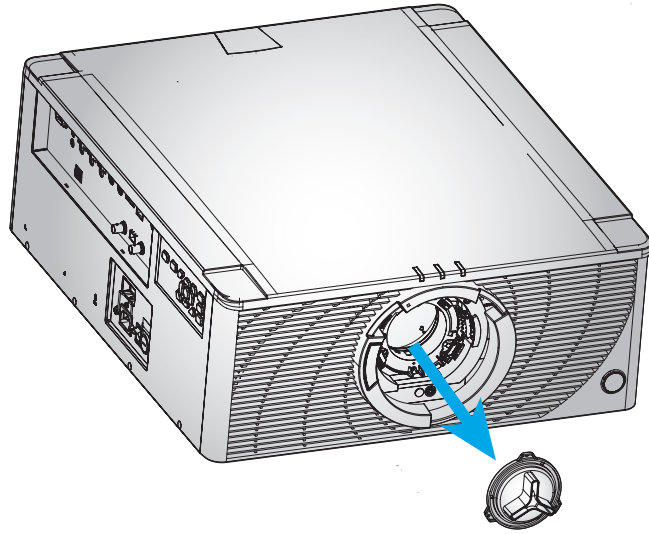
### Procedure:

1. Press the lens release button and rotate the lens cap counterclockwise.

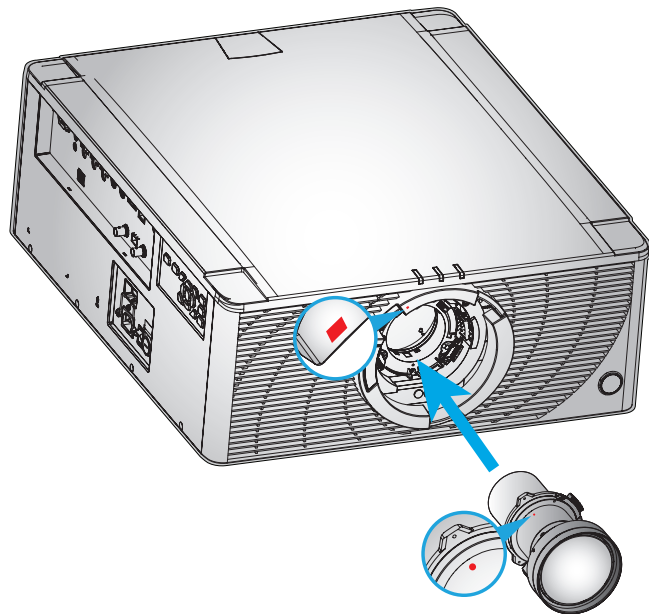


# SETUP AND INSTALLATION

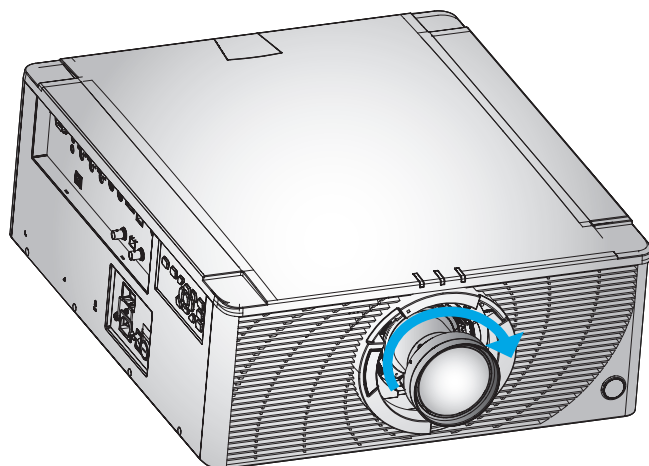
2. Remove the lens cap.



3. Insert the lens to the projector with the lens top aligning to the red marker on front cover.



4. Rotate the lens clockwise to lock the lens in place.

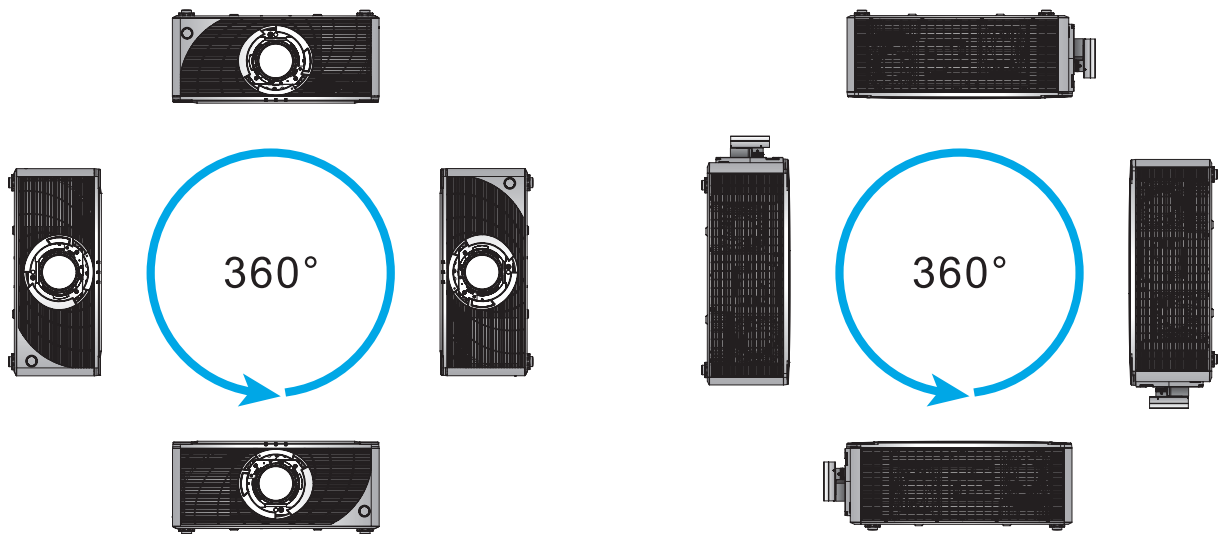


# SETUP AND INSTALLATION

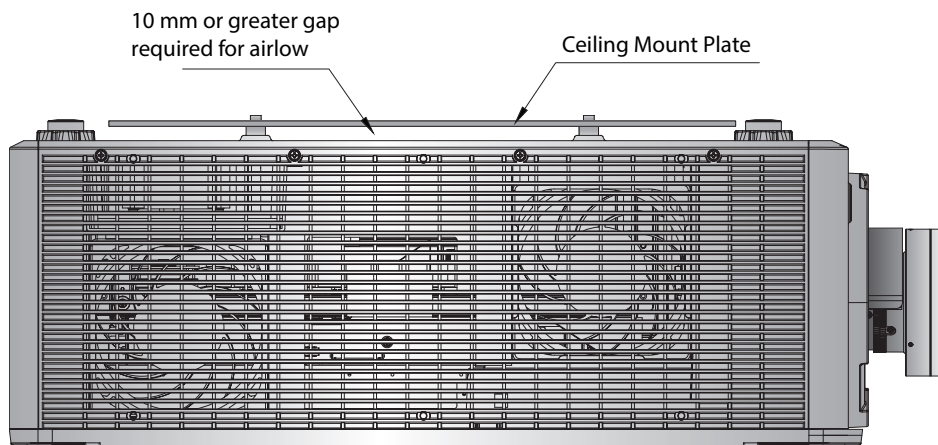
## Adjusting the projector position

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

- Position the projector on a flat surface at a right angle to the screen. The projector (with the standard lens) must be at least 7.0 feet (2.1 m) from the projection screen.
- Position the projector to the desired distance from the screen. The distance from the lens of the projector to the screen, the zoom setting, and the video format determine the size of the projected image.
- 360 degree free orientation operation



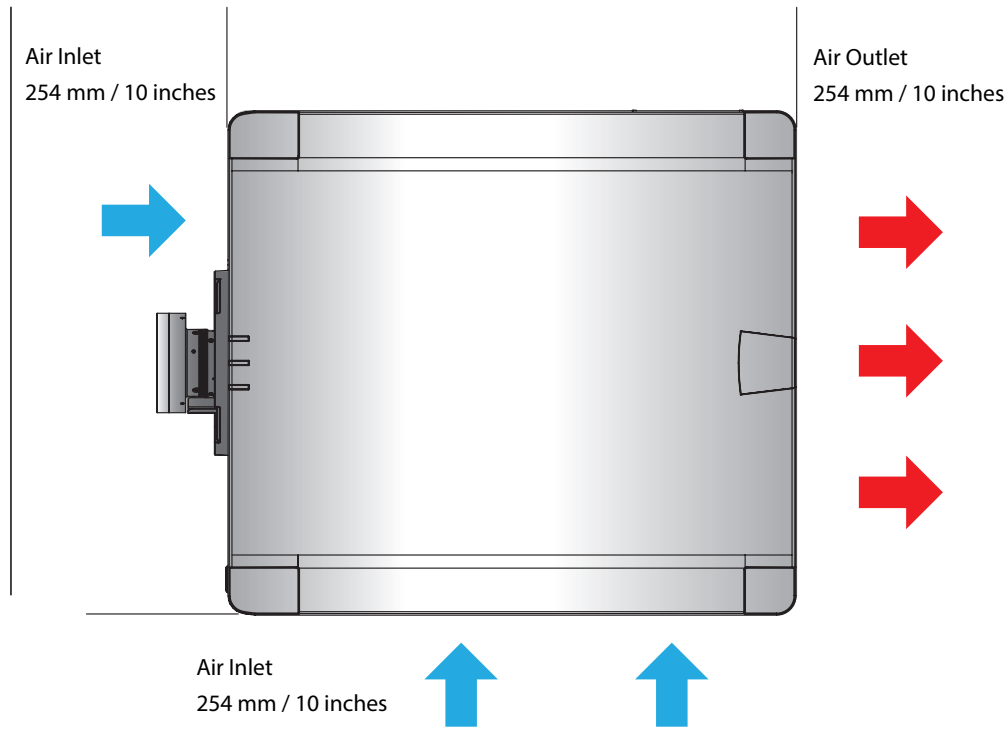
- For ceiling mount installations, make sure to leave 10 mm (0.4") between the ceiling mount and the bottom intake vents of the projector.





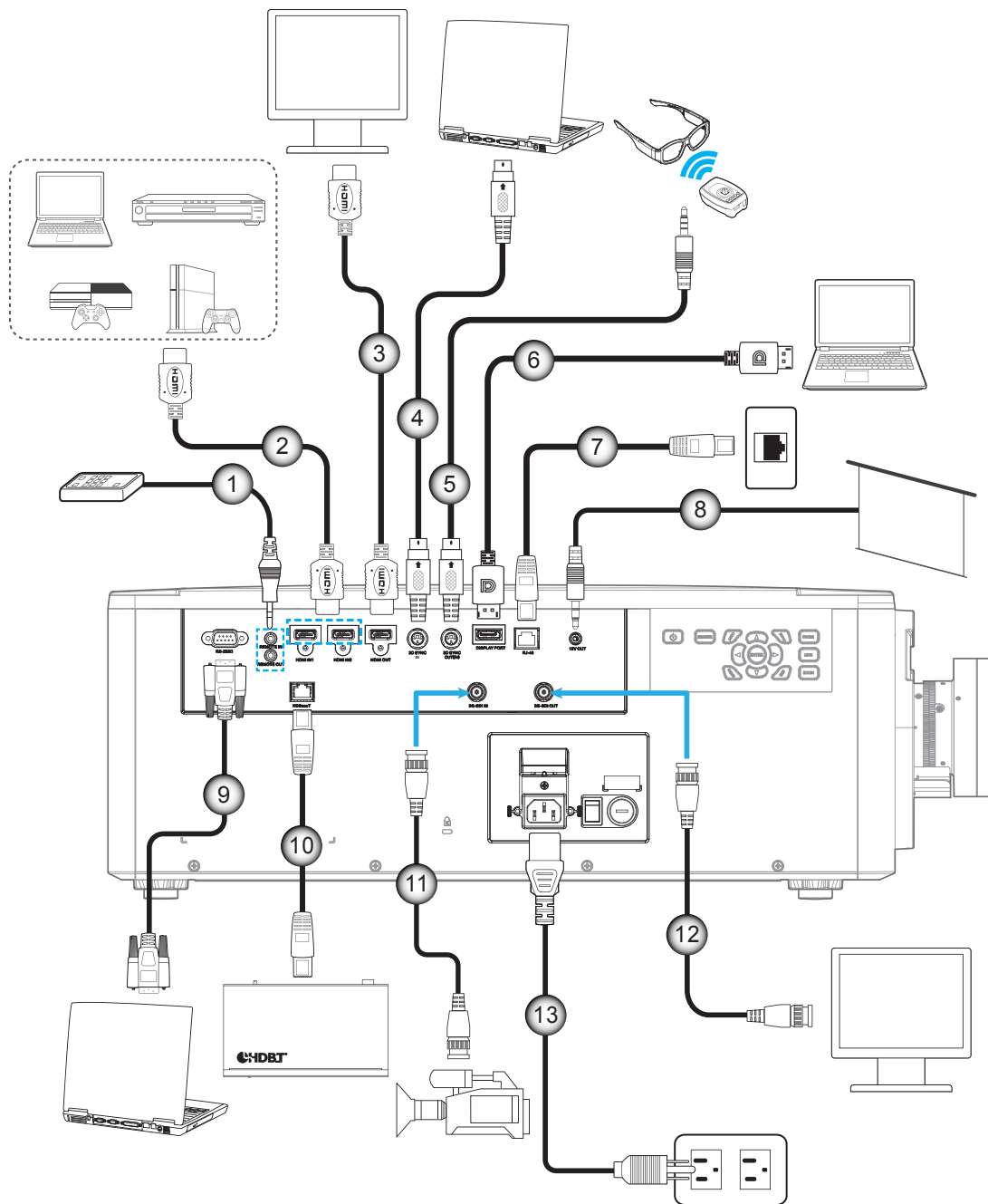
# SETUP AND INSTALLATION

- Allowing proper space around the projector is critical for air circulation and cooling. For 360° installations and multiple projectors, make sure to leave at least 254 mm (10") space around the air inlets and outlet of the projector.



# SETUP AND INSTALLATION

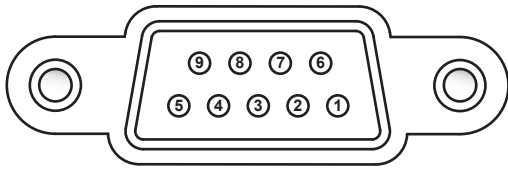
## Connecting sources to the projector



No	Item	No	Item
1.	Wired Remote-In Cable	8.	12V Trigger Cable
2.	HDMI Cable	9.	RS-232C Cable
3.	HDMI Cable	10.	RJ-45 Cable
4.	3D Sync Cable	11.	3G-SDI Cable
5.	3D Emitter Cable	12.	3G-SDI Cable
6.	DisplayPort Cable	13.	Power Cord
7.	RJ-45 Cable		

# SETUP AND INSTALLATION

## RS232 Pin assignments



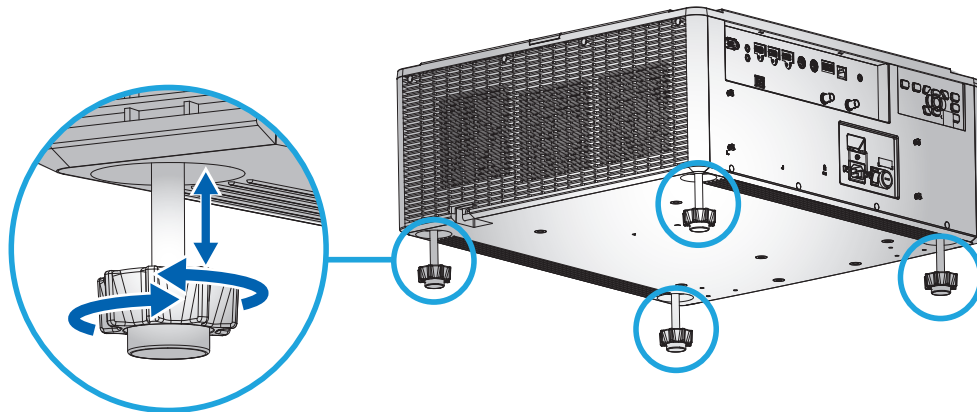
Pin No.	Signal	Pin No.	Signal
1	N/A	6	N/A
2	RXD	7	N/A
3	TXD	8	N/A
4	N/A	9	N/A
5	GND		

## Adjusting the projector image

### Image height

The projector is equipped with adjustable feet to change the image height.

1. Locate the adjustable foot you wish to adjust on the underside of the projector.
2. Rotate the adjustable foot clockwise or counterclockwise to raise or lower the projector.

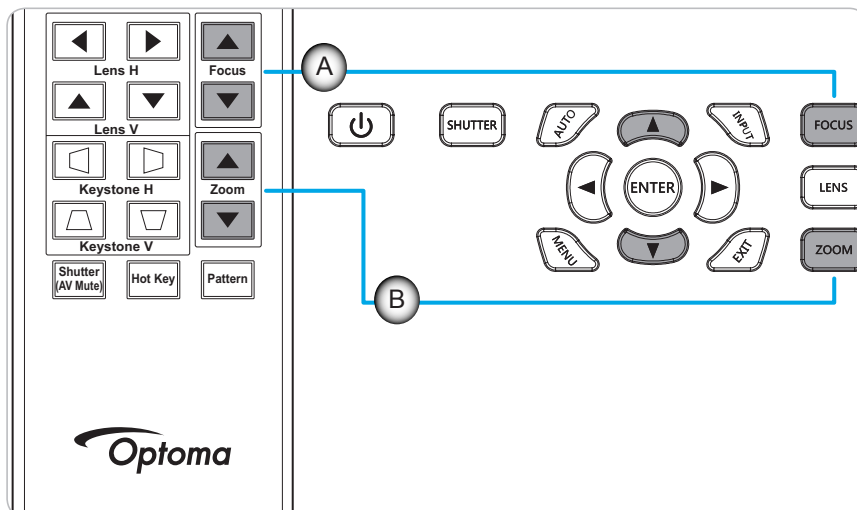


**Note:** The feet of projector are not removable, and the feet can be raised up to 50 mm.

### Zoom and Focus

Use the remote control or projector keypad to adjust the zoom and focus of the projected image.

- To adjust the image focus, press **Focus** and the ▲▼ buttons to improve the image quality. (A)
- To adjust the image size, press **Zoom** and the ▲▼ buttons to get the required image size. (B)



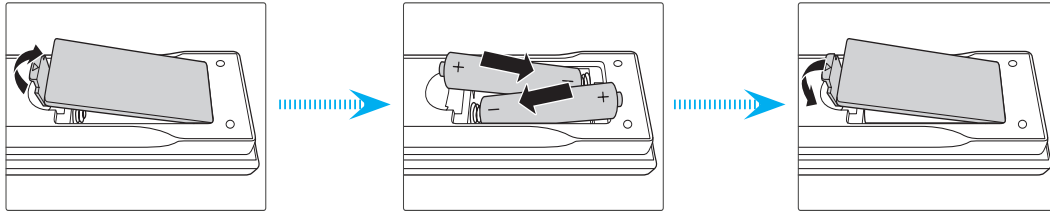
# SETUP AND INSTALLATION

## Remote setup

### Installing / replacing the batteries

Two AAA size batteries are supplied for the remote control.

1. Remove the battery cover on the back of the remote control.
2. Insert AAA batteries in the battery compartment as illustrated.
3. Replace back cover on remote control.



**Note:** Replace only with the same or equivalent type batteries.

### CAUTION

Improper use of batteries can result in chemical leakage or explosion. Be sure to follow the instructions below.

- Do not mix batteries of different types. Different types of batteries have different characteristics.
- Do not mix old and new batteries. Mixing old and new batteries can shorten the life of new batteries or cause chemical leakage in old batteries.
- Remove batteries as soon as they are depleted. Chemicals that leak from batteries that come in contact with skin can cause a rash. If you find any chemical leakage, wipe thoroughly with a cloth.
- The batteries supplied with this product may have a shorter life expectancy due to storage conditions.
- If you will not be using the remote control for an extended period of time, remove the batteries.
- When you dispose of the batteries, you must obey the law in the relative area or country.

### Remote control ID setup

The Infra-Red (IR) remote control supports individual addressing of projectors. The remote receiver on the projector can be set with a specific number from 00 to 99, and the projector only responds to the IR remote set to the same number. The default ID code of the IR remote is 00, allowing it to control all projectors within its effective range.

Follow below methods to set up the ID code for the IR remote control:

ID Code	Change method	Customer code
01	Press <b>Hot Key</b> for 3 seconds, and press <b>0</b> then <b>1</b> within 2 seconds.	0010
02	Press <b>Hot Key</b> for 3 seconds, and press <b>0</b> then <b>2</b> within 2 seconds.	0011
03	Press <b>Hot Key</b> for 3 seconds, and press <b>0</b> then <b>3</b> within 2 seconds.	0012
...	...	...
10	Press <b>Hot Key</b> for 3 seconds, and press <b>1</b> then <b>0</b> within 2 seconds.	0019
11	Press <b>Hot Key</b> for 3 seconds, and press <b>1</b> then <b>1</b> within 2 seconds.	001A
...	...	...
98	Press <b>Hot Key</b> for 3 seconds, and press <b>9</b> then <b>8</b> within 2 seconds.	0071
99	Press <b>Hot Key</b> for 3 seconds, and press <b>9</b> then <b>9</b> within 2 seconds.	0072

To have the IR remote control return to default value 00 where all projectors can be controlled, press **Hot Key** for 3 seconds, and press **0** twice within 2 seconds.

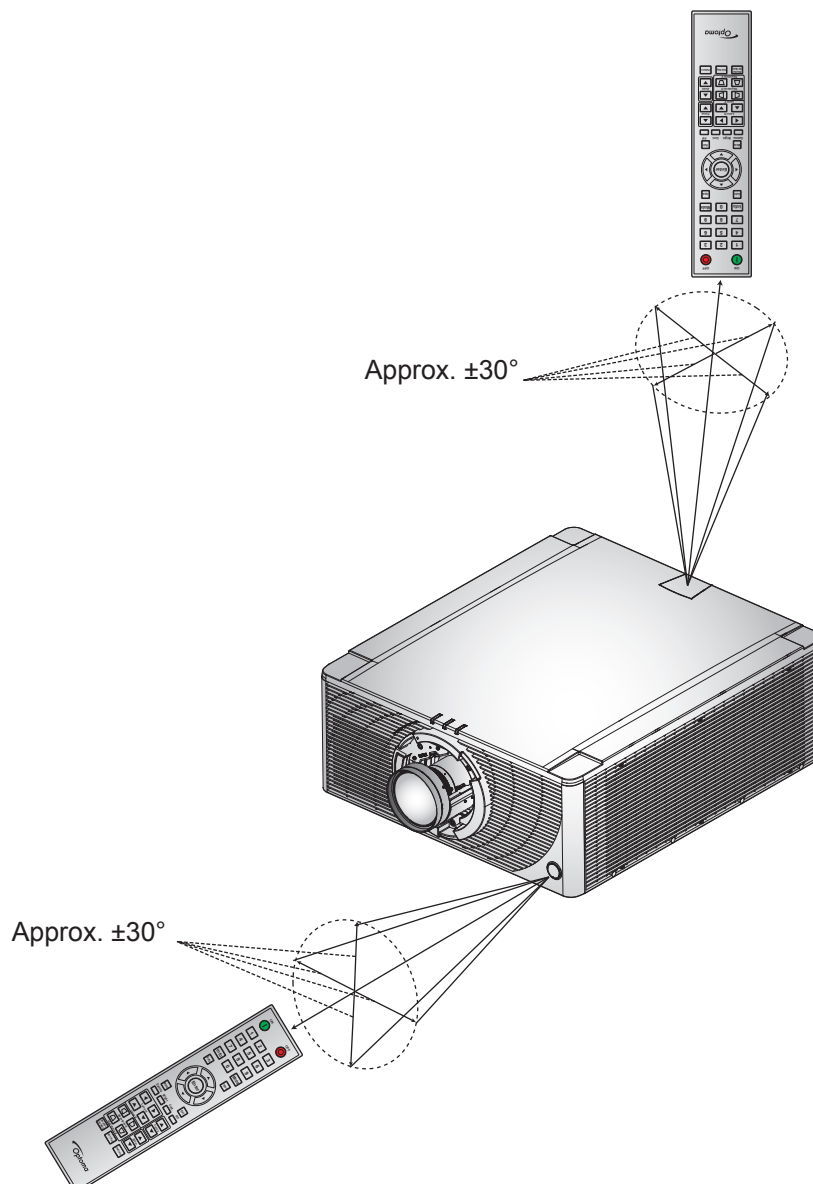
For more information on setting the remote receivers on the projector, see *Projector ID* from the setup menu on page 38.

# SETUP AND INSTALLATION

## Effective range

The Infra-Red (IR) remote control sensors are located on the front and rear sides of the projector. To have the remote control functions correctly, ensure to hold the remote control at an angle within  $\pm 30^\circ$  (horizontally or vertically) to the projector's IR remote control sensor. The distance between the remote control and the sensor should not be longer than 10m (32.8 ft).

- Make sure that there are no obstacles between the remote control and the IR sensor on the projector.
- Make sure the IR transmitter of the remote control is not being shined by sunlight or fluorescent lamps directly.
- Keep the remote control away from fluorescent lamps for over 2 m or it might become malfunction.
- If the remote control is closed to Inverter-Type fluorescent lamps, it might become ineffective from time to time.
- If the remote control and the projector are within a very short distance, it might become ineffective.
- When you aim at a screen, the effective distance is less than 5 m from the remote control to the screen and reflecting the IR beams back to the projector. However, the effective range might change according to screens.

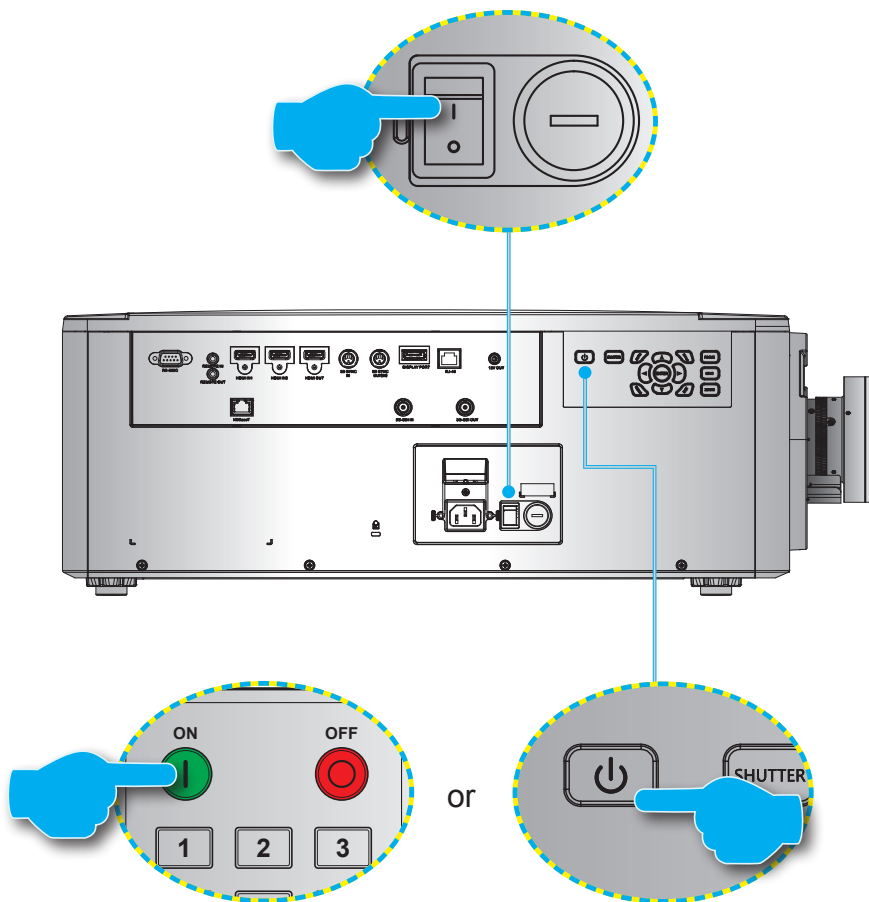


# USING THE PROJECTOR

## Powering on / off the projector

### Powering on

1. Securely connect the AC power cord and signal/source cable to the projector.
2. Set the power switch to the “I” (ON) position and wait until the power button “⏻” on the projector keypad is solid orange.
3. Turn on the projector by pressing the **ON** button “⏻” on the remote control or the power button “⏻” on the projector keypad.  
The status LED is orange with a long blink and the status LED will turn to solid green.



**Note:** If the projector is turned on for the first time, you will be prompted to select the projector language, projection orientation, and other settings.

### Powering off

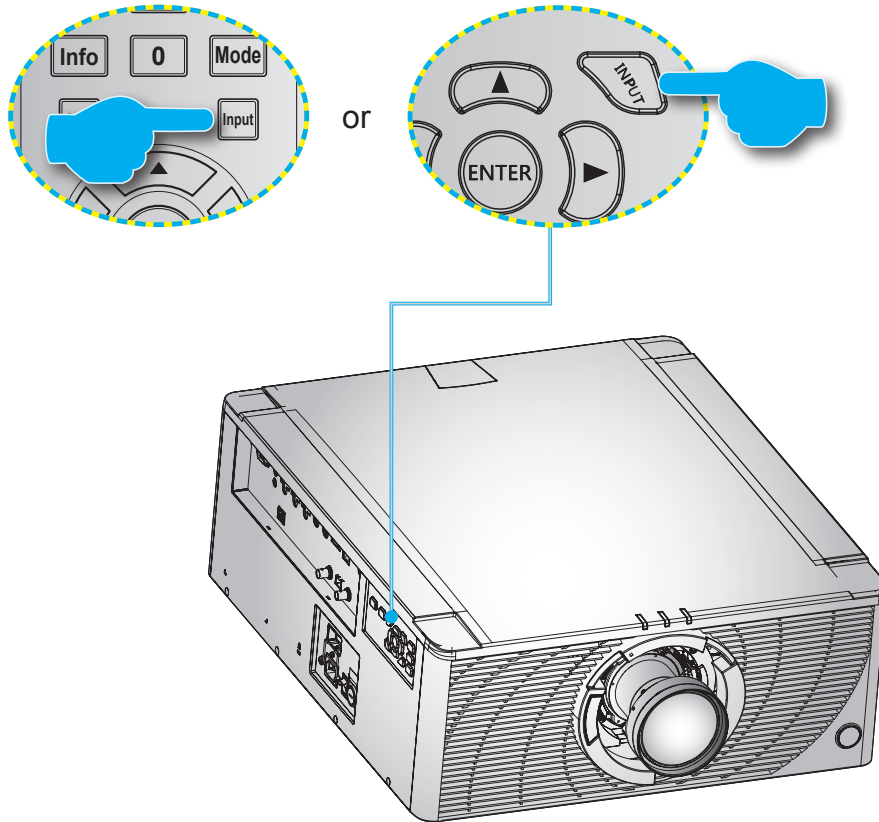
1. Turn off the projector by pressing the power button “⏻” on the projector keypad or the **OFF** button “⊗” on the remote control.  
A message will pop up to confirm that you want to turn off the projector.
2. Press the power button or the **OFF** button again to confirm, otherwise the warning message disappears after 10 seconds and the projector remains on.
3. Set the Power switch to the “o” (OFF) position.
4. Disconnect the power cord from the projector and the electrical outlet.

**Note:** It is not recommended to turn on the projector immediately after powering off the projector.

# USING THE PROJECTOR

## Selecting an input source

Turn on the connected source that you want to display on the screen, such as computer, notebook, and video player. The projector will automatically detect the input source. If multiple sources are connected, press the **Input** button on the projector keypad or the remote control to select an input source.

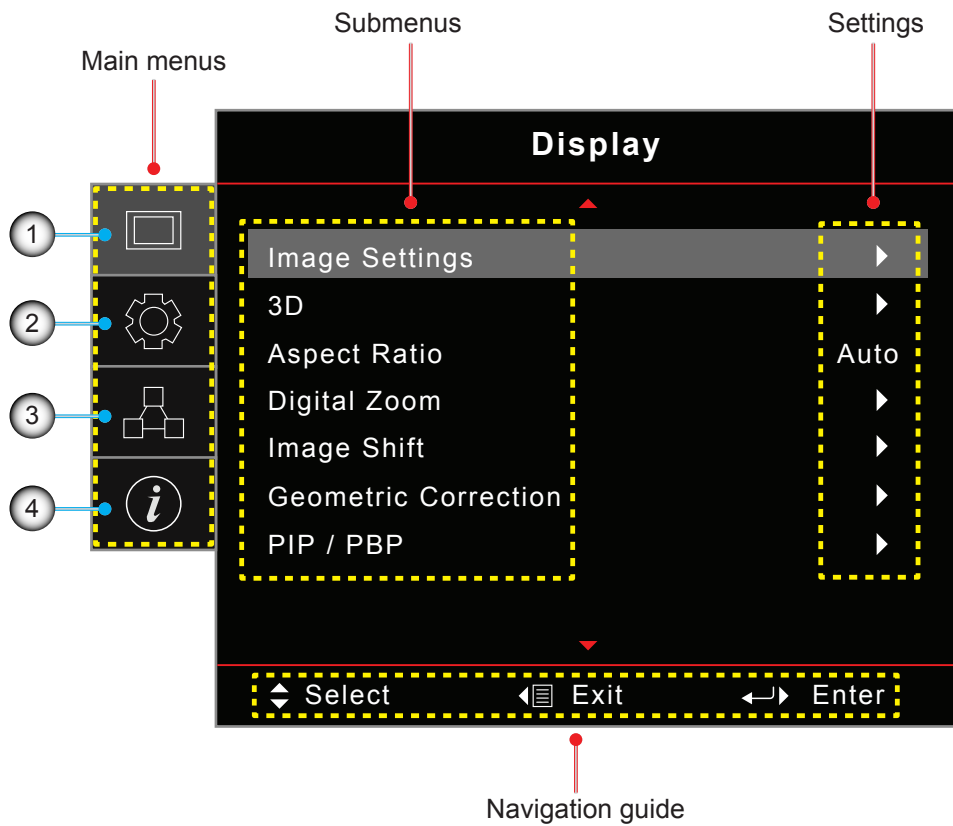


# USING THE PROJECTOR

## Menu navigation and features

The projector has multilingual on-screen display (OSD) menus that allow you to make image adjustments and change a variety of settings.

1. To open the OSD menu, press the **Menu** key on the remote control or projector keypad.
2. To select a main menu or submenu, use the **▲** and **▼** buttons to highlight it. Then, press **▶** or **Enter** to enter the menu.
3. To select a menu item, use the **▲** and **▼** buttons to highlight it. Then, use the **▲ ▼ ◀ ▶** buttons to adjust that setting and press **Enter**.
4. Press **◀** or **Exit** to return to the previous menu or exit the OSD menu if at top level.



No	Item	No	Item
1.	Display menu	3.	Network menu
2.	Setup menu	4.	Information menu



# USING THE PROJECTOR

## OSD menu tree

Main menu	Submenus	Settings				
Display	Image Settings	Display Mode	Presentation / Bright / Cinema / HDR / sRGB / DICOM SIM. / Blending / User / 3D			
		Wall Color	Off (default) / Blackboard / Light Yellow / Light Green / Light Blue / Pink / Gray			
		Dynamic Range	HDR Off / Auto (default)			
			HDR Picture Mode	Bright / Standard (default) / Film / Detail / SMPTE 2084		
			HDR Demo Mode	Off (default) / On		
		Brightness		0 ~ 100		
		Contrast		0 ~ 100		
		Sharpness		1 ~ 15		
		Color		0 ~ 100		
		Tint		0 ~ 100		
		Gamma		Film / Video / Graphics / Standard (2.2) / 3D / Blackboard / DICOM SIM. / 1.8 / 2.0 / 2.4		
		Color Settings	BrilliantColor™	0 ~ 10		
				Color Temperature	Warm / Standard / Cool	
				Color Matching	Color Red (default) / Green / Blue / Cyan / Yellow / Magenta / White (R / G / B / C / Y / M / W)	
					R / G / B / C / Y / M • Saturation: 0 ~ 254 (default: 127) • Hue: 0 ~ 254 (default: 127) • Gain: 0 ~ 254 (default: 127)	
					W • Red: 0 ~ 254 (default: 127) • Green: 0 ~ 254 (default: 127) • Blue: 0 ~ 254 (default: 127)	
					Reset Cancel (default) / Yes	
					Exit	
				RGB Gains/ Bias	Red Gain	0 ~ 100
					Green Gain	0 ~ 100
					Blue Gain	0 ~ 100
					Red Bias	0 ~ 100
					Green Bias	0 ~ 100
					Blue Bias	0 ~ 100
					Reset	Cancel (default) / Yes
					Exit	
			Color Space	Auto (default) / RGB / YUV / RGB (0~255) / RGB (16~235)		
		UltraDetail		Off / 1 / 2 / 3		
		Extreme Black		Off (default) / On		
		Dynamic Black		Off (default) / On		
		Brightness Mode		Constant Power / Constant Luminance / Eco Mode		
		Power Level		1 ~ 100 (30% ~ 100%) (default: 100)		
		Pure Engine	PureContrast	Off / On		
PureColor	Off / 1 / 2 / 3 / 4 / 5					
PureMotion	Off / 1 / 2 / 3					
PureMotion Demo	Off (default) / H Split / V Split					
Reset						

# USING THE PROJECTOR

Main menu	Submenus	Settings		
Display	3D	3D Mode	On (default) / Off	
		3D Format	Auto (default) / Side by Side / Top and Bottom / Frame Sequential / Frame Packing	
		3D-2D	3D (default) / L / R	
		3D Sync Invert	Off (default) / On	
		3D Sync Out	To Emitter (default) / To Next Projector	
		L/R Reference	Field GPIO (default) / 1ST Frame	
		3D Frame Delay	1 ~ 200	
		Reset		
	Aspect Ratio		4:3 / 16:9 / 16:10 / LBX / Native / Auto	
	Digital Zoom	H Zoom	50% ~ 400 % (default: 100%)	
		V Zoom	50% ~ 400 % (default: 100%)	
		Exit		
	Image Shift	H (Horizontal)	0 ~ 100 (default: 50)	
		V (Vertical)	0 ~ 100 (default: 50)	
	Geometric Correction	PC Mode	Off (default) / On	
		H Arc	0 ~ 100 (default: 50)	
		V Arc	0 ~ 100 (default: 50)	
		Four Corners	Top-left / Top-right / Bottom-left / Bottom-right	
		H Keystone	0 ~ 40 (default: 20)	
		V Keystone	0 ~ 40 (default: 20)	
	Reset			
	PIP/PBP	Screen	Off / PIP / PBP	
		Location	<ul style="list-style-type: none"> <li>• PIP-Bottom Right (default) / PIP-Bottom Left / PIP-Top Left / PIP-Top Right</li> <li>• PBP, Main Left (default) / PBP, Main Top / PBP, Main Right / PBP, Main Bottom</li> </ul>	
		Size	Large / Medium / Small	
		Main Source	HDMI1 / HDMI2 / DisplayPort / HDBaseT / 3G-SDI	
		Sub Source	HDMI1 / HDMI2 / DisplayPort / HDBaseT / 3G-SDI	
		Swap		
Setup	Projection	Front (default) / Rear / Ceiling-top / Rear-top		
	Lens Settings	Zoom		
		Focus		
		Lens Function	Lock / Unlock (default)	
		Lens Shift	Up / Down / Left / Right	
		Lens Calibration	Yes / No	
		Lens Memory	Apply Position	Record 1 ~ 5
			Save Current Position	Record 1 ~ 5
	Reset		Yes / No	
	Power Settings	Direct Power On	Off (default) / On	
		Auto Power Off (min.)	0 ~ 180 (5 min. increments) (default: 20)	
		Sleep Timer (min.)	0 ~ 990 (30 min increments) (default: 0)	
		Always On	Yes / No (default)	
	Power Mode (Standby)	Eco. (default) / Active / Communication		

# USING THE PROJECTOR

Main menu	Submenus		Settings			
Setup	Security	Security	Off / On			
		Security Timer	Month / Day / Hour MM / DD / HH (RS232 Only)			
		Change Password				
		Test Pattern		Off / Green Grid / Magenta Grid / White Grid / White / Black / Red / Green / Blue / Yellow / Magenta / Cyan		
	Remote Settings	IR Function	Front	Off / On (default)		
			Top	Off / On (default)		
			HDBaseT	Off (default) / On		
		Remote Code	00 ~ 99			
		Hot-Key Settings		Aspect Ratio/Freeze Screen		
		12V Trigger		Off (default) / On		
		Projector ID		00 ~ 99		
		Light Sensor		Default / Manual		
		Keypad LED Settings		Off / On (default)		
	Options	Language		English (default) / Deutsch / Français / Italiano / Español / Português / Polski / Nederlands / Svenska / Norsk/Dansk / Suomi / ελληνικά / 繁體中文 / 简体中文 / 日本語 / 한국어 / Русский / Magyar / Čeština / العربية / ไทย / Türkçe / ىسراف / Tiếng Việt / Bahasa Indonesia / Română / Slovakian		
			Menu Settings	Menu Location	Top left / Top right / Center (default) / Bottom left / Bottom right	
				Menu Transparency	0 ~ 9	
				Menu Timer	Off / 5 sec / 10 sec / 15 sec (default)	
				Auto Source		Off (default) / On
				Input Source		HDMI1 / HDMI2 / DisplayPort / HDBaseT / 3G-SDI
				High Altitude		Off (default) / On
				Information Hide		Off (default) / On
				Logo		Default / Neutral
				Background Color		None / Blue (default) / Red / Green / Gray / Logo
				Serial Port Baud Rate		9600 / 14400 / 19200 (default) / 38400 / 57600 / 115200
				Serial Port Path		RS232 (default) / HDBaseT
				HDMI 1		EDID 1.4 / EDID 2.0 (default)
				HDMI 2		EDID 1.4 / EDID 2.0 (default)
				HDBaseT		EDID 1.4 / EDID 2.0 (default)
				System Update		Cancel (default) / Yes
			Reset	Reset OSD		Cancel (default) / Yes
	Reset to Default	Cancel (default) / Yes				
	Network	WLAN	WLAN	Off / On (default)		
Subnet Mask			Default: 255.255.255.0			
IP Address			Default: 192.168.1.1			
Start IP			(Read only)			
End IP			(Read only)			
SSID			(Read only)			
Apply						

# USING THE PROJECTOR

Main menu	Submenus	Settings	
<b>Network</b>	LAN	MAC Address	(Read only)
		DHCP	Off (default) / On
		IP Address	Default: 192.168.0.100
		Subnet Mask	Default: 255.255.255.0
		Gateway	Default: 192.168.0.51
		DNS	Default: 0.0.0.0
		Apply	
	Control	Crestron	Off / On (default)
		Extron	Off / On (default)
		PJ Link	Off / On (default)
		AMX Device Discovery	Off / On (default)
		Telnet	Off / On (default)
		HTTP	Off / On (default)
		Network Reset	
	<b>Information</b>	Regulatory	(Read only)
		Serial Number	(Read only)
		Main Source	(Read only)
Main Resolution		(Read only)	
Main Signal Format		(Read only)	
Main Pixel Clock		(Read only)	
Main Horz Refresh		(Read only)	
Main Vert Refresh		(Read only)	
Sub Source		(Read only)	
Sub Resolution		(Read only)	
Sub Signal Format		(Read only)	
Sub Pixel Clock		(Read only)	
Sub Horz Refresh		(Read only)	
Sub Vert Refresh		(Read only)	
Display Mode		(Read only)	
Color Space Setting		(Read only)	
Power Mode (Standby)		(Read only)	
Projection Hours		(Read only)	
Remote Code		(Read only)	
LAN IP Address		(Read only)	
SSID		(Read only)	
Projector ID		(Read only)	
Brightness Mode		(Read only)	
FW Version		Global version	
F-MCU Version		(Read only)	
S-MCU Version		(Read only)	
F-Image Version		(Read only)	
Formatter Version	(Read only)		
LAN Version	(Read only)		

# USING THE PROJECTOR

## Display menu

Learn how to configure the projector display settings.

### Submenus

- Image Settings
- 3D
- Aspect Ratio
- Digital Zoom
- Image Shift
- Geometric Correction
- PIP/PBP

## Image Settings

Image Settings menu provides various functions to optimize the projected image to achieve the best image quality in all kinds of surroundings, in consideration of factors such as input source, screen color, and ambient lighting.

### Display Mode

There are a number of display modes that are preset for different types of images.

- **Presentation:** Best for displaying presentation slides in a bright room.
- **Bright:** Best for the installations requiring high brightness images.
- **Cinema:** Best for videos projected in a dark room.
- **HDR:** Best for displaying High Dynamic Range (HDR) content.
- **sRGB:** Standardized image color that matches the sRGB color standard.
- **DICOM SIM.:** Best for projecting monochrome medical images, such as X-ray diagram.
- **Blending:** Best for multiple projector installations.
- **User:** Image settings saved by the user.
- **3D:** Best for playing 3D videos.

### Wall Color

Set the wall color of the projector to achieve best color performance for a specific wall. The available options are Off, Blackboard, Light Yellow, Light Green, Light Blue, Pink, and Gray.

### Dynamic Range

Configure the settings for the High Dynamic Range (HDR) function.

- **HDR**
  - **Off:** Turn off the projector's HDR function, and the projector announces that it does not support HDR content so that the input device only sends out SDR signals.
  - **Auto:** When receiving HDR signals, the projector automatically changes to HDR display mode.
- **HDR Picture Mode**
  - **Bright:** Increase the color saturation for bright images.
  - **Standard:** Make the images look more realistic and natural.
  - **Film:** Improve the image details for videos.
  - **Detail:** Improve image details in dark scenes.
  - **SMPTE 2084:** Optimize the image performance to meet the SMPTE 2084 standard.
- **HDR Demo Mode:** When set to On, the projector is capable of receiving HDR signals but its ability to process HDR metadata is disabled. This mode is used for sales demo.

# USING THE PROJECTOR

## Brightness

Adjust the luminous brightness of the projected image to adapt to different ambient light.

## Contrast

Adjust the contrast ratio of the projected image. The contrast controls the degree of difference between the lightest and darkest parts of the image.

## Sharpness

Adjust the clarity of details in the projected image to make the image clearer and sharper.

## Color

Transform video images from black and white to fully saturated color.

## Tint

Adjust the color balance of red and green in video images.

## Gamma

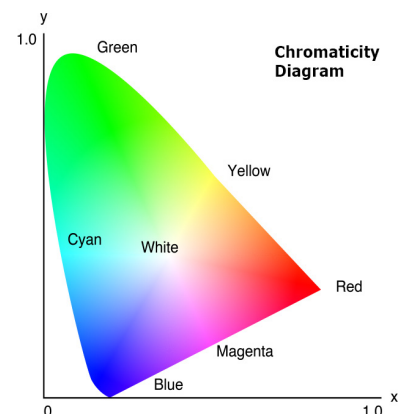
Select an appropriate gamma value to optimize the image conformance to different input sources.

- **Film:** Best for home theater setting.
- **Video:** Best for video or TV sources.
- **Graphics:** Best for projecting photos from PC input.
- **Standard (2.2):** Standard gamma value.
- **3D:** Best for playing 3D videos.
- **Blackboard:** Best for projecting on to a blackboard.
- **DICOM SIM.:** Best for projecting monochrome medical images, such as X-ray diagram.
- **1.8 / 2.0 / 2.4:** Select a preset gamma value to adjust the image performance. In general, the smaller the value, the brighter the dark areas of the image will become.

## Color Settings

Configure the color settings of the projected image to improve the color performance.

- **Brilliant Color™:** Advanced image processing algorithm that enables the usage of more colors on the color wheel, resulting in higher brightness while providing truer and more vibrant colors in the projected image.
- **Color Temperature:** Adjust the color temperature of the projected image. The available options are Warm, Standard, and Cool.
- **Color Matching:** Change the color of a projected image by adjusting each color component in the image. The adjustable color includes Red, Green, Blue, Cyan, Yellow, Magenta, and White (R / G / B / C / Y / M / W).
  - **Color:** Select a color for further adjustment.
  - **(R / G / B / C / Y / M) Saturation / Hue / Gain:** Change the value of hue, saturation, and gain to adjust the red, green, blue, cyan, yellow, or magenta in the projected image.
    - **Saturation:** Adjust the saturation of the selected color. The value indicates the color shifts from or towards the white in the center of the chromaticity diagram.
    - **Hue:** Adjust the hue of the selected color. The value reflect the number of degrees of rotation around the chromaticity diagram from the original color. Increasing value indicates counterclockwise rotation, and decreasing value, clockwise rotation.
    - **Gain:** Adjust the gain of the selected color. Increase the value to brighten the image (add white to a color) or decrease the value to darken the image (add black to a color).



# USING THE PROJECTOR

- **(W) Red / Green / Blue:** Change the value of red, green, and blue to adjust the white color.
- **Reset:** Reset the selected color to factory default settings.
- **Exit:** Exit the submenu.
- **RGB Gains/Bias:** Gain and bias are individual controls for each RGB channels used to set greyscale. The Gains calibrate the color of the dark parts and Bias calibrate the white parts.
  - **Red / Green / Blue Gain:** Adjust the color of the image's bright areas.
  - **Red / Green / Blue Bias:** Adjust the color of the image's dark areas.
  - **Reset:** Reset the settings to factory default values.
  - **Exit:** Exit the submenu.
- **Color Space:** Select a color space that has been specifically tuned for the input signal. The available options are Auto, RGB, YUV, RGB (0-255), and RGB (16-235). Select RGB only for HDMI input.

## UltraDetail

Adjust the edges of the projected image to display sharper images with more details.

## Extreme Black

Automatically increase the contrast ratio by turning off the laser light when black image is detected.

## Dynamic Black

Automatically adjust the contrast ratio for video sources. It improves the black level in dark scenes by reducing the light output.

## Brightness Mode

Set up the brightness mode depending on the various installation requirements.

- **Constant Power:** Enable this mode to set the image brightness to a specific level controlled by the laser diode power level. Use *Power Level* from the upper menu to set the laser diode power level.
- **Constant Luminance:** Maintain the image brightness that is set in Constant Power. A special algorithm is designed to compensate the natural decay of brightness so that the image can be maintained at a fixed brightness level.
- **Eco Mode:** Set the image brightness to 50% of the projector's maximum brightness level, which lowers the power consumption and extends the lifetime of the projector. The projector reaches its maximum brightness level when the display mode is set to Bright.

## Power Level

Set the power level of the laser diode power to adjust the image brightness. The power value ranges from 1 to 100, which covers the power level from 30% to 100%. The set power value is activated when Constant Power in Brightness Mode is enabled.

## PureEngine

Provide various functions to optimize the image performance for more true to life colors in movie scenes, and more natural motion flow in action videos.

- **PureContrast:** Optimize the brightness in dark and light movie scenes to improve the image details.
- **PureColor:** Optimize the image colors to make the colors appear richer and more vibrant in videos.
- **PureMotion:** Eliminate motion blurring or image judder in high-speed action videos, using sophisticated frame-interpolation technology and advanced motion control processing.
- **PureMotion Demo:** Demonstrate the difference in the image quality between the images processed by PureMotion and the original images.

## Reset

Reset all color settings to factory default values.

# USING THE PROJECTOR

## 3D menu

3D video file combines two slightly different images (frames) of the same scene representing the different views that the left and right eyes see. When these frames are displayed fast enough and viewed with 3D glasses synchronized with the left and right frames, the viewer's brain then assemble the separate images into a single 3D image. 3D Menu provides options to set up the 3D functions to correctly display 3D videos.

### **3D Mode**

Enable or disable the 3D function.

### **3D Format**

Select a proper 3D format for the 3D input signal. The available options are Auto, Side by Side, Top and Bottom, Frame Sequential, and Frame Packing.

### **3D-2D**

Transform the 3D content to 2D images.

- **3D:** Play the 3D content normally.
- **L:** Play the left images of the 3D content.
- **R:** Play the right images of the 3D content.

### **3D Sync Invert**

When the 3D video does not appear correctly, use this function to invert the 3D left and right frames.

### **3D Sync Out**

Set up the transmission of the 3D sync output signal.

- **To Emitter:** Send the 3D sync signal to the emitter connected to the projector's 3D sync out port.
- **To Next Projector:** For multiple projector applications, send the 3D sync signal to next projector.

### **L/R Reference**

To ensure the correct 3D synchronisation, use this function to set the signal reference for the left and right (L/R) frames.

- **Field GPIO:** When receiving an external 3D sync signal from the 3D sync in cable, the projector automatically select this option to synchronize the L/R reference with the 3D sync signal.
- **1ST Frame:** When the projector generates 3D sync signal internally, select this option to set the first frame of the input source as the projector's left reference. If the 3D image does not appear correctly, use 3D Invert function to swap the left and right frames.

### **3D Frame Delay**

Set a frame delay value for the projector to correct the time difference between the 3D signal being given and the result being executed. This function works only when L/R Reference is set to Field GPIO.

When performing 3D blending on multiple projectors, set the frame delay for each projector to correct the non-synchronous images.

### **Reset**

Reset all 3D settings.

## Aspect Ratio

Set the aspect ratio of the projected image. The available options are 4:3, 16:9, 16:10, LBX, Native, and Auto. Select Auto to display the detected image size.



# USING THE PROJECTOR

## Digital Zoom

Adjust the size of the projected image. The image can be resized from 50% to 400%. After resizing the image with this function, use Image Shift to adjust the image position.

- **H Zoom:** Change the height of the projected area.
- **V Zoom:** Change the width of the projected area.
- **Exit:** Exit the submenu.

## Image Shift

Adjust the position of the display area within the lens offset range. The available options are H and V that stands for horizontal and vertical shifting.

## Geometric Correction

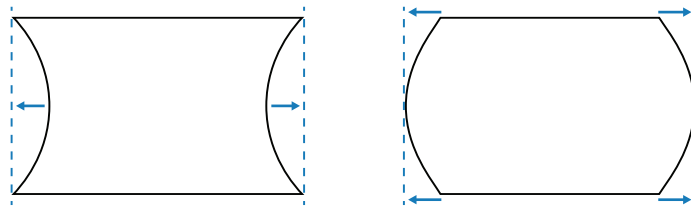
Configure the geometric settings to reshape the image for different projection surface.

### PC Mode

Enable PC mode to use PC software for more complicated geometric configuration. When the PC mode is set to On, the projector will automatically load the previously applied PC geometry settings.

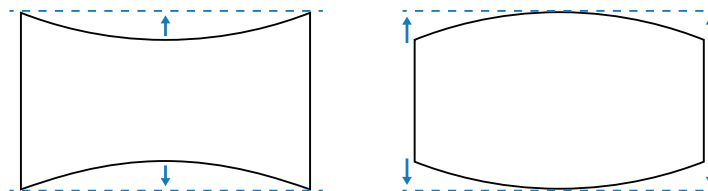
### H Arc

Correct the projected image with horizontal barrel or pincushion distortion.



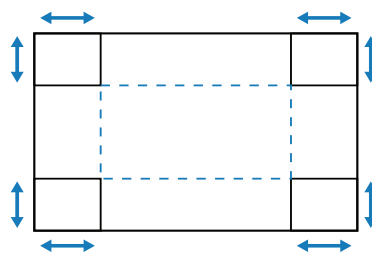
### V Arc

Correct the projected image with vertical barrel or pincushion distortion.



### Four Corners

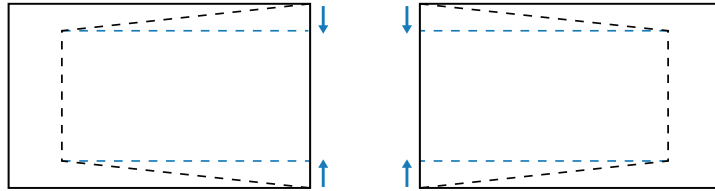
Reshape the image by moving the 4 corners of the image to have it fit a specific projection surface.



# USING THE PROJECTOR

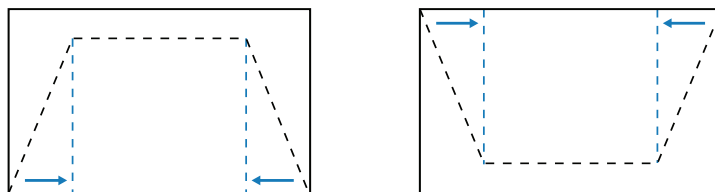
## H Keystone

Adjust the left and right side of the projected image to make it an even rectangle. It is used for the images with unequal left and right sides.



## V Keystone

Adjust the top and bottom side of the projected image to make it an even rectangle. It is used for the images with unequal top and bottom sides.



## Reset

Reset geometric settings to factory default values.

## **PIP/PBP**

PIP/PBP (picture in picture/picture by picture) allows simultaneously displaying two images from two input sources.

### Screen

Select the appropriate PIP/PBP mode.

- **Off:** Disable PIP/PBP mode.
- **PIP:** Display one input source on the main screen and the other input source in an inset window.
- **PBP:** Display two images of the same size on the screen.

### Location

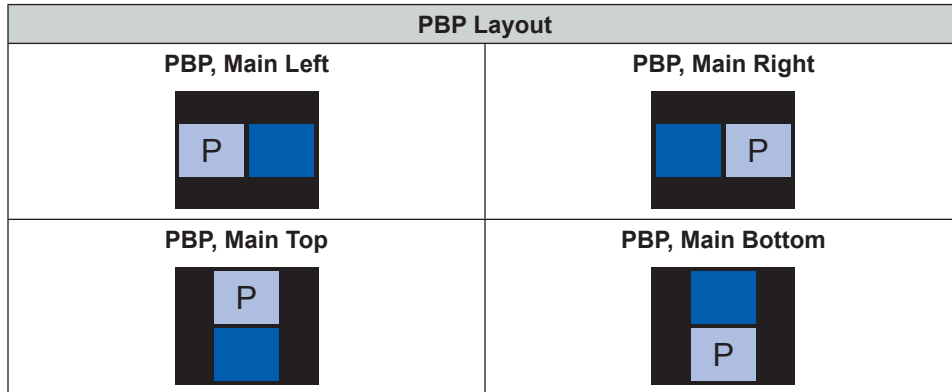
Adjust the layout of the two images. In the layout chart below, the “P” indicates the main image:

- **PIP Layout**

PIP Layout	PIP Size		
	Small	Medium	Large
PIP-Bottom Right			
PIP-Bottom Left			
PIP-Top Left			
PIP-Top Right			

# USING THE PROJECTOR

- **PBP Layout**



**Size**

Change the display size of the sub source in PIP mode.

**Main Source**

Select an input source for the main image. The available input sources are DisplayPort, HDMI1, HDMI2, HDBaseT, and 3G-SDI.

**Sub Source**

Select an input source for the second image. The available input sources are DisplayPort, HDMI1, HDMI2, HDBaseT, and 3G-SDI.

**Swap**

Swap the main source and sub source.

**Note:** See below table for the PIP/PBP compatibility.

**PIP/PBP Compatibility**

PIP/PBP Matrix	DisplayPort	HDMI 1	HDMI 2	HDBaseT	3G-SDI
DisplayPort	—	V	V	V	V
HDMI 1	V	—	—	—	—
HDMI 2	V	—	—	—	—
HDBaseT	V	—	—	—	—
3G-SDI	V	—	—	—	—

# USING THE PROJECTOR

## Setup menu

Learn how to configure the projector operation settings.

### Submenus

- Projection
- Lens Settings
- Power Settings
- Security
- Test Pattern
- Remote Settings
- 12V Trigger
- Projector ID
- Light Sensor
- Keypad LED Settings
- Options
- System Update
- Reset

### Projection

Change the image direction by selecting a proper projection mode. The available options are Front, Rear, Ceiling-top, and Rear-top, which support front projection, rear projection, front projection inverted for ceiling-top installation, and rear projection inverted for rear-top installation.

### Lens Settings

Configure the lens settings to adjust the image quality and position.

#### Zoom

Use the ▲ and ▼ buttons to adjust the size of the projected image.

#### Focus

Use the ▲ and ▼ buttons to adjust the focus of the projected image.

#### Lens Function

Lock the lens to prevent the lens motors from moving, which disables all lens functions.

#### Lens Shift

Use the ▲ ▼ ◀ ▶ buttons to adjust the lens position to shift the projected area.

#### Lens Calibration

Calibrate the lens position to return it to the center. To prevent damage to the projector and the lens, always perform lens calibration before replacing the lens.

#### Lens Memory

This projector can save up to five lens settings, which records the lens position, zoom and focus.

- **Apply Position:** Select a record from 1 to 5 to apply the lens settings.
- **Save Current Position:** Select a record from 1 to 5 to save the current lens settings.
- **Reset:** Clear the saved lens records.

**Note:** Performing a lens calibration will clear the saved lens records.

# USING THE PROJECTOR

## Power Settings

Adjust the power settings to control the projector's operation time and standby mode.

### Direct Power On

When set to On, the projector will automatically turn on after being connected to a power source.

### Auto Power Off (min)

Set an interval timer for the projector to automatically turn off if no signal is detected within the specified time period. Press the ◀ and ▶ buttons to add or reduce time, 5 minutes for each press.

### Sleep Timer (min)

Set an interval timer for the projector to automatically turn off after operating for the specified amount of time.

- **Sleep Timer (min):** Press the ◀ and ▶ buttons to add or reduce time, 30 minutes for each press.
- **Always On**
  - **No:** The sleep timer resets to 0 after the projector is turned off.
  - **Yes:** Activate the sleep timer every time when the projector is turned on.

### Power Mode (Standby)

Select the power mode for the projector in standby status.

- **Eco.:** Minimum power consumption (0.5 Watt) which does not allow network controlling.
- **Active:** Low power consumption (< 2 Watt) which allows the LAN module to enter sleep mode and supports to be woken by Wake on LAN (WoL). When the LAN module is woken by WoL, the projector is ready to receive commands over the network.
- **Communication:** More power consumption that allows controlling the projector over the network.

## Security

Set up security verification to protect the projector.

### Security

Select On to protect the projector with a password. If the user enters incorrect password three times, a message will pop up warning that the projector shuts down in 10 seconds.

### Security Timer

Specify the length of time the projector can be used without the password. Once the timer counts to 0, the user must enter a password to use the projector. The timer restarts every time the projector is turned on.

### Change Password

Change the projector password.

**Note:** In the last minute before reaching a specified timer, including Auto Power Off (min), Sleep Timer (min), and Security Timer, an on-screen message will pop up warning that the projector shuts down in 60 seconds. Press any button on the remote control or projector keypad to reset the timer and the projector remains on.

## Test Pattern

Select a test pattern. The available options are Off, Green Grid, Magenta Grid, White Grid, White, Black, Red, Green, Blue, Yellow, Magenta, and Cyan.

# USING THE PROJECTOR

## Remote Settings

Configure the settings of the Infra-Red (IR) remote control.

### IR Function

Set the remote receiver for the projector to control the communication between the projector and the IR remote.

- **Front:** Enable or disable the front remote receiver.
- **Top:** Enable or disable the top remote receiver.
- **HDBaseT:** Select On to set the HDBaseT terminal as the remote receiver.

### Remote Code

Assign an ID code from 00 to 99 for the remote receivers on the projector. The projector only responds to the IR remote control set with the same ID code.

For more details on setting an ID code for the IR remote control, see *Remote control ID setup* on page 20.

### Hot Key Settings

Assign a function to the **Hot Key** button on the remote control. It allows you to use the function easily without going through the OSD menus. The available functions for the **Hot Key** button are Aspect Ratio and Freeze Screen.

## 12V Trigger

When set to On, the projector screen is automatically raised or lowered when the projector is turned on or off. This function only works when the projector is connected to an electrical projector screen.

## Projector ID

Assign an ID code for the projector from 00 to 99. Use this code as the projector ID when controlling the projector by RS232, HDBaseT, or other devices. For more information, see *Control* from the network menu on page 40.

## Light Sensor

Light brightness decays naturally over time, although the decay is very gradual for laser projectors. Light sensor calibration helps maintain the correct color point and correct the color shift of the projected image.

- **Default:** Always perform the light sensor calibration at the cooling stage.
- **Manual:** Manually carry out the light sensor calibration.

## Keypad LED Settings

Enable or disable the projector's keypad LED light.

## Options

Adjust the basic projector settings.

### Language

Select a language for the OSD menu. The available languages are English, German, French, Italian, Spanish, Portuguese, Polish, Dutch, Swedish, Norwegian/Danish, Finnish, Greek, Traditional Chinese, Simplified Chinese, Japanese, Korean, Russian, Hungarian, Czechoslovak, Arabic, Thai, Turkish, Persian, Vietnam, Indonesian, Romanian, and Slovakian.

### Menu Settings

Adjust the settings of the OSD menu.

- **Menu location:** Select the menu location from Top left, Top right, Center, Bottom left, and Bottom right.
- **Menu Transparency:** Set the menu transparency level.
- **Menu Timer:** Set the length of time the menu displays on the screen.

# USING THE PROJECTOR

## Auto Source

When set to On, the projector automatically detects and selects the input source. Once an input source is selected, press the Input button on the remote control or keypad to switch to other available sources. When set to Off, press Input will bring up the Input Source submenu.

## Input Source

Select an input source from the source submenu. The available input sources are HDMI1, HDMI2, DisplayPort, HDBaseT, and 3G-SDI.

## High Altitude

Select On to increase the fan speed. To ensure the image quality and prevent damage to the projector, enable High Altitude mode in high temperature, high humidity, or high altitude environment.

## Information Hide

Select On to hide the projector status information.

## Logo

Set up the startup screen.

- **Default:** Use the default splash screen with the brand logo.
- **Neutral:** Disable the logo on the splash screen.

## Background Color

Set a background color to display when no input signal is detected. The available options are None, Blue, Red, Green, Gray, and Logo.

## Serial Port Baud Rate

Set the serial port baud rate. The available options are 9600, 14400, 19200, 38400, 57600, and 115200.

## Serial Port Path

Select a serial port path for the serial commands. The available options are RS232 or HDBaseT.

## HDMI 1

When an input device is connected to HDMI IN1, set the EDID compatibility to display the input signal properly. Select **EDID 1.4** for the input devices with HDMI 1.4, or **EDID 2.0** for the devices with HDMI 2.0.

## HDMI 2

When an input device is connected to HDMI IN2, set the EDID compatibility to display the input signal properly. Select **EDID 1.4** for the input devices with HDMI 1.4, or **EDID 2.0** for the device with HDMI 2.0.

## HDBaseT

When the projector receives HDMI signals from a HDBaseT box, set the EDID compatibility to properly display the HDMI content. Select **EDID 1.4** if the input signal is sent by a device with HDMI 1.4, or **EDID 2.0** if the device supports HDMI 2.0.

**Note:** The common HDMI versions are HDMI 1.4 and 2.0. With HDMI 1.4, the rate of 4K is limited to 30 frames per second, whereas HDMI 2.0 plays 4K video without compromise, at 50 and 60 frames per second. This projector supports both HDMI 1.4 and 2.0. In order to play the HDMI content properly, set up the projector EDID for the input devices with different HDMI specifications.

## **System Update**

Select Yes to update the projector system software/firmware.

## **Reset**

Reset the settings to factory default values.

- **Reset OSD:** Reset OSD settings to default values.
- **Reset to Default:** Reset all projector settings to default values.

# USING THE PROJECTOR

## Network menu

Learn how to configure the projector network settings.

### Submenus

- WLAN
- LAN
- Control
- Network Reset

### Supplemental information

- Using the web control panel
- Using RS232 command by Telnet

## WLAN

The projector can connect to a wireless network using a Wifi dongle. Use the WLAN submenu to configure the wireless network settings for the projector.

- **WLAN:** Select On to enable the wireless connection.
- **Subnet Mask:** Assign the projector's subnet mask.
- **IP Address:** Assign the projector's IP address.
- **Start IP:** Display the Start IP address. (Read only)
- **End IP:** Display the End IP address. (Read only)
- **SSID:** Display the network SSID. (Read only)
- **Apply:** Apply the wireless network settings.

## LAN

The projector can connect to a wired network using an RJ-45 cable. Use the LAN submenu to configure the wired network settings for the projector.

- **MAC Address:** Display the MAC address. (Read only)
- **DHCP:** Turn on DHCP to automatically acquire IP address, subnet mask, gateway, and DNS.
- **IP Address:** Assign the projector's IP address.
- **Subnet Mask:** Assign the projector's subnet mask.
- **Gateway:** Assign the projector's gateway.
- **DNS:** Assign the projector's DNS.
- **Apply:** Apply the wired network settings.

## Control

This projector can be controlled remotely by a computer or other external devices through wireless or wired network connection. It allows the user to control one or more projectors from a distant control center, such as powering the projector on or off, and adjusting the image brightness or contrast.

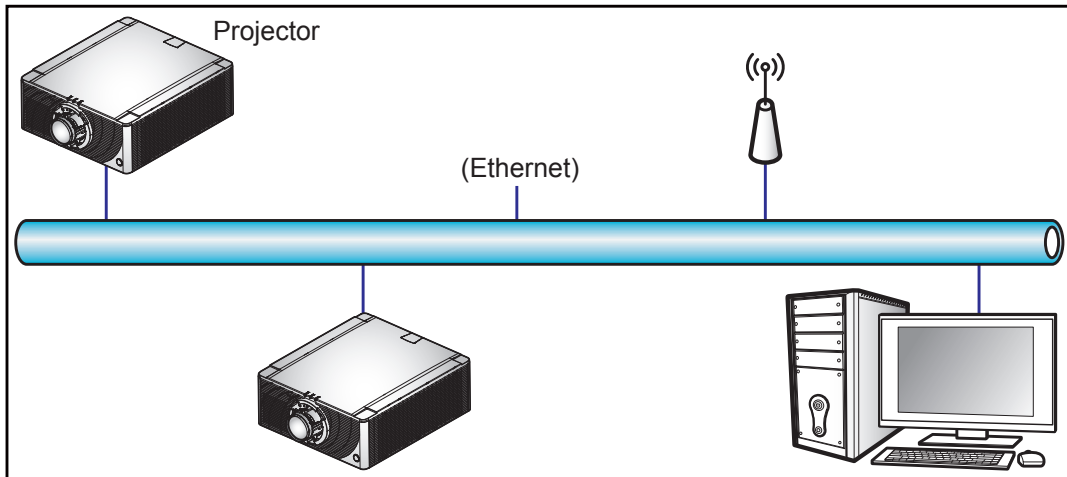
Use the Control submenu to select a control device for the projector.

- **Crestron:** Control the projector with Crestron controller and related software. (Port: 41794)  
For more information, please visit <http://www.crestron.com>.
- **Extron:** Control the projector with Extron devices. (Port: 2023)  
For more information, please visit <http://www.extron.com>.
- **PJ Link:** Control the projector with PJLink v1.0 commands. (Port: 4352)  
For more information, please visit <http://pjlink.jbmia.or.jp/english>.



# USING THE PROJECTOR

- **AMX Device Discovery:** Control the projector with AMX devices. (Port: 9131)  
For more information, please visit <http://www.amx.com>.
- **Telnet:** Control the projector using RS232 commands through Telnet connection. (Port: 23)  
For more information, see *Using RS232 command by Telnet* on page 43.
- **HTTP:** Control the projector with web browser. (Port: 80)  
For more information, see *Using the web control panel* on page 41.



## Note:

- *Crestron is a registered trademark of Crestron Electronics, Inc. of the United States.*
- *Extron is a registered trademark of Extron Electronics, Inc. of the United States.*
- *AMX is a registered trademark of AMX LLC of the United States.*
- *PJLink applied for trademark and logo registration in Japan, the United States of America, and other countries by JBMIA.*
- *For more information about the various types of external devices which can be connected to the LAN / RJ45 port and remotely control the projector, as well as the supported commands for these external devices, please contact the Support-Service directly.*

## Network Reset

Reset all network settings to default factory values.

## Using the web control panel

Web control panel allows the user to configure various projector settings using a web browser from any personal computer or mobile devices.

### System requirement

To use the web control panel, make sure your devices and software meet the minimum system requirements.

- RJ45 cable (CAT-5e) or wireless dongle
- PC, laptop, mobile phone, or tablet installed with a web browser
- Compatible web browsers:
  - Internet Explorer 11 or higher version
  - Microsoft Edge 40 or higher version
  - Firefox 57 or higher version
  - Chrome 63 or higher version
  - Safari 11 or higher version
- Operating system of the mobile devices:
  - iOS 10 or higher version
  - Android 5 or higher version

# USING THE PROJECTOR

## Overview of the web control panel

Configure the projector settings using web browser.



Menu	Submenu	Description
HOME	Information	View the projector information and firmware version details.
	Main	<ul style="list-style-type: none"> <li>Select the projector input sources.</li> <li>Direct keys to enable or disable the projector power, shutter, and OSD.</li> </ul>
	Date & Time	Set up the projector date and time.
	Schedule	Create schedules for the projector to turn on or off automatically.
	Upgrade	Upgrade the projector firmware.
Network	LAN	Set up the wired network and Crestron Control System (CCS) connection.
	WiFi	Set up the wireless network.
MENU	Picture	Adjust the basic image settings, such as image size and position.
	Setup	Adjust the projector general settings, lens settings, and power settings.

## Accessing the web control panel

When network is available, connect the projector and the computer to the same network. Use the projector address as the web URL to open the web control panel in a browser.

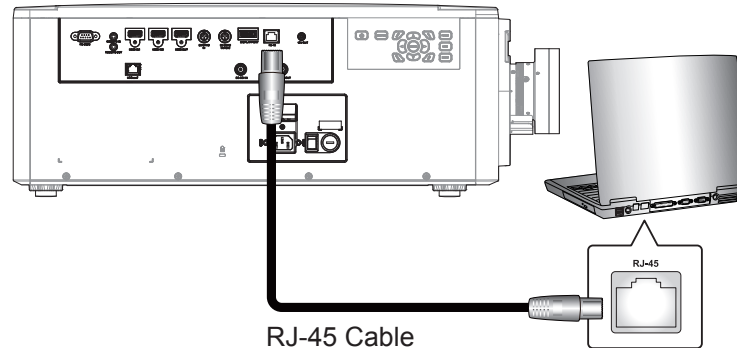
- Check the projector address using the OSD menu.
  - In a wired network, select **Network > LAN > IP Address**.  
**Note:** Make sure DHCP is enabled.
  - In a wireless network, select **Network > WLAN > Gateway**.
- Open a web browser and type the projector address in the address bar.
- The web page redirects to the web control panel.

When network is not available, see *Directly connect the projector to a computer* on page 43.

# USING THE PROJECTOR

## Directly connect the projector to a computer

When network is not available, connect the projector to the computer directly using a RJ-45 cable, and configure the network settings manually.



1. Assign IP address to the projector
  - From the OSD menu, select **Network > LAN**.
  - Turn off DHCP, and manually set the projector's IP Address, Subnet Mask, and Gateway.
  - Press **Enter** to confirm the settings.
2. Assign IP address to the computer
  - Set the Default Gateway and Subnet Mask of the computer to match the projector.
  - Set the IP address of the computer to match the first three numbers of the projector.  
For example, if the projector IP address is 192.168.000.100, set the computer IP address to 192.168.000.xxx, where xxx is not 100.
3. Open a web browser and type the projector address in the address bar.
4. The web page redirects to the web control panel.

## **Using RS232 command by Telnet**

This projector supports using RS232 commands through Telnet connection.

1. Set up direct connection between the projector and computer. See *Directly connect the projector to a computer* on page 43.
2. Disable the firewall on the computer.
3. Open the command dialogue on the computer. For Windows 7 operating system, select **Start > All Programs > Accessories > Command Prompt**.
4. Input the command "telnet ttt.xxx.yyy.zzz 23".  
Replace "ttt.xxx.yyy.zzz" with the projector IP address.
5. Press **Enter** on the computer keyboard.

## **Specification for RS232 by Telnet**

- Telnet: TCP
- Telnet port: 23 (contact service team for more details)
- Telnet utility: Windows "TELNET.exe" (console mode).
- Disconnection for RS232-by-Telnet control normally: Close
- Below are the limitations for using Windows Telnet utility directly after TELNET connection is ready:
  - There is less than 50 bytes for successive network payload for Telnet-Control application.
  - There is less than 26 bytes for one complete RS232 command for Telnet-Control.
  - Minimum delay for next RS232 command must be more than 200 (ms).

# USING THE PROJECTOR

## Information menu

View the projector information about its status and settings. The projector information is read only.

- Regulatory
- Serial Number
- Main Source
- Main Resolution
- Main Signal Format
- Main Pixel Clock
- Main Horz Refresh
- Main Vert Refresh
- Sub Source
- Sub Resolution
- Sub Signal Format
- Sub Pixel Clock
- Sub Horz Refresh
- Sub Vert Refresh
- Display Mode
- Color Space Setting
- Power Mode (Standby)
- Projection Hours
- Remote Code
- LAN IP Address
- SSID
- Projector ID
- Brightness Mode
- FW Version
- F-MCU Version
- S-MCU Version
- F-Image Version
- Formatter Version
- LAN Version

# ADDITIONAL INFORMATION

## Compatible resolutions

### Timing table

Signal Type	Resolution	Frame rate (Hz)	HDMI1/HDMI2	DisplayPort	HDBaseT	3G-SDI
PC	640x480	60	V	V	V	
	640x480	72	V	V	V	
	640x480	75	V	V	V	
	640x480	85	V	V	V	
	640x480	66.6	V	V	V	
	800x600	60	V	V	V	
	800x600	72	V	V	V	
	800x600	75	V	V	V	
	800x600	85	V	V	V	
	832x624	75	V	V	V	
	848x480	50	V	V	V	
	848x480	60	V	V	V	
	848x480	75	V	V	V	
	848x480	85	V	V	V	
	1024x768	60	V	V	V	
	1024x768	75	V	V	V	
	1024x768	85	V	V	V	
	1152x720	50	V	V	V	
	1152x720	60	V	V	V	
	1152x720	75	V	V	V	
	1152x720	85	V	V	V	
	1152x864	60	V	V	V	
	1152x864	70	V	V	V	
	1152x864	75	V	V	V	
	1152x864	85	V	V	V	
	1152x870	75	V	V	V	
	1280x720	50	V	V	V	
	1280x720	60	V	V	V	
	1280x720	75	V	V	V	
	1280x720	85	V	V	V	
	1280x768	60	V	V	V	
	1280x768	75	V	V	V	
	1280x768	85	V	V	V	
	1280x800	50	V	V	V	
	1280x800	60	V	V	V	
	1280x800	75	V	V	V	
	1280x800	85	V	V	V	
	1280x960	50	V	V	V	
	1280x960	60	V	V	V	
	1280x960	75	V	V	V	
1280x960	85	V	V	V		
1280x1024	50	V	V	V		
1280x1024	60	V	V	V		
1280x1024	75	V	V	V		
1280x1024	85	V	V	V		

# ADDITIONAL INFORMATION

Signal Type	Resolution	Frame rate (Hz)	HDMI1/HDMI2	DisplayPort	HDBaseT	3G-SDI
PC	1360x768	50	V	V	V	
	1360x768	60	V	V	V	
	1360x768	75	V	V	V	
	1360x768	85	V	V	V	
	1368x768	60	V	V	V	
	1400x1050	50	V	V	V	
	1400x1050	60	V	V	V	
	1400x1050	75	V	V	V	
	1400x900	60	V	V	V	
	1400x900	75	V	V	V	
	1600x900	60	V	V	V	
	1600x1200	60	V	V	V	
	1920x1080	50	V	V	V	
	1920x1080	60	V	V	V	
	1920x1200 RB	60	V	V	V	
	1920x1200 RB	50	V	V	V	
	3840x2160	30	V	V	V	
	3840x2160	60	V	V	V	
	SDTV	480i	60	V	V	V
576i		50	V	V	V	
EDTV	480p	60	V	V	V	
	576p	50	V	V	V	
HDTV	1080i	25	V	V	V	
	1080i	29	V	V	V	
	1080i	30	V	V	V	
	720p	50	V	V	V	
	720p	59	V	V	V	
	720p	60	V	V	V	
	1080p	23	V	V	V	
	1080p	24	V	V	V	
	1080p	25	V	V	V	
	1080p	29	V	V	V	
	1080p	30	V	V	V	
	1080p	50	V	V	V	
	1080p	59	V	V	V	
1080p	60	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		

# ADDITIONAL INFORMATION

Signal Type	Resolution	Frame rate (Hz)	HDMI1/HDMI2	DisplayPort	HDBaseT	3G-SDI	
Frame Sequential 3D	1280x720	120	V	V	V		
	1080p	120	V	V	V		
4K	3840x2160	23.976	V	V	V		
		24.000	V	V	V		
		25.000	V	V	V		
		29.970	V	V	V		
		30.000	V	V	V		
		50.000	V	V	V		
		59.940	V	V	V		
		60.000	V	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
		30					V
	1080sF YcbCr422 10bit	25					V
		29.97					V
30						V	
3GA-SDI	1080p YcbCr422 10bit	50				V	
		59.94				V	
		60				V	
3GB-SDI	1080p YcbCr422 10bit With 352M Payload ID	50				V	
		59.94				V	
		60				V	

**Note:** "RB" means "reduced blanking".

## EDID table

WUXGA / Analog		
Established Timing:	Standard Timing:	Detail Timing:
720x400 @ 70 Hz	1440x900 @ 75 Hz	1920x1080 @ 60 Hz
720x400 @ 88 Hz	1280x800 @ 75 Hz	1920x1200 @ 60 Hz
640x480 @ 60 Hz	1280x1024 @ 60 Hz	
640x480 @ 67 Hz	1360x765 @ 60 Hz	
640x480 @ 72 Hz	1440x900 @ 60 Hz	
640x480 @ 75 Hz	1400x1050 @ 60 Hz	
800x600 @ 56 Hz	1600x1200 @ 60 Hz	
800x600 @ 60 Hz	1680x1050 @ 60 Hz	
800x600 @ 72 Hz		

# ADDITIONAL INFORMATION

WUXGA / Analog		
800x600 @ 75 Hz		
832x624 @ 75 Hz		
1024x768 @ 60 Hz		
1024x768 @ 70 Hz		
1024x768 @ 75 Hz		
1280x1024 @ 75 Hz		
1152x870 @ 75 Hz		

WUXGA / Digital		
Established Timing:	Standard Timing:	Detail Timing:
720x400 @ 70 Hz	1440x900 @ 75 Hz	1360x768 @ 60 Hz
720x400 @ 88 Hz	1280x800 @ 75 Hz	1366x768 @ 60 Hz
640x480 @ 60 Hz	1280x1024 @ 60 Hz	1920x540 @ 60 Hz
640x480 @ 67 Hz	1360x765 @ 60 Hz	720x480 @ 60 Hz
640x480 @ 72 Hz	1440x900 @ 60 Hz	1920x540 @ 50 Hz
640x480 @ 75 Hz	1400x1050 @ 60 Hz	
800x600 @ 56 Hz	1600x1200 @ 60 Hz	
800x600 @ 60 Hz	1680x1050 @ 60 Hz	
800x600 @ 72 Hz		
800x600 @ 75 Hz		
832x624 @ 75 Hz		
1024x768 @ 60 Hz		
1024x768 @ 70 Hz		
1024x768 @ 75 Hz		
1280x1024 @ 75 Hz		
1152x870 @ 75 Hz		

WUXGA / Digital 3D		
Established Timing:	Standard Timing:	Detail Timing:
720x400 @ 70 Hz	1024x768 @ 120 Hz	1360x768 @ 60 Hz
720x400 @ 88 Hz	1280x800 @ 75 Hz	1366x768 @ 60 Hz
640x480 @ 60 Hz	1280x1024 @ 60 Hz	1920x540 @ 60 Hz
640x480 @ 67 Hz	1360x765 @ 60 Hz	720x480 @ 60 Hz
640x480 @ 72 Hz	800x600 @ 120 Hz	
640x480 @ 75 Hz	1400x1050 @ 60 Hz	
800x600 @ 56 Hz	1600x1200 @ 60 Hz	
800x600 @ 60 Hz	1680x1050 @ 60 Hz	
800x600 @ 72 Hz		
800x600 @ 75 Hz		
832x624 @ 75 Hz		
1024x768 @ 60 Hz		
1024x768 @ 70 Hz		
1024x768 @ 75 Hz		
1280x1024 @ 75 Hz		
1152x870 @ 75 Hz		



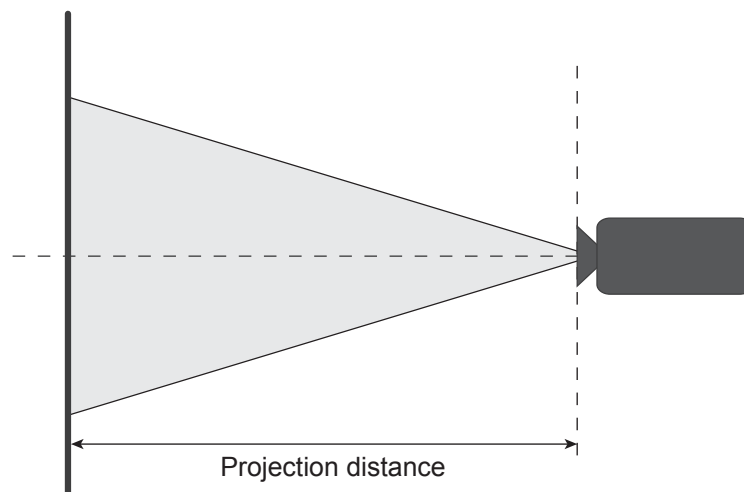
# ADDITIONAL INFORMATION

## Image size and projection distance

Aspect Ratio			16:9											
DMD			0.66"											
Projection Lens			A25		A26		A20		A21		A22		A23	
Throw Ratio			Short Zoom		Standard		Long Zoom				Ultra-Long Zoom			
Zoom Ratio			1.20X		1.44X		1.25X		1.33X		2X		1.8X	
Throw Distance (m)			1.47-11.41		2.09-19.57		2.97-24.08		3.75-31.62		5.05-61.71		10.05-111.86	
Net Weight (kg)			2.16		1.50		2.40		2.0		2.50		2.40	
Projection screen size			Projection distance (m)											
Throw Ratio			0.85	1.02	1.2	1.73	1.7	2.12	2.12	2.83	2.83	5.66	5.66	10.18
Diagonal (inch)	Height (m)	Width (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)
80	1.00	1.77	1.47	1.79	2.09	3.08	2.97	3.75	3.75	5.01	5.05	9.96	10.05	17.99
90	1.12	1.99	1.67	2.02	2.36	3.47	3.36	4.24	4.23	5.64	5.66	11.19	11.29	20.23
100	1.25	2.21	1.86	2.25	2.63	3.86	3.75	4.72	4.70	6.27	6.27	12.42	12.53	22.46
110	1.37	2.44	2.05	2.48	2.90	4.25	4.14	5.21	5.18	6.91	6.87	13.65	13.76	24.70
120	1.49	2.66	2.24	2.71	3.17	4.65	4.53	5.69	5.66	7.54	7.48	14.89	15.00	26.93
130	1.62	2.88	2.44	2.94	3.44	5.04	4.91	6.17	6.13	8.17	8.09	16.12	16.24	29.17
140	1.74	3.10	2.63	3.17	3.71	5.43	5.30	6.66	6.61	8.81	8.70	17.35	17.47	31.40
150	1.87	3.32	2.82	3.39	3.98	5.82	5.69	7.14	7.09	9.44	9.31	18.58	18.71	33.63
160	1.99	3.54	3.01	3.62	4.25	6.22	6.08	7.62	7.56	10.08	9.92	19.81	19.95	35.87
170	2.12	3.76	3.21	3.85	4.52	6.61	6.47	8.11	8.04	10.71	10.53	21.05	21.18	38.10
180	2.24	3.98	3.40	4.08	4.79	7.00	6.85	8.59	8.52	11.34	11.14	22.28	22.42	40.34
190	2.37	4.21	3.59	4.31	5.06	7.40	7.24	9.08	8.99	11.98	11.75	23.51	23.66	42.57
200	2.49	4.43	3.79	4.54	5.33	7.79	7.63	9.56	9.47	12.61	12.35	24.74	24.89	44.81
250	3.11	5.53	4.75	5.69	6.69	9.75	9.57	11.98	11.85	15.78	15.40	30.90	31.08	55.98
300	3.74	6.64	5.71	6.83	8.04	11.72	11.51	14.40	14.24	18.94	18.44	37.07	37.26	67.16
350	4.36	7.75	6.67	7.98	9.39	13.68	13.45	16.82	16.62	22.11	21.49	43.23	43.44	78.33
400	4.98	8.86	7.64	9.12	10.74	15.64	15.39	19.24	19.00	25.28	24.53	49.39	49.62	89.51
450	5.60	9.96	8.60	10.27	12.09	17.61	17.33	21.66	21.39	28.45	27.58	55.55	55.81	100.68
500	6.23	11.07	9.56	11.41	13.44	19.57	19.27	24.08	23.77	31.62	30.62	61.71	61.99	111.86

### Projection distance

The distance between the projector and its screen determines the approximate size of the image. The farther the projector is from the screen, the larger the image will be projected. But the image size also varies depending on the aspect ratio, zoom and other settings.



# ADDITIONAL INFORMATION

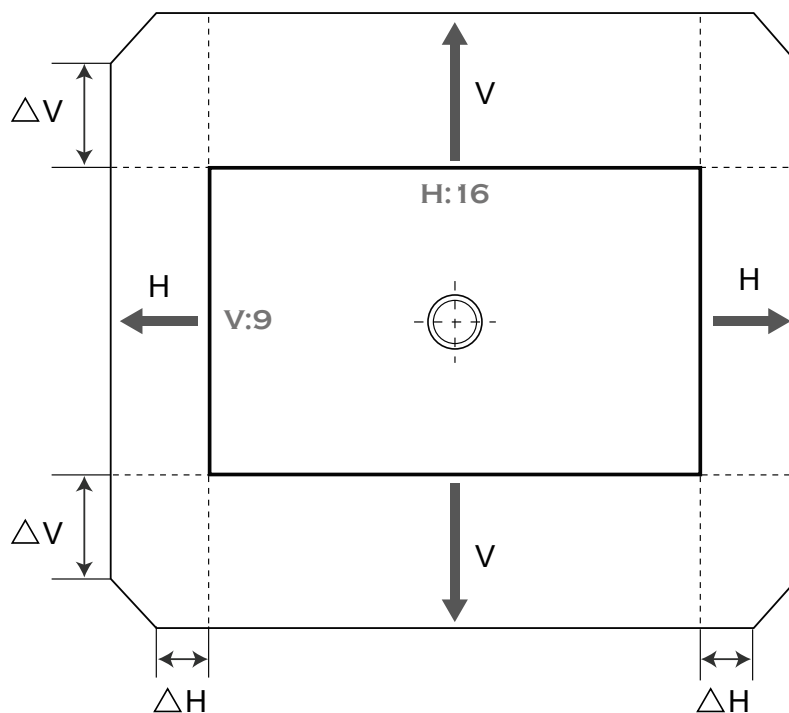
## Powered lens shift range

Projection Lens	H	V	ΔH	ΔV
A25, A26	60%	140%	4%	10%
A20, A21, A22, A23	60%	140%	60%	140%

**V:** Height of the projected image

**H:** Width of the projected image

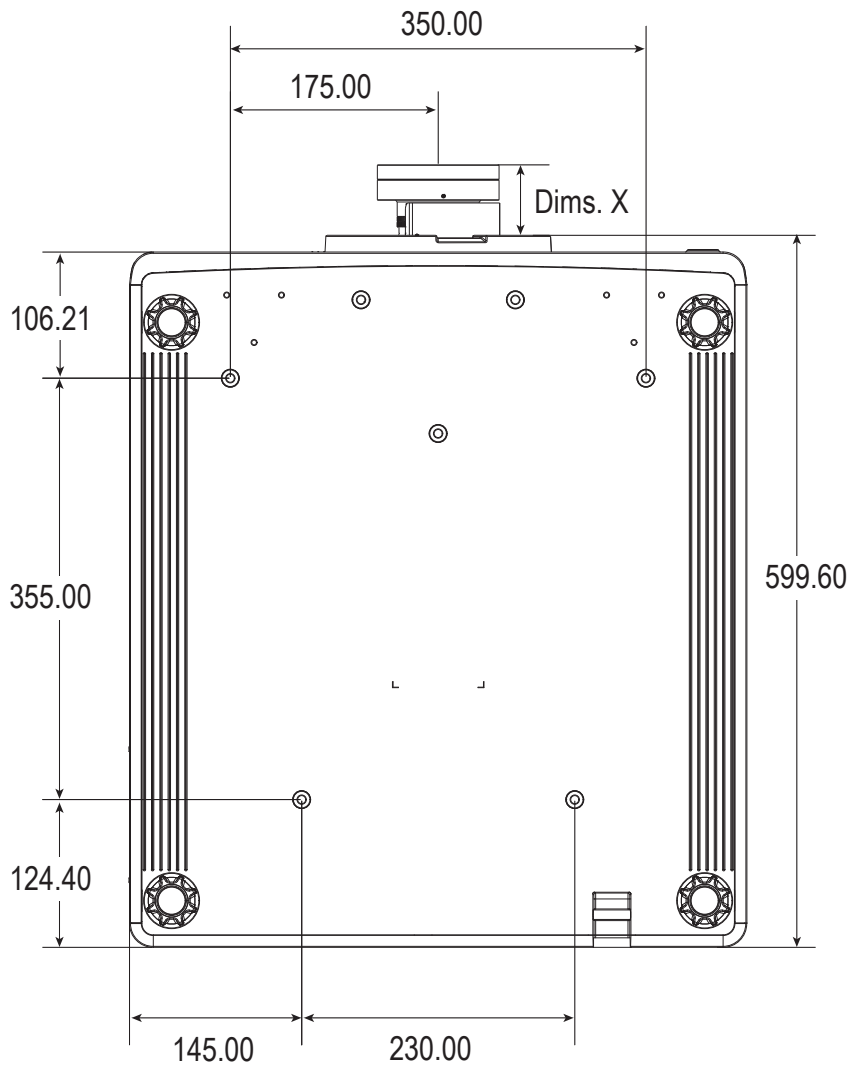
□ Projected image



# ADDITIONAL INFORMATION

## Projector dimensions and ceiling mount installation

1. To prevent damage to your projector, please use the Optoma ceiling mount.
2. If you wish to use a third party ceiling mount kit, please ensure the screws used to attach a mount to the projector meet the following specifications:
  - Screw type: M8 x 4
  - Minimum screw length: 14mm



Dimensions given in millimeters



### Warning:

- If you buy a ceiling mount from another company, please be sure to use the correct screw size. Screw size will vary depending on the thickness of the mounting plate.
- Be sure to keep at least 10mm (1cm) gap between the ceiling and the bottom of the projector.
- Avoid installing the projector near a heat source.
- Please note that damage resulting from incorrect installation will void the warranty.

# ADDITIONAL INFORMATION

## IR remote codes



Key Legend	Key Position	Repeat Format	Address		Data		Description
			Byte 1	Byte 2	Byte 3	Byte 4	
ON (🟢)	1	F1	32	CD	02	FD	Press to turn on the projector.
OFF (🔴)	2	F1	32	CD	2E	D1	Press to turn off the projector.
1	3	F1	32	CD	72	8D	Use as numeric keypad number "1".
2	4	F1	32	CD	73	8C	Use as numeric keypad number "2".
3	5	F1	32	CD	74	8B	Use as numeric keypad number "3".
4	6	F1	32	CD	75	8A	Use as numeric keypad number "4".
5	7	F1	32	CD	77	88	Use as numeric keypad number "5".
6	8	F1	32	CD	78	87	Use as numeric keypad number "6".

# ADDITIONAL INFORMATION

Key Legend	Key Position	Repeat Format	Address		Data		Description
			Byte 1	Byte 2	Byte 3	Byte 4	
7	9	F1	32	CD	79	86	Use as numeric keypad number "7".
8	10	F1	32	CD	80	7F	Use as numeric keypad number "8".
9	11	F1	32	CD	81	7E	Use as numeric keypad number "9".
Info	12	F1	32	CD	82	7D	Press to display source image information.
0	13	F1	32	CD	25	DA	Use as numeric keypad number "0".
Mode	14	F1	32	CD	05	FA	Press to select the preset display mode.
Auto	15	F1	32	CD	04	FB	Press to automatically synchronize the projector to the input source.
Input	16	F1	32	CD	18	E7	Press to select an input signal.
UP (▲)	17	F1	32	CD	0F	F0	Press to select items or make adjustments to our selection.
LEFT (◀)	18	F1	32	CD	11	EE	Press to select items or make adjustments to our selection.
Enter	19	F1	32	CD	14	EB	Press to confirm your item selection.
RIGHT (▶)	20	F1	32	CD	10	EF	Press to select items or make adjustments to our selection.
DOWN (▼)	21	F1	32	CD	12	ED	Press to select items or make adjustments to our selection.
Menu	22	F1	32	CD	0E	F1	Press to display the on-screen display menus for projector.
Exit	23	F1	32	CD	2A	D5	Press to return to previous level or exit menus if at top level.
Gamma	24	F1	32	CD	2B	D4	Press to adjust mid-range levels..
Bright	25	F1	32	CD	28	D7	Press to adjust amount of light in the image.
Cont.	26	F1	32	CD	29	D6	Press to adjust difference between dark and light.
PIP	27	F1	32	CD	43	BC	Press to turn on/off the PIP/PBP function.
Lens H◀	28	F1	32	CD	41	BE	Press to adjust the position of the image horizontally.
Lens H▶	29	F1	32	CD	42	BD	
Focus ▲	30	F1	32	CD	86	79	Press to adjust focus to improve image clarity as desired.
Lens V ▲	31	F1	32	CD	34	CB	Press to adjust the position of the image vertically.
Lens V ▼	32	F1	32	CD	32	CD	Press to adjust the position of the image vertically.
Focus ▼	33	F1	32	CD	26	D9	Press to adjust focus to improve image clarity as desired.
Keystone ◻	34	F1	32	CD	87	78	Press to adjust the vertical keystone.
Keystone ◻	35	F1	32	CD	51	AE	Press to adjust the vertical keystone.
Zoom ▲	36	F1	32	CD	52	AD	Press to adjust zoom to achieve a desired image size.
Keystone ◻	37	F1	32	CD	53	AC	Press to adjust the horizontal keystone.
Keystone ◻	38	F1	32	CD	54	AB	Press to adjust the horizontal keystone.
Zoom ▼	39	F1	32	CD	55	AA	Press to adjust zoom to achieve a desired image size.
Shutter (AV Mute)	40	F1	32	CD	56	A9	Press to hide/unhide the screen picture.
Hot Key	41	F1	32	CD	57	A8	Press to select your preset keys quickly.
Pattern	42	F1	32	CD	58	A7	Press to display a test pattern.

# ADDITIONAL INFORMATION

## Troubleshooting

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

### Image problems

- ❓ *No image appears on-screen*
  - Ensure all the cables and power connections are correctly and securely connected as described in the *Setup and Installation* section.
  - Ensure the pins of connectors are not crooked or broken.
  - Ensure that the Shutter (AV Mute) feature is not turned on.
- ❓ *Image is out of focus*
  - Press the **Focus ▲** or **Focus ▼** button on the remote control or projector keypad to adjust the focus until the image is sharp and legible.
  - Make sure the projection screen is between the required distance from the projector. (Please refer to *Image size and projection distance* page 49).
- ❓ *The image is stretched when displaying 16:10 DVD title*
  - When you play anamorphic DVD or 16:10 DVD, the projector will show the best image in 16:10 format on projector side.
  - If you play 4:3 format DVD title, please change the format as 4:3 in projector OSD.
  - Please setup the display format as 16:10 (wide) aspect ratio type on your DVD player.
- ❓ *Image is too small or too large*
  - Press the **Zoom ▲** or **Zoom ▼** button on the remote control to adjust the projected image size.
  - Move the projector closer to or further from the screen.
  - From the OSD menu, select **Display > Aspect Ratio** to change the aspect ratio.
- ❓ *Image has slanted sides:*
  - If possible, reposition the projector so that it is centered on the screen and below the bottom of the screen.
  - From the OSD menu, select **Display > Geometric Correction > V. Keystone** or **H. Keystone** to adjust the screen shape.
- ❓ *Image is reversed*
  - From the OSD menu, select **Setup > Projection > Rear** to reverse the image so you can project from behind a translucent screen.

### Other problems

- ❓ *The projector stops responding to all controls*
  - If possible, turn off the projector, then unplug the power cord and wait at least 20 seconds before reconnecting power.

### Remote control problems

- ❓ *If the remote control does not work*
  - Check the operating angle of the remote control is pointed within  $\pm 30^\circ$  (horizontally or vertically) to the IR receivers on the projector.
  - Make sure there are not any obstructions between the remote control and the projector. Move to within 10 m (32.8 ft) of the projector.
  - Make sure batteries are inserted correctly.
  - Replace batteries if they are exhausted.

# ADDITIONAL INFORMATION

## LED status indicators

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

Message	Light			Status			AV Mute	
	Green	Orange	Red	Green	Orange	Red	Green	Orange
Standby State								
Power on (Warm up)					Flashing			
Power on & Laser diode on	Steady			Steady			Steady	
Power off (Cooling down)					Flashing			
AV mute is off (Image is displayed)	Steady			Steady			Steady	
AV mute is on (Image is black)	Steady			Steady				Steady
Projector communication	Steady			Flashing			Steady	
Firmware upgrade				Flashing	Flashing			
Laser diode time has expired		Steady						
Unit loses over 60% initial luminance			Flashing					
Error (Over temperature)						Steady		
Error (Fan failure)						Flashing		

**Note:** Power key of the keypad is in steady orange light when the projector enters standby mode.

# ADDITIONAL INFORMATION

## Specifications

Optical	Description
Resolution	4K UHD (3840 x 2160)
Lens	Power Zoom/Focus and full lens shift
Image size (diagonal)	80"~500"
Projection distance	Please refer to "Image size and projection distance" table on page 49.

Electrical	Description
Inputs	2 x HDMI In (version 2.0) (with locking screw) 1 x DisplayPort 1.2a 1 x HDBaseT 1 x 3G-SDI IN 1 x 3D SYNC IN
Outputs	1 x HDMI Out (version 2.0) (with locking screw) 1 x 3G-SDI OUT 1 x 3D SYNC Out
Control port	1 x RS232 (D-sub 9 pin) (PC Control) 2 x Wired in/out (3.5mm phone jack) (Remote In/out) 1 x 12V Trigger (3.5mm phone jack / Black ) 1 x USB type A (Wireless dongle port) 1 x RJ-45 (LAN) 2 x IR Receiver (Front / Top)
Power requirement	100-120 VAC, 50/60 Hz, 12 A 200-240 VAC, 50/60 Hz, 6 A

Mechanical	Description
Installation orientation	360° rotation, no restrictions
Dimensions	600(W) x 520 (D) x 219 (H) mm (w/o lens, w/o elevators)
Weight	N.W. 33.10 kg (without lens); 34.70 kg (with standard lens) G.W. 43.95 kg (with package, without lens)
Environmental conditions	Operating: 5~40°C; 10~85%RH, non-condensing Storage: -10~60°C; 5~90%RH, non-condensing

**Note:** All specifications are subject to change without notice.






# Optoma global offices

For service or support, please contact your local office.




## USA

Optoma Technology, Inc.  
47697 Westinghouse Drive.  
Fremont, Ca 94539

 888-289-6786  
 510-897-8601  
 [services@optoma.com](mailto:services@optoma.com)




## Canada

Optoma Technology, Inc.  
47697 Westinghouse Drive.  
Fremont, Ca 94539

 888-289-6786  
 510-897-8601  
 [services@optoma.com](mailto:services@optoma.com)


## Latin America

Optoma Technology, Inc.  
47697 Westinghouse Drive.  
Fremont, Ca 94539

 888-289-6786  
 510-897-8601  
 [services@optoma.com](mailto:services@optoma.com)



## Europe

Unit 1, Network 41, Bourne End Mills  
Hemel Hempstead, Herts,  
HP1 2UJ, United Kingdom  
[www.optoma.eu](http://www.optoma.eu)  
Service Tel : +44 (0)1923 691865

 +44 (0) 1923 691 800  
 +44 (0) 1923 691 888  
 [service@tsc-europe.com](mailto:service@tsc-europe.com)




## Benelux BV

Randstad 22-123  
1316 BW Almere  
The Netherlands  
[www.optoma.nl](http://www.optoma.nl)

 +31 (0) 36 820 0252  
 +31 (0) 36 548 9052


## France

Bâtiment E  
81-83 avenue Edouard Vaillant  
92100 Boulogne Billancourt, France

 +33 1 41 46 12 20  
 +33 1 41 46 94 35  
 [savoptoma@optoma.fr](mailto:savoptoma@optoma.fr)




## Spain

C/ José Hierro,36 Of. 1C  
28522 Rivas VaciaMadrid,  
Spain

 +34 91 499 06 06  
 +34 91 670 08 32




## Deutschland

Wiesenstrasse 21 W  
D40549 Düsseldorf,  
Germany

 +49 (0) 211 506 6670  
 +49 (0) 211 506 66799  
 [info@optoma.de](mailto:info@optoma.de)

## Scandinavia



Lerpeveien 25  
3040 Drammen  
Norway

 +47 32 98 89 90  
 +47 32 98 89 99  
 [info@optoma.no](mailto:info@optoma.no)

PO.BOX 9515  
3038 Drammen  
Norway


## Korea

WOOMI TECH.CO.,LTD.  
4F, Minu Bldg.33-14, Kangnam-Ku,  
Seoul,135-815, KOREA  
[korea.optoma.com](http://korea.optoma.com)

 +82+2+34430004  
 +82+2+34430005




## Japan

東京都足立区綾瀬3-25-18  
株式会社オーエス  
コンタクトセンター:0120-380-495

 [info@os-worldwide.com](mailto:info@os-worldwide.com)  
[www.os-worldwide.com](http://www.os-worldwide.com)



## Taiwan

12F., No.213, Sec. 3, Beixin Rd.,  
Xindian Dist., New Taipei City 231,  
Taiwan, R.O.C.  
[www.optoma.com.tw](http://www.optoma.com.tw)

 +886-2-8911-8600  
 +886-2-8911-6550  
 [services@optoma.com.tw](mailto:services@optoma.com.tw)  
[asia.optoma.com](http://asia.optoma.com)



## Hong Kong

Unit A, 27/F Dragon Centre,  
79 Wing Hong Street,  
Cheung Sha Wan,  
Kowloon, Hong Kong

 +852-2396-8968  
 +852-2370-1222  
[www.optoma.com.hk](http://www.optoma.com.hk)

## China

5F, No. 1205, Kaixuan Rd.,  
Changning District  
Shanghai, 200052, China

 +86-21-62947376  
 +86-21-62947375  
[www.optoma.com.cn](http://www.optoma.com.cn)

