Optoma

DLP® Projector

4K UHD | Full 3D | MHL | HDMI HIGH-DEFINITION MULTIMEDIA INTERFACE | DLP® TEXAS INSTRUMENTS

User manual

TABLE OF CONTENTS

SAFETY

⚡ (lightning flash in triangle)	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.
! (exclamation in triangle)	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°C ~ 40°C
    (ii) Relative humidity is 10% ~ 85%
  – In areas susceptible to excessive dust and dirt.
  – Near any appliance generating a strong magnetic field.
  – In direct sunlight.

- Do not use the unit if it has been physically damaged or abused. Physical damage/abuse would be (but not limited to):
  – Unit has been dropped.
  – Power supply cord or plug has been damaged.
  – Liquid has been spilled on to the projector.
  – Projector has been exposed to rain or moisture.
  – Something has fallen in the projector or something is loose inside.

- Do not place the projector on an unstable surface. The projector may fall over resulting in injury or the projector may become damaged.

- Do not block the light coming out of the projector lens when in operation. The light will heat the object and may 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 authorized service personnel.

- Only use attachments/accessories specified by the manufacturer.

- Do not look into straight into the projector lens during operation. The bright light may harm your eyes.

- This projector will detect the life of the light source itself.

- When switching the projector off, please ensure the cooling cycle has been completed before disconnecting power. Allow 90 seconds for the projector to cool down.

- Turn off and unplug the power plug from the AC outlet before cleaning the product.

- Use a soft dry cloth with mild detergent to clean the 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.

- 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.

Laser Radiation Safety Information

- This product is classified as CLASS 1 LASER PRODUCT - RISK GROUP 2 of IEC60825-1 : 2014 and also complies with 21 CFR 1040.10 and 1040.11 as a Risk Group 2, LIP (Laser Illuminated Projector) as defined in IEC 62471:2006 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

Complies with 21 CFR 1040.10 and1040.11 as a Risk Group 2, LIP (Laser Illuminated Projector) as defined in IEC 62471:2006 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007

IEC 60825-1:2014 CLASS 1 LASER PRODUCT RISK GROUP 2	IEC 60825-1:2014 PRODUIT LASER DE CLASSE 1 GROUPE DE RISQUE 2	IEC 60825-1:2014 1类激光产品 危险组2	IEC 60825-1:2014 1등급 레이저 제품 위험 그룹 2	IEC 60825-1:2014 クラス1レーザー製品 リスクグループ 2
CAUTION Possibly hazardous optical radiation emitted from this product. Do not stare at beam. May be harmful to the eye.	AVERTISSEMENT Radiation optique à danger potentiel émise parceproduit. Ne regardez pasdirectement le faisceau laser. Ceci pourrait être nocif pour votre oeil.	注意 此产品可能会产生危险光辐射。请勿直视操作光束，以免对眼睛损害。	주의 이 제품으로부터 인체에 위해한 광선이 방사될 수 있음. 광원을 정면으로 바라보지 마시오. 눈에 심각한 손상을 입을 수 있음.	注意 本製品より危険となりうる光放射あり。ビームをのぞき込まないこと。眼に有害となる可能性あり。

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

- This projector has built-in Class 4 laser module. Disassembly or modification is very dangerous and should never be attempted.

- Any operation or adjustment not specifically instructed by the user's guide creates the risk of hazardous laser radiation exposure.

- Do not open or disassemble the projector as htis may cause damage by the exposure of laser radiation.

- Do not stare into beam when the projector is on. The bright light may result in permanent eye damage.

- When turning on the projector, make sure no one within projection range is looking at the lens.

- Without following the control, adjustment or operation procedure may cause damage by the exposure of laser radiation.

- Adequate instructions for assembly, operation, and maintenance, including clear warnings concerning precautions to avoid possible exposure to laser.

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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.

INTRODUCTION

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

			☑ Warranty Card* ☑ Basic User Manual ☑ Paper UM
Projector	**Remote control**	**Power lead**	**Documentation**
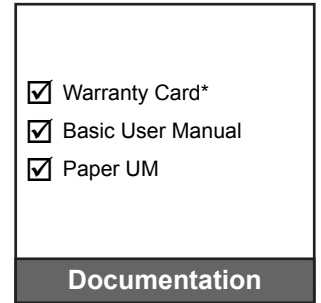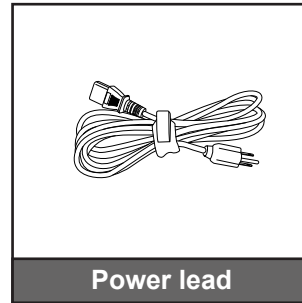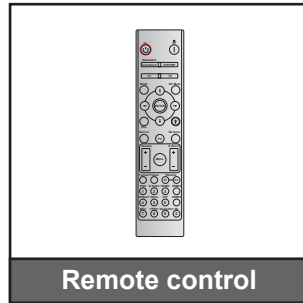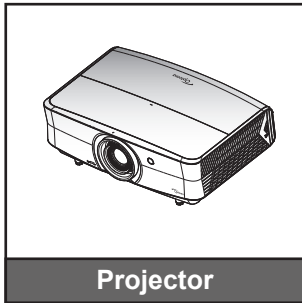
Note:

- *The remote control is shipped with the battery.*
- **For European warranty Information, please visit www.optoma.com.*

Optional accessories

Lens cap	**CD user manual**	**Carry bag**	**VGA cable**
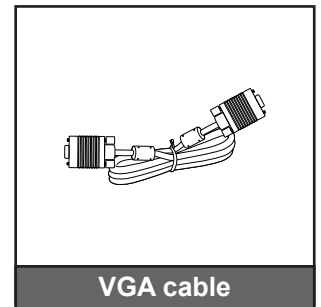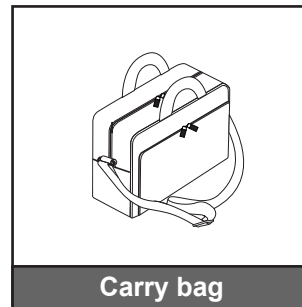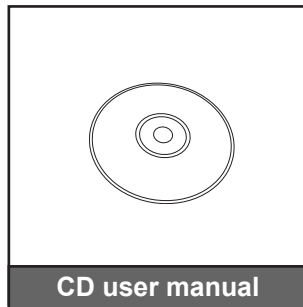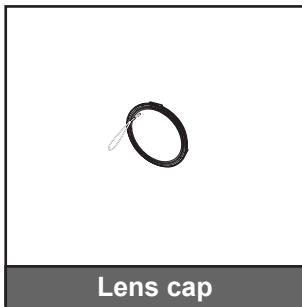
Note:

- *Optional accessories vary depending on model, specification and region.*

INTRODUCTION

Product Overview
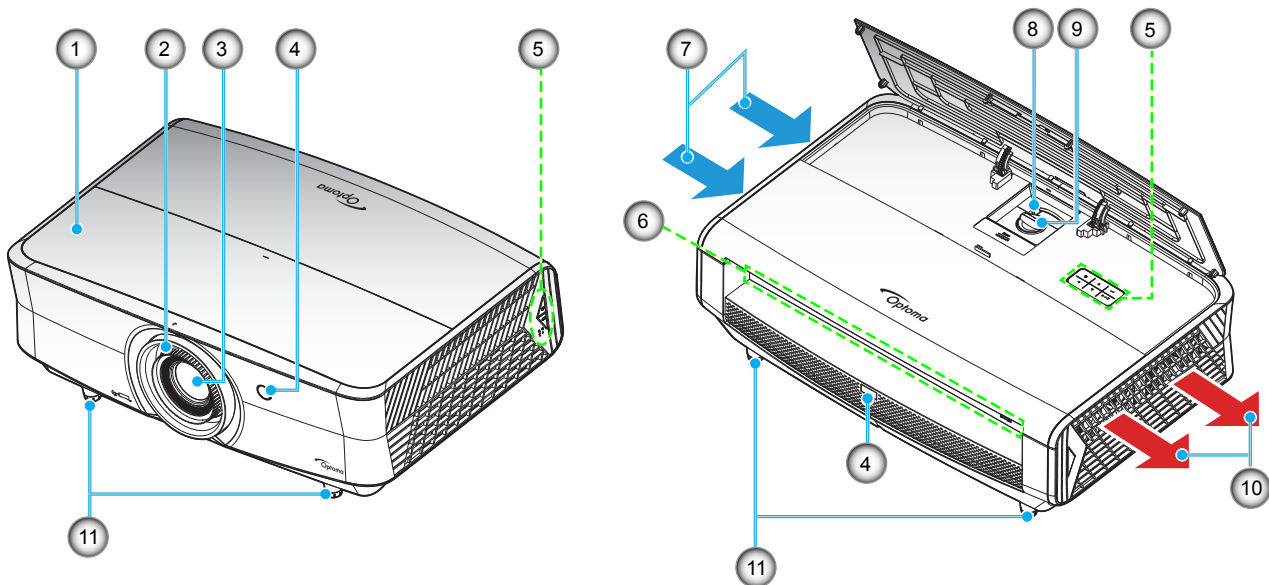
Note:

- *Do not block projector intake and exhaust vents.*
- *When operating the projector in an enclosed space, allow at least 30 cm clearance around the intake and exhaust vents.*

No	Item	No	Item
1.	Top Cover	7.	Ventilation (inlet)
2.	Focus Ring	8.	Zoom Lever
3.	Lens	9.	Lens Shift Dial
4.	IR Receiver	10.	Ventilation (outlet)
5.	Keypad	11.	Tilt-Adjustment Foot
6.	Input / Output		

INTRODUCTION

Connections
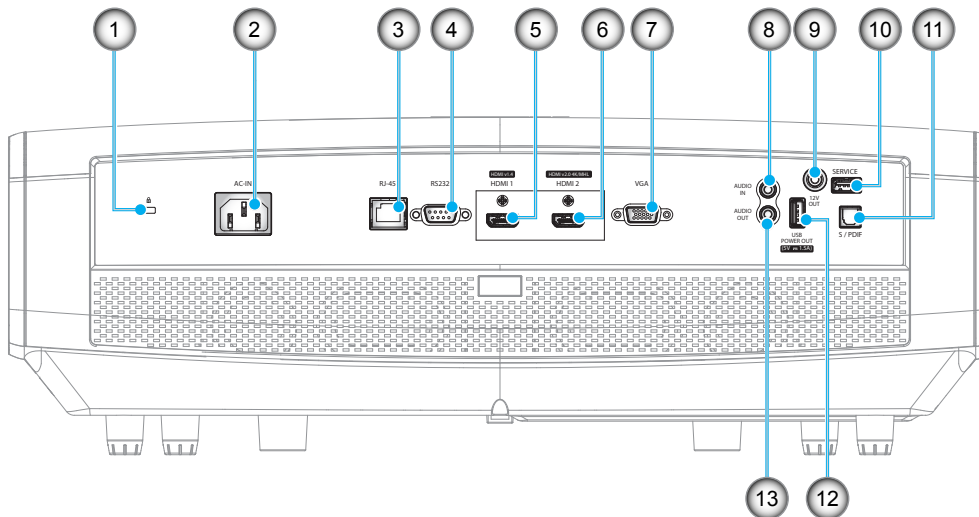
No	Item	No	Item
1.	Kensington™ Lock Port	8.	AUDIO IN Connector
2.	Power Socket	9.	12V OUT Connector
3.	RJ-45 Connector	10.	Service Connector (*2)
4.	RS232 Connector	11.	S/PDIF Connector
5.	HDMI 1 (v1.4) Connector	12.	USB Power Out (5V⎓1.5A) (*3)
6.	HDMI 2 (v2.0) 4K / MHL Connector (*1;*3)	13.	AUDIO OUT Connector
7.	VGA Connector		

Note:

- (*1)HDMI 2 connector supports HDCP2.2 and MHL V2.2.

- (*2)For firmware upgrade.

- (*3)MHL and USB DC5V are alternately powered on. For example, USB DC 5V is off when MHL is on or DC 5V is on when MHL is off.

INTRODUCTION

Keypad
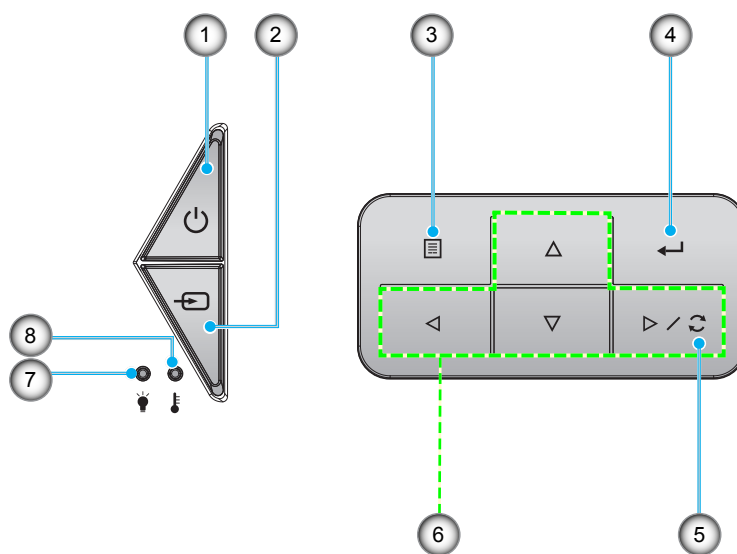
No	Item	No	Item
1.	Power and On/Standby LED	5.	Re-Sync
2.	Source	6.	Four Directional Select Keys
3.	Menu	7.	Laser LED
4.	Enter	8.	Temp LED

INTRODUCTION

Remote control

For Data Model
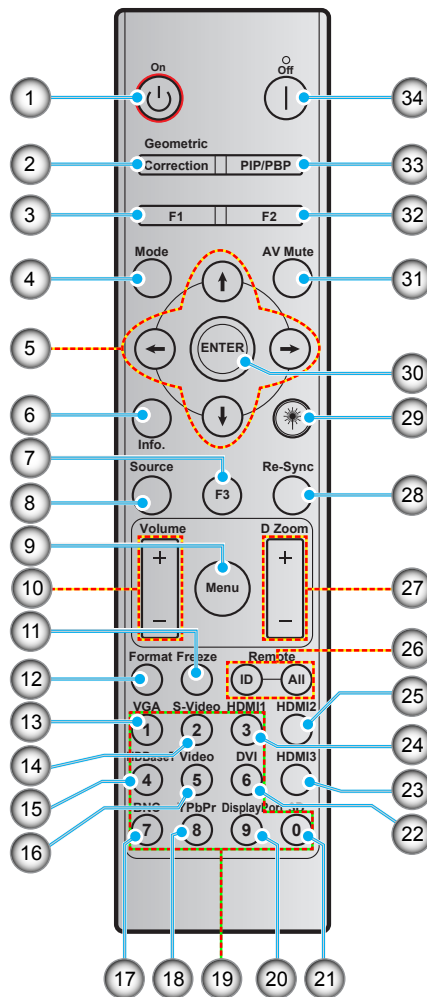
No	Item	No	Item
1.	Power on	18.	YPbPr (not supported)
2.	Geometric Correction	19.	Numeric keypad (0-9)
3.	Function button (F1) (Assignable)	20.	Display port (not supported)
4.	Mode	21.	3D
5.	Four directional select keys	22.	DVI (not supported)
6.	Information	23.	HDMI3 (not supported)
7.	Function button (F3) (Assignable)	24.	HDMI1
8.	Source	25.	HDMI2
9.	Menu	26.	Remote ID / Remote all
10.	Volume - / +	27.	Digital Zoom - / +
11.	Freeze	28.	Re-sync
12.	Format (Aspect Ratio)	29.	Laser (not supported)
13.	VGA	30.	Enter
14.	S-Video	31.	AV Mute
15.	HDBase-T	32.	Function button (F2) (Assignable)
16.	Video	33.	PIP/PBP (not supported)
17.	BNC (not supported)	34.	Power off

INTRODUCTION

Note: *Some keys may have no function for models that do not support these features.*

For Home Model
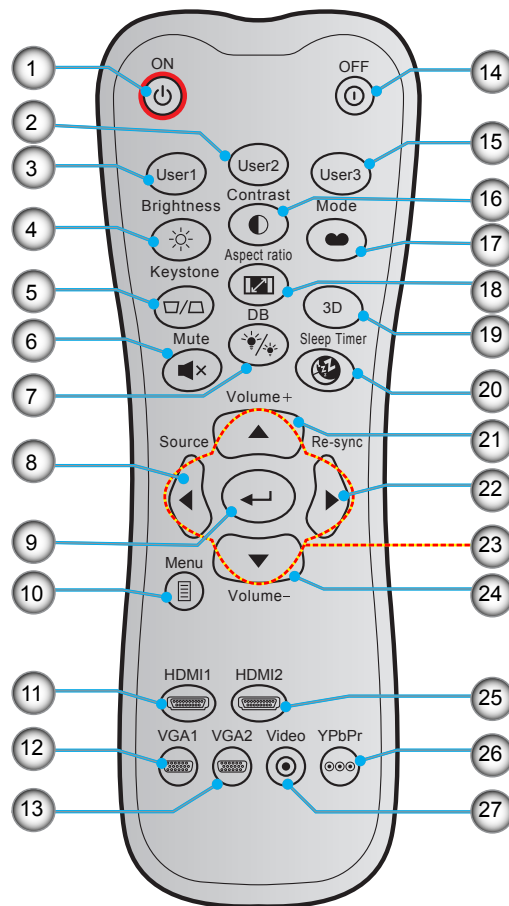
No	Item	No	Item
1.	Power On	15.	User 3
2.	User 2	16.	Contrast
3.	User 1	17.	Display Mode
4.	Brightness	18.	Aspect Ratio
5.	Keystone (not supported)	19.	3D Menu On / Off (not supported)
6.	Mute	20.	Sleep Timer
7.	DB (Dynamic Black)	21.	Volume +
8.	Source	22.	Re-Sync
9.	Enter	23.	Four Directional Select 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: *Some keys may have no function for models that do not support these features.*

SETUP AND INSTALLATION

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.

Table mount front	Ceiling mount front
Table mount rear	**Ceiling mount rear**
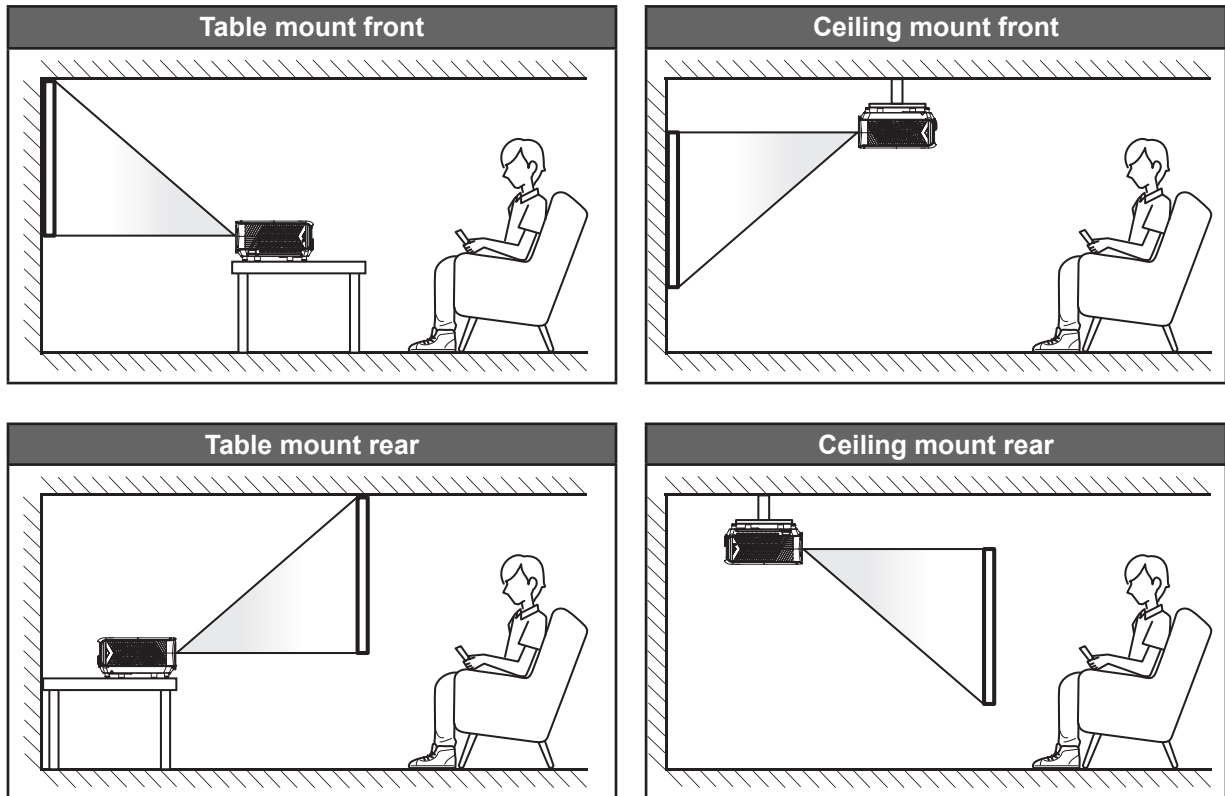
Projector should be placed flat on a surface and 90 degrees / perpendicular to the screen.

- How to determine projector location for a given screen size, please refer to distance table on page *55*.
- How to determine screen size for a given distance, please refer to distance table on page *55*.

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 than 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 light source or the projector itself. For none standard installation advise please contact Optoma.

SETUP AND INSTALLATION

Projector installation notice

- Allow at least 30 cm clearance around the exhaust vent.

Minimum
100mm
(3.94 inches)

Minimum
300mm
(11.81 inches)

Minimum
300mm
(11.81 inches)

Minimum
100mm
(3.94 inches)

Minimum
100mm
(3.94 inches)

Minimum
100mm
(3.94 inches)
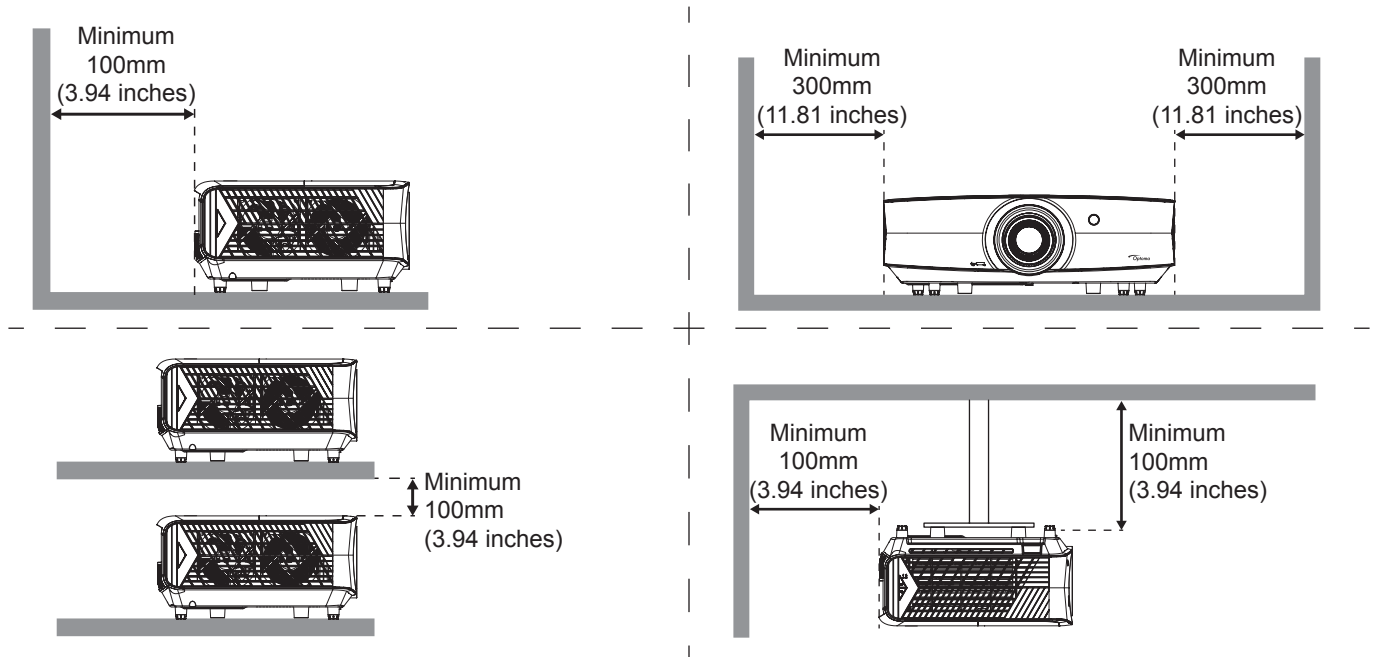
- Ensure that the intake vents do not recycle hot air from the exhaust vent.

- 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.

SETUP AND INSTALLATION

Connecting sources to the projector
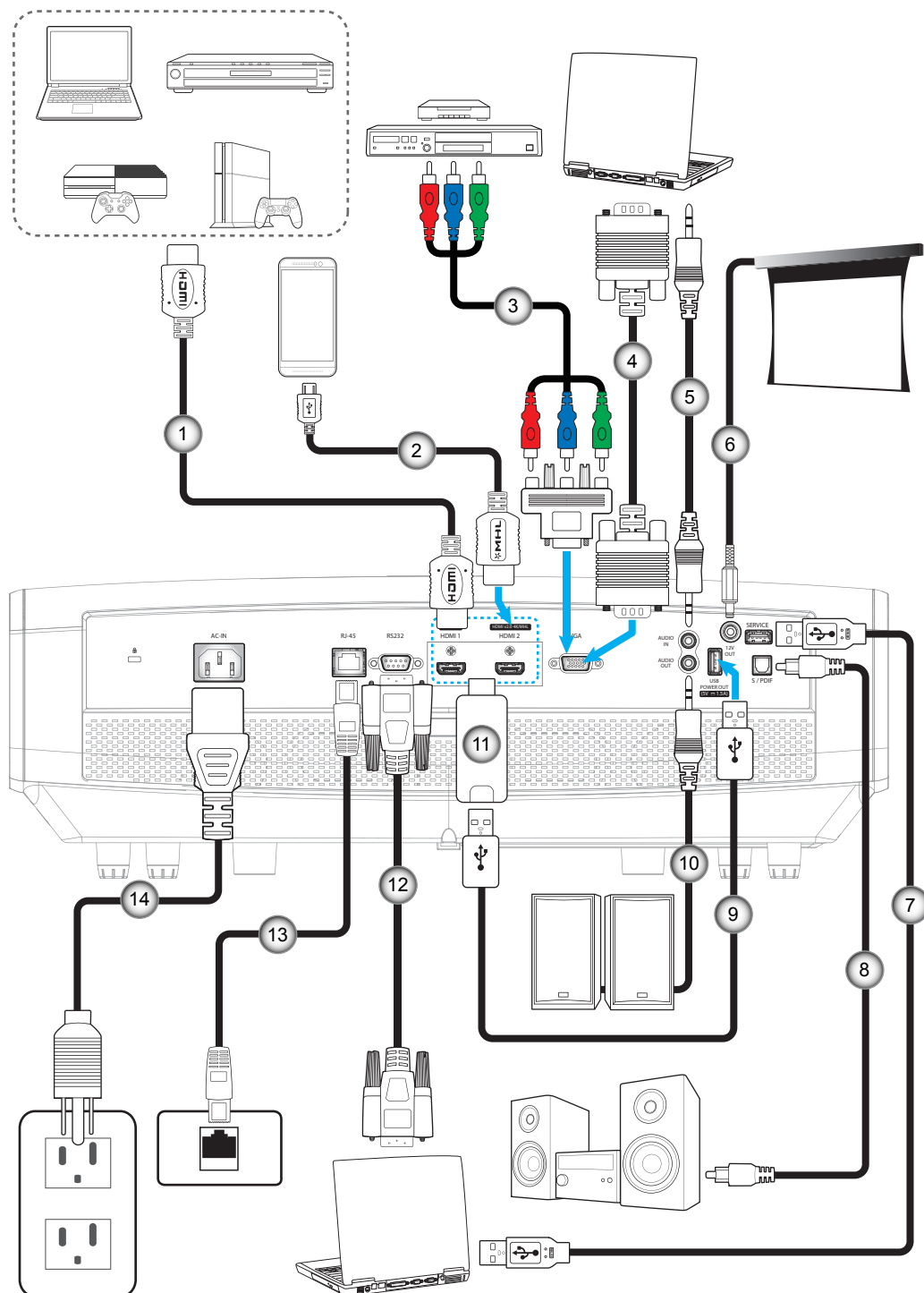
No	Item	No	Item
1.	HDMI Cable	8.	S/PDIF Out Cable
2.	HDMI / MHL Cable	9.	USB Power Cable
3.	RCA Component Cable	10.	Audio Out Cable
4.	VGA In Cable	11.	HDMI Dongle
5.	Audio In Cable	12.	RS232 Cable
6.	12V DC Jack	13.	RJ-45 Cable
7.	USB Cable	14.	Power Cord

SETUP AND INSTALLATION

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.

Tilt-Adjustment Feet

Tilt-Adjustment Ring
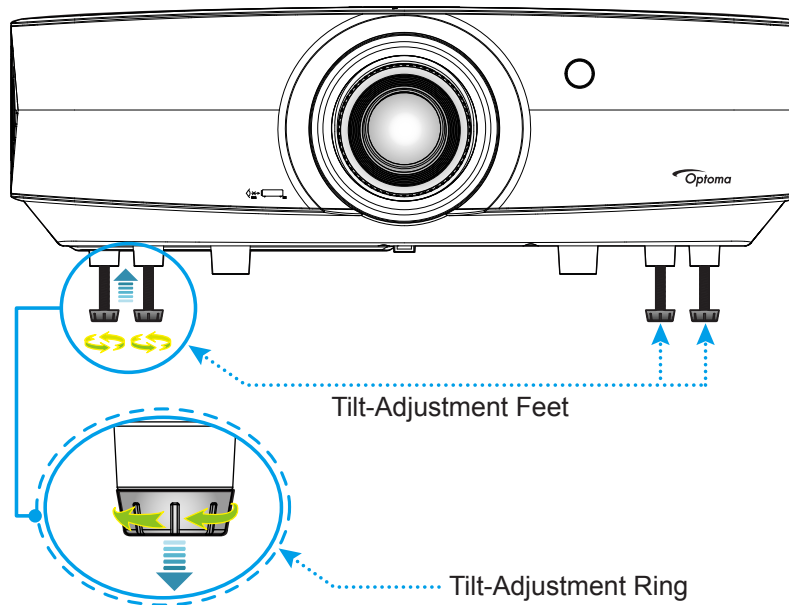
Zoom, lens shift, and focus

- To adjust the image size and position, do the following:

  a. Push down firmly on the middle of the top cover to unlock the latch. Then open the top cover.

Zoom Lever
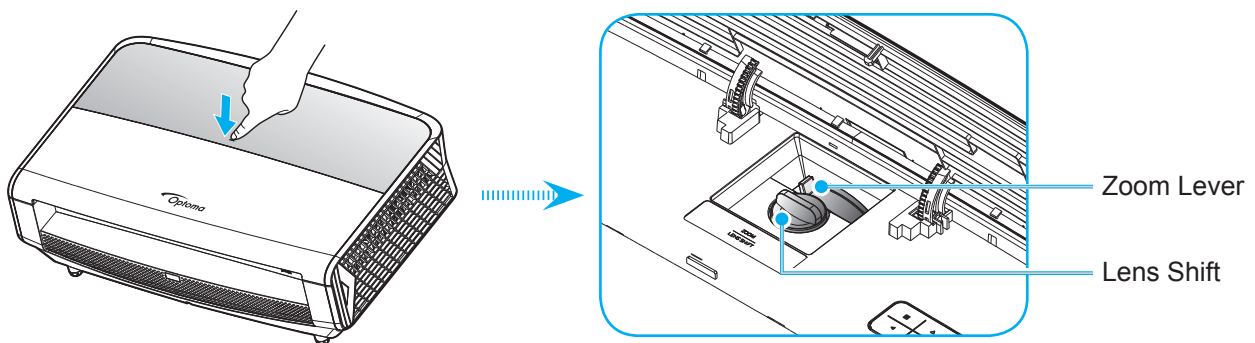
Lens Shift

  b. To adjust the image size, turn the zoom lever clockwise or counterclockwise to increase or decrease the projected image size.

  c. To adjust the image position, turn the lens shift dial clockwise or counterclockwise to adjust the position of the projected image vertically.

SETUP AND INSTALLATION

- To adjust the focus, turn the focus ring clockwise or counterclockwise until the image is sharp and legible.

Focus Ring
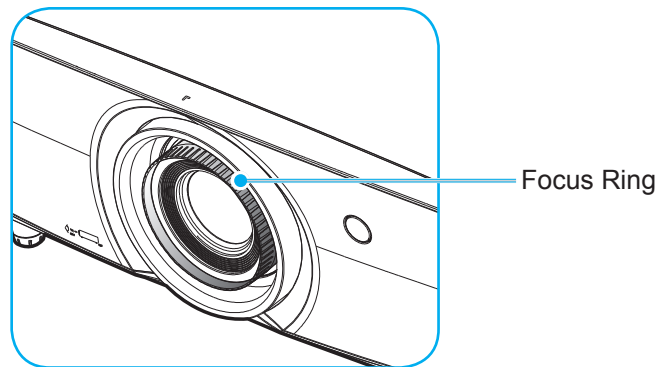
Note: *The projector will focus at a distance of 1.3m to 9.3m.*

SETUP AND INSTALLATION

Remote setup

Installing / replacing the batteries

Two AAA size batteries are supplied for the remote control.

1.   Remove the battery cover on the back of the remote control.
2.   Insert AAA batteries in the battery compartment as illustrated.
3.   Replace back cover on remote control.
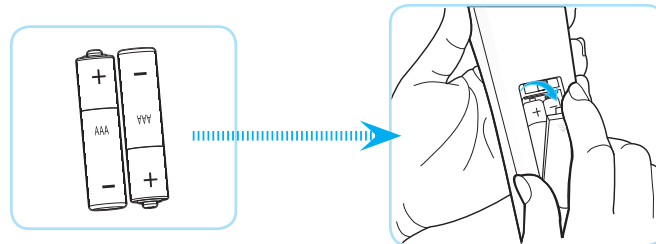
 Note: *Replace only with the same or equivalent type batteries.*

CAUTION

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

- Do not mix batteries of different types. Different types of batteries have different characteristics.

- Do not mix old and new batteries. Mixing old and new batteries can shorten the life of new batteries or cause chemical leakage in old batteries.

- Remove batteries as soon as 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 the front side and rear side of the projector. Ensure to hold the remote control at an angle within 30 degrees perpendicular to the projector's IR remote control sensor to function correctly. The distance between the remote control and the sensor should not be longer than 7 meters (~ 23 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 m 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 5 m from the remote control to the screen and reflecting the IR beams back to the projector. However, the effective range might change according to screens.

SETUP AND INSTALLATION

Approx. ±15°

Approx. ±15°
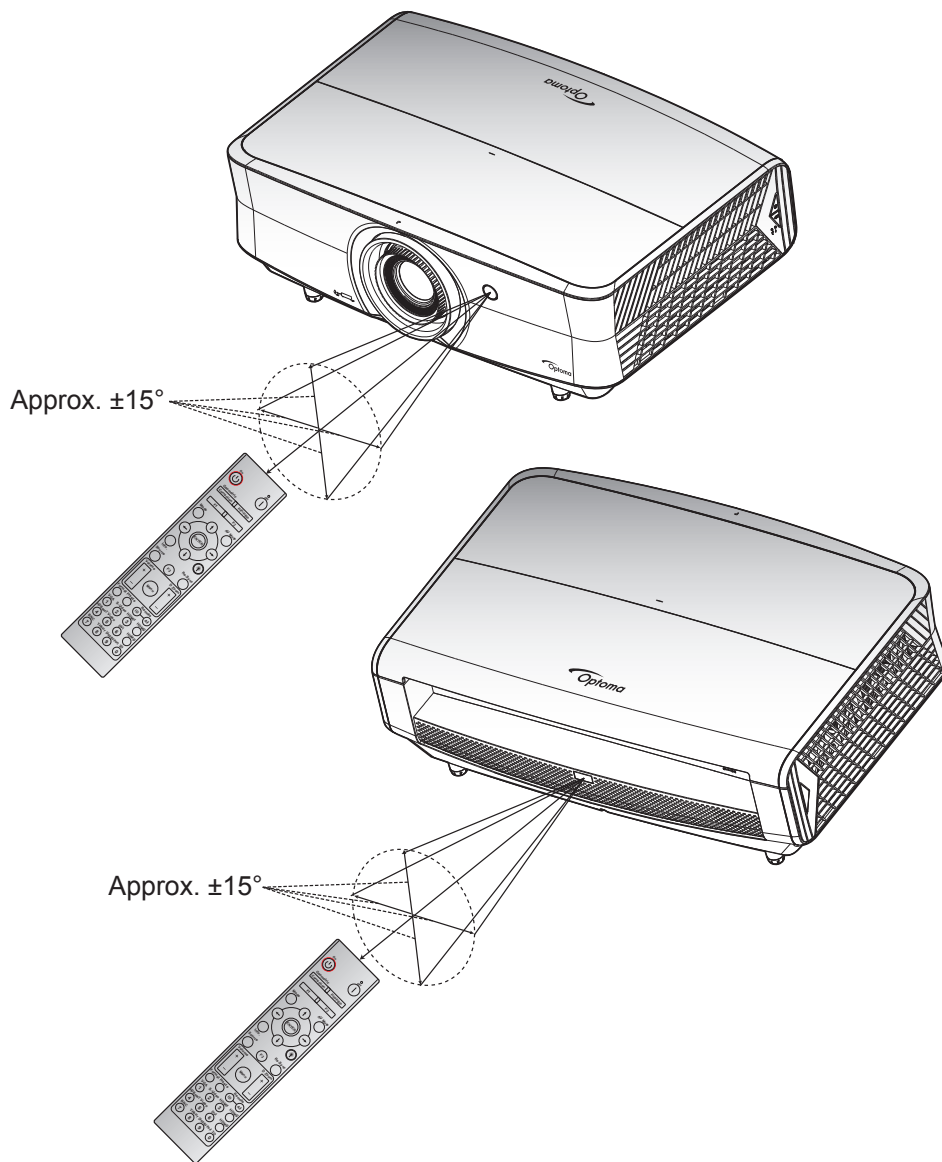
USING THE PROJECTOR

Powering on / off the projector
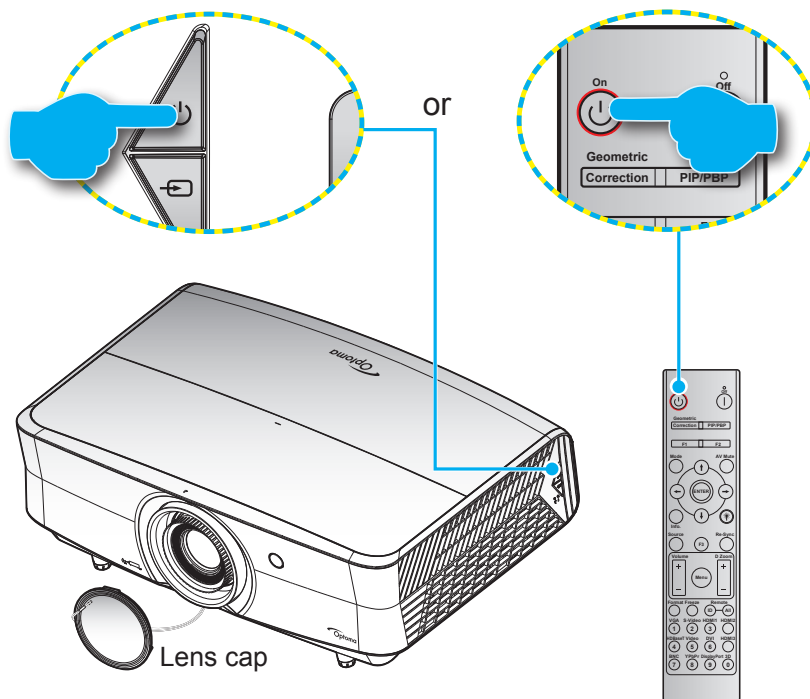
Lens cap

Powering on

1. Remove the lens cap.
2. Securely connect the power lead and signal/source cable. When connected, the Power LED will turn red.
3. Turn on the projector by pressing the ⏻ button on the projector keypad or remote control.
4. A start up screen will display in approximately 10 seconds and the Power LED will be 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 ⏻ button on the projector keypad or the | button on the remote control.
2. The following message will be displayed:


```
Power Off

Press power key again.
```
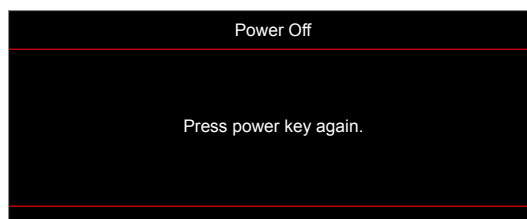
3. Press the ⏻ or | button again to confirm, otherwise the message will disappear after 15 seconds. When you press the ⏻ or | button for the second time, the projector will shut down.
4. The cooling fans will continue to operate for about 10 seconds for the cooling cycle and the Power LED will flash blue. When the Power 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 ⏻ 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.*

USING THE PROJECTOR

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.

or

Lens cap
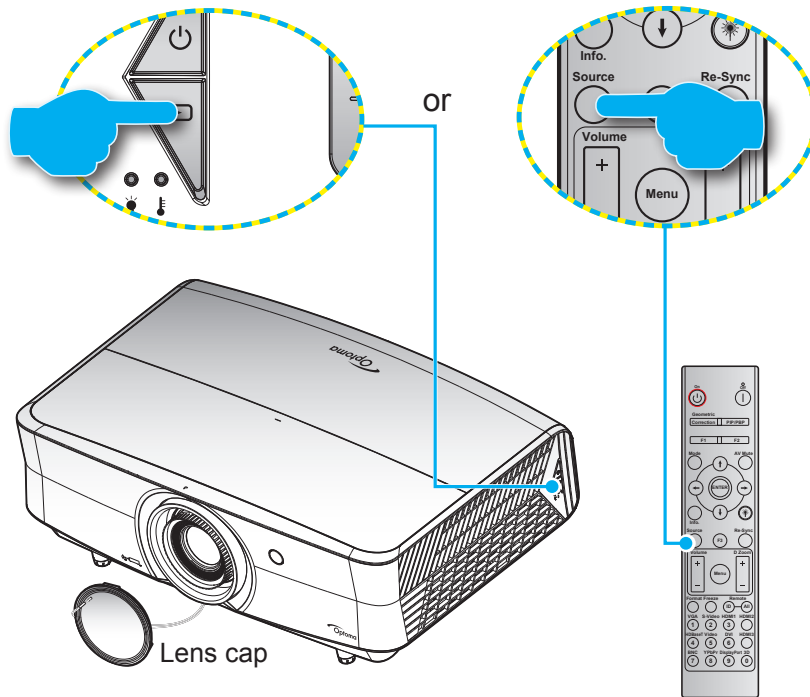
USING THE PROJECTOR

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 the ▤ button on the projector keypad or the **Menu** button on the remote control.

2. When OSD is displayed, use ▲▼ keys to select any item in the main menu. While making a selection on a particular page, press the ↵ button on the projector keypad or the **Enter** button on the remote control to enter sub menu.

3. Use ◄► keys to select the desired item in the sub menu and then press the ↵ or **Enter** button 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 press the ↵ or **Enter** button to confirm, and the screen will return to the main menu.

6. To exit, press the ▤ or **Menu** button again. The OSD menu will close and the projector will automatically save the new settings.

Sub Menu   Settings

Display

Main Menu

Image Settings   ▶
3D   ▶
Aspect Ratio   4:3
Edge Mask   0
Digital Zoom   0
Image Shift   ▶

⬍ Select   ◄▤ Exit   ↵▶ Enter

Navigation guide
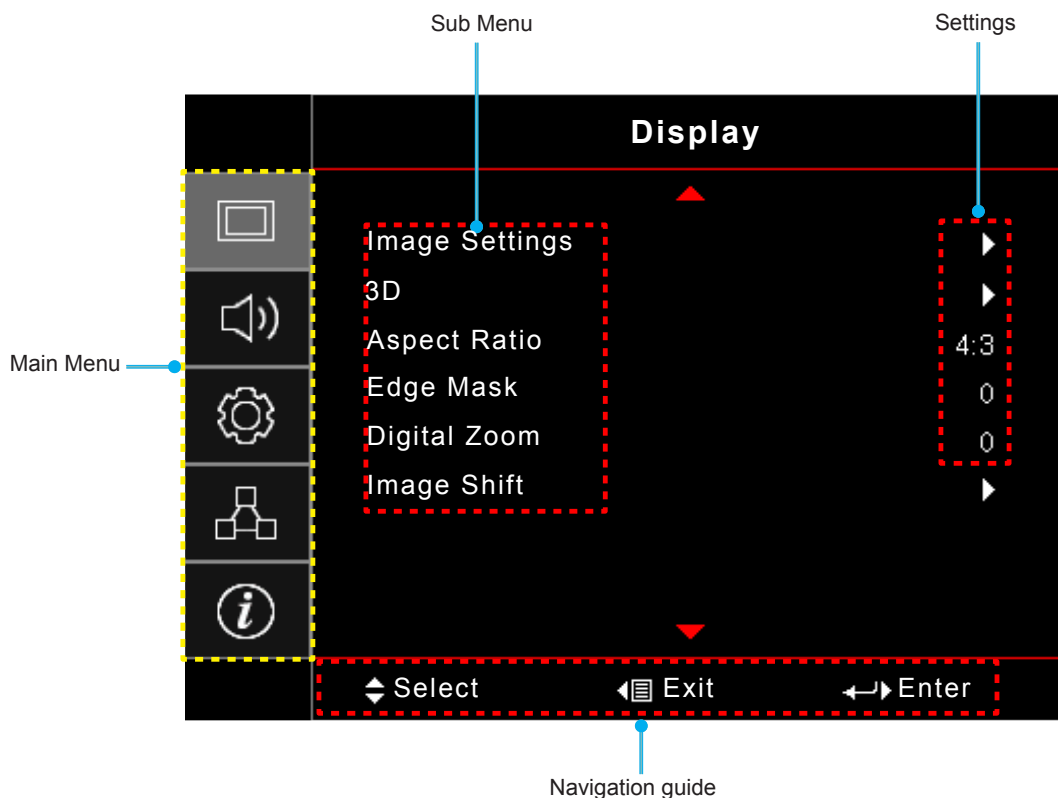
USING THE PROJECTOR

OSD Menu tree

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
Display	Image Settings	Display Mode			Presentation [Default]
					Bright
					HDR
					HLG
					HDR SIM.
					Cinema
					Game
					sRGB
					DICOM SIM.
					HDR2
					HLG2
					3D
		Wall Color			Off [Default]
					Blackboard
					Light Yellow
					Light Green
					Light Blue
					Pink
					Gray
		Dynamic Range	HDR/HLG		Off
					Auto [Default]
			HDR Picture Mode		Bright
					Standard [Default]
					Film
					Detail
			HLG Picture Mode		Bright
					Standard [Default]
					Film
					Detail
		Brightness			-50 ~ 50
		Contrast			-50 ~ 50
		Sharpness			1 ~ 15
		Color			-50 ~ 50
		Tint			-50 ~ 50

USING THE PROJECTOR

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
Display	Image Settings	Gamma	Film		
			Video		
			Graphics		
			Standard(2.2)		
			1.8		
			2.0		
			2.4		
			2.6		
			3D		
			Blackboard		
			DICOM SIM.		
		Color Settings	BrilliantColor™		1 ~ 10
			Color Temperature	Warm	
				Standard	
				Cool	
				Cold	
			Color Gamut	Native	
				HDTV	
				Presentation	
				Cinema	
				Game	
			CMS	Color	R [Default]
					G
					B
					C
					Y
					M
					W
				x offset	-50 ~ 50 [Default: 0]
				y offset	-50 ~ 50 [Default: 0]
				Brightness	-50 ~ 50 [Default: 0]
				Reset	Cancel [Default]
					Yes
				Exit	
			RGB Gain/Bias	Red Gain	-50 ~ 50
				Green Gain	-50 ~ 50
				Blue Gain	-50 ~ 50
				Red Bias	0 ~ 100
				Green Bias	0 ~ 100
				Blue Bias	0 ~ 100
				Reset	Cancel [Default]
					Yes
				Exit	

USING THE PROJECTOR

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
Display	Image Settings	Color Settings	Color Space	Color Space [Not HDMI Input]	Auto [Default]
					RGB
					YUV
				Color Space [HDMI Input]	Auto [Default]
					RGB(0~255)
					RGB(16~235)
					YUV
		Signal	Automatic		Off
					On [Default]
			Frequency		-50 ~ 50 (depends on signal) [Default: 0]
			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		
		UltraDetail			Off
					1
					2
					3
		Brightness Mode			DynamicBlack 1
					DynamicBlack 2
					DynamicBlack 3
					Power (Power = 100%/ 95%/ 90%/ 85%/ 80%/ 75%/ 70%/ 65%/ 60%/ 55%/ 50%)
		PureEngine	PureContrast		Off
					On
			PureColor		Off
					1
					2
					3
					4
					5
			PureMotion		Off
					1
					2
					3
			PureMotion Demo		Off [Default]
					H Split
					V Split
		Reset			

USING THE PROJECTOR

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
Display	3D	3D Mode			Off
					On [Default]
		3D Format			Auto [Default]
					SBS
					Top and Bottom
					Frame Sequential
					Frame Packing
		3D Sync Invert			On
					Off [Default]
		Reset			
	Aspect Ratio				4:3
					16:9
					LBX
					Superwide
					Native
					Auto
	Edge Mask				0 ~ 10 [Default: 0]
	Digital Zoom				-5 ~ 25 [Default: 0]
	Image Shift	H ▭			-100 ~ 100 [Default: 0]
		V ▭			-100 ~ 100 [Default: 0]
Audio	Internal Speaker				Auto [Default]
					Off
					On
	Mute				Off [Default]
					On
	Volume				0 ~ 10 [Default: 5]
	Audio Input	HDMI			Default [Default]
					Audio In
		HDMI/MHL			Default [Default]
					Audio In
	Audio Out				Off [Default]
					On
Setup	Projection				Front ▣ [Default]
					Rear ▣
					Ceiling-top ▣
					Rear-top ▣
	Filter Settings	Filter Usage Hours			(read only)
		Optional Filter Installed			Yes
					No

USING THE PROJECTOR

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
Setup	Filter Settings	Filter Reminder			Off
					300hr
					500hr [Default]
					800hr
					1000hr
		Filter Reset			Cancel [Default]
					Yes
	Power Settings	Direct Power On			Off [Default]
					On
		Auto Power Off (min.)			0 ~ 180 (5 min increments) [Default: 0]
		Sleep Timer (min.)			0 ~ 990 (30 min increments) [Default: 0]
			Always On		No [Default]
					Yes
		Power Mode (Standby)			Active
					Eco [Default]
	Security	Security			Off
					On
		Security Timer	Month		
			Day		
			Hour		
		Change Password			
	Test Pattern				Green Grid
					Magenta Grid
					White Grid
					White
					Off
	Remote Settings [depends on remote]	IR Function			On
					Front
					Back
					Off
		F1			Test Pattern
					Brightness
					Contrast
					Sleep Timer
					Color Temp
					Gamma
					Projection
					MHL

USING THE PROJECTOR

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
Setup	Remote Settings [depends on remote]	F2			Test Pattern
					Brightness
					Contrast
					Sleep Timer
					Color Temp
					Gamma
					Projection
					MHL
		F3			Test Pattern
					Brightness
					Contrast
					Sleep Timer
					Color Temp
					Gamma
					Projection
					MHL
	Projector ID				00 ~ 99
	12V Trigger				On
					Off
	Options	Language			English [Default]
					Deutsch
					Français
					Italiano
					Español
					Português
					简体中文
					日本語
					한국어
					Русский
		Menu Settings	Menu Location		Top left ◼
					Top right ◼
					Center ◼ [Default]
					Bottom left ◼
					Bottom right ◼
			Menu Timer		Off
					5sec
					10sec [Default]
		Auto Source			Off [Default]
					On
		Input Source			HDMI1
					HDMI2/MHL
					VGA

USING THE PROJECTOR

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
Setup	Options	High Altitude			Off [Default]
					On
		Display Mode Lock			Off [Default]
					On
		Keypad Lock			Off [Default]
					On
		Information Hide			Off [Default]
					On
		Logo			Default [Default]
					Neutral
		Background Color			None [Default]
					Blue
					Red
					Green
					Gray
	Reset	Reset OSD			Cancel [Default]
					Yes
		Reset to Default			Cancel [Default]
					Yes
Network	LAN	Network Status			(read only)
		MAC Address			(read only)
		DHCP			Off [Default]
					On
		IP Address			192.168.0.100 [Default]
		Subnet Mask			255.255.255.0 [Default]
		Gateway			192.168.0.254 [Default]
		DNS			192.168.0.51 [Default]
		Reset			
	Control	Crestron			Off
					On [Default] **Note:** *Port 41794*
		Extron			Off
					On [Default] **Note:** *Port 2023*
		PJ Link			Off
					On [Default] **Note:** *Port 4352*
		AMX Device Discovery			Off
					On [Default] **Note:** *Port 9131*
		Telnet			Off
					On [Default] **Note:** *Port 23*
		HTTP			Off
					On [Default] **Note:** *Port 80*

USING THE PROJECTOR

Main Menu	Sub Menu	Sub Menu 2	Sub Menu 3	Sub Menu 4	Values
Info	Regulatory				
	Serial Number				
	Source				
	Resolution				00x00
	Refresh Rate				0.00Hz
	Display Mode				
	Power Mode (Standby)				
	Light Source Hours				
	Network Status				
	IP Address				
	Projector ID				00 ~ 99
	Color Depth				**Note:** *12bit 4:2:2*
	Color Format				**Note:** *BT.2020 HDR*
	Filter Usage Hours				
	Brightness Mode				
	FW Version	System			
		LAN			
		MCU			

USING THE PROJECTOR

Display menu

Display image settings menu

Display Mode

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

- **Presentation**: This mode is suitable for showing in front of public in connection to the PC.

- **Bright**: Maximum brightness from PC input.

- **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.

- **HLG**: For HDR movies with Hybrid Log content.

- **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 non-HDR content.

- **Cinema**: Provides the best colors for watching movies.

- **Game**: Select this mode to increase the brightness and response time level for enjoying video games.

- **sRGB**: Standardized accurate color.

- **DICOM SIM.**: This mode can project a monochrome medical image such as an X ray radiography, MRI, etc.

- **HDR2**: This mode produces less bright image but adds more details to the projected image. Suitable for rooms with some ambient light.

- **HLG2**: This mode provides a balance of dynamic range and noise reduction.

- **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 have a 3D Player installed.

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: *HDMI1 and VGA do not support Dynamic Range.*

➤ **HDR/HLG**
- **Off**: Turn off HDR or HLG processing. When set to Off, the projector will NOT decode HDR or HLG content.
- **Auto**: Auto detect HDR or HLG 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.

USING THE PROJECTOR

➤ **HLG 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.

Color

Adjust a video image from black and white to fully saturated color.

Tint

Adjust the color balance of red and green.

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 / 2.6**: For specific PC / Photo source.
- **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.
- **Blackboard**: This mode should be selected to achieve optimum color settings when projecting onto a blackboard (green).
- **DICOM SIM.**: This mode can project a monochrome medical image such as an X ray radiography, MRI, etc.

Note:

- *These options are only available if the 3D mode function is disabled, the **Wall Color** setting is not set to **Blackboard**, and the **Display Mode** setting is not set to **DICOM SIM.** or **HDR**.*
- *If the **Display Mode** setting is set to **HDR**, user can only select **HDR** for **Gamma** setting.*
- *In 3D mode, user can only select **3D** for **Gamma** setting.*
- *If the **Wall Color** setting is set to **Blackboard**, user can only select **Blackboard** for **Gamma** setting.*
- *If the **Display Mode** setting is set to DICOM SIM., user can only select **DICOM SIM.** 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 Warm, Standard, Cool, or Cold.

USING THE PROJECTOR

- **Color Gamut**: Select this menu to optomize the color gamut color range for Native, HDTV, Presentation, Cinema, and Game.
- **CMS**: Select the following options:
  - Color: Select one of the colors (R/G/B/C/Y/M/W) to adjust its x/y offset and brightness.
  - x Offset: Adjust the x offset value of selected color.
  - y Offset: Adjust the y offset value of selected color.
  - Brightness: Adjust the brightness value of selected color.
  - Reset: Choose "Yes" to return the factory default settings for color adjustments.
  - Exit: Exit the "CMS" menu.
- **RGB Gain/Bias:** This settings allows to configure the brightness (gain) and contrast (bias) of an image.
  - Reset: Choose "Yes" to 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.*

Ultra Detail

Adjust the edges of the projected image in order to provide more perceived details.

Brightness Mode

Adjust the brightness mode settings.

- **DynamicBlack1/ DynamicBlack2/ DynamicBlack3**: Use to automatically adjust the picture brightness in order to give optimum contrast performance.
- **Power**: Choose the power percentage for brightness mode.

USING THE PROJECTOR

PureEngine

Adjust the PureEngine parameters.

- **PureContrast**: Use to automatically optimize the brightness of the display during dark / light movie scenes to be shown in incredible detail.

- **PureColor**: Use to significantly increase the image's vividness.

- **PureMotion**: Use to preserve a natural motion of the displayed image.

- **PureMotion Demo**: This feature enables you to see the difference in the image quality between the raw unprocessed image and the image processed as processed by the PureMotion. Use this mode to check the adjustments that you make to the PureMotion settings.

Note: *This menu is only available for certain models.*

Reset

Return the factory default settings for color settings.

USING THE PROJECTOR

Display 3D menu

Note:

- *This projector is a 3D ready projector with DLP-Link 3D solution.*
- *Please make sure your 3D glasses are use for DLP-Link 3D before enjoy your video.*
- *This projector supports frame sequential (page-flip) 3D via HDMI1/HDMI2/VGA ports.*
- *To enable 3D mode, the input frame rate should be set to 60Hz only, lower or higher frame rate is not supported.*
- *To reach the best performance, resolution 1920x1080 is recommended, please be noted that 4K (3840x2160) resolution is not supported in 3D mode.*

3D Mode

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

Note: *If the 2D and 3D sources enter PJ at the same time, if the ghosting image appears in the 2D source, make sure to manually turn off the 3D function.*

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.

- **SBS**: 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 settings for 3D settings.

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.

- **Superwide**: Use this special 2.0:1 aspect ratio to display both 16:9 and 2.35:1 aspect ratio movies without black bars at the top and bottom of the screen.

- **Native**: This format displays the original image without any scaling.

- **Auto**: Automatically selects the appropriate display format.

USING THE PROJECTOR

Note:

- *Detailed informations about LBX mode:*
  - *Some Letter-Box Format DVDs are not enhanced for 16x9 TVs. In this situation, the image will not look right when displaying image in 16:9 mode. In this situation, please try to use the 4:3 mode to view the DVD. If the content is not 4:3, there will be black bars around the image in 16:9 display. For this type of content, you can use LBX mode to fill the image on the 16:9 display.*
  - *If you use an external anamorphic lens, this LBX mode also allows you to watch a 2.35:1 content (include Anamorphic DVD and HDTV film source) that supports anamorphic wide is enhanced for 16x9 Display in a wide 2.35:1 image. In this case, there are no black bars. Light source power and vertical resolution are fully utilized.*

- *To use the superwide format, do the following:*
  - a) *Set the screen aspect ratio to 2.0:1.*
  - b) *Select "Superwide" format.*
  - c) *Align the projector image correctly on the screen.*

4D UHD scaling table:

16:9 screen	480i/p	576i/p	720p	1080i/p	2160p
4x3	Scale to 2880 x 2160.				
16x9	Scale to 3840 x 2160.				
LBX	Scale to 3840 x 1620, then get the central 3840 x 2160 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.				
Auto	- If source is 4:3, the screen type will be scaled to 2880 x 2160. - If source is 16:9, the screen type will be scaled to 3840 x 2160. - If source is 15:9, the screen type will be scaled to 3600 x 2160. - If source is 16:10, the screen type will be scaled to 3456 x 2160.				

4D UHD auto mapping rule:

Auto	Input resolution		Auto/Scale	
	H-resolution	V-resolution	3840	2160
4:3	640	480	2880	2160
	800	600	2880	2160
	1024	768	2880	2160
	1280	1024	2880	2160
	1400	1050	2880	2160
	1600	1200	2880	2160
Wide Laptop	1280	720	3840	2160
	1280	768	3600	2160
	1280	800	3456	2160
SDTV	720	576	2700	2160
	720	480	3240	2160
HDTV	1280	720	3840	2160
	1920	1080	3840	2160

USING THE PROJECTOR

Display edge mask menu

Edge Mask

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

Display digital zoom menu

Digital 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).

USING THE PROJECTOR

Audio menu

Audio internal speaker menu

Internal Speaker

Use this option to temporarily turn off the sound.

- **Auto:** Choose "Auto" to automatically turn off the internal speaker when an external speaker is connected to the projector

- **On:** Choose "On" to turn on the internal speaker.

- **Off:** Choose "Off" to turn off the internal speaker.

Audio mute menu

Mute

Use this option to temporarily turn off the sound.

- **On:** Choose "On" to turn mute on.

- **Off:** Choose "Off" to turn mute off.

Note: *"Mute" function affects both internal and external speaker volume.*

Audio volume menu

Volume

Adjust the volume level.

Audio audio input menu

Audio Input

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

- **HDMI:** Default or Audio In.

- **HDMI/MHL:** Default or Audio In.

Audio audio out menu

Audio Out

Enable or disable the audio out function.

USING THE PROJECTOR

Setup menu

Setup projection menu

Projection

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

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.

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.

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.

USING THE PROJECTOR

Setup security menu

Security

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

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

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 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 the top and front IR receivers.
- **Front:** Choose "Front", the projector can be operated by the remote control from the front IR receiver.
- **Back:** Choose "Back", the projector can be operated by the remote control from the rear 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.

F1/F2/F3

Assign the default function for F1, F2, or F3 between Test Pattern, Brightness, Contrast, Sleep Timer, Color Temp, Gamma, Projection, or MHL.

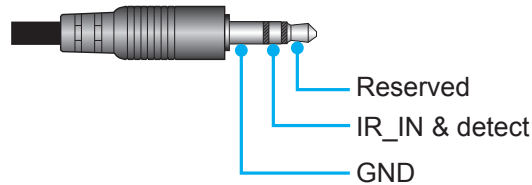## Setup projector ID menu

Projector ID

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

USING THE PROJECTOR

Setup 12V trigger menu

12V Trigger

Use this function to enable or disable the trigger.

Reserved
IR_IN & detect
GND

- **Off**: Choose "Off" to disable the trigger.
- **On**: Choose "On" to enable the trigger.

Setup options menu

Language

Select the multilingual OSD menu between English, German, French, Italian, Spanish, Portuguese, simplified Chinese, Japanese, Korean, and Russian.

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

Choose this option to let the projector automatically find an available input source.

Input Source

Select the input source between 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.

USING THE PROJECTOR

Background Color

Use this function to display a blue, red, green, or gray screen when no signal is available.

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

Setup reset OSD menu

Reset OSD

Return the factory default settings for OSD menu settings.

Reset to Default

Return the factory default settings for all settings.

Network menu

Network LAN menu

Network Status

Display the network connection status (read-only).

MAC Address

Display the MAC address (read-only).

DHCP

Use this option to enable or disable the DHCP function.

- **Off**: To assign IP, subnet mask, gateway, and DNS configuration manually.

- **On**: Projector will obtain an IP address automatically from your network.

Note: *Exiting OSD will automatically apply the entered values.*

IP Address

Display the IP address.

Subnet Mask

Display subnet mask number.

Gateway

Display the default gateway of the network connected to the projector.

DNS

Display the DNS number.

How to use web browser to control your projector

1. Turn "On" the DHCP option on projector to allow a DHCP server to automatically assign an IP address.
2. Open the web browser in your PC and type in the projector's IP address ("Network > LAN > IP Address").
3. Enter the user name and password, and click "Login".
   The projector's configuration web interface opens.

Note:

- *The default user name and password is "admin".*
- *The steps in this section is based on Windows 7 operating system.*

USING THE PROJECTOR

Making a direct connection from your computer to the projector*

1. Turn "Off" the DHCP option on the projector.
2. Configure the IP address, Subnet Mask, Gateway, and DNS on projector ("Network > LAN").
3. Open **_Network and Sharing Center_** page on your PC, and assign the identical network parameters to your PC as set on projector. Click "OK" to save the parameters.
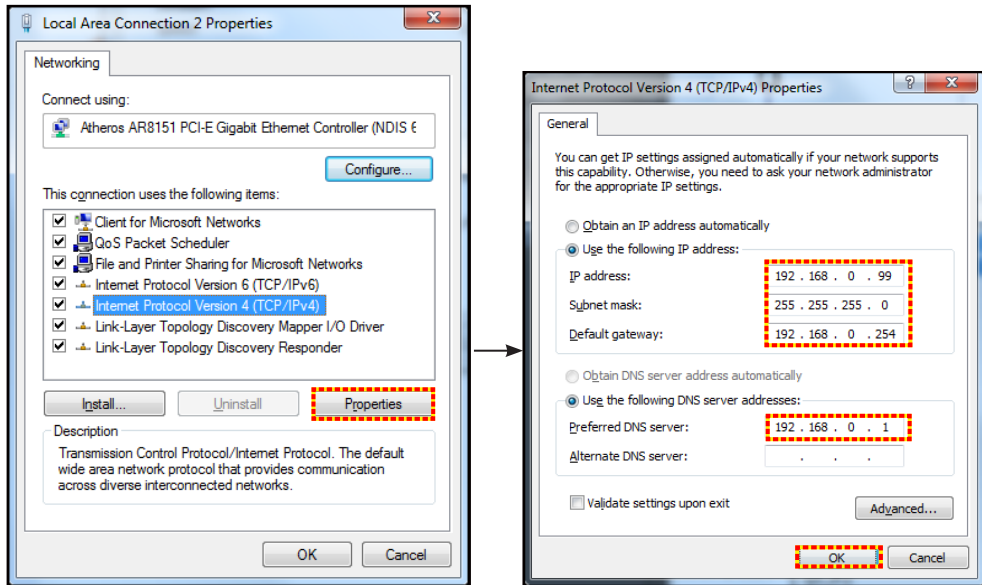
4. Open the web browser on your PC and type in to the URL field the IP address, assigned in step 3. Then press "Enter" key.

Reset

Reset all values for LAN parameters.

Network control menu

Crestron

Use this function to select the network function (port: 41794).

For more information, please visit http://www.crestron.com and www.crestron.com/getroomview.

Extron

Use this function to select the network function (port: 2023).

PJ Link

Use this function to select the network function (port: 4352).

AMX Device Discovery

Use this function to select the network function (port: 9131).

Telnet

Use this function to select the network function (port: 23).

HTTP

Use this function to select the network function (port: 80).

USING THE PROJECTOR

Setup network control settings menu

LAN_RJ45 function

For simplicity and ease of operation, the projector provides diverse networking and remote management features. The LAN / RJ45 function of the projector through a network, such as remotely manage: Power On / Off, brightness, and contrast settings. Also, you can view the projector status information, such as: Video- Source, Sound-Mute, etc.
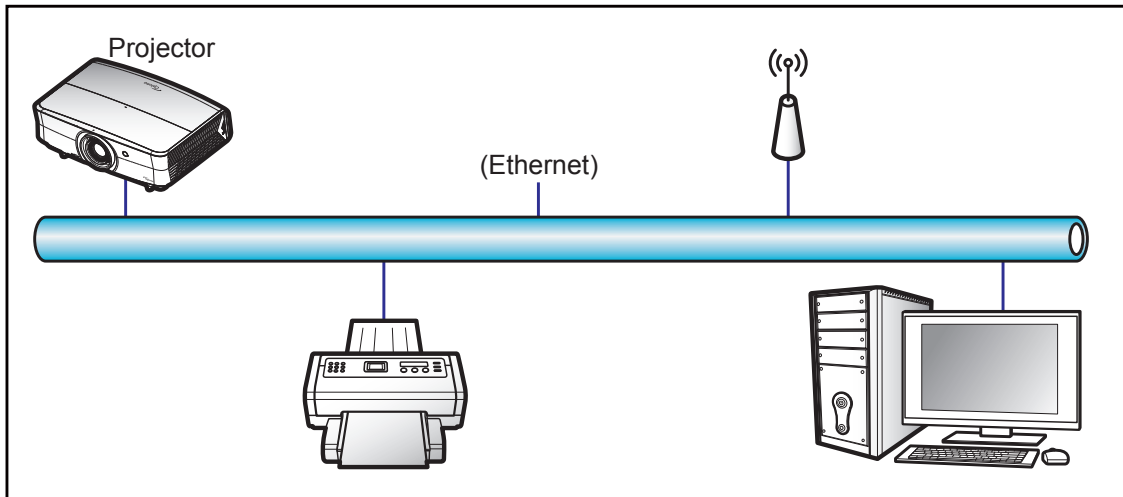
Wired LAN terminal functionalities

This projector can be controlled by using a PC (laptop) or other external device via LAN / RJ45 port and compatible with Crestron / Extron / AMX (Device -Discovery) / PJLink.

- Crestron is a registered trademark of Crestron Electronics, Inc. of the United States.

- Extron is a registered trademark of Extron Electronics, Inc. of the United States.

- AMX is a registered trademark of AMX LLC of the United States.

- PJLink applied for trademark and logo registration in Japan, the United States of America, and other countries by JBMIA.

The projector is supported by the specified commands of the Crestron Electronics controller and related software, for example RoomView®.

http://www.crestron.com/

This projector is compliant to support Extron device(s) for reference.

http://www.extron.com/

This projector is supported by AMX (Device Discovery).

http://www.amx.com/

This projector supports all commands of PJLink Class1 (Version 1.00).

http://pjlink.jbmia.or.jp/english/

For more detailed information about the various types of external devices which can be connected to the LAN / RJ45 port and remote control the projector, as well as the supported commands for these external devices, please contact the Support-Service directly.

USING THE PROJECTOR

LAN RJ45

1. Connect an RJ45 cable to RJ45 ports on the projector and the PC (laptop).
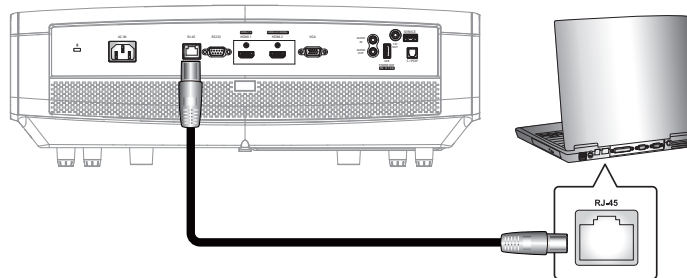
2. On the PC (Laptop), select **Start** > **Control Panel** > **Network Connections**.

3. Right-click on the L**ocal Area Connection**, and select **Property**.
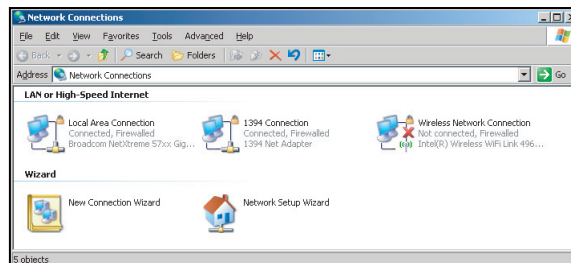
4. In the **Properties** window, select the **General tab**, and select **Internet Protocol (TCP / IP)**.
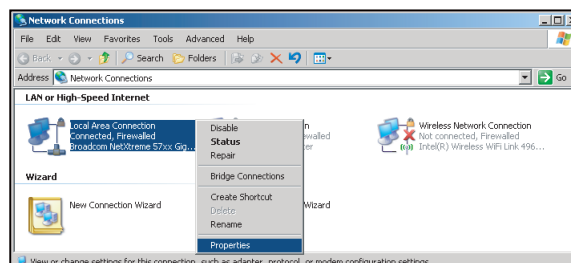
USING THE PROJECTOR

1. Click "Properties".
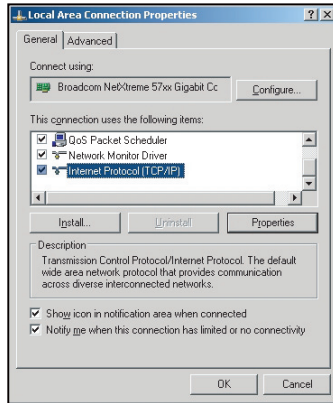
2. Type in the IP address and Subnet mask, then press "OK".
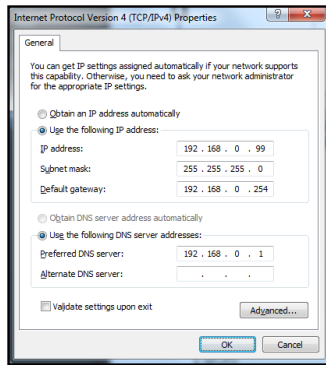
3. Press the "Menu" button on the projector.

4. Open on projector **Network** > **LAN**.
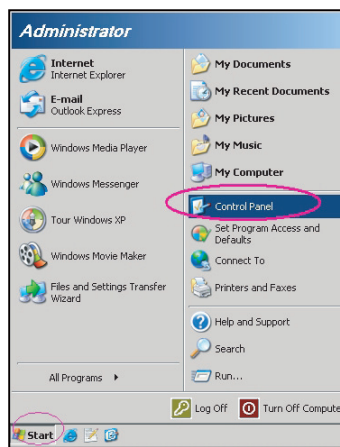
5. Enter the following connection parameters:

    –   DHCP: Off

    –   IP Address: 192.168.0.100

    –   Subnet Mask: 255.255.255.0

    –   Gateway: 192.168.0.254

    –   DNS: 192.168.0.51

6. Press "Enter" to confirm settings.

7. Open a web browser, for example Microsoft Internet Explorer with Adobe Flash Player 9.0 or higher installed.

8. In the Address bar, input the projector's IP address: 192.168.0.100.

9. Press "Enter".

USING THE PROJECTOR

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

Information page

Main page

Tool page

Contact IT helpdesk

USING THE PROJECTOR

RS232 by Telnet Function

There is alternative RS232 command control way, in projector so called "RS232 by TELNET" for LAN / RJ45 interface.

Quick Start-Guide for "RS232 by Telnet"

- Check and get the IP address on OSD of the projector.

- Make sure that the PC / laptop can access the web-page of the projector.

- Make sure that "Windows Firewall" setting is set disabled in case of "TELNET" function filtering out by PC / laptop.
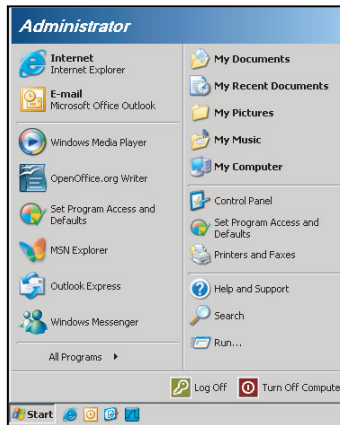
1. Select **Start** > **All Programs**.> **Accessories** > **Command Prompt**.
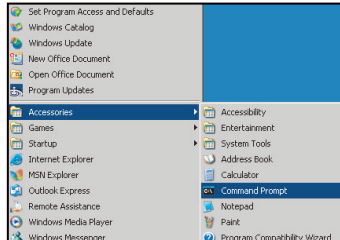
2. Input the command format as follows:
   – telnet ttt.xxx.yyy.zzz 23 ("Enter" key pressed)
   – (ttt.xxx.yyy.zzz: IP-Address of the projector)

3. If Telnet-Connection ready, and user can have RS232 command input, then "Enter" key pressed, the RS232 command will be workable.

Specification for "RS232 by TELNET":

1. Telnet: TCP.
2. Telnet port: 23 (for more detail, kindly please get contact with the service agent or team).
3. Telnet utility: Windows "TELNET.exe" (console mode).
4. Disconnection for RS232-by-Telnet control normally: Close
5. Windows Telnet utility directly after TELNET connection ready.
   – Limitation 1 for Telnet-Control: there is less than 50 bytes for successive network payload for Telnet-Control application.
   – Limitation 2 for Telnet-Control: there is less than 26 bytes for one complete RS232 command for Telnet-Control.
   – Limitation 3 for Telnet-Control: Minimum delay for next RS232 command must be more than 200 (ms).

USING THE PROJECTOR

Info menu

Info menu

View the projector information as listed below:

- Regulatory
- Serial Number
- Source
- Resolution
- Refresh Rate
- Display Mode
- Power Mode (Standby)
- Light Source Hours
- Network Status
- IP Address
- Projector ID
- Color Depth
- Color Format
- Filter Usage Hours
- Brightness Mode
- FW Version

MAINTENANCE

Installing and cleaning the dust filter

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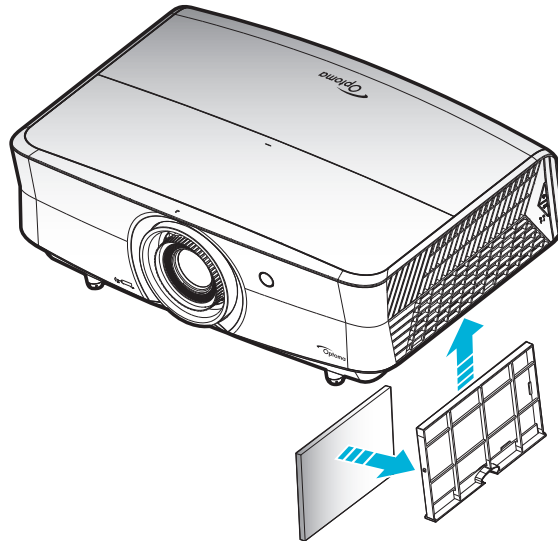
 Note: *Dust filters are only required/supplied in the selected regions with excessive dust.*

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 "⏻" button on the projector keypad or the " ⓘ " button on the remote control.

2.   Disconnect the power cord.

3.   Pull the dust filter compartment downwards to remove it out from the bottom of the projector. 1

4.   Carefully remove the air filter. Then clean or replace the dust filter. 2

5.   To install the dust filter, reverse the previous steps.
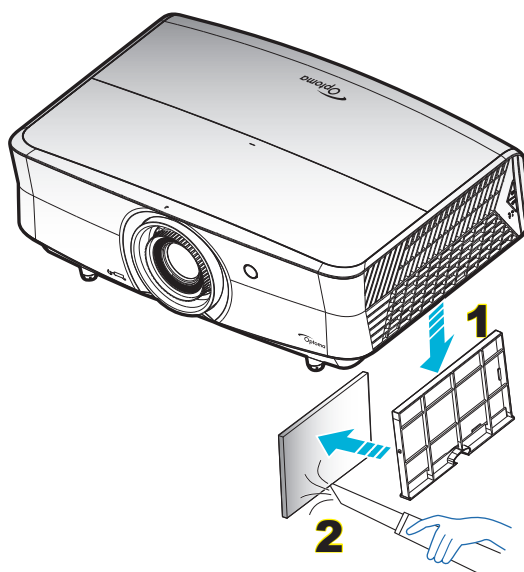
ADDITIONAL INFORMATION

Compatible resolutions

Digital (HDMI 1.4)

Native resolution: 3840 x 2160 @ 30Hz

B0/Established Timing	B0/Standard Timing	Descriptor Timing	B1/Video Mode	B1/Detail Timing
720 x 400 @ 70Hz	1280 x 720 @ 60Hz	3840 x 2160 @ 30Hz [Default]	720 x 480i @ 60Hz 16:9	1920 x 1080p @ 60Hz
640 x 480 @ 60Hz	1280 x 800 @ 60Hz		720 x 480p @ 60Hz 4:3	1366 x 768 @ 60Hz
640 x 480 @ 67Hz	1280 x 1024 @ 60Hz		720 x 480p @ 60Hz 16:9	1920 x 1080 @ 120Hz
640 x 480 @ 72Hz	1920 x 1200 @ 60Hz (reduced)		720 x 576i @ 50Hz 16:9	
640 x 480 @ 75Hz			720 x 576p @ 50Hz 4:3	
800 x 600 @ 56Hz	640 x 480 @ 120Hz		720 x 576p @ 50Hz 16:9	
800 x 600 @ 60Hz	800 x 600 @ 120Hz		1280 x 720p @ 60Hz 16:9	
800 x 600 @ 72Hz	1024 x 768 @ 120Hz		1280 x 720p @ 50Hz 16:9	
800 x 600 @ 75Hz	1280 x 800 @ 120Hz		1920 x 1080i @ 60Hz 16:9	
832 x 624 @ 75Hz			1920 x 1080i @ 50Hz 16:9	
1024 x 768 @ 60Hz			1920 x 1080p @ 60Hz 16:9	
1024 x 768 @ 70Hz			1920 x 1080p @ 50Hz 16:9	
1024 x 768 @ 75Hz			1920 x 1080p @ 24Hz 16:9	
1280 x 1024 @ 75Hz			3840 x 2160 @ 24Hz	
1152 x 870 @ 75Hz			3840 x 2160 @ 25Hz	
			3840 x 2160 @ 30Hz	
			4096 x 2160 @ 24Hz	

Digital (HDMI 2.0)

Native resolution: 3840 x 2160 @ 60Hz

B0/Established Timing	B0/Standard Timing	B1/Video Mode	B1/Detail Timing
720 x 400 @ 70Hz	1280 x 720 @ 60Hz	720 x 480i @ 60Hz 16:9	1920 x 1080p @ 120Hz
640 x 480 @ 60Hz	1280 x 800 @ 60Hz	720 x 480p @ 60Hz 4:3	1366 x 768 @ 60Hz
640 x 480 @ 67Hz	1280 x 1024 @ 60Hz	720 x 480p @ 60Hz 16:9	
640 x 480 @ 72Hz	1920 x 1200 @ 60Hz(reduced)	720 x 576i @ 50Hz 16:9	
640 x 480 @ 75Hz		720 x 576p @ 50Hz 4:3	
800 x 600 @ 56Hz	640 x 480 @ 120Hz	720 x 576p @ 50Hz 16:9	
800 x 600 @ 60Hz	800 x 600 @ 120Hz	1280 x 720p @ 60Hz 16:9	
800 x 600 @ 72Hz	1024 x 768 @ 120Hz	1280 x 720p @ 50Hz 16:9	
800 x 600 @ 75Hz	1280 x 800 @ 120Hz	1920 x 1080i @ 60Hz 16:9	
832 x 624 @ 75Hz		1920 x 1080i @ 50Hz 16:9	
1024 x 768 @ 60Hz		1920 x 1080p @ 60Hz 16:9	
1024 x 768 @ 70Hz		1920 x 1080p @ 50Hz 16:9	
1024 x 768 @ 75Hz		1920 x 1080p @ 24Hz 16:9	
1280 x 1024 @ 75Hz		1920 x 1080p @ 120Hz 16:9	
1152 x 870 @ 75Hz		3840 x 2160 @ 24Hz	
		3840 x 2160 @ 25Hz	
		3840 x 2160 @ 30Hz	
		3840 x 2160 @ 50Hz	
		3840 x 2160 @ 60Hz	

ADDITIONAL INFORMATION

B0/Established Timing	B0/Standard Timing	B1/Video Mode	B1/Detail Timing
		4096 x 2160 @ 24Hz	
		4096 x 2160 @ 25Hz	
		4096 x 2160 @ 30Hz	
		4096 x 2160 @ 50Hz	
		4096 x 2160 @ 60Hz	

Analog (VGA)

Native resolution: 1920 x 1080 @ 60Hz

B0/Established Timing	B0/Standard Timing	B0/Descriptor Timing	B1/Detail Timing
720 x 400 @ 70Hz	1280 x 720 @ 60Hz	1920 x 1080 @ 60Hz [Default]	1366 x 768 @ 60Hz
640 x 480 @ 60Hz	1280 x 800 @ 60Hz		1280 x 800 @ 120Hz(RB)
640 x 480 @ 67Hz	1280 x 1024 @ 60Hz		
640 x 480 @ 72Hz			
640 x 480 @ 75Hz	1900 x 1200 @ 60Hz(RB)		
800 x 600 @ 56Hz	640 x 480 @ 120Hz		
800 x 600 @ 60Hz	800 x 600 @ 120Hz		
800 x 600 @ 72Hz	1024 x 768 @ 120Hz		
800 x 600 @ 75Hz			
832 x 624 @ 75Hz			
1024 x 768 @ 60Hz			
1024 x 768 @ 70Hz			
1024 x 768 @ 75Hz			
1280 x 1024 @ 75Hz			
1152 x 870 @ 75Hz			

3D timing for HDMI1.4b 3D supported

2D Supported Frame Rate	Timing	Format
59/60Hz option	1920 x 1080p @ 23.98 / 24Hz	Frame packing
	1280 x 720p @ 59.94 / 60Hz	Frame packing
	1280 x 1080i @ 59.94 / 60Hz	Side-by-Side (Half)
	1280 x 1080p @ 23.98 / 24Hz	Top-and-Bottom
	1280x720p @ 59.94 / 60Hz	Top-and-Bottom
50Hz option	1920 x 1080p @ 23.98 / 24Hz	Frame packing
	1280 x 720p @ 50Hz	Frame packing
	1280 x 1080i @ 50Hz	Side-by-Side (Half)
	1280 x 1080p @ 23.98 / 24Hz	Top-and-Bottom
	1280 x 720p @ 50Hz	Top-and-Bottom

ADDITIONAL INFORMATION

PC 3D timing

	Timing	Format
HDMI	1920 x 1080 @ 120Hz	Frame Sequential
	1280 x 800 @ 120Hz	Frame Sequential
	1024 x 768 @ 120Hz	Frame Sequential
	800 x 600 @ 120Hz	Frame Sequential
	640 x 480 @ 120Hz	Frame Sequential
VGA	1280 x 800 @ 120Hz	Frame Sequential
	1024 x 768 @ 120Hz	Frame Sequential
	800 x 600 @ 120Hz	Frame Sequential
	640 x 480 @ 120Hz	Frame Sequential

ADDITIONAL INFORMATION

Image size and projection distance

Desired Image Size						Projection Distance (C)			
Diagonal		Width		Height		Wide		Tele	
m	inch	m	inch	m	inch	m	feet	m	feet
0.91	36	0.80	31.38	0.45	17.65	/	/	1.8	5.80
1.02	40	0.89	34.86	0.50	19.61	/	/	2.0	6.45
1.27	50	1.11	43.58	0.62	24.51	1.5	5.05	2.5	8.06
1.52	60	1.33	52.29	0.75	29.42	1.8	6.06	2.9	9.67
1.78	70	1.55	61.01	0.87	34.32	2.2	7.07	3.4	11.29
2.03	80	1.77	69.73	1.00	39.22	2.5	8.08	3.9	12.90
2.29	90	1.99	78.44	1.12	44.12	2.8	9.09	4.4	14.51
2.54	100	2.21	87.16	1.25	49.03	3.1	10.10	4.9	16.12
3.05	120	2.66	104.59	1.49	58.83	3.7	12.11	5.9	19.35
3.81	150	3.32	130.74	1.87	73.54	4.6	15.14	7.4	24.19
4.57	180	3.98	156.88	2.24	88.25	5.5	18.17	8.8	29.02
5.08	200	4.43	174.32	2.49	98.05	6.2	20.19	/	/
6.35	250	5.53	217.89	3.11	122.57	7.7	25.24	/	/
7.62	300	6.64	261.47	3.74	147.08	9.2	30.29	/	/

Lens Shift Range					
PJ lens Center to top of image				Image Shift Range	
Vertical + (Max) (A)	Vertical - (Min) (B)	Vertical Shift Range	Vertical range at any Horizontal position	Horizontal + (Right)	Horizontal - (Left)
cm	cm	cm	cm	cm	cm
51.6	44.8	6.7	N/A	0	0
57.3	49.8	7.5	N/A	0	0
71.6	62.3	9.3	N/A	0	0
85.9	74.7	11.2	N/A	0	0
100.2	87.2	13.1	N/A	0	0
114.6	99.6	14.9	N/A	0	0
128.9	112.1	16.8	N/A	0	0
143.2	124.5	18.7	N/A	0	0
171.8	149.4	22.4	N/A	0	0
214.8	186.8	28.0	N/A	0	0
257.8	224.1	33.6	N/A	0	0
286.4	249.1	37.4	N/A	0	0
358.0	311.3	46.7	N/A	0	0
429.6	373.6	56.0	N/A	0	0
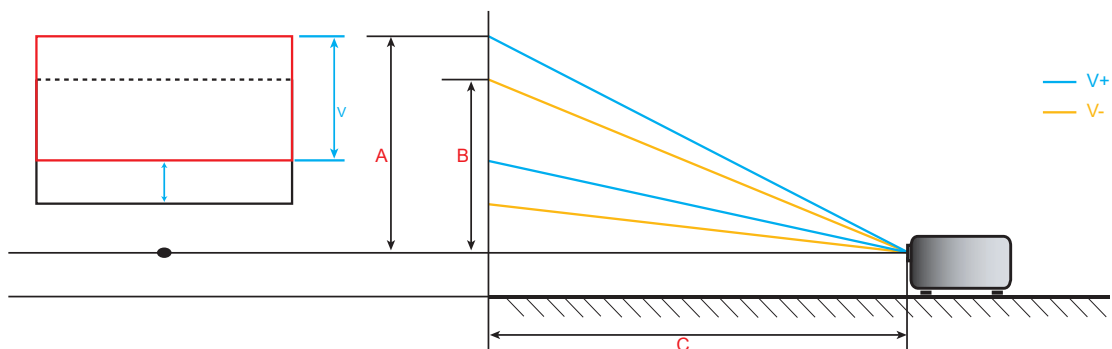
ADDITIONAL INFORMATION

Projector dimensions and ceiling mount installation

1. To prevent damage to your projector, please use the Optoma ceiling mount.
2. If you wish to use a third party ceiling mount kit, please ensure the screws used to attach a mount to the projector meet the following specifications:

- Screw type: M6*10

- Minimum screw length: 10mm

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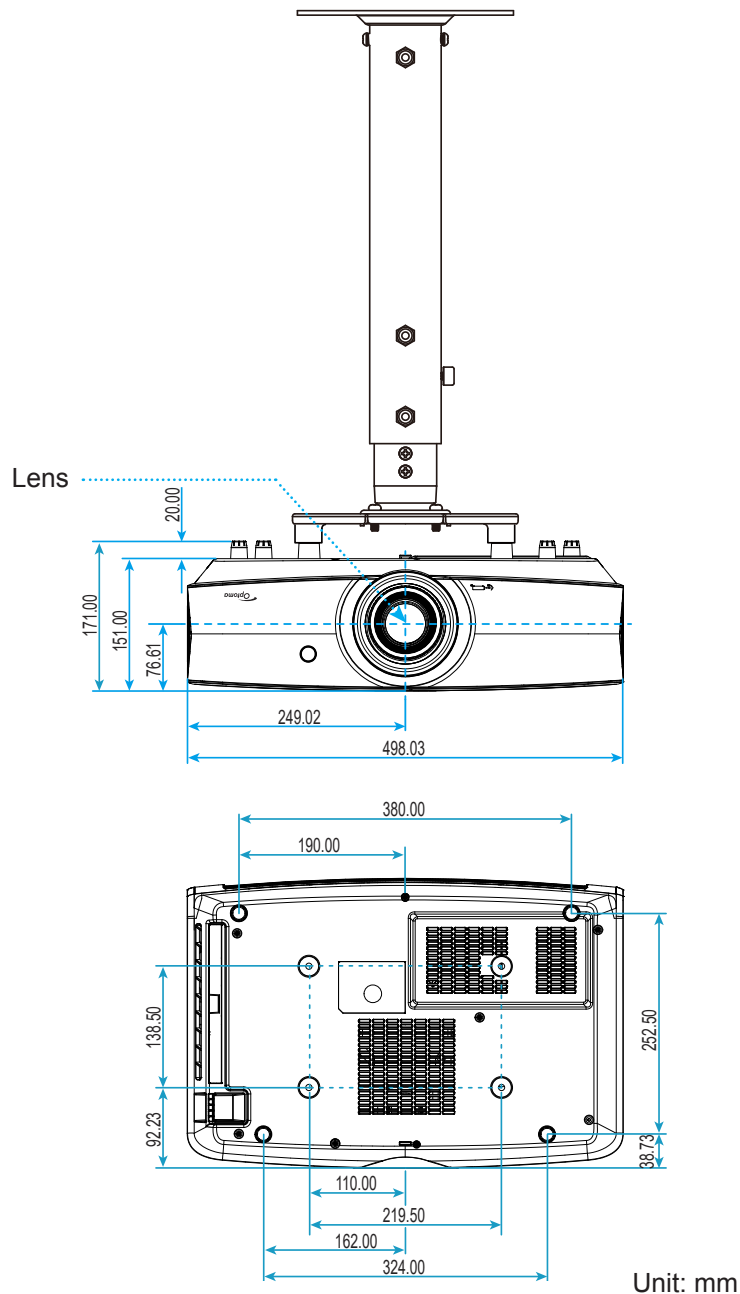
Note: *Please note that damage resulting from incorrect installation will void the warranty.*

⚠ Warning:

- If you buy a ceiling mount from another company, please be sure to use the correct screw size. Screw size will vary depending on the thickness of the mounting plate.

- Be sure to keep at least 10 cm gap between the ceiling and the bottom of the projector.

- Avoid installing the projector near a heat source.

ADDITIONAL INFORMATION

RS232 protocol function list

Note: *There is a <CR> after all ASCII commands 0D is the HEX code for <CR> in ASCII code.*

232 ASCII Code	HEX Code	Function	Description
SEND to projector			
~XX00 1	7E 30 30 30 30 20 31 0D	Power On	
~XX00 0	7E 30 30 30 30 20 30 0D	Power Off	(0/2 for backward compatible)
~XX00 1 ~nnnn	7E 30 30 30 30 20 31 20 a 0D	Power On with Password	"nnnn=password ~nnnn = ~0000 (a=7E 30 30 30 30) ~9999 (a=7E 39 39 39 39)"
~XX01 1	7E 30 30 30 31 20 31 0D	Re-sync	
~XX02 1	7E 30 30 30 32 20 31 0D	AV Mute	On
~XX02 0	7E 30 30 30 32 20 30 0D	AV Mute	Off (0/2 for backward compatible)
~XX03 1	7E 30 30 30 33 20 31 0D	Mute	On
~XX03 0	7E 30 30 30 33 20 30 0D	Mute	Off (0/2 for backward compatible)
~XX04 1	7E 30 30 30 34 20 31 0D	Freeze	
~XX04 0	7E 30 30 30 34 20 30 0D	Unfreeze	(0/2 for backward compatible)
~XX05 1	7E 30 30 30 35 20 31 0D	Zoom Plus	
~XX06 1	7E 30 30 30 36 20 31 0D	Zoom Minus	
~XX11 0	7E 30 30 31 31 20 30 0D	IR Function	Off All
~XX11 1	7E 30 30 31 31 20 31 0D	IR Function	On All
~XX11 5	7E 30 30 31 31 20 35 0D	IR Function	Front Only
~XX11 8	7E 30 30 31 31 20 37 0D	IR Function	Back
~XX12 1	7E 30 30 31 32 20 31 0D	Input Source Direct Commands	HDMI 1
~XX12 5	7E 30 30 31 32 20 35 0D	Input Source Direct Commands	VGA 1
~XX12 15	7E 30 30 31 32 20 31 35 0D	Input Source Direct Commands	HDMI 2
~XX20 1	7E 30 30 32 30 20 31 0D	Display Mode	Presentation
~XX20 2	7E 30 30 32 30 20 32 0D	Display Mode	Bright
~XX20 3	7E 30 30 32 30 20 33 0D	Display Mode	Cinema
~XX20 5	7E 30 30 32 30 20 35 0D	Display Mode	User
~XX20 6	7E 30 30 32 30 20 36 0D	Display Mode	User 3D
~XX20 9	7E 30 30 32 30 20 39 0D	Display Mode	3D
~XX20 12	7E 30 30 32 30 20 31 32 0D	Display Mode	Game
~XX20 13	7E 30 30 32 30 20 31 33 0D	Display Mode	DICOM SIM.
~XX20 14	7E 30 30 32 30 20 31 34 0D	Display Mode	ISF Day
~XX20 15	7E 30 30 32 30 20 31 35 0D	Display Mode	ISF Night
~XX20 21	7E 30 30 32 30 20 32 31 0D	Display Mode	SGRB
~XX20 23	7E 30 30 32 30 20 32 33 0D	Display Mode	HDR SIM.
~XX21 n	7E 30 30 32 31 20 a 0D	Brightness	n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX22 n	7E 30 30 32 32 20 a 0D	Contrast	n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX23 n	7E 30 30 32 33 20 a 0D	Sharpness	n = 1 (a=31) ~ 15 (a=31 35)
~XX24 n	7E 30 30 32 34 20 a 0D	RGB Gain/Bias	Red Gain n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX25 n	7E 30 30 32 35 20 a 0D	RGB Gain/Bias	Green Gain n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX26 n	7E 30 30 32 36 20 a 0D	RGB Gain/Bias	Blue Gain n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX27 n	7E 30 30 32 37 20 a 0D	RGB Gain/Bias	Red Bias n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX28 n	7E 30 30 32 38 20 a 0D	RGB Gain/Bias	Green Bias n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX29 n	7E 30 30 32 39 20 a 0D	RGB Gain/Bias	Blue Bias n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX33 1	7E 30 30 33 33 20 31 0D	Color Temperature Reset	Reset
~XX34 n	7E 30 30 33 34 20 a 0D	BrilliantColor™	n = 1 (a=31) ~ 10 (a=31 30)
~XX35 1	7E 30 30 33 35 20 31 0D	Gamma /Film	Film
~XX35 2	7E 30 30 33 35 20 32 0D	Gamma /Video	Video
~XX35 3	7E 30 30 33 35 20 33 0D	Gamma /Graphics	Graphics
~XX35 4	7E 30 30 33 35 20 34 0D	Gamma /PC(Standard)	PC (Standard)(2.2)
~XX35 5	7E 30 30 33 35 20 35 0D	Gamma	1.8
~XX35 6	7E 30 30 33 35 20 36 0D	Gamma	2
~XX35 12	7E 30 30 33 35 20 31 32 1D	Gamma	2.4
~XX35 8	7E 30 30 33 35 20 38 0D	Gamma	2.6
~XX35 9	7E 30 30 33 35 20 39 0D	Gamma	3D
~XX36 4	7E 30 30 33 36 20 34 0D	Color Temp.	D55(Warm)
~XX36 1	7E 30 30 33 36 20 31 0D	Color Temp.	D65(Standard)

ADDITIONAL INFORMATION

SEND to projector			
232 ASCII Code	**HEX Code**	**Function**	**Description**
~XX36 2	7E 30 30 33 36 20 32 0D	Color Temp.	D75(Cool)
~XX36 3	7E 30 30 33 36 20 33 0D	Color Temp.	D83(Cold)
~XX37 1	7E 30 30 33 37 20 31 0D	Color Space	Auto
~XX37 2	7E 30 30 33 37 20 32 0D	Color Space	RGB (0-255)
~XX37 4	7E 30 30 33 37 20 34 0D	Color Space	RGB(16 - 235)
~XX37 3	7E 30 30 33 37 20 33 0D	Color Space	YUV
~XX39 1	7E 30 30 33 39 20 31 0D	Input Source	HDMI 1
~XX39 7	7E 30 30 33 39 20 37 0D	Input Source	HDMI 2
~XX39 5	7E 30 30 33 39 20 35 0D	Input Source	VGA
~XX41 0	7E 30 30 34 31 20 30 0D	UltraDetail	OFF
~XX41 4	7E 30 30 34 31 20 34 1D	UltraDetail	1
~XX41 5	7E 30 30 34 31 20 35 2D	UltraDetail	2
~XX41 6	7E 30 30 34 31 20 36 3D	UltraDetail	3
~XX42 0	7E 30 30 34 32 20 30 0D	PureColor	OFF
~XX42 1	7E 30 30 34 32 20 31 0D	PureColor	1
~XX42 2	7E 30 30 34 32 20 32 0D	PureColor	2
~XX42 3	7E 30 30 34 32 20 33 0D	PureColor	3
~XX42 4	7E 30 30 34 32 20 34 0D	PureColor	4
~XX42 5	7E 30 30 34 32 20 35 0D	PureColor	5
~XX44 n	7E 30 30 34 34 20 a 0D	Tint	n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX45 n	7E 30 30 34 35 20 a 0D	Color / Saturation	n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX46 1	7E 30 30 34 36 20 a 0D	Brightness -	
~XX46 2	7E 30 30 34 36 20 a 0D	Brightness +	
~XX47 1	7E 30 30 34 37 20 a 0D	Contrast -	
~XX47 2	7E 30 30 34 37 20 a 0D	Contrast +	
~XX60 1	7E 30 30 36 30 20 31 0D	Format	4:3
~XX60 2	7E 30 30 36 30 20 32 0D	Format	16:9
~XX60 5	7E 30 30 36 30 20 35 0D	Format	LBX
~XX60 6	7E 30 30 36 30 20 36 0D	Format	Native
~XX60 7	7E 30 30 36 30 20 37 0D	Format	Auto
~XX60 9	7E 30 30 36 30 20 39 0D	Format	SuperWide
~XX61 n	7E 30 30 36 31 20 a 0D	Edge mask	n = 0 (a=30) ~ 10 (a=31 30)
~XX62 n	7E 30 30 36 32 20 a 0D	Zoom Pan and Scan	n = -5 (a=2D 35) ~ 25 (a=32 35)
~XX63 n	7E 30 30 36 33 20 a 0D	H Image Shift	n = -100 (a=2D 31 30 30) ~ 100 (a=31 30 30)
~XX64 n	7E 30 30 36 34 20 a 0D	V Image Shift	n = -100 (a=2D 31 30 30) ~ 100 (a=31 30 30)
~XX70 1	7E 30 30 37 30 20 31 0D	Language	English
~XX70 2	7E 30 30 37 30 20 32 0D	Language	German
~XX70 3	7E 30 30 37 30 20 33 0D	Language	French
~XX70 4	7E 30 30 37 30 20 34 0D	Language	Italian
~XX70 5	7E 30 30 37 30 20 35 0D	Language	Spanish
~XX70 6	7E 30 30 37 30 20 36 0D	Language	Portuguese
~XX70 14	7E 30 30 37 30 20 31 34 0D	Language	Simplified Chinese
~XX70 15	7E 30 30 37 30 20 31 35 0D	Language	Japanese
~XX70 16	7E 30 30 37 30 20 31 36 0D	Language	Korean
~XX70 17	7E 30 30 37 30 20 31 37 0D	Language	Russian
~XX71 1	7E 30 30 37 31 20 31 0D	Projection	Front-Desktop
~XX71 2	7E 30 30 37 31 20 32 0D	Projection	Rear-Desktop
~XX71 3	7E 30 30 37 31 20 33 0D	Projection	Front-Ceiling
~XX71 4	7E 30 30 37 31 20 34 0D	Projection	Rear-Ceiling
~XX72 1	7E 30 30 37 32 20 31 0D	Menu Location	Top Left
~XX72 2	7E 30 30 37 32 20 32 0D	Menu Location	Top Right
~XX72 3	7E 30 30 37 32 20 33 0D	Menu Location	Centre
~XX72 4	7E 30 30 37 32 20 34 0D	Menu Location	Bottom Left
~XX72 5	7E 30 30 37 32 20 35 0D	Menu Location	Bottom Right
~XX73 n	7E 30 30 37 33 20 a 0D	Signal	Frequency n = -5 (a=2D 35) ~ 5 (a=35) By signal
~XX74 n	7E 30 30 37 34 20 a 0D	Signal	Phase n = 0 (a=30) ~ 31 (a=33 31) By signal
~XX75 n	7E 30 30 37 35 20 a 0D	Signal	H. Position n =-50 (a=2D 35 30) ~ 50 (a=35 30)By timing

ADDITIONAL INFORMATION

SEND to projector			
232 ASCII Code	**HEX Code**	**Function**	**Description**
~XX76 n	7E 30 30 37 36 20 a 0D	Signal	V. Position n =-50 (a=2D 35 30) ~ 50 (a=35 30)By timing
~XX77 ~nnnnnn	7E 30 30 37 37 20 a 0D	Security Timer	"a= mm/dd/hh mm= 00 (aa=30 30) ~ 12 (aa=31 32) dd = 00 (bb=30 30) ~ 30 (bb=33 30) hh= 00 (cc=30 30) ~ 24 (cc=32 34)"
~XX78 1 ~nnnn	7E 30 30 37 38 20 31 20 a 0D	Security	On with password
~XX78 0 ~nnnn	7E 30 30 37 38 20 30 20 a 0D	Security	"Off with password Off(0/2 for backward compatible) ~nnnn = ~0000 (a=7E 30 30 30 30) ~9999 (a=7E 39 39 39 39)
~XX79 n	7E 30 30 37 39 20 a 0D	Projector ID	n = 00 (a=30 30) ~ 99 (a=39 39)
~XX82 1	7E 30 30 38 32 20 31 0D	Logo	Default
~XX82 3	7E 30 30 38 32 20 33 0D	Logo	Neutral
~XX101 1	7E 30 30 31 30 31 20 31 0D	High Altitude	On
~XX101 0	7E 30 30 31 30 31 20 30 0D	High Altitude	Off (0/2 for backward compatible)
~XX102 1	7E 30 30 31 30 32 20 31 0D	Information Hide	On
~XX102 0	7E 30 30 31 30 32 20 30 0D	Information Hide	Off (0/2 for backward compatible)
~XX103 1	7E 30 30 31 30 33 20 31 0D	Keypad Lock	On
~XX103 0	7E 30 30 31 30 33 20 30 0D	Keypad Lock	Off (0/2 for backward compatible)
~XX104 0	7E 30 30 31 30 34 20 30 0D	Background Color	None
~XX104 1	7E 30 30 31 30 34 20 31 0D	Background Color	Blue
~XX104 3	7E 30 30 31 30 34 20 33 0D	Background Color	Red
~XX104 4	7E 30 30 31 30 34 20 34 0D	Background Color	Green
~XX104 6	7E 30 30 31 30 34 20 36 0D	Background Color	Gray
~XX105 1	7E 30 30 31 30 35 20 31 0D	Direct Power On	On
~XX105 0	7E 30 30 31 30 35 20 30 0D	Direct Power On	Off (0/2 for backward compatible)
~XX106 n	7E 30 30 31 30 36 20 a 0D	Auto Power Off (min)	"n = 0 (a=30) ~ 180 (a=31 38 30) (5 minutes for each step)."
~XX107 n	7E 30 30 31 30 37 20 a 0D	Sleep Timer (min)	"n = 0 (a=30) ~ 990 (a=31 38 30) (30 minutes for each step)."
~XX109 1	7E 30 30 31 30 39 20 31 0D	Lamp Reminder	On
~XX109 0	7E 30 30 31 30 39 20 30 0D	Lamp Reminder	Off (0/2 for backward compatible)
~XX111 1	7E 30 30 31 31 31 20 31 0D	Lamp Reset	
~XX112 1	7E 30 30 31 31 32 20 31 0D	Reset (Reset to Default)	
~XX112 ~nnnn	7E 30 30 31 31 32 20 a 0D	Reset (Reset to Default) with password	~nnnn = ~0000 (a=7E 30 30 30 30) ~9999 (a=7E 39 39 39 39)
~XX114 1	7E 30 30 31 31 34 20 31 0D	Power Mode (Standby)	Active
~XX114 0	7E 30 30 31 31 34 20 30 0D	Power Mode (Standby)	Eco. (<0.5W)
~XX117 1	7E 30 30 31 31 37 20 31 0D	Remote settings /User1	Test Pattern
~XX117 2	7E 30 30 31 31 37 20 32 0D	Remote settings /User1	Brightness
~XX117 3	7E 30 30 31 31 37 20 33 0D	Remote settings /User1	Contrast
~XX117 4	7E 30 30 31 31 37 20 34 0D	Remote settings /User1	SleepTimer
~XX117 5	7E 30 30 31 31 37 20 35 0D	Remote settings /User1	Color Temp.
~XX117 6	7E 30 30 31 31 37 20 36 0D	Remote settings /User1	Gamma
~XX117 7	7E 30 30 31 31 37 20 37 0D	Remote settings /User1	Projection
~XX117 8	7E 30 30 31 31 37 20 38 0D	Remote settings /User1	MHL
~XX117 9	7E 30 30 31 31 37 20 39 0D	Reserved	Reserved
~XX117 10	7E 30 30 31 31 37 20 31 30 0D	Reserved	Reserved
~XX117 11	7E 30 30 31 31 37 20 31 31 0D	Reserved	Reserved
~XX117 12	7E 30 30 31 31 37 20 31 32 0D	Reserved	Reserved
~XX117 13	Reserved	Reserved	Reserved
~XX117 14	Reserved	Reserved	Reserved
~XX117 15	Reserved	Reserved	Reserved
~XX117 16	Reserved	Reserved	Reserved
~XX117 17	Reserved	Reserved	Reserved
~XX117 18	Reserved	Reserved	Reserved
~XX117 19	Reserved	Reserved	Reserved
~XX117 20	Reserved	Reserved	Reserved

ADDITIONAL INFORMATION

SEND to projector			
232 ASCII Code	**HEX Code**	**Function**	**Description**
~XX118 1	7E 30 30 31 31 38 20 31 0D	Remote settings /User2	Test Pattern
~XX118 2	7E 30 30 31 31 38 20 32 0D	Remote settings /User2	Brightness
~XX118 3	7E 30 30 31 31 38 20 33 0D	Remote settings /User2	Contrast
~XX118 4	7E 30 30 31 31 38 20 34 0D	Remote settings /User2	SleepTimer
~XX118 5	7E 30 30 31 31 38 20 35 0D	Remote settings /User2	Color Temp.
~XX118 6	7E 30 30 31 31 38 20 36 0D	Remote settings /User2	Gamma
~XX118 7	7E 30 30 31 31 38 20 37 0D	Remote settings /User2	Projection
~XX118 8	7E 30 30 31 31 38 20 38 0D	Remote settings /User2	MHL
~XX118 9	7E 30 30 31 31 38 20 39 0D	Reserved	Reserved
~XX118 10	7E 30 30 31 31 38 20 31 30 0D	Reserved	Reserved
~XX118 11	7E 30 30 31 31 38 20 31 31 0D	Reserved	Reserved
~XX118 12	7E 30 30 31 31 38 20 31 32 0D	Reserved	Reserved
~XX118 13	Reserved	Reserved	Reserved
~XX118 14	Reserved	Reserved	Reserved
~XX118 15	Reserved	Reserved	Reserved
~XX118 16	Reserved	Reserved	Reserved
~XX118 17	Reserved	Reserved	Reserved
~XX118 18	Reserved	Reserved	Reserved
~XX118 19	Reserved	Reserved	Reserved
~XX118 20	Reserved	Reserved	Reserved
~XX119 1	7E 30 30 31 31 39 20 31 0D	Remote settings /User3	Test Pattern
~XX119 2	7E 30 30 31 31 39 20 32 0D	Remote settings /User3	Brightness
~XX119 3	7E 30 30 31 31 39 20 33 0D	Remote settings /User3	Contrast
~XX119 4	7E 30 30 31 31 39 20 34 0D	Remote settings /User3	SleepTimer
~XX119 5	7E 30 30 31 31 39 20 35 0D	Remote settings /User3	Color Temp.
~XX119 6	7E 30 30 31 31 39 20 36 0D	Remote settings /User3	Gamma
~XX119 7	7E 30 30 31 31 39 20 37 0D	Remote settings /User3	Projection
~XX119 8	7E 30 30 31 31 39 20 38 0D	Remote settings /User3	MHL
~XX119 9	7E 30 30 31 31 39 20 39 0D	Reserved	Reserved
~XX119 10	7E 30 30 31 31 39 20 31 30 0D	Reserved	Reserved
~XX119 11	7E 30 30 31 31 39 20 31 31 0D	Reserved	Reserved
~XX119 12	7E 30 30 31 31 39 20 31 32 0D	Reserved	Reserved
~XX119 13	Reserved	Reserved	Reserved
~XX119 14	Reserved	Reserved	Reserved
~XX119 15	Reserved	Reserved	Reserved
~XX119 16	Reserved	Reserved	Reserved
~XX119 17	Reserved	Reserved	Reserved
~XX119 18	Reserved	Reserved	Reserved
~XX119 19	Reserved	Reserved	Reserved
~XX119 20	Reserved	Reserved	Reserved
~XX140 1	7E 30 30 31 34 30 20 31 0D	Power On	
~XX140 2	7E 30 30 31 34 30 20 32 0D	Power Off	
~XX140 10	7E 30 30 31 34 30 20 31 30 0D	Up	
~XX140 11	7E 30 30 31 34 30 20 31 31 0D	Left	
~XX140 12	7E 30 30 31 34 30 20 31 32 0D	Enter (for projection MENU)	
~XX140 13	7E 30 30 31 34 30 20 31 33 0D	Right	
~XX140 14	7E 30 30 31 34 30 20 31 34 0D	Down	
~XX140 17	7E 30 30 31 34 30 20 31 37 0D	Volume -	

ADDITIONAL INFORMATION

SEND to projector			
232 ASCII Code	**HEX Code**	**Function**	**Description**
~XX140 18	7E 30 30 31 34 30 20 31 38 0D	Volume +	
~XX140 19	7E 30 30 31 34 30 20 31 39 0D	Brightness	
~XX140 20	7E 30 30 31 34 30 20 32 30 0D	Menu	
~XX140 21	7E 30 30 31 34 30 20 32 31 0D	Zoom	
~XX140 23	7E 30 30 31 34 30 20 32 33 0D	VGA	
~XX140 25	7E 30 30 31 34 30 20 32 35 0D	Source	
~XX140 28	7E 30 30 31 34 30 20 32 38 0D	Contrast	
~XX140 30	7E 30 30 31 34 30 20 33 30 0D	Freeze	
~XX140 36	7E 30 30 31 34 30 20 33 36 0D	Mode	
~XX140 37	7E 30 30 31 34 30 20 33 37 0D	Aspect Ratio	
~XX140 40	7E 30 30 31 34 30 20 34 30 0D	info	
~XX140 41	7E 30 30 31 34 30 20 34 31 0D	Re-sync	
~XX140 42	7E 30 30 31 34 30 20 34 32 0D	HDMI 1	
~XX140 43	7E 30 30 31 34 30 20 34 33 0D	HDMI 2	
~XX140 47	7E 30 30 31 34 30 20 34 37 0D	Source	
~XX140 51	7E 30 30 31 34 30 20 35 31 0D	1	
~XX140 52	7E 30 30 31 34 30 20 35 32 0D	2	
~XX140 53	7E 30 30 31 34 30 20 35 33 0D	3	
~XX140 54	7E 30 30 31 34 30 20 35 34 0D	4	
~XX140 55	7E 30 30 31 34 30 20 35 35 0D	5	
~XX140 56	7E 30 30 31 34 30 20 35 36 0D	6	
~XX140 57	7E 30 30 31 34 30 20 35 37 0D	7	
~XX140 58	7E 30 30 31 34 30 20 35 38 0D	8	
~XX140 59	7E 30 30 31 34 30 20 35 39 0D	9	
~XX140 60	7E 30 30 31 34 30 20 36 30 0D	0	
~XX140 70	7E 30 30 31 34 30 20 37 30 0D	F1	
~XX140 71	7E 30 30 31 34 30 20 37 31 0D	F2	
~XX140 72	7E 30 30 31 34 30 20 37 32 0D	F3	
~XX140 77	7E 30 30 31 34 30 20 37 37 1D	Mute	
~XX140 78	7E 30 30 31 34 30 20 37 38 1D	3D	
~XX140 79	7E 30 30 31 34 30 20 37 39 1D	DB	

ADDITIONAL INFORMATION

SEND to projector			
232 ASCII Code	HEX Code	Function	Description
~XX140 80	7E 30 30 31 34 30 20 38 30 1D	Sleep Timer (min)	
~XX190 0	7E 30 30 31 39 30 20 30 0D	PureMotion	OFF
~XX190 1	7E 30 30 31 39 30 20 31 0D	PureMotion	1
~XX190 2	7E 30 30 31 39 30 20 32 0D	PureMotion	2
~XX190 3	7E 30 30 31 39 30 20 33 0D	PureMotion	3
~XX191 0	7E 30 30 31 39 31 20 30 0D	DynamicBlack Off	
~XX191 1	7E 30 30 31 39 31 20 31 0D	DynamicBlack1	
~XX191 2	7E 30 30 31 39 31 20 32 0D	DynamicBlack2	
~XX191 3	7E 30 30 31 39 31 20 33 0D	DynamicBlack3	
~XX192 0	7E 30 30 31 39 32 20 30 0D	12v Trigger A	Off
~XX192 1	7E 30 30 31 39 32 20 31 0D	12v Trigger A	On
~XX195 0	7E 30 30 31 39 35 20 30 0D	Test Pattern	None
~XX195 1	7E 30 30 31 39 35 20 31 0D	Test Pattern	Grid (White)
~XX195 2	7E 30 30 31 39 35 20 32 0D	Test Pattern	White
~XX195 3	7E 30 30 31 39 35 20 33 0D	Test Pattern	Grid(Green)
~XX195 4	7E 30 30 31 39 35 20 34 0D	Test Pattern	Grid (Magenta)
~XX195 5	7E 30 30 31 39 35 20 35 0D	Test Pattern	Red
~XX195 6	7E 30 30 31 39 35 20 36 0D	Test Pattern	Green
~XX195 7	7E 30 30 31 39 35 20 37 0D	Test Pattern	Blue
~XX195 8	7E 30 30 31 39 35 20 38 0D	Test Pattern	Yellow
~XX195 9	7E 30 30 31 39 35 20 39 0D	Test Pattern	Magenta
~XX195 10	7E 30 30 31 39 35 20 31 30 0D	Test Pattern	Cyan
~XX195 11	7E 30 30 31 39 35 20 31 31 0D	Test Pattern	Black
~XX197 0	7E 30 30 31 39 37 20 30 0D	PureMotionDemo	OFF
~XX197 1	7E 30 30 31 39 37 20 31 0D	PureMotionDemo	H Split
~XX197 2	7E 30 30 31 39 37 20 32 0D	PureMotionDemo	V Split
~XX210 n	7E 30 30 32 31 30 20 a 0D	Display message on the OSD	n: 1-30 characters
~XX211 1	7E 30 30 32 31 31 20 31 0D	Color Gamut	Native
~XX211 3	7E 30 30 32 31 31 20 33 0D	Color Gamut	HDTV
~XX211 8	7E 30 30 32 31 31 20 33 0D	Color Gamut	Presentation
~XX211 9	7E 30 30 32 31 31 20 33 0D	Color Gamut	Cinema
~XX211 10	7E 30 30 32 31 31 20 33 0D	Color Gamut	Game
~XX212 1	7E 30 30 32 31 32 20 31 0D	CMS (For Video)	Red
~XX212 2	7E 30 30 32 31 32 20 32 0D	CMS (For Video)	Green
~XX212 3	7E 30 30 32 31 32 20 33 0D	CMS (For Video)	Blue
~XX212 4	7E 30 30 32 31 32 20 34 0D	CMS (For Video)	Cyan
~XX212 5	7E 30 30 32 31 32 20 35 0D	CMS (For Video)	Yellow
~XX212 6	7E 30 30 32 31 32 20 36 0D	CMS (For Video)	Magenta
~XX212 7	7E 30 30 32 31 32 20 36 0D	CMS (For Video)	White
~XX213 n	7E 30 30 32 31 33 20 a 0D	CMS (For Video)	x offset
~XX214 n	7E 30 30 32 31 34 20 a 0D	CMS (For Video)	y offset
~XX215 1	7E 30 30 32 31 35 20 31 0D	Color Matching / CMS (For Video)	Reset
~XX217 n	7E 30 30 32 31 37 20 a 0D	CMS (For Video)	Brightness
~XX230 0	7E 30 30 32 33 30 20 30 0D	3D Mode	Off (0/2 for backward compatible)
~XX230 1	7E 30 30 32 33 30 20 31 0D	3D Mode	On
~XX230 2	7E 30 30 32 33 30 20 32 0D	3D Mode	Auto
~XX231 0	7E 30 30 32 33 31 20 30 0D	3D Sync. Invert	On
~XX231 1	7E 30 30 32 33 31 20 31 0D	3D Sync. Invert	Off
~XX313 1	7E 30 30 33 31 33 20 31 0D	Information menu	On
~XX313 0	7E 30 30 33 31 33 20 30 0D	Information menu	Off (0/2 for backward compatible)
~XX320 1	7E 30 30 33 32 30 20 31 0D	Optional Filter Installed	Yes

ADDITIONAL INFORMATION

232 ASCII Code	HEX Code	Function	Description
SEND to projector			
~XX320 0	7E 30 30 33 32 30 20 30 0D	Optional Filter Installed	No (0/2 for backward compatible)
~XX322 0	7E 30 30 33 32 32 20 30 0D	Filter Reminder	Off
~XX322 1	7E 30 30 33 32 32 20 31 0D	Filter Reminder	300hr
~XX322 2	7E 30 30 33 32 32 20 32 0D	Filter Reminder	500hr
~XX322 3	7E 30 30 33 32 32 20 33 0D	Filter Reminder	800hr
~XX322 4	7E 30 30 33 32 32 20 34 0D	Filter Reminder	1000hr
~XX323 1	7E 30 30 33 32 33 20 31 0D	Filter Reset	Yes
~XX326 0	7E 30 30 33 32 36 20 30 0D	Brightness Mode	Power /100%
~XX326 1	7E 30 30 33 32 36 20 31 0D	Brightness Mode	Power /95%
~XX326 2	7E 30 30 33 32 36 20 32 0D	Brightness Mode	Power /90%
~XX326 3	7E 30 30 33 32 36 20 33 0D	Brightness Mode	Power /85%
~XX326 4	7E 30 30 33 32 36 20 34 0D	Brightness Mode	Power /80%
~XX326 5	7E 30 30 33 32 36 20 35 0D	Brightness Mode	Power /75%
~XX326 6	7E 30 30 33 32 36 20 36 0D	Brightness Mode	Power /70%
~XX326 7	7E 30 30 33 32 36 20 37 0D	Brightness Mode	Power /65%
~XX326 8	7E 30 30 33 32 36 20 38 0D	Brightness Mode	Power /60%
~XX326 9	7E 30 30 33 32 36 20 39 0D	Brightness Mode	Power /55%
~XX326 10	7E 30 30 33 32 36 20 31 30 0D	Brightness Mode	Power /50%
~XX327 n	7E 30 30 33 32 37 20 a 0D	CMS / Color Matching	Red Hue / y offset n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX328 n	7E 30 30 33 32 38 20 a 0D	CMS / Color Matching	Green Hue / y offset n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX329 n	7E 30 30 33 32 39 20 a 0D	CMS / Color Matching	Blue Hue / y offset n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX330 n	7E 30 30 33 33 30 20 a 0D	CMS / Color Matching	Cyan Hue / y offset n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX331 n	7E 30 30 33 33 31 20 a 0D	CMS / Color Matching	Yellow Hue / y offset n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX332 n	7E 30 30 33 33 32 20 a 0D	CMS / Color Matching	Magenta Hue / y offset n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX333 n	7E 30 30 33 33 33 20 a 0D	CMS / Color Matching	Red Stutation / x offset n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX334 n	7E 30 30 33 33 34 20 a 0D	CMS / Color Matching	Green Stutation / x offset n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX335 n	7E 30 30 33 33 35 20 a 0D	CMS / Color Matching	Blue Stutation / x offset n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX336 n	7E 30 30 33 33 36 20 a 0D	CMS / Color Matching	Cyan Stutation / x offset n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX337 n	7E 30 30 33 33 37 20 a 0D	CMS / Color Matching	Yellow Stutation / x offset n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX338 n	7E 30 30 33 33 38 20 a 0D	CMS / Color Matching	Magenta Stutation / x offset n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX339 n	7E 30 30 33 33 39 20 a 0D	CMS / Color Matching	Red Gain /Brightness n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX340 n	7E 30 30 33 34 30 20 a 0D	CMS / Color Matching	Green Gain /Brightness n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX341 n	7E 30 30 33 34 31 20 a 0D	CMS / Color Matching	Blue Gain /Brightness n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX342 n	7E 30 30 33 34 32 20 a 0D	CMS / Color Matching	Cyan Gain /Brightness n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX343 n	7E 30 30 33 34 33 20 a 0D	CMS / Color Matching	Yellow Gain /Brightness n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX344 n	7E 30 30 33 34 34 20 a 0D	CMS / Color Matching	Magenta Gain /Brightness n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX345 n	7E 30 30 33 34 35 20 a 0D	CMS / Color Matching	White /R n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX346 n	7E 30 30 33 34 36 20 a 0D	CMS / Color Matching	White /G n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX347 n	7E 30 30 33 34 37 20 a 0D	CMS / Color Matching	White /B n = -50 (a=2D 35 30) ~ 50 (a=35 30)
~XX348 1	7E 30 30 33 34 38 20 31 0D	Display Mode Lock	On
~XX348 0	7E 30 30 33 34 38 20 30 0D	Display Mode Lock	Off
~XX405 0	7E 30 30 34 30 35 20 30 0D	3D Format	Auto
~XX405 1	7E 30 30 34 30 35 20 31 0D	3D Format	SBS
~XX405 2	7E 30 30 34 30 35 20 32 0D	3D Format	Top and Bottom
~XX405 3	7E 30 30 34 30 35 20 33 0D	3D Format	Frame Sequential
~XX405 7	7E 30 30 34 30 35 20 37 0D	3D Format	Frame Packing
~XX405 9	7E 30 30 34 30 35 20 39 0D	3D Format	Field sequential
~XX454 1	7E 30 30 34 35 34 20 31 0D	Crestron	On
~XX454 0	7E 30 30 34 35 34 20 30 0D	Crestron	Off
~XX455 1	7E 30 30 34 35 35 20 31 0D	Extron	On
~XX455 0	7E 30 30 34 35 35 20 30 0D	Extron	Off
~XX456 1	7E 30 30 34 35 36 20 31 0D	PJ Link	On
~XX456 0	7E 30 30 34 35 36 20 30 0D	PJ Link	Off
~XX457 1	7E 30 30 34 35 37 20 31 0D	AMX Device Discovery	On
~XX457 0	7E 30 30 34 35 37 20 30 0D	AMX Device Discovery	Off

ADDITIONAL INFORMATION

SEND to projector				
232 ASCII Code	**HEX Code**	**Function**	**Description**	
~XX458 1	7E 30 30 34 35 38 20 31 0D	Telent	On	
~XX458 0	7E 30 30 34 35 38 20 30 0D	Telent	Off	
~XX459 1	7E 30 30 34 35 39 20 31 0D	HTTP	On	
~XX459 0	7E 30 30 34 35 39 20 30 0D	HTTP	Off	
~XX506 0	7E 30 30 35 30 36 20 30 0D	Wall Color	Off	
~XX506 1	7E 30 30 35 30 36 20 31 0D	Wall Color	Blackboard	
~XX506 7	7E 30 30 35 30 36 20 37 0D	Wall Color	Light Yellow	
~XX506 3	7E 30 30 35 30 36 20 33 0D	Wall Color	Light Green	
~XX506 4	7E 30 30 35 30 36 20 34 0D	Wall Color	Light Blue	
~XX506 5	7E 30 30 35 30 36 20 35 0D	Wall Color	Pink	
~XX506 6	7E 30 30 35 30 36 20 36 0D	Wall Color	Gray	
~XX507 0	7E 30 30 35 30 37 20 30 0D	Always On	No (0/2 for backward compatible)	(Sleep Timer)
~XX507 1	7E 30 30 35 30 37 20 31 0D	Always On	Yes	(Sleep Timer)
~XX509 1	7E 30 30 35 30 39 20 31 0D	Image Settings Reset	Reset	
~XX515 0	7E 30 30 35 31 35 20 30 0D	Menu Timer	Off	
~XX515 1	7E 30 30 35 31 35 20 31 0D	Menu Timer	5sec	
~XX515 3	7E 30 30 35 31 35 20 33 0D	Menu Timer	10sec	
~XX517 1	7E 30 30 35 31 37 20 31 0D	RGB Gain/Bias Reset	Reset	
~XX527 n	7E 30 30 35 32 37 20 a 0D	Security On/Off switch	n = 0000(a=30 30 30 30) ~ 9999 (a=39 39 39 39)	
~XX537 n	7E 30 30 35 33 37 20 a 0D	Security Timer	Month n = 00 (a=30 30) ~ 12 (a=31 32)	
~XX538 n	7E 30 30 35 33 38 20 a 0D	Security Timer	Day n = 00 (a=30 30) ~ 30 (a=33 30)	
~XX539 n	7E 30 30 35 33 39 20 a 0D	Security Timer	Hour n = 00 (a=30 30) ~ 24 (a=32 34)	
~XX546 1	7E 30 30 35 34 36 20 31 0D	Reset OSD		
~XX563 0	7E 30 30 35 36 33 20 30 0D	Auto Source	Auto Source Off	
~XX563 1	7E 30 30 35 36 33 20 31 0D	Auto Source	Auto Source On	

READ from projector				
232 ASCII Code	**HEX Code**	**Function**	**Projector Return**	**Description**
~XX87 1	7E 30 30 38 37 20 31 0D	LAN Settings /Network State	Oka	a=0 Disconnected a=1 Connected
~XX87 3	7E 30 30 38 37 20 33 0D	LAN Settings /IP Address	Okaaa_bbb_ccc_ddd	
~XX108 1	7E 30 30 31 30 38 20 31 0D	Lamp 1 Hour	Oknnnnn	(5 digits) Total Lamp Hours
~XX108 3	7E 30 30 31 30 38 20 33 0D	Lamp Hour (Bright)	Oknnnnn	(5 digits) Total Lamp Hours
~XX108 4	7E 30 30 31 30 38 20 34 0D	Lamp Hour (Eco.)	Oknnnnn	(5 digits) Total Lamp Hours
~XX108 5	7E 30 30 31 30 38 20 35 0D	Lamp Hour (Dynamic)	Oknnnnn	(5 digits) Total Lamp Hours
~XX121 1	7E 30 30 31 32 31 20 31 0D	Input Source Commands	Oka	a = 0 None a = 2 VGA-1 a = 7 HDMI1 a = 8 HDMI2
~XX122 1	7E 30 30 31 32 32 20 31 0D	Software Version	Okdddd	dddd = Software Version
~XX123 1	7E 30 30 31 32 33 20 31 0D	Display Mode	Oka	a = 0 None a = 1 Presentation a = 2 Bright a = 3 Cinema a = 5 User a = 6 User2 / 3D User a = 9 3D a = 10 DICOM SIM. a = 12 Game a = 15 ISF Day a = 16 ISF Night a= 21 sRGB a= 22 HDR a= 23 HDR SIM. a= 24 HLG

ADDITIONAL INFORMATION

READ from projector				
232 ASCII Code	**HEX Code**	**Function**	**Projector Return**	**Description**
~XX124 1	7E 30 30 31 32 34 20 31 0D	Power State	Oka	a = 0 Off a = 1 On
~XX125 1	7E 30 30 31 32 35 20 31 0D	Brightness	Okaaa	aaa can be -50~ + 50
~XX126 1	7E 30 30 31 32 36 20 31 0D	Contrast	Okaaa	aaa can be -50~ + 50
~XX127 1	7E 30 30 31 32 37 20 31 0D	Format	Okaa	aa=0 None aa=1 4:3 aa=2 16:9 aa=5 LBX aa=6 Native aa=7 Auto aa=9 Superwide
~XX128 1	7E 30 30 31 32 38 20 31 0D	Color Temperature	Oka	a=1 D55/Warm a=2 D65 /Standard a=4 D75/Cool a=5 D83/Cold
~XX129 1	7E 30 30 31 32 39 20 31 0D	Projection Mode	Oka	a=0 Front-Desktop a=1 Rear-Desktop a=2 Front-Ceiling a=3 Rear-Ceiling
~XX150 1	7E 30 30 31 35 30 20 31 0D	Information 1	Okabbbbbccddddee	a = Power Status a=0 Power Off a=1 Power On b = Lamp Hour (LED Hours) bbbbb Lamp Hour (LED Hours) c = Input Source cc=00 None cc=02 VGA1 cc=07 HDMI1 cc=08 HDMI2 d = Firmware Version dddd Firmware Version e = Display mode ee=00 None ee=01 Presentation ee=02 Bright ee=03 Cinema ee=05 User(1) ee=06 User2/ 3D User ee=09 3D ee=10 DICOM SIM. ee=12 Game ee=15 ISF Day ee=16 ISF Night ee=21 sRGB ee=22 HDR ee=23 HLG
~XX150 2	7E 30 30 31 35 30 20 32 0D	Native Resolution	Oka	a = string (for example, Ok1920x1080)
~XX150 3	7E 30 30 31 35 30 20 33 0D	Main Source	Oka	a = string (for example, OkHDMI)
~XX150 4	7E 30 30 31 35 30 20 34 0D	- Resolution	Oka	a = string (for example, Ok1920x1080)
~XX150 5	7E 30 30 31 35 30 20 35 0D	- Signal Format	Oka	a = string
~XX150 6	7E 30 30 31 35 30 20 36 0D	- Pixel Clock	Oka	a = string
~XX150 7	7E 30 30 31 35 30 20 37 0D	- Horz Refresh	Oka	a = string
~XX150 8	7E 30 30 31 35 30 20 38 0D	- Vert Refresh	Oka	a = string
~XX150 16	7E 30 30 31 35 30 20 31 36 0D	Standby Power Mode	Oka	a=1 Active a=0 Eco.

ADDITIONAL INFORMATION

READ from projector				
232 ASCII Code	**HEX Code**	**Function**	**Projector Return**	**Description**
~XX150 18	7E 30 30 31 35 30 20 31 38 0D	System Temperature	Oka	a = string (for example, Ok48)
~XX150 19	7E 30 30 31 35 30 20 31 39 0D	Refresh rate	Oka	a = string (Refresh rate, for example Ok60Hz)
~XX151 1	7E 30 30 31 35 31 20 31 0D	Model Name	Oka	a=1 SVGA a=2 XGA a=3 WXGA a=4 1080p a=5 WUXGA a=6 UHD
~XX152 1	7E 30 30 31 35 32 20 31 0D	RS232 Version No	Oka	a = Version of RS232
~XX321 1	7E 30 30 33 32 31 20 31 0D	Filter Usage Hours	Oknnnn	return filter usage hours
~XX351 0	7E 30 30 33 35 31 20 30 0D	Fan 1 Speed	Okaaaa	aaa=000~999
~XX351 1	7E 30 30 33 35 31 20 31 0D	Fan 2 Speed	Okaaaa	aaa=000~999
~XX351 2	7E 30 30 33 35 31 20 32 0D	Fan 3 Speed	Okaaaa	aaa=000~999
~XX351 3	7E 30 30 33 35 31 20 33 0D	Fan 4 Speed	Okaaaa	aaa=000~999
~XX352 1	7E 30 30 33 35 32 20 31 0D	System Temperature	Okaaaa	aaa=000~999
~XX353 1	7E 30 30 33 35 33 20 31 0D	Serial number	Okaaaaaaaaa aaaaaaaa	a= serial number string
~XX355 1	7E 30 30 33 35 35 20 31 0D	AV Mute	Oka	a = 0 Off a = 1 On
~XX356 1	7E 30 30 33 35 36 20 31 0D	Mute	Oka	a = 0 Off a = 1 On
~XX357 1	7E 30 30 33 35 37 20 31 0D	LAN FW version	Okeeeee	eeeee = Software Version
~XX358 1	7E 30 30 33 35 38 20 31 0D	Current Lamp Watt	Okaaaa	aaaa=0000~9999
~XX542 2	7E 30 30 35 34 32 20 32 0D	IR Function : Front	Oka	a=0 Off a=1 On
~XX544 1	7E 30 30 35 34 34 20 31 0D	Security Timer Month	Oka	a = 00~12
~XX544 2	7E 30 30 35 34 34 20 32 0D	Security Timer Day	Oka	a = 00~30
~XX544 3	7E 30 30 35 34 34 20 33 0D	Security Timer Hour	Oka	a = 00~24
~XX555 1	7E 30 30 35 35 35 20 31 0D	LAN MAC Address	Ok##:##:##:##: ##:##	return SSID
~XX558 1	7E 30 30 35 35 38 20 31 0D	Projector ID	Oka	a=%
~XX559 2	7E 30 30 35 35 39 20 32 0D	Color Wheel Index	Oka	a=%
~XX559 3	7E 30 30 35 35 39 20 33 0D	Color Wheel Index	Oka	a=%

Note:

- *~xx112 1 ~nnnn (nnnn = password) When security is on, you need to add password after command or it will return "F".*
- *When the projector shows another OSD, enter the command "~XX313 0 7E 30 30 33 31 33 20 30 0D Information menu Off (0/2 for backward compatible)" then it will return "F".*

ADDITIONAL INFORMATION

IR remote codes

For Data Model

Key	Printing-key definition	Key code				Repeat
		BYTE1	BYTE2	BYTE3	BYTE4	
		customer 0	customer 1	data 0	data 1	
Power On ⏻	On	32	CD	02	#BYTE3	F1
Power Off ❘	Off	32	CD	2E	#BYTE3	F1
Geometric Correction	Geometric Correction	32	CD	96	#BYTE3	F1
F1	F1	32	CD	26	#BYTE3	F1
F2	F2	32	CD	27	#BYTE3	F1
Mode	Mode	32	CD	95	#BYTE3	F1
Four directional select keys (↑/↓/←/→)	Up arrow	32	CD	C6	#BYTE3	F1
	Down arrow	32	CD	C7	#BYTE3	F1
	Left arrow	32	CD	C8	#BYTE3	F1
	Right arrow	32	CD	C9	#BYTE3	F1
Enter	Enter	32	CD	C5	#BYTE3	F1
AV Mute	AV Mute	32	CD	03	#BYTE3	F1
Information	Info.	32	CD	25	#BYTE3	F1

ADDITIONAL INFORMATION

Key	Printing-key definition	Key code				Repeat
		BYTE1	BYTE2	BYTE3	BYTE4	
		customer 0	customer 1	data 0	data 1	
Laser ☀	Laser	N/A	N/A	N/A	N/A	N/A
Source	Source	32	CD	18	#BYTE3	F1
F3	F3	32	CD	66	#BYTE3	F1
Re-Sync	Re-Sync	32	CD	04	#BYTE3	F1
Volume	Volume +	32	CD	09	#BYTE3	F1
	Volume -	32	CD	0C	#BYTE3	F1
D Zoom	D Zoom +	32	CD	08	#BYTE3	F1
	D Zoom -	32	CD	0B	#BYTE3	F1
Menu	Menu	32	CD	88	#BYTE3	F1
Format	Format	32	CD	15	#BYTE3	F1
Freeze	Freeze	32	CD	06	#BYTE3	F1
Remote	Remote ID	3201~ 3299		N/A		
	Remote All	32CD		N/A		
VGA / 1	1/VGA	32	CD	8E	#BYTE3	F1
S-Video / 2	2/S-Video	32	CD	1D	#BYTE3	F1
HDMI1 / 3	3/HDMI1	32	CD	16	#BYTE3	F1
HDMI2	HDMI2	32	CD	9B	#BYTE3	F1
HDBaseT / 4	4/HDBaseT	32	CD	70	#BYTE3	F1
Video / 5	5/Video	32	CD	1C	#BYTE3	F1
6	6	32	CD	19	#BYTE3	F1
HDMI3	HDMI3	32	CD	98	#BYTE3	F1
7	7	32	CD	1A	#BYTE3	F1
YPbPr / 8	8/YPbPr	32	CD	17	#BYTE3	F1
9	9	32	CD	9F	#BYTE3	F1
3D / 0	0/3D	32	CD	89	#BYTE3	F1

For Home Model
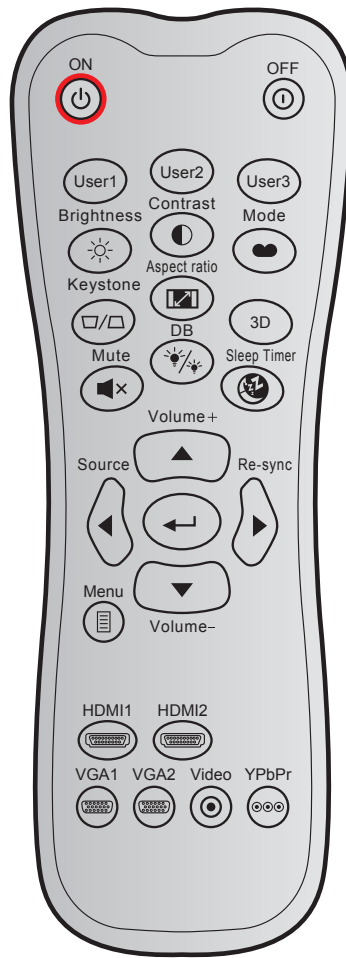
Key		Custom code		Key code		Printing-key definition	Description
		Byte 1	Byte 2	Byte 3	Byte 4		
Power on	⏻	32	CD	02	FD	ON	Press to turn on the projector.
Power off	⏼	32	CD	2E	D1	OFF	Press to turn off the projector.
User 1		32	CD	36	C9	User1	User defined keys. Please see page *41* to setup.
User 2		32	CD	65	9A	User2	
User 3		32	CD	66	99	User3	
Brightness	☼	32	CD	41	BE	Brightness	Adjust the brightness of the image.
Contrast	◑	32	CD	42	BD	Contrast	Control the degree of difference between the lightest and darkest parts of the picture.
Display mode	●	32	CD	05	FA	Mode	Select a display mode for optimized settings for different applications. Please see page *32*.
Keystone	▱/▱	32	CD	07	F8	Keystone	No function
Aspect ratio	◪	32	CD	64	9B	Aspect ratio	Press to change aspect ratio of a displayed image.
3D		32	CD	89	76	3D	No function
Mute	◀×	32	CD	52	AD	Mute	Momentarily turns off / on the audio.
DB (Dynamic Black)	☀	32	CD	44	BB	DB	Automatically adjusts the picture brightness to give optimum contrast performance.
Sleep timer	⏾	32	CD	63	9C	Sleep Timer	Sets the countdown timer interval.

Key		Custom code		Key code		Printing-key definition	Description
		Byte 1	Byte 2	Byte 3	Byte 4		
Volume +		32	CD	11	EE	Volume +	Adjust to increase volume.
Four direction keys		32	CD	11	EE	▲	Use ▲, ◄, ►, or ▼ to select items or make adjustments to your selection.
		32	CD	10	EF	◄	
		32	CD	12	ED	►	
		32	CD	14	EB	▼	
Source		32	CD	10	EF	Source	Press "Source" to select an input signal.
Enter key	↵	32	CD	0F	F0	↵	Confirm your item selection.
Re-sync		32	CD	12	ED	Re-sync	Automatically synchronizes the projector to the input source.
Volume -		32	CD	14	EB	Volume -	Adjust to decrease volume.
Menu		32	CD	0E	F1	Menu	Display or exit the on-screen display menus for projector.
HDMI 1		32	CD	16	E9	HDMI1	Press "HDMI1" to choose source from HDMI 1 connector.
HDMI 2		32	CD	30	CF	HDMI2	Press "HDMI2" to choose source from HDMI 2 connector.
VGA 1		32	CD	1B	E4	VGA1	Press "VGA1" to choose source from VGA connector.
VGA 2		32	CD	1E	E1	VGA2	No function
Video		32	CD	1C	E3	Video	No function
YPbPr		32	CD	17		YPbPr	No function

ADDITIONAL INFORMATION

Troubleshooting

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

Image problems

[?]   *No image appears on-screen*

- Ensure all the cables and power connections are correctly and securely connected as described in the "Installation" section.
- Ensure the pins of connectors are not crooked or broken.
- Ensure that the "Mute" feature is not turned on.

[?]   *Image is out of focus*

- Turn the focus ring clockwise or counterclockwise until the image is sharp and legible. (Please see page *18)*.
- Make sure the projection screen is between the required distance from the projector. (Please refer to page *55*).

[?]   *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*

- Turn the zoom lever clockwise or counterclockwise to increase or decrease the projected image size. (Please see page *17)*.
- 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.

[?]   *Image is reversed*

- Press "Menu" on the projector panel, go to "Setup → Projection" from the OSD and adjust the projection direction.

ADDITIONAL INFORMATION

Other problems

?   *The projector stops responding to all controls*

- If possible, turn off the projector, then unplug the power cord and wait at least 20 seconds before reconnecting power.

Remote control problems

?   *If the remote control does not work*

- Check the operating angle of the remote control is pointed within ±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 7 m (23 ft) of the projector.
- Make sure batteries are inserted correctly.
- Replace batteries if they are exhausted.

ADDITIONAL INFORMATION

Warning indicators

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

- "Laser" LED indicator is lit red and if "Power" indicator flashes red.
- "Temp" LED indicator is lit red and if "Power" 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 "Power" 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		Temp LED	Laser LED
	(Red)	(Blue)	(Red)	(Red)
Standby state (Input power cord)	Steady light			
Power on (Warming)		Flashing (0.5 sec off / 0.5 sec on)		
Power on and Laser lighting		Steady light		
Power off (Cooling)		Flashing (0.5 sec off / 0.5 sec on). Back to red steady light when cooling fan turns off.		
Error (Laser failure)	Flashing			Steady light
Error (Fan failure)	Flashing		Flashing	
Error (Over temp.)	Flashing		Steady light	
Standby State (Burn in mode)		Flashing		
Burn-in (Warming) (*)		Flashing		
Burn-in (Cooling) (*)		Flashing		
Burn in (Laser lighting) (*)		Flashing (3 sec on / 1 sec off)		
Burn in (Laser off) (*)		Flashing (1 sec on / 3 sec off)		

Note:

- *(*)If power is less than 0.5W and the power LED is red, change the power LED to flashing red.*
  a) *Turn all LEDs off after the OSD menu disappears.*
  b) *Power LED on: No signal; OSD disappears.*
  c) *Power LED off: Signal is detected; OSD disappears.*

ADDITIONAL INFORMATION

- Power off:

<div style="background:black; color:white; text-align:center;">
Power Off

Press power key again.
</div>

- Temperature warning:

<div style="background:black; color:white;">
<p style="text-align:center;">Warning</p>

<p style="text-align:center; color:red;">TEMPERATURE TOO HIGH</p>

Please:
1. Make sure air in and outlets are not blocked.
2. Make sure the environment temperature is under 45 degree C.

If the problem persists in spite of the above.

Please contact a service center for repair.
</div>
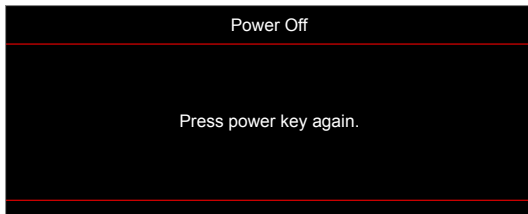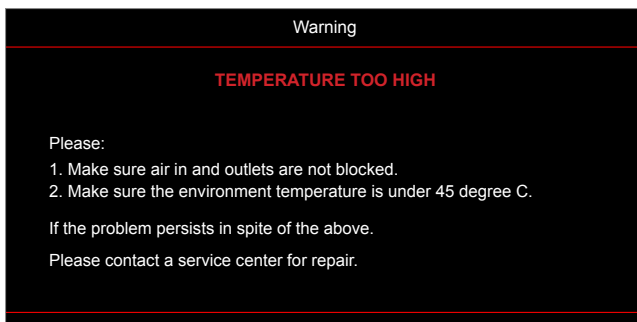
ADDITIONAL INFORMATION

Specifications

Optical	Description
Maximum resolution	4K UHD
Native resolution	2716 x 1528
Lens	Manual zoom and manual focus adjustment
Image size (diagonal)	26.45"~302.2" (focus range, optimized @ wide 60" image size)
Projection distance	1.3m ~ 9.3m (focus range, optimized @ wide 1.846m)

Electrical	Description
Inputs	• HDMI 1.4b • HDMI V2.0 HDCP2.2 / MHL V2.2 • VGA In (supports YpbPr) • Audio In 3.5mm • RS232C male (9-pin D-SUB) • RJ-45 (supports web control) • USB type A
Outputs	• Audio Out 3.5mm • SPDIF Out • 12V Trigger (3.5mm jack)
Control	USB type A for service
Color reproduction	1073.4 Million color
Scan rate	• Horizontal scan rate: 31.000~135.000KHz • Vertical scan rate: 24~120Hz
Built-in speaker	Yes, 2x 5W
Power requirement	100 - 240V ±10%, AC 50/60Hz
Input current	3.8A

Mechanical	Description
Installation orientation	Front, Rear, Ceiling-top, Rear-top
Dimensions	498.1mm (W) x 331.1mm (D) x 154mm (H) (without feet)
Weight	Less than 10kg
Environmental conditions	Operating in 5~40°C , 10% to 85% humidity (non-condensing)

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

ADDITIONAL INFORMATION

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