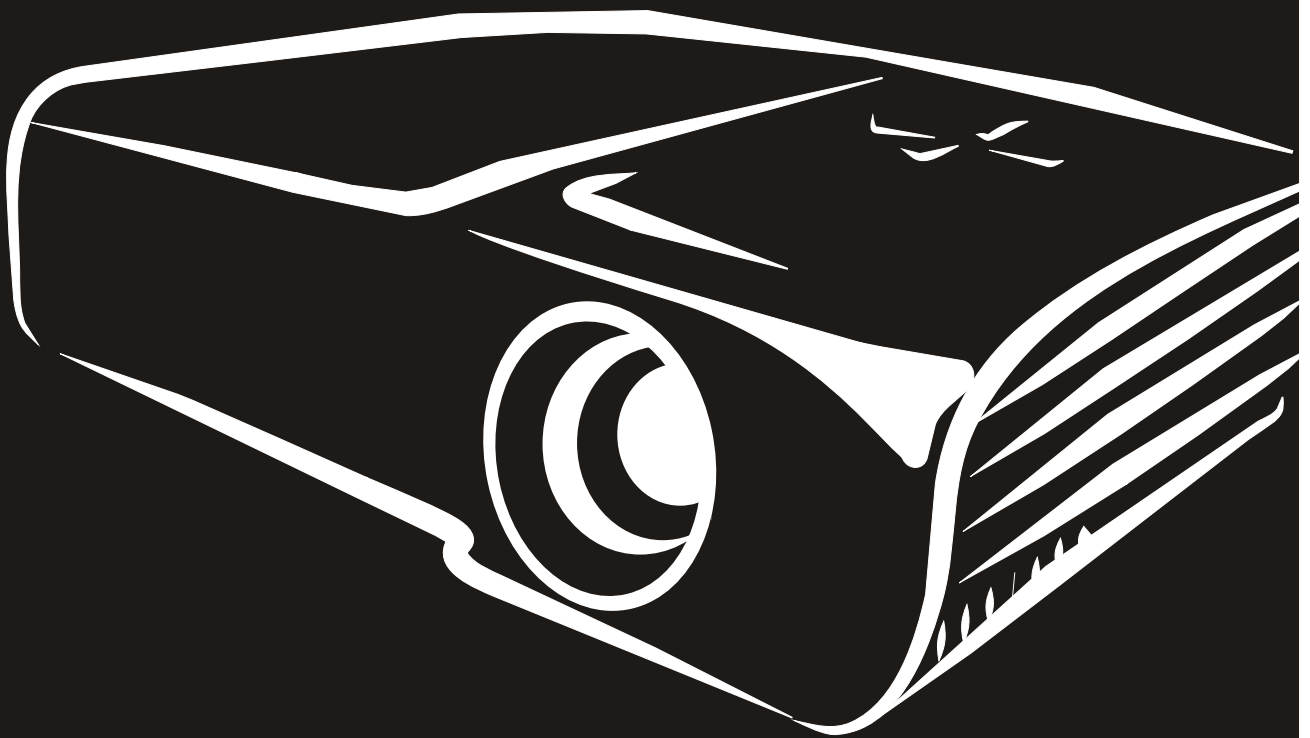


vivitek[®]
Vivid Color, Vivid Life

H108x-3D Series



PICTURE BY
DLP[®]
TEXAS INSTRUMENTS

Copyright

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

© Copyright 2011

Disclaimer

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

Trademark Recognition

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

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

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

Important Safety Information

Important:

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

Symbols Used

Warning symbols are used on the unit and in this manual to alert you of hazardous situations.

The following styles are used in this manual to alert you to important information.

Note:

Provides additional information on the topic at hand.

Important:

Provides additional information that should not be overlooked.

Caution:

Alerts you to situations that may damage the unit.

Warning:

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

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

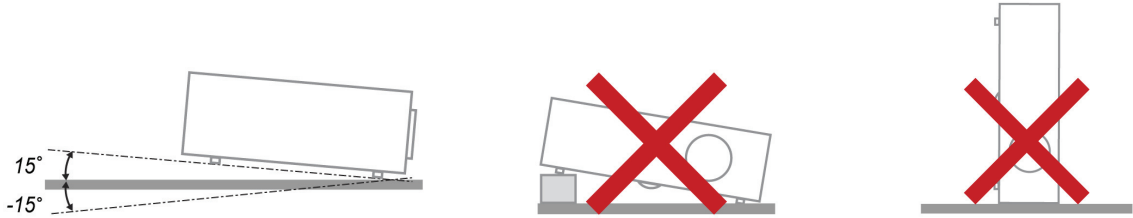
“Push the **MENU** button on the remote control to open the **DISPLAY** menu.”

General Safety Information

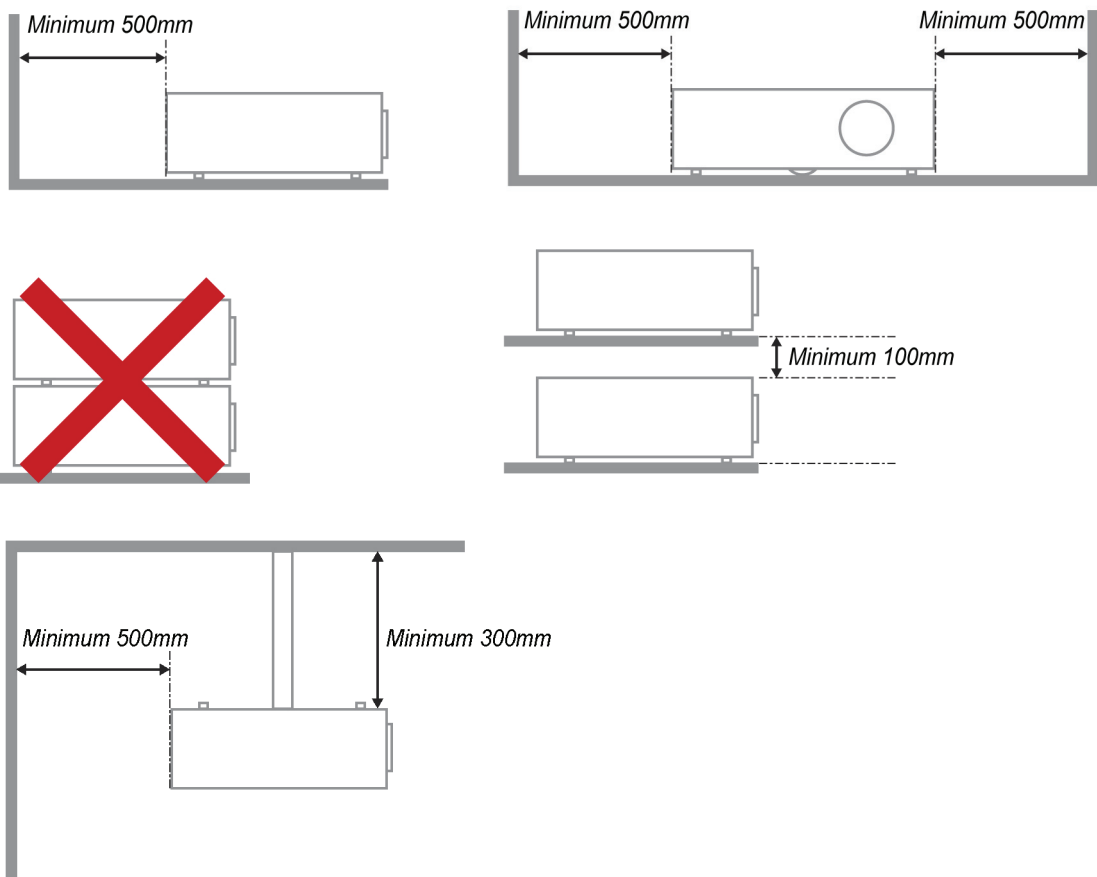
- Do not open the unit case. Aside from the projection lamp, there are no user-serviceable parts in the unit. For servicing, contact qualified service personnel.
- Follow all warnings and cautions in this manual and on the unit case.
- The projection lamp is extremely bright by design. To avoid damage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



- 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 5 – 35°C 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 5 – 35°C range.

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 31 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* on page 33.
- 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* section on page 46.

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 UXGA 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.

Table of Contents

GETTING STARTED	1
PACKING CHECKLIST	1
VIEWS OF PROJECTOR PARTS	2
<i>H1080 Series Front-right View</i>	2
<i>Top view—On-screen Display (OSD) buttons and LEDs</i>	3
<i>Rear view</i>	4
<i>Bottom view</i>	5
REMOTE CONTROL PARTS	6
REMOTE CONTROL OPERATING RANGE	8
PROJECTOR AND REMOTE CONTROL BUTTONS	8
SETUP AND OPERATION	9
INSERTING THE REMOTE CONTROL BATTERIES	9
STARTING AND SHUTTING DOWN THE PROJECTOR	10
ADJUSTING THE PROJECTOR LEVEL	12
ADJUSTING THE ZOOM RING, FOCUS AND KEYSTONE	13
ADJUSTING THE VOLUME	14
ON-SCREEN DISPLAY (OSD) MENU SETTINGS	15
OSD MENU CONTROLS	15
<i>Navigating the OSD</i>	15
SETTING THE OSD LANGUAGE	16
OSD MENU OVERVIEW	17
PICTURE>>BASIC MENU	18
PICTURE>>ADVANCED MENU	19
<i>HSG Adjustment</i>	20
<i>White Balance</i>	20
<i>User Color Temp</i>	21
DISPLAY MENU	22
<i>PC Detail Adjustment</i>	23
<i>3D Settings</i>	24
SETUP>>BASIC MENU	25
<i>Menu Settings</i>	26
<i>Source</i>	26
SETUP>>ADVANCED MENU	27
<i>Audio</i>	28
<i>Lamp</i>	28
<i>Closed Caption</i>	29
STATUS MENU	30
MAINTENANCE AND SECURITY	31
REPLACING THE PROJECTION LAMP	31
CLEANING THE PROJECTOR	33
<i>Cleaning the Lens</i>	33
<i>Cleaning the Case</i>	33
USING THE KENSINGTON® LOCK	34
TROUBLESHOOTING	35
COMMON PROBLEMS AND SOLUTIONS	35
TIPS FOR TROUBLESHOOTING	35
LED ERROR MESSAGES	36
IMAGE PROBLEMS	36
LAMP PROBLEMS	37
REMOTE CONTROL PROBLEMS	37
AUDIO PROBLEMS	38
HAVING THE PROJECTOR SERVICED	38
HDMI Q & A	39

SPECIFICATIONS..... 40

 SPECIFICATIONS..... 40

 PROJECTION DISTANCE VS. PROJECTION SIZE..... 41

Projection Distance and Size Table..... 41

 TIMING MODE TABLE..... 42

 PROJECTOR DIMENSIONS..... 45

REGULATORY COMPLIANCE 46

 FCC WARNING..... 46

 CANADA 46

 SAFETY CERTIFICATIONS..... 46

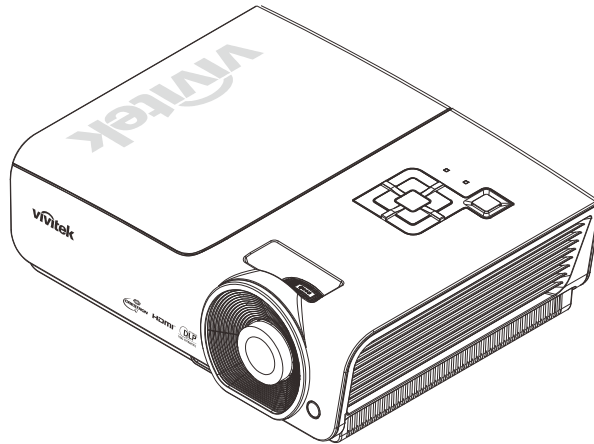
APPENDIX I 47

 RS-232C PROTOCOL..... 47

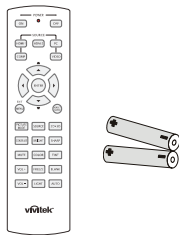
GETTING STARTED

Packing Checklist

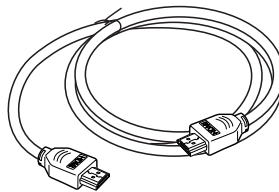
Carefully unpack the projector and check that the following items are included:



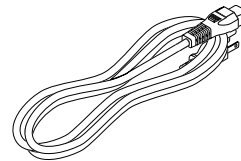
H1080 SERIES DLP PROJECTOR



*REMOTE CONTROL
(WITH TWO AA BATTERIES)*



HDMI CABLE



POWER CORD



*CD-ROM
(THIS USER'S MANUAL)*



QUICK START CARD



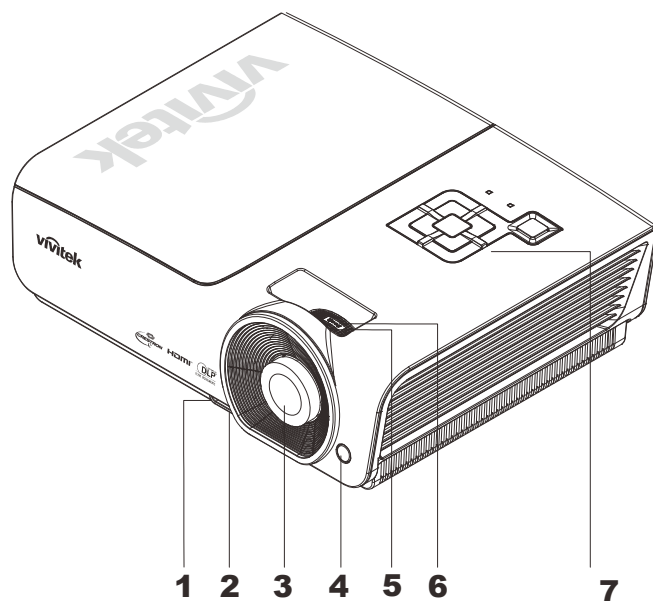
WARRANTY CARD

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

H1080 Series Front-right View

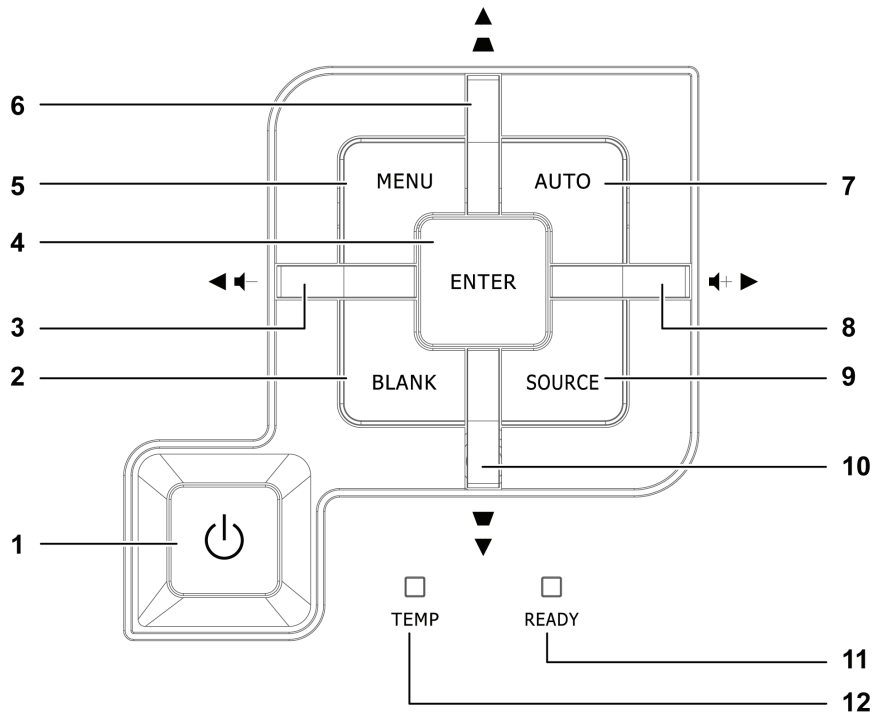


ITEM	LABEL	DESCRIPTION	SEE PAGE:
1.	Height-adjuster button	Push to release height adjuster	12
2.	Height adjuster	Adjusts level of projector	
3.	Lens	Projection Lens	
4.	IR receiver	Receive IR signal from remote control	6
5.	Focus ring	Focuses the projected image	13
6.	Zoom ring	Enlarges the projected image	
7.	Function keys	See Top view—On-screen Display (OSD) buttons and LEDs.	3

Important:

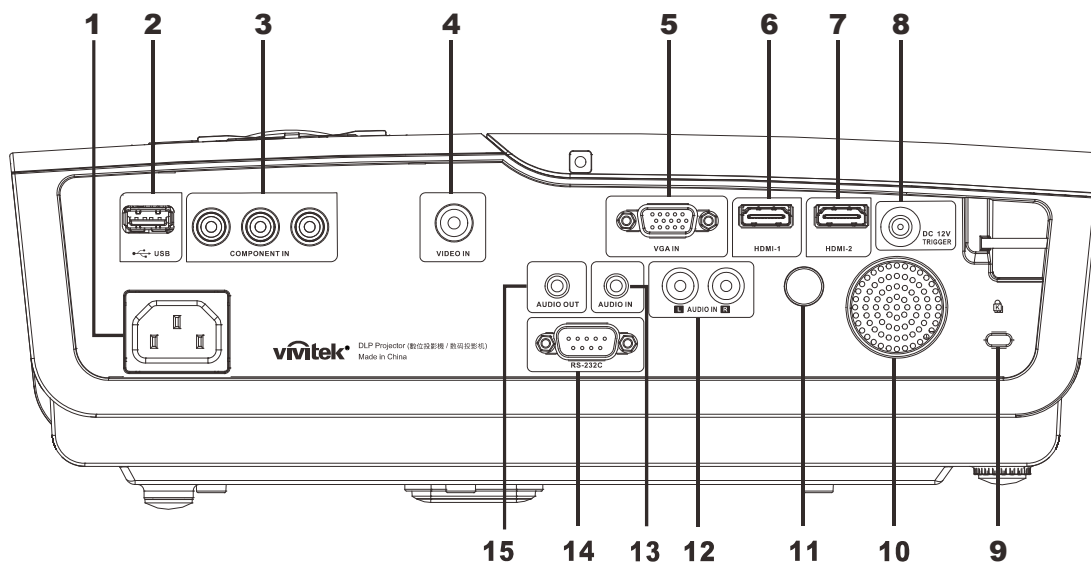
Ventilation openings on the projector allow for good air circulation, which keeps the projector lamp cool. Do not obstruct any of the ventilation openings.

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



ITEM	LABEL	DESCRIPTION		SEE PAGE:
1.	(Power button)	Turns the projector On or Off.		10
2.	BLANK	Displays a blank screen and mutes audio		
3.	◀ (Left cursor) / Volume-	Navigates and changes settings in the OSD Quick Menu – For Volume		15
4.	Enter	Enter or confirm highlighted OSD menu item		
5.	MENU	Opens and exits OSD menus		
6.	▲ (Up cursor) / Keystone+	Navigates and changes settings in the OSD Quick Menu – For Keystone		
7.	AUTO	Optimizes image size, position, and resolution		
8.	▶ (Right cursor) / Volume+	Navigates and changes settings in the OSD Quick Menu – For Volume		15
9.	SOURCE	Enter the Source menu		
10.	▼ (Down cursor) / Keystone-	Navigates and changes settings in the OSD Quick Menu – For Keystone		15
11.	READY LED	Red	Lamp is ready to be powered-on.	
		Flashing	Lamp is not ready (warming up/shutting down/cooling) (see <i>LED Error Messages</i> on page 36)	
12.	TEMP LED	Flashing	Error code	

Rear view

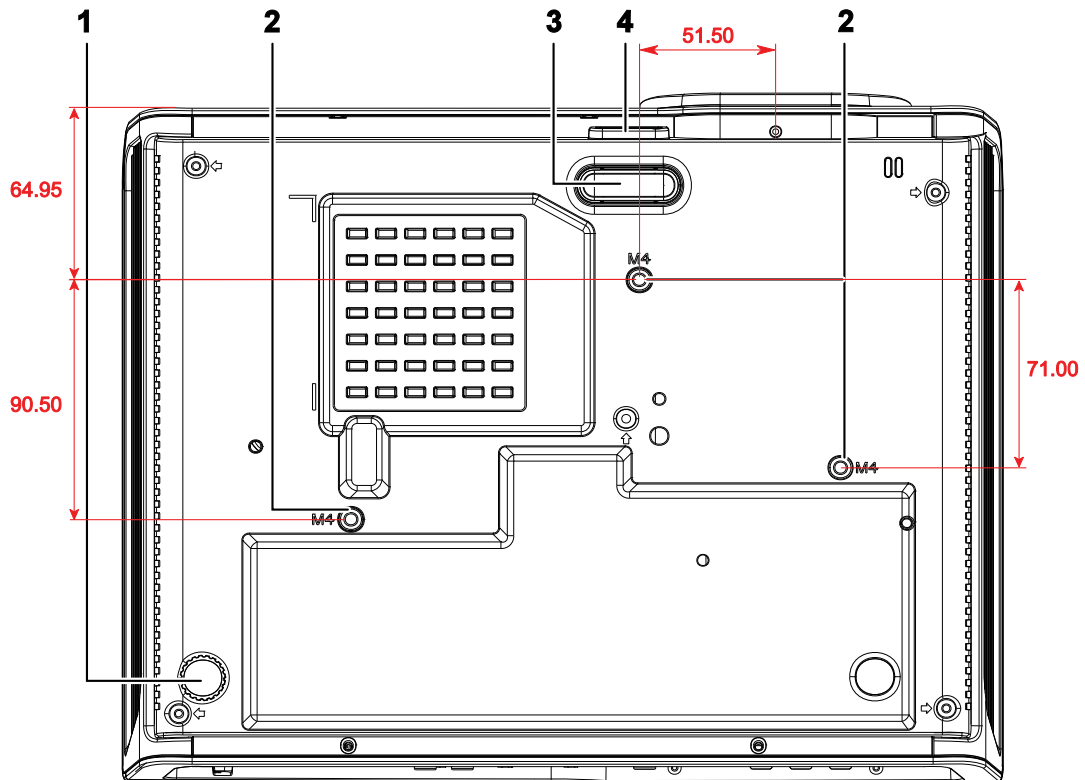


ITEM	LABEL	DESCRIPTION	SEE PAGE:
1.	AC IN	Connect the POWER CABLE	10
2.	(USB)	Connect the USB cable from a computer	
3.	COMPONENT IN	Connect a component video enabled device	
4.	VIDEO IN	Connect the composite cable from a video device	
5.	VGA IN	Connect the RGB cable from a computer.	
6.	HDMI – 1	Connect the HDMI CABLE from a HDMI device	
7.	HDMI – 2	Connect the HDMI CABLE from a HDMI device	
8.	DC 12V	Connect the 12V OUT	
9.	Kensington Lock	Secure to permanent object with a Kensington® Lock system	34
10.	Speaker	Outputs audio sound	
11.	IR receiver	Receive IR signal from remote control	6
12.	AUDIO IN (L and R)	Connect the audio cable from a audio device	
13.	AUDIO IN	Connect an AUDIO CABLE from the input device	
14.	RS-232C	Connect RS-232 serial port cable for remote control	
15.	AUDIO OUT	Connect an AUDIO CABLE for audio loop through	

Note:

If your video equipment has various input sources, it is recommended to connect in priority of HDMI, component, Composite for better picture quality.

Bottom view



ITEM	LABEL	DESCRIPTION	SEE PAGE:
1.	Tilt adjuster	Rotate adjuster lever to adjust angle position.	12
2.	Ceiling support holes	Contact your dealer for information on mounting the projector on a ceiling	
3.	Height adjuster	Adjuster drops down when adjuster button is pushed.	12
4.	Height adjuster button	Push to release adjuster.	

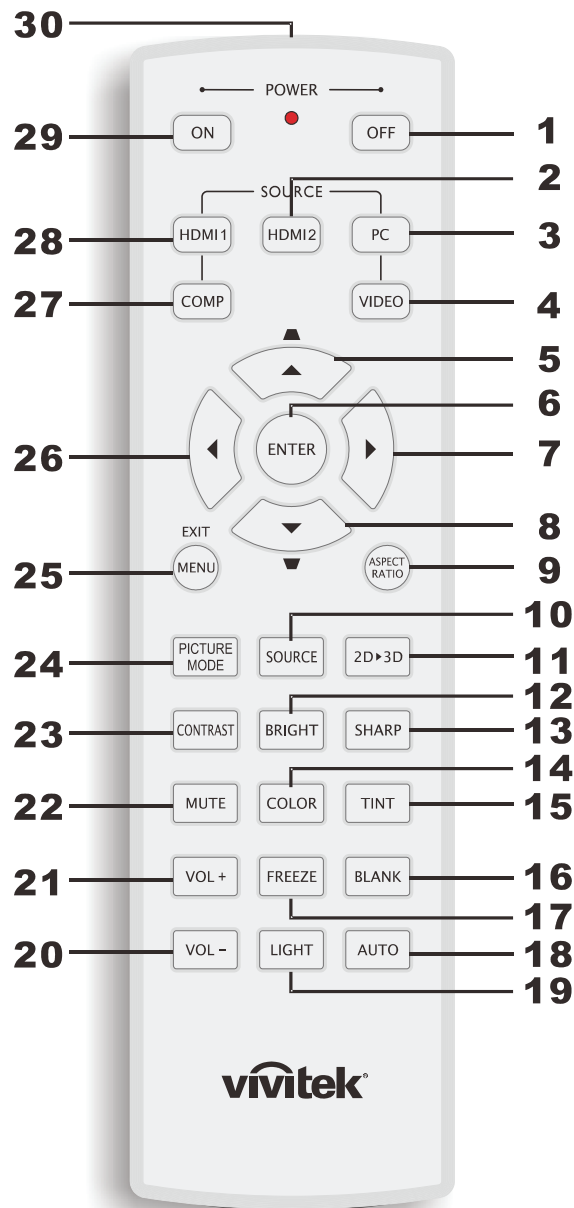
Note:

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	10
2.	HDMI 2	Displays the HDMI 2 source selection	
3.	PC	Displays the PC source selection	
4.	VIDEO	Displays the VIDEO source selection	
5.	Up cursor / Keystone+	Navigates and changes settings in the OSD Quick Menu – For Keystone	15
6.	ENTER		
7.	Right cursor		
8.	Down cursor		
9.	ASPECT RATIO	Displays the ASPECT RATIO selections	
10.	SOURCE	Detects the input device	
11.	2D ► 3D	Toggle 2D to 3D function via HDMI	15
12.	BRIGHT	Displays the brightness setting bar	
13.	SHARP	Displays the sharpness setting bar	
14.	COLOR	Displays the color setting bar	
15.	TINT	Displays the tint setting bar	
16.	BLANK	Makes the screen blank	
17.	FREEZE	Freezes/unfreezes the on-screen picture	
18.	AUTO	Auto adjustment for frequency, phase, and position	
19.	LIGHT	Turns on or off the remote control backlight for about 10 seconds. Pressing any other key while the backlight is on keeps the backlight on for a further 10 seconds.	
20.	VOL -	Adjusts volume	15
21.	VOL +		
22.	MUTE	Mutes the built-in speaker	
23.	CONTRAST	Displays the contrast settings bar	
24.	PICTURE MODE	Changes the Display Mode setting	
25.	MENU/ EXIT	Opens and exits the OSD	15
26.	Left cursor	Navigates and changes settings in the OSD	
27.	COMP	Displays the Component source selection	
28.	HDMI 1	Displays the HDMI 1 source selection	
29.	Power ON	Turns the projector on	10
30.	IR transmitter	Transmits signals to projector	

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.

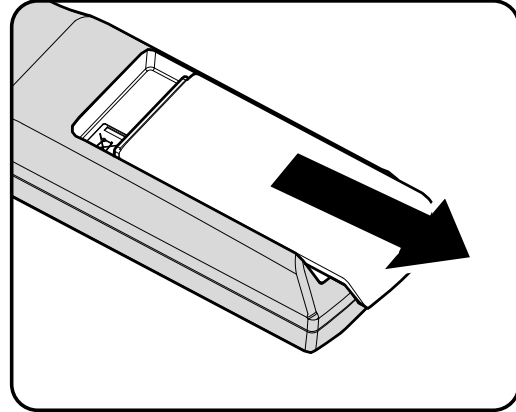
Projector and Remote Control Buttons

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.

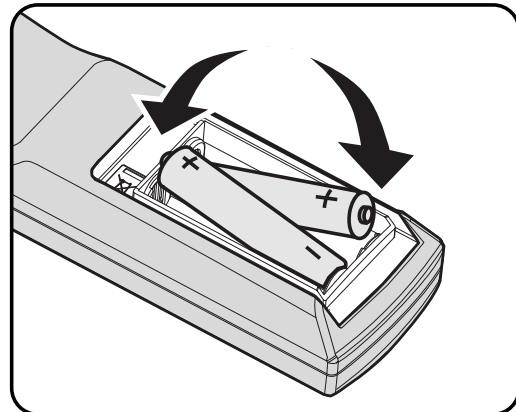
SETUP AND OPERATION

Inserting the Remote Control Batteries

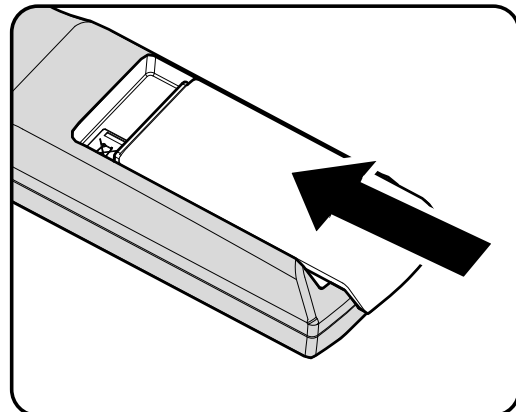
1. Remove the battery compartment cover by sliding the cover in the direction of the arrow.



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



3. Replace the cover.

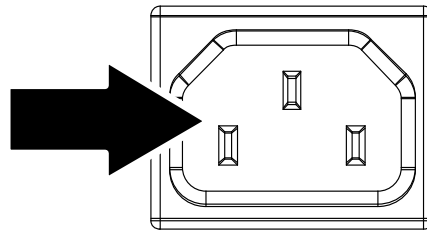


Caution:

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.

Starting and Shutting down the Projector

1. Connect the power cord to the projector. Connect the other end to a wall outlet.
The **POWER** LED will be on.



2. Turn on the connected devices.

3. Ensure the **POWER** LED displays a solid blue and not a flashing blue.
Then press the **POWER** button to turn on the projector.



The projector splash screen displays and connected devices are detected.

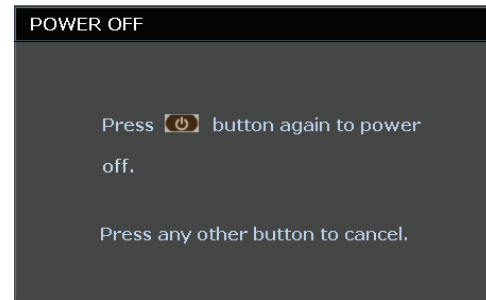


4. If more than one input device is connected, press the **SOURCE** button and use **▲▼** to scroll among devices.



- PC: Analog RGB
- HDMI 1/2: High Definition Multimedia Interface
- Component: DVD input YCbCr / YPbPr.
- Video: Traditional composite video

5. When the POWER OFF window appears, press  on the control panel or  on the remote control. The projector turns off.



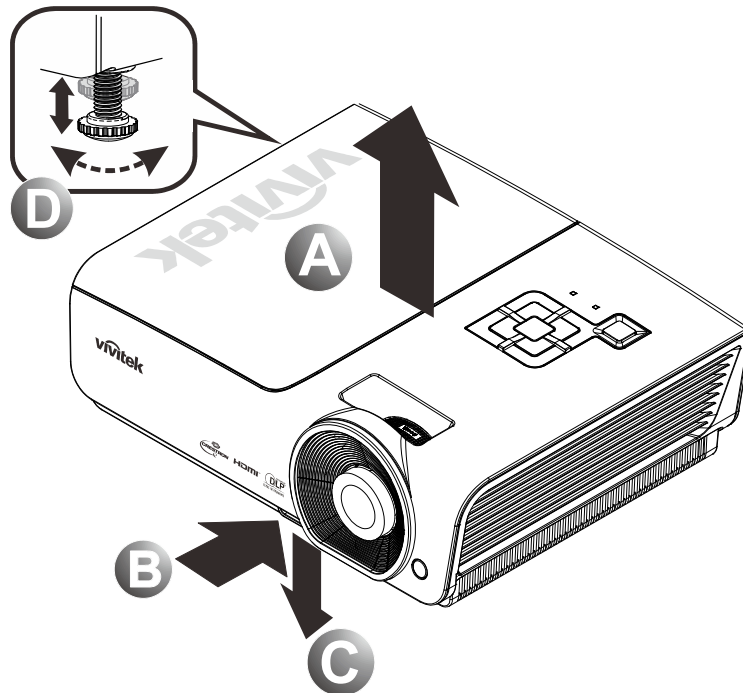
Caution:

Do not unplug the power cord until the READY 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, lift the projector [A] and press the height-adjuster button [B].

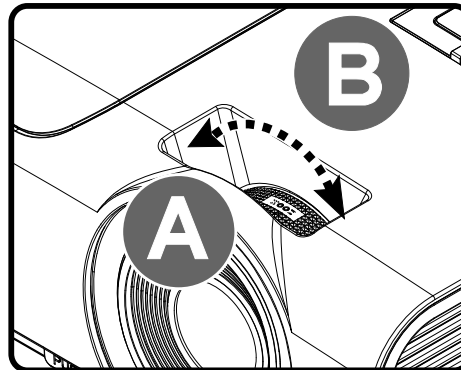
The height adjuster drops down [C].

2. To lower the level of the projector, press the height-adjuster button and push down on the top of the projector.

3. To adjust the angle of the picture, turn the tilt-adjuster [D] right or left until the desired angle has been achieved.

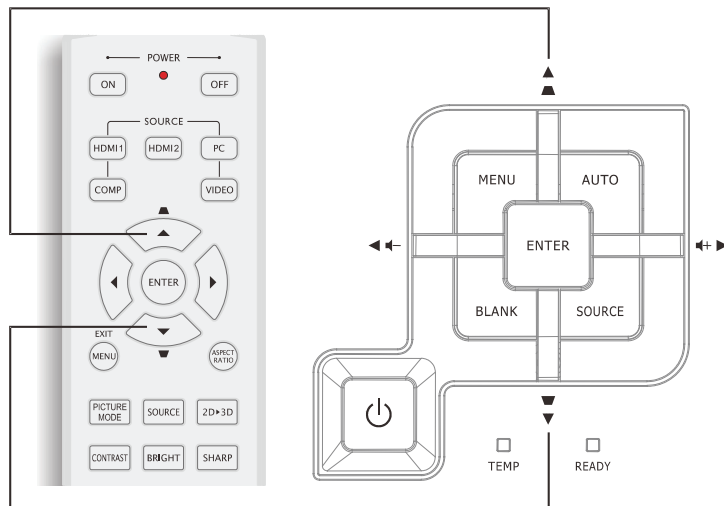
Adjusting the Zoom ring, Focus and Keystone

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



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

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



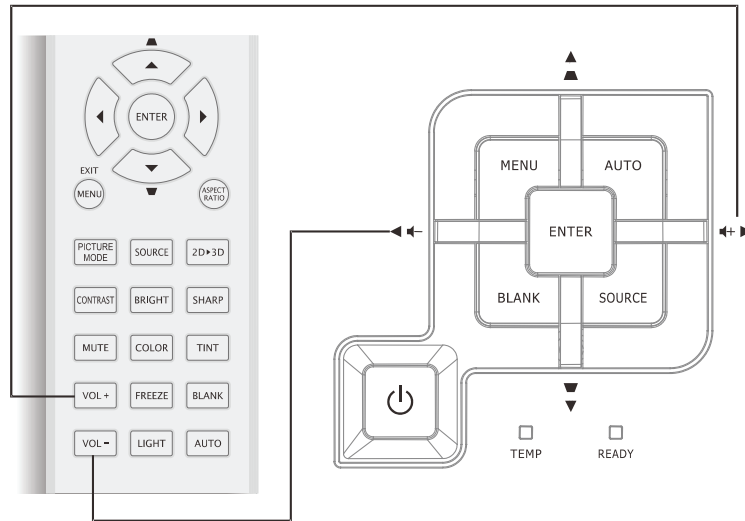
Remote control and OSD panel

4. The keystone control appears on the display.

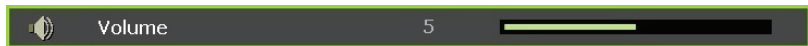


Adjusting the Volume

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



2. Press the **Left or Right Cursor** 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).



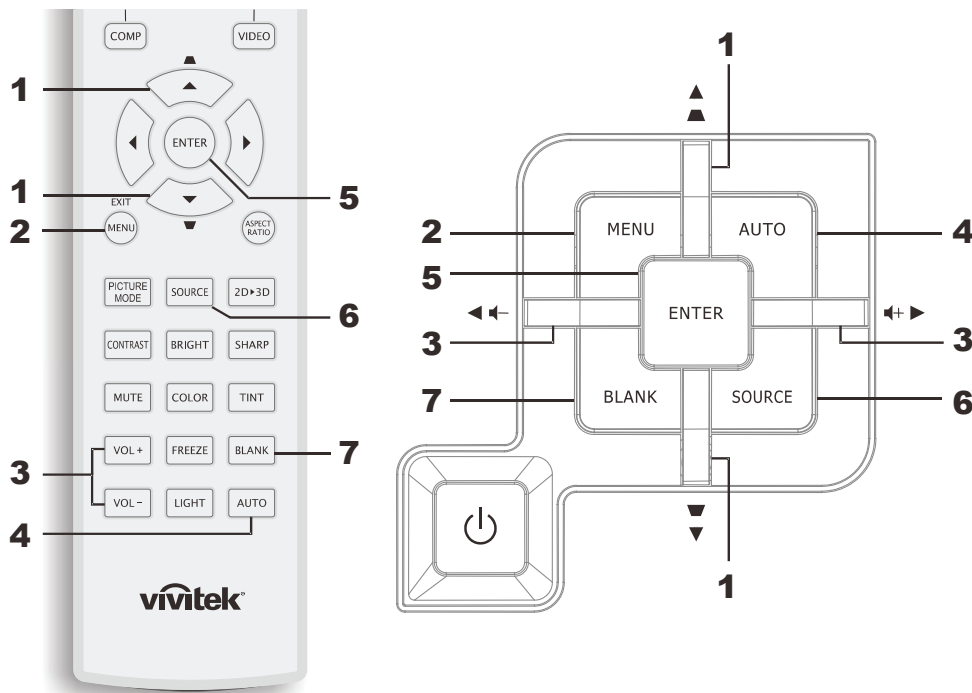
ON-SCREEN DISPLAY (OSD) MENU SETTINGS

OSD Menu Controls

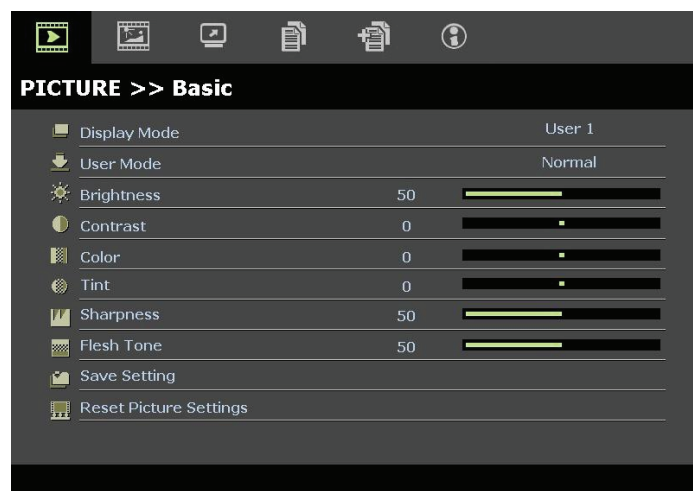
The projector has an OSD that lets you make image adjustments and change various settings.

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 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 sub menu.



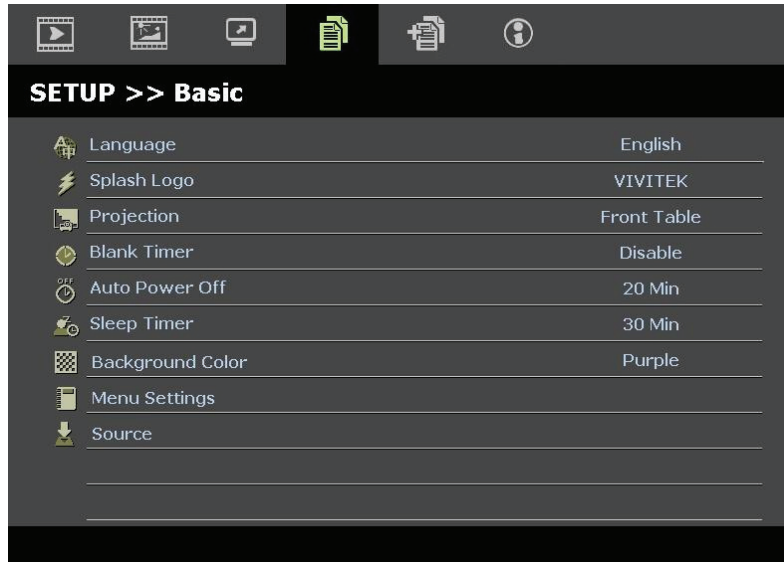
Note:

Depending on the video source, not all items in the OSD are available. For example, the **PC Detail Adjustment** item in the **PICTURE>>Basic** 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.

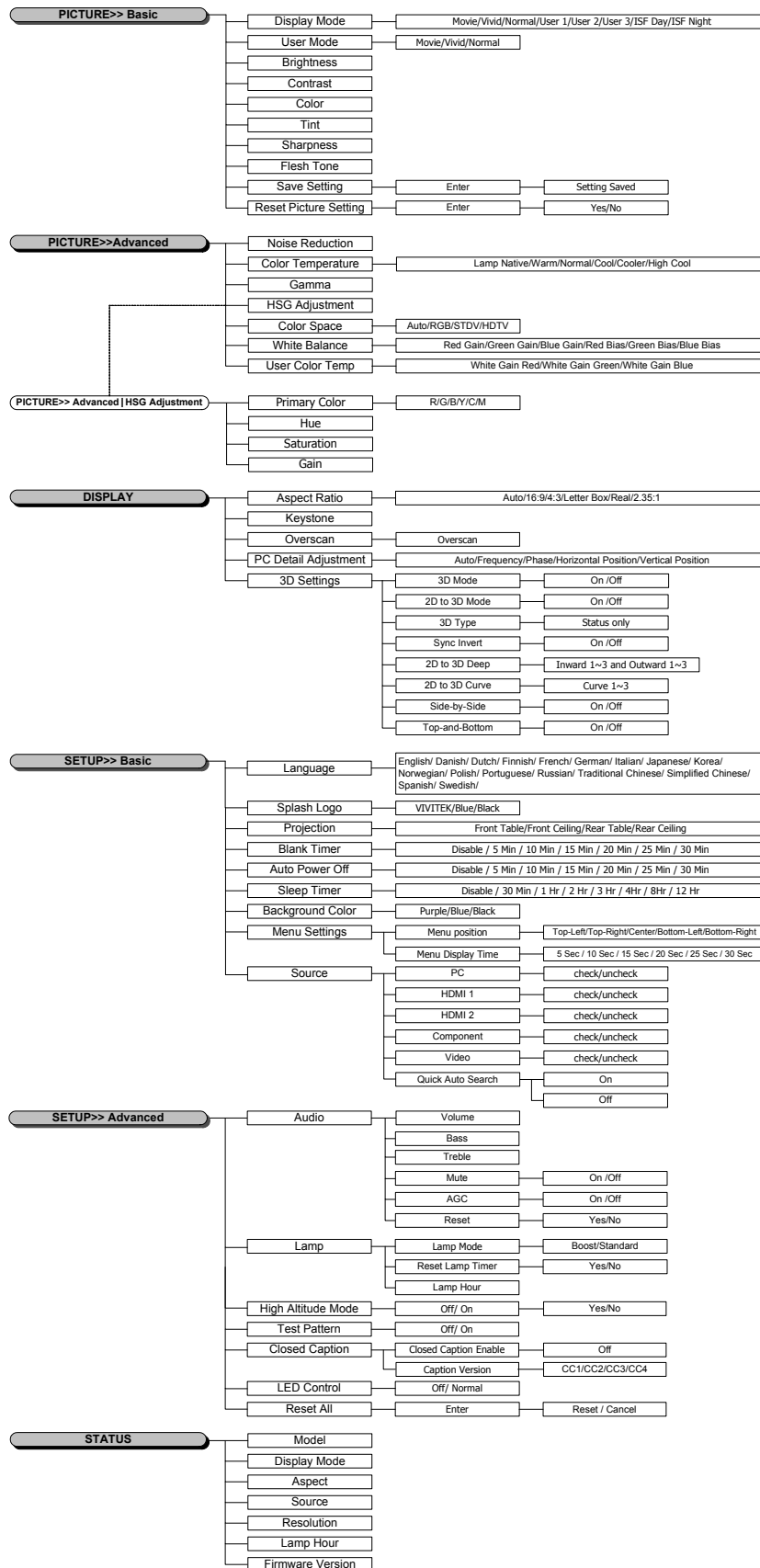
1. Press the **MENU** button. Press the cursor ◀▶ button to navigate to **SETUP>>Basic**.



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.

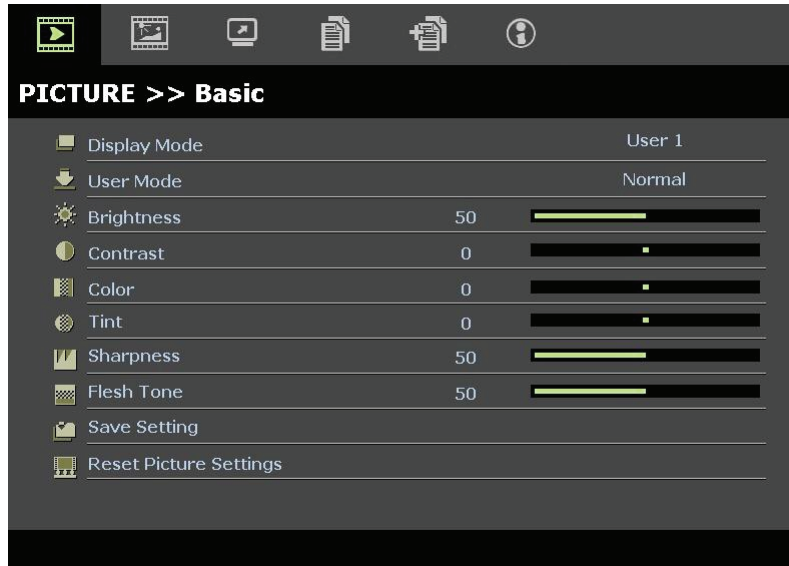


PICTURE>>Basic Menu

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.

Note:

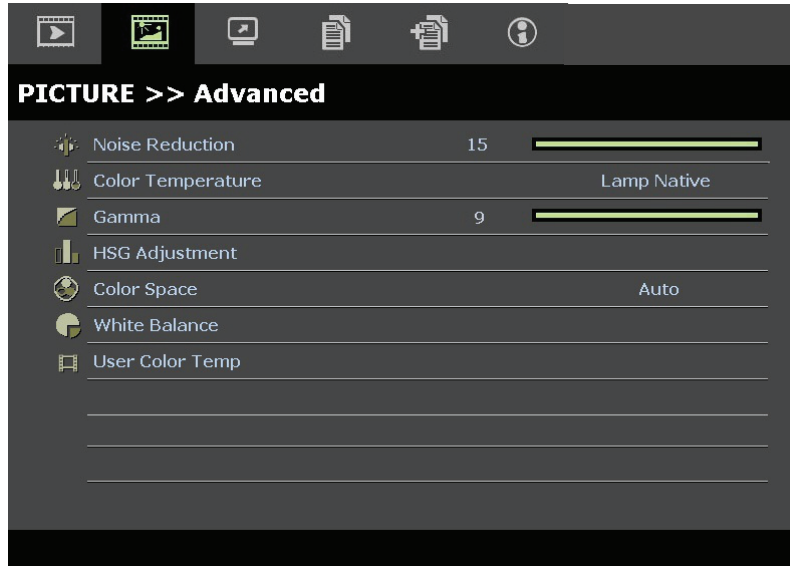
*Customizing the settings in **PICTURE>>Basic** menu is only available in User 1/ 2/ 3 mode.*



ITEM	DESCRIPTION
Display Mode	Press the cursor ◀▶ buttons to set the Display Mode. (Range: Movie/ Vivid/ Normal/ User 1/ User 2/ User 3) Notes: ISF Day/ISF Night is available when ISF Mode is on.
User Mode	Press the cursor ◀▶ buttons to set the User Mode. (Range: Movie/ Vivid / Normal)
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. Notes: This function is only available when Component, Video input source is selected.
Tint	Press the cursor ◀▶ buttons to adjust the video tint/hue. Notes: 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. Notes: This function is only available when Component, Video input source is selected.
Flesh Tone	Press the cursor ◀▶ buttons to adjust the display flesh tone. Notes: This function is only available when Component, Video input source is selected.
Save Setting	Press the ENTER button to save all settings.
Reset Picture Settings	Press the ENTER button to reset all settings to default values.

PICTURE>>Advanced Menu

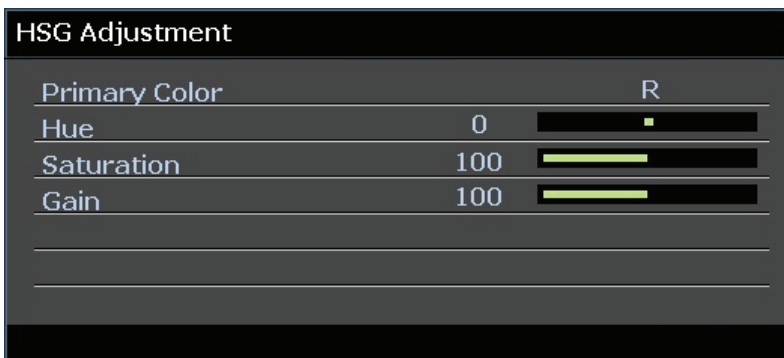
Press the **MENU** button to open the **OSD** menu. Press the cursor **◀▶** button to move to the **PICTURE>>Advanced** menu. Press the cursor **▲▼** button to move up and down in the **PICTURE>>Advanced** menu. Press **◀▶** to change values for settings.



ITEM	DESCRIPTION
Noise Reduction	Press the cursor ◀▶ button to adjust the Noise Reduction.
Color Temperature	Press the cursor ◀▶ button to set the Color Temperature.
Gamma	Press the cursor ◀▶ button to adjust the gamma correction of the display. Notes: This function is only available in User 1/ 2/ 3 mode.
HSG Adjustment	Press the ENTER button to enter the HSG Adjustment sub menu. See <i>HSG Adjustment</i> on page 20.
Color Space	Press the cursor ◀▶ button to set the Color Space. (Range: Auto / RGB/ SDTV/ HDTV) Notes: This function is only available when HDMI input source is selected.
White Balance	Press the ENTER button to enter the White Balance sub menu. See <i>White Balance</i> on page 20.
User Color Temp	Press the ENTER button to enter the User Color Temp sub menu. See <i>User Color Temp</i> on page 21.

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. Notes: 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.

White Balance



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

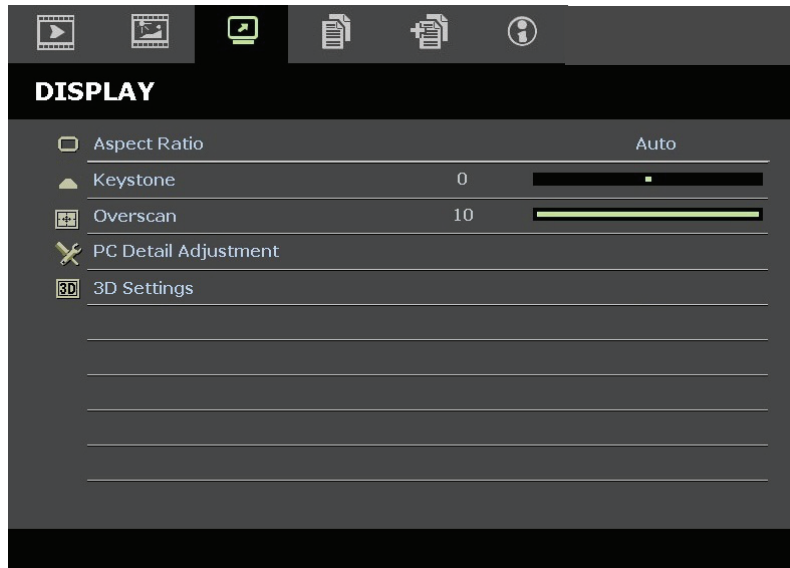
User Color Temp



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

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. (Range: Auto / 16:9/ 4:3/ Letter Box/ Real/2.35:1)
Keystone	Press the cursor ◀▶ button to adjust the Keystone.
Overscan	Press the cursor ◀▶ button to adjust the Overscan.
PC Detail Adjustment	Press the ENTER button to enter the PC Detail Adjustment sub menu. See <i>PC Detail Adjustment</i> on page 23.
3D Settings	Press the cursor ◀▶ button to set 3D menu. See <i>3D Settings</i> on page 24.

PC Detail Adjustment

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

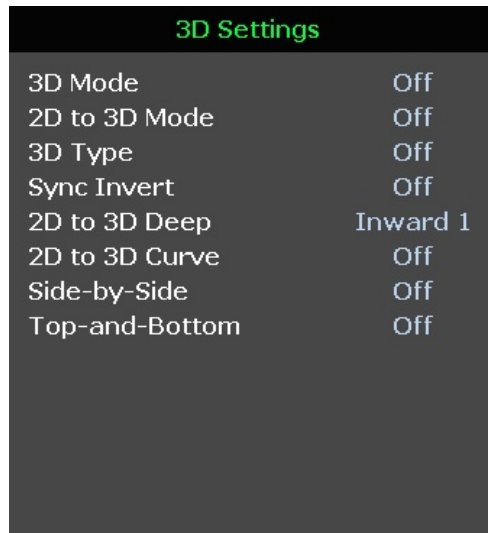
Note:

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



ITEM	DESCRIPTION
Auto	Press the ENTER/AUTO button on the control panel or the ENTER/AUTO 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.

3D Settings



ITEM	DESCRIPTION
3D Mode	Press the ◀▶ button to enable or disable 3D Mode.
2D to 3D Mode	Press the ◀▶ button to enable or disable 2D to 3D Mode.
3D Type	To show the 3D type of current input image..
Sync Invert	Press the ◀▶ button to enable or disable the Sync Invert.
2D to 3D Deep	Press the ◀▶ buttons to adjust the depth of 3D effect.
2D to 3D Curve	Press the ◀▶ buttons to adjust the 3D curve.
Side-by-Side	Press the ◀▶ button to enable or disable the 2D side by side(half) image conversion (Convert 2D image with side by side into pure 3D frame sequence and makes the output image looks as 3D effect..)
Top-and-Bottom	Press the ◀▶ button to enable or disable the 2D top-and-bottom(half) image conversion (Convert 2D image with top-and-bottom into pure 3D frame sequence and makes the output image looks as 3D effect..)

Note: (2D to 3D content)

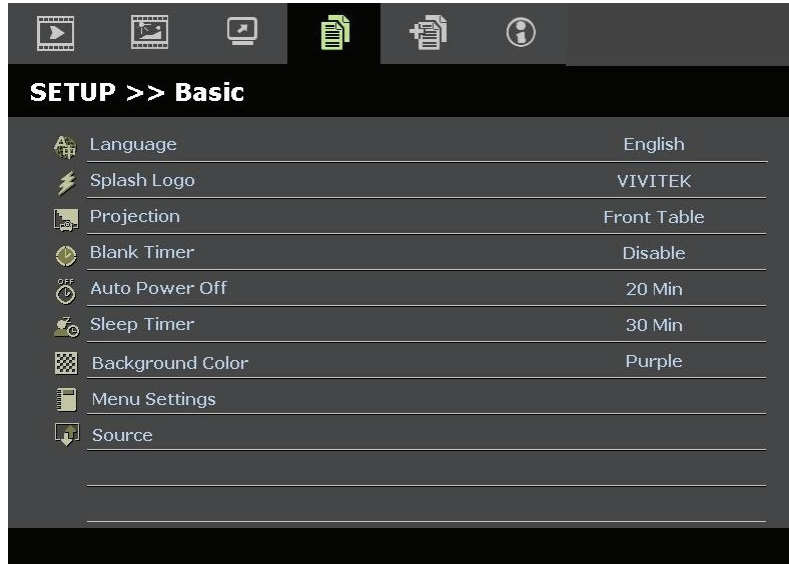
. Available only for HDMI source with 2D to 3D content (signals)

*. For use with **DLP 3D glasses**.*

. 2D to 3D display resolution is 720P

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. (Range: English/ Danish/ Dutch/ Finnish/ French/ German/ Italian/ Japanese/ Korea/Norwegian/ Polish/ Portuguese/ Russian/ Traditional Chinese/ Simplified Chinese/ Spanish/ Swedish)
Splash Logo	Press the cursor ◀▶ buttons to select a different startup screen. (Range: Vivitek / Blue/ Black)
Projection	Press the cursor ◀▶ buttons to choose from four projection methods: Front Table / Front Ceiling/ Rear Table/ Rear Ceiling.
Blank Timer	Press the cursor ◀▶ buttons to set the Blank Screen timer. The projected image is automatically restored after the set time. (Range: Disable / 5 min/ 10 min/ 15 min/ 20 min/ 25 min/ 30 min)
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: Disable / 5 min/ 10 min/ 15 min/ 20 min/ 25 min/ 30 min)
Sleep Timer	Press the cursor ◀▶ buttons to set Sleep timer. The projector automatically turns off after the preset period of time. (Range: Disable / 30 min/ 1hr/ 2hr/ 3hr/ 4hr/ 8hr/ 12hr)
Background Color	Press the cursor ◀▶ buttons to select the background color when no input source is detected. (Range: Purple/ Black/ Blue)
Menu Settings	Press the ENTER button to enter the Menu Settings sub menu. See <i>Menu Settings</i> on page 26.
Source	Press the ENTER button to enter the Source sub menu. See <i>Source</i> on page 26.

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: Top-Left/ Top-Right/ Center / Bottom-Left/ Bottom-Right.
Menu Display Time	Press the ◀▶ buttons to set the Menu Display timer before the OSD times out. (Range: 5sec/ 10sec/ 15sec / 20sec/ 25sec/ 30sec)

Source

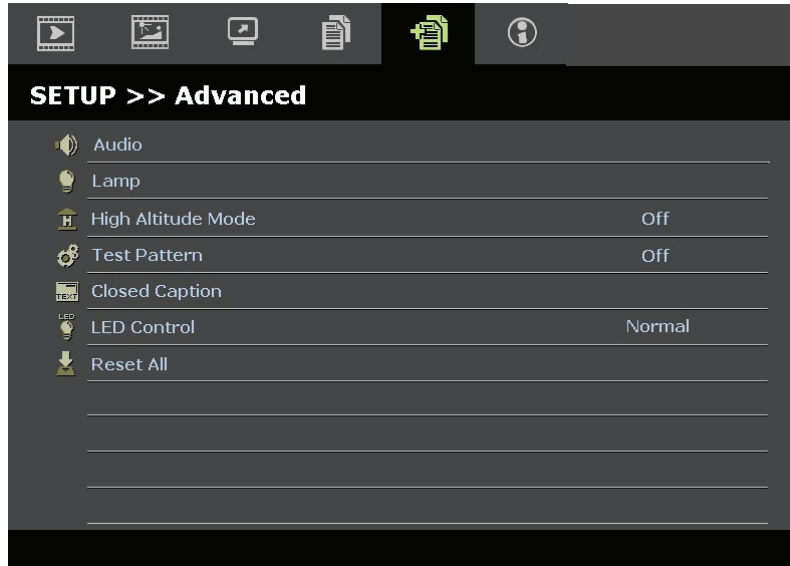
Press the **ENTER** button to enter the **Source** sub menu.



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	
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. Notes: When the desired source is selected, the Quick Auto Search function will be turn off.

SETUP>>Advanced Menu

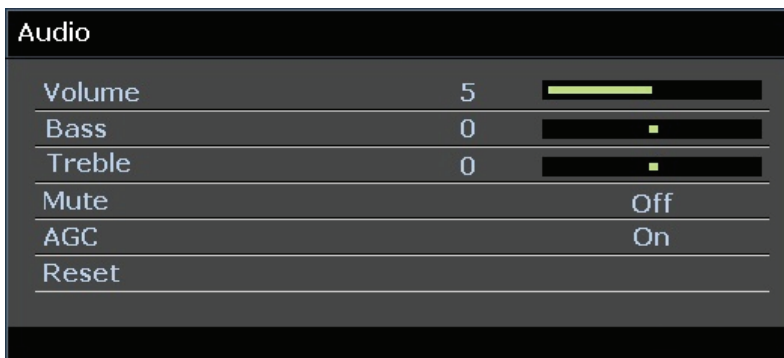
Press the **MENU** button to open the **OSD** menu. Press the cursor ◀▶ button to move to the **SETUP>>Advanced** menu. Press the cursor ▲▼ button to move up and down in the **SETUP>>Advanced** menu.



ITEM	DESCRIPTION
Audio	Press the ENTER button to enter the Audio sub menu. See <i>Audio</i> on page 28.
Lamp	Press the ENTER button to enter the Lamp sub menu. See <i>Lamp</i> on page 28.
High Altitude Mode	Press the cursor ◀▶ buttons to turn on or off High Altitude Mode when the altitude of the environment is higher than 1500m, or the temperature is over 40°C.
Test Pattern	Press the cursor ◀▶ buttons to turn on or off the grid test pattern.
Closed Caption	Press the ENTER button to enter the Closed Caption sub menu. See <i>Closed Caption</i> on page 29.
LED Control	Press the cursor ◀▶ buttons to select the LED control. Select Normal for normal LED display and Off to disable LED display.
Reset All	Press the ENTER button to enter reset all settings to default values.

Audio

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



ITEM	DESCRIPTION
Volume	Press the ◀▶ buttons to adjust the audio Volume.
Bass	Press the ◀▶ buttons to adjust the audio Bass.
Treble	Press the ◀▶ buttons to adjust the audio Treble.
Mute	Press the ◀▶ buttons to turn on or off the speaker.
AGC	Press the ◀▶ buttons to turn on or off the AGC setting.
Reset	Press the ENTER button to reset all settings to default values.

Lamp

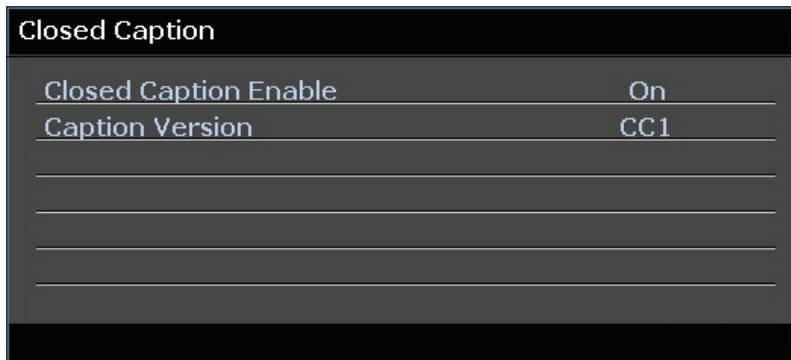
Press the **ENTER** button to enter the **Lamp** sub menu.



ITEM	DESCRIPTION
Lamp Mode	Press the ◀▶ buttons to adjust lamp brightness.
Reset Lamp Timer	Press the ENTER 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

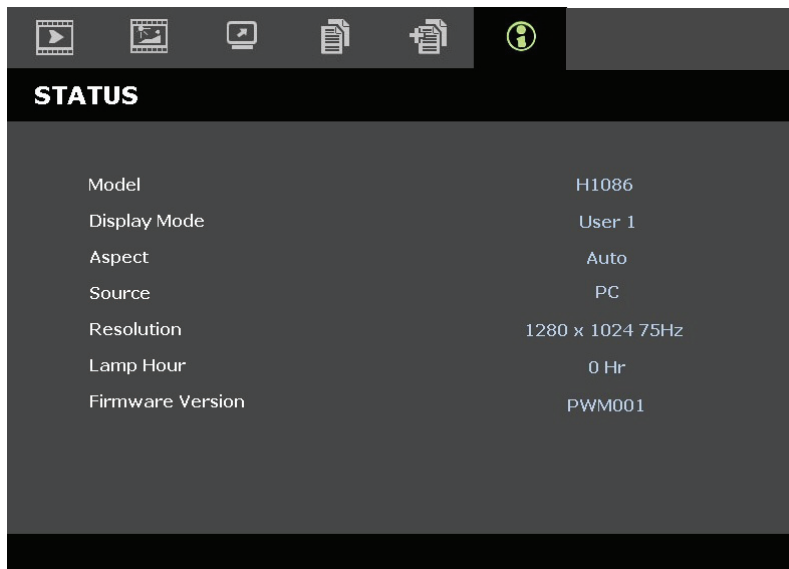
Press the **ENTER** button to enter the **Closed Caption** sub menu.



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
Model	Displays the Model Name or Model ID.
Display Mode	Displays the current display mode.
Aspect	Displays the current aspect ratio setting.
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.

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.

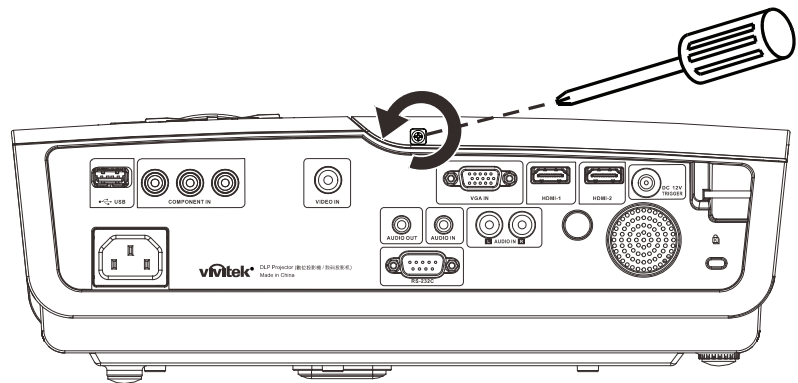
Important:

- 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.

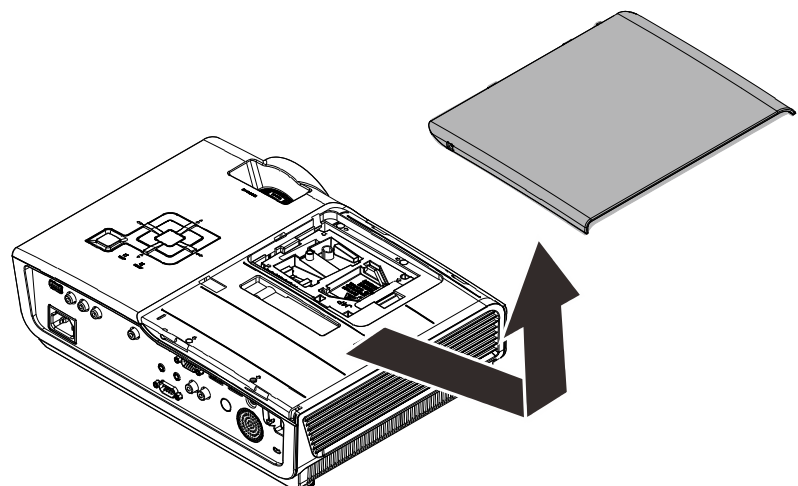
Warning:

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.

1. Remove the single screw on the lamp compartment cover.

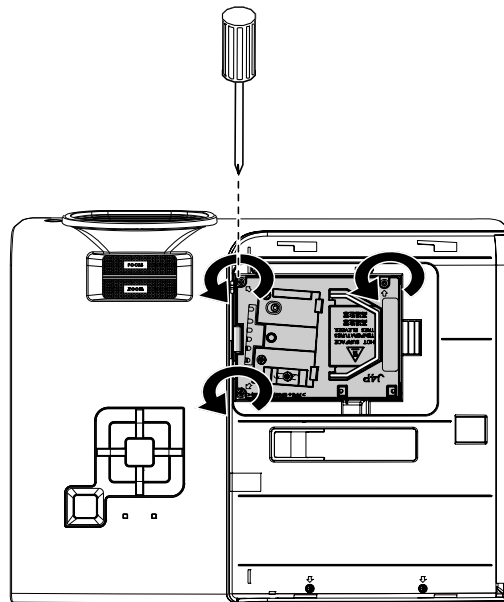


2. Remove the lamp compartment cover.

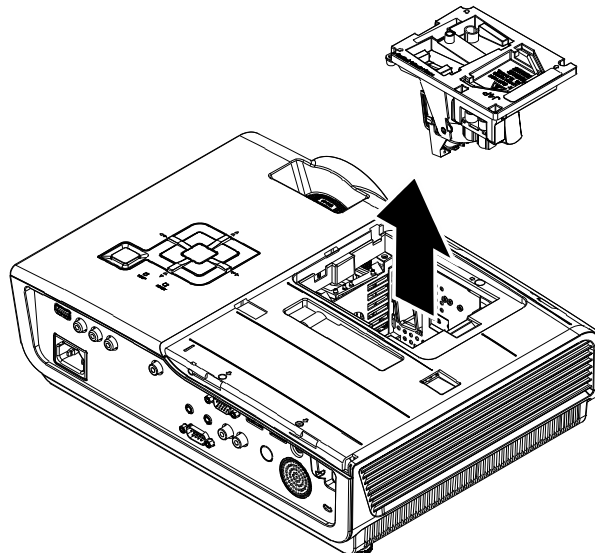


3. Remove the three screws from the lamp module.

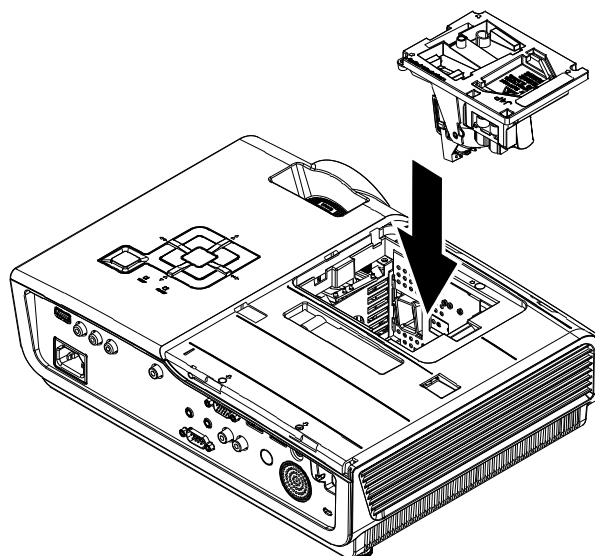
4. Lift the module handle up.



5. Pull firmly on the module handle to remove the lamp module.



6. Reverse steps 1 to 5 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.

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.

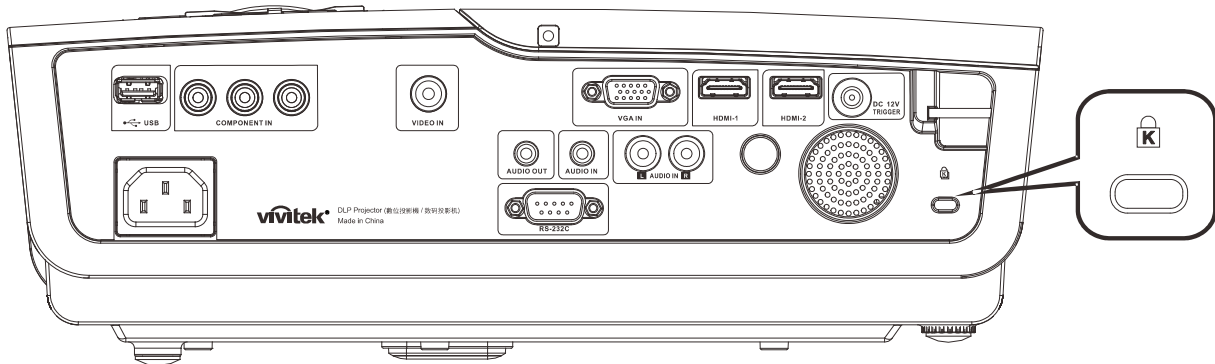
1. Wipe off dust with a clean dampened cloth.
2. Moisten the cloth with warm water and mild detergent (such as used to wash dishes), and then wipe the case.
3. Rinse all detergent from the cloth and wipe the projector again.

Caution:

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

Using the 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>.

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 a 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	READY LED	TEMP LED
Lamp Ready	ON	ON	OFF
Start(AC Power standby)	ON	OFF	OFF
Cooling	ON	flashing	OFF
Over Temperature	OFF	OFF	ON
Thermal Break Sensor error	4 blinks	4 blinks	OFF
Lamp error	5 blinks	OFF	OFF
Burner Fan error	6 blinks	1 blinks	OFF
Lamp Fan error	6 blinks	2 blinks	OFF
Power Fan error	6 blinks	3 blinks	OFF
DMD Fan error	6 blinks	4 blinks	OFF
Case Open	7 blinks	OFF	OFF
DMD error/Ignition failed	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 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 **Installation I** menu of the OSD.

Problem: The image is streaked

1. Set the **Frequency** and **Tracking** settings on the **Computer** 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 **Image** 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 READY 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.

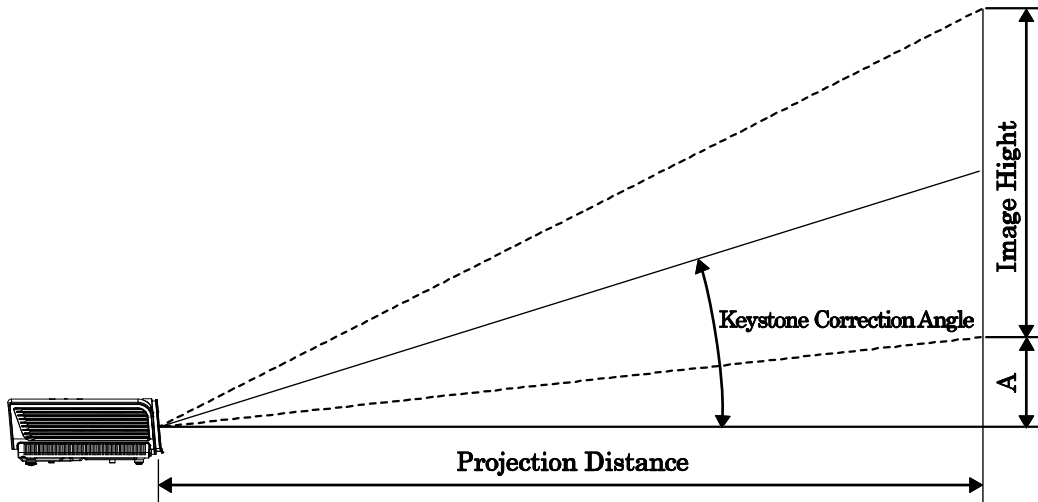
For more detail information check <http://www.hdmi.org/learningcenter/faq.aspx#49>

SPECIFICATIONS

Specifications

Model	H1086-3D
Display type	TI DLP DMD 0.65"
Native Resolution	1920 x 1080
Weight	3.5 kg (7.8 lbs)
Projection distance	1 meters ~ 10 meters
Projection screen size	25" ~ 300"
Projection lens	Manual Focus/Manual Zoom
Zoom ratio	1.2
Vertical keystone correction	+/- 30 steps
Projection methods	Front, Rear, Desktop/Ceiling (Rear, Front)
Data compatibility	VGA, SVGA, XGA, SXGA, UXGA, Mac
SDTV/ EDTV/ HDTV	480i, 480p, 576i, 576p, 720p, 1080i, 1080p
Video compatibility	NTSC 4.43, PAL (M/N/60), SECAM
H-Sync	15.6 – 91.1 kHz
V-Sync	50 – 85 Hz
Safety certification	FCC-B, UL, cUL, CB, CE, CCC, KC, PCT, NOM and C-tick
Operation temperature	5° ~ 35°C
Dimensions (W x H x D)	332.8 mm x 113 mm x 254.6 mm (13.1" x 4.45" x 10.0")
AC Input	AC Universal 100 ~ 240, Typical @ 110VAC (100~240)/± 10%
Power consumption	Standard mode: 250W (Typical)/ 270W (Maximum) Boost mode: 290W (Typical)/ 310W (Maximum)
Stand By	< 0.5 watt
Lamp	230W
Audio speaker	AMP 5W speaker
Input Terminals	Digital: HDMI x 2
	Analog: RGB HD-15 x 1
	Component: RCA x 3
Output Terminals	Audio in: ϕ 3.5 mm stereo mini jack x 1; RCA x 2 R/L
	Mini-jack stereo x 1 DC_out (screen trigger): DC Jack x 1 (DC12V 200mA output function)
Control Terminals	RS-232: DSUB-9 x 1
	Keyboard Emulation Control: USB connector type A
Security	Kensington lock

Projection Distance vs. Projection Size



Projection Distance and Size Table

16:9 SCREEN				PROJECTION DISTANCE			VERTICAL OFFSET IN MM
DIAGONAL		WIDTH	HEIGHT	MIN LENGTH (WITH MAX ZOOM)	AVERAGE	MAX LENGTH (WITH MIN ZOOM)	
INCH	MM	MM	MM				
30	76	664	374	1056	1162	1267	56
40	1016	886	498	1408	1549	1690	75
50	1270	1107	623	1760	1936	2112	93
60	1524	1328	747	2112	2323	2534	112
80	2032	1771	996	2816	3098	3379	149
100	2540	2214	1245	3520	3872	4224	187
120	3048	2657	1494	4224	4646	5069	224
150	3810	3321	1868	5280	5808	6336	280
200	5080	4428	2491	7040	7744	8448	374
220	5588	4870	2740	7744	8518	9293	411
250	6350	5535	3113	8800	9680	10560	467
300	7620	6641	3736	10560			560

Timing Mode Table

The projector can display several resolutions. The following table outlines the resolutions that can be displayed by the projector.

SIGNAL	RESOLUTION	H-SYNC (KHz)	V-SYNC (Hz)	COMPOSITE	COMPONENT	RGB (ANALOG)	HDMI (DIGITAL)
NTSC	—	15.734	60.0	O	—	—	—
PAL/SECAM	—	15.625	50.0	O	—	—	—
VESA	720 x 400	37.9	85.0	—	—	O	O
	640 x 480	31.5	60.0	—	—	O	O
	640 x 480	37.9	72.8	—	—	O	O
	640 x 480	37.5	75.0	—	—	O	O
	640 x 480	43.3	85.0	—	—	O	O
	800 x 600	35.2	56.3	—	—	O	O
	800 x 600	37.9	60.3	—	—	O	O
	800 x 600	46.9	75.0	—	—	O	O
	800 x 600	48.1	72.2	—	—	O	O
	800 x 600	53.7	85.1	—	—	O	O
	1024 x 768	48.4	60.0	—	—	O	O
	1024 x 768	56.5	70.1	—	—	O	O
	1024 x 768	60.0	75.0	—	—	O	O
	1024 x 768	68.7	85.0	—	—	O	O
	1280 x 800	49.7	59.8	—	—	O	O
	1280 x 800	62.8	74.9	—	—	O	O
	1280 x 800	71.6	84.8	—	—	O	O
	1280 x 1024	64.0	60.0	—	—	O	O
	1280 x 1024	80.0	75.0	—	—	O	O
	1280 x 1024	91.1	85.0	—	—	O	O
	1400 x 1050	65.3	60.0	—	—	O	O
1440 x 900	55.9	60.0	—	—	O	O	
1600 x 1200	75.0	60	—	—	O	O	
1920 x 1080	67.2	60	—	—	O	O	
Apple Macintosh	640 x 480	35.0	66.7	—	—	O	O
	832 x 624	49.7	74.5	—	—	O	O
	1024 x 768	60.2	74.9	—	—	O	O
	1152 x 870	68.7	75.1	—	—	O	O
SDTV	480i	15.734	60.0	—	O	—	O
	576i	15.625	50.0	—	O	—	O
EDTV	576p	31.3	50.0	—	O	—	O
	480p	31.5	60.0	—	O	—	O

SIGNAL	RESOLUTION	H-SYNC (KHz)	V-SYNC (Hz)	COMPOSITE	COMPONENT	RGB (ANALOG)	HDMI (DIGITAL)
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

O: Frequency supported

—: Frequency not supported

The native resolution of the panel for the H1080 series is 1920 x 1080.

Resolution other than native resolution may display with uneven size of text or lines.

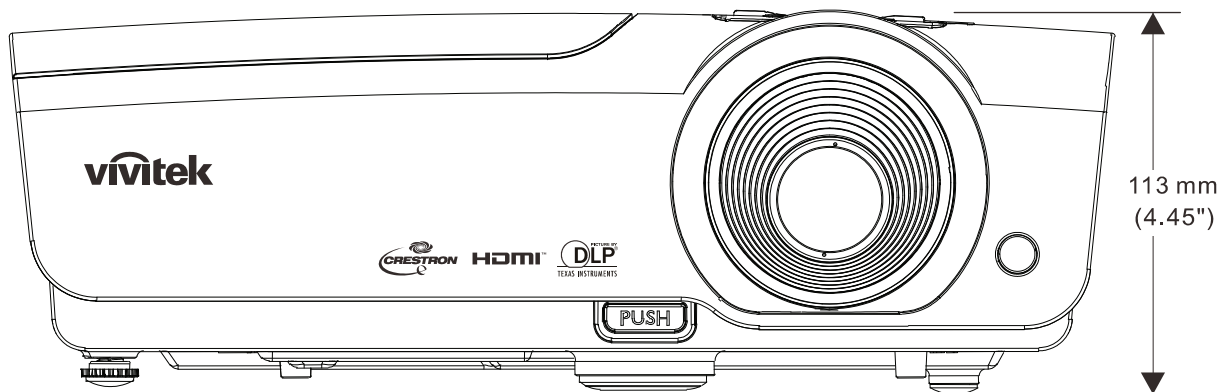
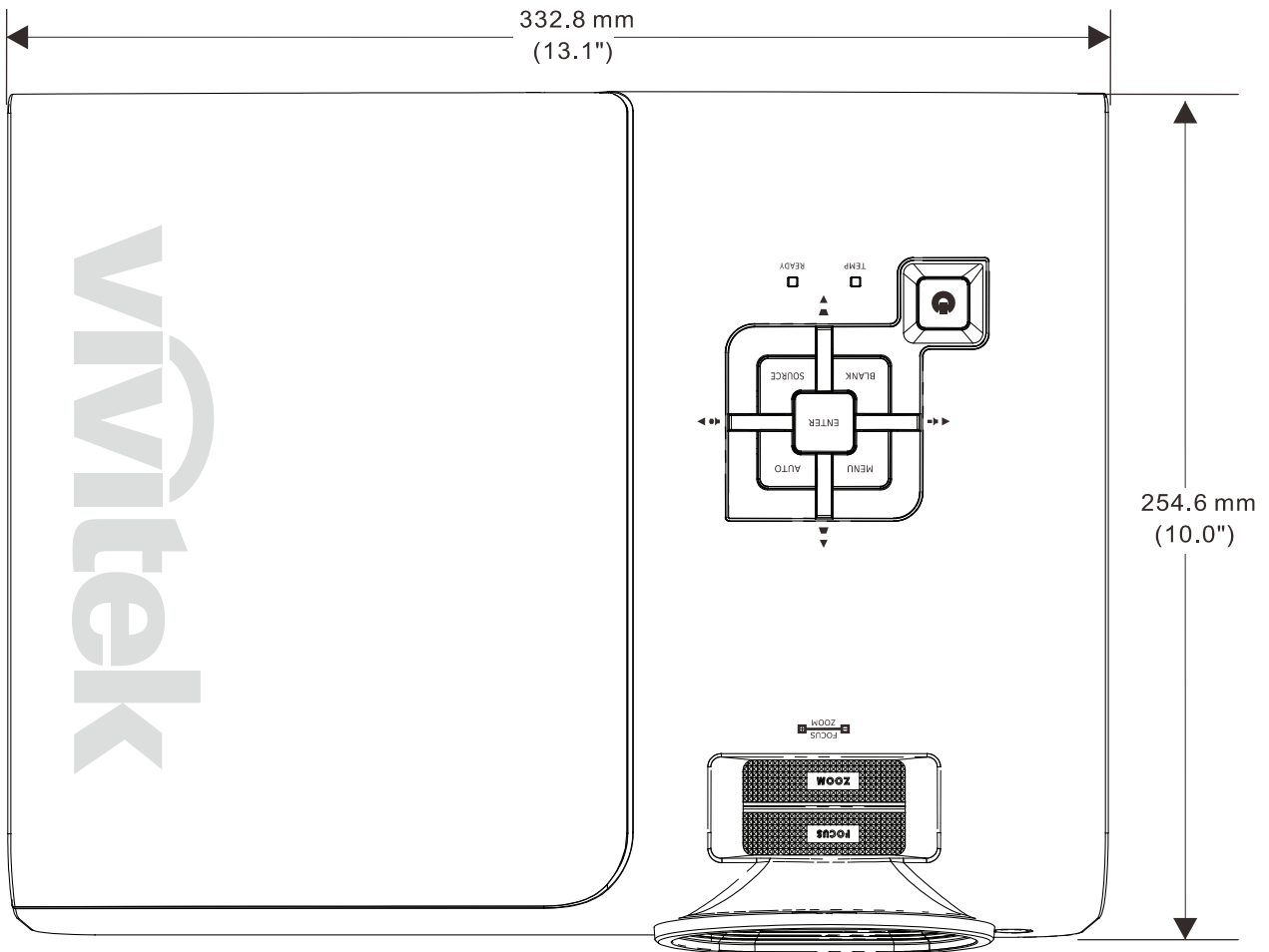
2D to 3D support timings

RESOLUTION	V-SYNC (Hz)	COMPOSITE	COMPONENT	RGB (ANALOG)	HDMI (DIGITAL)
800x600	60Hz	—	—	—	O
1024x768	60Hz	—	—	—	O
1280x720	60Hz	—	—	—	O
1280x768	60Hz	—	—	—	O
1280x800	60Hz	—	—	—	O
1440x900	60Hz	—	—	—	O
1280x1024	60Hz	—	—	—	O
1400x1050	60Hz	—	—	—	O
480i	60Hz	—	—	—	O
480p	60Hz	—	—	—	O
576i	50Hz	—	—	—	O
576p	50Hz	—	—	—	O
720p	50Hz	—	—	—	O
720p	60Hz	—	—	—	O
1080i	50Hz	—	—	—	O
1080i	60Hz	—	—	—	O
1080p	50Hz	—	—	—	O
1080p	60Hz	—	—	—	O

3D support timings

Frame sequential					
RESOLUTION	V-SYNC (Hz)	COMPOSITE	COMPONENT	RGB (ANALOG)	HDMI (DIGITAL)
720p	100Hz	—	—	—	0
720p	120Hz	—	—	—	0
Frame packing					
RESOLUTION	V-SYNC (Hz)	COMPOSITE	COMPONENT	RGB (ANALOG)	HDMI (DIGITAL)
720p	50Hz	—	—	—	0
720p	60Hz	—	—	—	0
1080p	24Hz	—	—	—	0
Side-By-Side Half					
RESOLUTION	V-SYNC (Hz)	COMPOSITE	COMPONENT	RGB (ANALOG)	HDMI (DIGITAL)
720p	50Hz	—	—	—	0
720p	60Hz	—	—	—	0
1080i	50Hz	—	—	—	0
1080i	60Hz	—	—	—	0
1080p	50Hz	—	—	—	0
1080p	60Hz	—	—	—	0
Top-and-Bottom					
RESOLUTION	V-SYNC (Hz)	COMPOSITE	COMPONENT	RGB (ANALOG)	HDMI (DIGITAL)
720p	50Hz	—	—	—	0
720p	60Hz	—	—	—	0

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, cUL, CB, CE, CCC, KC, PCT, and C-tick

RS-232C Protocol

Note: Not all functions are available for all models due to different series.

RS232 Setting

Baud rate:	9600
Parity check:	None
Data bit:	8
Stop bit:	1
Flow Control	None

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

Control Command Structure

The command is structured by the Header code, command code, data code and end code. Most of the commands are structured except some for the compatibility issue with other projectors.

	Header code	Command code	Data code	End code
HEX	7Eh	Command	Data	0Dh
ASCII	'~'	Command	Data	CR

Control Sequence

The projector may send a return code after it received a command. If the command isn't received correctly, the projector will not send the return code

Operation Command

The operation commands execute the basic operation setting of this projector.

Operation	ASCII	HEX
Power On ※	~ P N CR ※	7Eh 50h 4Eh 0Dh
Power Off	~ P F CR	7Eh 50h 46h 0Dh
Auto Image	~ A I CR	7Eh 41h 49h 0Dh
Input Select PC	~ S R CR	7Eh 53h 52h 0Dh
Input Select HDMI1	~ S D CR	7Eh 53h 44h 0Dh
Input Select HDMI2	~ S H CR	7Eh 53h 48h 0Dh
Input Select Video	~ S V CR	7Eh 53h 56h 0Dh
Input Select Component	~ S Y CR	7Eh 53h 59h 0Dh

※ Power On command will not work for 1 minute after the power off command triggered.

※ **CR** : Carriage Return.

Remote Command

The remote commands simulate the code send from IR remote handset.

Button's name	ASCII	HEX
UP arrow	~ r U CR	7Eh 72h 55h 0Dh
DOWN arrow	~ r D CR	7Eh 72h 44h 0Dh
LEFT arrow	~ r L CR	7Eh 72h 4Ch 0Dh
RIGHT arrow	~ r R CR	7Eh 72h 52h 0Dh
POWER	~ r P CR	7Eh 72h 50h 0Dh
EXIT	~ r E CR	7Eh 72h 45h 0Dh
INPUT	~ r I CR	7Eh 72h 49h 0Dh
AUTO	~ r A CR	7Eh 72h 41h 0Dh
KEYSTONE+	~ r K CR	7Eh 72h 4Bh 0Dh
KEYSTONE-	~ r J CR	7Eh 72h 4Ah 0Dh
MENU	~ r M CR	7Eh 72h 4Dh 0Dh
STATUS	~ r S CR	7Eh 72h 53h 0Dh
MUTE	~ r T CR	7Eh 72h 54h 0Dh
BLANK	~ r B CR	7Eh 72h 42h 0Dh
FREEZE	~ r F CR	7Eh 72h 46h 0Dh
VOLUME+	~ r V CR	7Eh 72h 56h 0Dh
VOLUME-	~ r W CR	7Eh 72h 57h 0Dh
Enter	~ r N CR	7Eh 72h 4Eh 0Dh

Set Value Command

ITEM	ASCII	HEX
Brightness	~ s B ? CR ※	7Eh 73h 42h ?h 0Dh
Contrast	~ s C ? CR	7Eh 73h 43h ?h 0Dh
Color	~ s R ? CR	7Eh 73h 52h ?h 0Dh
Tint	~ s N ? CR	7Eh 73h 4Eh ?h 0Dh
Scaling	~ s A ? CR	7Eh 73h 41h ?h 0Dh
Color Temperature	~ s T ? CR	7Eh 73h 54h ?h 0Dh
Projection Mode	~ s J ? CR	7Eh 73h 4Ah ?h 0Dh

※ ? : ASCII Data

Data Range

ITEM	Set Data Range	Source
Brightness(User1~User3 only)	0 ~ 100	ALL
Contrast(User1~User3 only)	-50 ~ 50	ALL
Color(User1~User3 only)	-50 ~ 50	Video/S-Video/ Component
Tint(User1~User3 only)	-50 ~ 50	Video/S-Video/ Component
Scaling	0: AUTO 1: 16:9 2: 4:3 3: LETTER BOX 4: REAL 5: 2.35:1	ALL
Color Temperature	0: Lamp Native 1: Warm 2: Normal 3: Cool 4: Cooler 5: High Cool	ALL
Projection Mode	0: Front Table 1: Front Ceiling 2: Rear Table 3: Rear Ceiling	ALL

Attention: 1.Data range may be different for different models
2.Brightness/Contrast/Color/Tint adjustment is only available in User1~User3 picture mode.

Example 1. Adjust Brightness value to 100
Send Command : ~sB100CR

Example 2. Adjust Color Temperature to Warm
Send Command : ~sT2CR

Query Command

ITEM	ASCII	HEX
Software Version	~qVCR	7Eh 71h 56h 0Dh
Power State	~qPCR	7Eh 71h 50h 0Dh
Input Select	~qSCR	7Eh 71h 53h 0Dh
Lamp Hours	~qLCR	7Eh 71h 4Ch 0Dh
Brightness	~qBCR	7Eh 71h 42h 0Dh
Contrast	~qCCR	7Eh 71h 43h 0Dh
Color	~qRCR	7Eh 71h 52h 0Dh
Tint	~qNCR	7Eh 71h 4Eh 0Dh
Scaling	~qACR	7Eh 71h 41h 0Dh
Color Temperature	~qTCR	7Eh 71h 54h 0Dh
Projection Mode	~qJCR	7Eh 71h 4Ah 0Dh

Response message

ITEM	Response Message examples
Software Version
Power State	On Off
Input Select	PC HDMI1 HDMI2 Video Component
Lamp Hours	2000
Brightness	100
Contrast	50
Color (Video)	50
Tint (Video)	50
Scaling	AUTO 16:9 4:3 LETTER BOX REAL 2.35:1
Color Temperature	Lamp Native Warm Normal Cool Cooler High Cool
Projection Mode	Front Table Front Ceiling Rear Table Rear Ceiling

- Example 1. Get Brightness value
 Send Command : ~qBCR
 Response : 100
- Example 2. Get Color Temperature
 Send Command : ~qTCR
 Response : Warm

