

vivitek[®]
Vivid Color, Vivid Life

**D5180HD
D5185HD
Series**

User Manual

用戶手冊

用戶手冊

Manual del usuario

Manuel de l'utilisateur

Benutzerhandbuch

사용자 설명서

Руководство пользователя

Gebruikershandleiding

Instrukcja obsługi

Uživatelská příručka

Εγχειρίδιο χρήσης

Kullanım Kılavuzu

Manuale d'uso

Handbok

Brugervejledning

Brukerveiledning

Kyttohje

Felhasználói kézikönyv

مدخست سمل لیلد

Manual do Usuário



PICTURE BY
DLP[®]
TEXAS INSTRUMENTS

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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:

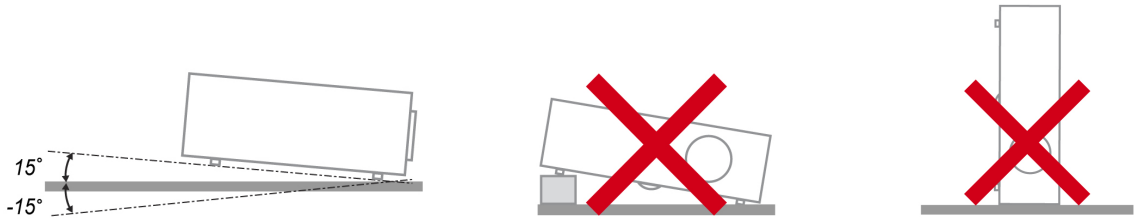
“Push the **Menu** button on the remote control to open the **Main** menu.”

General Safety Information

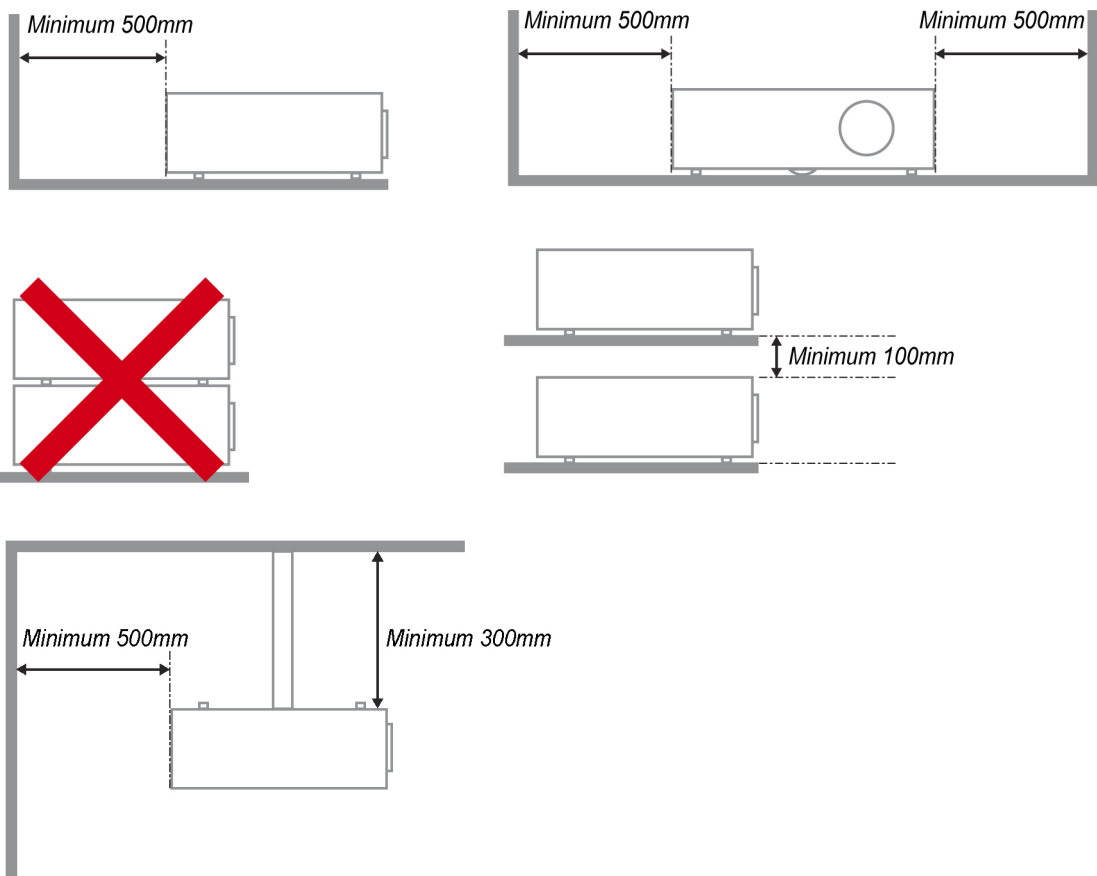
- Do not open the unit case. Aside from the projection lamp, there are no user-serviceable parts in the unit. For servicing, contact qualified service personnel.
- Follow all warnings and cautions in this manual and on the unit case.
- The projection lamp is extremely bright by design. To avoid damage 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
- The projector can only be installed upright or inverted.
- 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 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

Choosing a Projector

Edge blending application

- Not only brightness, bright balances, lens but stability is important too when choosing a projector.
- A projector need 30 to 60 minutes warm up to adjust properly.
- After lens shift, there should not be any optical distortion such as trapezoidal and barrel shape distortions.
- Quick dis-assemble lens need to be firmly secured, the electric motor cannot be mistakenly shift. The screen should not be offset for long time use or during booting up and shutting down the projector.
- Projector six-axis colors (R,G,B,Y,C,W). Projector adjust functions require: Hue, Saturation, Gain
- Vertical or 360 degree projection application. Needs to VERIFY engineering design of lamp aging to avoid conflict with client.

HDMI Cable

Edge blending signal needs to use digital transfer, the 4 pairs of TMDS transfer impedance require 100 Ω diameter as following to maintain signal quality:

- 5 M : AWG 26
- 10 M : AWG 24
- 15 M : AWG 22
- 20 M : AWG 22
- 25 M : AWG 22

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 42 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.

Cleaning the Projector

- Unplug the power cord before cleaning. See *Cleaning the Projector* page .45
- 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 57.

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. For lamp specific disposal information check 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.

Note:

When resolution setting to WUXGA will need to enable reduce blanking function

Table of contents

GETTING STARTED..... 1

- PACKING CHECKLIST 1
- VIEWS OF PROJECTOR PARTS..... 2
 - Front-right View* 2
 - Top view—On-screen Display (OSD) buttons and LEDs*..... 3
 - Rear view*..... 4
 - Bottom view*..... 6
- REMOTE CONTROL PARTS 7
- REMOTE CONTROL OPERATING RANGE..... 9
- PROJECTOR AND REMOTE CONTROL BUTTONS..... 9

SETUP AND OPERATION..... 10

- INSERTING THE REMOTE CONTROL BATTERIES 10
- INSTALLING OR REMOVING THE OPTIONAL LENS 11
 - Removing the Existing Lens From the Projector* 11
 - Installing the New Lens* 12
- STARTING AND SHUTTING DOWN THE PROJECTOR..... 13
- ADJUSTING THE PROJECTOR LEVEL 15
- ADJUSTING PROJECTED IMAGE POSITION USING SHIFT 16
 - Adjusting the vertical image position* 16
 - Adjusting the horizontal image position* 17
 - Shift Range Diagram* 17
- ADJUSTING THE ZOOM, FOCUS AND KEYSTONE 18
- ADJUSTING THE VOLUME 19

ON-SCREEN DISPLAY (OSD) MENU SETTINGS..... 20

- OSD MENU CONTROLS 20
 - Navigating the OSD* 20
- SETTING THE OSD LANGUAGE 21
- OSD MENU OVERVIEW 22
- IMAGE SETTINGS 23
 - Advanced Feature* 24
- DISPLAY SETTINGS 26
 - Keystone*..... 27
 - HSG Adjustment*..... 28
 - White Balance*..... 29
- AUDIO SETTINGS 30
- TIMER SETUP 31
- BASIC SETUP 32
 - Menu Setting*..... 33
 - Lamp Setting*..... 33
- ADVANCED SETUP 34
 - Network Settings* 35
- INFORMATION MENU 41

MAINTENANCE AND SECURITY 42

- REPLACING THE PROJECTION LAMP..... 42
- CLEANING THE PROJECTOR..... 45
 - Cleaning the Lens* 45
 - Cleaning the Case*..... 45
- USING THE PHYSICAL LOCK 46
 - Using the Kensington® Lock* 46
 - Using the Security Chain Lock* 46

TROUBLESHOOTING..... 47

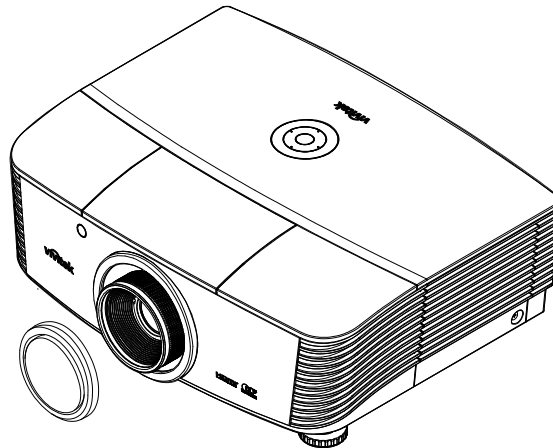
- COMMON PROBLEMS AND SOLUTIONS 47
- TIPS FOR TROUBLESHOOTING 47
- LED ERROR MESSAGES..... 48

IMAGE PROBLEMS.....	48
LAMP PROBLEMS.....	49
REMOTE CONTROL PROBLEMS	49
AUDIO PROBLEMS	49
HAVING THE PROJECTOR SERVICED	49
HDMI Q & A	50
SPECIFICATIONS.....	51
SPECIFICATIONS.....	51
PROJECTION DISTANCE VS. PROJECTION SIZE (1080P).....	52
<i>Projection Distance and Size Table</i>	52
TIMING MODE TABLE	54
PROJECTOR DIMENSIONS	56
REGULATORY COMPLIANCE.....	57
FCC WARNING.....	57
CANADA	57
SAFETY CERTIFICATIONS.....	57
APPENDIX I.....	58
RS-232C PROTOCOL.....	58
APPENDIX II.....	62
APPENDIX III.....	63
D5185HD EDGE BLENDING	63
<i>Equipment Requirement</i>	63
<i>Edge Blending Guideline</i>	63

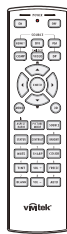
GETTING STARTED

Packing Checklist

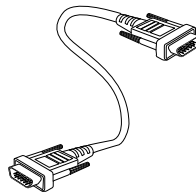
Carefully unpack the projector and check that the following items are included:



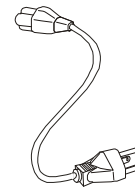
PROJECTOR WITH LENS CAP



REMOTE CONTROL
(BATTERIES NOT INCLUDED)



RGB CABLE



POWER CORD



CD-ROM
(THIS USER'S MANUAL)



WARRANTY CARD



QUICK START CARD

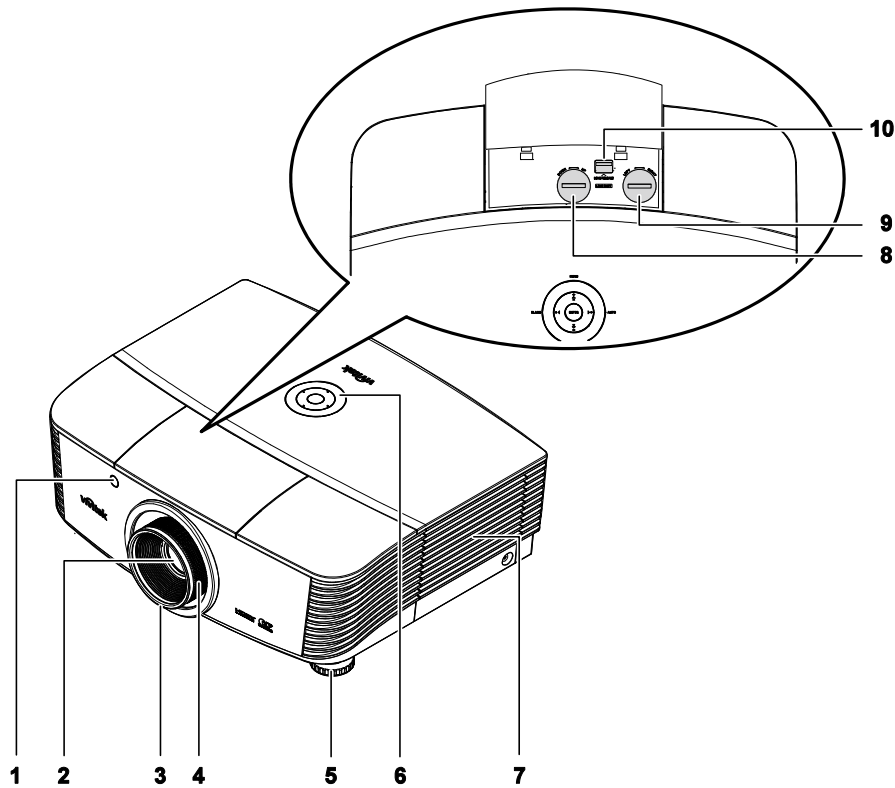
Contact your dealer immediately if any items are missing, appear damaged, or if the unit does not work. It is recommended that you keep the original packing material should you ever need to return the equipment for warranty service.

Caution:

Avoid using the projector in dusty environments.

Views of Projector Parts

Front-right View

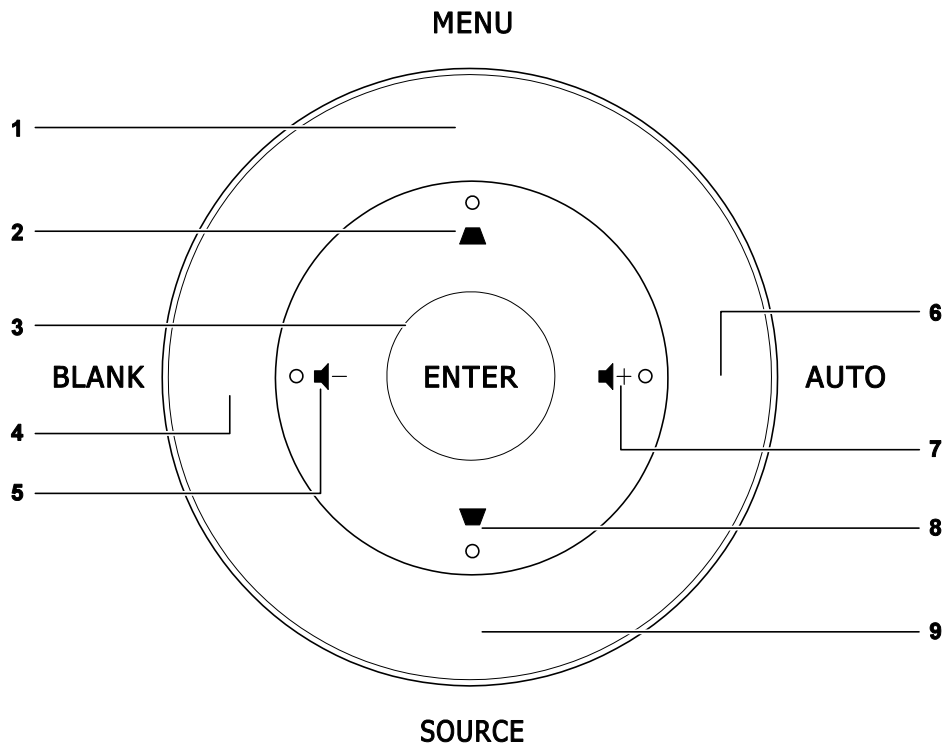


ITEM	LABEL	DESCRIPTION	SEE PAGE:
1.	IR receiver	Receives IR signal from remote control	7
2.	Lens	Projection Lens	
3.	Focus ring	Focuses the projected image	18
4.	Zoom ring	Enlarges the projected image	
5.	Height adjuster	Adjusts level of projector	15
6.	Function keys	See Top view—On-screen Display (OSD) buttons and LEDs.	3
7.	Lamp cover	Removes cover to replace lamp	42
8.	Vertical lens shift	Adjusts the image position vertically	16
9.	Horizontal lens shift	Adjusts the image position horizontally	17
10.	Lens release button	Press the release button before removing the lens	11

Important:

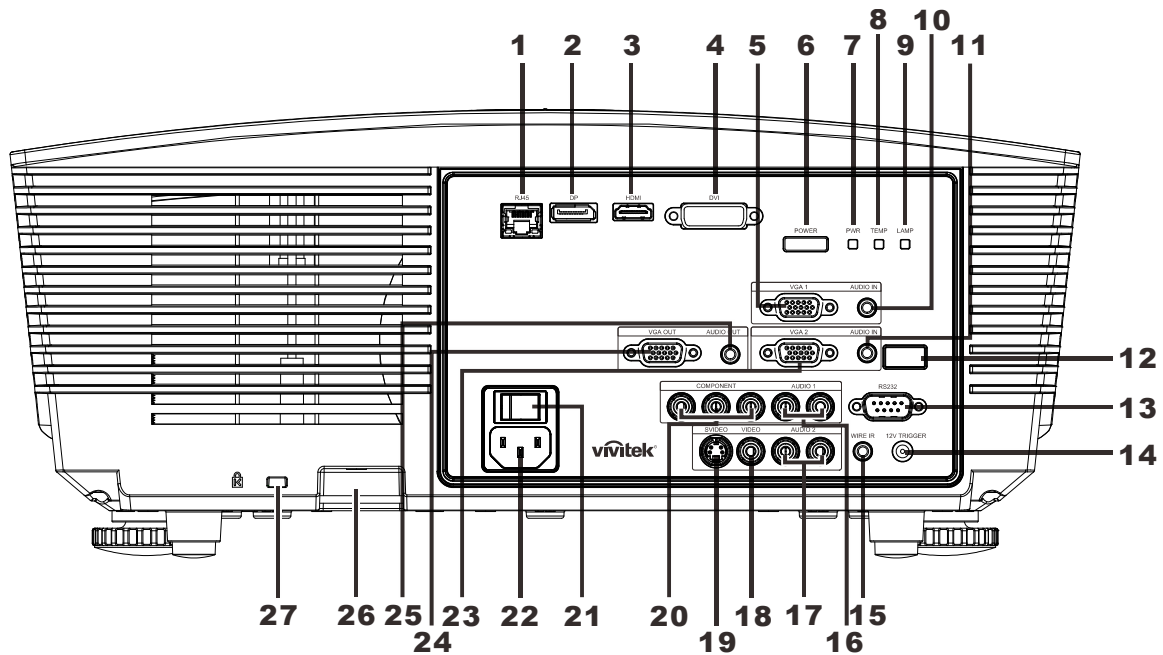
Ventilation openings on the projector allow for good air circulation, which keeps the projector lamp cool. Do not obstruct any of the ventilation openings.

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



ITEM	LABEL	DESCRIPTION	SEE PAGE:
1.	MENU	Opens and exits OSD menus	20
2.	▲	<ul style="list-style-type: none"> • 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 and mutes audio	
5.	◀	<ul style="list-style-type: none"> • Navigates and changes settings in the OSD • Quick Menu – For Volume - 	20
6.	AUTO	Optimizes image size, position, and resolution	
7.	▶	<ul style="list-style-type: none"> • Navigates and changes settings in the OSD • Quick Menu – For Volume + 	20
8.	▼	<ul style="list-style-type: none"> • Navigates and changes settings in the OSD • Quick Menu – For Keystone 	
9.	SOURCE	Alternate input source	

Rear view



ITEM	LABEL	DESCRIPTION	SEE PAGE:	
1.	RJ-45	Connect a LAN cable from Ethernet		
2.	DP	Connect a DISPLAYPORT cable from a DISPLAYPORT device		
3.	HDMI	Connect the HDMI cable from a HDMI device		
4.	DVI	Connect the DVI cable from a computer		
5.	VGA1	Connect an RGB cable from a computer or a video enabled device		
6.	POWER	Turns the projector on or off (main power switch must be turned on first). Press to place the projector in standby mode.	13	
7.	PWR LED	Solid Blue	Lamp ready	48
		Blinking Red	Error code	
		Flashing Red	Powering on/ cooling	
8.	TEMP LED	Solid Red	Over Temperature	
		Blinking Red	Error code	
9.	LAMP LED	Blinking Red	Error code	
10.	AUDIO IN (VGA1)	Connect an AUDIO cable from the input device		
11.	AUDIO IN (VGA2)	Connect an AUDIO cable from the input device		
12.	IR receiver	Receive IR signal from remote control		
13.	RS-232	Connects RS-232 serial port cable for remote control		

ITEM	LABEL	DESCRIPTION	SEE PAGE:
14.	12V OUT	Connect the 12V OUT (Screen Trigger-- For screen controllers used)	
15.	WIRE IR	Wire remote control connector (connect with wire remote connector of the Remote Control set)	
16.	AUDIO 1	Connect an AUDIO cable from the input device	
17.	AUDIO 2	Connect an AUDIO cable from the input device Share audio input with DVI.	
18.	VIDEO	Connect the COMPOSITE cable from a video device	
19.	S-VIDEO	Connect the S-video cable from a video device	
20.	COMPONENT	Connect the Component cable to a display	
21.	Power switch	Turns on/off the projector	13
22.	AC IN	Connects the power cable	
23.	VGA2	Connect an RGB cable from a computer or a video enabled device	
24.	VGA OUT	Connect the RGB cable to a display (Pass through by VGA1 only)	
25.	AUDIO OUT	Connect an AUDIO cable for audio loop through	
26.	Security chain lock	Helps protect the projector from unauthorized use	46
27.	Kensington Lock	Secures to permanent object with a Kensington® Lock system	

Note:

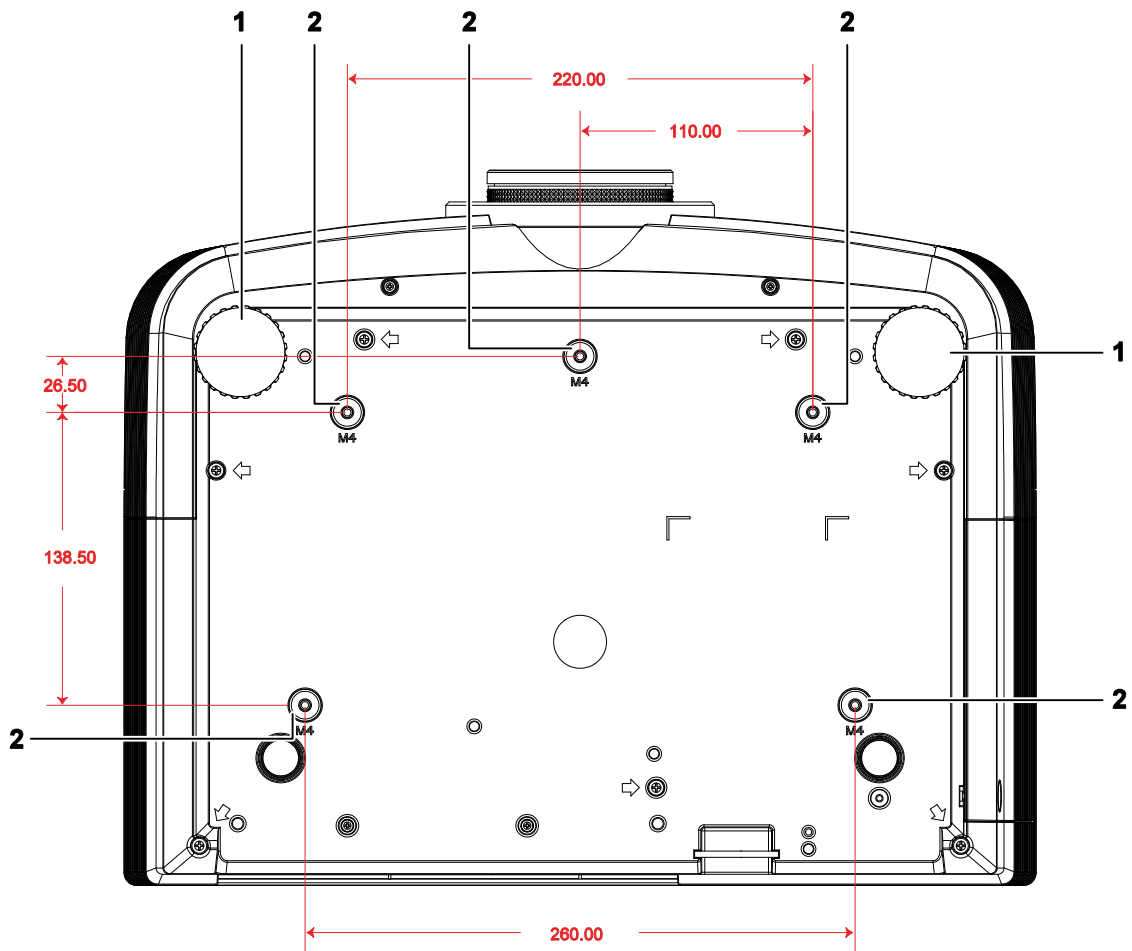
For 12V OUT

- 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.

Note:

If your video equipment has both S-VIDEO and RCA jacks (composite video) connect to the S-VIDEO connector. S-VIDEO provides a better quality signal.

Bottom view



ITEM	LABEL	DESCRIPTION	SEE PAGE:
1.	Tilt adjustor	Rotate adjuster lever to adjust angle position.	15
2.	Ceiling support holes	Contact your dealer for information on mounting the projector on a ceiling	

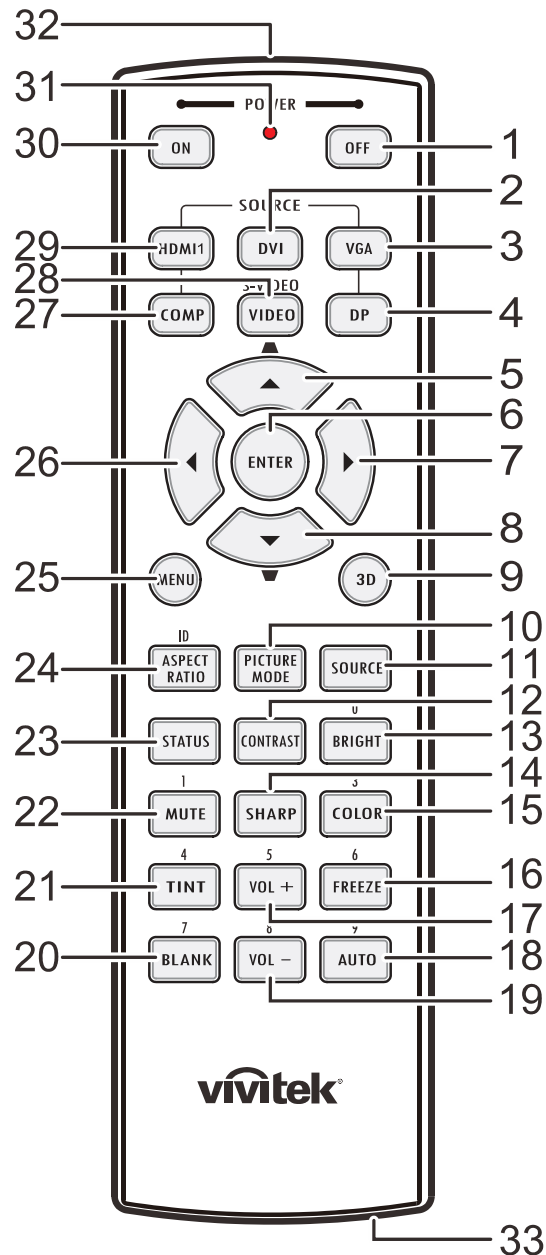
Note:

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 6 mm (0.23 inch).

The construction of the ceiling mount must be of a suitable shape and strength. The ceiling mount load capacity must exceed the weight of the installed equipment, and as an additional precaution be capable of withstanding three times the weight of the equipment (not less than 5.15 kg) over a period of 60 seconds.

Remote Control Parts

**Important:**

1. Avoid using the projector with bright fluorescent lighting turned on. Certain high-frequency fluorescent lights can disrupt remote control operation.

2. Be sure nothing obstructs the path between the remote control and the projector. If the path between the remote control and the projector is obstructed, you can bounce the signal off certain reflective surfaces such as projector screens.

3. The buttons and keys on the projector have the same functions as the corresponding buttons on the remote control. This user's manual describes the functions based on the remote control.

ITEM	LABEL	DESCRIPTION	SEE PAGE:
1.	Power OFF	Turns the projector off	13
2.	DVI	Displays the DVI source selection	
3.	VGA	Displays the VGA source selection	
4.	DP	Displays the Display Port source selection	
5.	Up cursor / Keystone+	Navigates and changes settings in the OSD Quick Menu – For Keystone	20
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	
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 +	Adjusts volume	
18.	AUTO	Auto adjustment for frequency, phase, and position	
19.	VOL -	Adjusts volume	
20.	BLANK	Makes the screen blank	
21.	TINT	Displays the tint setting bar	
22.	MUTE	Mutes the built-in speaker	
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 the OSD	
26.	Left cursor	Navigates and changes settings in the OSD	20
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	13
31.	Status LED	Lights when the remote control is used	
32.	IR transmitter	Transmits signals to projector	
33.	Wired remote connector	Wired remote function	

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.

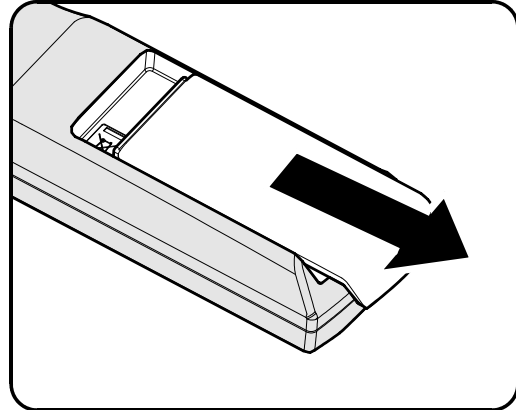
Projector and Remote Control Buttons

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.

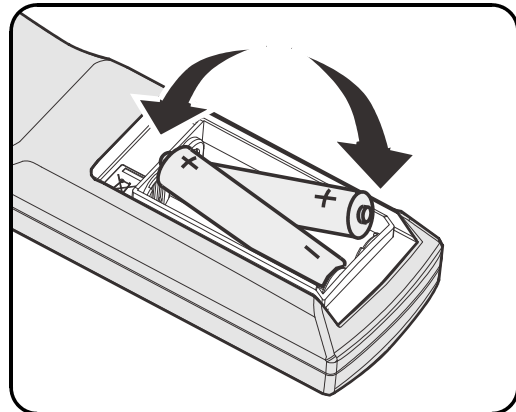
SETUP AND OPERATION

Inserting the Remote Control Batteries

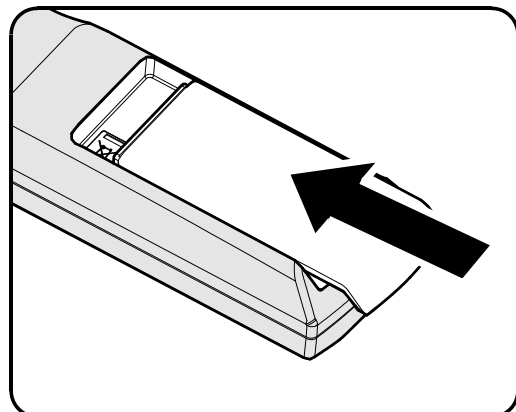
1. Remove the battery compartment cover by sliding the cover in the direction of the arrow.



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.

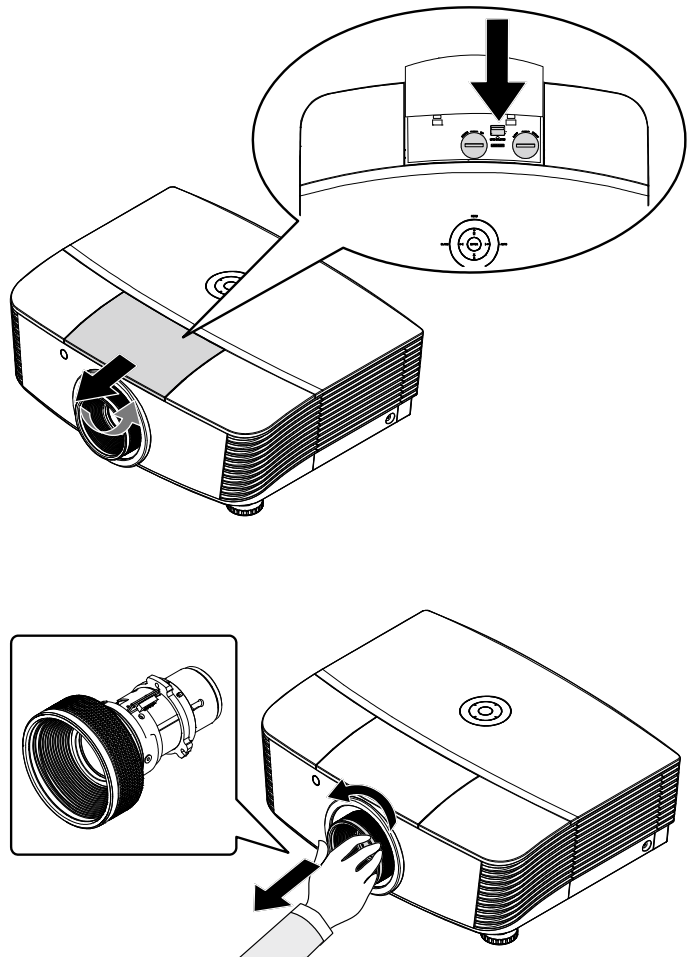
Installing or Removing the Optional Lens

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.

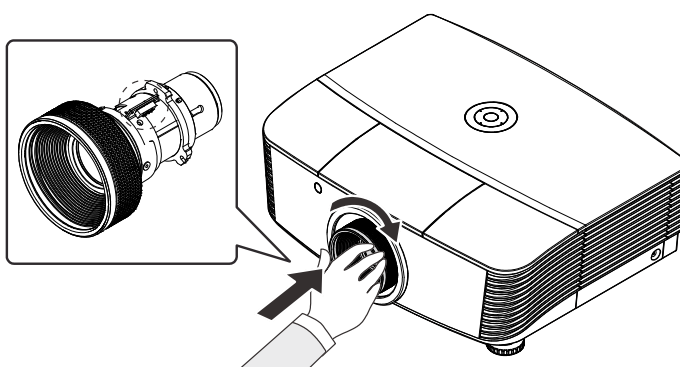


Installing the New Lens

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

Note:

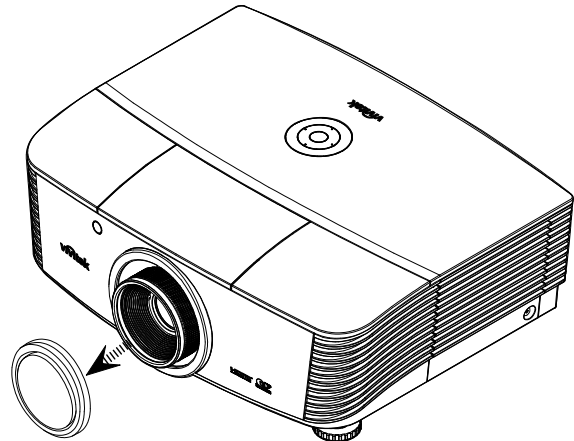
Pin of IRIS should be in the direction as shown in the picture.



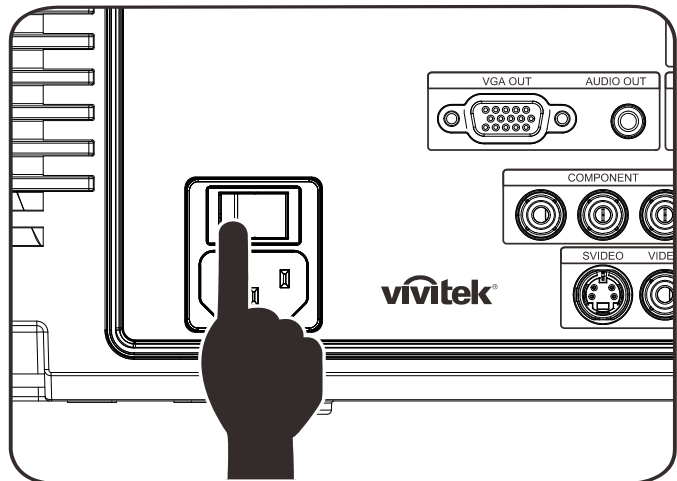
2. Rotate the lens clockwise until you feel it click into place.

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.



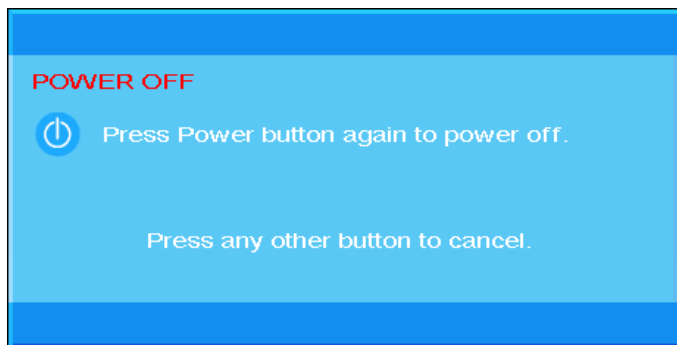
3. Turn on the lamp by pressing “POWER” button on the rear of the projector or “Power” on the remote control.
The PWR LED will now flash red
The startup screen will display in approximately 30 seconds. The first time you use the projector, you can select your preferred language from quick menu after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



4. If more than one input device is connected, press the **SOURCE** button to scroll among devices. (Component is supported through the RGB to COMPONENT ADAPTER.)

- DVI: DVI
- HDMI: HDMI
- VGA1/ VGA2: Analog RGB
- DP: DISPLAYPORT input
- Component Video: DVD input YCbCr / YPbPr, or HDTV input YPbPr via HD15 connector
- S-Video: Super video (Y/C separated)
- Composite Video: Traditional composite video

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



Caution:

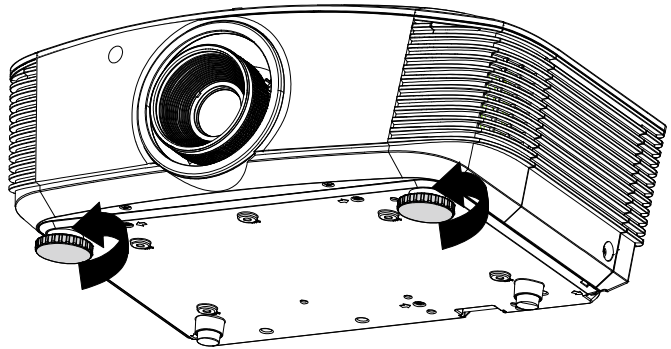
1. Be sure to remove the lens cap before starting projector.
2. Do not unplug the power cord until the *POWER LED* stops flashing—indicating the projector has cooled down.

Adjusting the Projector Level

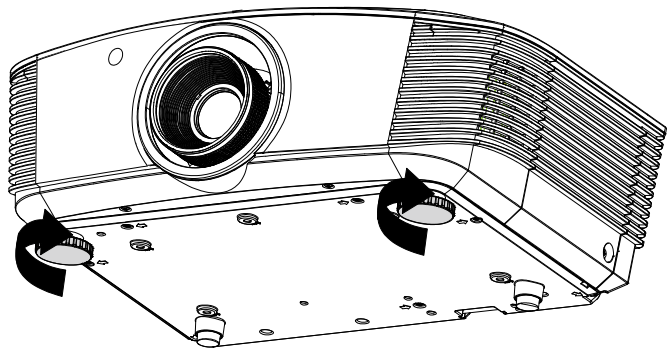
Take note of the following when setting up the projector:

- *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.*

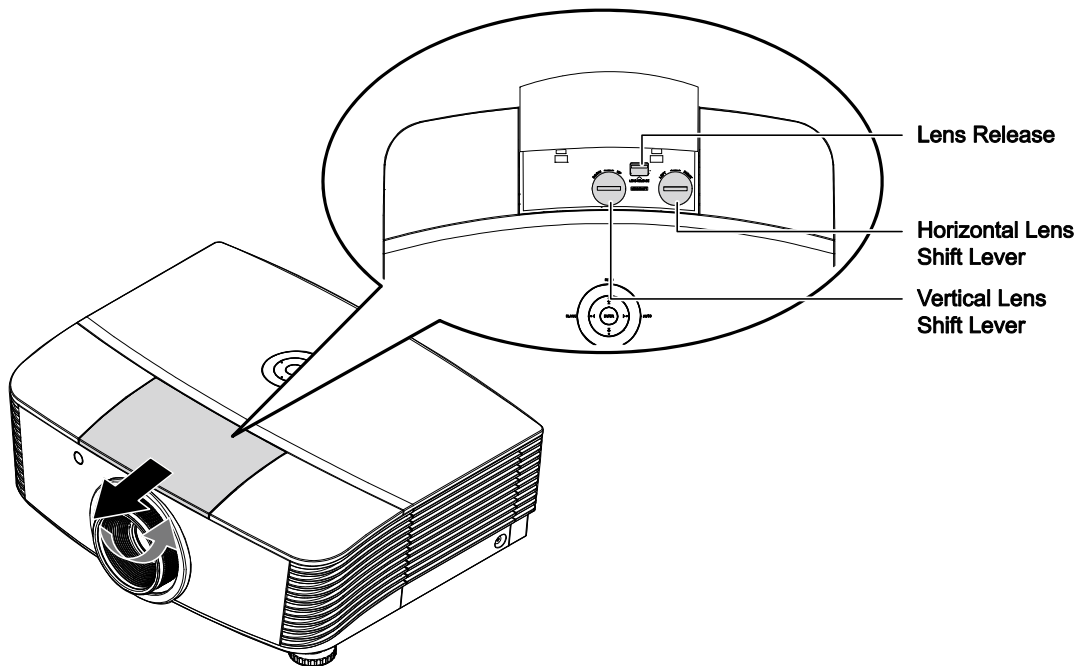
- 1.** To raise the level of the projector, twist the adjusters counter clockwise



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



Adjusting Projected Image Position Using Shift

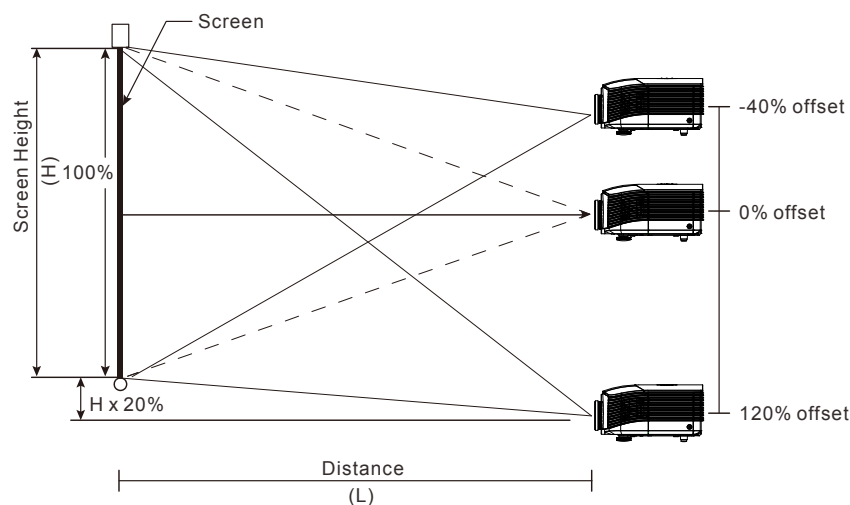


The Shift feature provides a lens shift function that can be used to adjust the position of the projected image either horizontally or vertically within the range detailed below.

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

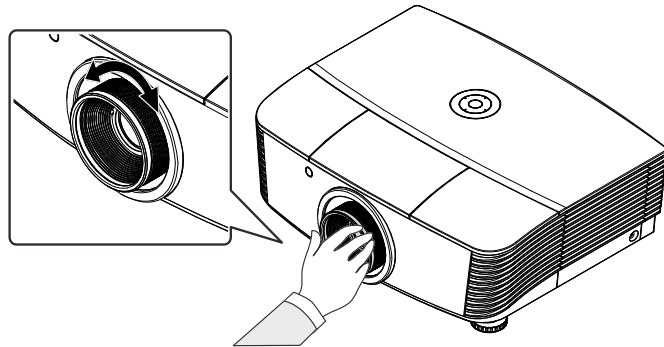
Adjusting the vertical image position

The vertical image height can be adjusted between 120% and -40% of half image height. 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.

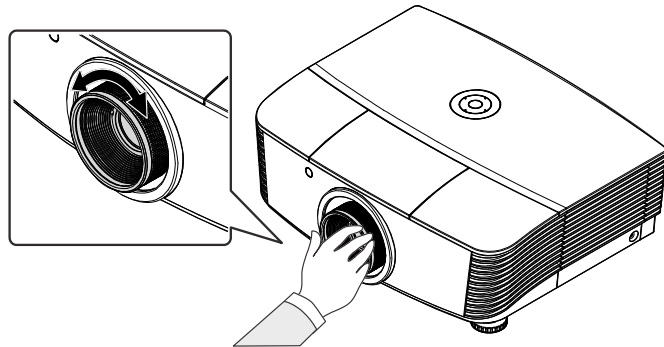


Adjusting the Zoom, Focus and Keystone

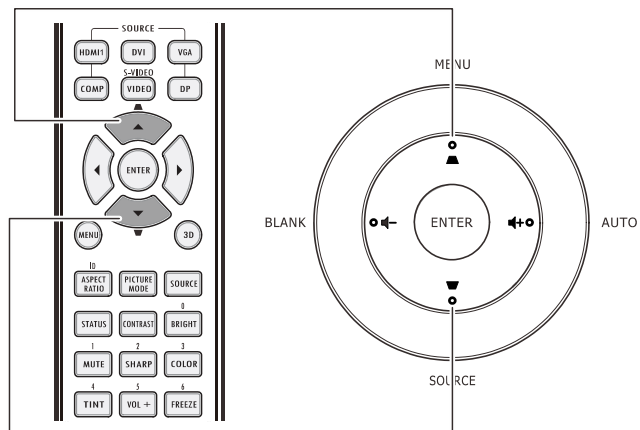
1. Use the **Image-zoom** control (on the projector only) to resize the projected image and screen size.



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

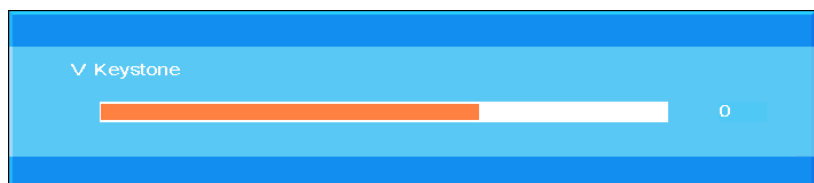


3. Use the **KEYSTONE** buttons (on the projector or the remote control) to correct image-trapezoid (wider top or bottom) effect.



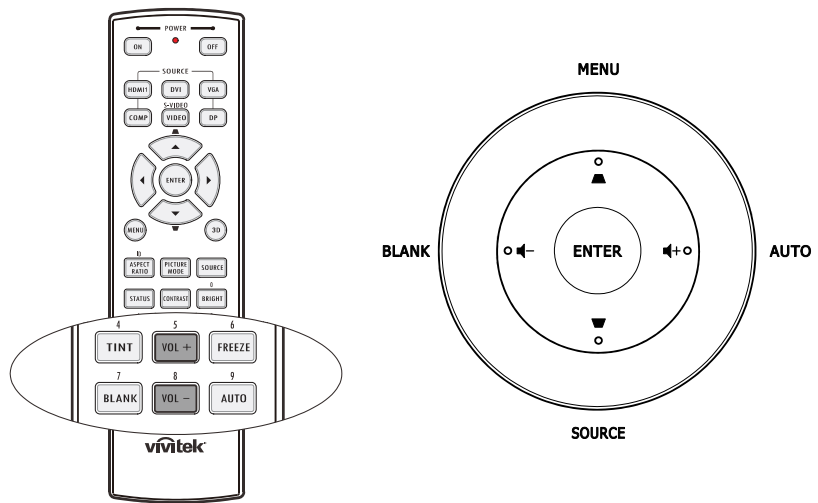
Remote control and OSD panel

4. The keystone control appears on the display.

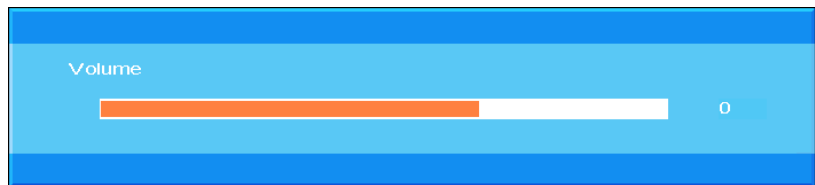


Adjusting the Volume

1. Press the **Volume +/-** buttons on the remote control.
The volume control appears on the display.



2. Press the **◀+ or ▶-** buttons on the keypad to adjust **Volume +/-**.



3. Press the **MUTE** button to turn off the volume (This feature is available only on the remote).



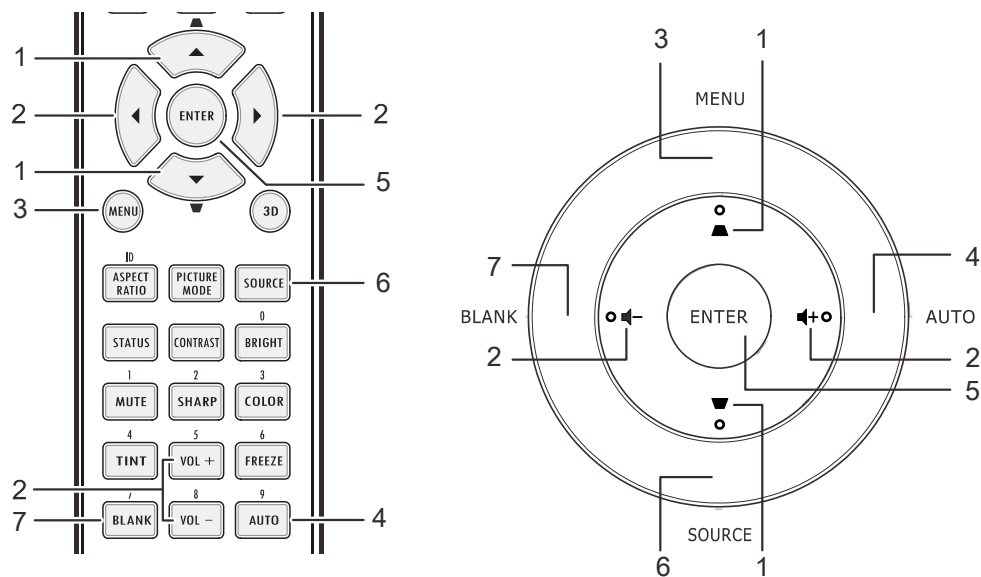
ON-SCREEN DISPLAY (OSD) MENU SETTINGS

OSD Menu Controls

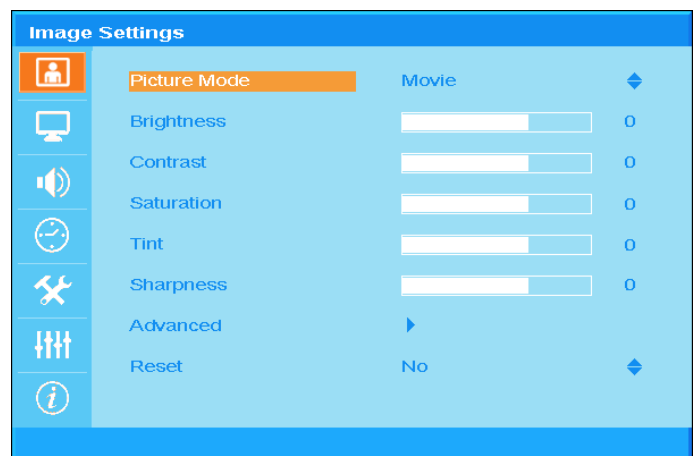
The projector has an OSD that lets you make image adjustments and change various settings.

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 seven menus. Press the cursor **▲▼** button to move through the menus.
3. Select one of the main menu, Press **ENTER** or **▶** button into submenu. Press the cursor **▲▼** button to move up and down in submenu.
4. Select one of the submenu, Press **ENTER** or **▶** button into the selected item. Press **▲▼** or **◀▶** to change values for settings.
5. Press **MENU** to close the OSD or leave a submenu.



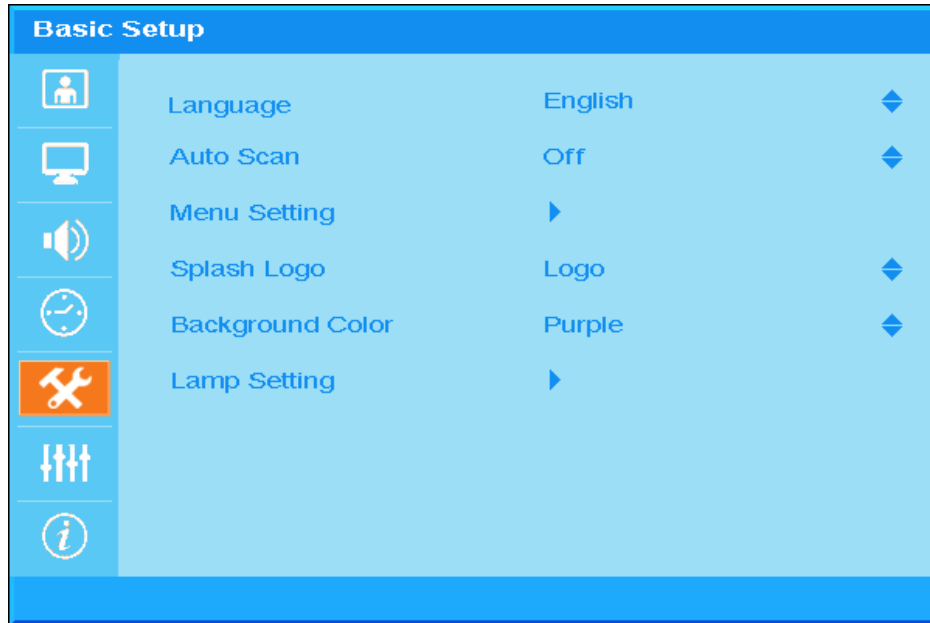
Note:

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 **Basic Setup**.



2. Press the cursor **▲▼** button until **Language** is highlighted.



3. Press the cursor **▲▼** button until the language you want is highlighted.
4. Press the **MENU** button twice to close the OSD.

OSD Menu Overview

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

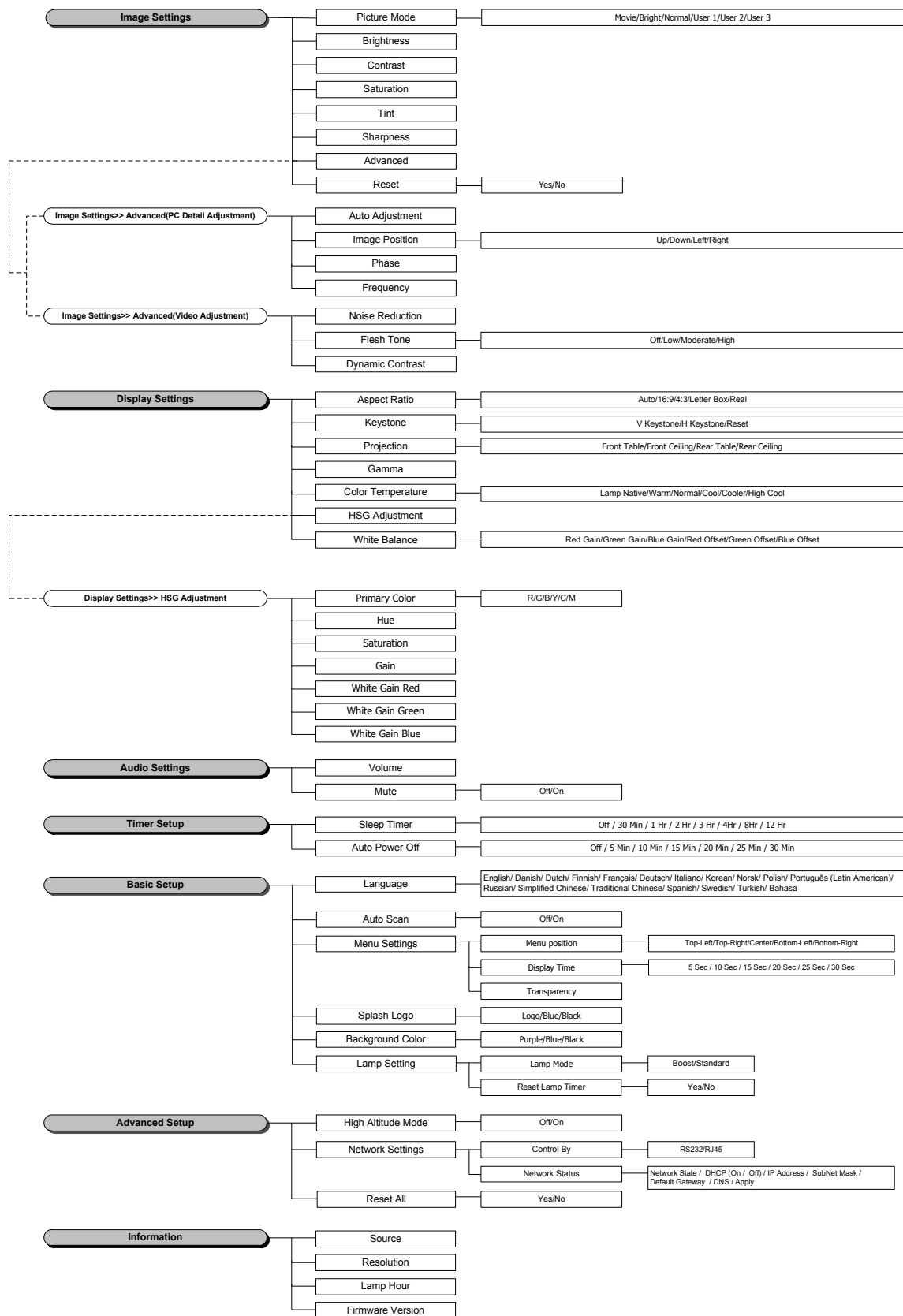
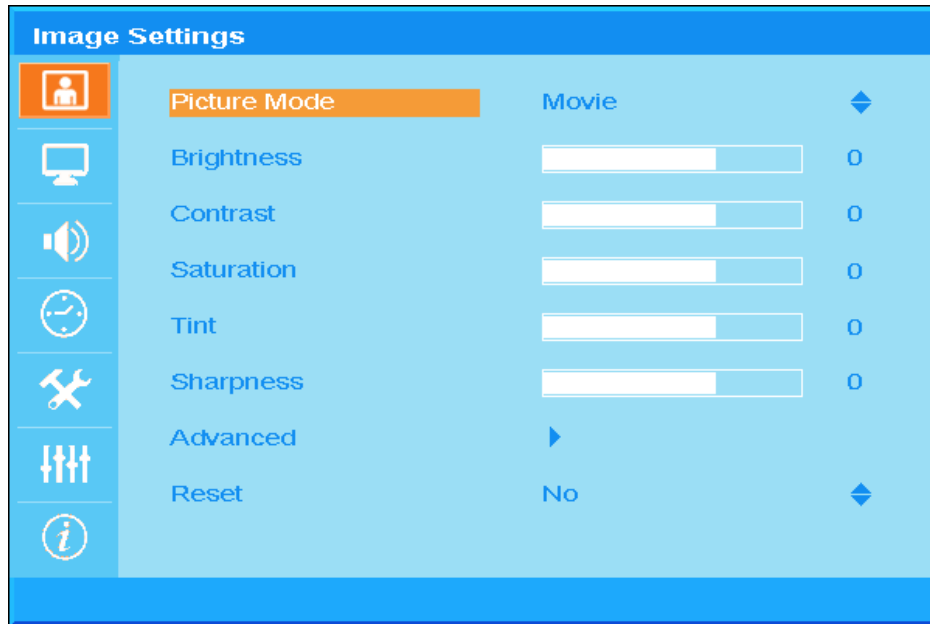


Image Settings

Press the **MENU** button to open the **OSD** menu. Press the cursor **▲▼** button to move to the **Image Settings** menu. Press **ENTER / ►** button to move up and down in the **Image Settings** item. Press **ENTER / ►** button to entry item. Press **▲▼** or **◀▶** to change values for settings.

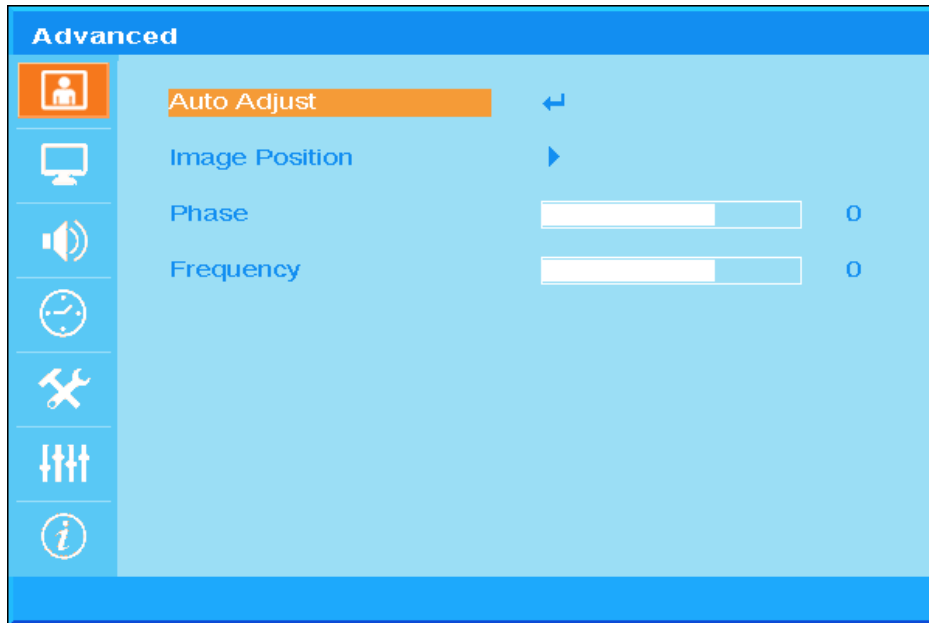


ITEM	DESCRIPTION
Picture Mode	Press the cursor ▲▼ button to set the Picture Mode.
Brightness	Press the cursor ◀▶ button to adjust the display brightness.
Contrast	Press the cursor ◀▶ button to adjust the display contrast.
Saturation	Press the cursor ◀▶ button to adjust the Saturation.
Tint	Press the cursor ◀▶ button to adjust the Tint.
Sharpness	Press the cursor ◀▶ button to adjust the display sharpness level.
Advanced	Press ENTER / ► to enter the <i>Advanced</i> menu. See <i>Advanced Feature</i> on page 24.
Reset	Press the cursor ▲▼ button to set the “YES” or “NO”. Press ENTER to reset Picture Mode default values.

Advanced Feature

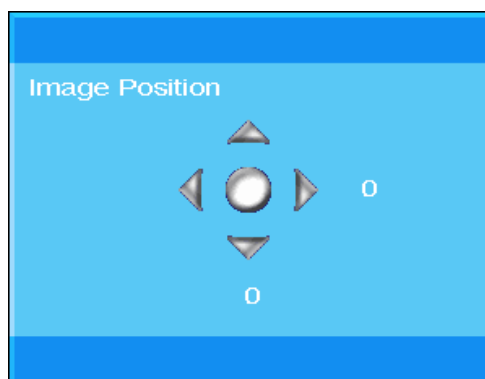
Press the **Menu** button to open the **OSD** menu. Press **▲▼** to move to the **Image Settings** menu. Press **ENTER / ►** button in the **Advanced** item. Press **ENTER / ►** button to entry item. Press **▲▼** to move to the **Advanced** item and then press **ENTER** or **►** or **◄►** to setting value.

PC Detail Adjustment



ITEM	DESCRIPTION
Auto Adjust	Press ENTER or ► button; or Press the Auto button on the projector keypad or the Auto button on the remote control to automatically adjust frequency, phase, and position.
Image Position	Press ENTER / ► button to Image Position submenu, Press the ▲▼ or ◄► buttons to Enter H/V position adjust Image Position. This function is only available when a PC signal (analog RGB) is selected.
Phase	Press the ◄► buttons to adjust the A/D sampling clock.
Frequency	Press the ◄► buttons to adjust the A/D sampling number.

Image Position

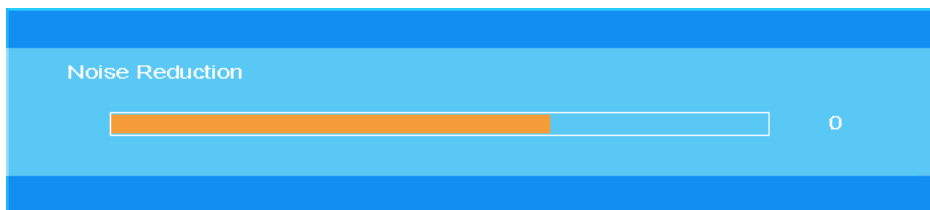


Video Adjustment



ITEM	DESCRIPTION
Noise Reduction	Press ENTER / ► button to enter Noise Reduction submenu, Press the cursor ◀▶ button to adjust the Noise Reduction.
Flesh Tone	Press the cursor ▼▲ button to select different Flesh Tone.
Dynamic Contrast	Press the cursor ▼▲ button to select different Dynamic Contrast.

Noise Reduction



Display Settings

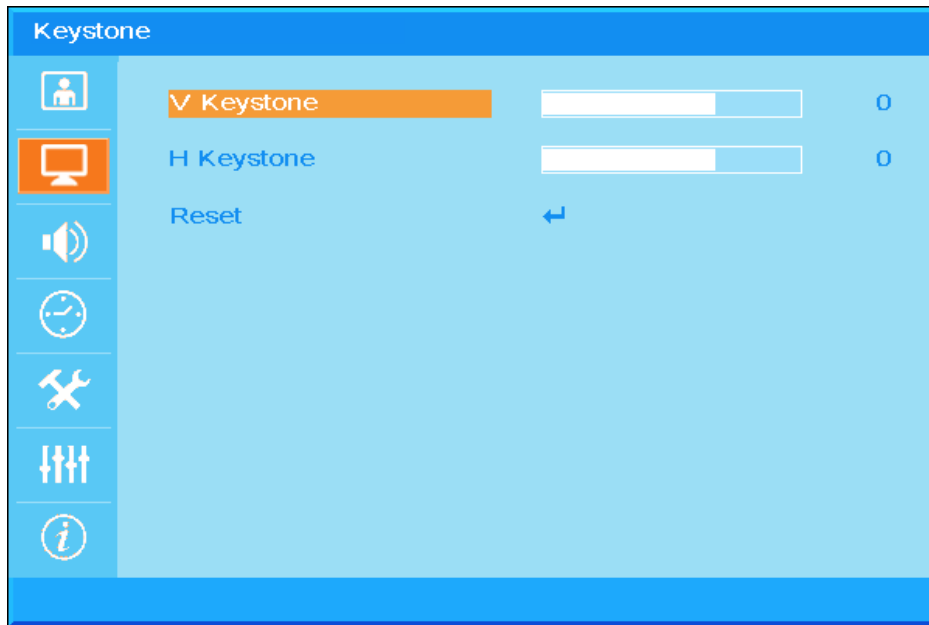
Press the **MENU** button to open the **OSD** menu. Press the cursor **▲▼** button to move to the **Display Settings** menu. Press **ENTER / ►** button to move up and down in the **Display Settings** item. Press **ENTER / ►** button to entry item. Press **▲▼** or **◀▶** to change values for settings.



ITEM	DESCRIPTION
Aspect Ratio	Press the cursor ▲▼ button to set the Aspect Ratio. (Range: Auto / 16:9/ 4:3/ Letter Box/ Real)
Keystone	Press the ENTER/ ► button to enter the Keystone sub menu. (This function will be disabled when Auto keystone is activated)
Projection	Press the cursor ▲▼ button to select different projection type.
Gamma	Press the cursor ◀▶ button to adjust the gamma correction of the display.
Color Temp	Press the cursor ▲▼ button to set the Color Temp
HSG Adjustment	Press the ENTER/ ► button to enter the HSG (Hue/Saturation/Gain) Adjustment sub menu. See <i>HSG Adjustment</i> on page 28
White Balance	Press the ENTER/ ► button to enter the White Balance sub menu. See <i>White Balance</i> on page 29

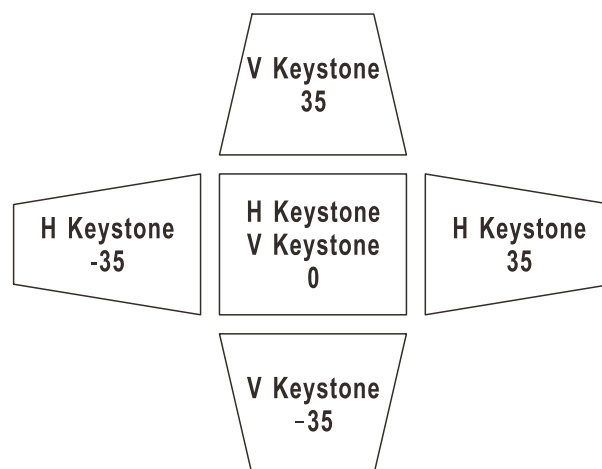
Keystone

Press the **ENTER/ ▶** button to enter the **Keystone** sub menu. Press **◀▶** to change values for settings.



V Keystone	Press the cursor ◀▶ button to adjust the V Keystone (This function will be disabled when Auto keystone is activated)
H Keystone	Press the cursor ◀▶ button to adjust the H Keystone (This function will be disabled when Auto keystone is activated)
Reset	Press ENTER button to reply Keystone default values.

Applying keystone to correct image due to projection angle will result in minor distortion compared to actual image



HSG Adjustment

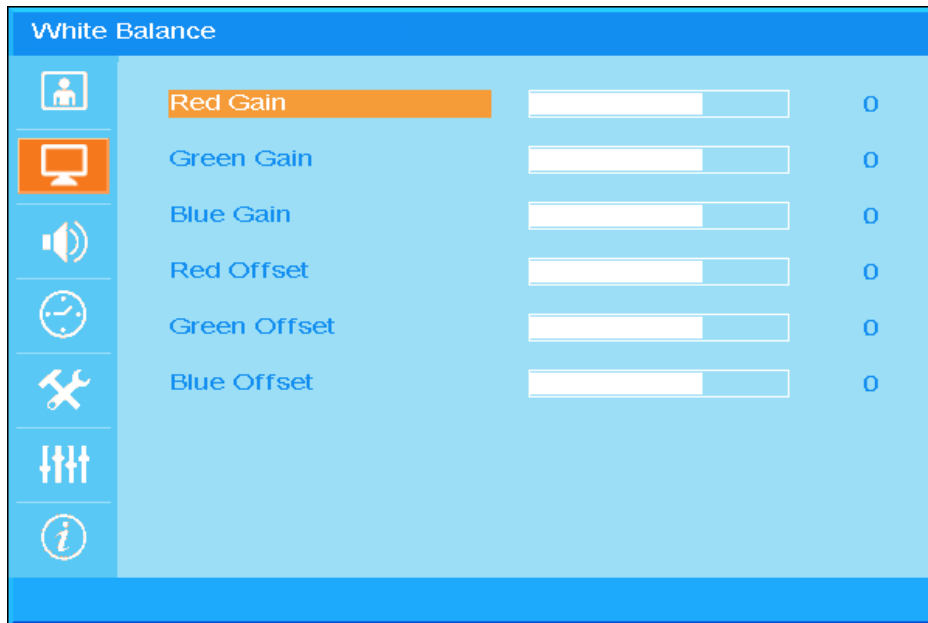
Press the **ENTER/ ▶** button to enter the **HSG Adjustment** item. Press **▲ ▼** or **◀ ▶** to change values for settings.



ITEM	DESCRIPTION
Primary Color	Press the ▲ ▼ buttons to set the Primary Color. Notes: There are six colors (R/ G/ B/ C/ M/ Y) 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.
White Gain Red	Press the cursor ◀ ▶ button to adjust the White Gain Red.
White Gain Green	Press the cursor ◀ ▶ button to adjust the White Gain Green.
White Gain Blue	Press the cursor ◀ ▶ button to adjust the White Gain Blue.

White Balance

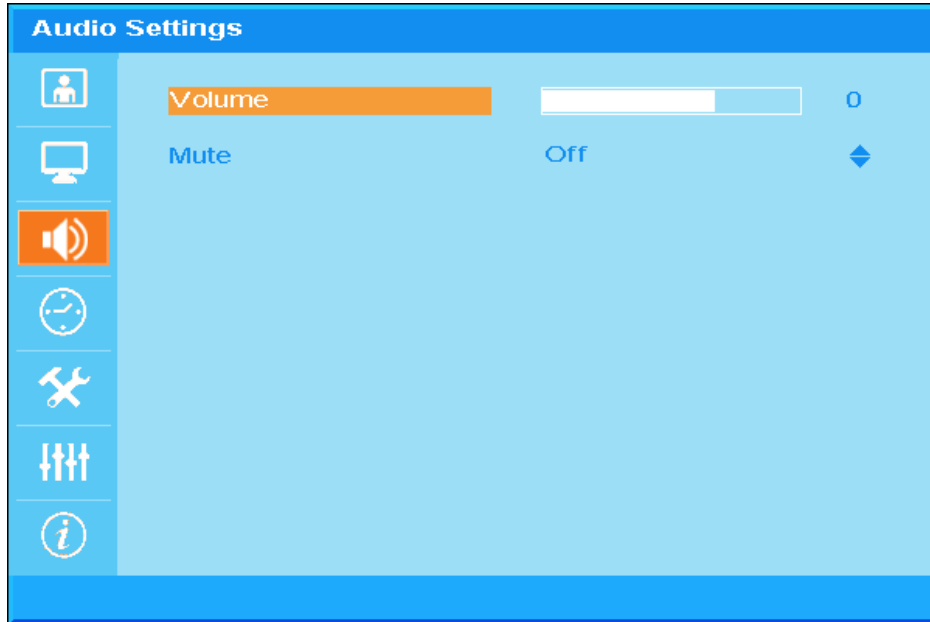
Press the **ENTER** button to enter the **White Balance** sub menu.



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 Offset	Press the ◀▶ buttons to adjust the Red Offset.
Green Offset	Press the ◀▶ buttons to adjust the Green Offset.
Blue Offset	Press the ◀▶ buttons to adjust the Blue Offset.

Audio Settings

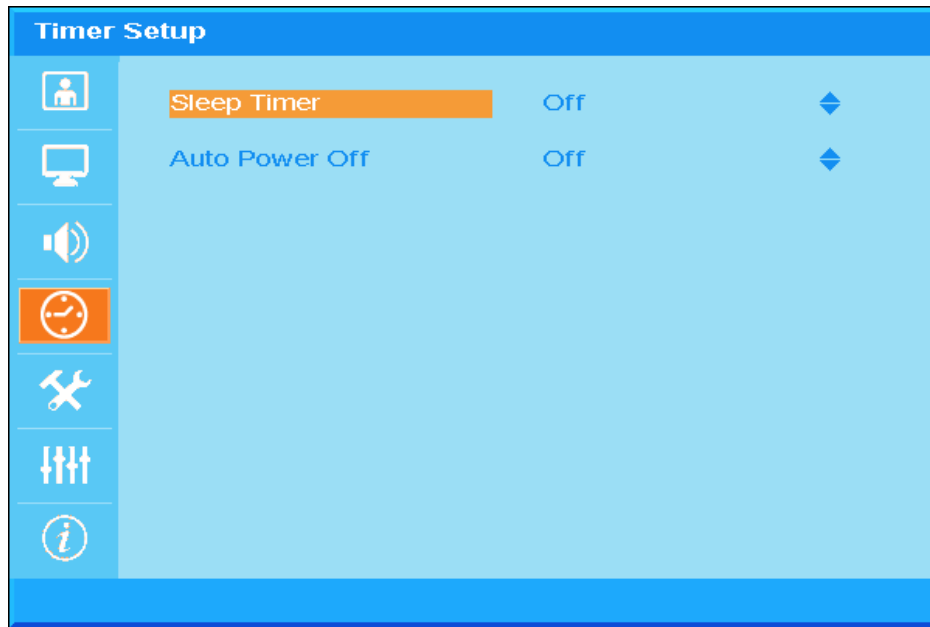
Press the **MENU** button to open the **OSD** menu. Press the cursor **▲▼** button to move to the **Audio Settings** menu. Press **ENTER / ►** button to move up and down in the **Audio Settings** item. Press **ENTER / ►** button to entry item. Press **▲▼** or **◀▶** to change values for settings.



ITEM	DESCRIPTION
Volume	Press the ◀▶ buttons to adjust the audio volume. (Range: 0~10)
Mute	Press the ▲▼ buttons to turn on or off the speaker.

Timer Setup

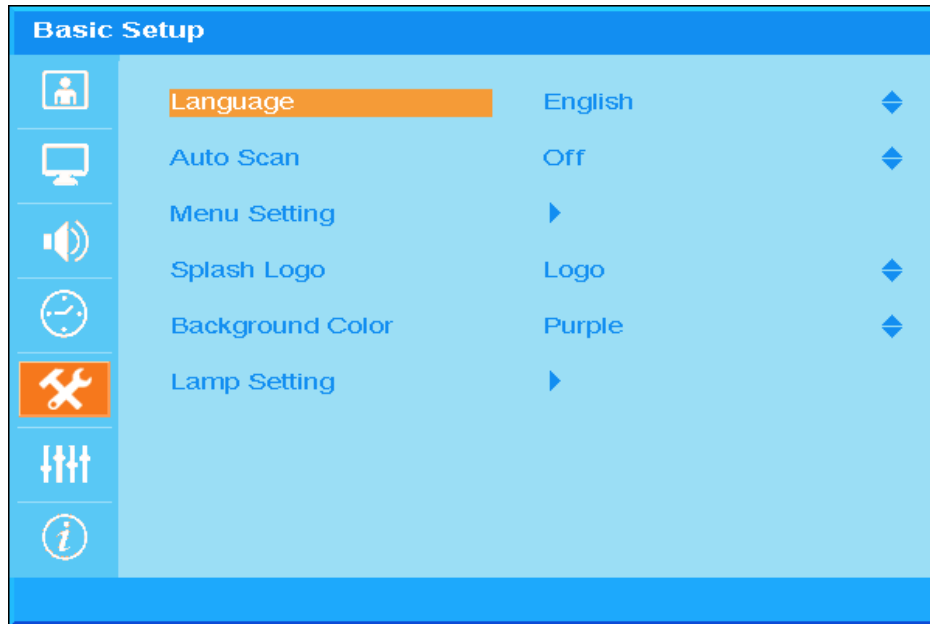
Press the **MENU** button to open the **OSD** menu. Press the cursor **▲ ▼** button to move to the **Timer Setup** menu. Press **ENTER / ►** button to move up and down in the **Timer Setup** item. Press **ENTER / ►** button to entry item. Press the cursor **▲ ▼** button to move up and down in the **Timer Setup** item. Press **▲ ▼** to change values for settings.



ITEM	DESCRIPTION
Sleep Timer	Press the cursor ▲ ▼ buttons to set Sleep timer. The projector automatically turns off after the preset period of time. (Range: Off / 30 min/ 1hr/ 2hr/ 3hr/ 4hr/ 8hr/ 12hr).
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. (Range: Off / 5 min/ 10 min/ 15 min/ 20 min/ 25 min/ 30 min).

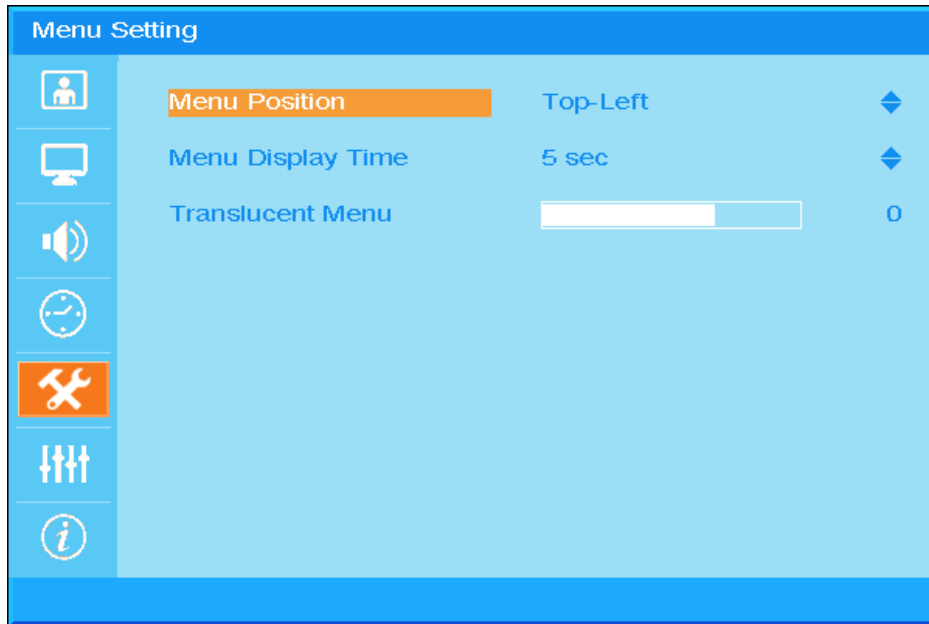
Basic Setup

Press the **MENU** button to open the **OSD** menu. Press the cursor **▲▼** button to move to the **Basic Setup** menu. Press **ENTER / ►** button to move up and down in the **Basic Setup** item. Press **ENTER / ►** button to entry item. Press **▲▼** to change values for settings.



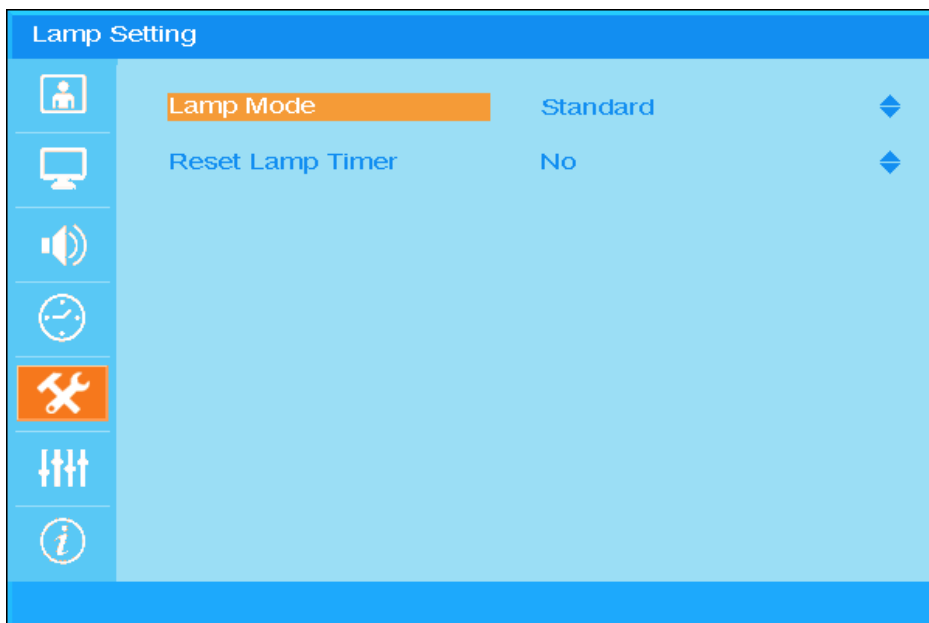
ITEM	DESCRIPTION
Language	Press the cursor ▲▼ button to select a different localization Menu.
Auto Scan	Press the cursor ▲▼ button to enable or disable the automatically searching of all input port to find out the valid source.
Menu Setting	Press the ENTER/ ► button to enter the Menu Setting sub menu. See <i>Menu Setting</i> on page 33.
Splash Logo	Press the cursor ▲▼ button to set desired startup screen when lamp warming up.
Background Color	Press the cursor ▲▼ button to set desired background color when in no signal.
Lamp Setting	Press the ENTER/ ► button to enter the Lamp sub menu. See <i>Lamp Setting</i> on page 33.

Menu Setting



ITEM	DESCRIPTION
Menu Position	Press the cursor ▲ ▼ button to select a different OSD location.
Menu Display Time	Press the cursor ▲ ▼ button to select OSD timeout delay.
Transparency Menu	Press the cursor ◀ ▶ button to select OSD transparency

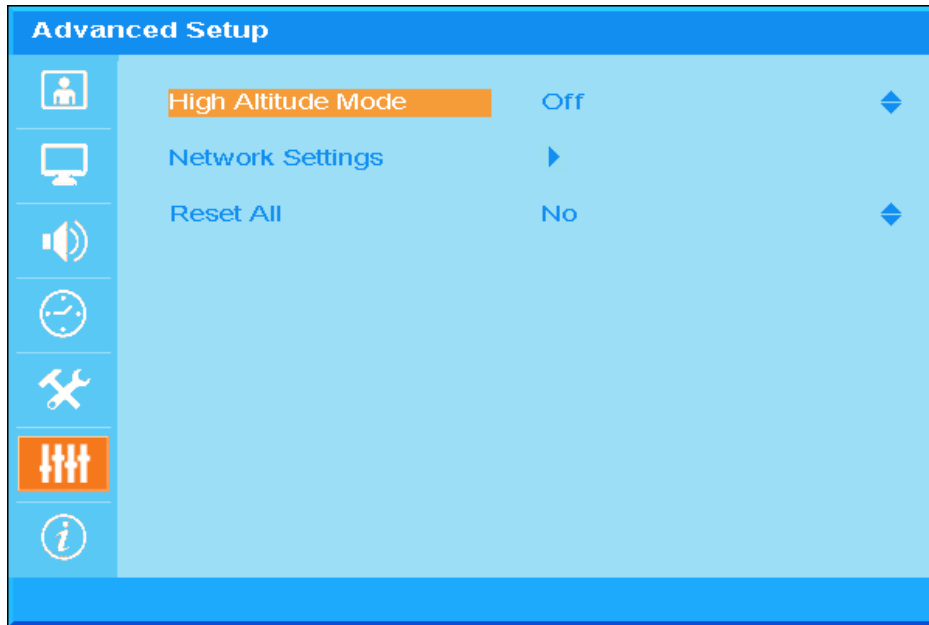
Lamp Setting



ITEM	DESCRIPTION
Lamp Mode	Press the cursor ▲ ▼ button to select the lamp mode for higher brightness or lower brightness to save lamp life.
Reset Lamp Timer	Press the ▲ ▼ button to reset the Lamp Hour after the lamp is replaced

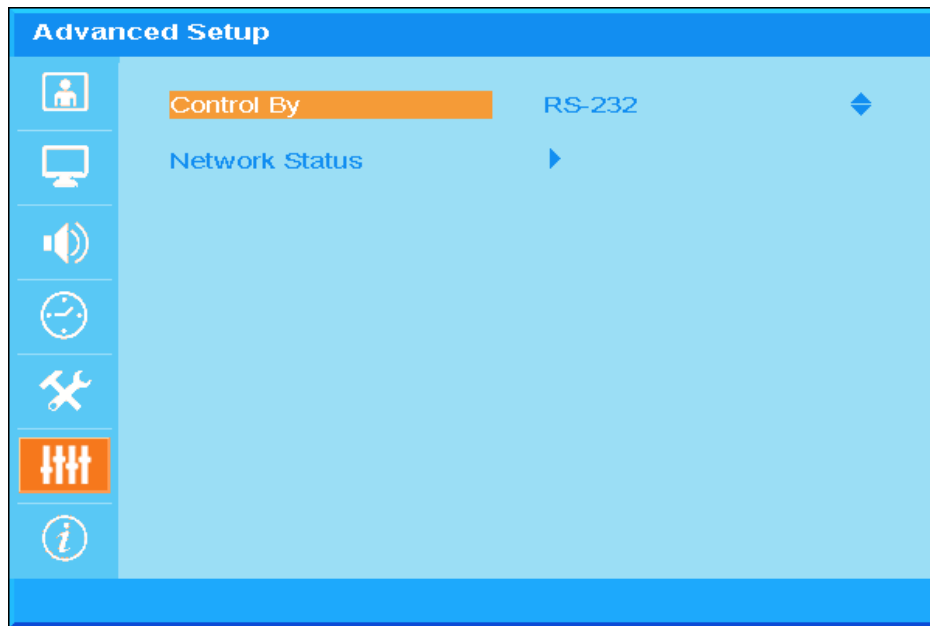
Advanced Setup

Press the **Menu** button to open the **OSD** menu. Press **▲▼** to move to the **Advanced Setup** menu. Press **ENTER / ►** button to move up and down in the **Advanced Setup** item. Press **ENTER / ►** button to entry item. Press **▲▼** to change values for setting.



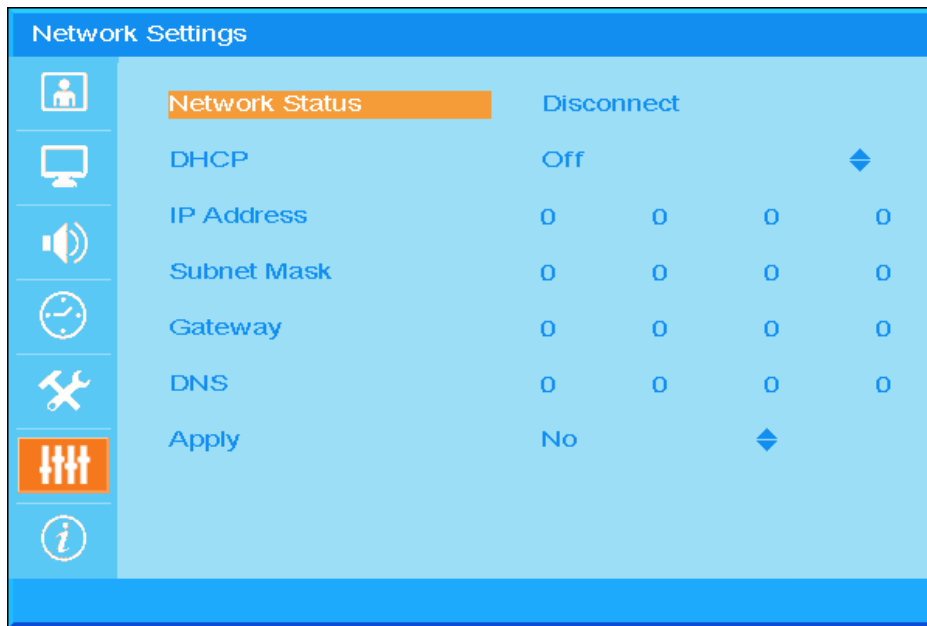
ITEM	DESCRIPTION
High Altitude Mode	Press the cursor ▲▼ buttons to turn on or off High Altitude Mode. Recommend to turn ON when the altitude of the environment is higher than 1500m (4921ft).
Network Settings	Press ENTER / ► to enter the Network menu. See page 35 for more information on <i>Network Settings</i> .
Reset All	Press the ▲▼ button to enter reset all settings.

Network Settings



ITEM	DESCRIPTION
Control By	<p>Press the ▲ ▼ buttons to select projector remote command control. Selecting RJ45 enables RJ45 control and disables the RS232 port. Selecting RS232 enables RS232 control and disables the RJ45 network port. When RS232 control is enabled, the serial port settings are fixed to: 115200 Baud;8-bits;No parity;1 Stop-bit;No flow control (Range: RS232/ RJ45) Note: this setting changes the standby power: RS232 = <0.5W (Default) RJ45 = <10W</p>
Network Status	<p>Press the ENTER/ ► button to enter the Network Status sub menu. See <i>Network Status</i> on page 36.</p>

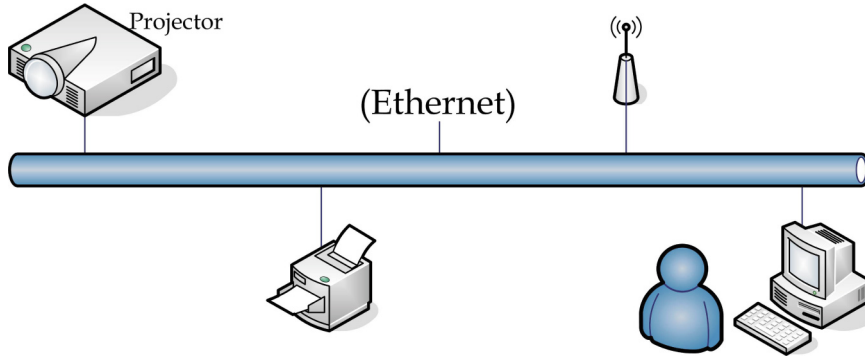
Network Status



ITEM	DESCRIPTION
Network Status	Displays the network connection status.
DHCP	Press ▲ ▼ to turn DHCP On or Off. Note: If user selects 'DHCP' Off, it will still use user apply IP setting or default RJ45 IP setting. If user selects 'DHCP' On, it will use dynamic IP address and IP setting from DHCP server on the network..
IP Address	Press the ▲ ▼ buttons to change value IP address if DHCP is turned off.
Subnet Mask	Press the ▲ ▼ buttons to change value Subnet Mask if DHCP is turned off.
Gateway	Press the ▲ ▼ buttons to change value Gateway address if DHCP is turned off.
DNS	Press the ▲ ▼ buttons to change value DNS name if DHCP is turned off.
Apply	Press ▲ ▼ to confirm settings.

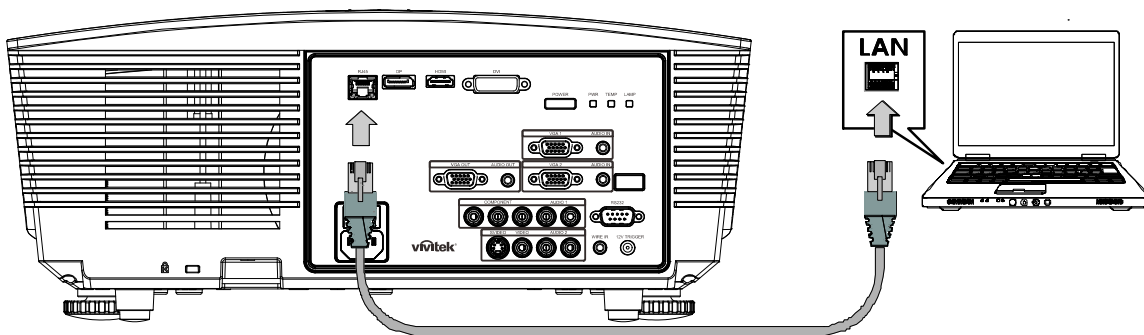
For simplicity and ease of operation, the projector provides diverse networking and remote management features.

The LAN/RJ45 function of the projector through a network, such as remotely manage: Power On/Off, Brightness and Contrast settings. Also, projector status information, such as: Video-Source, Sound-Mute, etc.



LAN_RJ45

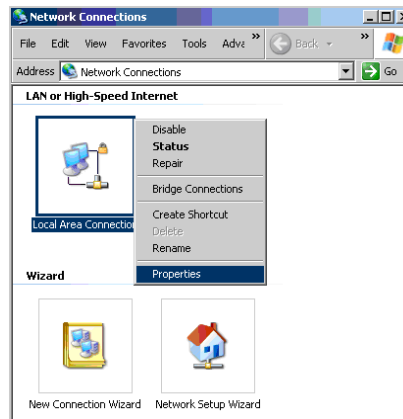
1. Connect an RJ45 cable to RJ45 ports on the projector and the PC (Laptop).



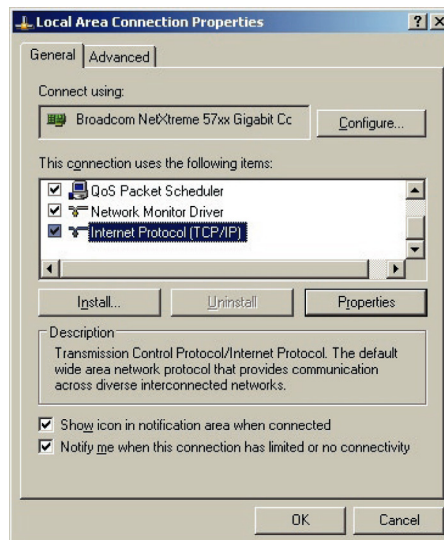
2. On the PC (Laptop), select **Start** → **Control Panel** → **Network Connections**.



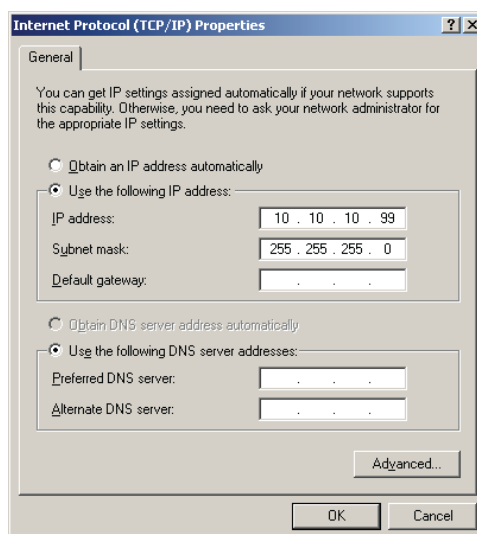
3. Right-click on **Local Area Connection**, and select **Properties**.



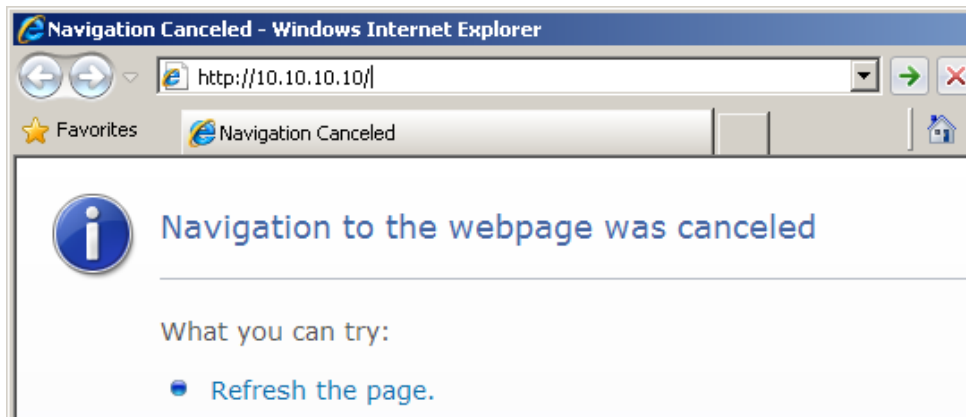
4. In the **Properties** window, select the **General** tab, and select **Internet Protocol (TCP/IP)**.
5. Click **Properties**.



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



7. Press the **Menu** button on the projector.
8. Select **Advanced Setup** → **Network Settings** → **Control By** → **RJ45** option.
9. After getting into **Network Status**, input the following:
 - ▶ DHCP: Off
 - ▶ IP Address: 10.10.10.10
 - ▶ Subnet Mask: 255.255.255.0
 - ▶ Gateway: 0.0.0.0
 - ▶ DNS Server: 0.0.0.0
10. Press **↵** (Enter) / **▶** to confirm settings.
Open a web browser
(for example, Microsoft Internet Explorer with Adobe Flash Player 9.0 or higher).



11. In the Address bar, input the IP address: 10.10.10.10.
12. Press **↵** (Enter) / **▶**.

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



The screenshot shows a configuration window with the following sections:

- Crestron Control:** IP Address, IP ID, Control Port, and a 'Control Set' button.
- Projector:** Projector Name (PJ01), Location (RM01), Assigned To (Sir), and a 'Set' button.
- Network Config:** DHCP Enabled checkbox, IP Address (10.10.10.10), Subnet Mask (255.255.255.0), Default Gateway (0.0.0.0), DNS Server (0.0.0.0), and a 'Net Set' button.
- User Password:** Usr Enabled checkbox, Password, Confirmed, and a 'Usr Set' button.
- Admin Password:** Adm Enabled checkbox, Password, Confirmed, and an 'Adm Set' button.

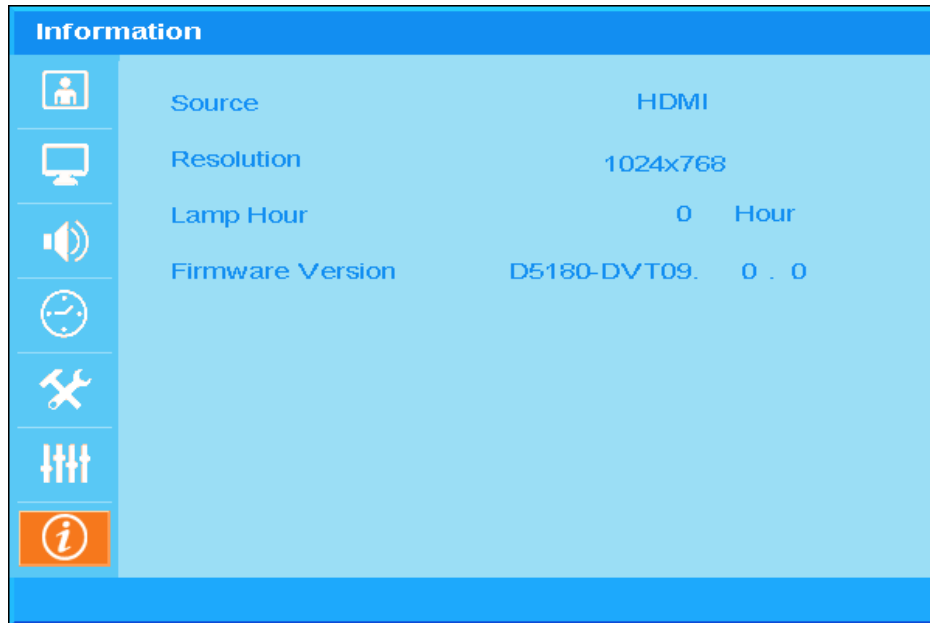
A 'Tools Exit' button is located at the bottom center.

CATEGORY	ITEM	INPUT-LENGTH
Crestron Control	IP Address	14
	IP ID	3
	Port	5
Projector	Projector Name	10
	Location	10
	Assigned To	10
Network Configuration	DHCP (Enabled)	(N/A)
	IP Address	15
	Subnet Mask	15
	Default Gateway	15
	DNS Server	15
User Password	Enabled	(N/A)
	New Password	15
	Confirm	15
Admin Password	Enabled	(N/A)
	New Password	15
	Confirm	15

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

Information Menu

Press the **MENU** button to open the **OSD** menu. Press the cursor **▲ ▼** button to move to the **Information Menu**.



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

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.



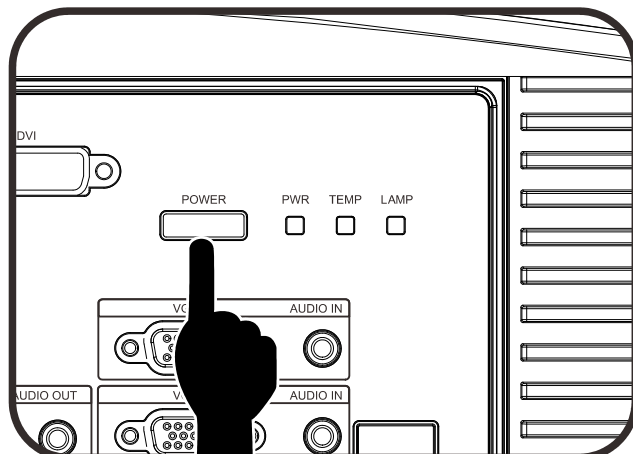
IF A LAMP EXPLODES

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.

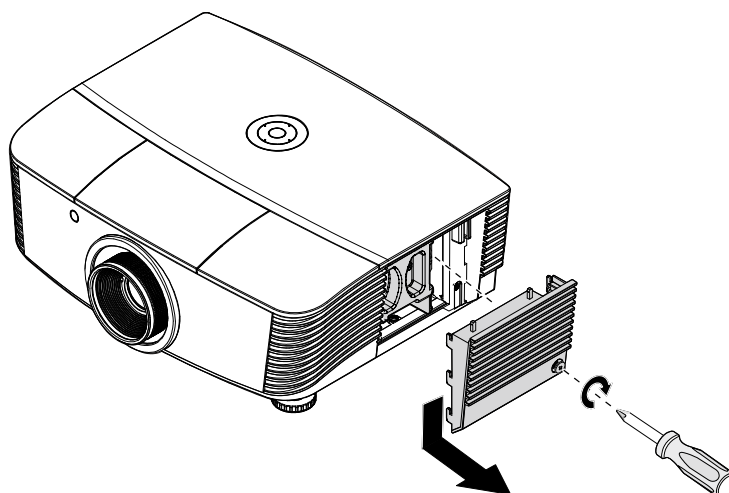
Open windows and doors for ventilation.

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.

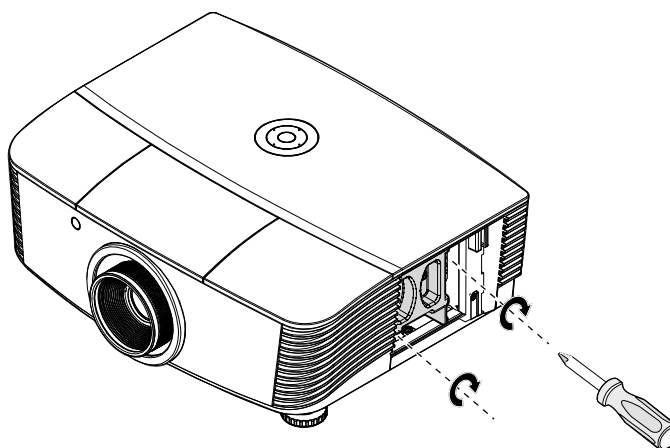


4. Unlock the lamp cover.

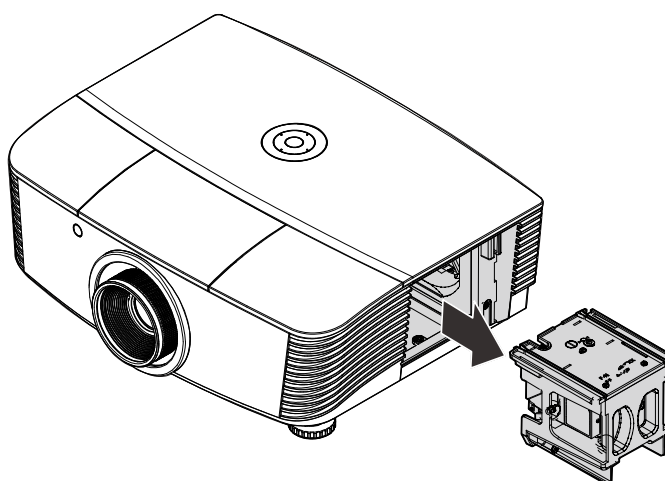


5. Pull up and remove the cover.

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



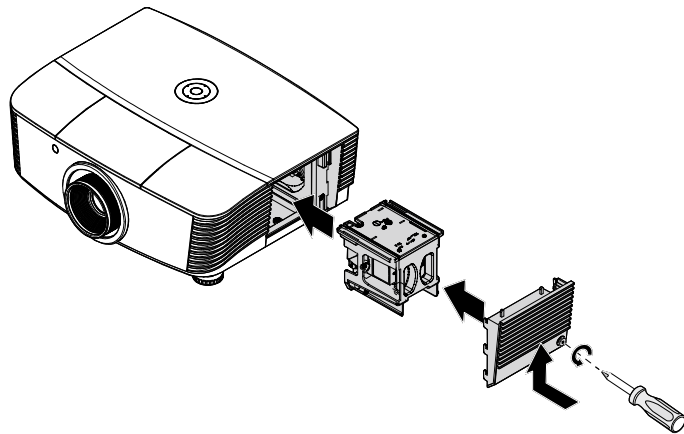
7. Pull out the lamp module.



- 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.



- 9.** Turn on the projector and reset the lamp after the lamp module is replaced.
Lamp Reset:
Press **Menu** → Select **Basic Setup** → **Lamp Setting** → **Reset Lamp Timer** → Press the **▲▼** buttons to adjust the settings.

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.

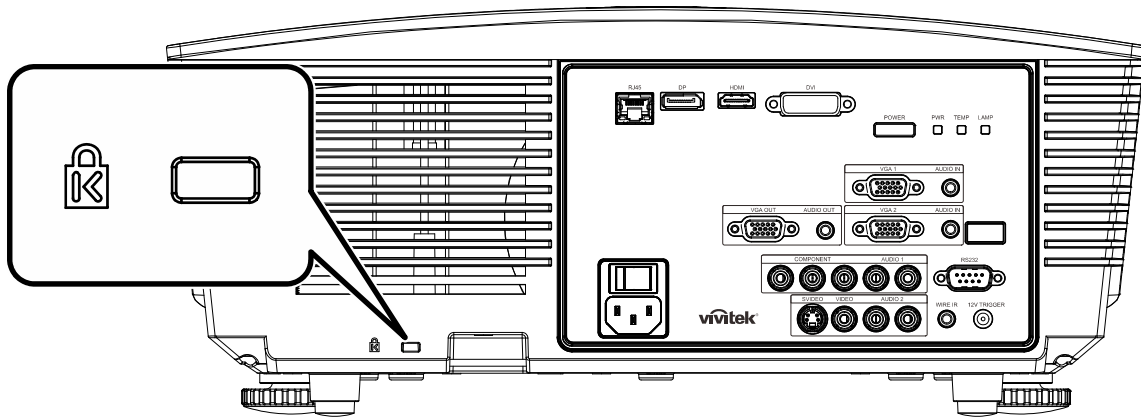
Caution:

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

Using the Physical Lock

Using the Kensington® Lock

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



Note:

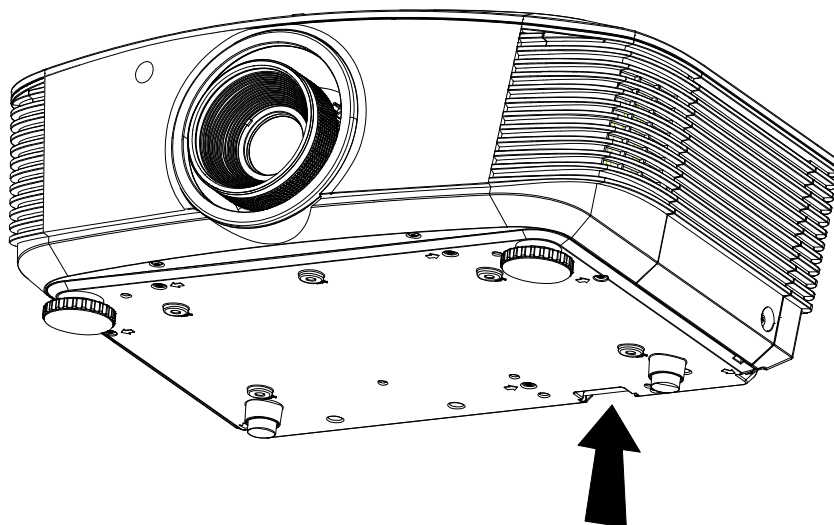
Contact your vendor for details on purchasing a suitable Kensington security cable.

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

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		TEMP LED	LAMP LED
	BLUE	RED	RED	RED
Lamp Ready	ON	—	—	—
Start	—	flashing	—	—
Cooling	—	flashing	—	—
Over Temperature	—	—	ON	—
Thermal Break Sensor error	—	—	—	4 blinks
Lamp Error	—	5 blinks	—	—
Burner Fan error	—	6 blinks	1 blinks	—
System Fan error	—	6 blinks	2 blinks	—
Power and Ballast Fan error	—	5 blinks	—	1 blinks
Case Open	—	7 blinks	—	—
DMD error	—	8 blinks	—	—
Color wheel error	—	9 blinks	—	—

In the event of an error, please disconnect the AC power cord and wait for one (1) minute before re-starting the projector. If the Power or Lamp LEDs are still blinking or the Temp LED is lit, 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 or projector.
3. Ensure the projector-to-screen distance is within the 10-meter (33-feet) 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 or projector to correct the problem.

Problem: The image is reversed

Check the **Projection** setting on the **Display Settings** menu of the OSD.

Problem: The image is streaked

1. Set the **Frequency** settings on the **Image Settings>Advanced** 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 **Image** 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 **Display Settings** 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 green.
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 batteries.
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.

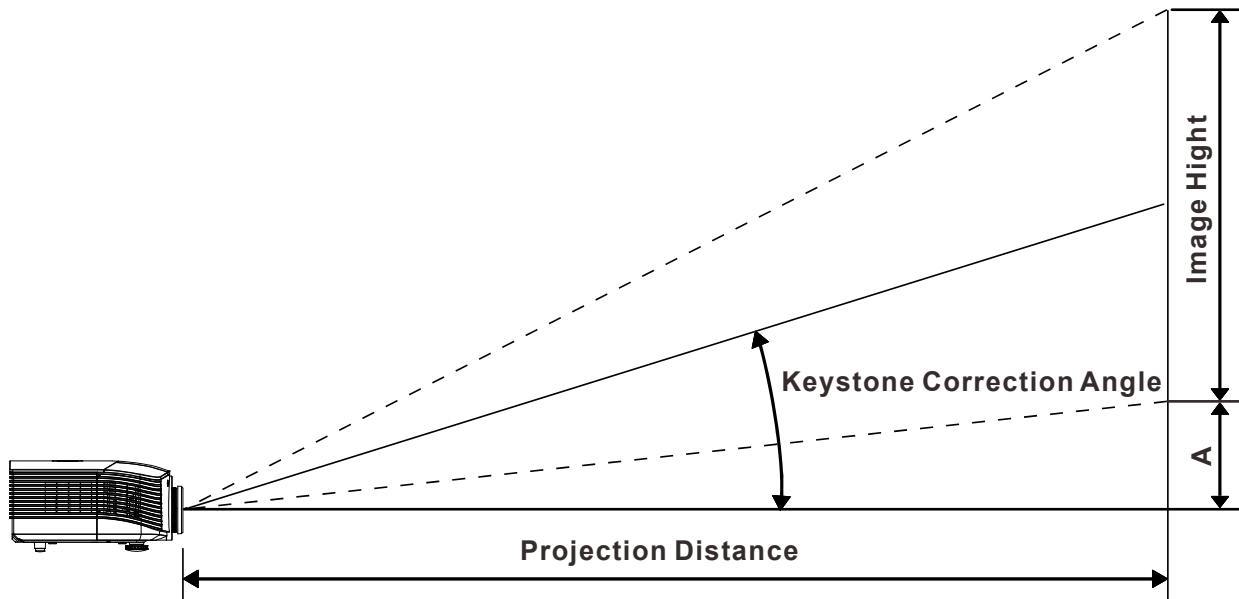
For more detail information check <http://www.hdmi.org/learningcenter/faq.aspx#49>

SPECIFICATIONS

Specifications

Display type	1080P 0.65"
Resolution	1080P 1920x1080 Native
Projection distance	1.5 meters ~ 7 meters (Standard projection len)
Projection screen size	35 to 205 inches (Standard projection len)
Projection lens	Manual Focus/Manual Zoom (Standard projection len)
Zoom ratio	1.25 (Standard projection len)
Vertical keystone correction	+/- 35 degree (+/- 350 step)
Projection methods	Front, Rear, Desktop/Ceiling (Rear, Front)
Data compatibility	VGA, SVGA, XGA, SXGA, SXGA+, UXGA, Mac
SDTV/EDTV/ HDTV	480i, 480p, 720p, 1080i, 1080p
Video compatibility	NTSC/NTSC 4.43, PAL (B/G/H/I/M/N/60), SECAM
H-Sync	15.6, 30 – 91.1 kHz
V-Sync	50 – 85 Hz
Safety certification	FCC-B, UL, CB, CE, CCC, China CECP, KC, PCT, PSB, ICES-003, NOM, UL-S(Argentina), SASO and C-tick
Operation temperature	5° ~ 35°C
Dimensions	431.11mm (W) x 344.16mm (D) x 161.51mm (H)
AC Input	AC Universal 100 – 240, Typical @ 110VAC (100 – 240)/+/-10%
Power consumption	Bright mode : 420W / Normal mode:360W
Stand By	<0.5 watts
Lamp	330W (Boost) / 280W (STD)
Audio speaker	3W x 2
Input Terminals	VGA x 2
	DISPLAYPORT x 1
	DVI-D x 1
	PC audio jack x 2
	S-Video x 1
	Component x 1
	Composite video x 1
	HDMI x 1
Output Terminals	VGA x 1
	PC audio jack x 1
Control Terminals	RS-232C
	RJ45
	Screen trigger: DC Jack x 1 (DC12V 200mA output function)
	wire remote
Security	Kensington lock

Projection Distance vs. Projection Size (1080P)



Projection Distance and Size Table

Standard projection len: TR: 1.54~1.93; offset=120%

	TELE				WIDE			
Distance (m)	1.71	3.42	4.27	8.55	1.70	3.41	6.82	10.23
Diagonal (inch)	40	80	100	200	50	100	200	300
Keystone Correction Angle (degree)	9.92	9.92	9.92	9.92	12.36	12.36	12.36	12.36
Image Height (mm)	498	996	1245	2491	623	1245	2491	3736
Image Width (mm)	886	1771	2214	4428	1107	2214	4428	6641
A (mm)	50	100	125	249	62	125	249	374

Long throw projection len: TR: 1.93~2.9; offset=120%

	TELE				WIDE			
Distance (m)	2.57	6.42	12.84	19.26	2.14/	6.41	12.82	19.23
Diagonal (inch)	40	100	200	300	50	150	300	450
Keystone Correction Angle (degree)	6.64	6.64	6.64	6.64	9.92	9.92	9.92	9.92
Image Height (mm)	498	1245	2491	3736	623	1868	3736	5604
Image Width (mm)	886	2214	4428	6641	1107	3321	6641	9962
A (mm)	50	125	249	374	62	187	374	560

Short throw projection len: TR: 0.77; offset=120%

	Fix			
Distance (m)	0.68	1.36/	1.70	2.56
Diagonal (inch)	40	80	100	150
Keystone Correction Angle (degree)	23.67	23.67	23.67	23.67
Image Height (mm)	498	996	1245	1868
Image Width (mm)	886	1771	2214	3321
A (mm)	50	100	125	187

Timing Mode Table

SIGNAL	RESOLUTION	H-SYNC (KHz)	V-SYNC (Hz)	VIDEO / S-VIDEO	COMPONENT	RGB	DVI	HDMI / DP
NTSC	—	15.734	60.0	O	—	—	—	—
PAL/SECAM	—	15.625	50.0	O	—	—	—	—
VESA	720 x 400	37.9	85.0	—	—	O	O	O
	640 x 480	31.5	60.0	—	—	O	O	O
	640 x 480	37.9	72.0	—	—	O	O	O
	640 x 480	37.5	75.0	—	—	O	O	O
	640 x 480	43.3	85.0	—	—	O	O	O
	800 x 600	35.2	56.0	—	—	O	O	O
	800 x 600	37.9	60.0	—	—	O	O	O
	800 x 600	48.1	72.0	—	—	O	O	O
	800 x 600	46.9	75.0	—	—	O	O	O
	800 x 600	53.7	85.0	—	—	O	O	O
	1024 x 768	48.4	60.0	—	—	O	O	O
	1024 x 768	56.5	70.0	—	—	O	O	O
	1024 x 768	60.0	75.0	—	—	O	O	O
	1024 x 768	68.7	85.0	—	—	O	O	O
	1280 x 800	49.7	59.8	—	—	O	O	O
	1280 x 800	62.8	74.9	—	—	O	O	O
	1280 x 800	71.6	84.8	—	—	O	O	O
	1280 x 1024	63.98	60.0	—	—	O	O	O
	1280 x 1024	79.98	75.0	—	—	O	O	O
	1280 x 1024	91.10	85.0	—	—	O	O	O
	1280 x 960	60.0	60.0	—	—	O	O	O
	1280 x 960	85.9	85.0	—	—	O	O	O
	1400 x 1050	65.3	60.0	—	—	O	O	O
1440 x 900	70.6	75.0	—	—	O	O	O	
1440 x 900	55.6	60.0	—	—	O	O	O	

SIGNAL	RESOLUTION	H-SYNC (KHz)	V-SYNC (Hz)	VIDEO / S-VIDEO	COMPONENT	RGB	DVI	HDMI / DP
VESA	1600 x 1200	75.0	60.0	—	—	O	O	O
	1920 x 1080	67.5	60.0	—	—	O	O	O
	1920 x 1200	74.04	59.95	—	—	O	O	O
Apple Mac	640 x 480	35.0	66.68	—	—	O	O	O
	832 x 624	49.725	74.55	—	—	O	O	O
	1024 x 768	60.24	75.0	—	—	O	O	O
	1152 x 870	68.68	75.06	—	—	O	O	O
SDTV	480i	15.734	60.0	—	O	—	—	O
	576i	15.625	50.0	—	O	—	—	O
EDTV	480p	31.469	60.0	—	O	—	—	O
	576p	31.25	50.0	—	O	—	—	O
HDTV	720p	37.5	50.0	—	O	—	—	O
	720p	45.0	60.0	—	O	—	—	O
	1080i	33.8	60.0	—	O	—	—	O
	1080i	28.1	50.0	—	O	—	—	O
	1080p	67.5	60.0	—	O	—	—	O
	1080p	56.3	50.0	—	O	—	—	O
	1080p	27.0	24	—	O	—	—	O
	1080p	28.13	25	—	O	—	—	O
	1080p	33.75	30	—	O	—	—	O

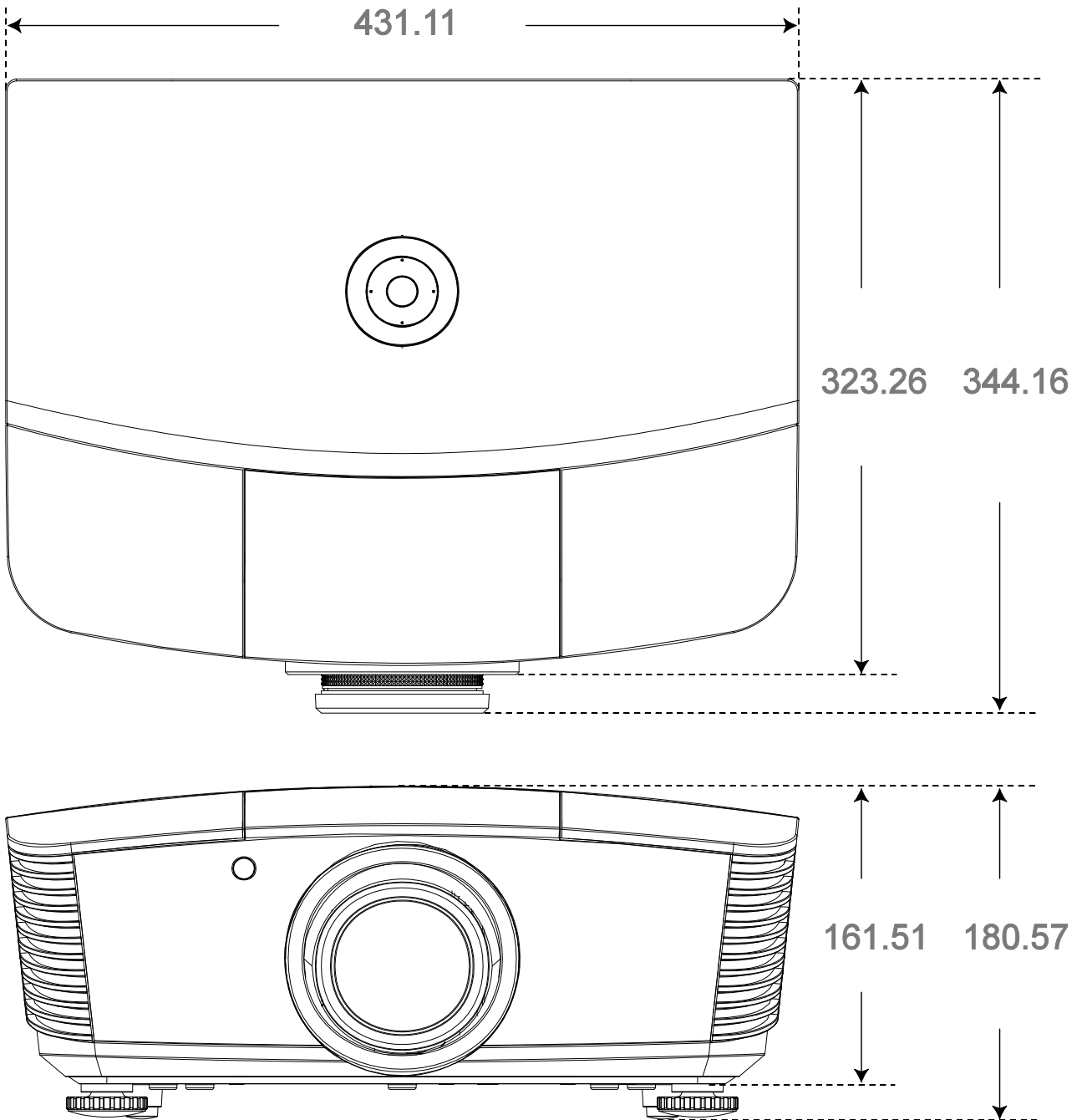
O: Frequency supported

—: Frequency not supported

* : Displayable level

The resolution of the panel for the projector is 1920 x 1080. Resolution other than native resolution may display with uneven size of text or lines.

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, UL, CB, CE, CCC, China CECP, KC, PCT, PSB, ICES-003, NOM, UL-S(Argentina), SASO and C-tick

RS-232C Protocol

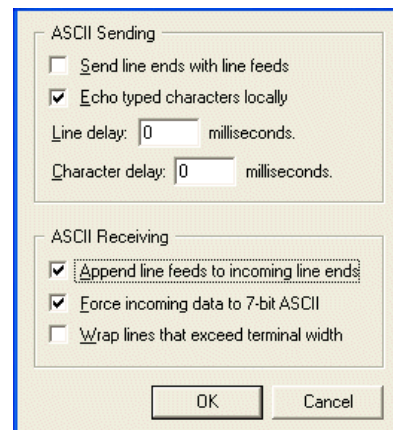
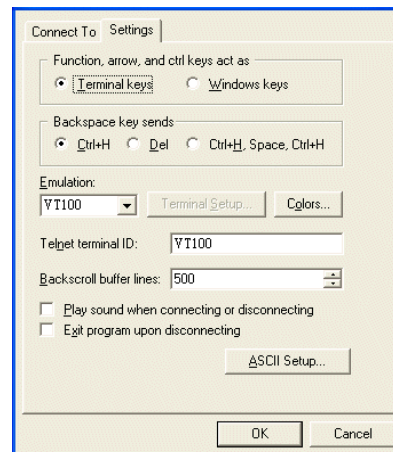
RS232 Setting

Baud rate:	115200
Parity check:	None
Data bit:	8
Stop bit:	1
Flow Control	None

RS-232 Setup for D5180 / D5185

In the main HyperTerminal window,

1. Select **“Property”** from the **“File”** Menu
2. Select **“Setting”** Tab
3. Select **“VT100”** under Emulation
4. Click on **“ASCII Setup”**
5. Tick the options as below
6. Click **OK** while done



Control Command Structure

	Header code	Command code	Data code	End code
HEX		Command	Data	0Dh
ASCII	‘V’	Command	Data	CR

Operation Command

Note:

XX=00-98, projector's ID, XX=99 is for all projectors D5180/D5185 -> V99Sxxxx

Return Result P=Pass / F=Fail

n: 0:Disable/1: Enable/Vaule(0~9999)

Command Group 00				
ASCII	HEX	Function	Description	Return Result
VXXS0001	56H 39H 39H 53H 30H 30H 30H 31H 0DH	Power On		P/F
VXXS0002	56H 39H 39H 53H 30H 30H 30H 32H 0DH	Power Off		P/F
VXXS0003	56H 39H 39H 53H 30H 30H 30H 33H 0DH	Resync		P/F
VXXG0004	56H 39H 39H 47H 30H 30H 30H 34H 0DH	Get Lamp Hours		Pn/F
VXXS0006	56H 39H 39H 53H 30H 30H 30H 36H 0DH	System Reset		P/F
VXXG0007	56H 39H 39H 47H 30H 30H 30H 37H 0DH	Get System Status	0: Stand by 1:Ignition 2:Normal 3:Cooling	Pn/F
VXXG0008	56H 39H 39H 47H 30H 30H 30H 38H 0DH	Get F/W Version		Pn/F

Command Group 01				
ASCII	HEX	Function	Description	Return Value
VXXG0101	56H 39H 39H 47H 30H 31H 30H 31H 0DH	Get Brightness	n=0~100	Pn/F
VXXS0101n	56H 39H 39H 53H 30H 31H 30H 31H n 0DH	Set Brightness	n=0~100	P/F
VXXG0102	56H 39H 39H 47H 30H 31H 30H 32H 0DH	Get Contrast	n=0~100	Pn/F
VXXS0102n	56H 39H 39H 53H 30H 31H 30H 32H n 0DH	Set Contrast	n=0~100	P/F
VXXG0103	56H 39H 39H 47H 30H 31H 30H 33H 0DH	Get Color	n=0~512	Pn/F
VXXS0103n	56H 39H 39H 53H 30H 31H 30H 33H n 0DH	Set Color	n=0~512	P/F
VXXG0104	56H 39H 39H 47H 30H 31H 30H 34H 0DH	Get Tint	n=0~100	Pn/F
VXXS0104n	56H 39H 39H 53H 30H 31H 30H 34H n 0DH	Set Tint	n=0~100	P/F
VXXG0105	56H 39H 39H 47H 30H 31H 30H 35H 0DH	Get Sharpness	0~24	Pn/F
VXXS0105n	56H 39H 39H 53H 30H 31H 30H 35H n 0DH	Set Sharpness	0~24	P/F
VXXG0106	56H 39H 39H 47H 30H 31H 30H 36H 0DH	Get Color Temperature	0:Native 1:Warm 2:Normal 3.Cool 4.Cooler 5.High Cool	Pn/F
VXXS0106n	56H 39H 39H 53H 30H 31H 30H 36H n 0DH	Set Color Temperature	0:Native 1:Warm 2:Normal 3.Cool 4.Cooler 5.High Cool	P/F
VXXG0107	56H 39H 39H 47H 30H 31H 30H 37H 0DH	Get Gamma	0~10	Pn/F
VXXS0107n	56H 39H 39H 53H 30H 31H 30H 37H n 0DH	Set Gamma	0~10	P/F

Command Group 01				
ASCII	HEX	Function	Description	Return Value
VXXG0108n	56H 39H 39H 47H 30H 31H 30H 38H 0DH	Get Picture Mode	0:Movie 1:Bright 2:Normal 3.User1 4.User2 5.User3	P/F
VXXS0108n	56H 39H 39H 53H 30H 31H 30H 38H n 0DH	Set Picture Mode	0:Movie 1:Bright 2:Normal 3.User1 4.User2 5.User3	P/F

Command Group 02				
ASCII	HEX	Function	Description	Return Value
VXXS0201	56H 39H 39H 53H 30H 32H 30H 31H 0DH	Select RGB		P/F
VXXS0202	56H 39H 39H 53H 30H 32H 30H 32H 0DH	Select RGB2		P/F
VXXS0203	56H 39H 39H 53H 30H 32H 30H 33H 0DH	Select DVI		P/F
VXXS0204	56H 39H 39H 53H 30H 32H 30H 34H 0DH	Select Video		P/F
VXXS0205	56H 39H 39H 53H 30H 32H 30H 35H 0DH	Select S-Video		P/F
VXXS0206	56H 39H 39H 53H 30H 32H 30H 36H 0DH	Select HDMI 1		P/F
VXXS0208	56H 39H 39H 53H 30H 32H 30H 38H 0DH	Select Component		P/F
VXXS0209	56H 39H 39H 53H 30H 32H 30H 39H 0DH	Select DP		P/F
VXXG0220	56H 39H 39H 47H 30H 32H 32H 30H 0DH	Get Current Source	Return 1:RGB 2:RGB2 3:DVI 4:Video 5:S-Video 6:HDMI 8:Component 9:DP	Pn/F

Command Group 03				
ASCII	HEX	Function	Description	Return Value
VXXG0301	56H 39H 39H 47H 30H 33H 30H 31H 0DH	Get Scaling	0: Auto 1: 16:9 2: 4:3 3: Letter Box 4: Real	Pn/F
VXXS0301n	56H 39H 39H 53H 30H 33H 30H 31H n 0DH	Set Scaling	0: Auto 1: 16:9 2: 4:3 3: Letter Box 4: Real	P/F
VXXG0302	56H 39H 39H 47H 30H 33H 30H 32H 0DH	Blank		Pn/F
VXXS0302n	56H 39H 39H 53H 30H 33H 30H 32H n 0DH	Blank		P/F
VXXG0304	56H 39H 39H 47H 30H 33H 30H 34H 0DH	Freeze On		Pn/F
VXXS0304n	56H 39H 39H 53H 30H 33H 30H 34H n 0DH	Freeze On		P/F

Command Group 03				
ASCII	HEX	Function	Description	Return Value
VXXG0305	56H 39H 39H 47H 30H 33H 30H 35H 0DH	Get Volume	n=0~10	Pn/F
VXXS0305n	56H 39H 39H 53H 30H 33H 30H 35H n 0DH	Set Volume	n=0~10	P/F
VXXG0308	56H 39H 39H 47H 30H 33H 30H 38H 0DH	Projection Mode	0:Front 1:Front+Ceiling 2:Rear 3:Rear+Ceiling	Pn/F
VXXS0308n	56H 39H 39H 53H 30H 33H 30H 38H n 0DH	Projection Mode	0:Front 1:Front+Ceiling 2:Rear 3:Rear+Ceiling	P/F
VXXG0309	56H 39H 39H 47H 30H 33H 30H 39H 0DH	Get vertical keystone value	n= -300~300	Pn/F
VXXS0309n	56H 39H 39H 53H 30H 33H 30H 39H n 0DH	Set vertical keystone value	n= -300~300	P/F
VXXG0310	56H 39H 39H 47H 30H 33H 31H 30H 0DH	Get horizontal keystone value	n=-350~350	Pn/F
VXXS0310n	56H 39H 39H 53H 30H 33H 31H 30H n 0DH	Set horizontal keystone value	n=-350~350	P/F

Command Group 04 (Remote Control)				
ASCII	HEX	Function	Description	Return Value
VXXS0401	56H 39H 39H 53H 30H 34H 30H 31H 0DH	UP arrow		P/F
VXXS0402	56H 39H 39H 53H 30H 34H 30H 32H 0DH	DOWN arrow		P/F
VXXS0403	56H 39H 39H 53H 30H 34H 30H 33H 0DH	LEFT arrow		P/F
VXXS0404	56H 39H 39H 53H 30H 34H 30H 34H 0DH	RIGHT arrow		P/F
VXXS0405	56H 39H 39H 53H 30H 34H 30H 35H 0DH	POWER		P/F
VXXS0408	56H 39H 39H 53H 30H 34H 30H 38H 0DH	AUTO		P/F
VXXS0409	56H 39H 39H 53H 30H 34H 30H 39H 0DH	KEYSTONE+		P/F
VXXS0410	56H 39H 39H 53H 30H 34H 31H 30H 0DH	KEYSTONE-		P/F
VXXS0411	56H 39H 39H 53H 30H 34H 31H 31H 0DH	MENU		P/F
VXXS0412	56H 39H 39H 53H 30H 34H 31H 32H 0DH	STATUS		P/F
VXXS0413	56H 39H 39H 53H 30H 34H 31H 33H 0DH	MUTE		P/F
VXXS0416	56H 39H 39H 53H 30H 34H 31H 36H 0DH	BLANK		P/F
VXXS0417	56H 39H 39H 53H 30H 34H 31H 37H 0DH	FREEZE		P/F
VXXS0418	56H 39H 39H 53H 30H 34H 31H 38H 0DH	VOLUME+		P/F
VXXS0419	56H 39H 39H 53H 30H 34H 31H 39H 0DH	VOLUME-		P/F
VXXS0420	56H 39H 39H 53H 30H 34H 32H 30H 0DH	Enter		P/F

The D5180HD family include the following models

D5180HD
D518ZHDA
D518ZHDB
D518ZHDC
D518ZHDD
D518ZHDE
D518ZHDF
D518ZH DG
D518ZH DH
D518ZH DI
D518ZH DJ
D518ZH DK
D518ZH DL
D518ZH DM
D518ZH DN
D518ZH DO

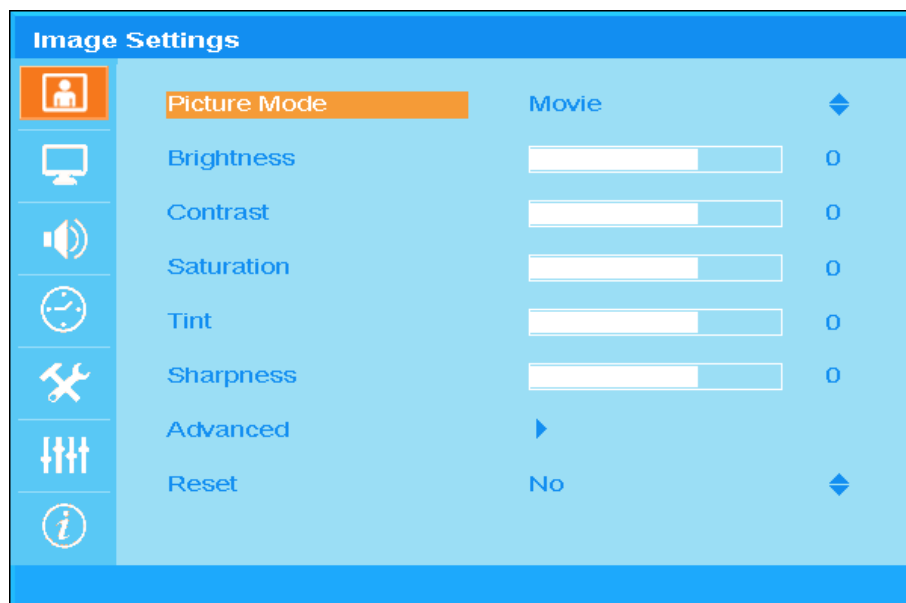
D5185HD Edge Blending

Equipment Requirement

1. **Display Units** : two D5185HD projectors recommended to have similar brightness levels or closed lamp hour used.
2. **Source Input** : a personal computer (PC) with Intel® Core™ i7 processor with 4GB Memory and Windows® 7 (32/64 bit) with dual DVI / HDMI / DP ports.
3. **Graphic Card** : Matrox (M-series) or nVidia video card with build-in **Edge Overlap** function
4. **Optical tool** : CL200 for color and brightness measurement

Edge Blending Guideline

1. Ensure the blended units with similar brightness level to prevent defect in overlapping area
2. Mechanically blend two screens with assistance of test pattern “**Crosshatch**” by moving the projector position and/or by adjusting the lens shift feature.
3. Enable the edge blending function (e.g., Mosaic for nVidia) in the PC, and specify the overlapping area (15~25% of native resolution)
4. Projector Setup 1 : the **Display Mode = User3**



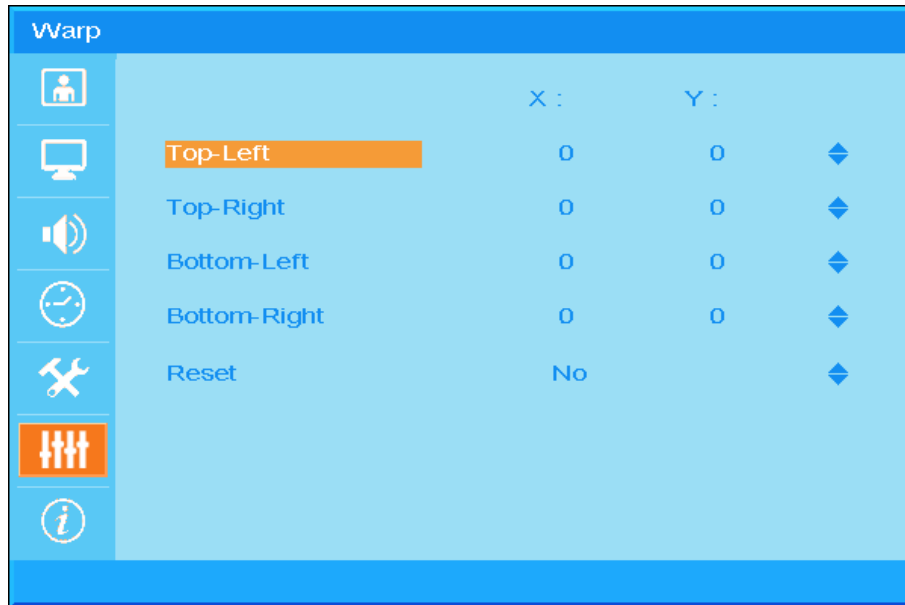
5. Projector Setup 2 : Advance Setup page, entry Alignment



6. Projector Setup 3 : **Alignment Status = ON**



7. Projector Setup 4 : Enter **Warp** and fine tune the screens by the Warp functions

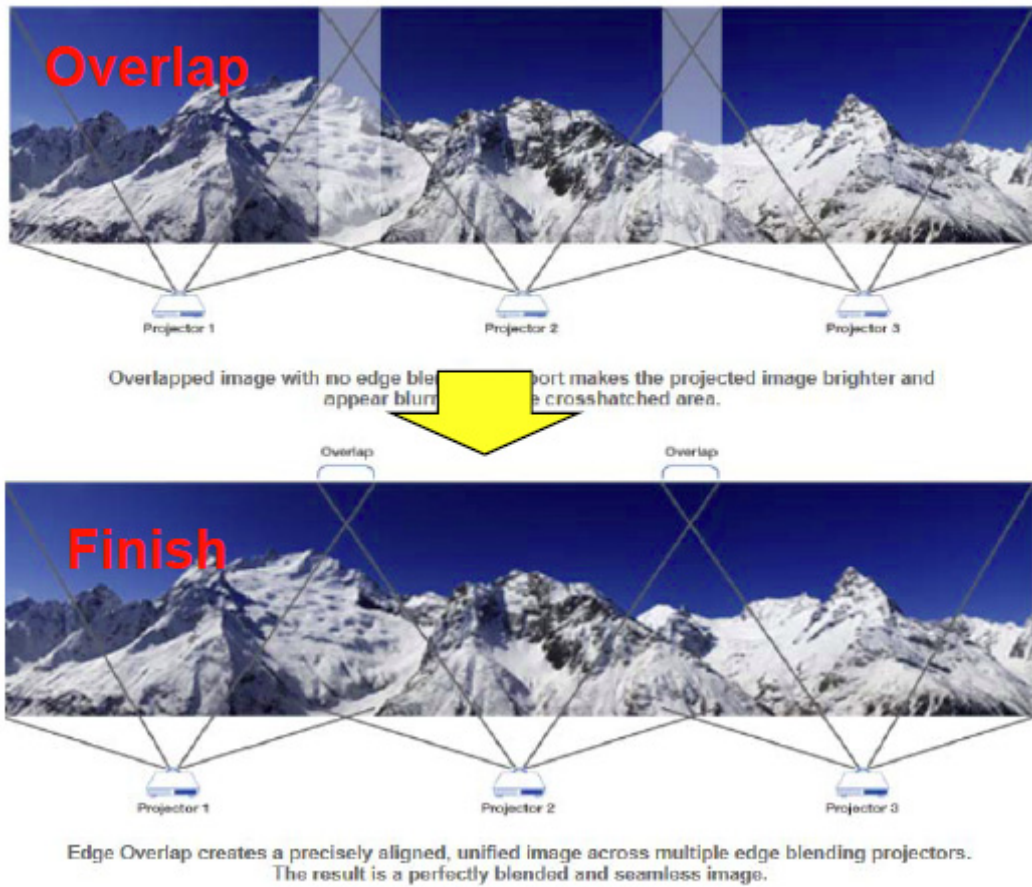


8. Projector Setup 5 : Enter **Blending** and fine tune the screen by the Blending functions



9. Projector Setup 6 : minimize the brightness difference between the two projectors by adjusting the **White Level / Black Level / Lamp Power** functions

10. Projector Setup 7 : cut off unnecessary part by using the **Blanking** function
11. Open up a picture to verify the blending status and repeat the above steps if necessary.



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