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## 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:

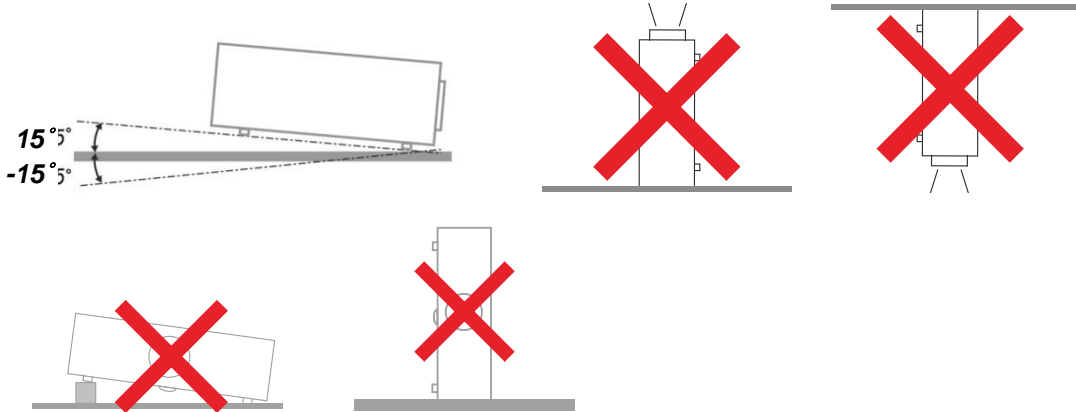
“Push the **Menu** button on the remote control to open the **Main** menu.”

### **General Safety Information**

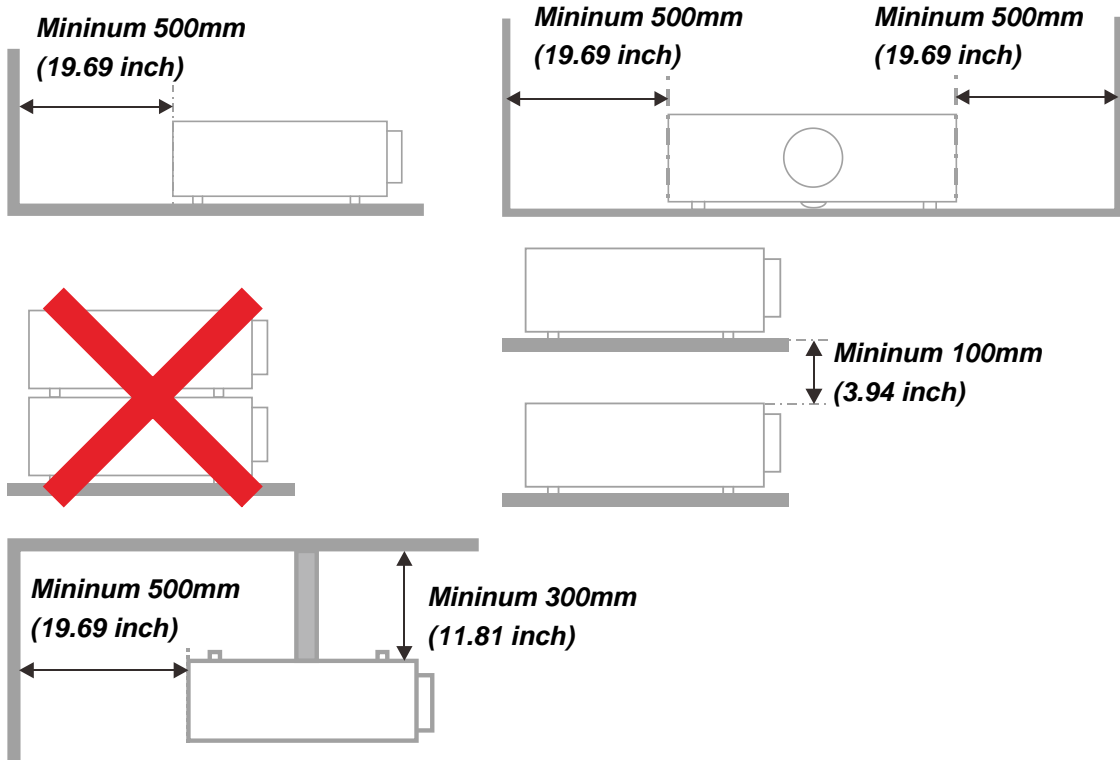
- Do not open the unit case. Aside from the projection lamp, there are no user-serviceable parts in the unit. For servicing, contact qualified service personnel.
- Follow all warnings and cautions in this manual and on the unit case.
- The projection lamp is extremely bright by design. To avoid damage to eyes, do not look into the lens when the lamp 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.

**Projector Installation Notice**

- Place the projector in a horizontal position  
**The tilt angle of the projector should not exceed 15 degrees**, nor should the projector be installed in any way other than the desktop and ceiling mount, otherwise lamp life could decrease dramatically, and may lead to other **unpredictable damages**.



- Allow at least 50 cm clearance around the exhaust vent.



- Ensure that the intake vents do not recycle hot air from the exhaust vent.
- When operating the projector in an enclosed space, ensure that the surrounding air temperature within the enclosure does not exceed operation temperature while the projector is running, and the air intake and exhaust vents are unobstructed.
- All enclosures should pass a certified thermal evaluation to ensure that the projector does not recycle exhaust air, as this may cause the device to shutdown even if the enclosure temperature is within the acceptable operation temperature range.

### **Verify Installation Location**

- To supply power, the 3-blade (with earthing lead) socket should be used to ensure proper grounding and equalized ground potential for all of the equipment in the Projector System.
- The power code provided with the Projector should be used. In case of any missing item, other qualified 3-blade (with earthing lead) power cord can be used as substitution; however, do not use 2-blade power cord.
- Verify if the voltage is stable, grounded properly and there is no electricity leakage.
- Measure total power consumption which should not higher the safety capacity and avoid safety issue and short circuit.
- Turn on Altitude Mode when located in high altitude areas
- When installation the bracket, make sure the weight limit is not exceed and firmly secured.
- Avoid installing near air conditioner duct or subwoofer.
- Avoid installing at high temperature, insufficient cooling and heavy dust locations.
- Keep your product away from fluorescent lamps (> 1 meter) to avoid malfunction caused by IR interference
- The VGA IN connector should be connected to the VGA IN port. Note that it should be inserted tightly, with the screws on both sides securely fastened to ensure proper connection of the signal wire for achieving optimal display effect.
- The AUDIO IN connector should be connected to the AUDIO IN port and CANNOT be connected to AUDIO OUT or other ports like BNC, RCA; otherwise, it will lead to mute output and even DAMAGE the port.
- Install the projector above 200cm to avoid damage.
- The power cord and signal cable should be connected before power on the projector. During the projector starting and operating process, DO NOT insert or remove the signal cable or the power cord to avoid damaging the projector.

### **Cooling notes**

#### **Air outlet**

- Make sure the air outlet is 50cm clear of any obstruction to ensure proper cooling.
- Air outlet location should not be in front of the lens of other projector to avoid causing illusions.
- Keep the outlet at least 100cm away from the inlets of other projectors
- The projector generates a massive amount of heat during use. The internal fan dissipates the heat of the projector when shutting down, and such process may continue for a certain period. After the project enters STANDBY MODE status, press the AC power button to turn off the projector and remove the power cord. DO NOT remove the power cord during the shutdown process, as it may cause damage to the projector. In the meantime, the delayed heat radiating will also affect the service life of the projector. The shutdown process may vary depending on the model used. Whatever the case may be, be sure to disconnect the power cord till after the projector enters the STANDBY status.

#### **Air inlet**

- Make sure there is no object blocking air input within 30 cm.
- Keep the inlet away from other heat sources
- Avoided heavy dust area

### Power Safety

- Only use the supplied power cord.
- Do not place anything on the power cord. Place the power cord where it will not be in the way of foot traffic.
- Remove the batteries from the remote control when storing or not in use for a prolonged period.

### Replacing the Lamp

Replacing the lamp can be hazardous if done incorrectly. See [Replacing the Projection Lamp](#) on page 37 for clear and safe instructions for this procedure. Before replacing the lamp:

- Unplug the power cord.
- Allow the lamp to cool for about one hour.

**Caution:**

*In rare cases the lamp bulb may burn out during normal operation and cause glass dust or shards to be discharged outward from the rear exhaust vent.*

*Do not inhale or do not touch glass dust or shards. Doing so could result in injury.*

*Always keep your face away from the exhaust vent so that you do not suffer from the gas and broken shards of the lamp.*

### Cleaning the Projector

- Unplug the power cord before cleaning. See [Cleaning the Projector](#) on page 43.
- Allow the lamp to cool for about one hour.

### Regulatory Warnings

Before installing and using the projector, read the regulatory notices in the [Regulatory Compliance](#) on page 56.

### Important Recycle Instructions:



Lamp(s) inside this product contain mercury. This product may contain other electronic waste that can be hazardous if not disposed of properly. Recycle or dispose in accordance with local, state, or federal Laws. For more information, contact the Electronic Industries Alliance at [WWW.EIAE.ORG](http://WWW.EIAE.ORG). For lamp specific disposal information check [WWW.LAMPRECYCLE.ORG](http://WWW.LAMPRECYCLE.ORG).

### Symbol Explanations



DISPOSAL: Do not use household or municipal waste collection services for disposal of electrical and electronic equipment. EU countries require the use of separate recycling collection services.

## **Main Features**

- *Lightweight unit, easy to pack away and transport.*
- *Compatible with all major video standards including NTSC, PAL, and SECAM.*
- *A high brightness rating allows for presentations in daylight or in lit rooms.*
- *Supports resolutions up to WUXGA at 16.7 million colors to deliver crisp, clear images.*
- *Flexible setup allows for front, rear projections.*
- *Line-of-vision projections remain square, with advanced keystone correction for angled projections.*
- *Input source automatically detected.*

## **About this Manual**

This manual is intended for end users and describes how to install and operate the DLP projector. Wherever possible, relevant information—such as an illustration and its description—has been kept on one page. This printer-friendly format is both for your convenience and to help save paper, thereby protecting the environment. It is suggested that you only print sections that are relevant to your needs.

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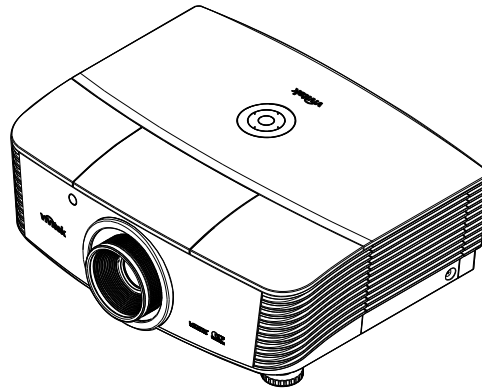
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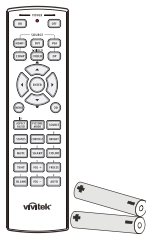
## GETTING STARTED

### Packing Checklist

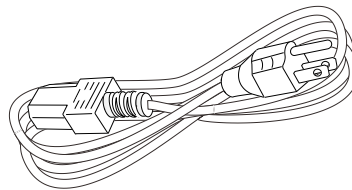
Carefully unpack the projector and check that the following items are included:



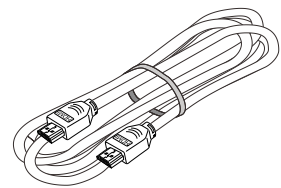
PROJECTOR



REMOTE CONTROL  
(WITH TWO AA BATTERIES)



POWER CORD (1.8M)



HDMI CABLE



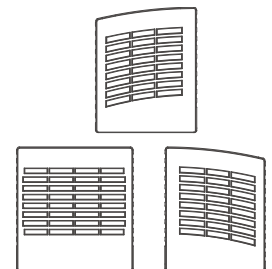
CD-ROM  
(THIS USER'S MANUAL)



WARRANTY CARD



QUICK START CARD



DUST FILTER  
(OPTIONAL)

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.

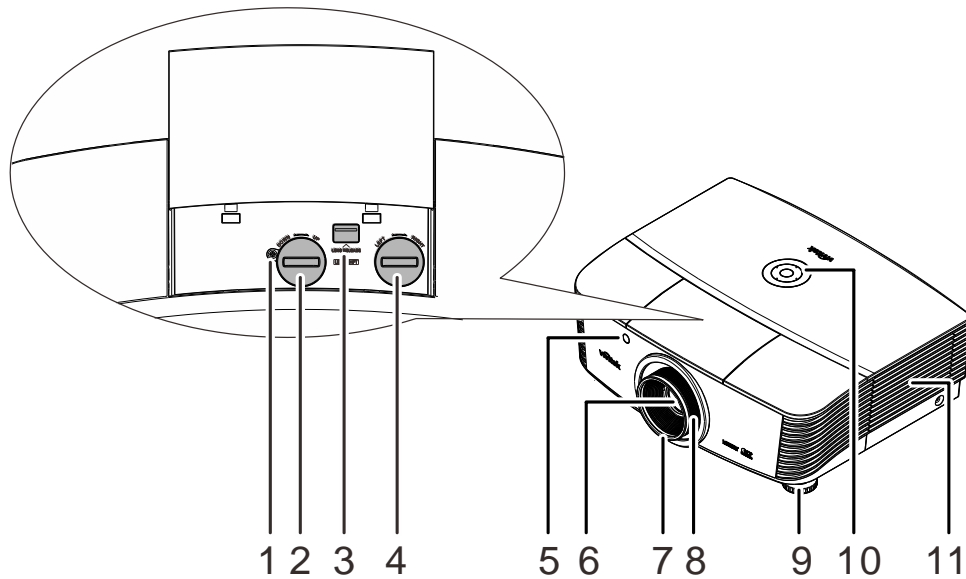


**Caution:**

Avoid using the projector in dusty environments.

## Views of Projector Parts

### Front-right View



ITEM	LABEL	DESCRIPTION	SEE PAGE:
1.	Screw	For ensure the lens position	
2.	Vertical lens shift	Adjusts the image position vertically	16
3.	Lens release button	Press the release button before removing the lens	11
4.	Horizontal lens shift	Adjusts the image position horizontally	17
5.	IR receiver	Receives IR signal from remote control	7
6.	Lens	Projection Lens	
7.	Focus ring	Focuses the projected image	18
8.	Zoom ring	Enlarges the projected image	
9.	Height adjuster	Adjusts level of projector	15
10.	Function keys	See Top view—On-screen Display (OSD) buttons and LEDs.	3
11.	Lamp cover	Removes cover to replace lamp module	37



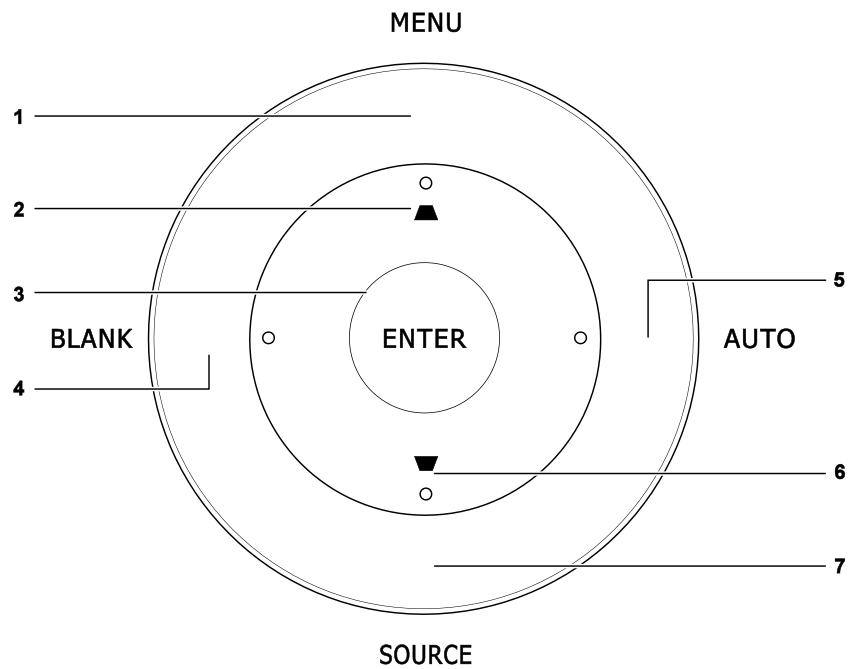
**Important:**

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

**Note:**

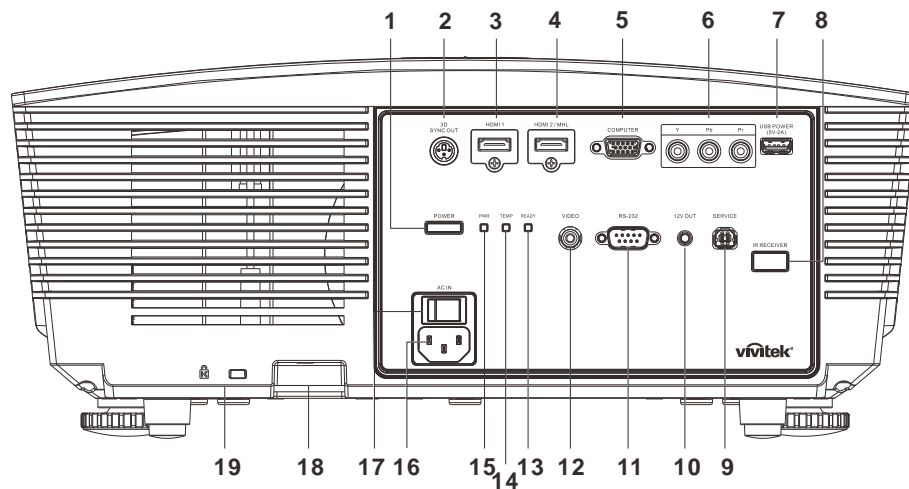
Suggest to loosen the screw before lens shift adjustment and tighten up after finished adjustment.

Top view—On-screen Display (OSD) buttons and LEDs



ITEM	LABEL	DESCRIPTION	SEE PAGE:
1.	MENU	Opens and exits OSD menus	19
2.	▲	Navigates and changes settings in the OSD Quick Menu – For Keystone	
3.	ENTER	Enter or confirm highlighted OSD menu item	
4.	BLANK	Displays a blank screen	
5.	AUTO	Optimizes image size, position, and resolution	
6.	▼	Navigates and changes settings in the OSD Quick Menu – For Keystone	19
7.	SOURCE	Enter the Source menu	

Rear view



ITEM	LABEL	DESCRIPTION	SEE PAGE:	
1.	POWER	Turns the projector on or off (main power switch must be turned on first). Press to place the projector in standby mode.	13	
2.	3D SYNC OUT	Connect 3D IR glasses receiver unit.		
3.	HDMI1	Connect the HDMI cable from a HDMI device.		
4.	HDMI2 / MHL	Connect the HDMI/MHL cable from an HDMI/MHL device. <b>Note:</b> Set the Source to HDMI 1/MHL also can be charging connected MHL compatible smart device as long as the projector Power On.		
5.	COMPUTER	Connect a RGB cable from a computer or a video enabled device.		
6.	YPbPr	Connect a component video enabled device.		
7.	USB POWER (5V-2A)	Connect a USB cable for USB host. <b>Note:</b> Support 5V-2A output as long as the projector Power On.		
8.	IR receiver	Receive IR signal from remote control.	7	
9.	SERVICE	For service use.		
10.	12V OUT	When connected to the screen through a commercially available cable, the screen deploys automatically on start up of the projector. The screen retracts when the projector is powered off (see notes below).		
11.	RS-232	Connects RS-232 serial port cable for remote control.		
12.	VIDEO	Connect the composite cable from a video device.		
13.	READY LED	Red	Lamp Lit , System stable, Lamp Fail	46
		Flashing	Error code (See as LED indicator table)	
14.	TEMP LED	Red	Over temperature	
15.	PWR LED	Red	Standby, Over Temperature	
		Green	Lamp Lit , System stable	
		Flashing	Power on, Cooling, Error code (See as LED indicator table)	

ITEM	LABEL	DESCRIPTION	SEE PAGE:
16.	AC IN	Connects the power cable.	13
17.	Power switch	Turns on/off the projector.	
18.	Security chain lock	Helps protect the projector from unauthorized use.	44
19.	Kensington Security Slot	Secures to permanent object with a Kensington Lock system.	

**Note:**

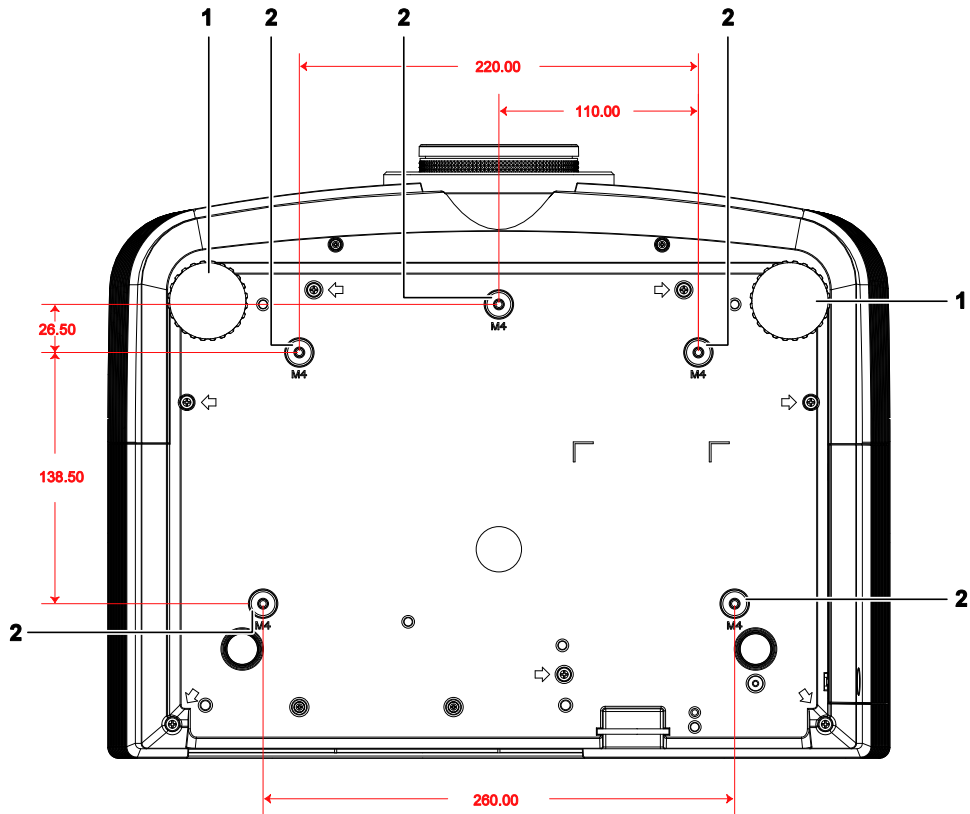
- *To use this feature, you must plug in the connector before turn on/off the projector.*
- *Screen controllers are supplied and supported by screen manufacturers.*
- *Do not use this jack for anything other than intended use.*



**Warning:**

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

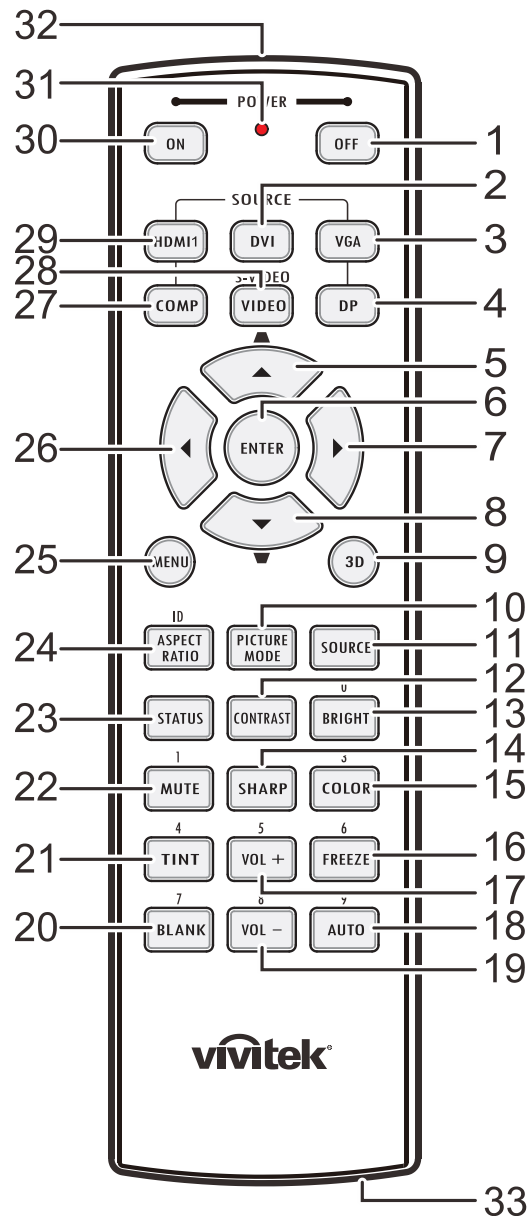
Bottom view



ITEM	LABEL	DESCRIPTION	SEE PAGE:
1.	Tilt adjustor	Rotate adjuster lever to adjust angle position.	<b>15</b>
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 M4 screws with a maximum screw depth of 12 mm (0.47 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 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 user's manual describes the functions based on the remote control.

ITEM	LABEL	DESCRIPTION	SEE PAGE:
1.	Power OFF	Turns the projector off	<b>13</b>
2.	DVI	NA	
3.	VGA	Displays the VGA source selection	
4.	DP	NA	
5.	Up cursor / Keystone+	Navigates and changes settings in the OSD Quick Menu – For Keystone	<b>19</b>
6.	ENTER	Enters and confirms settings in the OSD	
7.	Right cursor	Navigates and changes settings in the OSD	
8.	Down cursor / Keystone-	Navigates and changes settings in the OSD Quick Menu – For Keystone	
9.	3D	Activate 3D video (not available in D5180HD series)	
10.	PICTURE MODE	Changes the Display Mode setting	
11.	SOURCE	Alternate input source	<b>19</b>
12.	CONTRAST	Displays the contrast settings bar	
13.	BRIGHT	Displays the brightness setting bar	
14.	SHARP	Displays the sharpness setting bar	
15.	COLOR	Displays the color setting bar	
16.	FREEZE	Freezes/unfreezes the on-screen picture	
17.	VOL +	NA	<b>19</b>
18.	AUTO	Auto adjustment for frequency, phase, and position	
19.	VOL -	NA	
20.	BLANK	Makes the screen blank	
21.	TINT	Displays the tint setting bar	
22.	MUTE	NA	
23.	STATUS	Opens the OSD Status menu (the menu only opens when an input device is detected)	
24.	ASPECT RATIO	Displays the ASPECT RATIO selections	
25.	MENU	Opens or closed the OSD	<b>19</b>
26.	Left cursor	Navigates and changes settings in the OSD	<b>19</b>
27.	COMP	Displays the Component source selection	
28.	VIDEO	Displays the VIDEO source selection	
29.	HDMI 1	Displays the HDMI 1 source selection	
30.	Power ON	Turns the projector on	<b>13</b>
31.	Status LED	Lights when the remote control is used	
32.	IR transmitter	Transmits signals to projector	
33.	Wired remote connector	Wired remote function used	



## **Remote Control Operating Range**

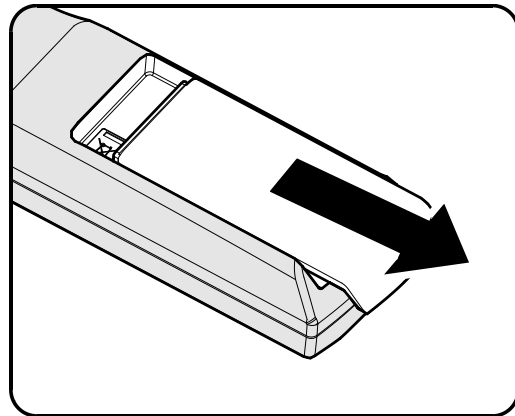
The remote control uses infrared transmission to control the projector. It is not necessary to point the remote directly at the projector. Provided you are not holding the remote perpendicular to the sides or the rear of the projector, the remote will function well within a radius of about 7 meters (23 feet) and 15 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**

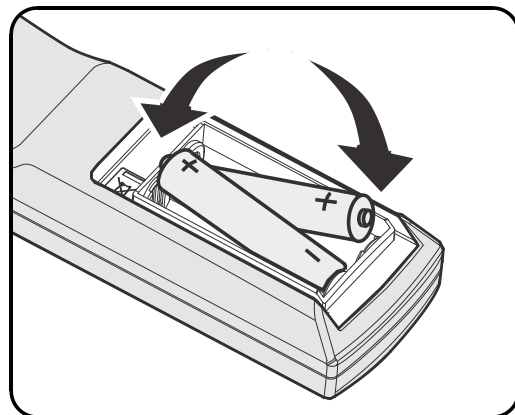
The projector can be operated using the remote control or the buttons on the top of the projector. All operations can be carried out with the remote control; however, the buttons on the projector are limited in use.

### Inserting the Remote Control Batteries

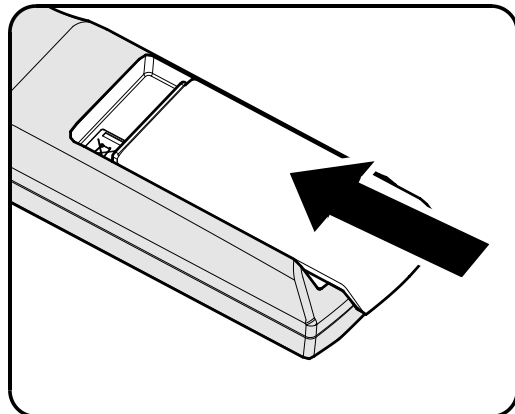
1. Remove the battery compartment cover by sliding the cover in the direction of the arrow.



2. Insert the battery with the positive side facing up.



3. Replace the cover.



**Caution:**

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

## Installing or Removing the Optional Lens

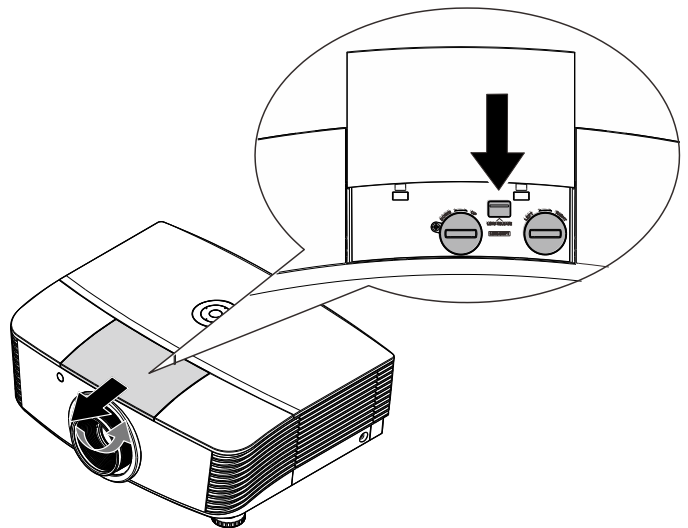


### Caution:

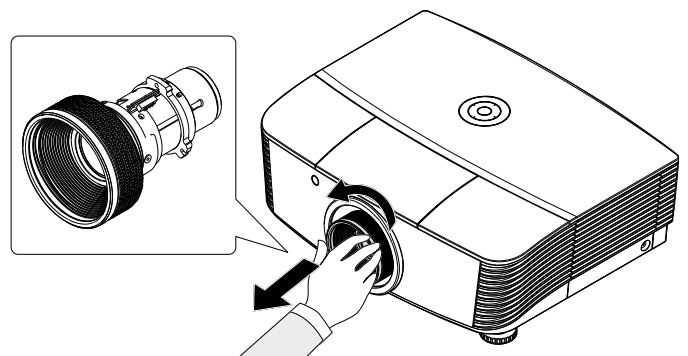
- Do not shake or place excessive pressure on the projector or the lens components as the projector and lens components contain precision parts.
- Before removing or installing the lens, be sure to turn off the projector, wait until the cooling fans stop, and turn off the main power switch.
- Do not touch the lens surface when removing or installing the lens.
- Keep fingerprints, dust or oil off the lens surface.
- Do not scratch the lens surface.
- Work on a level surface with a soft cloth under it to avoid scratching.
- If you remove and store the lens, attach the lens cap to the projector to keep off dust and dirt.

### Removing the Existing Lens From the Projector

1. Pull and release the top cover to open as shown.
2. Push the LENSE RELEASE button to the unlock position.



3. Grasp the lens.
4. Rotate the lens counterclockwise. The existing lens will be disengaged.
5. Pull out the existing lens slowly.



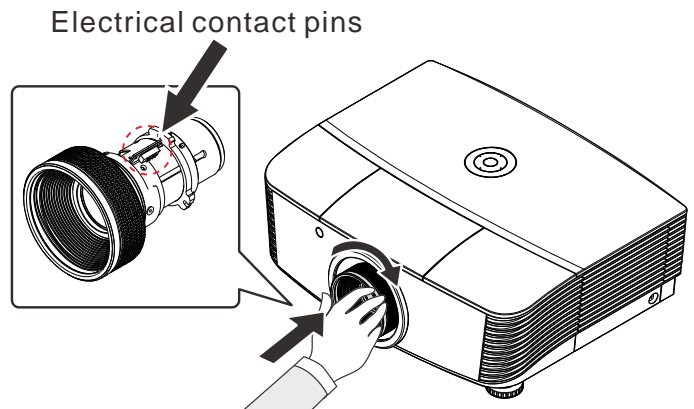
### Installing the New Lens

1. Align the notches and correctly position the electrical contact pad as shown in the picture.

**Note:**

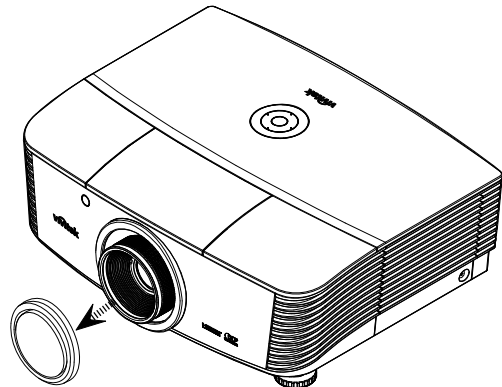
*Pin of Electrical contact pins should be in the direction as shown in the picture.*

2. Rotate the lens clockwise until you feel it click into place.

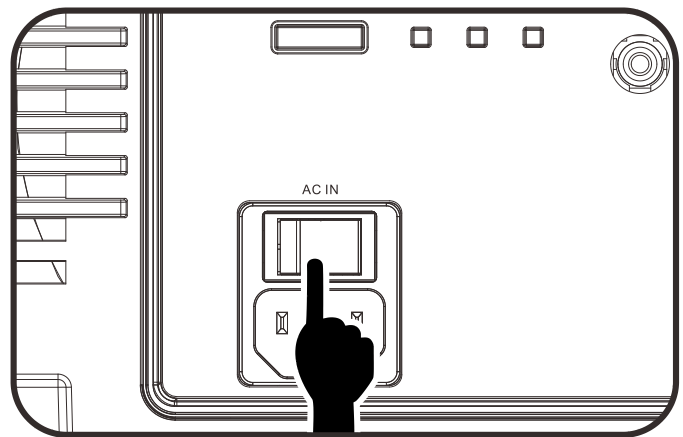


## Starting and Shutting down the Projector

1. Remove the lens cap.



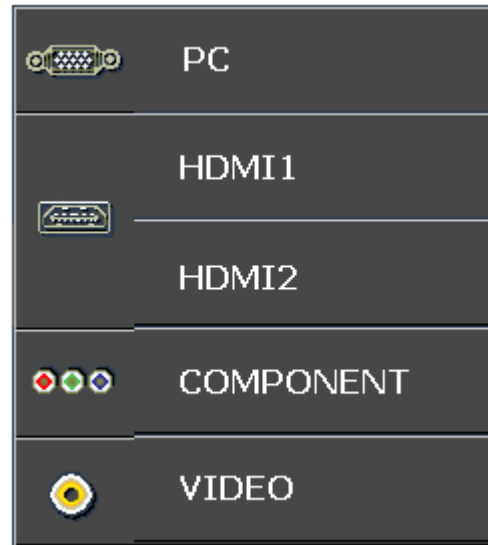
2. Securely connect the power cord and signal cable. When connected, the power led will turn red.



3. Turn on the lamp by pressing "POWER" button on the rear of the projector or "ON" on the remote control. The PWR LED will now flash red. The startup screen will display in approximately 30 seconds. The first time you use the projector, you can select your preferred language from quick menu after the startup screen display.

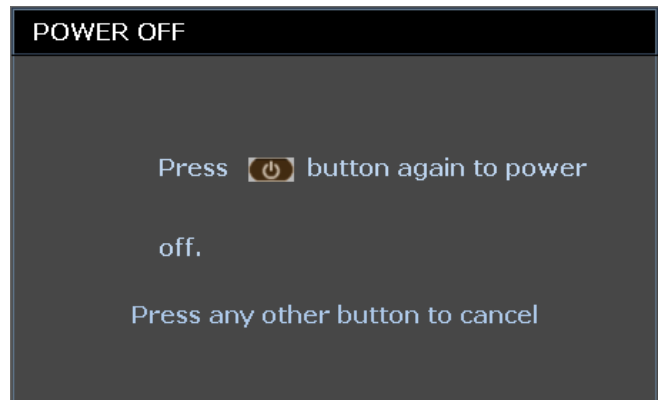


4. If more than one input device is connected, press the **SOURCE** button and use ▲▼ to scroll among devices.



- PC: Analog RGB
- HDMI1/HDMI2: High-Definition Multimedia Interface compatible
- COMPONENT: DVD input YCbCr / YPbPr , or HDTV input YPbPr
- VIDEO: Traditional composite video

5. When the “Power Off? /Press **Power** again” message appears, press the **POWER** button. The projector turns off.



**Caution:**

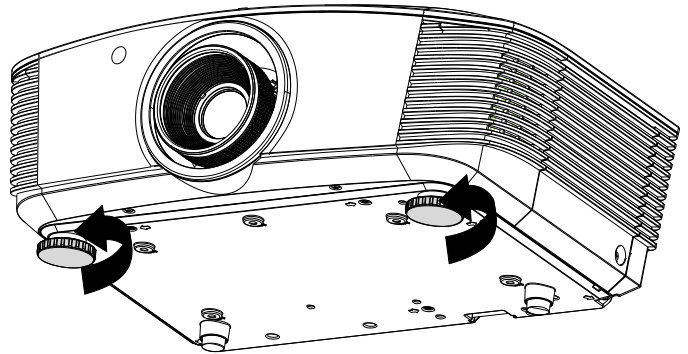
1. Be sure to remove the lens cap before starting projector.
2. Do not unplug the power cord until the POWER LED stops flashing—indicating the projector has cooled down.

## Adjusting the Projector Level

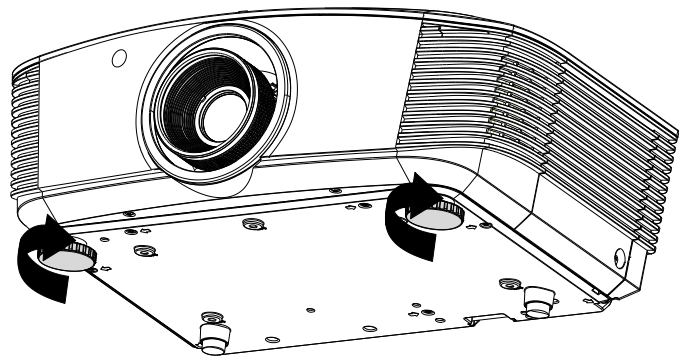
Take note of the following when setting up the projector:

- *The projector table or stand should be level and sturdy.*
- *Position the projector so that it is perpendicular to the screen.*
- *Remove the Back Foot Holder on the rear adjuster foot before adjusting the projection angle.*
- *Ensure the cables are in a safe location. You could trip over them.*

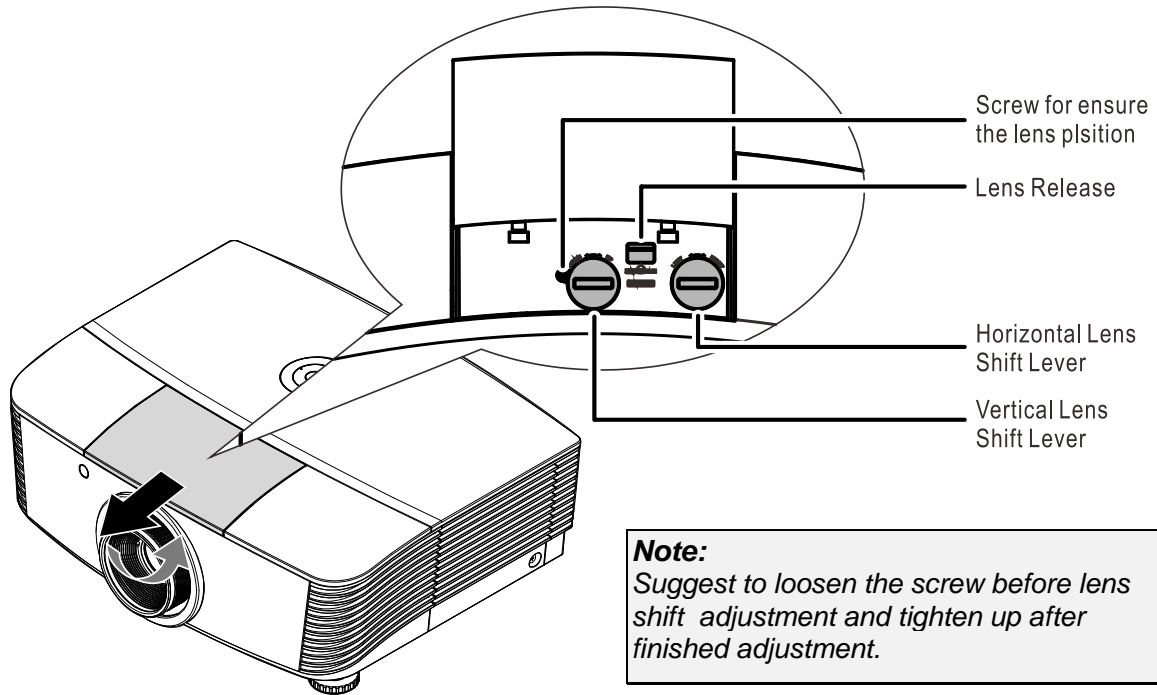
- 1.** To raise the level of the projector, twist the adjusters counter clockwise.



- 2.** To lower the level of the projector, lift the projector and twist the adjusters clockwise.



## Adjusting Projected Image Position Using Shift

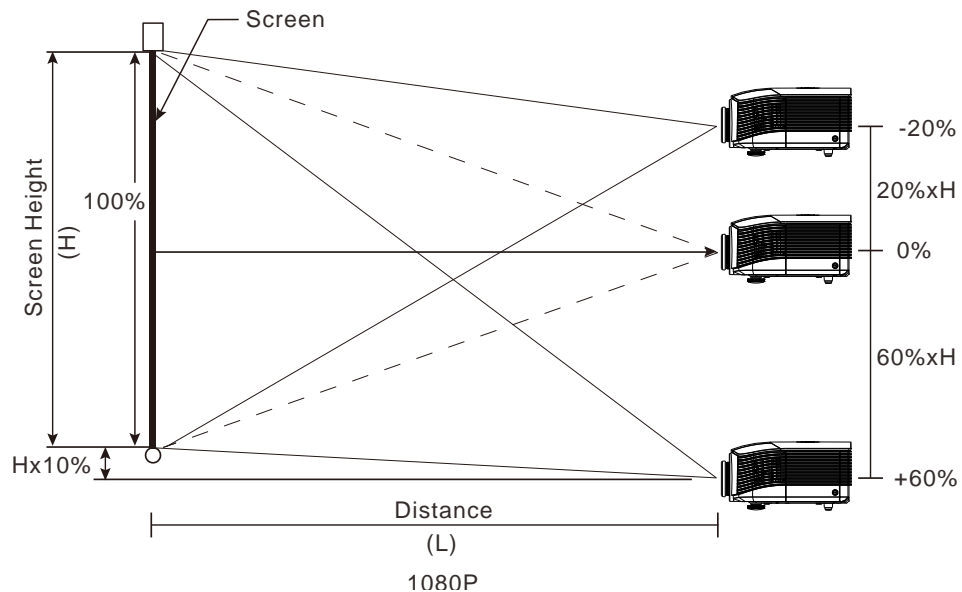


The Shift feature provides a lens shift function that can be used to adjust the position of the projected image either horizontally or vertically within the range detailed below.

Shift is a unique system that provides lens shift while maintaining a much higher ANSI contrast ratio than traditional lens shift systems.

### Adjusting the vertical image position

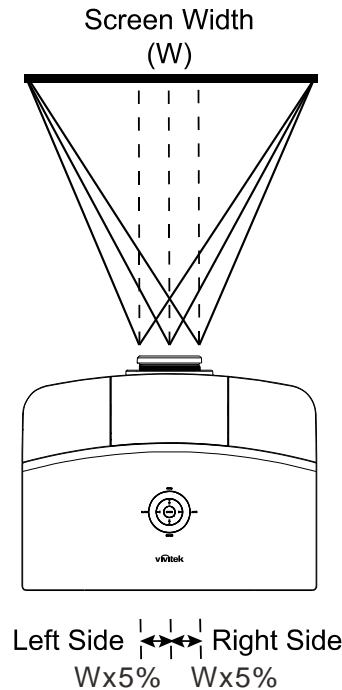
The vertical image height can be adjusted between 60% and -20% ( 1080P) of offset position. Note that the maximum vertical image height adjustment can be limited by the horizontal image position. For example it is not possible to achieve the maximum vertical image position height detailed above if the horizontal image position is at maximum. Please consult the Shift Range diagram below for further clarification.



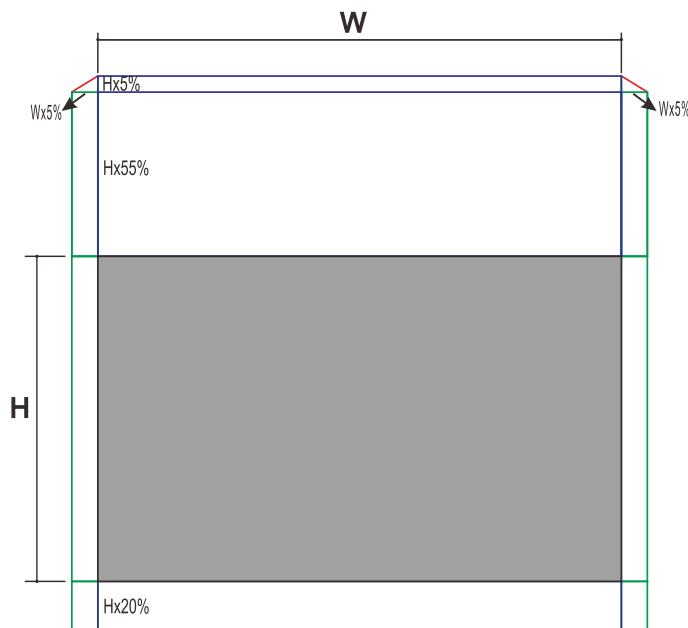


### Adjusting the horizontal image position

With the lens in the center position the horizontal image position can be adjusted to the left or right by up to a maximum of 5% of the image width. Note that the maximum horizontal image height adjustment can be limited by the vertical image position. For example it is not possible to achieve the maximum horizontal image position if the vertical image position is at maximum. Please consult the Shift Range diagram below for further clarification.



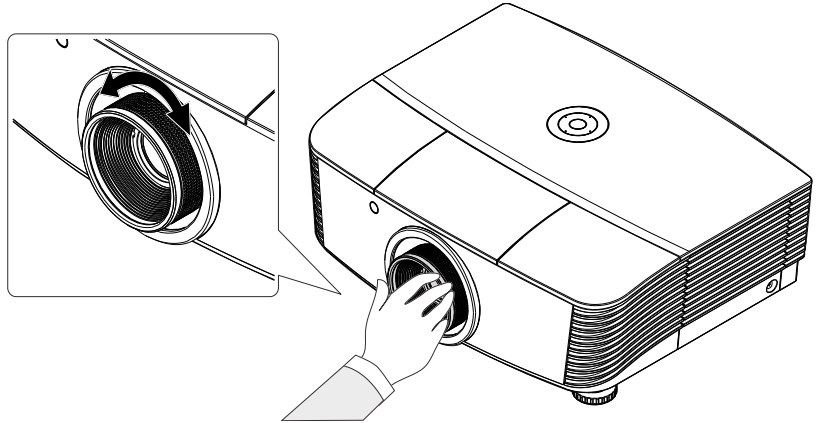
### Shift Range Diagram



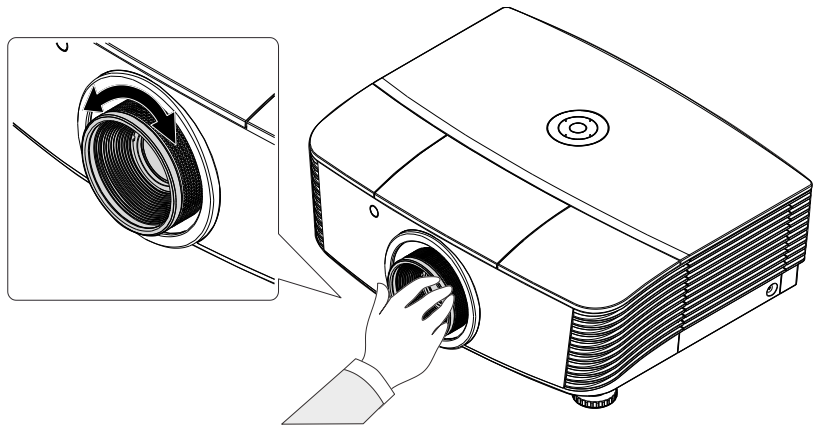
When W and H at 0% offset position  
 The max. H up shift= $H \times 60\%$   
 The max. H down shift= $H \times 20\%$   
 The max. W shift= $W \times 5\%$   
 When max. W shift is  $W \times 5\%$   
 max. H shift= $H \times 55\%$   
 When max. H shift is  $H \times 60\%$   
 max. W shift= $H \times 0\%$

## Adjusting the Zoom, Focus and Keystone

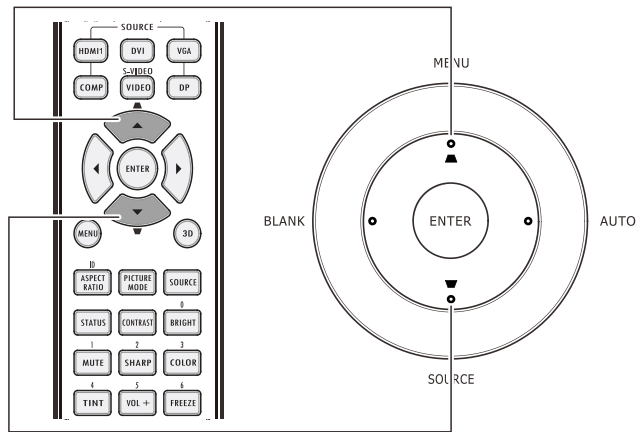
1. Use the **Image-zoom** control (on the projector only) to resize the projected image and screen size.



2. Use the **Image-focus** control (on the projector only) to sharpen the projected image.



3. Use the **KEYSTONE** buttons (on the projector or the remote control) to correct image-trapezoid (wider top or bottom) effect.



Remote control and OSD panel

4. The keystone control appears on the display.



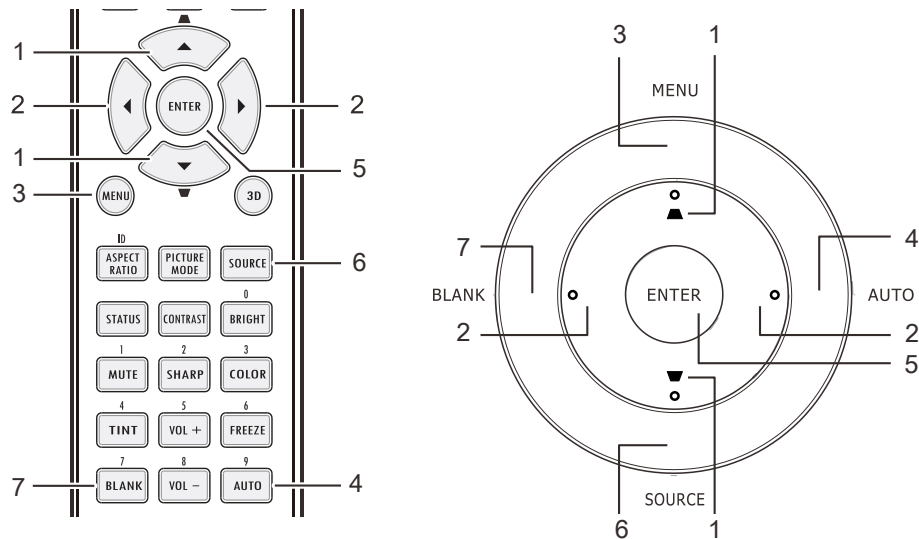
## ON-SCREEN DISPLAY (OSD) MENU SETTINGS

### OSD Menu Controls

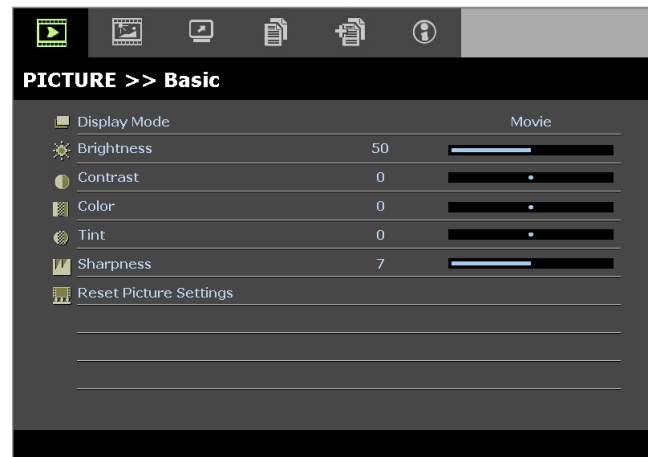
The projector has an OSD that lets you make image adjustments and change various settings.

#### Navigating the OSD

You can use the remote control cursor buttons or the buttons on the top of the projector to navigate and make changes to the OSD. The following illustration shows the corresponding buttons on the projector.



1. To enter the OSD, press the **MENU** button.
2. There are six menus. Press the cursor ◀▶ button to move through the menus.
3. Press the cursor ▲▼ button to move up and down in a menu.
4. Press ◀▶ to change values for settings.
5. Press **MENU** to close the OSD or leave a submenu.



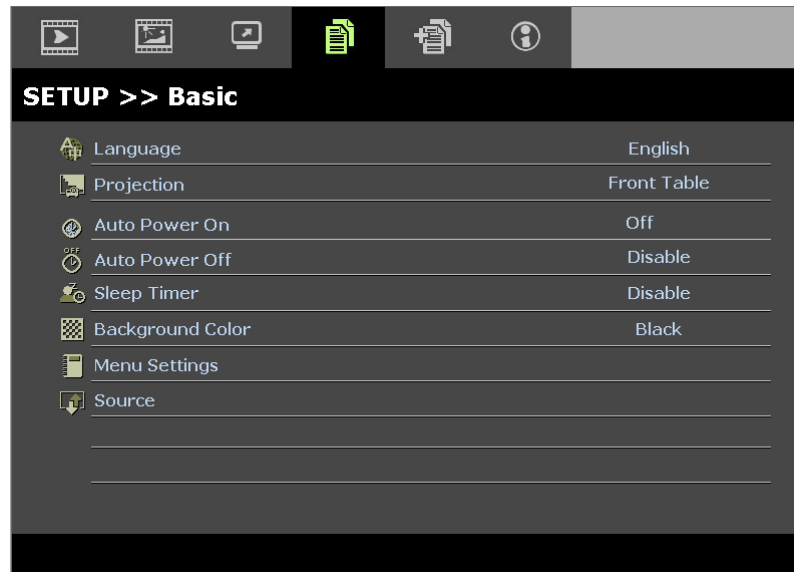
**Note:**

Depending on the video source, not all items in the OSD are available. For example, the **Horizontal/Vertical Position** items in the **Computer** menu can only be modified when connected to a PC. 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. Press the cursor ◀▶ button to navigate to **SETUP>>Basic**.



2. Press the cursor ▲▼ button until **Language** is highlighted.
  3. Press the cursor ◀▶ button until the language you want is selected.
  4. Press the **MENU** button to close the OSD.
-

## OSD Menu Overview

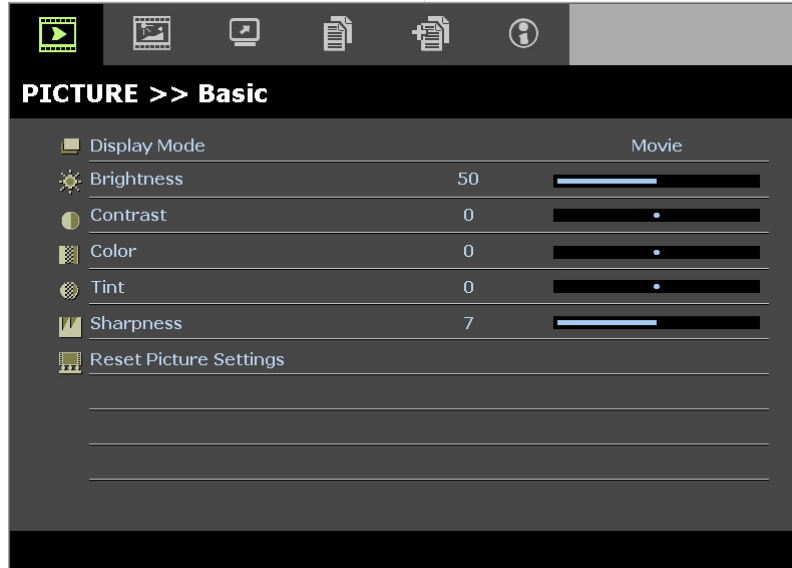
Use the following illustration to quickly find a setting or determine the range for a setting.

Main Menu	Sub Menu	Settings	
Picture >>Basic	Display Mode	Presentation, Movie, Vivid , Bright, Game, User1	
	Brightness	0 ~ 100	
	Contrast	-50 ~ 50	
	Color	-50 ~ 50	
	Tint	-50 ~ 50	
	Sharpness	0 ~ 15	
	Reset Pictures Setting	Reset current display mode value	
Picture >>Advanced	Color Temperature	D65, D75, D83	
	Gamma	1.8 / 2.0 / 2.2 / 2.4 / B&W / Linear	
	HSG Adjustment	Primary Color	R / G / B / C / M / Y
		Hue	-99 ~ 99
		Saturation	0 ~ 127
		Gain	5 ~ 127
	DynamicBlack	Off / On	
	VividSettings	VividMotion	Off/ Low / Medium / High
		VividPeaking	0 ~ 3
		Flash Tone	0 ~ 5
Display	Aspect Ratio	Fill / 4:3 / 16:9 / Letter Box / Real / 2.35:1	
	Keystone	-40 ~ 40	
	Over Scan	0 ~ 10	
	PC Detail Adjustment	Auto	enter
		Frequency	By timing
		Phase	0 ~ 63
		Horizontal Position	-50 ~ 50
		Vertical Position	-50 ~ 50
	White Balance	Red Gain	-50 ~ 50
		Green Gain	-50 ~ 50
		Blue Gain	-50 ~ 50
		Red Bias	-50 ~ 50
		Green Bias	-50 ~ 50
		Blue Bias	-50 ~ 50
	User color temp	White Gain Red	5 ~ 127
		White Gain Green	5 ~ 127
		White Gain Blue	5 ~ 127
3D Setting	3D Mode	Auto / Side by Side / Top/Bottom / Frame Sequential / 2D to 3D	
	3D Sync	DLP-Link / IR-Link / Off	
	3D Sync Invert	Off / On	

Main Menu	Sub Menu	Settings	
Setup >> Basic	Language	English, Français, Deutsch, Español, Português, 簡體中文, 繁體中文, Italiano, Norsk, Svenska, Nederlands, Русский, Polski, Suomi, Dansk, 한국어, 日本語	
	Projection	Front Table / Front Ceiling / Rear Table / Rear Ceiling	
	Auto Power On	Off / On	
	Auto Power Off	Disable / 5 / 10 / 15 / 20 / 25 / 30min	
	Sleep Timer	Disable / 30min / 1hr / 2hr / 3hr / 4hr / 8hr / 12hr	
	Background Color	Black / Blue / Purple	
	Menu Setting	Menu Position	Center / Top-Right / Top-Left / Bottom-Right / Bottom-Left
		Menu Display Time	5 / 10 / 15 / 20 / 25 / 30 sec
	Source	PC	Disable, Enable
		HDMI1	Disable, Enable
		HDMI2	Disable, Enable
		Component	Disable, Enable
		Video	Disable, Enable
		Quick Auto Search	On / Off
Setup >> Advanced	Lamp	Lamp Mode	Normal / ECO / Dynamic Eco
		Reset Lamp Timer	
		Lamp Hour	
	High Altitude Mode	Off / On	
	Test Pattern	Off / On	
	Close Caption	Off / On	
	12V OUT A	On / Off	
Reset All			
Status	Source		
	Resolution		
	Lamp Hours (ECO, Normal)		
	Firmware Version		

## PICTURE>>Basic Menu

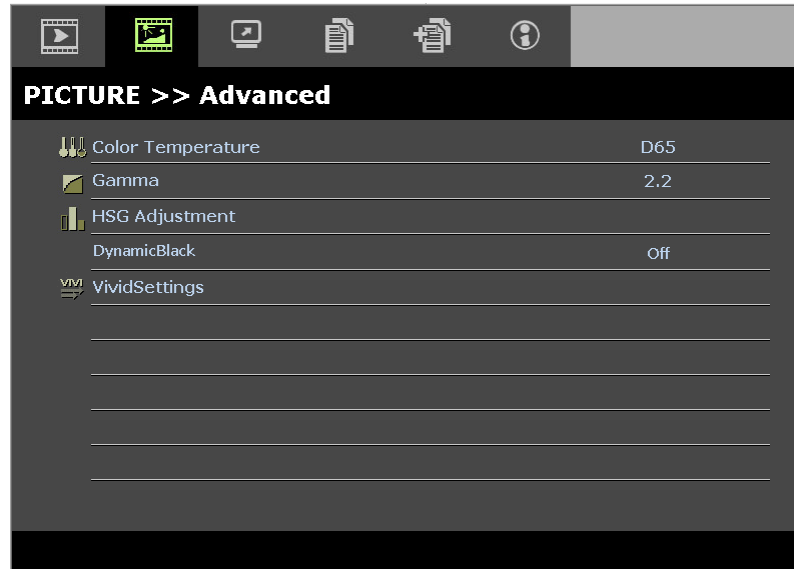
Press the **MENU** button to open the **OSD** menu. Press the cursor ◀▶ button to move to the **PICTURE>>Basic** menu. Press the cursor ▲▼ button to move up and down in the **PICTURE>>Basic** menu. Press ◀▶ to change values for settings.



ITEM	DESCRIPTION
Display Mode	Press the cursor ◀▶ buttons to set the Display Mode.
Brightness	Press the cursor ◀▶ buttons to adjust the display brightness.
Contrast	Press the cursor ◀▶ buttons to adjust the display contrast.
Color	Press the cursor ◀▶ buttons to adjust the video saturation. <b>Notes:</b> This function is only available when Component, Video input source is selected.
Tint	Press the cursor ◀▶ buttons to adjust the video tint/hue. <b>Notes:</b> This function is only available when Component, Video with NTSC system input source is selected.
Sharpness	Press the cursor ◀▶ buttons to adjust the display sharpness. <b>Notes:</b> This function is only available when Component, Video input source is selected.
Reset Picture Settings	Press the <b>ENTER</b> button to reset all settings to default values.

## PICTURE>>Advanced Menu

Press the **MENU** button to open the **OSD** menu. Press the cursor ◀▶ button to move to the **PICTURE>>Advanced** menu. Press the cursor ▲▼ button to move up and down in the **PICTURE>>Advanced** menu. Press ◀▶ to change values for settings.

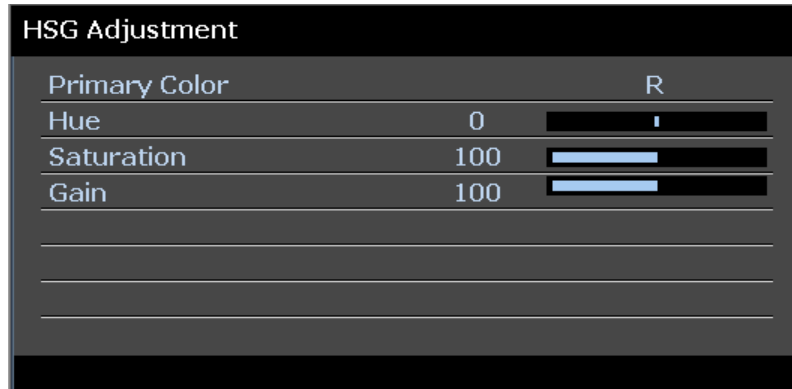


ITEM	DESCRIPTION
Color Temperature	Press the cursor ◀▶ button to set the Color Temperature.
Gamma	Press the cursor ◀▶ button to adjust the gamma correction of the display.
HSG Adjustment	Press the <b>ENTER</b> button to enter the <b>HSG Adjustment</b> sub menu. See <a href="#">HSG Adjustment</a> on page 25.
DynamicBlack	Press the cursor ◀▶ button to adjust the DynamicBlack.
VividSettings	Press the <b>ENTER</b> button to enter the <b>VividSettings</b> sub menu. See <a href="#">VividSettings</a> on page 26.



## HSG Adjustment

Press the **ENTER** button to enter the **HSG Adjustment** sub menu.



ITEM	DESCRIPTION
Primary Color	Press the ◀▶ buttons to set the Primary Color. <b>Notes:</b> There are six sets (R/ G/ B/ C/ M/ Y) of colors to be customized.
Hue	Press the ◀▶ buttons to adjust the Hue.
Saturation	Press the ◀▶ buttons to adjust the Saturation.
Gain	Press the ◀▶ buttons to adjust the Gain.

## VividSettings

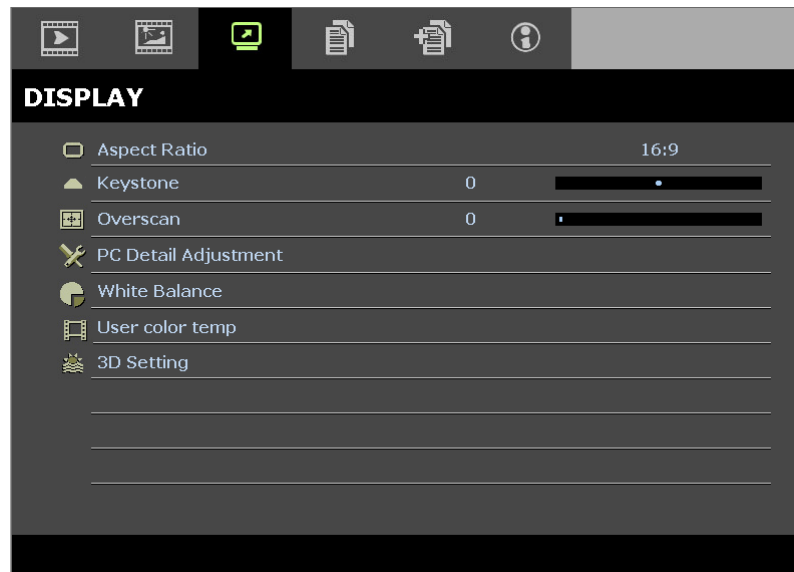
Press the **ENTER** button to enter the **VividSettings** sub menu.



ITEM	DESCRIPTION
VividMotion	Press the ◀▶ buttons to select different MEMC level.
VividPeaking	Press the ◀▶ buttons to adjust motion adaptive sharpness enhancement (2D Peaking) value.
Flesh Tone	Press the ◀▶ buttons to adjust the display flesh tone.

## DISPLAY Menu

Press the **MENU** button to open the **OSD** menu. Press the cursor ◀▶ button to move to the **DISPLAY** menu. Press the cursor ▲▼ button to move up and down in the **DISPLAY** menu. Press ◀▶ to change values for settings.



ITEM	DESCRIPTION
Aspect Ratio	Press the cursor ◀▶ button to set the Aspect Ratio.
Keystone	Press the cursor ◀▶ button to adjust the Keystone.
Overscan	Press the cursor ◀▶ button to adjust the Overscan.
PC Detail Adjustment	Press the <b>ENTER</b> button to enter the <b>PC Detail Adjustment</b> sub menu. See <a href="#">PC Detail Adjustment</a> on page 28.
White Balance	Press the <b>ENTER/ ▶</b> button to enter the <b>White Balance</b> sub menu. See <a href="#">White Balance</a> on page 29
User color temp	Press the <b>ENTER</b> button to enter the <b>User Color Temp</b> sub menu. See <a href="#">User Color Temp</a> on page 30
3D Setting	Press ◀ (Enter) / ▶ to enter the 3D menu. See page 31 for more information on <a href="#">3D Setting</a> .

**Note:**

To enjoy the 3D function, first enable the Play Movie in 3D setting found in your DVD device under the 3D Disc Menu.

## PC Detail Adjustment

Press the **ENTER** button to enter the **PC Detail Adjustment** sub menu.

**Note:**  
 Customizing the settings in **PC Detail Adjustment** menu is only available when PC input source (analog RGB) is selected.



ITEM	DESCRIPTION
Auto	Press the <b>ENTER/AUTO</b> button on the control panel or the <b>ENTER/AUTO</b> button on the remote control to automatically adjust frequency, phase, and position.
Frequency	Press the ◀▶ buttons to adjust the A/D sampling number.
Phase	Press the ◀▶ buttons to adjust the A/D sampling clock.
Horizontal Position	Press the ◀▶ buttons to adjust the display position right or left.
Vertical Position	Press the ◀▶ buttons to adjust the display position up or down.

**Note:**  
 Some signals may take time to display or may not be displayed correctly.  
 If the Auto Adjust operation cannot optimize the PC signal, try to adjust **FREQUENCY** and **PHASE** manually.

## White Balance

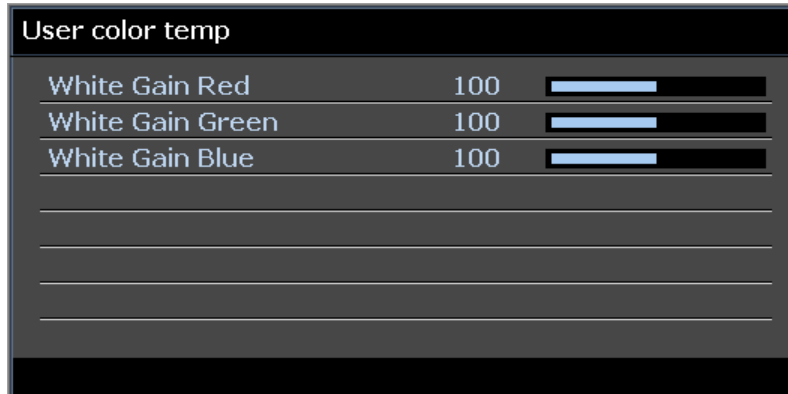
Press the **ENTER** button to enter the **White Balance** sub menu.



ITEM	DESCRIPTION
Red Gain	Press the ◀▶ buttons to adjust the Red Gain.
Green Gain	Press the ◀▶ buttons to adjust the Green Gain.
Blue Gain	Press the ◀▶ buttons to adjust the Blue Gain.
Red Bias	Press the ◀▶ buttons to adjust the Red Bias.
Green Bias	Press the ◀▶ buttons to adjust the Green Bias.
Blue Bias	Press the ◀▶ buttons to adjust the Blue Bias.

### User Color Temp

Press the **ENTER** button to enter the **User Color Temp** sub menu.



ITEM	DESCRIPTION
White Gain Red	Press the ◀▶ buttons to adjust the White Gain Red.
White Gain Green	Press the ◀▶ buttons to adjust the White Gain Green.
White Gain Blue	Press the ◀▶ buttons to adjust the White Gain Blue.

### 3D Setting



ITEM	DESCRIPTION
3D Mode	Press the ◀▶ buttons to enter and select different 3D mode.
3D Sync	Press the ◀▶ buttons to enter and enable or disable 3D Sync.
3D Sync Invert	Press the ◀▶ buttons to enter and enable or disable 3D Sync Invert.

**Note:**

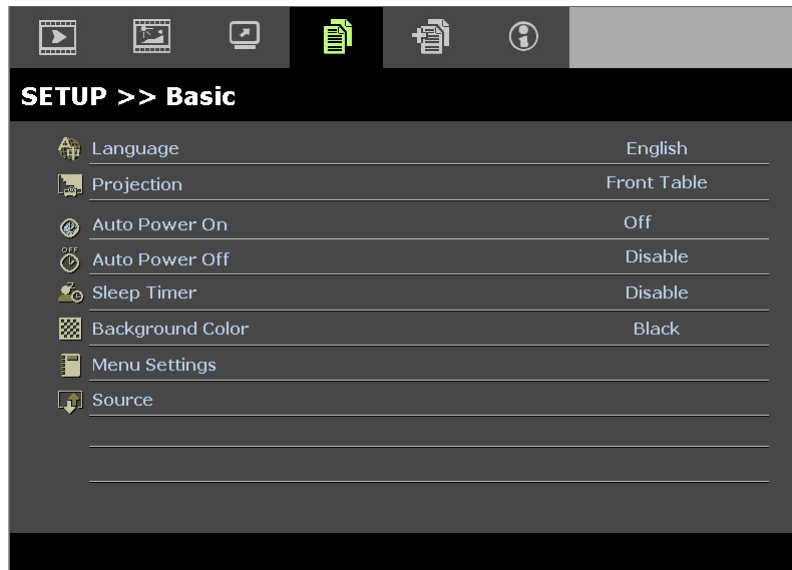
1. The 3D OSD menu item is gray if there is no appropriate 3D source. This is the default setting.
2. When the projector is connected to an appropriate 3D source, the 3D OSD menu item is enabled for selection.
3. Use 3D glasses to view a 3D image.
4. You need 3D content from a 3D DVD or 3D media file.
5. You need to enable the 3D source (some 3D DVD content may have a 3D on-off selection feature).
6. You need DLP link 3D or IR 3D shutter glasses. With IR 3D shutter glasses, you need to install a driver on your PC and connect a USB emitter.
7. The 3D mode of the OSD needs to match the type of glasses (DLP link or IR 3D).
8. Power on the glasses. Glasses normally have a power on -off switch. Each type of glasses has their own configuration instructions. Please follow the configuration instructions that come with your glasses to finish the setup process.

**Note:**

Since different types of glass (DLP link or IR shutter glass) have their own setting instructions, Please follow the guide to finish the setup process.

## SETUP>>Basic Menu

Press the **MENU** button to open the **OSD** menu. Press the cursor ◀▶ button to move to the **SETUP>>Basic** menu. Press the cursor ▲▼ button to move up and down in the **SETUP>>Basic** menu. Press ◀▶ to change values for settings.



ITEM	DESCRIPTION
Language	Press the cursor ◀▶ buttons to select a different localization menu.
Projection	Press the cursor ◀▶ buttons to choose from four projection methods.
Auto Power On	Press the cursor ◀▶ buttons to enter and enable or disable automatic power On when AC power is supplied.
Auto Power Off	Press the cursor ◀▶ buttons to set the Auto Power Off timer. The projector automatically turns off if no input source is detected after the preset period of time.
Sleep Timer	Press the cursor ◀▶ buttons to set Sleep timer. The projector automatically turns off after the preset period of time.
Background Color	Press the cursor ◀▶ buttons to select the background color when no input source is detected.
Menu Settings	Press the <b>ENTER</b> button to enter the <b>Menu Settings</b> sub menu. See <a href="#">Menu Settings</a> on page 33.
Source	Press the <b>ENTER</b> button to enter the <b>Source</b> sub menu. See <a href="#">Source</a> on page 33.



## Menu Settings

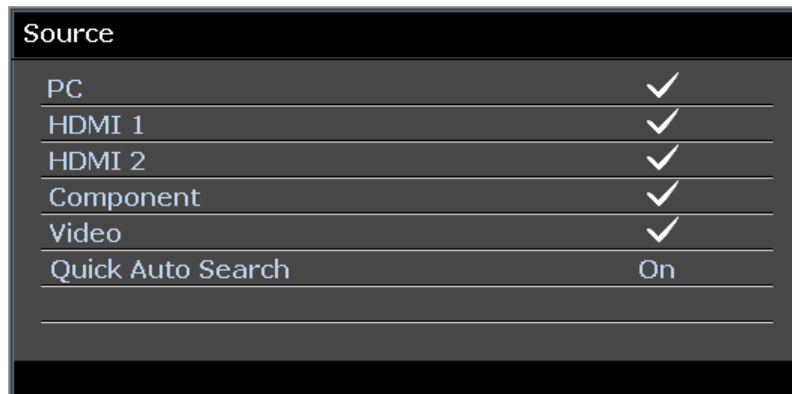
Press the **ENTER** button to enter the **Menu Settings** sub menu.



ITEM	DESCRIPTION
Menu Position	Press the ◀▶ buttons to select from five OSD locations.
Menu Display Time	Press the ◀▶ buttons to set the Menu Display timer before the OSD times out.

## Source

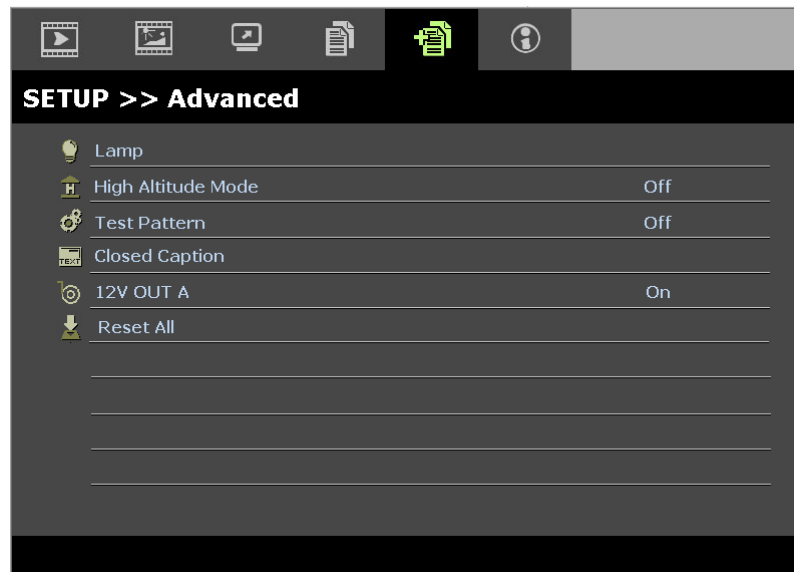
Press the **ENTER** button to enter the **Source** sub menu.



ITEM	DESCRIPTION
PC	Press the ◀▶ buttons to enable or disable the PC source.
HDMI 1	Press the ◀▶ buttons to enable or disable the HDMI source.
HDMI 2	Press the ◀▶ buttons to enable or disable the HDMI source
Component	Press the ◀▶ buttons to enable or disable the Component source.
Video	Press the ◀▶ buttons to enable or disable the Video source.
Quick Auto Search	Press the ◀▶ buttons to enable or disable Quick Auto Search for available input source. <b>Notes:</b> When the desired source is selected, the Quick Auto Search function will be turn off.

## SETUP>>Advanced Menu

Press the **MENU** button to open the **OSD** menu. Press the cursor ◀▶ button to move to the **SETUP>>Advanced** menu. Press the cursor ▲▼ button to move up and down in the **SETUP>>Advanced** menu.



ITEM	DESCRIPTION
Lamp	Press the <b>ENTER</b> button to enter the <b>Lamp</b> sub menu. See <a href="#">Lamp</a> on page 35.
High Altitude Mode	Press the cursor ◀▶ buttons to turn on or off High Altitude Mode. Recommended to turn on when the altitude of the environment is higher than 1500m (4921ft).
Test Pattern	Press the cursor ◀▶ buttons to select Test Pattern.
Closed Caption	Press the <b>ENTER</b> button to enter the <b>Closed Caption</b> sub menu. See <a href="#">Closed Caption</a> on page 35.
12V OUT A	Press the cursor ◀▶ buttons to adjust 12V OUT.
Reset All	Press the <b>ENTER</b> button to enter reset all settings to default values.

## Lamp

Press the **ENTER** button to enter the **Lamp** sub menu.



ITEM	DESCRIPTION
Lamp Mode	Press the ◀▶ buttons to adjust lamp brightness.
Reset Lamp Timer	Press the <b>ENTER</b> button to reset the Lamp Hour after the lamp is replaced.
Lamp Hour	Displays the number of hours the lamp has been in use.

## Closed Caption

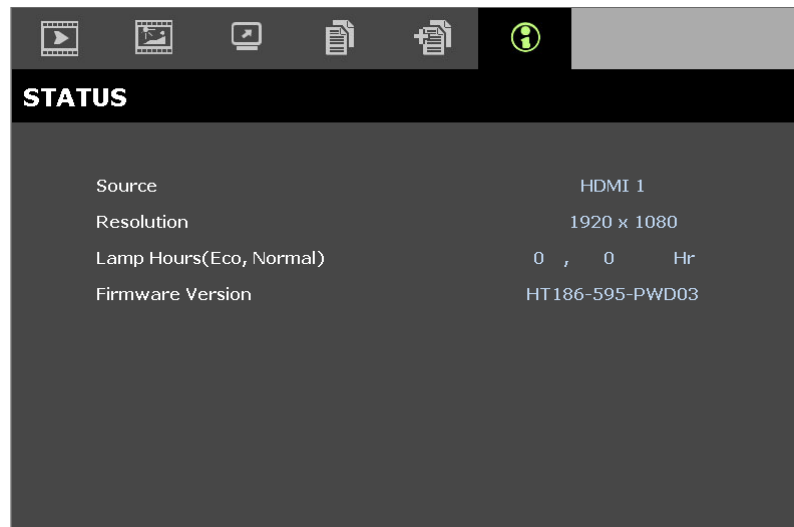
Press the **ENTER** button to enter the **Closed Caption** sub menu.



ITEM	DESCRIPTION
Closed Caption Enable	Press the ◀▶ buttons to turn on or off Closed Caption.
Caption Version	Press the ◀▶ buttons to select the Caption Version.

## STATUS Menu

Press the **MENU** button to open the **OSD** menu. Press the cursor ◀▶ button to move to the **STATUS Menu**.



ITEM	DESCRIPTION
Source	Displays the activated input source.
Resolution	Displays the native resolution of input source.
Lamp Hour s (ECO, Normal)	Displays the number of hours the lamp has been in use.
Firmware Version	Displays the firmware version of the projector.

**Note:**

*Status displayed in this menu is for viewing only and cannot be edited.*

## MAINTENANCE AND SECURITY

### Replacing the Projection Lamp

The projection lamp should be replaced when it burns out. It should only be replaced with a certified replacement part, which you can order from your local dealer.



**Important:**

- a. The projection lamp used in this product contains a small amount of mercury.
- b. Do not dispose this product with general household waste.
- c. Disposal of this product must be carried out in accordance with the regulations of your local authority.



**Warning:**

Be sure to turn off and unplug the projector at least 30 minutes before replacing the lamp. Failure to do so could result in a severe burn.



**Caution:**

In rare cases the lamp bulb may burn out during normal operation and cause glass dust or shards to be discharged outward from the rear exhaust vent.

Do not inhale or do not touch glass dust or shards. Doing so could result in injury.

Always keep your face away from the exhaust vent so that you do not suffer from the gas and broken shards of the lamp.

When removing the lamp from a ceiling-mounted projector, make sure that no one is under the projector. Glass fragments could fall if the lamp has been burned out.



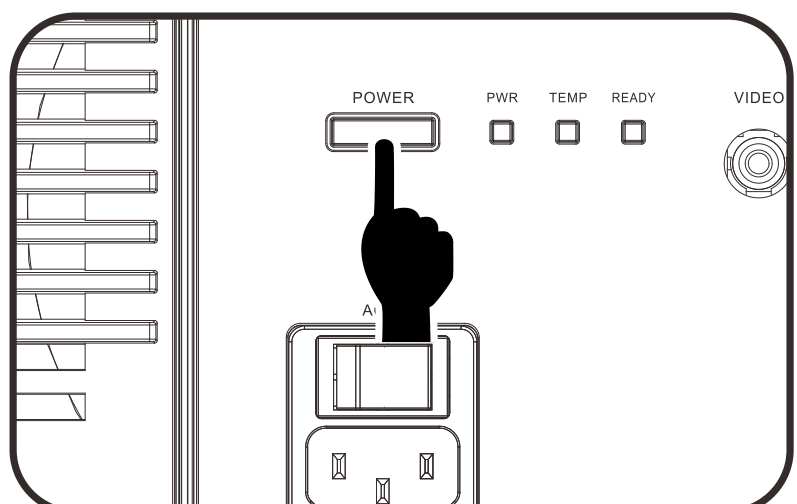
**IF A LAMP EXPLODES**

If a lamp explodes, the gas and broken shards may scatter inside the projector and they may come out of the exhaust vent. The gas contains toxic mercury.

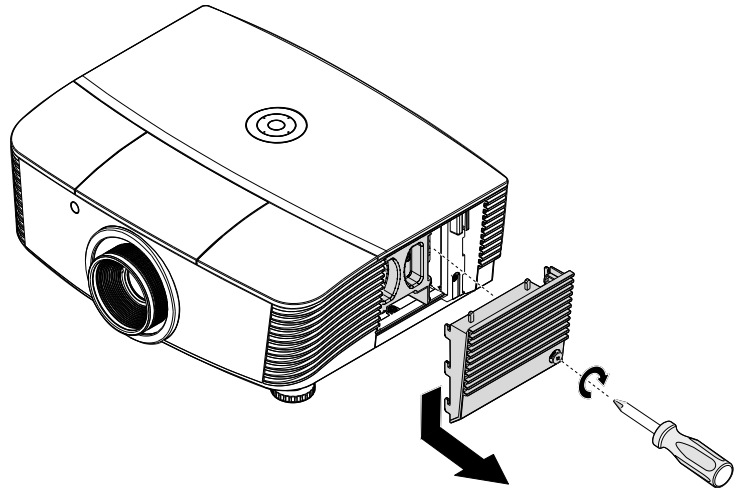
Open windows and doors for ventilation.

If you inhale the gas or the shards of the broken lamp enter your eyes or mouth, consult the doctor immediately.

1. Switch off the power to the projector by pressing the POWER button.
2. Allow the projector to cool down at least 30 minutes.
3. Disconnect the power cord.

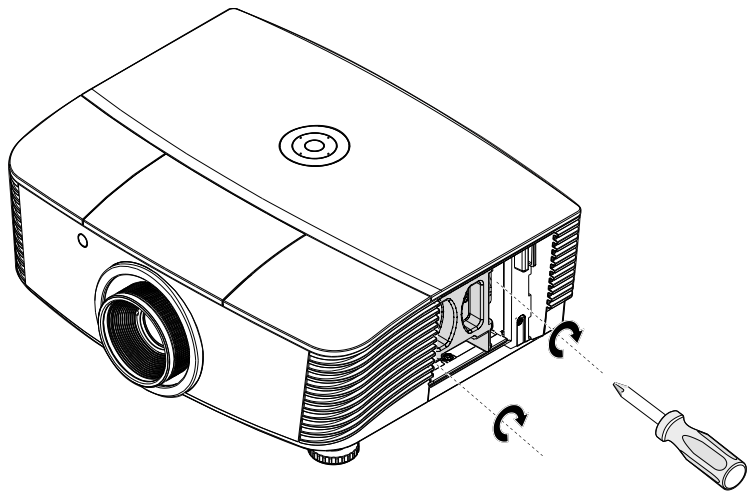


**4.** Unlock the lamp cover.

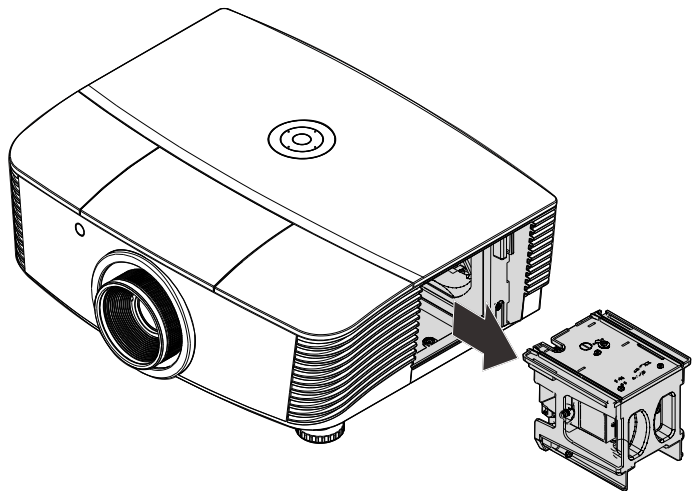


**5.** Pull up and remove the cover.

**6.** Use a screwdriver to remove the screws from the lamp module.

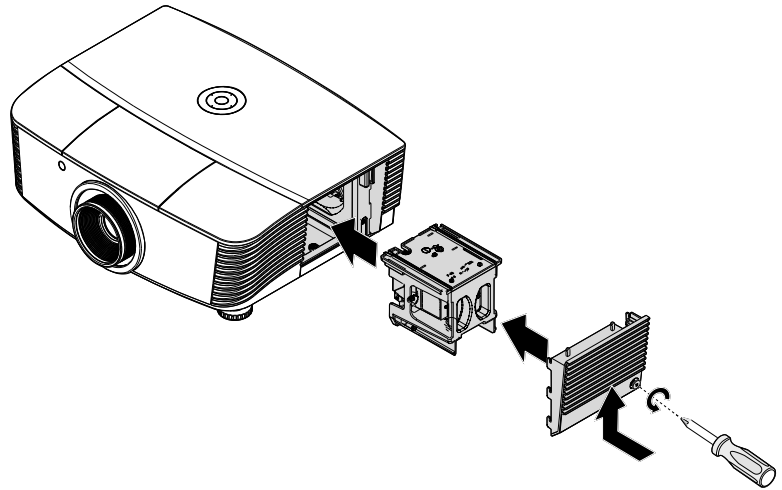


**7.** Pull out the lamp module.



- 8.** Reverse steps 1 to 7 to install the new lamp module. While installing, align the lamp module with the connector and ensure it is level to avoid damage.

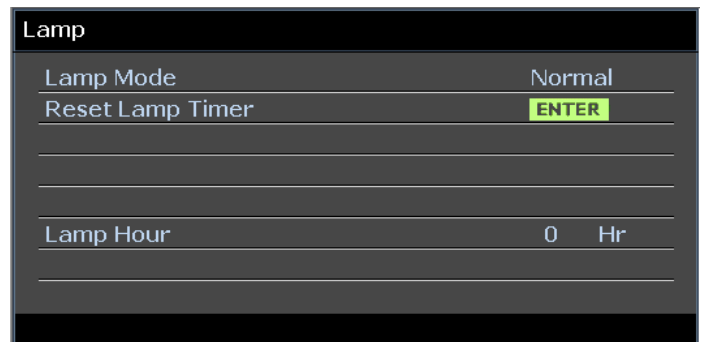
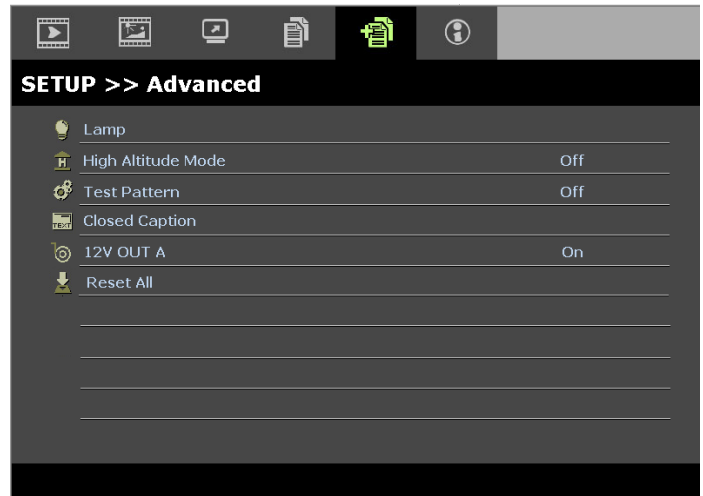
**Note:**  
*The lamp module must sit securely in place and the lamp connector must be connected properly before tightening the screws.*



## Resetting the Lamp

After replacing the lamp, you should reset the lamp hour counter to zero. Refer to the following:

1. Press the **MENU** button to open the OSD menu.
2. Press the cursor ◀▶ button to move to the **SETUP : Advanced** menu. Press the cursor button to move down to **Lamp** and press enter.
3. Press the cursor ▼▲ button to move down to **Reset Lamp Timer**.
4. Press the ◀▶ buttons to adjust the settings.
5. Press the **MENU** button to get back to **SETUP : Advanced**.

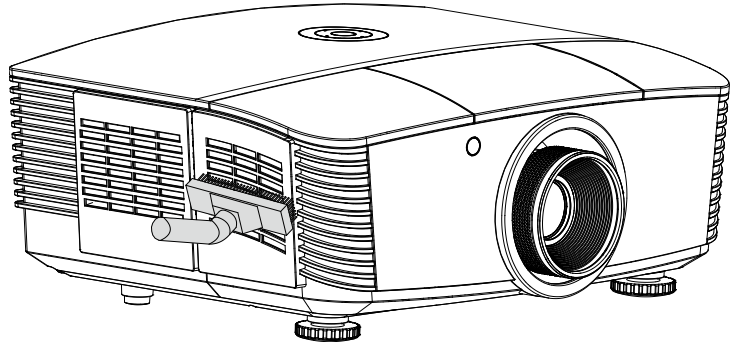




## **Cleaning the filter (filter: optional parts)**

The air filter prevents dust from accumulating on the surface of the optical elements inside the projector. If the filter is dirty or clogged, your projector may overheat or degrading the projected image quality.

- 1.** Turn off the projector, and unplug the AC power cord from the AC outlet.
- 2.** Cleaning the filter with a vacuum cleaner.



**Caution:**

*Recommend avoiding dusty or smoky environments when you operate the projector, it may cause poor image quality.*

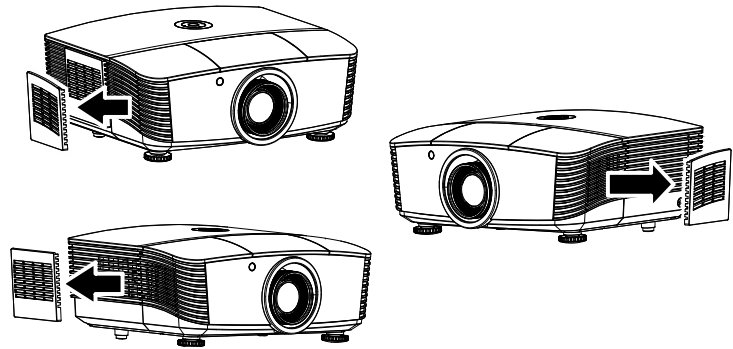
*If the filter is heavily clogged and unable to clean, replace a new filter.*

**Note:**

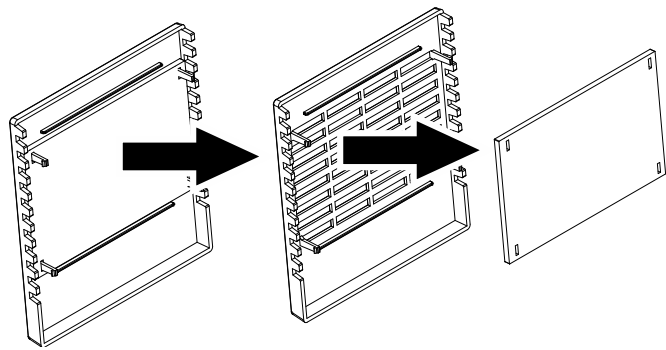
*Using a ladder is recommended to access the filter. Do not remove the projector from the wall mount.*

## Replacing the Filter

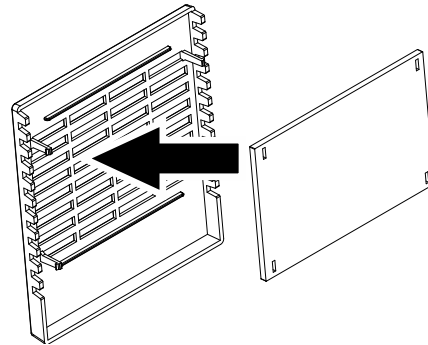
1. Turn off the projector, and unplug the AC power cord from the AC outlet. Clean up the dust on the projector and around the air vents. Pull out the filter cover and remove from the projector



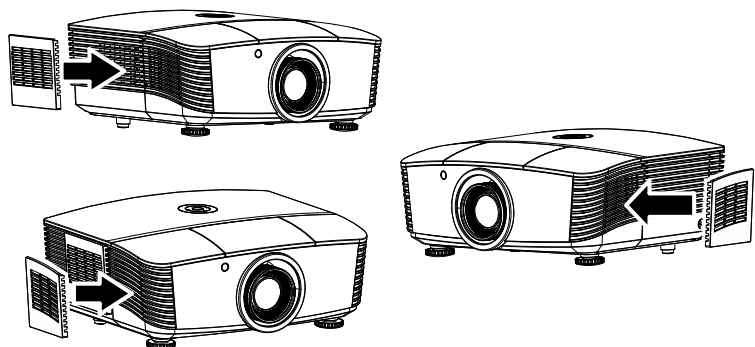
2. Lift the filter from the filter cover.



3. Replace a new filter module or replace filter into cover.



4. Replace the filter cover back to the projector by pushing gently in the direction shown.



**Warning:**

*Do not wash the filter with the water or other liquid matter*



**Important:**

*When the lamp is replaced, the filter should also be replaced, not cleaned.*

## Cleaning the Projector

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



**Warning:**

1. 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.
2. Use only a dampened cloth when cleaning. Do not allow water to enter the ventilation openings on the projector.
3. If a little water gets into the projector interior while cleaning, leave unplugged in a well-ventilated room for several hours before using.
4. If a lot of water gets into the projector interior when cleaning, have the projector serviced.

### Cleaning the Lens

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

1. Apply a little optic 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:**

1. Do not use abrasive cleaners or solvents.
2. 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.



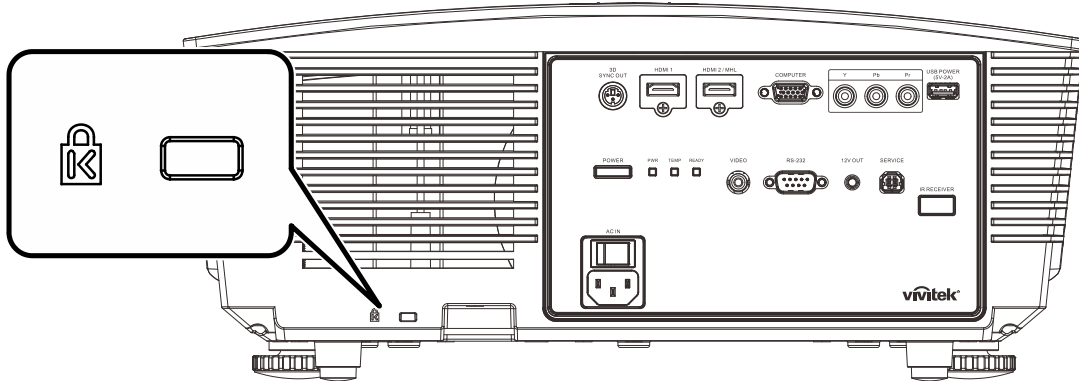
**Caution:**

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

## Using the Physical Lock

### Using the Kensington Security Slot

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



**Note:**

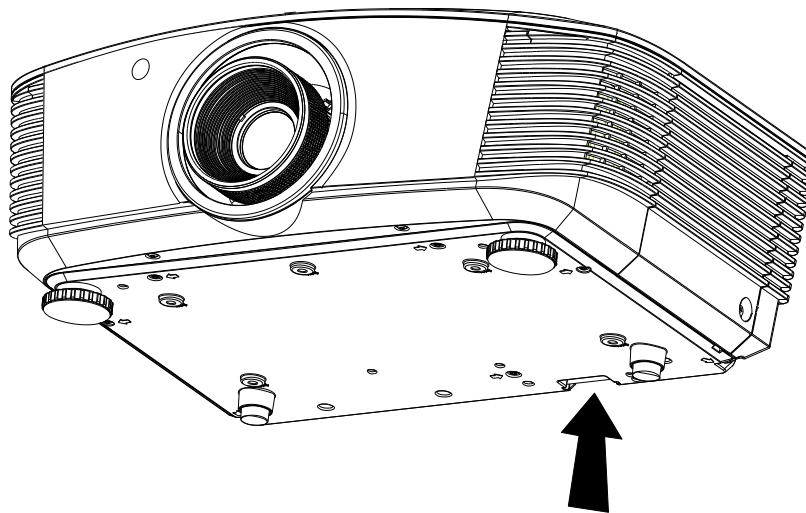
Contact your vendor for details on purchasing a suitable Kensington security cable.

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>.

### Using the Security Chain Lock

In addition to the password protection function and the Kensington lock, the Security Chain Opening helps protect the PROJECTOR from unauthorized use.

See the following picture.



## **TROUBLESHOOTING**

### **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

ERROR CODE MESSAGES	POWER LED		LAMP LED	TEMP LED
	RED	GREEN	RED	RED
Ready to Power on (Standby)	ON		OFF	OFF
System Power on		Flash	OFF	OFF
Lamp Lit , System stable		ON	ON	OFF
Cooling	Flashing		OFF	OFF
1W MCU detects scaler stops working (initial fail)	2 blinks		OFF	OFF
Over Temperature	OFF		OFF	ON
Thermal Break Sensor error	4 blinks		OFF	OFF
Lamp Fail	5 blinks		0 blinks	OFF
Lamp Temperature shut down	5 blinks		1 blinks	OFF
Lamp Short circuit in output detected	5 blinks		2 blinks	OFF
Lamp End of lamp life detected	5 blinks		3 blinks	OFF
Lamp did not ignite	5 blinks		4 blinks	OFF
Lamp extinguish normal	5 blinks		5 blinks	OFF
Lamp extinguish run-up	5 blinks		6 blinks	OFF
Lamp voltage too low	5 blinks		7 blinks	OFF
Lamp ballast Fail	5 blinks		8 blinks	OFF
Lamp ballast Communication error	5 blinks		10 blinks	OFF
Fan1 Blower error	6 blinks		1 blinks	OFF
Fan2 Power error	6 blinks		2 blinks	OFF
Fan3 SYS_OUT error	6 blinks		3 blinks	OFF
Fan4 Blower 2 error	6 blinks		4 blinks	OFF
Case Open	7 blinks		OFF	OFF
DAD1000 error	8 blinks		OFF	OFF
Color wheel error	9 blinks		OFF	OFF

In the event of an error, please disconnect the AC power cord and wait for one (1) minute before restarting the projector. If the Power or Ready LEDs are still blinking or any other situation that isn't listed in the chart above, please contact your service center.

## 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 up again in the correct order.

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

1. Adjust the **Focus** on the projector.
2. Press the **Auto** button on the remote control.
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. Use the **Keystone** button on the remote control to correct the problem.

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

Check the **Projection** setting on the **SYSTEM SETUP >> Basic > Projection** menu of the OSD.

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

1. Set the **Frequency** and **Phase** settings on the **PC Detail Adjustment** menu of the OSD to the default settings.
2. To 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 >> Basic** 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.

## **Lamp 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 Power LED is on.
4. If you have replaced the lamp recently, try resetting the lamp connections.
5. Replace the lamp module.
6. Put the old lamp back in the projector and have the projector serviced.

***Problem: The lamp goes off***

1. Power surges can cause the lamp to turn off. Re-plug power cord. When the Power LED is on, press the power button.
2. Replace the lamp module.
3. Put the old lamp back in the projector and 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. Check the battery polarity.
5. Replace the battery.
6. Turn off other Infrared-enabled devices in the vicinity.
7. Have the remote control serviced.

## Audio Problems

***Problem: There is no sound***

1. Adjust the volume on the remote control.
2. Adjust the volume of the audio source.
3. Check the audio cable connection.
4. Test the source audio output with other speakers.
5. Have the projector serviced.

***Problem: The sound is distorted***

1. Check the audio cable connection.
2. Test the source audio output with other speakers.
3. Have the projector 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 Adopters 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.

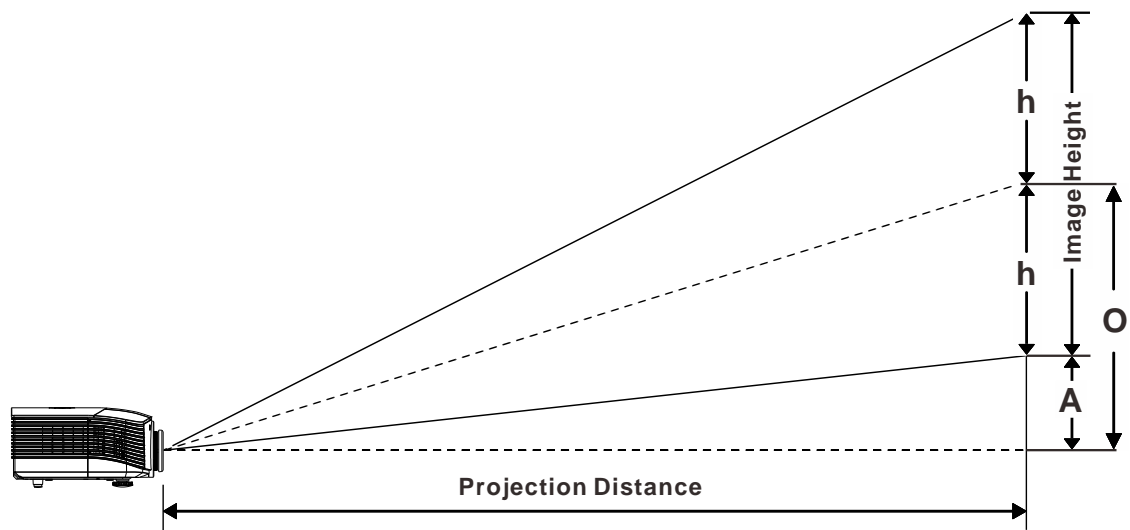
For more detail information check <http://www.hdmi.org/learningcenter/faq.aspx#49>

## Specifications

Model	H5098
Display type	0.65" 1080P DC3 S600
Resolution	1920x1080
Projection distance	1.5 meters ~ 7 meters
Projection screen size	35.1" ~ 205.3"
Projection lens	Manual Focus / Manual Zoom
Throw ratio	1.54 ~ 1.93
Vertical keystone correction	±40°
Projection methods	Front, Rear, Desktop/Ceiling (Rear, Front)
Data compatibility	VGA, SVGA, XGA, SXGA, SXGA+, UXGA, WUXGA@60hz, Mac
SDTV/EDTV/ HDTV	480i, 576i, 480p, 576p, 720p, 1080i, 1080p
Video compatibility	NTSC (M, 3.58/4.43 MHz), PAL (B, D, G, H, I, M, N), SECAM (B, D, G, K, K1, L)
H-Sync	15, 31-91.4kHz
V-Sync	24~30Hz, 47 ~ 120Hz
Safety certification	FCC-B, cUL, UL, CE, C-tick, CCC, KC, CB, EAC
Operation temperature	5° ~ 40°C
Environmental Storage Condition	-10° ~ 60°C, 5% ~ 95% (No condensing)
Dimensions	431.12mm (W) x 344.16mm (D) x 180.50mm (H)
AC Input	AC Universal 100 – 240V
Power consumption	370W (Normal), 300W (ECO), <0.5W (Standby)
Lamp	280W (Normal) / 230W (Eco)
Input Terminals	VGA x 1
	Component x 1
	Composite video x 1
	HDMI/MHL x 1, HDMI x 1
Control Terminals	RS-232C
	Screen trigger: DC Jack x 1 (DC12V 200mA output function)
	USB (type B) only for service/mouse control
	USB (type A) only for power supply; WHDI
	3D sync
Security	Kensington Security Slot
	Security Bar

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

## Projection Distance vs. Projection Size (1080P)



### Projection Distance and Size Table

Standard projection lens: TR: 1.54 ~ 1.93; offset=60%

	TELE				WIDE			
Distance (m)	1.50	3.42	4.27	8.55	1.70	3.41	6.82	10.23
Diagonal (")	35.1	80	100	200	50	100	200	300*
Image Width (mm)	777	1771	2214	4428	1107	2214	4428	6641
Image Height (mm)	437	996	1245	2491	623	1245	2491	3736
h (mm)	219	498	623	1245	311	623	1245	1868
O (mm)	262	598	747	1494	374	747	1494	2241
A (mm)	44	100	125	249	62	125	249	374

**Note:**  
(\* ) Overdrive.

Long throw projection lens: TR: 1.93 ~ 2.9; offset=60%

	TELE				WIDE			
Distance (m)	2.00	6.42	12.84	20.00	2.14	6.41	12.82	20.00
Diagonal (")	31.2	100	200	311.6	50	150	300	468
Image Width (mm)	691	2214	4428	6898	1107	3321	6641	10361
Image Height (mm)	389	1245	2491	3880	623	1868	3736	5828
h (mm)	194	623	1245	1940	311	934	1868	2914
O (mm)	233	747	1494	2328	374	1121	2241	3497
A (mm)	39	125	249	388	62	187	374	583

*New Short throw projection lens: TR: 0.778; offset=60%*

	Fix						
Distance (m)	0.80	1.38	1.72	2.58	3.44	4.31	5.00
Diagonal (")	46.5	80	100	150	200	250	290.2
Image Width (mm)	1029	1771	2214	3321	4428	5535	6424
Image Height (mm)	579	996	1245	1868	2491	3113	3614
h (mm)	290	498	623	934	1245	1557	1807
O (mm)	347	598	747	1121	1494	1868	2168
A (mm)	58	100	125	187	249	311	361

*Semi Short throw projection lens: TR: 1.1 ~ 1.3; offset=60%*

	TELE				WIDE			
Distance (m)	1.00	2.88	5.76	9.00	1.22	3.65	7.31	9.00
Diagonal (")	34.8	100	200	312.7	50	150	300	369.5
Image Width (mm)	770	2214	4428	6923	1107	3321	6641	8180
Image Height (mm)	433	1245	2491	3894	623	1868	3736	4601
h (mm)	217	623	1245	1947	311	934	1868	2301
O (mm)	260	747	1494	2336	374	1121	2241	2761
A (mm)	43	125	249	389	62	187	374	460

*Super Long throw projection lens: TR: 3 ~ 5; offset=60%*

	TELE				WIDE			
Distance (m)	3.00	11.07	16.60	20.00	3.32	6.64	13.28	20.00
Diagonal (")	27.1	100	150	180.7	50	100	200	301.1
Image Width (mm)	600	2214	3321	4000	1107	2214	4428	6666
Image Height (mm)	337	1245	1868	2250	623	1245	2491	3749
h (mm)	169	623	934	1125	311	623	1245	1875
O (mm)	202	747	1121	1350	374	747	1494	2250
A (mm)	34	125	187	225	62	125	249	375

offset % =  $O/(2xh) \times 100\%$

$O=A+h$

$h=(1/2) \times (\text{image height})$

Timing Mode Table

Signal	Resolution	H-Sync (KHz)	V-Sync (Hz)	Composite S-Video	Component	RGB (Analog)	DP/DVI HDMI (Digital)
NTSC	—	15.7	60.0	○	—	—	—
PAL/SECAM	—	15.6	50.0	○	—	—	—
VESA	640 x 400	37.9	85.1	—	—	○	○
	720 x 400	31.5	70.1	—	—	○	○
	720 x 400	37.9	85.0	—	—	○	○
	640 x 480	31.5	60.0	—	—	○	○
	640 x 480	37.9	72.8	—	—	○	○
	640 x 480	37.5	75.0	—	—	○	○
	640 x 480	43.3	85.0	—	—	○	○
	800 x 600	35.2	56.3	—	—	○	○
	800 x 600	37.9	60.3	—	—	○	○
	800 x 600	46.9	75.0	—	—	○	○
	800 x 600	48.1	72.2	—	—	○	○
	800 x 600	53.7	85.1	—	—	○	○
	800 x 600	76.3	120.0	—	—	○	○
	1024 x 576	35.8	60.0	—	—	○	○
	1024 x 600	37.3	60.0	—	—	○	○
	1024 x 600	41.5	65.0	—	—	○	○
	1024 x 768	48.4	60.0	—	—	○	○
	1024 x 768	56.5	70.1	—	—	○	○
	1024 x 768	60.0	75.0	—	—	○	○
	1024 x 768	68.7	85.0	—	—	○	○
	1024 x 768	97.6	120.0	—	—	○	○
	1024 x 768	99.0	120.0	—	—	○	○
	1152 x 864	67.5	75.0	—	—	○	○
	1280 x 720	45.0	60.0	—	—	○	○
	1280 x 720	90.0	120.0	—	—	○	○
	1280 x 768	47.4	60.0	—	—	○	○
	1280 x 768	47.8	59.9	—	—	○	○
	1280 x 800	49.7	59.8	—	—	○	○
	1280 x 800	62.8	74.9	—	—	○	○
	1280 x 800	71.6	84.9	—	—	○	○
	1280 x 800	101.6	119.9	—	—	○	○
	1280 x 1024	64.0	60.0	—	—	○	○
	1280 x 1024	80.0	75.0	—	—	○	○
	1280 x 1024	91.1	85.0	—	—	○	○
	1280 x 960	60.0	60.0	—	—	○	○
	1280 x 960	85.9	85.0	—	—	○	○
	1360 x 768	47.7	60.0	—	—	○	○
	1400 x 1050	65.3	60.0	—	—	○	○
	1440 x 900	55.5	59.9	—	—	○	○
	1440 x 900	55.9	59.9	—	—	○	○
1440 x 900	70.6	75.0	—	—	○	○	
1600 x 1200	75.0	60.0	—	—	○	○	

Signal	Resolution	H-Sync (KHz)	V-Sync (Hz)	Composite S-Video	Component	RGB (Analog)	DP/DVI HDMI (Digital)
	1680 x 1050	64.7	59.9	—	—	○	○
	1680 x 1050	65.3	60.0	—	—	○	○
	1920 x 1200	74.0	60.0	—	—	○	○
	1920 x 1080	67.5	60.0	—	—	○	○
Apple Macintosh	640 x 480	35.0	66.7	—	—	○	○
	832 x 624	49.7	74.5	—	—	○	○
	1024 x 768	60.2	74.9	—	—	○	○
	1152 x 870	68.7	75.1	—	—	○	○
SDTV	480i	15.7	60.0	—	○	—	○
	576i	15.6	50.0	—	○	—	○
EDTV	576p	31.3	50.0	—	○	—	○
	480p	31.5	60.0	—	○	—	○
HDTV	720p	37.5	50.0	—	○	—	○
	720p	45.0	60.0	—	○	—	○
	1080i	33.8	60.0	—	○	—	○
	1080i	28.1	50.0	—	○	—	○
	1080p	27.0	24.0	—	○	—	○
	1080p	28.0	25.0	—	○	—	○
	1080p	33.7	30.0	—	○	—	○
	1080p	56.3	50.0	—	○	—	○
	1080p	67.5	60.0	—	○	—	○

O: Frequency supported

—: Frequency not supported

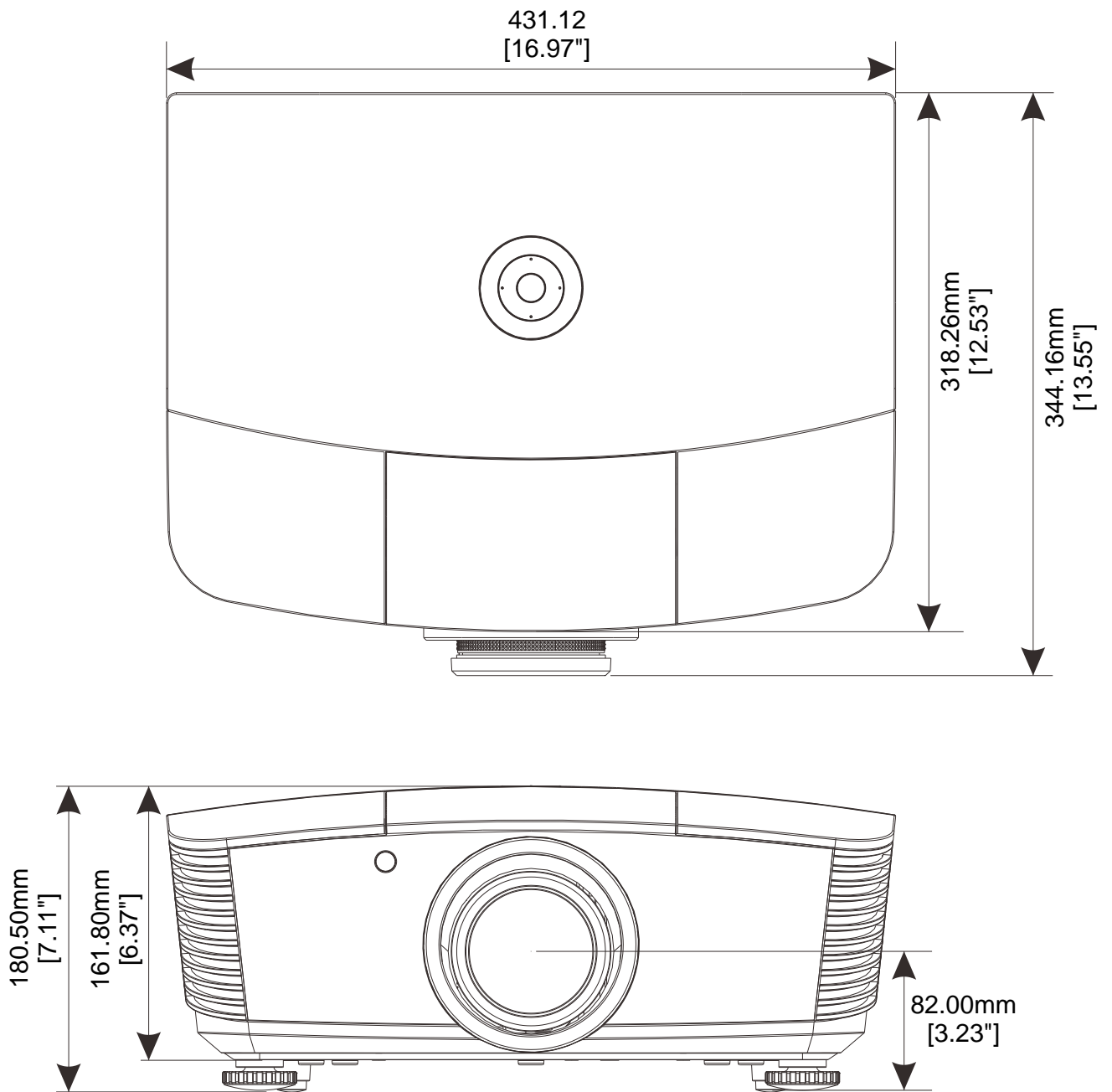
Resolution others than native resolution may be display with uneven size of text or line.

★ The color of      mean Displayable only. (4:3 only)

★ The color of      mean may have a little noise is acceptable, Because video mode sync don't auto adjustment.

★ HDTV timing main check tool is DVD player, VG828 is secondary.

## Projector Dimensions



## **REGULATORY COMPLIANCE**

### **FCC Warning**

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference 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 B digital apparatus complies with Canadian ICES-003.

### **Safety Certifications**

FCC-B, cUL, UL, CE, C-tick, CCC, KC, CB, EAC



# APPENDIX I

## RS-232C Protocol

### RS232 Setting

Baud rate:	<b>9600</b>
Parity check:	<b>None</b>
Data bit:	<b>8</b>
Stop bit:	<b>1</b>
Flow Control	<b>None</b>

Minimum delay for next command: **1ms**

### Control Command Structure

	Header code	Command code	Data code	End code
<b>HEX</b>		<b>Command</b>	<b>Data</b>	<b>0Dh</b>
<b>ASCII</b>	'V'	<b>Command</b>	<b>Data</b>	<b>CR</b>

### Operation Command

<p><i>Note:</i></p> <p>"CR" mean Carriage Return</p> <p>XX=00-98, projector's ID, XX=99 is for all projectors</p> <p>Return Result P=Pass / F=Fail</p> <p>n: 0:Disable/1: Enable/Value(0~9999)</p>
--

Command Group 00				
ASCII	HEX	Function	Description	Return Result
VXXS0001	56h Xh Xh 53h 30h 30h 30h 31h 0Dh	Power On		VXXS0001
VXXS0002	56h Xh Xh 53h 30h 30h 30h 32h 0Dh	Power Off		VXXS0002
VXXS0003	56h Xh Xh 53h 30h 30h 30h 33h 0Dh	Resync		VXXS0003
VXXG0004	56h Xh Xh 47h 30h 30h 30h 34h 0Dh	Get Lamp Hours		VXXG0004
VXXS0006	56h Xh Xh 53h 30h 30h 30h 36h 0Dh	System Reset		VXXS0006
VXXG0007	56h Xh Xh 47h 30h 30h 30h 37h 0Dh	Get System Status	0: Reset 1: Standby 2: Operation 3: Cooling	VXXG0007
VXXG0008	56h Xh Xh 47h 30h 30h 30h 38h 0Dh	Get F/W Version		VXXG0008

Command Group 01				
ASCII	HEX	Function	Description	Return Value
VXXG0101	56h Xh Xh 47h 30h 31h 30h 31h 0Dh	Get Brightness	n=0~100	Pn/F
VXXS0101n	56h Xh Xh 53h 30h 31h 30h 31h nh 0Dh	Set Brightness	n=0~100	P/F
VXXG0102	56h Xh Xh 47h 30h 31h 30h 32h 0Dh	Get Contrast	n=-50~50	Pn/F
VXXS0102n	56h Xh Xh 53h 30h 31h 30h 32h nh 0Dh	Set Contrast	n=-50~50	P/F
VXXG0103	56h Xh Xh 47h 30h 31h 30h 33h 0Dh	Get Color	n=-50~50	Pn/F
VXXS0103n	56h Xh Xh 53h 30h 31h 30h 33h nh 0Dh	Set Color	n=-50~50	P/F
VXXG0104	56h Xh Xh 47h 30h 31h 30h 34h 0Dh	Get Tint	n=-50~50	Pn/F

Command Group 01				
ASCII	HEX	Function	Description	Return Value
VXXS0104n	56h Xh Xh 53h 30h 31h 30h 34h nh 0Dh	Set Tint	n=-50~50	P/F
VXXG0105	56h Xh Xh 47h 30h 31h 30h 35h 0Dh	Get Sharpness	0~15	Pn/F
VXXS0105n	56h Xh Xh 53h 30h 31h 30h 35h nh 0Dh	Set Sharpness	0~15	P/F
VXXG0106	56h Xh Xh 47h 30h 31h 30h 36h 0Dh	Get Color Temperature	0:Warm(D65) 1:Normal(D75) 2:Cold(D83)	Pn/F
VXXS0106n	56h Xh Xh 53h 30h 31h 30h 36h nh 0Dh	Set Color Temperature	0:Warm(D65) 1:Normal(D75) 2:Cold(D83)	P/F
VXXG0107	56h Xh Xh 47h 30h 31h 30h 37h 0Dh	Get Gamma	0:1.8 1:2.0 2:2.2 3:2.4 4:B&W 5:Linear	Pn/F
VXXS0107n	56h Xh Xh 53h 30h 31h 30h 37h nh 0Dh	Set Gamma	0:1.8 1:2.0 2:2.2 3:2.4 4:B&W 5:Linear	P/F
VXXG0108	56h Xh Xh 53h 30h 33h 31h 38h 0Dh	Adjust the Display mode	SIM2 n= 0~7	P/F
VXXS0108n	56h Xh Xh 47h 30h 33h 31h 38h nh 0Dh	Adjust the Display mode	0:Presentation 1:Bright 2:Game 3:Movie 4:Vivid 5:Movie (P3) 6:Movie (P3) 7:User1	Pn/F

Command Group 02				
ASCII	HEX	Function	Description	Return Value
VXXS0201	56h Xh Xh 53h 30h 32h 30h 31h 0Dh	Select RGB		P/F
VXXS0204	56h Xh Xh 53h 30h 32h 30h 34h 0Dh	Select Video		P/F
VXXS0206	56h Xh Xh 53h 30h 32h 30h 36h 0Dh	Select HDMI		P/F
VXXS0208	56h Xh Xh 53h 30h 32h 30h 38h 0Dh	Select Component		P/F
VXXS0209	56h Xh Xh 53h 30h 32h 30h 39h 0Dh	Select HDMI 2(MEDIA)		P/F
VXXG0220	56h Xh Xh 47h 30h 32h 32h 30h 0Dh	Get Current Source	Return 1:RGB 2:N/A 3:N/A 4:Video 5:N/A 6:HDMI 7:N/A 8:Component 9:HDMI 2 10:N/A	Pn/F

<b>Command Group 03</b>				
<b>ASCII</b>	<b>HEX</b>	<b>Function</b>	<b>Description</b>	<b>Return Value</b>
VXXG0301	56h Xh Xh 47h 30h 33h 30h 31h 0Dh	Get Scaling	0: Fill 1: 4:3 2: 16:9 3: Letter Box 4: Real 5: 2.35:1	Pn/F
VXXS0301n	56h Xh Xh 53h 30h 33h 30h 31h nh 0Dh	Set Scaling	0: Fill 1: 4:3 2: 16:9 3: Letter Box 4: Real 5: 2.35:1	P/F
VXXG0302	56h Xh Xh 47h 30h 33h 30h 32h 0Dh	Get Blank Status	0:Off, 1:On	Pn/F
VXXS0302n	56h Xh Xh 53h 30h 33h 30h 32h nh 0Dh	Set Blank On/Off	0:Off, 1:On	P/F
VXXG0304	56h Xh Xh 47h 30h 33h 30h 34h 0Dh	Get Freeze Status	0:Off, 1:On	Pn/F
VXXS0304n	56h Xh Xh 53h 30h 33h 30h 34h nh 0Dh	Set Freeze On/Off	0:Off, 1:On	P/F
VXXG0308	56h Xh Xh 47h 30h 33h 30h 38h 0Dh	Get Projection Mode	0:Front 1:Rear 2: Ceiling 3: Rear+Ceiling	Pn/F
VXXS0308n	56h Xh Xh 53h 30h 33h 30h 38h nh 0Dh	Set Projection Mode	0:Front 1:Ceiling 2: Rear 3: Rear+Ceiling	VXXS0308n
VXXG0309	56h Xh Xh 47h 30h 33h 30h 39h 0Dh	Set vertical keystone value	n=-40~+40	VXXG0309
VXXS0309n	56h Xh Xh 53h 30h 33h 30h 39h nh 0Dh	Set vertical keystone value	n=-40~+40	VXXS0309n