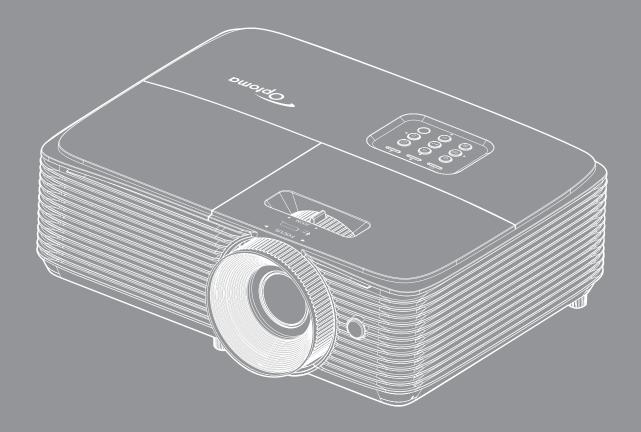


# DLP® Projector









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## **SAFETY**



The lightning flash with arrow head within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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

### **Important Safety Instruction**



- Do not stare into the beam, RG2.
   As with any bright source, do not stare into the direct beam, RG2 IEC 62471-5:2015.
- Do not block any ventilation openings. To ensure reliable operation of the projector and to protect from over heating, it is recommended to install the projector in a location that does not block ventilation. As an example, do not place the projector on a crowded coffee table, sofa, bed, etc. Do not put the projector in an enclosure such as a book case or a cabinet that restricts air flow.
- To reduce the risk of fire and/or electric shock, do not expose the projector to rain or moisture. Do not install near heat sources such as radiators, heaters, stoves or any other apparatus such as amplifiers that emits heat.
- Do not let objects or liquids enter the projector. They may touch dangerous voltage points and short out parts that could result in fire or electric shock.
- Do not use under the following conditions:
  - In extremely hot, cold or humid environments.
    - (i) Ensure that the ambient room temperature is within  $5^{\circ}$ C ~  $40^{\circ}$ C
    - (ii) Relative humidity is 10% ~ 85%
  - In areas susceptible to excessive dust and dirt.
  - Near any appliance generating a strong magnetic field.
  - In direct sunlight.
- Do not use the projector in places where flammable gases or explosives gases may be present in the atmosphere. The lamp inside the projector becomes very hot during operation and the gases may ignite and result in a fire.
- Do not use the unit if it has been physically damaged or abused. Physical damage/abuse would be (but not limited to):
  - Unit has been dropped.
  - Power supply cord or plug has been damaged.
  - Liquid has been spilled on to the projector.
  - Projector has been exposed to rain or moisture.
  - Something has fallen in the projector or something is loose inside.
- Do not place the projector on an unstable surface. The projector may fall over resulting in injury or the projector may become damaged.
- Do not block the light coming out of the projector lens when in operation. The light will heat the object and could melt, cause burns or start a fire.

- Please do not open or disassemble the projector as this may cause electric shock.
- Do not attempt to service the unit yourself. Opening or removing covers may expose you to dangerous voltages or other hazards. Please call Optoma before you send the unit for repair.
- See projector enclosure for safety related markings.
- The unit should only be repaired by appropriate service personnel.
- Only use attachments/accessories specified by the manufacturer.
- Do not look into straight into the projector lens during operation. The bright light may harm your eyes.
- When replacing the lamp, please allow the unit to cool down. Follow instructions as described on pages 41-42.
- This projector will detect the life of the lamp itself. Please be sure to change the lamp when it shows warning messages.
- Reset the "Lamp Reset" function from the on-screen display "Setup lamp settings" menu after replacing the lamp module.
- When switching the projector off, please ensure the cooling cycle has been completed before disconnecting power. Allow 90 seconds for the projector to cool down.
- When the lamp is approaching to the end of its life time, the message "Lamp life exceeded." will show
  on the screen. Please contact your local reseller or service center to change the lamp as soon as
  possible.
- Turn off and unplug the power plug from the AC outlet before cleaning the product.
- Use a soft dry cloth with mild detergent to clean the display housing. Do not use abrasive cleaners, waxes or solvents to clean the unit.
- Disconnect the power plug from AC outlet if the product is not being used for a long period of time.

**Note:** When the lamp reaches the end of its life, the projector will not turn back on until the lamp module has been replaced. To replace the lamp, follow the procedures listed under "Replacing the Lamp" section on pages 41-42.

- Do not setup the projector in places where it might be subjected to vibration or shock.
- Do not touch the lens with bare hands.
- Remove battery/batteries from remote control before storage. If the battery/batteries are left in the remote for long periods, they may leak.
- Do not use or store the projector in places where smoke from oil or cigarettes may be present, as it can adversely affect the quality of the projector performance.
- Please follow the correct projector orientation installation as non standard installation may affect the projector performance.
- Use a power strip and or surge protector. As power outages and brown-outs can KILL devices.

## **3D Safety Information**

Please follow all warnings and precautions as recommended before you or your child use the 3D function.

#### Warning

Children and teenagers may be more susceptible to health issues associated with viewing in 3D and should be closely supervised when viewing these images.

#### Photosensitive Seizure Warning and Other Health Risks

- Some viewers may experience an epileptic seizure or stroke when exposed to certain flashing images or lights contained in certain Projector pictures or video games. If you suffer from, or have a family history of epilepsy or strokes, please consult with a medical specialist before using the 3D function.
- Even those without a personal or family history of epilepsy or stroke may have an undiagnosed condition that can cause photosensitive epileptic seizures.
- Pregnant women, the elderly, sufferers of serious medical conditions, those who are sleep deprived or under the influence of alcohol should avoid utilizing the unit's 3D functionality.

- If you experience any of the following symptoms, stop viewing 3D pictures immediately and consult a medical specialist: (1) altered vision; (2) light-headedness; (3) dizziness; (4) involuntary movements such as eye or muscle twitching; (5) confusion; (6) nausea; (7) loss of awareness; (8) convulsions; (9) cramps; and/ or (10) disorientation. Children and teenagers may be more likely than adults to experience these symptoms. Parents should monitor their children and ask whether they are experiencing these symptoms.
- Watching 3D projection may also cause motion sickness, perceptual after effects, disorientation, eye strain and decreased postural stability. It is recommended that users take frequent breaks to lessen the potential of these effects. If your eyes show signs of fatigue or dryness or if you have any of the above symptoms, immediately discontinue use of this device and do not resume using it for at least thirty minutes after the symptoms have subsided.
- Watching 3D projection while sitting too close to the screen for an extended period of time may damage your eyesight. The ideal viewing distance should be at least three times the screen height. It is recommended that the viewer's eyes are level with the screen.
- Watching 3D projection while wearing 3D glasses for an extended period of time may cause a headache or fatigue. If you experience a headache, fatigue or dizziness, stop viewing the 3D projection and rest.
- Do not use the 3D glasses for any other purpose than for watching 3D projection.
- Wearing the 3D glasses for any other purpose (as general spectacles, sunglasses, protective goggles, etc.) may be physically harmful to you and may weaken your eyesight.
- Viewing in 3D projection may cause disorientation for some viewers. Accordingly, DO NOT place your 3D PROJECTOR near open stairwells, cables, balconies, or other objects that can be tripped over, run into, knocked down, broken or fallen over.

## 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.

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#### **Disclaimer**

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

## **Trademark Recognition**

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

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

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

MHL, Mobile High-Definition Link and the MHL Logo are trademarks or registered trademarks of MHL Licensing, LLC.

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

#### **FCC**

This device has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

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

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

#### Notice: Shielded cables

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

#### Caution

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

#### **Operation Conditions**

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

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

#### Notice: Canadian users

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

Remarque à l'intention des utilisateurs canadiens

Cet appareil numerique de la classe B est conforme a la norme NMB-003 du Canada.

## **Declaration of Conformity for EU countries**

- EMC Directive 2014/30/EU (including amendments)
- Low Voltage Directive 2014/35/EU
- RED 2014/53/EU (if product has RF function)

#### **WEEE**



#### **Disposal instructions**

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

## **Package Overview**

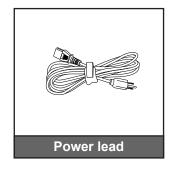
Carefully unpack and verify that you have the items listed below under standard accessories. Some of the items under optional accessories may not be available depending on the model, specification and your region of purchase. Please check with your place of purchase. Some accessories may vary from region to region.

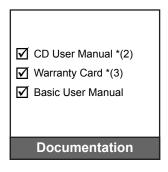
The warranty card is only supplied in some specific regions. Please consult your dealer for detailed information.

#### Standard accessories







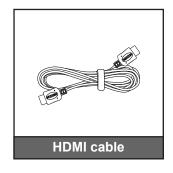


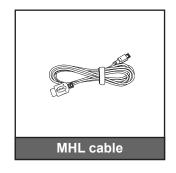
#### Note:

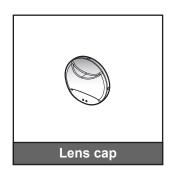
- The remote control is shipped with the battery/batteries.
- \*(1) The actual remote control may vary depending on the region.
- \*(2) For European User Manual please visit www.optomaeurope.com.
- \*(3) For European warranty information please visit www.optomaeurope.com.

## **Optional accessories**



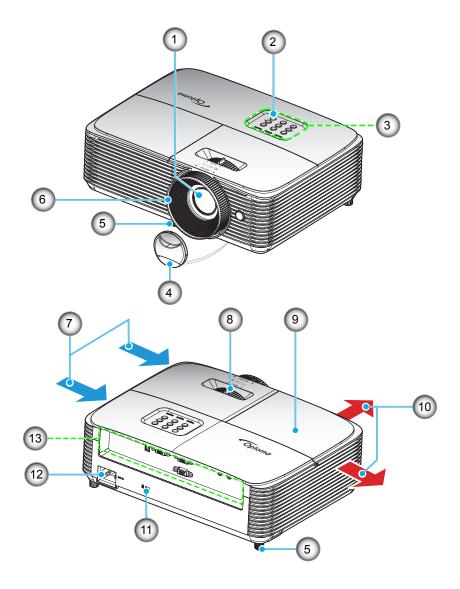






Note: Optional accessories vary depending on model, specification and region.

## **Product Overview**

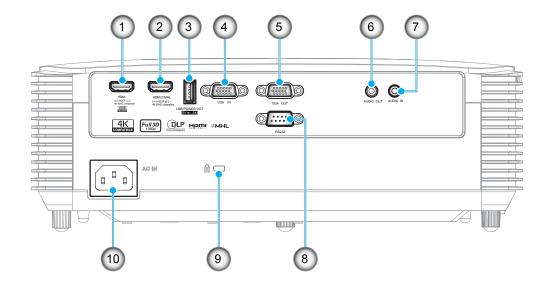


Note: Keep a minimum distance of 20 cm between the "inlet" and "outlet" labels.

No	Item
1.	Lens
2.	IR Receiver
3.	Keypad
4.	Lens Cap
5.	Tilt-Adjustment Foot
6.	Focus Ring
7.	Ventilation (inlet)

No	Item
8.	Zoom Lever
9.	Lamp Cover
10.	Ventilation (outlet)
11.	Kensington™ Lock Port
12.	Power Socket
13.	Input / Output

### **Connections**

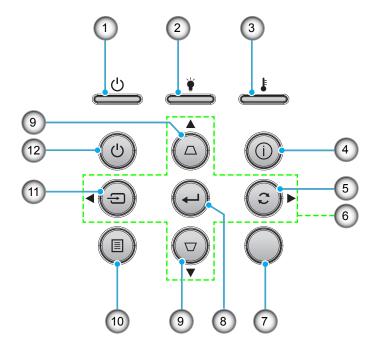


No	Item	No	Item
1.	HDMI Connector *	6.	AUDIO OUT Connector
2.	HDMI 2 / MHL Connector **	7.	AUDIO IN Connector
3.	USB Power Out (5V 1.5A) Connector / MOUSE / SERVICE Connector	8.	RS232 Connector
4.	VGA IN Connector	9.	Kensington™ Lock Port
5.	VGA OUT Connector	10.	Power Socket

#### Note:

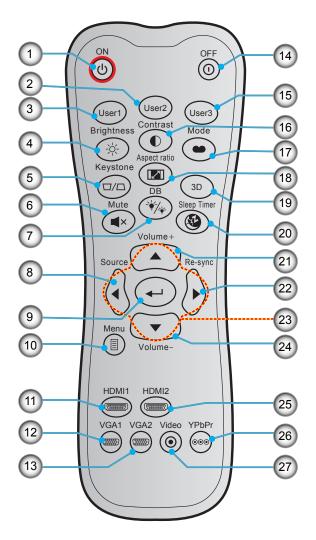
- To ensure the best image quality and avoid connection errors, we recommend the use of High Speed or Premium Certified HDMI cables up to 5 meters.
- Remote mouse requires special remote control.
- \* HDMI 1 supports 4K 60HZ and HDR.
- \*\* HDMI 2 supports 4K 30HZ, not support HDR.

## Keypad



No	Item	No	Item
1.	On/Standby LED	7.	IR Receiver
2.	Lamp LED	8.	Enter
3.	Temp LED	9.	Keystone Correction
4.	Information	10.	Menu
5.	Re-Sync	11.	Source
6.	Four Directional Select Keys	12	Power

#### Remote control 1

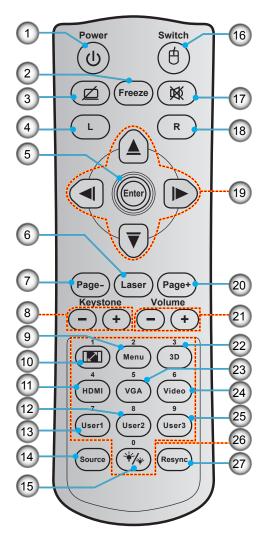


No	Item	No	Item
1.	Power On	15.	User 3
2.	User 2	16.	Contrast
3.	User 1	17.	Display Mode
4.	Brightness	18.	Aspect Ratio
5.	Keystone	19.	3D Menu On / Off
6.	Mute	20.	Sleep Timer
7.	DB (Dynamic Black)	21.	Volume +
8.	Source	22.	Re-Sync
9.	Enter	23.	Four Directional Select Keys
10.	Menu	24.	Volume -
11.	HDMI1	25.	HDMI2
12.	VGA1	26.	YPbPr (not supported)
13.	VGA2 (not supported)	27.	Video (not supported)
14.	Power Off		

#### Note:

- The actual remote control may vary depending on the region.
- Some keys may have no function for models that do not support these features.

### Remote control 2



No	Item	No	Item
1.	Power On / Off	15.	Brightness Mode
2.	Freeze	16.	Mouse On / Off
3.	Display Blank / Audio Mute	17.	Mute
4.	Mouse Left Click	18.	Mouse Right Click
5.	Enter	19.	Four Directional Select Keys
6.	Laser	20.	Page +
7.	Page -	21.	Volume - / +
8.	Keystone - / +	22.	3D Menu On / Off
9.	Menu	23.	VGA
10.	Aspect Ratio	24.	Video (not supported)
11.	HDMI	25.	User 3
12.	User 2	26.	Numeric Keypad (0-9)
13.	User 1	27.	Resync
14.	Source		

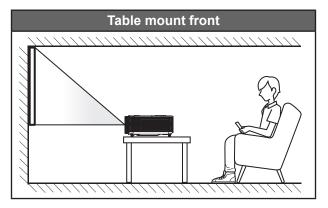
#### Note:

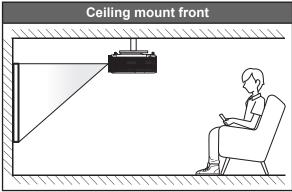
- The actual remote control may vary depending on the region.
- Some keys may have no function for models that do not support these features.

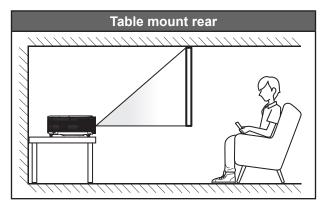
## Installing the projector

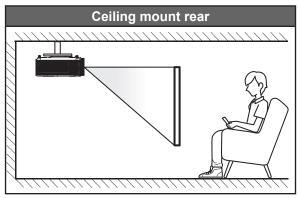
Your projector is designed to be installed in one of four possible positions.

Your room layout or personal preference will dictate which installation location you select. Take into consideration the size and position of your screen, the location of a suitable power outlet, as well as the location and distance between the projector and the rest of your equipment.









Projector should be placed flat on a surface and 90 degrees / perpendicular to the screen.

- How to determine projector location for a given screen size, please refer to distance table on page 46.
- How to determine screen size for a given distance, please refer to distance table on page 46.

**Note:** The further away the projector is placed from the screen the projected image size increases and vertical offset also increases proportionally.

#### **IMPORTANT!**

Do not operate the projector in any orientation other that table top or ceiling mount. The projector should be horizontal and not tilted either forwards/backwards or left/right. Any other orientation will invalidate the warranty and may shorten the lifetime of the projector lamp or the projector itself. For none standard installation advise please contact Optoma.

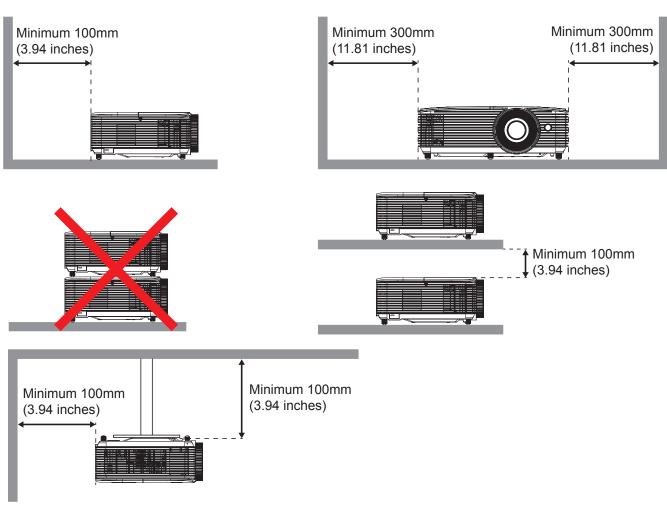
#### **Projector installation notice**

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.

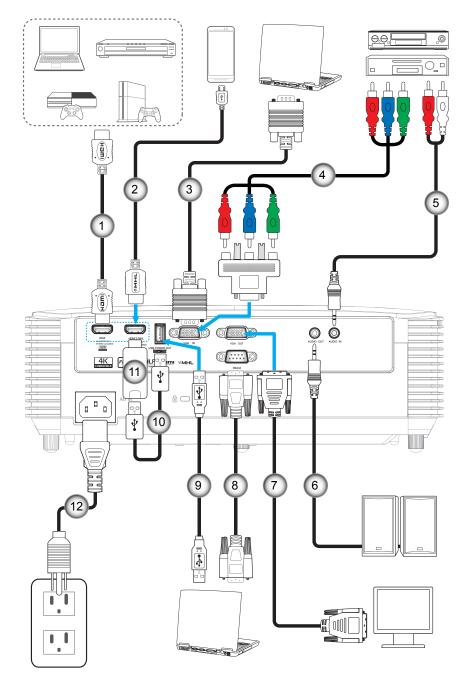


Allow at least 30 cm clearance around the exhaust vent.



- 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 with the acceptable operation temperature range.

## **Connecting sources to the projector**



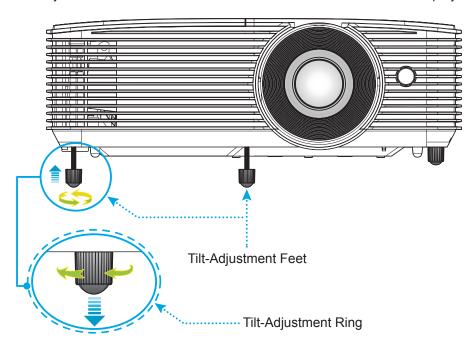
No	Item	No	Item
1.	HDMI Cable	7.	VGA Out Cable
2.	HDMI / MHL Cable	8.	RS232 Cable
3.	VGA In Cable	9.	USB Cable
4.	RCA Component Cable	10.	USB Power Cable
5.	Audio In Cable	11.	HDMI Dongle
6.	Audio Out Cable	12.	Power Cord

## Adjusting the projector image

#### Image height

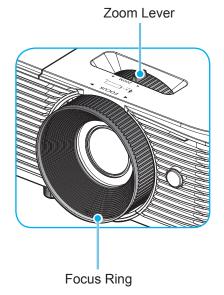
The projector is equipped with elevator feet for adjusting the image height.

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



#### Zoom and focus

- To adjust the image size, turn the zoom lever clockwise or counterclockwise to increase or decrease the projected image size.
- To adjust the focus, turn the focus ring clockwise or counterclockwise until the image is sharp and legible.

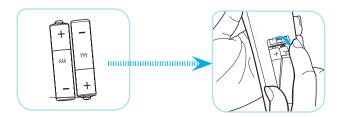


Note: The projector will focus at a distance of 1m to 10m.

#### Installing / replacing the batteries

Two AAA size batteries are supplied for the remote control.

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



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

#### **CAUTION**

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

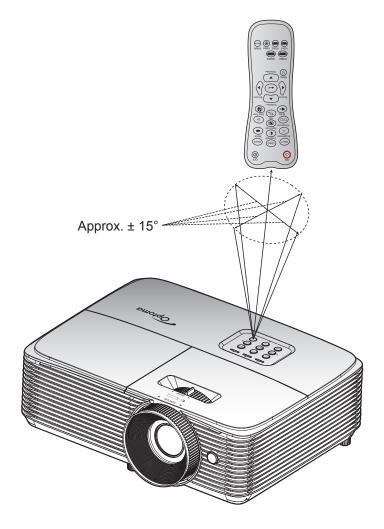
- Do not mix batteries of different types. Different types of batteries have different characteristics.
- Do not mix old and new batteries. Mixing old and new batteries can shorten the life of new batteries or cause chemical leakage in old batteries.
- Remove batteries as soon as the are depleted. Chemicals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

#### **Effective range**

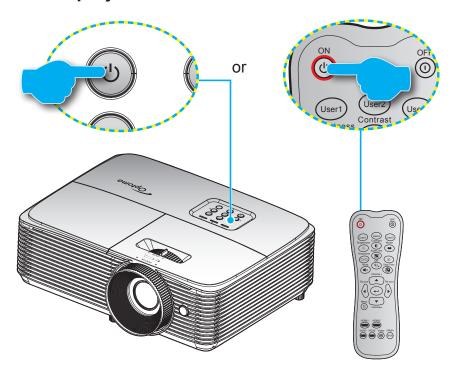
Infra-Red (IR) remote control sensor is located on top of the projector. Ensure to hold the remote control at an angle within 30 degrees perpendicular to the projector's top IR remote control sensor to function correctly. The distance between the remote control and the sensor should not be longer than 6 meters (~ 20 feet).

**Note:** When pointing the remote control directly (0 degrees angle) on the IR sensor, the distance between the remote control and the sensor should not be longer than 8 meters (~ 26 feet).

- Make sure that there are no obstacles between the remote control and the IR sensor on the projector that might obstruct the infra-red beam.
- Make sure the IR transmitter of the remote control is not being shined by sunlight or fluorescent lamps directly.
- Please keep the remote controller away from fluorescent lamps for over 2 meters or the remote controller might become malfunction.
- If the remote control is close to Inverter-Type fluorescent lamps, it might become ineffective from time to time.
- If the remote control and the projector are within a very short distance, the remote control might become ineffective.
- When you aim at the screen, the effective distance is less than 6 meters from the remote control to the screen and reflecting the IR beams back to the projector. However, the effective range might change according to screens.



### Powering on / off the projector



#### Powering on

- Securely connect the power lead and signal/source cable. When connected, the On/Standby LED will turn red.
- 2. Turn on the projector by pressing the "" either on the projector keypad or the remote control.
- 3. A start up screen will display in approximately 10 seconds and the On/Standby LED will be flashing green or flashing blue.

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

#### Powering off

- 1. Turn off the projector by pressing the "ou" either on the projector keypad or the remote control.
- 2. The following message will be displayed:

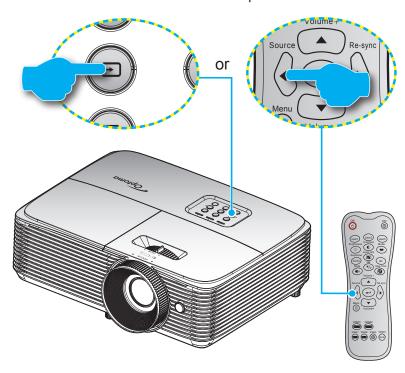


- 3. Press the "**U**" again to confirm, otherwise the message will disappear after 15 seconds. When you press the "**U**" button for the second time, the projector will shut down.
- 4. The cooling fans will continue to operate for about 10 seconds for the cooling cycle and the On/ Standby LED will flash green or flash blue. When the On/Standby LED turns solid red, this indicates the projector has entered standby mode. If you wish to turn the projector back on, you must wait until the cooling cycle has finished and the projector has entered standby mode. When the projector is in standby mode, simply press the "U" button again to turn on the projector.
- 5. Disconnect the power lead from the electrical outlet and the projector.

Note: It is not recommended that the projector is turned on immediately, right after a power off procedure.

## Selecting an input source

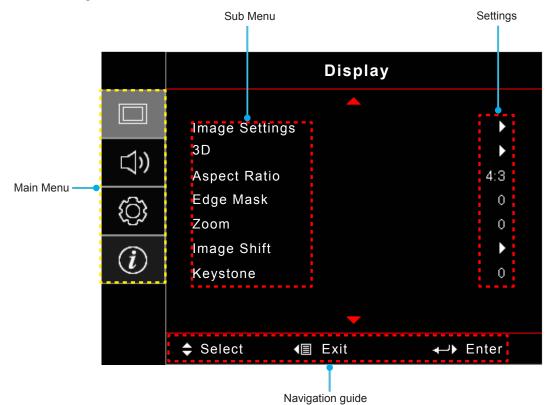
Turn on the connected source that you want to display on the screen, such as computer, notebook, video player, etc. The projector will automatically detect the source. If multiple sources are connected, push the source button on the projector keypad or the remote control to select the desired input.



## Menu navigation and features

The projector has multilingual on-screen display menus that allow you to make image adjustments and change a variety of settings. The projector will automatically detect the source.

- 1. To open the OSD menu, press 
  on the remote control or the projector keyboard.
- 2. When OSD is displayed, use ▲ ▼ keys to select any item in the main menu. While making a selection on a particular page, press ← or ► key to enter sub menu.
- 3. Use ◀▶ keys to select the desired item in the sub menu and then press ← or ▶ key to view further settings. Adjust the settings by using ◀▶ keys.
- 4. Select the next item to be adjusted in the sub menu and adjust as described above.
- 5. Press the ← or ▶ to confirm, and the screen will return to the main menu.
- 6. To exit, press the ◀ or again. The OSD menu will close and the projector will automatically save the new settings.



## **OSD Menu tree**

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values			
					Cinema			
					Film			
					HDR			
					HDR SIM.			
					Vivid			
					Game			
		Display Mode			Reference			
					Bright			
					User			
					3D			
					ISF Day			
					ISF Night			
					ISF 3D			
					Off [Default]			
					Blackboard			
					Light Yellow			
		Wall Color			Light Green			
					Light Blue			
		Dynamic Range HDF			Pink			
					Gray			
Display	Image Settings		HDD		Off			
				HDR		Auto [Default]		
				Dynamic Range			Bright	
			HDR Picture		Standard [Default]			
							Mode	
					Detail			
		Brightness			-50~50			
		Contrast			-50~50			
		Sharpness			1~15			
			Film					
			Video					
			Graphics					
		Gamma	Standard(2.2)					
		Gamma	1.8					
			2.0					
			2.4					
			HDR					
			BrilliantColor™		1~10			
		Color Settings	1	Color		Standard		
				Color Temperature		Cool		
					Cold			

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values			
					R [Default]			
					G			
					В			
				Color	С			
					Υ			
					M			
			Color Matching		W			
				Hue	-50~50 [Default: 0]			
				Saturation	-50~50 [Default: 0]			
				Gain	-50~50 [Default: 0]			
				Deset	Cancel [Default]			
				Reset	Yes			
				Exit				
				Red Gain	-50~50			
		Color Settings		Green Gain	-50~50			
				Blue Gain	-50~50			
				Red Bias	-50~50			
			RGB Gain/Bias	Green Bias	-50~50			
				Blue Bias	-50~50			
				Desert	Cancel [Default]			
Display	Image Settings	image Settings					Reset	Yes
				Exit				
					Auto [Default]			
		Color Space [No		Color Space [Not HDMI Input]		RGB		
			Tibim inpat		YUV			
					Auto [Default]			
			Color Space		RGB(0~255)			
			[HDMI Input]		RGB(16~235)			
					YUV			
			Automatic		Off			
			Automatic		On [Default]			
			Frequency		-50 ~ 50 (depends on signal) [Default: 0]			
	Signal	Signal	Phase		0~31 (depends on signal) [Default: 0]			
			H. Position		-50 ~ 50 (depends on signal) [Default: 0]			
			V. Position		-50 ~ 50 (depends on signal) [Default: 0]			
			Exit					
		Enhanced			Off [Default]			
		Gaming			On			

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
					Bright
		Brightness			Eco.
	Image Settings	Mode			Dynamic
					Eco+
		Reset			
					Off
		3D Mode			On [Default]
					DLP-Link [Default]
		3D Tech.			3D Sync
					3D [Default]
		3D → 2D			L
		05 25			R
					Auto [Default]
	3D				
		00 5			Side by Side
		3D Format			Top and Bottom
Display					Frame Sequential
-17					Frame Packing
		3D Sync Invert			On
		ob cyric iiivoit			Off [Default]
		Reset			Cancel [Default]
		. 10001			Yes
					4:3
					16:9
	Aspect Ratio				LBX
					Native
					Auto
	Edge Mask				0~10 [Default: 0]
	Zoom				-5~25 [Default: 0]
		Н			-100~100 [Default: 0]
	Image Shift	V			-100~100 [Default: 0]
	Keystone				-40~ 40 [Default: 0]
	N4. 4-				Off [Default]
	Mute				On
	Volume				0-10 [Default: 5]
					Audio 1
		HDMI1			Audio 2
Audio					Default [Default]
					Audio 1
	Audio Input	HDMI2/MHL			Audio 2
		I LO IVII E/IVII IL			
					Default [Default]
		VGA			Audio 1
					Audio 2

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
					Front [Default]
	Projection				Rear
					Ceiling-top
					Rear-top
		Lama Damindar			Off
	Lamp Cattings	Lamp Reminder			On [Default]
	Lamp Settings	Lama Daget			Cancel [Default]
		Lamp Reset			Yes
		Filter Usage Hours			(Read only)
		Optional Filter			Yes
		Installed			No
					Off
	Filter Settings				300hr
		Filter Reminder			500hr [Default]
					800hr
					1000hr
		Filter Reset			Cancel [Default]
		Filler Reset			Yes
		Direct Power On			Off [Default]
Setup					On
		Signal Power On			Off [Default]
					On
	Power Settings	Auto Power Off (min.)			0~180 (5 min increments) [Default: 20]
		Sleep Timer (min.)	Sleep Timer (min.)		0~990 (30 min increments) [Default: 0]
			Always On		No [Default]
	]		7 iwaya Oii		Yes
		Quick Resume			Off [Default]
					On
		Power Mode (Standby)			Active
					Eco [Default]
					Off [Default]
		USB Power			On
					Auto
		Security			Off
		Security			On
		Security Timer		Month	
	Security			Day	
				Hour	
		Change Password			

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
					Off
		HDMI Link			On
		Inclusive of TV			No
		Inclusive of TV			Yes
	HDMI Link Settings				Mutual
	Coungs	Power On Link			PJ> Device
					Device> PJ
		Daa O# 1 into			Off
		Power Off Link			On
					Green Grid
					Magenta Grid
	Test Pattern				White Grid
					White
					Off
		15.5 "			On
		IR Function			Off
					HDMI 2
					Test Pattern
					Brightness
		User1			Contrast
Setup					Sleep Timer
Setup					Color Matching
					Color Temp
					Gamma
					Projection
	Remote Settings [depends on remote]				Lamp Settings
					Zoom
					Freeze
					MHL
		User2			HDMI 2
					Test Pattern
					Brightness
					Contrast
					Sleep Timer
					Color Matching
					Color Temp
					Gamma
					Projection
					Lamp Settings
					Zoom
					Freeze
					MHL

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
					HDMI 2
					Test Pattern
					Brightness
					Contrast
		User3			Sleep Timer
	Remote				Color Matching
	Settings [depends on remote]				Color Temp
					Gamma
	-				Projection
					Lamp Settings
					Zoom
					Freeze
					MHL
	Projector ID				00~99
					English [Default]
		Language			Deutsch
					Français
					Italiano
					Español
					Português
Setup					Polski
					Nederlands
					Svenska
					Norsk/Dansk
					Suomi
					ελληνικά
					繁體中文
	Options				简体中文
					日本語
					한국어
					Русский
					Magyar
					Čeština
					عـربي
					ไทย
					Türkçe
					فارسسي
					Tiếng Việt
					Bahasa Indonesia
					Română
					Slovenčina

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
			Menu Location		Top left
					Top right
					Center [Default]
		Menu Settings			Bottom left
					Bottom right
			Menu Timer		Off
					5sec
					10sec [Default]
		Auto Source			Off [Default]
		Auto cource			On
					HDMI1
		Input Source			HDMI2/MHL
					VGA
			HDMI1		Default [Default]
					Custom
		Input Name	HDMI2/MHL		Default [Default]
	Options	mpatriame			Custom
			VGA		Default [Default]
Setup					Custom
Setup		High Altitude			Off [Default]
					On
		Display Mode Lock  Keypad Lock  Information Hide			Off [Default]
					On
					Off [Default]
					On
					Off [Default]
					On
		Logo			Default [Default]
					Neutral
					User
		Background Color			None [Default for Video]
					Blue [Default for Data model/Pro-AV]
					Red
					Green
					Gray
					Logo
		Reset OSD			Cancel [Default]
					Yes
		Reset to Default			Cancel [Default]
					Yes

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
	Regulatory				
	Serial Number				
	Source				
	Resolution				00x00
	Refresh Rate				xxHz
	Display Mode				
	Power Mode (Standby)				
Info	Lamp Hours	Bright			0 hr
		Eco			0 hr
		Dynamic			0 hr
		Eco+			0 hr
		Total			
	Brightness Mode				
	FW Version	System			
		MCU			

## Display menu

### Display image settings menu

#### **Display Mode**

There are many factory presets optimized for various types of images.

- Cinema: Provides the best colors for watching movies.
- Film: Select to display the purest color settings for home theatre.
- HDR: Decodes and displays High Dynamic Range (HDR) content for the deepest blacks, brightest whites, and vivid cinematic color using REC.2020 color gamut. This mode will be automatically enabled if HDR is set to ON (and HDR Content is sent to projector – 4K UHD Blu-ray, 1080p/4K UHD HDR Games, 4K UHD Streaming Video). While HDR mode is active, other display modes (Cinema, Reference, etc.) cannot be selected as HDR delivers color that is highly accurate, exceeding the color performance of the other display modes.
- HDR SIM.: Enhances non-HDR content with simulated High Dynamic Range (HDR). Choose this mode to enhance gamma, contrast, and color saturation for non-HDR content (720p and 1080p Broadcast/Cable TV, 1080p Blu-ray, non-HDR Games, etc). This mode can ONLY be used with nonHDR content.
- Vivid: In this mode, the color saturation and brightness are well-balanced. Choose this mode for playing games.
- Game: Select this mode to increase the brightness and response time level for enjoying video games.
- Reference: This mode is intended to reproduce as close as possible the image the way the movie director intended. Color, color temperature, brightness, contrast and gamma settings are all configured to standard reference levels. Select this mode to watch a video.
- Bright: Maximum brightness from PC input.
- User: Memorize user's settings.
- 3D: To experience the 3D effect, you need to have 3D glasses. Make sure your PC/portable device has a 120 Hz signal output quad buffered graphics card and a 3D Player installed.
- ISF Day: Optimize the image with the ISF Day mode to be perfectly calibrated and high picture quality.
- ISF Night: Optimize the image with the ISF Night mode to be perfectly calibrated and high picture quality.
- ISF 3D: Optimize the image with the ISF 3D mode to be perfectly calibrated and high picture quality.

Note: For access and calibration of ISF daytime and night viewing modes, please contact your local dealer.

#### **Wall Color**

Use this function to obtain an optimized screen image according to the wall color. Select between off, blackboard, light yellow, light green, light blue, pink, and gray.

#### **Dynamic Range**

Configure the High Dynamic Range (HDR) setting and its effect when displaying video from 4K Blu-ray players and streaming devices.

Note: HDMI2 and VGA do not support Dynamic Range.

#### **>** HDR

- Off: Turn off HDR Processing. When set to Off, the projector will NOT decode HDR content.
- Auto: Auto detect HDR signal.

#### > HDR Picture Mode

- Bright: Choose this mode for brighter more saturated colors.
- Standard: Choose this mode for natural looking colors with a balance of warm and cool tones.
- Film: Choose this mode for improved detail and image sharpness.
- Detail: The signal comes from OETF conversion to achieve the best color matching.

#### **Brightness**

Adjust the brightness of the image.

#### Contrast

The contrast controls the degree of difference between the lightest and darkest parts of the picture.

#### **Sharpness**

Adjust the sharpness of the image.

#### Gamma

Set up gamma curve type. After the initial setup and fine tuning is completed, utilize the Gamma Adjustment steps to optimize your image output.

- Film: For home theater.
- Video: For video or TV source.
- Graphics: For PC / Photo source.
- Standard(2.2): For standardized setting.
- 1.8/ 2.0/ 2.4: For specific PC / Photo source.

Note: If the Display Mode setting is set to HDR, user can only select HDR for Gamma setting.

#### **Color Settings**

Configure the color settings.

- **BrilliantColor™**: This adjustable item utilizes a new color-processing algorithm and enhancements to enable higher brightness while providing true, more vibrant colors in picture.
- Color Temperature: Select a color temperature from Standard, Cool, or Cold.
- Color Matching: Select the following options:
  - Color: Adjust the red (R), green (G), black (B), cyan (C), yellow (Y), magenta (M), and white (W) level of the image.
  - Hue: Adjust the color balance of red and green.
  - Saturation: Adjust a video image from black and white to fully saturated color.
  - Gain: Adjust the image brightness.
  - Reset: Return the factory default settings for color matching.
  - Exit: Exit the "Color Matching" menu.
- **RGB Gain/Bias:** This settings allows to configure the brightness (gain) and contrast (bias) of an image.
  - Reset: Return the factory default settings for RGB gain/bias.
  - Exit: Exit the "RGB Gain/Bias" menu.
- Color Space (non-HDMI input only): Select an appropriate color matrix type from the following: AUTO, RGB, or YUV.
- **Color Space (HDMI input only)**: select an appropriate color matrix type from the following: Auto, RGB(0-255), RGB(16-235), and YUV.

#### **Signal**

Adjust the signal options.

- Automatic: Configure automatically the signal (the frequency and phase items are grayed out). If automatic is disabled, the frequency and phase items will appear for tuning and saving the settings.
- Frequency: Change the display data frequency to match the frequency of your computer's graphic card. Use this function only if the image appears to flicker vertically.
- Phase: Synchronize the signal timing of the display with the graphic card. If the image appears to be unstable or flickers, use this function to correct it.
- **H. Position**: Adjust the horizontal positioning of the image.
- V. Position: Adjust the vertical positioning of the image.
- Exit: Exit the "Signal" menu.

Note: This menu is only available if the input source is RGB/Component.

#### **Enhanced Gaming**

Enable this feature to reduce response times (input latency) during gaming to 16ms and 8.4ms.

Note: 16ms for 1080p 60Hz; 8.4ms for 1080p 120Hz.

#### **Brightness Mode**

Adjust the brightness mode settings for lamp-based projectors.

- **Bright**: Choose "Bright" to increase the brightness.
- Eco.: Choose "Eco." to dim the projector lamp which will lower power consumption and extend the lamp life.
- Dynamic: Choose "Dynamic" to dim the lamp power which will be based on brightness level of the content and adjust lamp power consumption between 100% and 30% dynamically. The lamp life will be extended.
- Eco+: When Eco+ mode is activated, the brightness level of the content is automatically detected to significantly reduced lamp power consumption (up to 70%) during periods of inactivity.

#### Reset

Return the factory default settings for color settings.

## Display 3D menu

#### 3D Mode

Use this option to disable or enable the 3D function.

- Off: Select "Off" to turn off 3D mode.
- On: Select "On" to turn on 3D mode.

#### 3D Tech.

Use this option to select 3D technology.

- DLP-Link: Select to use optimized settings for DLP 3D Glasses.
- **3D Sync**: Select to use optimized settings for IR, RF or polarized 3D Glasses.

#### $\underline{3D \to 2D}$

Use this option to specify how the 3D content should appear on the screen.

- 3D: Display 3D signal.
- L (Left): Display the left frame of 3D content.
- R (Right): Display the right frame of 3D content.

**Note:** When changing the input source from 3D to 2D, make sure the **3D Mode** setting is set to **Off**. Otherwise, 2D input source will appear distorted (dual image).

#### **3D Format**

Use this option to select the appropriate 3D format content.

- Auto: When a 3D identification signal is detected, the 3D format is selected automatically.
- Side by Side: Display 3D signal in "Side-by-Side" format.
- Top and Bottom: Display 3D signal in "Top and Bottom" format.
- Frame Sequential: Display 3D signal in "Frame Sequential" format.
- Frame Packing: Display 3D signal in "Frame Packing" format.

#### **3D Sync Invert**

Use this option to enable/disable the 3D sync invert function.

#### Reset

Return the factory default setting for 3D settings.

- Cancel: Select to cancel Reset.
- Yes: Select to return the factory default settings for 3D.

## Display aspect ratio menu

#### **Aspect Ratio**

Select the aspect ratio of the displayed image between the following options:

- 4:3: This format is for 4:3 input sources.
- 16:9: This format is for 16:9 input sources, like HDTV and DVD enhanced for Wide screen TV.
- **LBX**: This format is for non-16x9, letterbox source and if you use external 16x9 lens to display 2.35:1 aspect ratio in full resolution.
- Native: This format displays the original image without any scaling.
- Auto: Automatically selects the appropriate display format.

#### 1080p scaling table

16:9 screen	480i/p	576i/p	1080i/p	720p	PC		
4x3	Scale to 1440x1080.						
16x9	Scale to 1920x1080.						
LBX	Scale to 1920x1440, then get the central 1920x1080 image to display.						
Native mode	-1:1 mapping centered.						
	-No scaling will be made; the image is displayed with the resolution based on input source.						

## Display edge mask menu

#### **Edge Mask**

Use this function to remove the video encoding noise on the edge of video source.

### Display zoom menu

#### **Zoom**

Use to reduce or magnify an image on the projection screen.

### Display image shift menu

#### **Image Shift**

Adjust the projected image position horizontally (H) or vertically (V).

### Display keystone menu

#### **Keystone**

Adjust the image distortion caused by tilting the projector.

## Audio menu

#### Audio mute menu

#### **Mute**

Use this option to temporarily turn off the sound.

- Off: Choose "Off" to turn mute off.
- On: Choose "On" to turn mute on.

#### Note:

- "Mute" function affects both internal and external speaker volume.
- When an external speaker is connected, the internal speaker is automatically muted.

#### Audio volume menu

#### **Volume**

Adjust the audio volume level.

## Audio audio input menu

#### **Audio Input**

Select the audio input port for the video sources as follows:

- HDMI1: Audio 1, Audio 2, or Default.
- HDMI2/MHL: Audio 1, Audio 2, or Default.
- VGA: Audio 1 and Audio 2.

## Setup menu

### Setup projection menu

#### **Projection**

Select the preferred projection between front, rear, ceiling-top, and rear-top.

### Setup lamp settings menu

#### **Lamp Reminder**

Choose this function to show or to hide the warning message when the changing lamp message is displayed. The message will appear 30 hours before suggested replacement of lamp.

#### **Lamp Reset**

Resets the lamp hour counter after replacing the lamp.

### Setup filter settings menu

#### **Filter Usage Hours**

Display the filter time.

#### **Optional Filter Installed**

Set the warning message setting.

Yes: Display warning message after 500 hours of use.

Note: "Filter Usage Hours / Filter Reminder / Filter Reset" will only appear when "Optional Filter Installed" is "Yes".

No: Turn off warning message.

#### Filter Reminder

Choose this function to show or hide the warning message when the changing filter message is displayed. The available options include Off, 300hr, 500hr, 800hr, and 1000hr.

#### **Filter Reset**

Reset the dust filter counter after replacing or cleaning the dust filter.

## Setup power settings menu

#### **Direct Power On**

Choose "On" to activate Direct Power mode. The projector will automatically power on when AC power is supplied, without pressing the "Power" key on the projector keypad or on the remote control.

#### **Signal Power On**

Choose "On" to activate Signal Power mode. The projector will automatically power on when a signal is detected, without pressing the "Power" key on the projector Keypad or on the remote control.

**Note:** If the "Signal Power On" option is turned "On", the power consumption of the projector in standby mode will be over 3W.

#### Auto Power Off (min.)

Sets the countdown timer interval. The countdown timer will start, when there is no signal being sent to the projector. The projector will automatically power off when the countdown has finished (in minutes).

### Sleep Timer (min.)

Configure the sleep timer.

Sleep Timer (min.): Sets the countdown timer interval. The countdown timer will start, with or without a signal being sent to the projector. The projector will automatically power off when the countdown has finished (in minutes).

Note: The Sleep Timer is reset every time when the projector is powered off.

Always On: Check to set the sleep timer always on.

### **Quick Resume**

Set the quick resume setting.

- Off: The fan will start cooling the system after 10 seconds when user turns off the projector.
- On: If the projector is accidentally turned off, this feature allows the projector to be instantly powered on again, if selected within a period of 100 seconds.

## Power Mode (Standby)

Set the power mode setting.

- Active: Choose "Active" to return to normal standby.
- **Eco:** Choose "Eco." to save power dissipation further < 0.5W.

Note: The fans will still run in active standby if "Signal Power On" is enabled.

### **USB Power**

Set the USB power settings.

- Off: The USB Power function is off.
- On: The projector is always powered on by a USB power source.
- **Auto:** The projector is automatically powered on by a USB power source.

## Setup security menu

## **Security**

Enable this function to prompt for a password before using the projector.

- Off: Choose "Off" to be able to switch on the projector without password verification.
- **On:** Choose "On" to use security verification when the turning on the projector.

### **Security Timer**

Can be select the time (Month/Day/Hour) function to set the number of hours the projector can be used. Once this time has elapsed you will be requested to enter your password again.

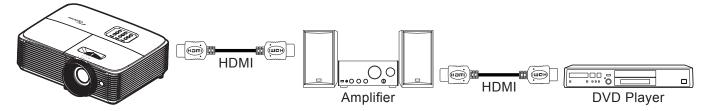
## **Change Password**

Use to set or modify the password that is prompted when turning the projector on.

## Setup HDMI link settings menu

#### Note:

When you connect HDMI CEC-compatible devices to the projector with HDMI cables, you can control
them on the same power on or power off status using the HDMI Link control feature in the projector's
OSD. This lets one device or multiple devices in a group power on or power off via HDMI Link Feature
in a typical configuration, your DVD player may be connected to the projector through an amplifier or
home theater system.



#### **HDMI Link**

Enable/disable the HDMI Link function. The inclusive TV, power on link, and power off link options will only available if the setting is set to "On".

#### **Inclusive of TV**

Set to "Yes" if you prefer both TV and projector to be automatically turned off at the same time. To prevent both devices to be turned off at the same time, set the setting to "No".

### **Power On Link**

CEC power on command.

- Mutual: Both projector and CEC device will be turned on simultaneously.
- PJ → Device: The CEC device will be turned on only after the projector is switched on.
- **Device** → **PJ**: The projector will be switched on only after the CEC device is turned on.

## **Power Off Link**

Enable this function to let both HDMI Link and projector to be automatically turned off at the same time.

# Setup test pattern menu

### **Test Pattern**

Select the test pattern from green grid, magenta grid, white grid, white or disable this function (off).

# Setup remote settings menu

## **IR Function**

Set the IR function setting.

- On: Choose "On", the projector can be operated by the remote control from top IR receiver.
- Off: Choose "Off", the projector can't be operated by the remote control. By selecting "Off", you will be able to use the Keypad keys.

#### User1/ User2/ User3

Assign the default function for User1, User2, or User3 between HDMI 2, Test Pattern, Brightness, Contrast, Sleep Timer, Color Matching, Color Temp, Gamma, Projection, Lamp Settings, Zoom, Freeze, and MHL.

## Setup projector ID menu

## **Projector ID**

ID definition can be set up by menu (range 0-99), and allow user control an individual projector by using RS232 command.

## Setup options menu

### **Language**

Select the multilingual OSD menu between English, German, French, Italian, Spanish, Portuguese, Polish, Dutch, Swedish, Norwegian/Danish, Finnish, Greek, traditional Chinese, simplified Chinese, Japanese, Korean, Russian, Hungarian, Czechoslovak, Arabic, Thai, Turkish, Farsi, Vietnamese, Indonesian, Romanian, and Slovakian.

#### Menu Settings

Set the menu location on the screen and configure menu timer settings.

- Menu Location: Select the menu location on the display screen.
- Menu Timer: Set the duration where the OSD menu stays visible on the screen.

#### **Auto Source**

If you set this option "On" and press the - button on the projector keypad or **Source** button on the remote control then the next available input source is selected automatically. Set "Off" to disable auto source function.

### **Input Source**

Select the input source between HDMI1, HDMI2/MHL, and VGA.

#### **Input Name**

Use to rename the input function for easier identification. The available options include HDMI1, HDMI2/MHL, and VGA.

### **High Altitude**

When "On" is selected, the fans will spin faster. This feature is useful in high altitude areas where the air is thin.

#### **Display Mode Lock**

Choose "On" or "Off" to lock or unlock adjusting display mode settings.

### **Keypad Lock**

When the keypad lock function is "On", the Keypad will be locked. However, the projector can be operated by the remote control. By selecting "Off", you will be able to reuse the Keypad.

#### **Information Hide**

Enable this function to hide the information message.

- Off: Choose "Off" to show the "searching" message.
- On: Choose "On" to hide the info message.

#### Logo

Use this function to set the desired startup screen. If changes are made, they will take effect the next time the projector is powered on.

- Default: The default startup screen.
- **Neutral:** Logo is not displayed on startup screen.
- **User:** Use the stored picture as the startup screen.

### **Background Color**

Use this function to display a blue, red, green, gray color, none, or logo screen when no signal is available.

Note: If the background color is set to "None", then the background color is black.

# Setup reset menu

## **Reset OSD**

Return the factory default settings for OSD menu settings.

## **Reset to Default**

Return the factory default settings for Setup menu settings.

# Info menu

## Info menu

View the projector information as listed below:

- Regulatory
- Serial Number
- Source
- Resolution
- Refresh Rate
- Display Mode
- Power Mode (Standby)
- Lamp Hours
- Brightness Mode
- FW Version

# **MAINTENANCE**

# Replacing the lamp

The projector automatically detects the lamp life. When the lamp life is nearing the end of use, a warning message will appear on the screen.



When you see this message, please contact your local reseller or service center to change the lamp as soon as possible. Make sure the projector has been cooled down for at least 30 minutes before changing the lamp.





Warning: If ceiling mounted, please use caution when opening the lamp access panel. It is recommended to wear safety glasses if changing the bulb when ceiling mounted. Caution must be used to prevent any loose parts from falling out of projector.



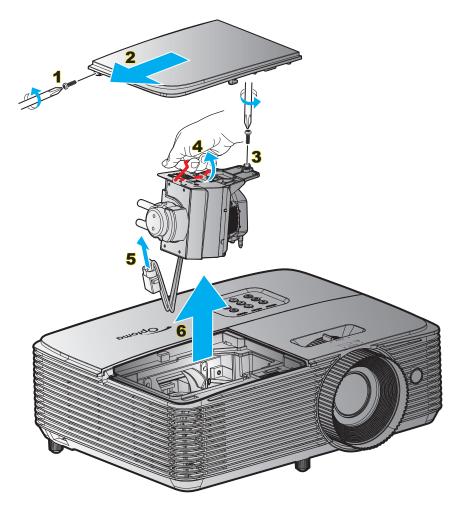
Warning: Lamp compartment is hot! Allow it to cool down before changing lamp!



Warning: To reduce the risk of personal injury, do not drop the lamp module or touch the lamp bulb. The bulb may shatter and cause injury if it is dropped.

# **MAINTENANCE**

# Replacing the lamp (continued)



### Procedure:

- 1. Switch off the power to the projector by pressing the "" button on the remote control or the projector keypad.
- 2. Allow the projector to cool down for at least 30 minutes.
- 3. Disconnect the power cord.
- 4. Unscrew the screw on the cover. 1
- 5. Remove the cover. 2
- 6. Unscrew the screw on the lamp module. 3
- 7. Lift up the lamp handle. 4
- 8. Remove the lamp cord. 5
- 9. Remove the lamp module carefully. 6
- 10. To replace the lamp module, reverse the previous steps.
- 11. Turn on the projector and reset the lamp timer.
- 12. Lamp Reset: (i) Press "Menu" → (ii) Select "Setup" → (iii) Select "Lamp Settings" → (iv) Select "Lamp Reset" → (v) Select "Yes".

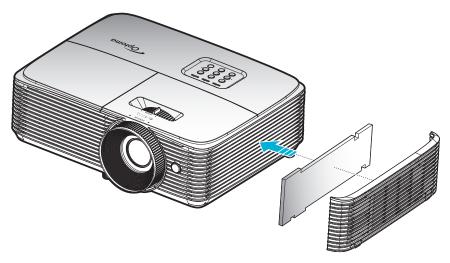
### Note:

- The screw on the lamp cover and the lamp cannot be removed.
- The projector cannot be turned on if the lamp cover has not been placed back on the projector.
- Do not touch the glass area of the lamp. Hand oil can cause the lamp shatter. Use a dry cloth to clean the lamp module if it was accidentally touched.

# **MAINTENANCE**

# Installing and cleaning the dust filter

## Installing the dust filter



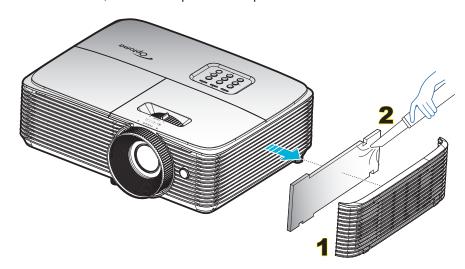
Note: Dust filters are only required/supplied in the selected regions with excessive dust.

## Cleaning the dust filter

We recommend you to clean the dust filter every three months. Clean it more often if the projector is used in a dusty environment.

### Procedure:

- 1. Switch off the power to the projector by pressing the "O" button on the remote control or the projector keypad.
- 2. Disconnect the power cord.
- 3. Remove the dust filter carefully. 1
- 4. Clean or replace the dust filter. 2
- 5. To install the dust filter, reverse the previous steps.



# **Compatible resolutions**

## HDMI1.4 for HDMI 2

B0/Established Timing	B0/Standard Timing	B0/Detail Timing	B1/Video Mode	B1/Detail Timing
720 x 400 @ 70Hz	1280 x 720 @ 60Hz	Native timing:	720 x 480i @ 60Hz	1280 x 720p @ 60Hz
640 x 480 @ 60Hz	1280 x 800 @ 60Hz	1080p: 1920 x 1080 @ 60Hz	720 x 576i @ 50Hz	1366 x 768 @ 60Hz
640 x 480 @ 67Hz	1280 x1024 @ 60Hz		720 x 480p @ 60Hz	1920 x 1080p @ 120Hz
640 x 480 @ 72Hz	1400 x 1050 @ 60Hz		720 x 576p @ 60Hz	3840 x 2160 @ 30Hz
640 x 480 @ 75Hz	1600 x 1200 @ 60Hz		1280 x 720p @ 50Hz	
800 x 600 @ 56Hz	1440 x 900 @ 60Hz		1280 x 720p @ 60Hz	
800 x 600 @ 60Hz	1280 x 720 @ 120Hz		1920 x 1080i @ 50Hz	
800 x 600 @ 72Hz	1024 x 768 @ 120Hz		1920 x 1080i @ 60Hz	
800 x 600 @ 75Hz			1920 x 1080p @ 50Hz	
832 x 624 @ 75Hz			1920 x 1080p @ 60Hz	
1024 x 768 @ 60Hz			1920 x 1080p @ 24Hz	
1024 x 768 @ 70Hz			1920 x 1080p @ 25Hz	
1024 x 768 @ 75Hz			1920 x 1080p @ 30Hz	
1280 x 1024 @ 75Hz			640 x 480p @ 60Hz	
1152 x 870 @ 75Hz			720 x 480p @ 60Hz	
			720 x 576p @ 50Hz	
			720 x 480i @ 60Hz	
			2880 x 480i @ 60Hz	
			1440 x 480p @ 60Hz	
			2880 x 576i @ 50Hz	
			1440 x 576p @ 50Hz	
			1440 x 576i @ 50Hz	

## HDMI2.0 For HDMI 1

B0/Established Timing	B0/Standard Timing	B0/Detail Timing	B1/Video Mode	B1/Detail Timing
720 x 400 @ 70Hz	1280 x 720 @ 60Hz	Native timing:	720 x 480i @ 60Hz	3840 x 2160 @ 60Hz
640 x 480 @ 60Hz	1280 x 800 @ 60Hz	1080p: 1920 x 1080 @ 60Hz	720 x 576i @ 50Hz	1920 x 1080p @ 120Hz
640 x 480 @ 67Hz	1280 x1024 @ 60Hz		720 x 480p @ 60Hz	
640 x 480 @ 72Hz	1400 x 1050 @ 60Hz		720 x 576p @ 50Hz	
640 x 480 @ 75Hz	1600 x 1200 @ 60Hz		1280 x 720p @ 50Hz	
800 x 600 @ 56Hz	1440 x 900 @60Hz		1280 x 720p @ 60Hz	
800 x 600 @ 60Hz	1280 x 720 @ 120Hz		1920 x 1080i @ 50Hz	
800 x 600 @ 72Hz	1024 x 768 @ 120Hz		1920 x 1080i @ 60Hz	
800 x 600 @ 75Hz			1920 x 1080p @ 50Hz	
832 x 624 @ 75Hz			1920 x 1080p @ 60Hz	
1024 x 768 @ 60Hz			1920 x 1080p @ 24Hz	
1024 x 768 @ 70Hz			1920 x 1080p @ 25Hz	
1024 x 768 @ 75Hz			1920 x 1080p @ 30Hz	
1280 x 1024 @ 75Hz			640 x 480p @ 60Hz	
1152 x 870 @ 75Hz			720 x 480p @ 60Hz	
			720 x 576P @ 50Hz	
			720 x 480i @ 60Hz	
			2880 x 480i @ 60Hz	

B0/Established Timing	B0/Standard Timing	B0/Detail Timing	B1/Video Mode	B1/Detail Timing
			1440 x 480p @ 60Hz	
			2880 x 576i @ 50Hz	
			1440 x 576p @ 50Hz	
			1440 x 576i @ 50Hz	
			3840 x 2160p @ 24Hz	
			3840 x 2160p @ 25Hz	
			3840 x 2160p @ 30Hz	
			3840 x 2160p @ 50Hz	
			3840 x 2160p @ 60Hz	
			4096 x 2160p @ 24Hz	
			4096 x 2160p @ 25Hz	
			4096 x 2160p @ 30Hz	
			4096 x 2160p @ 50Hz	
			4096 x 2160p @ 60Hz	

## True 3D video compatibility

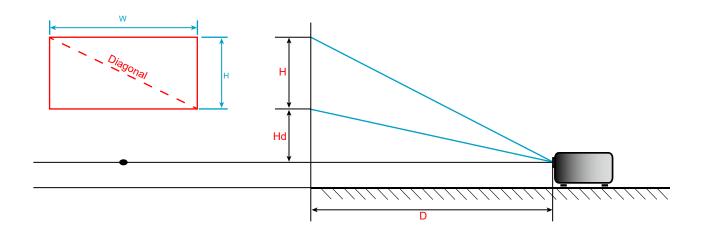
		Input timing					
		1280 x 720p @ 50Hz	Top - and - Bottom				
		1280 x 720p @ 60Hz Top - and - Bottom					
	LIDMI 4.4-	1280 x 720p @ 50Hz	1280 x 720p @ 50Hz Frame packing				
	HDMI 1.4a 3D Input	1280 x 720p @ 60Hz	Frame packing				
	·	1920 x 1080i @ 50Hz	Side- by-Side (Half)				
		1920 x 1080i @ 60Hz	Side- by-Side (Half)				
		1920 x 1080p @ 24Hz	Top - and- Bottom				
		1920 x 1080p @ 24Hz	Frame packing				
		1920 x 1080i @ 50Hz					
		1920 x 1080i @ 60Hz		SBS mode is on			
Input resolution		1280 x 720p @ 50Hz					
		1280 x 720p @ 60Hz	Side-by-Side(Half)				
		800 x 600 @ 60Hz					
		1024 x 768 @ 60Hz					
		1280 x 800 @ 60Hz					
	HDMI 1.3	1920 x 1080i @ 50Hz					
		1920 x 1080i @ 60Hz					
		1280 x 720p @ 50Hz					
		1280 x 720P @ 60Hz	Top-and-Bottom	TAB mode is on			
		800 x 600 @ 60Hz					
		1024 x 768 @ 60Hz					
		1280 x 800 @ 60Hz					
		480i	HQFS	3D format is Frame sequential			

### Note:

- If 3D input is 1080p@24Hz, the DMD should replay with integral multiple with 3D mode.
- Support NVIDIA 3DTV Play if there is no patent fee from Optoma.
- 1080i@25Hz and 720p@50Hz will run in 100Hz; 1080p@24Hz will run in 144Hz; other 3D timing will run in 120Hz.

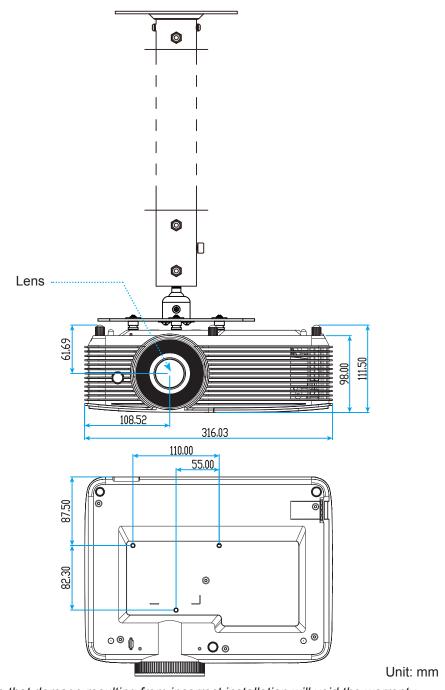
# Image size and projection distance

	ıl Length	Screen Size (W x H)			Projection Distance ( D )						
Size of Scr	f (16:9) een	Wi	dth	He	ight	Wi	de	Te	ele	Offse	t (Hd)
(m)	(inch)	(m)	(inch)	(m)	(inch)	(m)	(feet)	(m)	(feet)	(m)	(inch)
0.762	30	0.66	26.15	0.37	14.7	0.75	2.46	0.97	3.18	0.06	2.36
1.016	40	0.89	34.86	0.5	19.6	1.00	3.28	1.30	4.27	0.08	3.15
1.27	50	1.11	43.58	0.62	24.5	1.24	4.07	1.62	5.31	0.10	3.94
1.524	60	1.33	52.29	0.75	29.4	1.49	4.89	1.95	6.40	0.12	4.72
1.778	70	1.55	61.01	0.87	34.3	1.74	5.71	2.27	7.45	0.14	5.51
2.032	80	1.77	69.73	1	39.2	1.99	6.53	2.60	8.53	0.16	6.30
2.286	90	1.99	78.44	1.12	44.1	2.24	7.35	2.92	9.58	0.18	7.09
2.54	100	2.21	87.16	1.25	49	2.49	8.17	3.25	10.66	0.19	7.48
2.794	110	2.44	95.87	1.37	53.9	2.74	8.99	3.57	11.71	0.22	8.66
3.048	120	2.66	104.59	1.49	58.8	2.99	9.81	3.90	12.80	0.24	9.45
3.302	130	2.88	113.30	1.62	63.7	3.23	10.60	4.22	13.85	0.26	10.24
3.556	140	3.10	122.02	1.74	68.6	3.48	11.42	4.55	14.93	0.28	11.02
3.81	150	3.32	130.74	1.87	73.5	3.73	12.24	4.87	15.98	0.30	11.81
4.064	160	3.54	139.45	1.99	78.4	3.98	13.06	5.20	17.06	0.32	12.60
4.318	170	3.76	148.17	2.12	83.3	4.23	13.88	5.52	18.11	0.34	13.39
4.572	180	3.98	156.88	2.24	88.2	4.48	14.70	5.85	19.19	0.36	14.17
4.826	190	4.21	165.60	2.37	93.1	4.73	15.52	6.17	20.24	0.37	14.57
5.08	200	4.43	174.32	2.49	98.1	4.98	16.34	6.50	21.33	0.40	15.75
5.334	210	4.65	183.03	2.62	103	5.23	17.16	6.82	22.38	0.41	16.14
5.588	220	4.87	191.75	2.74	107.9	5.47	17.95	7.14	23.43	0.44	17.32
5.842	230	5.09	200.46	2.86	112.8	5.72	18.77	7.47	24.51	0.46	18.11
6.096	240	5.31	209.18	2.99	117.7	5.97	19.59	7.79	25.56	0.48	18.90
6.35	250	5.53	217.89	3.11	122.6	6.22	20.41	8.12	26.64	0.50	19.69
6.604	260	5.76	226.61	3.24	127.5	6.47	21.23	8.44	27.69	0.52	20.47
6.858	270	5.98	235.33	3.36	132.4	6.72	22.05	8.77	28.77	0.54	21.26
7.112	280	6.20	244.04	3.49	137.3	6.97	22.87	9.09	29.82	0.55	21.65
7.366	290	6.42	252.76	3.61	142.2	7.22	23.69	9.42	30.91	0.58	22.83
7.62	300	6.64	261.47	3.74	147.1	7.46	24.48	9.74	31.96	0.59	23.23



# Projector dimensions and ceiling mount installation

- To prevent damage to your projector, please use the Optoma ceiling mount.
- 2. If you wish to use a third party ceiling mount kit, please ensure the screws used to attach a mount to the projector meet the following specifications:
- Screw type: M4\*3
- Minimum screw length: 10mm

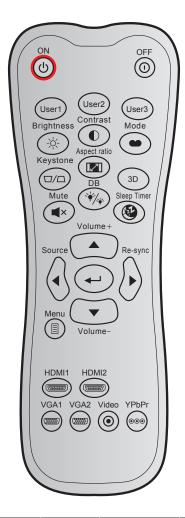


Note: Please note that damage resulting from incorrect installation will void the warranty.



- If you buy a ceiling mount from another company, please be sure to use the correct screw size. Screw size will vary depending on the thickness of the mounting plate.
- Be sure to keep at least 10 cm gap between the ceiling and the bottom of the projector.
- Avoid installing the projector near a heat source.

# IR remote control 1 codes



Key		Custom code		Data code	Printing-key	Description
		Byte 1	Byte 2	Byte 3	definition	
Power on	0	32	CD	02	ON	Press to turn on the projector.
Power off	0	32	CD	2E	OFF	Press to turn off the projector.
User 1		32	CD	36	User1	
User 2		32	CD	65	User2	User defined keys. Please see page 38 to setup.
User 3		32	CD	66	User3	octup.
Brightness	-;<-	32	CD	41	Brightness	Adjust the brightness of the image.
Contrast		32	CD	42	Contrast	Control the degree of difference between the lightest and darkest parts of the picture.
Display mode	•	32	CD	05	Mode	Select a display mode for optimized settings for different applications. Please see page 31.
Keystone	$\Box/\Box$	32	CD	07	Keystone	Adjust image distortion caused by tilting the projector.
Aspect ratio	121	32	CD	64	Aspect ratio	Press to change aspect ratio of a displayed image.
3D		32	CD	89	3D	Manually select a 3D mode that matches your 3D content.

Key		Custom code		Data code	Printing-key definition	Description
		Byte 1	Byte 2	Byte 3	delililion	
Volume +		32	CD	09	Volume +	Adjust to increase volume.
		32	CD	11	<b>A</b>	
Four direction		32	CD	10	◀	Use ▲, ◀, ▶, or ▼ to select items or make
keys		32	CD	12	<b>&gt;</b>	adjustments to your selection.
		32	CD	14	▼	
Source	$\odot$	32	CD	18	Source	Press "Source" to select an input signal.
Enter key	4	32	CD	0F	<b>←</b>	Confirm your item selection.
Re-sync	$\bigcirc$	32	CD	04	Re-sync	Automatically synchronizes the projector to the input source.
Volume -	•	32	CD	0C	Volume -	Adjust to decrease volume.
Menu		32	CD	0E	Menu	Display or exit the on-screen display menus for projector.
HDMI 1	(*********)	32	CD	16	HDMI1	Press "HDMI1" to choose source from HDMI connector.
HDMI 2	(111111)	32	CD	30	HDMI2	Press "HDMI2" to choose source from HDMI 2 / MHL connector.
VGA 1	000000	32	CD	1B	VGA1	Press "VGA1" to choose source from VGA IN connector.
VGA 2	000000	32	CD	1E	VGA2	No function
Video	•	32	CD	1C	Video	No function
YPbPr	000	32	CD	17	YPbPr	No function

# IR remote control 2 codes



Key		Key code	Printing-key definition	Description
Power	υ	81	Power on/off	Press to turn on / off the projector.
Switch	ė	3E	Switch	Press to switch the USB mouse on / off.
Display blank / audio mute	Ø	8A	Ø	Press to hide / unhide the screen picture and turn off / on audio.
Freeze		8B	Freeze	Press to freeze the projector image.
Mute	滅	92	娫	Press to momentarily turn off / on the audio.
Mouse left click	L	СВ	L	Use as mouse left click.
Mouse right click	R	CC	R	Use as mouse right click.
		C6	Up arrow	
Four directional		C8	Left arrow	Use ▲ ▼ ◀ ► to select items or make adjustments to
select keys	▼	C9	Right arrow	your selection.
		C7	Down arrow	
Enter		C5	Enter	Confirm your item selection.
LITTE		CA	Enter	Committe your item selection.
Page -		C2	Page-	Press to page down.

Key		Key code	Printing-key definition	Description
Laser		N/A	Laser	Use as laser pointer.
Page +		C1	Page+	Press to page up.
Keystone	<b>- +</b>	85	Keystone+	Press to adjust image distortion caused by tilting the
Reystone		84	Keystone-	projector.
Volume	- ÷	8C	Volume +	Press to adjust to increase / decrease the volume.
volume		8F	Volume -	Tress to adjust to increase racorease the volume.
Aspect ratio / 1		98	<b>[</b> 2] / 1	Press to change aspect ratio of a displayed image.
Aspect fatto / 1	IV I	90		Use as numeric keypad number "1".
Menu / 2		88	Menu/2	<ul> <li>Press to display or exit the on-screen display menus for projector.</li> </ul>
				• Use as numeric keypad number "2".
3D / 3		93	3D/3	Press to manually select a 3D mode that matches your 3D content.
				• Use as numeric keypad number "3".
LIDMI / A		00	HDMI/4	Press to choose HDMI source.
HDMI / 4		86		• Use as numeric keypad number "4".
\/OA / F		D0 \/OA/F		Press to choose VGA source.
VGA / 5		D0	VGA/5	Use as numeric keypad number "5".
Video / 6		D1	Video/6	Use as numeric keypad number "6".
		D2	User 1/7	• User defined keys. Please see page 38 to setup.
User1 / 7; User2 / User3 / 9	7 8;	D3	User 2/8	• Use as numeric keypad numbers "7", "8", and "9"
030107 0		D4	User 3/9	accordingly.
Source		C3	Source	Press to select an input signal.
Brightness mode / 0	*/*	96	*/* / 0	<ul> <li>Press to automatically adjust the picture brightness to give an optimum contrast performance.</li> </ul>
mode / U			, 0	Use as numeric keypad number "0".
Re-sync		C4	Re-Sync	Press to automatically synchronize the projector to the input source.

## **Troubleshooting**

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

### Image problems

- No image appears on-screen
  - Ensure all the cables and power connections are correctly and securely connected as described in the "Installation" section.
  - Ensure the pins of connectors are not crooked or broken.
  - Check if the projection lamp has been securely installed. Please refer to the "Replacing the Lamp" section.
  - Ensure that the "Mute" feature is not turned on.
- Image is out of focus
  - Adjust the focus by using the focus ring.
  - Make sure the projection screen is between the required distance from the projector. (Please refer to page 46).
- The image is stretched when displaying 16:9 DVD title
  - When you play anamorphic DVD or 16:9 DVD, the projector will show the best image in 16: 9 format on projector side.
  - If you play the LBX format DVD title, please change the format as LBX in projector OSD.
  - If you play 4:3 format DVD title, please change the format as 4:3 in projector OSD.
  - Please setup the display format as 16:9 (wide) aspect ratio type on your DVD player.
- Image is too small or too large
  - Adjust the image size by using the zoom lever (only for standard lens model).
  - Move the projector closer to or further from the screen.
  - Press "Menu" on the projector panel, go to "Display → Aspect Ratio". Try the different settings.
- Image has slanted sides:
  - If possible, reposition the projector so that it is centered on the screen and below the bottom of the screen.
  - Use "Display → Keystone" from the OSD to make an adjustment.
- Image is reversed
  - Select "Setup → Projection" from the OSD and adjust the projection direction.

- ? Blurry double image
  - Press "3D" button and switch to "Auto" to avoid normal 2D image is blurry double image.
- ? Two images, side-by-side format
  - Press "3D" button and switch to "Side by Side" for input signal is HDMI 1.3 2D 1080i side-by-side.
- ? Image does not display in 3D
  - Check if the battery of 3D glasses is drained.
  - Check if the 3D glasses is turned on.
  - When the input signal is HDMI 1.3 2D (1080i side-by-side half), press "3D" button and switch to "Side by Side".

### Other problems

- ? The projector stops responding to all controls
  - If possible, turn off the projector, then unplug the power cord and wait at least 20 seconds before reconnecting power.
- ? Lamp burns out or makes a popping sound
  - When the lamp reaches its end of life, it will burn out and may make a loud popping sound. If this happens, the projector will not turn on until the lamp module has been replaced. To replace the lamp, follow the procedures in the "Replacing the Lamp" section on pages 41-42.

## Remote control problems

- ? If the remote control does not work
  - Check the operating angle of the remote control is pointed within ±15° to the IR receiver on the projector.
  - Make sure there are not any obstructions between the remote control and the projector. Move to within 6 m (20 ft) of the projector.
  - Make sure batteries are inserted correctly.
  - Replace batteries if they are exhausted.

# **Warning indicators**

When the warning indicators (see below) light up or flash, the projector will automatically shutdown:

- "LAMP" LED indicator is lit red and if "On/Standby" indicator flashes red.
- "TEMP" LED indicator is lit red and if "On/Standby" indicator flashes red. This indicates the projector has overheated. Under normal conditions, the project can be switched back on.
- "TEMP" LED indicator flashes red and if "On/Standby" indicator flashes red.

Unplug the power cord from the projector, wait for 30 seconds and try again. If the warning indicator light up or flash, please contact your nearest service center for assistance.

## **LED lightning messages**

Message	() () Power LED	<b>少</b> 〇 Power LED	<b>♣</b> ○ Temp-LED	₩ ○ Lamp-LED
	(Red)	(Green or Blue)	(Red)	(Red)
Standby state (Input power cord)	Steady light			
Power on (Warming)		Flashing (0.5 sec off / 0.5 sec on)		
Power on & Lamp lighting		Steady light		
Power off (Cooling)		Flashing (0.5 sec off / 0.5 sec light). Back to red steady light when cooling fan turns off.		
Quick Resume (100 secs)		Flashing (0.25 sec off / 0.25 sec on)		
Error (Lamp fail)	Flashing			Steady light
Error (Fan failure)	Flashing		Flashing	
Error (Over Temp)	Flashing		Steady light	

Power off:



Lamp warning:



Temperature warning:



Fan failed:



Out of display range:



Power down warning:



Security timer alarm:



# **Specifications**

Optical	Description
Native resolution	1080p
Maximum resolution	3840 x 2160 (60Hz)
Lens	Manual zoom and manual focus
Image size (diagonal)	40.2"~300" with optimized @ 60"
Projection distance	1m ~ 10m with optimized @ 1.493m

Electrical	Description				
Inputs	- HDMI v2.0 - HDMI/MHL v1.4 - USB2.0 USB-A for 5V PWR 1.5A - VGA IN - Audio In 3.5mm - RS232C male (9-pin D-SUB)				
Outputs	- Audio Out 3.5mm - VGA Out				
Control	USB type A for mouse / service				
Color reproduction	1073.4 Million color				
Scan rate	<ul> <li>Horizontal scan rate: 15.375~91.146 KHz</li> <li>Vertical scan rate: 50~ 85 Hz (120Hz for 3D feature projector)</li> </ul>				
Sync compatibility	Separate Sync				
Built-in speaker	Yes, 10W				
Power requirement	100 - 240V AC 50/60Hz				
Input current	3.3A				
Power Consumption	Bright: - Typical 230W MAX 253W @ 110VAC - Typical 225W MAX 248W @ 220VAC  Eco: - Typical 190W MAX 209W @ 110VAC - Typical 187W MAX 206W @ 220VAC				

Mechanical	Description
Installation orientation	Front, Rear, Ceiling - Top, Rear - Top
Dimensions	- 316 mm (W) x 243.5 mm (D) x 98 mm (H) (without feet)
	- 316 mm (W) x 243.5 mm (D) x 115 mm (H) (with feet)
Weight	3.0 ±0.5kg
Environmental conditions	Operating in 5 ~ 40°C , 10% to 85% humidity (non-condensing)

Note: All specifications are subject to change without notice.

## Optoma global offices

For service or support, please contact your local office.

#### USA

47697 Westinghouse Drive, Fremont, CA 94539, USA www.optomausa.com

888-289-6786 **10-897-8601** 

services@optoma.com

## Japan

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

info@os-worldwide.com www.os-worldwide.com

### Canada

47697 Westinghouse Drive, Fremont, CA 94539, USA www.optomausa.com

888-289-6786 **10-897-8601 10-897-8601** 

services@optoma.com

## Taiwan

12F., No.213, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C. www.optoma.com.tw

**(** +886-2-8911-8600 **| +886-2-8911-6550** services@optoma.com.tw asia.optoma.com

## **Latin America**

47697 Westinghouse Drive, Fremont, CA 94539, USA www.optomausa.com

888-289-6786

510-897-8601

## Hong Kong

services@optoma.com Unit A, 27/F Dragon Centre, 79 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

+852-2396-8968 **| +852-2370-1222** www.optoma.com.hk

## Europe

Unit 1, Network 41, Bourne End Mills Hemel Hempstead, Herts, HP1 2UJ, United Kingdom

www.optoma.eu

Service Tel: +44 (0)1923 691865

(1) +44 (0) 1923 691 800 **| +44 (0) 1923 691 888** 

service@tsc-europe.com

### China

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

+86-21-62947376 **| +86-21-62947375** www.optoma.com.cn

### Benelux BV

Randstad 22-123 1316 BW Almere The Netherlands www.optoma.nl

(1) +31 (0) 36 820 0252

🛐 +31 (0) 36 548 9052

## **France**

Bâtiment E 81-83 avenue Edouard Vaillant 92100 Boulogne Billancourt, France savoptoma@optoma.fr

+33 1 41 46 12 20 **🛐 +33 1 41 46 94 35** 

#### Spain

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

**1** +34 91 499 06 06 🛐 +34 91 670 08 32

### Deutschland

Wiesenstrasse 21 W D40549 Düsseldorf, Germany

**(** +49 (0) 211 506 6670 **| +49 (0) 211 506 66799** 

info@optoma.de

### Scandinavia

Lerpeveien 25 3040 Drammen Norway

**1** +47 32 98 89 90 +47 32 98 89 99 info@optoma.no

PO.BOX 9515 3038 Drammen Norway

### Korea

WOOMI TECH.CO.,LTD. 4F, Minu Bldg.33-14, Kangnam-Ku, 📔 +82+2+34430005 Seoul, 135-815, KOREA korea.optoma.com

**(** +82+2+34430004

