# Canon

# MULTIMEDIA PROJECTOR LV-HD420/LV-X420 User's Manual









BEFORE USING, BE SURE TO READ THIS USER'S MANUAL. Read the "Safety Instructions" in this manual thoroughly and use correctly the projector. Store this user's manual in a convenient location where you can refer to it easily.

**XMHL** 

#### **Table of Contents**

SAFETY INSTRUCTIONS	1
FOR SAFE USE	10
GETTING STARTED	13
Packing Checklist	
VIEWS OF PROJECTOR PARTS	
Front-right View	
Top view—On-screen Display (OSD) buttons and LEDs Rear view	
Bottom view	
REMOTE CONTROL PARTS	
REMOTE CONTROL OPERATING RANGE	
PROJECTOR AND REMOTE CONTROL BUTTONS	20
SETUP AND OPERATION	21
INSERTING THE REMOTE CONTROL BATTERIES	
STARTING AND SHUTTING DOWN THE PROJECTOR	
How to store the projector in the soft carrying case (LV-SC02)	
SETTING AN ACCESS PASSWORD (SECURITY LOCK) Adjusting the Projector Level	
ADJUSTING THE ZOOM, FOCUS AND KEYSTONE	
ADJUSTING THE VOLUME	
ON-SCREEN DISPLAY (OSD) MENU SETTINGS	
OSD MENU CONTROLS	
Navigating the OSD	
SETTING THE OSD LANGUAGE	
IMAGE MENU	
Advanced Feature	
White Balance	
Color Manager	
Settings 1 Menu	
Keystone	
Audio Advanced 1 Feature	
Advanced 2 Feature	
4 Corner	
Settings 2 Menu	
Status	
Advanced 1 Feature	
Advanced 2 Feature	
MAINTENANCE AND SECURITY	
REPLACING THE PROJECTION LAMP	
Resetting the Lamp Hour	
CLEANING THE PROJECTOR Cleaning the Lens	
Cleaning the Case	
Using the Kensington Lock	
Using the Kensington Lock	
Using the Security Bar	66
TROUBLESHOOTING	67
COMMON PROBLEMS AND SOLUTIONS	
LED ERROR MESSAGES PROBLEM AND COUNTERMEASURES	
SPECIFICATIONS	71

SPECIFICATIONS	71
PROJECTION DISTANCE VS. PROJECTION SIZE	73
Projection Distance and Size Table	73
TIMING MODE TABLE	75
PROJECTOR DIMENSIONS	77
REGULATORY COMPLIANCE	
FCC WARNING	
CANADA	
SAFETY CERTIFICATIONS	
APPENDIX I	79
RS-232 PROTOCOL	79

### **SAFETY INSTRUCTIONS**

Before installing and operating the projector, read this manual thoroughly.

This projector provides many convenient features and functions. Operating the projector properly enables

you to manage those features and maintain it in good condition for many years to come.

Improper operation may result in not only shortening the product life, but also malfunctions, fire hazards, or other accidents.

If your projector does not seem to be operating properly, read this manual again, check operations and cable connections, and try the solutions in the "Troubleshooting" section in the user's manual. If the problem still persists, contact the Canon Customer Support Center.



THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT.



THIS SYMBOL INDICATES THAT THERE ARE IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS FOR THIS UNIT IN THE USER'S MANUAL.

#### CAUTION

Not for use in a computer room as defined in the Standard for the Protection of Electronic Computer / Data Processing Equipment, ANSI / NFPA 75.



WARNING:

- THIS APPARATUS MUST BE GROUNDED.
- TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
- This projector produces intense light from the projection lens. Do not stare directly into the lens, otherwise eye damage could result. Be especially careful that children do not stare directly into the beam.
- Install the projector in a proper position. Otherwise it may result in a fire hazard.
- Do not cover the ventilation slots on the projector. Heat build-up can reduce the service life of your projector, and can also be dangerous.
- If the projector is unused for an extended time, unplug the projector from the power outlet.
- Do not project the same image for a long time.

An afterimage may remain on the DMD panel due to the characteristics of the panel of the projector.

### WARNING ON HANGING FROM THE CEILING

When hanging the projector from the ceiling, clean the air intake vents and top of the projector periodically with a vacuum cleaner. If you leave the projector unclean for a long time, the cooling fans can be clogged with dust, and it may cause a breakdown or a disaster.

Make sure to implement anti-fall measures such as an anti-fall wire when installing the projector in high places, for example, installing it on the ceiling.

#### DO NOT SET THE PROJECTOR IN GREASY, WET, OR SMOKY CONDITIONS SUCH AS IN A KITCHEN TO PREVENT A BREAKDOWN OR A DISASTER. IF THE PROJECTOR COMES IN CONTACT WITH OIL OR CHEMICALS, IT MAY BECOME DETERIORATED.

#### ■ READ AND KEEP THIS MANUAL FOR LATER USE.

All the safety and operating instructions should be read before beginning to operate the product.

Read all of the instructions given here and retain them for later use. Unplug this projector from the AC power supply before cleaning. Do not use liquid or aerosol cleaners on the projector. Use a damp cloth for cleaning.

Follow all warnings and instructions marked on the projector.

For added protection of the projector during a lightning storm, or when it is left unattended or unused for long periods of time, unplug it from the wall outlet. This will prevent damage due to lightning and power surges.

Do not expose this unit to rain or use near water. For example, in a wet basement, near a swimming pool..., etc.

Do not use attachments not recommended by the manufacturer as they may result in hazards.

Do not place this projector on an unstable cart, stand, or table. The projector may fall, causing serious injury to a child or adult, and serious damage to the projector. Use only with a cart or stand recommended by the manufacturer, or sold with the projector. For wall or shelf mounting, use a tool such as a mounting kit to secure the projector.

An appliance and cart combination should be moved with care.

Sudden stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

Slots and openings in the rear and front of the cabinet are provided for ventilation, to insure reliable operation of the equipment and to protect it from overheating.

The openings should never be covered with cloth or other materials, and the bottom opening should not be blocked by placing the projector on a bed, sofa, rug, or other similar surface. This projector should never be placed near or over a radiator or heat register.

This projector should not be placed in a built-in installation such as a book case unless proper ventilation is provided.

Never push objects of any kind into this projector through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind onto the projector.

Do not install the projector near the ventilation duct of air-conditioning equipment.

This projector should be operated using only the type of power source indicated on the marking label. If you are not sure of the type of power supplied, contact the Canon Customer Support Center or local power company.

Do not overload wall outlets and extension cords as this can result in fire or electric shock. Do not allow anything to rest on the power cord. Do not locate this projector where the cord may be damaged by people walking on it.

Do not attempt to service this projector yourself as opening or removing covers may expose you to dangerous voltages or other hazards. Refer all servicing to qualified service personnel.

Unplug this projector from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power cord or plug is damaged or frayed.
- b. If liquid has been spilled into the projector.
- c. If the projector has been exposed to rain or water.
- d. If the projector does not operate normally after following the operating instructions. Adjust only those controls that are covered in the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the projector to normal operating condition.
- e. If the projector has been dropped or the cabinet has been damaged.
- f. When the projector exhibits a distinct change in performance-this indicates a need for servicing.

When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer that have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or injury.

Upon completion of any service or repairs to this projector, ask the service technician to perform routine safety checks to determine that the projector is in safe operating condition.

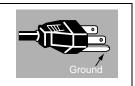


### **AC Power Cord Requirement**

The AC Power Cord supplied with this projector meets the requirements for use in the country you purchased it.

#### AC Power Cord for the United States and Canada:

The AC Power Cord used in the United States and Canada is listed by the Underwriters Laboratories (UL) and certified by the Canadian Standard Association (CSA).



The AC Power Cord has a grounding-type AC line plug. This is a safety feature to ensure the plug fits into the power outlet. Do not try to tamper with this safety feature. Should you be unable to insert the plug into the outlet, contact your electrician.

#### THE SOCKET-OUTLET SHOULD BE INSTALLED NEAR THE EQUIPMENT AND EASILY ACCESSIBLE.

For the U.S. and Canada, LAMP(S) INSIDE THIS PRODUCT CONTAIN MERCURY AND MUST BE RECYCLED OR DISPOSED OF ACCORDING TO LOCAL, MUNICIPAL, STATE, PROVINCIAL, OR FEDERAL LAWS.

For lamp recycling and disposal information please call 1-800-OK-CANON for the U.S. and Canada.

#### Only for European Union and EEA (Norway, Iceland and Liechtenstein)

These symbols indicate that this product is not to be disposed of with your household waste, according to the WEEE Directive (2012/19/EU), the Battery Directive (2006/66/EC) and/or national legislation implementing those Directives.



If a chemical symbol is printed beneath the symbol shown above, in accordance with the Battery Directive, this indicates that a heavy metal (Hg = Mercury, Cd = Cadmium, Pb = Lead) is present in this battery or accumulator at a concentration above an applicable threshold specified in the Battery Directive.



This product should be handed over to a designated collection point, e.g., on an authorized one-for-one basis when you buy a new similar product or to an authorized collection site for recycling waste electrical and electronic equipment (EEE) and batteries and accumulators. Improper handling of this type of waste could have a possible impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. Your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources.

For more information about the recycling of this product, please contact your local city office, waste authority, approved scheme or your household waste disposal service or visit <u>www.canon-europe.com/weee</u>, or <u>www.canon-europe.com/battery</u>.

#### For CA, USA only

Included lithium battery contains Perchlorate Material - special handing may apply.

See www.dtsc.ca.gov/hazardouswaste/perchlorate/ for details.

### **Federal Communication Commission Notice**

Multimedia Projector, Model: LV-HD420 / LV-X420

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.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment 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 equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user 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 equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

The cable with a ferrite core provided with the projector must be used with this equipment in order to comply with Class B limits in Subpart B of Part 15 of the FCC Rules.

Use of a shielded cable is required to comply with class B limits in Subpart B of Part 15 of FCC Rules.

Do not make any changes or modifications to the equipment unless otherwise specified in the instructions. If such changes or modifications should be made, you could be required to stop operation of the equipment.

Canon U.S.A. Inc.

One Canon Park, Melville, New York 11747, U.S.A.

Tel No. (1) 631-330-5000

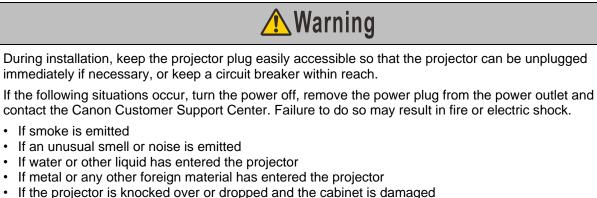
#### Safety Symbols in this Manual

This section describes the safety symbols used in this manual. Important projector safety information is identified by the following symbols. Always observe the safety information by these symbols.

<b>A</b> Warning	Denotes the risk of death or serious injury from improper handling if the information is not observed. To ensure safe use, always observe this information.
<b>▲</b> Caution	Denotes the risk of injury from improper handling if the information is not observed. To ensure safe use, always observe this information.

#### **Precautions for Use**

As this section contains important safety-related information, be sure to read the following carefully beforehand in order to use your projector correctly and safely.



If the projector is physically damaged through uses prohibited in this document, etc.

Take the following precautions when handling the power cord. Failure to do so may result in fire or electric shock.

- Do not place any objects on the power cord and do not allow it to become trapped under the projector.
- Do not cover the power cord with a carpet.
- Do not modify or excessively bend, twist, pull, wind, or bundle the power cord.
- Keep the power cord away from heaters and other sources of heat.
- Do not use a damaged power cord. If the power cord is damaged, purchase a replacement from your dealer.
- The power cord included with this projector is for use exclusively with this product. Do not use this cord for other products.



Take the following precautions regarding the power supply, power plug, and connector. Failure to do so may result in fire or electric shock.

- Do not use any power source with a voltage other than the voltage indicated (AC 100-240 V).
- Do not pull the power cord and be sure to hold the power plug or connector when removing. Incorrect handling may damage the power cord.
- Do not insert any metal objects into the contact parts of the power plug or connector.
- Do not remove the power plug or connector with wet hands.
- Insert the power plug and connector securely up to the base. Additionally, do not use a damaged power plug or an outlet that is loose.
- When using an extension cord, do not exceed the cord's rated capacity.
- Periodically inspect the power plug and outlet and remove any dust or dirt from between the plug and the outlet.

#### Installation and Handling Precautions

Take the following precautions regarding installation and handling of the projector. Failure to do so may result in a fire, electric shock or personal injury.

- Do not use the projector where it might get wet, such as outdoors or by bathtubs or showers.
- Do not place containers containing liquid on top of the projector.
- Do not touch the projector itself, the power cord, or the cable if there is lightning outside.
- Do not move the projector until you have switched off the power, removed the power plug from the power outlet and unplugged any other cables.
- Unplug the projector before cleaning or maintenance.
- Do not install the projector in a location that is damp or dusty, or where there is a lot of oily smoke or steam. Oil can degrade the plastic, which could result in a ceiling-mounted projector falling from its mounting.
- Do not remove the cabinet from the projector or disassemble it. The interior of the projector contains high-voltage components as well as parts that are hot. If inspection, maintenance or repair is required, contact the Canon Customer Support Center.
- Do not disassemble or modify the projector (including consumable parts) or the remote control.

# **Warning**

Take the following precautions regarding installation and handling of the projector. Failure to do so may result in a fire, electric shock or personal injury.

- Do not look directly into the exhaust vents during use.
- Do not insert any object into vents in the projector, such as the air intake vent or exhaust vents.
- Do not place a pressurized can in front of the exhaust vents. The pressure of the contents of the can may increase due to heat from the exhaust vents and this could result in an explosion.
- When cleaning off dust or dirt from projector parts such as the lens, never use any spray that is flammable. Internal parts that become hot may ignite and cause a fire.
- Do not use adhesives, lubricants, oils, or alkaline detergents for maintenance of the projector. They could adhere to the cabinet and damage it, possibly resulting in the projector falling from its mounting and causing an accident or personal injury.
- As strong light beams are emitted while the projector is in use, do not look directly into the projector lens. Doing so could cause an eye injury. Pay particular attention to prevent small children from doing so.
- Light from the projector is classified as Risk Group 2 (RG2) according to IEC 62471-5:2015.
- If children may approach the projector or touch it, always ensure the projector is used under adult supervision.



- Do not hold or install optical instruments (such as magnifying glasses, reflectors, or glasses) in the path of light from the projector. If projected light is refracted or reflected and enters people's eyes, it may result in eye injury.
- When setting the projector on a high surface for projection, be sure the surface is flat and stable.
- Do not install the projector on a soft surface such as a carpet or foam mat. Doing so could cause heat to build up inside the projector and this could result in a fire.

#### **Precautions on the lamp**

<b>A</b> Warning
This projector uses a high-pressure mercury lamp as a light source. The mercury lamp has the following characteristics.
<ul> <li>The lamp will gradually become darker over time.</li> <li>Impact, abrasion, or use of worn-out lamps may cause lamps to rupture (accompanied by a loud noise) or burn out.</li> </ul>
<ul> <li>Lamps are more likely to rupture once the lamp replacement message has been displayed. Replace the lamp with a new one as soon as possible. For details, refer to the user's manual.</li> <li>Useful life of lamps varies widely from lamp to lamp and depending on the environment of use. Some lamps may fail or rupture soon after they are first used.</li> </ul>
Take the following precautions during lamp replacement or when a lamp has ruptured. Failure to do so may result in electric shock, burns, or other injury.
<ul> <li>Before replacing the lamp, always unplug the projector and wait at least 45 minutes.</li> <li>Ruptured lamps may emit dust and gas (containing mercury vapor) out of the exhaust vents. If so, immediately open windows and doors to ventilate the room. Additionally, shards of glass may be scattered. Do not attempt lamp replacement yourself. Instead, contact an installer or Canon Customer Support Center for internal cleaning, inspection, and lamp replacement.</li> <li>If you accidentally inhale gas from the lamp or get any pieces in your eyes or mouth, consult a doctor immediately.</li> </ul>
Take the following precautions when replacing lamps that stop working. Failure to do so may result in injury.
<ul> <li>If illumination suddenly stops, either when you turn the projector on or during use, the lamp may have ruptured. In this case, never attempt replacement yourself. Request replacement from an installer or Canon Customer Support Center.</li> <li>With ceiling-mounted projectors, the lamp may fall out when you open the lamp cover, or during</li> </ul>

• With ceiling-mounted projectors, the lamp may fall out when you open the lamp cover, or during replacement. During replacement, stand to the side of the lamp cover, not directly under it.

#### **Precautions for the Batteries of the Remote Control**

**M**Warning

Take the following precautions regarding handling of batteries. Failure to do so may result in a fire or personal injury.

- Do not heat, short circuit or disassemble the batteries, or place them in a fire.
- Do not attempt to recharge the batteries that are included with the remote control.
- Remove the batteries when they are flat or when the remote control will not be used for a long period of time.
- Insert the batteries with the + and terminals in the correct directions.
- If any liquid from inside the batteries leaks out and contacts your skin, be sure to wash the liquid off thoroughly.

# **A**Caution

Take the following precautions regarding installation and handling of the projector.

- If the projector will not be used for a long period of time, be sure to remove the power plug from the power outlet to ensure safety. Failure to do so presents a risk of fire if dust accumulates on the plug or outlet.
- Do not touch parts of the cabinet around and above the exhaust vents, which may become hot during projection or for a while after projection. Be especially careful to keep children away from these parts. Additionally, do not place any metal objects around or above the exhaust vents. Such objects may become hot from the projector, which may result in burns or other injury.
- Do not place any heavy objects on top of the projector or sit / stand on it. Pay particular attention to prevent small children from doing so. The projector may be knocked over and this could result in damage or a personal injury.
- Do not place the projector on an unstable or slanted surface. Doing so may cause the projector to fall or be knocked over and could result in a personal injury.
- Do not place any objects in front of the lens during projection. This may result in a fire.



#### When handling the lamp, take the following precautions.

- Lamps are more likely to rupture once the lamp replacement message has been displayed. Replace the lamp with a new one as soon as possible.
- Before removing the lamp, wait at least 45 minutes after turning off the projector and confirm that the lamp and projector have cooled down sufficiently. Failure to do so may result in burns or other injury.
- Be prepared by keeping a spare lamp.
- Dispose of used mercury lamps in accordance with local regulations.

#### Caution for viewing 3D content



Pay attention to the following points when viewing 3D content.

- Photosensitive patients, patients with heart disease, pregnant women, elderly people, and people with serious illness and/or with a history of epilepsy should not view 3D content.
- We advise that you should refrain from viewing 3D content if you are in bad physical condition, need sleep or have been drinking alcohol.
- Stop watching 3D content if you experience the following symptoms. If you experience such symptom, immediately stop viewing 3D content and take a break until the symptom has subsided.
  - You see doubly-blurred images or you cannot view the image stereoscopically.
  - You feel fatigue or discomfort.
- Take breaks when viewing 3D content for an extended period of time. As this may cause eye fatigue. Viewing 3D content for an extended period of time or viewing them from an oblique angle can cause eye strain.
- Parents should accompany and monitor their children as children cannot properly express discomfort with 3D content viewing. Children who are six year of age or younger should not view 3D content.
- The optimum 3D viewing distance from the screen is about 3 times of the vertical screen size or more and your eyes should be level with the screen.

# FOR SAFE USE

# **A**Caution

Take the following precautions when carrying or transporting the projector.

- This projector is a precision instrument. Do not knock it over or subject it to impacts. Doing so may cause a malfunction.
- Protection of the projector cannot be guaranteed if used packaging or shock-absorbent materials are reused. Fragments from shock-absorbent material may also enter the interior of the projector which could cause a malfunction.
- Disconnect the cables connected to the projector. Carrying the projector while the cables are attached may cause an accident.
- Retract the adjustable feet before moving the projector. Leaving the feet extended may cause damage.
- Do not touch the lens with bare hands. Doing so may result in deterioration of image quality.

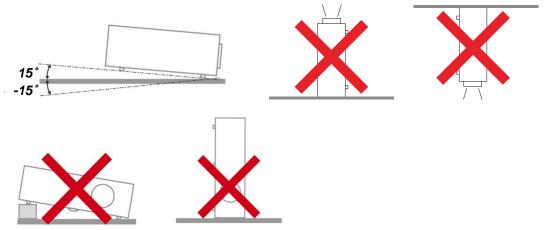
Take the following precautions when installing or using the projector.

- Be careful of condensation.
   If the projector is abruptly taken to a warmer location, or if the room temperature rises abruptly, moisture in the air may condense on the lens and mirror, causing the image to become blurred.
- Do not install the projector in a location where the temperature changes rapidly such as in front of a cooling and heating machine. Otherwise, it may damage the projector due to condensation or a rapid change in temperature.
- Do not install the projector in extremely hot or cold locations. This may damage the projector. Ranges for the environment of use and storage are as follows.
  - Environment of use: 5°C (41°F) to 40°C (104°F), up to 85% RH
  - Storage temperature: -10°C (14°F) to 60°C (140°F)
- When using the projector at an altitude of 1,500 m (4,921') or higher: Adjust projector menu settings accordingly (Page 47).
- Do not block the air intake or exhaust vents. Blocking the vents may trap heat inside the projector, which may shorten the useful life of optical components or other parts and damage the projector.
- Install the projector leaving at least 50 cm (1.6') between air intake/exhaust vents and walls. Failure to do so may trap heat inside the projector and damage it.
- Do not place any objects on top of the projector that may change shape or color due to heat.
- Do not install the projector in a location that is damp, or where there is a lot of dust, oily smoke or tobacco smoke. Doing so could cause contamination of optical components such as the lens and the mirror and may result in deterioration of image quality. And oil can degrade the plastic, which could result in a ceiling-mounted projector falling from its mounting.
- Do not install the projector near high-voltage electrical power lines or an electrical power source.

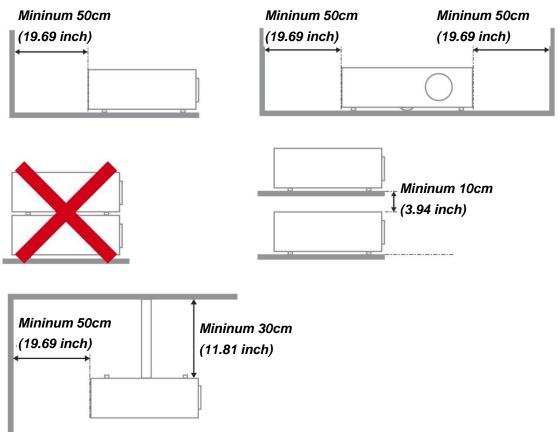
#### Projector Installation Notice

Place the projector in a horizontal position

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



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



- > Ensure that the intake vents do not recycle hot air from the exhaust vent.
- When operating the projector in an enclosed space, ensure that the surrounding air temperature within the enclosure does not exceed operation temperature while the projector is running, and the air intake and exhaust vents are unobstructed.
- All enclosures should pass a certified thermal evaluation to ensure that the projector does not recycle exhaust air, as this may cause the device to shutdown even if the enclosure temperature is with the acceptable operation temperature range.
- Make sure to implement anti-fall measures such as an anti-fall wire when installing the projector in high places, for example, installing it on the ceiling.

#### **Copyright Notice**

Please note that enlarging or reducing the size of an image for commercial purposes or public presentation may infringe on the legally protected copyright or the copyright holder of the original material.

#### Ensure Network Security

Take measures to ensure network security. Note that Canon is not liable in any way for direct or indirect loss from network security incidents, such as unauthorized access.

Before using the projector, configure the appropriate projector, computer, and network security settings. Install the projector in a network protected by a firewall or other security measures. Do not connect it directly to the Internet.

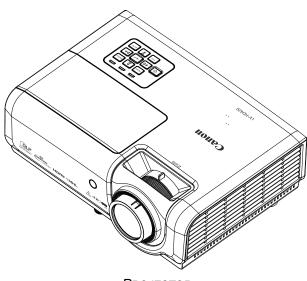
#### **About Trademarks**

- > Ethernet is a registered trademark of Xerox Corporation.
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- > PJLink is a registered trademark of JBMIA and pending trademark in some countries.
- PJLink is a registered trademark, or an application has been submitted for trademark, in Japan, the United States and / or other countries or regions.
- > AMX is a trademark of AMX Corporation.
- Crestron®, Crestron RoomView®, and Crestron Connected™ are registered trademarks of Crestron Electronics, Inc.
- MHL, the MHL logo, and Mobile High-Definition Link are trademarks or registered trademarks of MHL, LLC in the United States and other countries.
- > All other trademarks are the property of their respective owners.

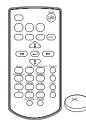
# **GETTING STARTED**

### Packing Checklist

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



PROJECTOR



REMOTE CONTROL (WITH ONE CR2025 BATTERY)



CD-ROM (This User's manual)



RGB CABLE(1.8 M/5.9') (MINI D-SUB 15-PIN / MINI D-SUB 15-PIN) (P/N: 3081409201)



Power Cord (1.8 M/5.9')



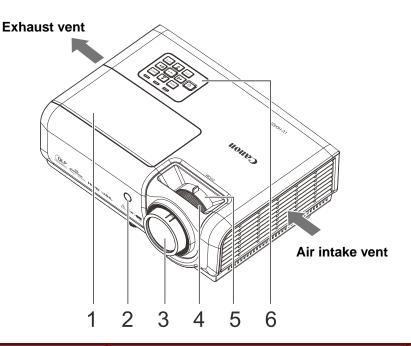
IMPORTANT INFORMATION



WARRANTY CARD

#### **Views of Projector Parts**

Front-right View

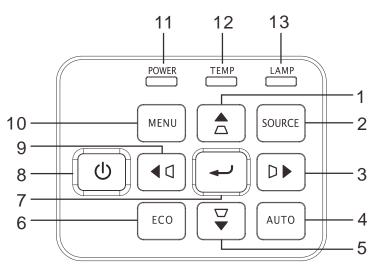


Ітем	LABEL	DESCRIPTION	SEE PAGE
1.	Lamp Cover	Remove to change the lamp.	61
2.	IR receiver	Receive IR signal from remote control.	
3.	Projection Lens		
4.	Focus ring	Focuses the projected image.	27
5.	Zoom ring	Enlarges the projected image.	21
6.	Function keys	See Top view—On-screen Display (OSD) buttons and LEDs.	15

#### Install at a Sufficient Distance from Walls and Other Obstructions

If the air intake or exhaust vent is blocked, heat will accumulate inside the projector, possibly resulting in a shortened projector lifetime or a malfunction.

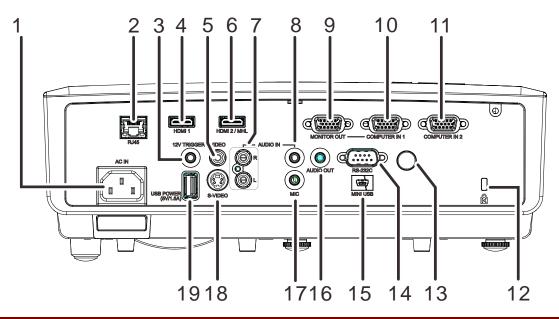
### Top view—On-screen Display (OSD) buttons and LEDs



Ітем	LABEL		DESCRIPTION	SEE PAGE
1.		Navigates and cha Quick Menu – For	anges settings in the OSD · Keystone	
2.	SOURCE	Navigates and characteristic Enter the Source	anges settings in the OSD menu	
3.		Navigates and cha Quick Menu – For	anges settings in the OSD · Keystone	29
4.	AUTO	Optimizes image	size, position, and resolution	
5.		Navigates and cha Quick Menu – For	anges settings in the OSD · Keystone	
6.	ECO	Enter the lamp m	Enter the lamp mode menu	
7.	<b>~</b>	Enter or confirm h	ighlighted OSD menu item	
8.		Turns the projecto	or On or Off.	
9.	<b>↓</b> □	Navigates and cha Quick Menu – For	anges settings in the OSD · Keystone	29
10.	MENU	Opens and exits 0	OSD menus	
		Solid	Standby, Lamp Lit, over temperature	
11.	POWER LED	Flashing	System Initialized, System Power On , Cooling , Error code	
12.	TEMP LED	Solid	Over temperature	<mark>68</mark>
13.	LAMPLED	Solid	Lamp Fail.	
13.		Flashing	Error code	

#### <u>Rear view</u>

Before connecting the projector to other equipment, turn off both the projector and the other equipment.

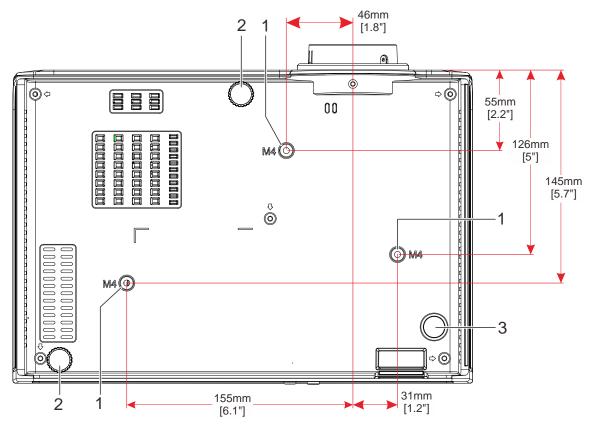


Ітем	LABEL	DESCRIPTION	SEE PAGE
1.	AC IN	Connect the POWER cable	22
2.	RJ45	Connect a LAN cable from Ethernet	
3.	12V TRIGGER	Connect the 12V OUT (Screen Trigger For screen of	controllers used)
4.	HDMI 1	Connect the HDMI cable from a HDMI device(*)	
5.	VIDEO	Connect the COMPOSITE cable from a video device	
6.	HDMI 2 / MHL	<ul> <li>Connect the HDMI cable from a HDMI device. (*)</li> <li>Connect the MHL cable from a MHL-compatible device.</li> <li>Note:</li> <li>A dedicated adapter is required if your projector does not support the standard MHL cable.</li> <li>Use a MHL cable (available on the market) and MHL-HDMI conversion adapter (available on the market) that certified with the MHL standard. When non-compliant items are used, image projection may not be possible, or the connected device may malfunction or generate heat.</li> <li>Images may not be displayed correctly depending on the connected device type and the settings.</li> <li>When images cannot be projected properly, disconnect and reconnect the MHL cable.</li> <li>Operation is not guaranteed for all connected devices.</li> </ul>	
7.	AUDIO IN (R / L)	Connect an AUDIO cable from the audio device	
8.	AUDIO IN	Connect an AUDIO cable from the audio device	
9.	MONITOR OUT	Connect the RGB cable from a computer (Loop Thru only for COMPUTER IN-1)	
10.	COMPUTER IN 1	Connect the RGB cable from a computer or compone	ents device

\* When connecting to HDMI device, use an HDMI certified cable.

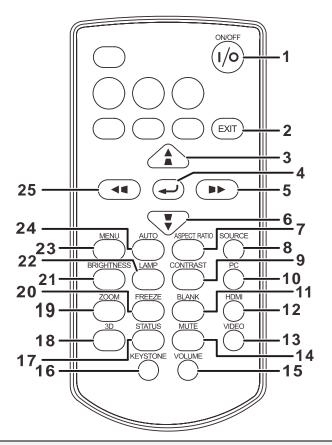
Ітем	LABEL	DESCRIPTION	SEE PAGE
11.	COMPUTER IN 2	Connect the RGB cable from a computer or compone	ents device
12.	Kensington Lock	Secure to permanent object with a Kensington Lock 66	
13.	IR receiver	Receive IR signal from remote control.	
14.	RS-232	Connect RS-232 serial port cable to control the projector with control commands	
15.	MINI USB	Connect the USB cable from a computer (For service only)	
16.	AUDIO OUT	Connect an AUDIO cable to audio amplifier	
17.	MIC	Connect the Microphone for use	
18.	S-VIDEO	Connect the S-VIDEO cable from a video device	
19.	USB POWER (5V/1.5A)	Connect the USB cable for power supply.	

#### Bottom view



Ітем	LABEL	DESCRIPTION	SEE PAGE
1.	Ceiling support holes	Contact your dealer for information on mounting the ceiling	projector on a
2.	Adjustable feet	Rotate adjuster lever to adjust angle position.	26
3.	Fixed foot		

#### **Remote Control Parts**



#### Note:

If buttons on the remote control are inoperative when you attempt to operate the projector, replace the batteries with new ones.

Do not drop the remote control or subject it to impact.

Do not spill any liquids on the remote control. Doing so may cause a malfunction.

Ітем	LABEL	DESCRIPTION	SEE PAGE
1.	ON/OFF	Turns the projector On or Off.	29
2.	EXIT	Goes back to previous OSD menu, exits and saves menu set Goes back to previous page.	tings.
3.		Navigates and changes settings in the OSD. Keystone correction.	
4.		Enters and confirms settings in the OSD.	29
5.		Navigates and changes settings in the OSD. Keystone correction.	
6.		Navigates and changes settings in the OSD. Keystone correction.	
7.	ASPECT RATIO	Displays the ASPECT RATIO selections.	
8.	SOURCE	Displays the source selection bar.	29
9.	CONTRAST	Displays the contrast setting bar.	
10.	PC	Toggles the input sources for display between PC sources.	

Ітем	LABEL	DESCRIPTION	SEE PAGE
11.	BLANK	Toggles the screen between blank and normal. Also, toggles the built-in speaker between off and on.	
12.	HDMI	Toggles the input sources for display between HDMI sources	
13.	VIDEO	Toggles the input sources for display between Video and S-V	ideo.
14.	MUTE	Toggles the built-in speaker between off and on.	
15.	VOLUME	Displays the volume setting bar.	28
16.	KEYSTONE	Displays the keystone setting bar.	27
17.	STATUS	Opens the OSD Status menu. (the menu only opens when an input device is detected)	46
18.	3D	Opens the 3D function OSD.	
19.	ZOOM	Displays the zoom setting bar.	
20.	FREEZE	Freeze/unfreezes the on-screen picture.	
21.	BRIGHTNESS	Displays the brightness setting bar.	
22.	LAMP	Displays the lamp mode selection.	
23.	MENU	Opens and exits OSD menus.	
24.	AUTO	Auto adjustment for frequency, phase, position.	29
25.		Navigates and changes settings in the OSD. Keystone correction.	

#### **Remote Control Operating Range**

The remote control is an infrared type. Point it at the infrared remote receiver on the front or rear of the projector to operate it. Remote control range is up to approximately 5 m (16'). Use the remote control within an angle approximately 15° in any direction from directly in front of the infrared remote receiver. But the effective control range may be reduced.

#### **Projector and Remote Control Buttons**

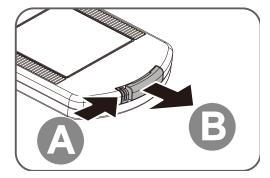
The projector can be operated using the remote control or the buttons on the top of the projector. All operations can be carried out with the remote control; however, the buttons on the projector are limited in use.

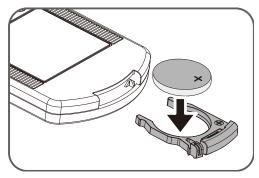
## **SETUP AND OPERATION**

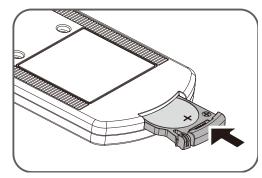
#### **Inserting the Remote Control Batteries**

- Remove the battery compartment cover by sliding the cover in the direction of the arrow (A). Pull out the cover (B)..
- **2.** Insert the battery with the positive side facing up.

**3.** Replace the cover.







#### **Warning**:

Pay attention to the following points regarding handling of battery. Failing to do so could result in a fire or personal injury.

- Do not heat, short circuit or disassemble the battery, or place them in a fire.
- Do not attempt to recharge the battery that is included with the remote control.
- Remove the battery when they are flat or when the remote control will not be used for a long period of time.
- Insert the battery with the + and terminals in the correct directions.
- If any liquid from inside the battery leaks out and contacts your skin, be sure to wash the liquid off thoroughly.

#### Caution:

- RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
- DISPOSE OF USED BATTERIES IN ACCORDANCE WITH LOCAL REGULATIONS.

#### Starting and Shutting down the Projector

- Connect the power cord to the projector. Connect the other end to a wall outlet. The **POWER** LED on the projector light.
- **2.** Turn on the connected devices.
- **3.** Ensure the POWER LED not a flashing. Then press the **O POWER** button to turn on the projector.

The projector splash screen displays and connected devices are detected.

See Setting an Access Password (Security Lock) on page 24 if security lock is enabled.

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



I

I

	Source
\\\\ 1	COMPUTER 1
<b>3</b> /2	COMPUTER 2
0	COMPOSITE VIDEO
٢	S-VIDEO
$\Box_1$	HDMI 1
$\square_2$	HDMI 2 / MHL
Item Ad Scroll 4 Menu =	

- COMPUTER1, COMPUTER2: Analog RGB
- COMPOSITE VIDEO: Traditional composite video
- S-VIDEO: Super video (Y/C separated)
- HDMI 1: HDMI
- HDMI 2/MHL: HDMI, MHL
- **5.** Press the **O POWER** button.
  - When the "Power Off? /Press Power again" message appears, press the **O POWER** button. The projector turns off.

#### Note:

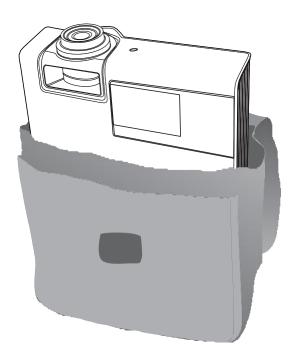
Do not unplug the power cord until the POWER LED stops flashing-indicating the projector has cooled down.

#### How to store the projector in the soft carrying case (LV-SC02)

The soft carrying case is not provided with the projector. Please contact with a store if you want to purchase it.

#### Note:

To protect lens of the projector, make sure to store the projector with its lens up as shown below.



#### Setting an Access Password (Security Lock)

You can use the four (arrow) buttons to set a password and prevent unauthorized use of the projector. When enabled, the password must be entered after you power on the projector. (See Navigating the OSD on page 29 and Setting the OSD Language on page 30 for help on using OSD menus.)

533

#### Note:

Keep the password strictly. Without the password, you will not be able to use the projector. If you lose the password, contact Canon Customer Support Center for information on clearing the password.

- 1\_ Press the **MENU** button to open the OSD menu.
- X 203 Picture Mode Presentation Brightness 50 Contrast 50 Analog Setting **+!/**} Auto Image **\*//** Advanced **+/**) Color Manager **+/**) <u>Me</u>nu = Exit Menu Select 🜗

Settings 1

- **2.** Press the cursor  $\triangleleft \triangleright$  button to move to the Settings 1 menu, press the cursor ▲ ▼ button to select Advanced 1.
- 250 80 Ľ Settings 1 Image **+**/} Source Ρ Projection Aspect Ratio Auto Keystone 4/> Digital Zoom 0 Audio **≁!∕**} Advanced 1 **≁!∕**▶ **≁!∕**⊁ Advanced 2 4 Corner **+//** Menu Menu Select 🌗
- 3. Advanced 1 sub menu. Press the cursor ▲ ▼ button to select Security Lock.
- Press the cursor **◄** button to enter 4\_ and enable or disable security lock function.

A password dialog box automatically appears.



5. You can use the cursor buttons
▲▼ ◀►

either on keypad or IR remote control for password entry. You can use any combination including the same arrow five times, but not less than five.

Press the cursor buttons in any order to set the password. Push the **MENU** button to exit the dialog box.

Password					
Register Password Confirm Password	Ē				
Menu	= Exit				
Password					
Register Password	*	*	*	*	*
Confirm Password	*	*	*	*	*
ОК					
Menu = Exit					

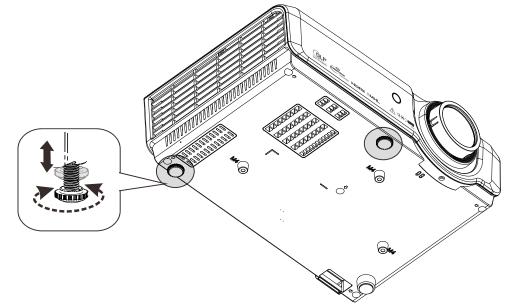
6. The password confirm menu appears when user presses the power-on key in case the **Security Lock** is enabled. Enter the password in the order you set it at step 5. In case you forget the password, please contact the Canon Customer Support Center.

Password			
Menu = Cancel			

### Adjusting the Projector Level

Take note of the following when setting up the projector:

- The projector table or stand should be level and sturdy.
- Position the projector so that it is perpendicular to the screen.

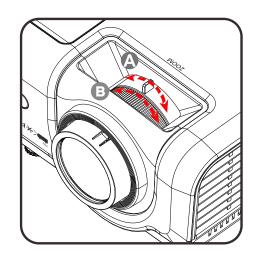


To adjust the angle of the picture, turn the Adjustable feet right or left until the desired angle has been achieved.

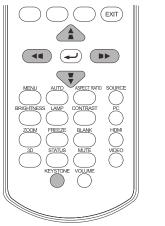
#### Adjusting the Zoom, Focus and Keystone

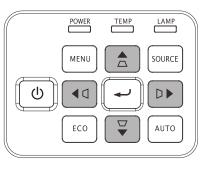
1. Use the **zoom ring** to resize the projected image

Use the **Focus ring** to sharpen the projected image.



2. Use the **KEYSTONE** buttons to correct image-trapezoid (wider top, bottom, left side or right side).

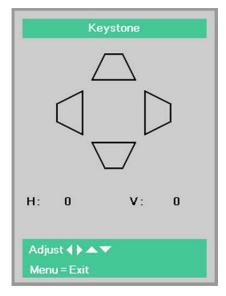




The keystone control appears on the display.

Press A / V for V Keystone correcting image.

Press ◀◀ / ▶► for H Keystone correcting image.

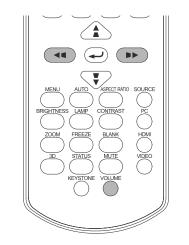


### Adjusting the Volume

#### 1 Press the Volume

buttons on the remote control. The volume control appears on the display.

Press the **◄**/**▶** buttons on the remote control to adjust volume.



Volume



5

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

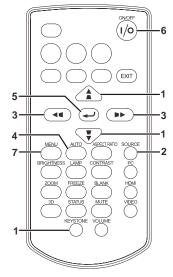
# **ON-SCREEN DISPLAY (OSD) MENU SETTINGS**

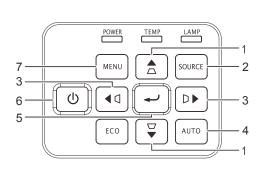
#### **OSD Menu Controls**

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

#### Navigating the OSD

You can use the remote control cursor buttons or the projector keypad to navigate and make changes to the OSD.





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



#### Note:

Depending on the video source, not all items in the OSD are available. For example, the **Horizontal/Vertical Position** items in the **Analog Setting** menu can only be modified when connected to a PC. Items that are not available cannot be accessed and are grayed out.

#### Setting the OSD Language

Set the OSD language to your preference before continuing.

1. Press the **MENU** button. Press the cursor **◄** button to navigate to **Settings 1**. Press the cursor **▲ ▼** button to move to the **Advanced 1** menu.

Image	Settings 1	Settings 2
Source		<b>↓</b> /▶
Projection		P
Aspect Ratio		Auto
Keystone		<b>↓</b> /▶
Digital Zoom		0
Audio		<b>4!∕</b> ⊁
Advanced 1		<b>4</b> /∕►
Advanced 2		4/∕ <b>)</b> 4/∕ <b>)</b>
4 Corner		<del>~!</del> />
Menu = Exit	Menu Select 🜗	Scroll 🔺 🔻

image	Settings 1	Settings 2
	Settings 1 ) Advanced 1	
Language		English
Security Lock		Off
Blank Screen		
Splash Logo		Off
Closed Captioning		Off
Keypad Lock		Off
3D Setting		4// <b>&gt;</b>
Menu = Return		Scroll 🔺 🔻

- 3. Press the cursor ▼▲ ◀► button until the language you want is highlighted.
- 4. Press the **MENU** button four times to close the OSD.

#### **OSD Menu Overview**

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

Main				
Menu	Sub Menu			Settings
Image	Picture Mode			<b>Standard</b> (*1), Presentation, <b>Movie</b> (*2), sRGB, User *1:When computer signal input *2:When other signal input
	Brightness			0~100
	Contrast			0~100
	Analog setting	- Horizontal Position		-5~0~5 (depend on Autolock)
		Vertical Position		-5~0~5 (depend on Autolock)
		Frequency		<b>0</b> ~31
		Tracking		-5~ <b>0</b> ~5
	Auto Image			
	Advanced	Brilliant Color		0~10
		Sharpness		0~31
		Gamma		1.8, 2.0, 2.2, 2.4, Linear
		Color Temperature		6500K, 7500K, 8300K
		Video AGC		<b>On</b> , Off
		Video Saturation		0~ <b>50</b> ~100
		Video Tint		0~ <b>50</b> ~100
		White Balance	RGain	0~ <b>100</b> ~200
			GGain	0~ <b>100</b> ~200
			BGain	0~ <b>100</b> ~200
			ROffset	-256~ <b>0</b> ~255
			GOffset	-256~ <b>0</b> ~255
			BOffset	-256~ <b>0</b> ~255
	Color Manager	Red	Hue, Saturation, Gain	0~100
		Green	Hue, Saturation, Gain	0~100
		Blue	Hue, Saturation, Gain	0~100
		Cyan	Hue, Saturation, Gain	0~100
		Magenta	Hue, Saturation, Gain	0~100
		Yellow	Hue, Saturation, Gain	0~100
		<sup>L</sup> White	Red, Green, Blue	0~100

Main					
Menu	Sub Menu			Settings	
Settings 1	Source	Source		COMPUTER 1, COMPUTER 2, COMPOSITE VIDEO, S-VIDEO, HDMI 1 HDMI 2 / MHL	
	Projection			Front, Rear, Ceiling, Rear+Ceiling	
	Aspect Ratio			Fill, 4:3, 16:9, Letter Box, Real, 2.35:1	
	Keystone	Н		-30~ <b>0</b> ~30	
		V		-30~ <b>0</b> ~30	
	Digital Zoom			-10~ <b>0</b> ~10	
	Audio	Volume		0~ <b>5</b> ~10	
		Mute		<b>Off</b> , On	
		MIC		Off, On	
	Advanced 1	Language		English, Français, Deutsch, Español, 簡体中文, 繁體中文, Italiano, Svenska, Nederlands, Русский, Polski, 한국어, Čeština, Türkçe, Việt, 日本語, โทย	
		Security Lock		Off, On	
		Blank Screen		Blank, Red, Green, Blue, White	
		Splash Logo		On, Off	
		Closed Captioning	g	Off, On	
		KeypadLock		Off, On	
		3D Setting	<sup>□</sup> 3D	Off, DLP-Link	
			3D Sync Invert	Off, On	
			3D Format	Frame Sequential, Top/Bottom, Side-By- Side, Frame Packing	
	Advanced 2	Test Pattern		<b>None</b> , Grid, White, Red, Green, Blue, Black	
		H Image Shift		-50~ <b>0</b> ~50	
		V Image Shift		-50~ <b>0</b> ~50	
	4 Corner	Upper Left		H: <b>0</b> ~60, V: <b>0</b> ~60	
		Upper Right		H: <b>0~</b> 60, V: <b>0~</b> 60	
		Lower Left		H: <b>0</b> ~60, V: <b>0</b> ~60	
		Lower Right		H: <b>0~</b> 60, V: <b>0~</b> 60	

Main				
Menu	Sub Menu			Settings
Settings 2	Auto Source		Off, <b>On</b>	
	Auto Power Off			<b>0</b> (Off), 1~180
	Direct Power On			<b>Off</b> , On
	Lamp Mode			ECO, Normal, Smart Eco
	Reset All			
	Status	Active Source		
		Video Information		
		Lamp Hours (ECO, Normal, Smart Eco)		
		Software Version		
	Advanced 1	Menu Position		Left, Right, Center, Down, Up
		Translucent Menu		<b>0%</b> , 25%, 50%, 75%, 100%
		Standby Power		Full Standby, <b>RS-232</b> , Network
		Fan Speed		Normal, High
		Lamp Hour Reset		
		Projector ID		<b>0</b> -98
		Network		<b>Off</b> , On
			IP Address	0~ <b>10~</b> 255, 0~ <b>10~</b> 255, 0~ <b>10~</b> 255, 0~ <b>10~</b> 255
			Subnet Mask	0~ <b>255</b> , 0~ <b>255</b> , 0~ <b>255</b> , 0~ <b>255</b>
			Gateway	<b>0</b> ~255, <b>0</b> ~255, <b>0</b> ~255, <b>0</b> ~255
			DNS	<b>0</b> ~255, <b>0</b> ~255, <b>0</b> ~255, <b>0</b> ~255
			Apply	
	Advanced 2	Sleep Timer		<b>0</b> (Off), 1~600
		Source Filter	COMPUTER 1	Disable, <b>Enable</b>
			COMPUTER 2	Disable, <b>Enable</b>
			COMPOSITE VIDEO	Disable, <b>Enable</b>
			S-VIDEO	Disable, <b>Enable</b>
			HDMI 1	Disable, <b>Enable</b>
			HDMI 2/MHL	Disable, <b>Enable</b>
		Screen Color		<b>Off</b> , Light Yellow, Pink, Light Green, Blue, Blackboard
		Color Space		Auto, RGB, YUV
		Input Level		Auto, Full, Limited

## Image Menu

Note:

All of picture mode parameters when changed will be saved to user mode.

Press the **MENU** button to open the **OSD** menu. Press the cursor  $\blacktriangleleft \triangleright$  button to move to the **Image Menu**. Press the cursor  $\blacktriangle \checkmark$  button to move up and down in the **Image** menu. Press  $\blacktriangleleft \triangleright$  to enter and change values for settings.

ka Image	Settings 1	Settings 2
Picture Mode Brightness Contrast Analog Setting Auto Image Advanced Color Manager		Presentation 50 50 4// 4// 4//
Menu = Exit	Menu Select	Scroll 🔺 🔻

Ітем	DESCRIPTION
Picture Mode	<ul> <li>Press the cursor ◄► button to enter and set the Picture Mode.</li> <li>Note:</li> <li>Standard mode: Suitable for projecting computer screens or colorful images (movies), etc.</li> <li>Presentation mode: Suitable for projecting images with a lot of text. It is recommended to use the Standard, Movie, or sRGB mode if you want to emphasize the color temperature since the Presentation mode prioritizes brightness.</li> <li>Movie mode: Suitable for projecting photos from a digital camera that supports sRGB.</li> </ul>
Brightness	Press the cursor ◀► button to enter and adjust the display brightness.
Contrast	Press the cursor ◀► button to enter and adjust the display contrast.
Analog Setting	Press
Auto Image	Press
Advanced	Press
Color Manager	Press

## Analog setting Menu

Press the **MENU** button to open the **OSD** menu. Press  $\blacktriangleleft \triangleright$  to move to the **Image** menu. Press  $\blacktriangle \lor$  to move to the **Analog setting** menu and then press **Enter** or  $\triangleright$ . Press  $\blacktriangle \lor$  to move up and down in the **Analog setting** menu.

image	Settings 1	Settings 2
	Image ) Analog Setting	
Horizontal Position		0
Vertical Position		0
Frequency		0
Tracking		0
Menu = Return		Scroll 🔺 🔻

Ітем	DESCRIPTION		
Horizontal Position	Press the cursor ◀► button to enter and adjust the display position to left or right.		
Vertical Position	Press the cursor ◀► button to enter and adjust the display position to up or down.		
Frequency	Press the cursor ◀► button to adjust the total number of dots in the horizontal direction. Adjust this when stripes are displayed on the screen.		
Tracking	Press the cursor ◀► button to adjust a timing to reproduce the projected image based on a video signal. Adjust this when the image is corrupted or flickers.		

## Advanced Feature

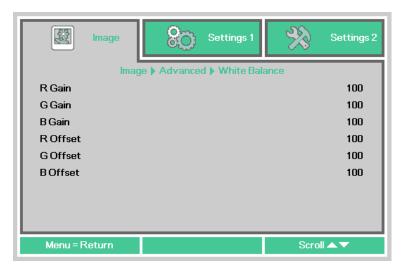
Press the **Menu** button to open the **OSD** menu. Press  $\blacktriangleleft \triangleright$  to move to the **Image** menu. Press  $\lor \blacktriangle$  to move to the **Advanced** menu and then press **Enter** or  $\triangleright$ . Press  $\lor \blacktriangle$  to move up and down in the **Advanced** menu.

image	80	Settings	9	Settings 2
	lmage 🕨 i	Advanced		
Brilliant Color				5
Sharpness				16
Gamma				1.8
Color Temperature				7500K
Video AGC				Off
Video Saturation				50
Video Tint				50
White Balance				4/>
Menu = Return				Scroll 🔺 🔻

Ітем	DESCRIPTION
Brilliant Color	Press the cursor <b>◄</b> button to enter and adjust the Brilliant Color value.
Sharpness	Press the cursor $\blacktriangleleft$ button to enter and adjust the display Sharpness.
Gamma	Press the cursor ◀► button to enter and adjust the gamma correction of the display.
Color Temperature	Press the cursor ◀► button to enter and adjust the color temperature.
Video AGC	Press the cursor ◀► button to enter and enable or disable the Automatic Gain Control for video source.
Video Saturation	Press the cursor $\blacktriangleleft$ button to enter and adjust the video saturation.
Video Tint	Press the cursor $\blacktriangleleft$ button to enter and adjust the video tint/hue.
White Balance	Press

## White Balance

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



Ітем	DESCRIPTION
R Gain	Press the ◀► buttons to adjust the Red Gain.
G Gain	Press the ◀► buttons to adjust the Green Gain.
B Gain	Press the ◀► buttons to adjust the Blue Gain.
R Offset	Press the ◀► buttons to adjust the Red Offset.
G Offset	Press the ◀► buttons to adjust the Green Offset.
B Offset	Press the ◀► buttons to adjust the Blue Offset.

## <u>Color Manager</u>

Press the **Menu** button to open the **OSD** menu. Press  $\blacktriangleleft \triangleright$  to move to the **Image** menu. Press  $\lor \blacktriangle$  to move to the **Color Manager** menu and then press **Enter** or  $\triangleright$ . Press  $\lor \blacktriangle$  to move up and down in the **Color Manager** menu.

Image	Settings 1	Settings 2
	Image 🕨 Color Manager	
Red		4/) 4/∕)
Green		<b>4</b> 1∕.►
Blue		
Cyan		
Magenta		4/) 4/)
Yellow		4//▶
White		<b>↓/</b>
Menu = Return		Scroll 🔺 🔻

Ітем	DESCRIPTION
Red	Select to enter the Red Color Manager. Press the ◀► buttons to adjust the Hue, Saturation, and Gain.
Green	Select to enter the Green Color Manager. Press the ◀▶ buttons to adjust the Hue, Saturation, and Gain.
Blue	Select to enter the Blue Color Manager. Press the ◀▶ buttons to adjust the Hue, Saturation, and Gain.
Cyan	Select to enter the Cyan Color Manager. Press the ◀▶ buttons to adjust the Hue, Saturation, and Gain.
Magenta	Select to enter the Magenta Color Manager. Press the ◀► buttons to adjust the Hue, Saturation, and Gain.
Yellow	Select to enter the Yellow Color Manager. Press the ◀▶ buttons to adjust the Hue, Saturation, and Gain.
White	Select to enter the White Color Manager. Press the ◀► buttons to adjust the Red, Green, and Blue.

## Settings 1 Menu

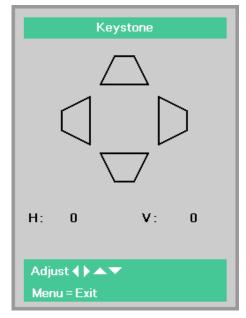
Press the **MENU** button to open the **OSD** menu. Press the cursor **◄** button to move to the **Settings 1** menu. Press the cursor **▲ ▼** button to move up and down in the **Settings 1** menu. Press **▲** to enter and change values for settings.

image	Settings 1	Settings 2
Source		4/ <b>)</b>
Projection Aspect Ratio		P Auto
Keystone Digital Zoom		<b>↓</b> /▶ 0
Audio Advanced 1		4/) 4/)
Advanced 2 4 Corner		4//) 4//)
Menu = Exit	Menu Select 🜗	Scroll 🔺 🔻

Ітем	DESCRIPTION		
Source	Press the cursor ◀► button to enter the Source menu. Reference input Source select (IR / Keypad).		
Projection	Press the cursor ◀► button to enter and choose from four projection methods.		
Aspect Ratio	Press the cursor ◀► button to enter and adjust the video aspect ratio.		
Keystone	Press		
Digital Zoom	Press the cursor ◀► button to enter and adjust the Digital Zoom menu.		
Audio	Press		
Advanced 1	Press ← (Enter) / ► to enter the Advanced 1 menu. See Advanced 1 Feature on page 41.		
Advanced 2	Press ← (Enter) / ► to enter the Advanced 2 menu. See Advanced 2 Feature on page 43.		
4 Corner	Press		

## Keystone

Press the **Menu** button to open the **OSD** menu. Press  $\blacktriangleleft \triangleright$  to move to the **Settings 1** menu. Press  $\blacktriangledown \blacktriangle$  to move to the **Keystone** menu and then press **Enter** or  $\triangleright$ . Press  $\blacktriangledown \blacktriangle$  to adjust vertical values from -30 to 30. Press  $\blacktriangleleft \triangleright$  to adjust horizontal values from -30 to 30.



## <u>Audio</u>

Press the **Menu** button to open the **OSD** menu. Press  $\blacktriangleleft \triangleright$  to move to the **Settings 1** menu. Press  $\blacktriangledown \blacktriangle$  to move to the **Audio** menu and then press **Enter** or  $\triangleright$ . Press  $\blacktriangledown \blacktriangle$  to move up and down in the **Audio** menu.

image	Settings 1	Settings 2
	Settings 1 🕨 Audio	
Volume		5
Mute		Off
MIC		Off
Menu = Return		Scroll 🔺 🔻

Ітем	DESCRIPTION	
Volume	Press the ◀► buttons to enter and adjust the audio volume.	
Mute	Press the ◀► buttons to enter and turn on or off the speaker.	
МІС	Press the ◀► buttons to enter and turn MIC Mode Off or On. Note: When MIC plug in, OSD MIC item can be turn on.	

## Advanced 1 Feature

Press the **Menu** button to open the **OSD** menu. Press  $\triangleleft \triangleright$  to move to the **Settings 1** menu. Press  $\blacklozenge \lor$  to move to the **Advanced 1** menu and then press **Enter** or  $\triangleright$ . Press  $\blacktriangle \lor$  to move up and down in the **Advanced 1** menu. Press  $\triangleleft \triangleright$  to enter and change values for setting.

image	Settings 1	Settings 2
	Settings 1 ) Advanced 1	
Language		English
Security Lock		Off
Blank Screen		
Splash Logo		Off
Closed Captioning		Off
Keypad Lock		Off
3D Setting		<b>↓</b> />
Menu = Return		Scroll 🔺 🔻

Ітем	DESCRIPTION	
Language	Press the cursor ◀► button to enter and select a different localization Menu.	
Security Lock	Press the cursor ◀► button to enter and enable or disable security lock function.	
Blank Screen	Press the cursor ◀► button to enter and select different color to blank the screen.	
Splash Logo	Press the cursor ◀► button to enter and select splash logo.	
Closed Captioning	Press the cursor ◀► buttons to enter and enable or disable Closed Captioning.	
Keypad Lock	Press the cursor ◀▶ button to enter and enable or disable keys can be work on keypad. When keypad locked, press ▼ button 5 sec can be unlock.	
3D Setting	Press	

### Note:

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

### 3D Setting



Ітем	DESCRIPTION	
3D	Press the cursor ◀► button to enter and select different 3D mode.	
3D Sync Invert	Press the cursor ◀► button to enter and enable or disable 3D Sync Invert.	
3D Format	Press the cursor ◀▶ button to enter and enable or disable different 3D Format.	

#### Note:

- 1. If an input signal is not a 3D image, the 3D menu items are grayed out in OSD. The default setting for the 3D is "Off."
- 2. If an input signal is a displayable 3D image, the 3D menu items are disabled in OSD.
- 3. Please use 3D glasses for DLP Link projectors when watching a 3D image.
- 4. A 3D content in 3D DVD or 3D media file format is required.
- 5. Some 3D DVD contents have a 3D on-off selection feature. If some case, turn on the 3D feature.
- 6. Turn on and set up the 3D glasses in accordance with the setup instructions in the document for the 3D glasses..

#### Note:

There are various types of 3D glasses (for DLP Link projectors). Please set up your 3D glasses in accordance with the corresponding setup instructions.

## Advanced 2 Feature

Press the **Menu** button to open the **OSD** menu. Press  $\triangleleft \triangleright$  to move to the **Settings 1** menu. Press  $\blacklozenge \lor$  to move to the **Advanced 2** menu and then press **Enter** or  $\triangleright$ . Press  $\blacktriangle \lor$  to move up and down in the **Advanced 2** menu. Press  $\triangleleft \triangleright$  to enter and change values for setting.

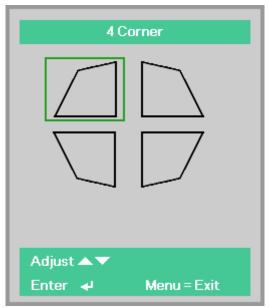
Image	Settings 1	Settings 2
	Settings 1 ) Advanced 2	
Test Pattern		None
H Image Shift		0
V Image Shift		0
Menu = Return		Scroll 🔺 🔻

Ітем	DESCRIPTION	
Test Pattern	Press the cursor ◀► button to enter and select internal test pattern.	
H Image Shift	Press the cursor ◀► button to enter and select H Image Shift.	
V Image Shift	Press the cursor ◀► button to enter and select V Image Shift.	

## <u>4 Corner</u>

Press ← (Enter) / ► to enter the 4 Corner sub menu.

1. Press the cursor  $\blacktriangle$  /  $\blacktriangledown$  buttons to select a corner and press **ENTER**.



- 2. Press the cursor ▲ / ▼ buttons to adjust vertical and press the cursor ◀ / ► buttons to adjust horizontal.
- 3. Press **MENU** to save and Exit the settings.

4 Co	rner	
H: 50	<b>v</b> :	50
Adjust ∢ ▶ ▲ ▼ Reset ঝ	Menu = Exit	

## Settings 2 Menu

Press the **MENU** button to open the **OSD** menu. Press the cursor **◄** button to move to the **Settings 2** menu. Press the cursor **▲ ▼** button to move up and down in the **Settings 2** menu.

image	Settings 1	Settings 2
Auto Source		' Off
Auto Power Off		0
Direct Power On		Off
Lamp Mode		Normal
Reset All		<b>↓/</b>
Status		<b>↓/</b> ▶
Advanced 1		<b>↓</b> /▶
Advanced 2		41/ Þ 41/ Þ
Menu = Exit	Menu Select 🌗	Scroll 🔺 🔻

Ітем	DESCRIPTION	
Auto Source	Press the cursor ◀► button to enter and enable or disable automatic source detection.	
Auto Power Off	Press the cursor <b>I</b> button to enter and enable or disable automatic shutdown of lamp when no signal. The standby mode is started if there is no input signal and the selected time period (minutes) has elapsed with no operation. This function is disabled if "0" is selected.	
Direct Power On	Press the cursor <b>I</b> button to enter and enable or disable a function to power on the projector only by connecting the AC power cable.	
Lamp Mode	Press the cursor ◀► button to enter and select the lamp mode for higher brightness or lower brightness to save lamp life.	
Reset All	<ul> <li>Press ← (Enter) / ► to reset all settings to default values.</li> <li>Reset All will not reset the following settings.</li> <li>Language</li> <li>Network</li> <li>Lamp Hour</li> </ul>	
Status	Press	
Advanced 1	Press	
Advanced 2	Press	

Note :

The lamp is automatically dimmed to 30% if the **BLANK** button is pressed or it is there is no input signal for 30 seconds.

## <u>Status</u>

Press the cursor ▲ ▼ button to move up and down in the **Settings 2** menu. Select the **Status** menu and press **Enter** or ► to enter.



Ітем	DESCRIPTION	
Active Source	Display the activated source.	
Video Information	Displays resolution/video information for RGB source.	
Lamp Hours (Eco, Normal, Smart Eco)	Lamp hour used information is displayed. (Eco, Normal, Smart Eco)	
Software Version	Showing system software version.	

## Advanced 1 Feature

Press the **Menu** button to open the **OSD** menu. Press  $\blacktriangleleft \triangleright$  to move to the **Settings 2** menu. Press  $\blacktriangle \lor$  to move to the **Advanced 1** menu and then press **Enter** or  $\triangleright$ . Press  $\blacktriangle \lor$  to move up and down in the **Advanced 1** menu. Press  $\blacktriangleleft \triangleright$  to enter and change values for setting.

image	Settings 1	¥\$	Settings 2
	Settings 2 Advanced 1		
Menu Position			٦
Translucent Menu			0%
Standby Power			Off
Fan Speed			Normal
Lamp Hour Reset			<b>↓/</b>
Projector ID			00
Network			<b>4</b> 1∕▶
Menu = Return		Scro	

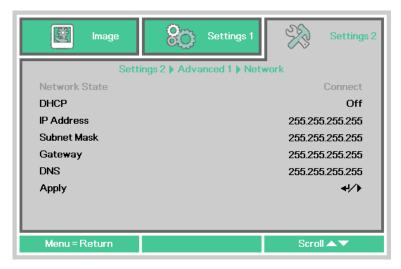
Ітем	DESCRIPTION	
Menu Position	Press the cursor ◀► button to enter and select different OSD location.	
Translucent Menu	Press the cursor ◀► button to enter and select OSD background translucent level.	
Standby Power	Press the cursor ◀► button to select the operation state during the standby mode. Full standby: Both network and RS-232 functions are enabled. RS-232: The RS-232 function is enabled. The network function is disabled. Network: The network function is enabled. The RS-232 function is disabled.	
Fan Speed	Press the cursor ◀► button to enter and toggle between Normal and High fan speeds. <b>Note</b> : We recommend selecting high speed in high altitude (1,500m/4,921' or higher) areas.	
Lamp Hour Reset	After replacing the lamp, the Lamp Hour should be reset. See page 48 for more information on <i>Lamp Hour Reset</i> .	
Projector ID	Press the cursor ◀► button to enter and adjust a two digit projector ID from 0 through 98.	
Network	Press	

*Note:* About "*Network*": Standby state that can use a network with under 2W.

### Lamp Hour Reset

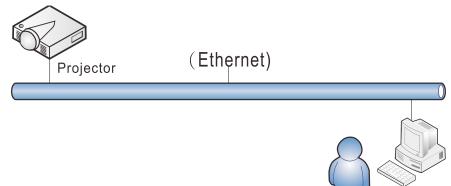


Please refer to *Resetting the Lamp Hour* on page 64 to reset the lamp hour counter.



Ітем	DESCRIPTION
DHCP	Press the cursor ◀▶ button to turn DHCP On or Off. <b>Note:</b> If you select DHCP Off, complete the IP Address, Subnet Mask, Gateway, and DNS fields.
IP Address	Enter a valid IP address if DHCP is turned off.
Subnet Mask	Enter a valid Subnet Mask if DHCP is turned off.
Gateway	Enter a valid Gateway address if DHCP is turned off.
DNS	Enter a valid DNS name if DHCP is turned off.
Apply	Press ← (Enter) / ► to confirm settings.

## Network



### Wired LAN Terminal functionalites

Remote control and monitoring of a projector from a PC (or Laptop) via wired LAN is also possible. Compatibility with Crestron / AMX (Device Discovery) control boxes enables not only collective projector management on a network but also management from a control panel on a PC (or Laptop) browser screen.

- ★ Crestron is a registered trademark of Crestron 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.

### Supported External Devices

This projector is supported by the specified commands of the Crestron Electronics controller and related software (ex, RoomView ®).

http://www.crestron.com/

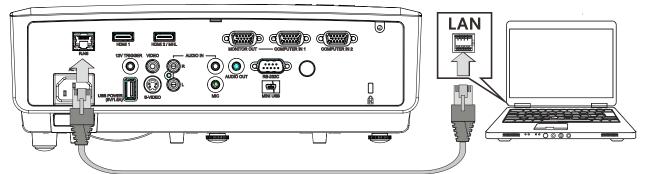
This projector is supported by AMX ( Device Discovery ). <u>http://www.amx.com/</u>

This projector supports all commands of PJLink Class1 (Version 1.00). <u>http://pjlink.jbmia.or.jp/english/</u>

For more detail of information about the diverse types of external devices which can be connected to the LAN/RJ45 port and remote/control the projector, as well as the related control commands supporting for each external device, kindly please get contact with the Canon Customer Support Center directly.

<u>LAN RJ45</u>

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



2. On the PC (Laptop), select Start  $\rightarrow$  Control Panel  $\rightarrow$ Network and Internet.

O Opera		•	
Google Chrom	ie	•	
Mozilla Firefox		•	Administrator
Magnifier			Documents
Windows Med	ia Center	•	Music
Remote Deskte	op Connection		Games
Snipping Tool			Computer
Sticky Notes			Control Panel
Getting Starter	i	•	Devices and Printers
			Default Programs
All Programs			Help and Support
Search programs a	nd files	٩	Shut down
<b>A</b>			
V V K Net + Network	and Sharing C	• 4	Search Control Panel
Control Panel Home	View your bas connections	ic network	c information and set up
Change advanced sharing settings	XATTY	Multiple ne	See full map

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



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

🖳 Local Area Connection Properties
Networking Sharing
Connect using:
VIA Rhine II Compatible Fast Ethernet Adapter
Configure This connection uses the following items:
Client for Microsoft Networks  Gos Packet Scheduler  Gos Packet Scheduler  File and Printer Sharing for Microsoft Networks  File and Printer Sharing for Microsoft Networks  File and Printer Straing for Microsoft Networks  File and P
Install Uninstall Properties
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
OK Cancel

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

Internet Protocol Version 4 (TCP/IPv4)	Properties
General	
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.	
Obtain an IP address automatical	ly
• Use the following IP address:	
IP address:	10 . 10 . 10 . 99
Subnet mask:	255.255.255.0
Default gateway:	· · ·
Obtain DNS server address auton	natically
• Use the following DNS server add	resses:
Preferred DNS server:	
<u>A</u> lternate DNS server:	· · ·
🔲 Vaļidate settings upon exit	Ad <u>v</u> anced
	OK Cancel

- 7. Press the **Menu** button on the projector.
- 8. Select Settings2 $\rightarrow$  Advanced1  $\rightarrow$  Network
- 9. After getting into **Network**, input the following:
  - ▶ DHCP: Off
  - ▶ IP Address: 10.10.10.10
  - Subnet Mask: 255.255.255.0
  - ▶ Gateway: 0.0.0.0
  - DNS Server: 0.0.0.0

### Open a web browser

(for example, Microsoft Internet Explorer with Adobe Flash Player 9.0 or higher).

Avigation	n Canceled - Windows Internet Explorer	
00-	e http://10.10.10.10/	• • ×
🚖 Favorites	Canceled	
1	Navigation to the webpage was canceled	
	What you can try:	
	<ul> <li>Refresh the page.</li> </ul>	

- 11. In the Address bar, input the IP address: 10.10.10.10.

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

		_
Projector Info	Model Name	LV-HD420
at Mail Pottings		System
ert Mail Settings	System Status	Power On
Link Settings	Display Source	COMPOSITE VIDEO
estron	Lamp Hours	93
ostron	Picture Mode	Movie
	Error Status	No Error
		LAN Status
	IP address	10.10.10
	Subnet mask	255.255.255.0
	Default gateway	0.0.0.0
	DNS Server	0.0.0.0
	MAC address	00:18:23:2F:DA:12
		Version
	LAN Version	MHD03
	F/W Version	D04

-	Power	Vol -	Mute	Vol +		
	Source List			_	Intertaine :	2,7(2,0)
				Menu	Auto	
	COMPOSITE VID	DEO			Inter	
	S-VIDEO			Blank	V Source	
				orarin:	June	
		10 <b>1</b> 1				
68	19	eaze Cont	rast Brightnes	s Sharpness		0¢
	C ESTRON L	eeze com		s Sharpness	Expansion Option	
Cres	19		Projector	s Sharpiness	User Pas	sword
Cres	C ESTRON L	Projector Name	Projector PJ01		User Pas	sword
Cres	C ESTRON L		Projector	Sharpness Pass Confir	User Pas	sword
Cres ess	C ESTRON L	Projector Name Location	Projector PJ01 RM01	Pass	User Pas	sword
Cres ess	stron Control	Projector Name Location Assigned To	Projector PJ01 RM01 Sir	Pass	User Pas	SWOR
Cres ess	stron Control	Projector Name Location Assigned To Network Config	Projector PJ01 RM01 Sir Set	Pass	User Pas	SWOR oled Us
Cres ess	stron Control	Projector Name Location Assigned To Network Config IP Address	Projector PJ01 RM01 Sir Set DHCP Enabled	Pass	User Pas	SWORD bled Us
Cres ess	stron Control	Projector Name Location Assigned To Network Config IP Address	Projector PJ01 RM01 Sir DHCP Enabled 10.10.10.10	Pass	User Pas	swor bled Ut

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

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

### Preparing Email Alerts

- 1. Make sure that user can access the homepage of LAN RJ45 function by web browser (for example, Microsoft Internet Explorer).
- 2. From the Homepage of LAN/RJ45, click Alert Mail Settings.

Can	1011	
Projector Info	Model Name	LV-HD420
		System
Alert Mail Settings	System Status	Power On
PJLink Settings	Display Source	COMPOSITE VIDEO
Crestron	Lamp Hours	93
Greation	Picture Mode	Movie
	Error Status	No Error
		LAN Status
	IP address	10.10.10
	Subnet mask	255.255.255.0
	Default gateway	0.0.0.0
	DNS Server	0.0.0.0
	MAC address	00:18:23:2F:DA:12
		Version
	LAN Version	MHD03
	F/W Version	D04

3. By default, these input boxes in **Alert Mail Settings** are blank.

Cat	1011
Projector Info Alert Mail Settings PJLink Settings	Send E-Mail Enter the appropriate settings in the fields below: (Your SMTP server may not require a user name or password.)
Crestron	SMTP Server: Port: 25 User Name: Password: Password(re-type) Mail Server Apply From: To: CC: Mail Address Apply E-mail Alert Options: Fan lock : Ø Over_Heat: Ø Case Open: Ø Lamp Fail: Ø Lamp Hours Over: Ø Alert Option Apply Send Test Mail

4. For Sending alert mail, input the following:

The **SMTP** field is the mail server for sending out email (SMTP protocol). This is a required field.

The **To** field is the recipient's email address (for example, the projector administrator). This is a required field.

The **Cc** field sends a carbon copy of the alert to the specified email address. This is an optional field (for example, the projector administrator's assistant).

The From field is the sender's email address (for example, the projector administrator). This is a required field.

Select the alert conditions by checking the desired boxes.

**Note:** Fill in all fields as specified. User can click **Send Test Mail** to test what setting is correct. For sending an e-mail alert, you must select alert conditions and enter a correct e-mail address.

### RS232 by Telnet Function

Besides projector connected to RS232 interface with "Hyper-Terminal" communication by dedicated RS232 command control, there is alternative RS232 command control way, so called "RS232 by TELNET" for LAN/RJ45 interface.

Quick Start-Guide for "RS232 by TELNET"

- 1. Check and get the IP-Address on OSD of the projector.
- 2. Make sure that laptop/PC can access the web-page of the projector.
- 3. Have the TELNET function enabled.

See How to have TELNET enabled in Windows 7 / 8 / 10 on page 57.

4. Start => All Programs => Accessories => Command Prompt



5. Input the command format like the below:

telnet ttt.xxx.yyy.zzz 23 ("Enter" key pressed)

(ttt.xxx.yyy.zzz: IP-Address of the projector)

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

### How to have TELNET enabled in Windows 7/8/10

By default installation for Windows, "TELNET" function is not included. But end-user can have it by way of "Turn Windows features On or Off" to be enabled.

1. Open "Control Panel" in Windows



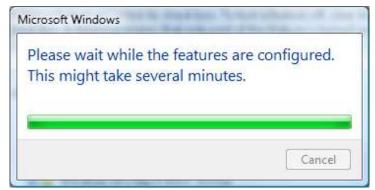
2. Open "Programs"

🗃 🕢 🖛 🖪 🕨 Control Panel	<ul> <li>Programs and Features</li> </ul>	+ + Search	Q,
file Edit Yiew Jools Help	2		
Tasks View installed updates Get new programs online at Windows Marketplace View purchased software	Uninstall or change a program To uninstall a program, select it from the list a Organize 🤝 🔛 Views 今	nd then click "Uninstall", "Change", or "Re	pair".
(digital locker)	Name	Publisher	Installed
P Tum Windows features an or att	BD-2020, 4.57         Archobaccom         Adobe Flash Player 20 Plugin         Adobe Flash Player ActiveX.         Adobe Flash Player ActiveX.         Adobe Reader 5         Maple Software Update.         Adobe Flash Player ActiveX.         Adobe Reader 5         Maple Software Update.         Adobe Flash Dayar ActiveX.         Dal Touchead         O DiAX Codec         DiaY Converter         H-TECCH PICC-Lite Vs04PL1         Informaccoder         Distrilly PROSet/Mireless Software         Distrilly NA.51.3	Adobe Systems Incorporated Adobe Systems Inc. Adobe Systems Incorporated Adobe Systems Incorporated Adobe Systems Incorporated Apple Inc. AWG Technologies Algs Electric DivX, Inc. DivX, Inc. DivX, Inc. HI-TECH Software Intel Corporation Microsoft Sum Microsystems, Inc	11/20/20/ 11/21/20/ 11/21/20/ 11/21/20/ 11/21/20/ 11/20/20/ 11/20/20/ 11/20/20/ 11/20/20/ 11/20/20/ 11/20/20/ 11/20/20/ 11/20/20/ 11/20/20/

3. Select "Turn Windows features on or off" to open

Furn W	indows features on or off	
	feature on, select its check box. To turn a feature o «. A filled box means that only part of the feature i:	
	RIP Listener	, cannea onn
	Simple TCPIP services (i.e. echo, daytime etc)	
± 🗐 🗼	SNMP feature	
V ]	Tablet PC Optional Components	
	Telnet Client	
	Telnet Server	÷
V ].	TFTP Client	
V ].	Windows DFS Replication Service	1
V ]	Windows Fax and Scan	Ŧ
7	Windows Meeting Space	
æ 🗐 🍌	Windows Process Activation Service	
		5.5

4. Have "Telnet Client" option checked, then press "OK" button.



Specsheet for "RS232 by TELNET" :

- 1. Telnet: TCP
- 2. Telnet port: 23

(for more detail, kindly please get contact with the Canon Customer Support Center)

- 3. Telnet utility: Windows "TELNET.exe" (console mode)
- 4. Disconnection for RS232-by-Telnet control normally: Close Windows Telnet utility directly after TELNET connection ready
- 5. 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).

(\*, In Windows built-in "TELNET.exe" utility, "Enter" key pressed will have "Carriage-Return" and "New-Line" code.)

## Advanced 2 Feature

Press the **Menu** button to open the **OSD** menu. Press  $\blacktriangleleft \triangleright$  to move to the **Settings 2** menu. Press  $\blacktriangle \lor$  to move to the **Advanced 2** menu and then press **Enter** or  $\triangleright$ . Press  $\blacktriangle \lor$  to move up and down in the **Advanced 2** menu. Press  $\blacktriangleleft \triangleright$  to enter and change values for setting.

image	Settings 1	¥?	Settings 2
Sleep Timer (min) Source Filter Screen Color Color Space Input Level	Settings 2  Advanced 2	I	0 ↓/↓ Off Auto Auto
Menu = Return		Scro	

Ітем	DESCRIPTION	
Sleep Timer	Press the cursor ◀► button to enter and set Sleep timer. The projector automatically turns off after the preset period of time.	
Source Filter	Press	
Screen Color	Press the cursor ◀► button to enable or disable the Screen Color function.	
Color Space	Press the cursor ◀► button to enter and adjust the Color Space.	
Input Level	Press the cursor ◀► button to enter and adjust the Input Level	

### Source Filter

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

If Enable is selected , the source becomes the object of Auto search.

Image Settings 1	Y?	Settings 2			
Settings 2 Advanced 2 Source Filter					
COMPUTER 1		Disable			
COMPUTER 2		Disable			
Composite Video		Disable			
S-Video		Disable			
HDMI 1		Disable			
HDMI 2 / MHL		Disable			
Menu = Return	Scroll 🔺 🔻				

Ітем	DESCRIPTION	
COMPUTER 1	Press the ◀► buttons to enter and enable or disable the COMPUTER 1 source.	
COMPUTER 2	Press the ◀► buttons to enter and enable or disable the COMPUTER 2 source.	
Composite Video	Press the ◀► buttons to enter and enable or disable the Composite Video source.	
S-Video	Press the ◀► buttons to enter and enable or disable the S-Video source.	
HDMI 1	Press the ◀► buttons to enter and enable or disable the HDM 1 source.	
HDMI 2 / MHL	Press the ◀► buttons to enter and enable or disable the HDMI 2 / MHL-compatible source.	

## **Replacing the Projection Lamp**

This projector uses the following lamps.

### Replacement Lamp LV-LP42

Contact the Canon Customer Support Center when purchasing a replacement lamp.

## 🔔 Warning:

### Precautions when replacing lamps that stop working

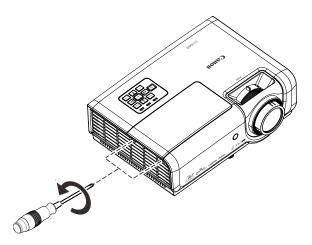
If the illumination suddenly stops when the projector is in use or after you turn it on, the lamp may be broken. In this case, never attempt to replace the lamp by yourself. Always request service from the Canon Customer Support Center.

Additionally, with ceiling-mounted projectors, the lamp may fall out when you open the lamp cover or while you are attempting to replace it. During replacement, stand to the side of the lamp cover, not directly under it. If the lamp breaks and any glass shards or other pieces get in your eyes or mouth, consult a doctor immediately.

## **Caution**:

Before replacing the lamp, always turn off the projector, unplug it after the cooling fan stops, and wait at least 45 minutes. Do not touch the lamp immediately after turning the projector off. It is very hot initially and poses a risk of burns.

- Be sure to use the specified lamp.
- Contact the Canon Customer Support Center for further information. This can also be purchased from the Canon website.
- Do not touch the inner glass surface when you replace the lamp. Doing so may cause deterioration to the projector's performance.
- Handle lamps with care. Impact or abrasion may cause lamps to rupture while they are in use. If a lamp ruptures, contact the Canon Customer Support Center and follow the instructions in "Precautions when replacing lamps that stop working" (P8).
- When replacing the lamp, do not remove any screws other than those specified.
- 1. Remove two screws on the lamp cover.

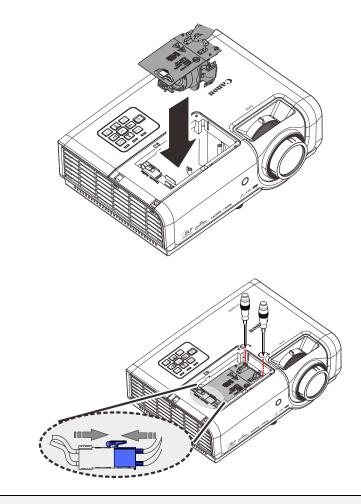


- **2.** Remove the lamp cover.
- **3.** Disconnect the lamp connector

**4.** Remove the two screws from the lamp module.

- **5.** Lift the module handle up.
- **6.** Pull firmly on the module handle to remove the lamp module.

 Reverse steps 1 to 6 to install the new lamp module.
 While installing, align the lamp module and ensure it is level to avoid damage.



# securely in place before tightening the screws.

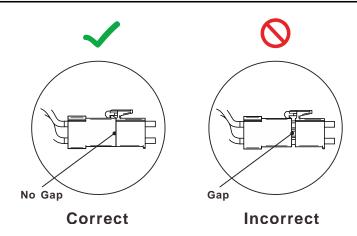
Note:

The lamp connector must be connected properly and place as drawing before Lamp cover installation back.

The lamp module must sit

#### Note:

Lamp Connector must be installed flush with the connector base as shown in the image below. A gap between the Lamp Connector and the connector base will cause damage to the projector. The following images illustrate correct and incorrect Lamp Connector installations.



**8.** Close the lamp cover and tighten the screws.

## Resetting the Lamp Hour

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

- 1 Press the **MENU** button to open the OSD menu.
- Press the cursor < ► button to move to the Settings 2 menu. Press the cursor < ▲ button to move down to Advanced 1 and press enter.</li>
- 3. Press the cursor ▼ ▲ button to move down to Lamp Hour Reset.





**4** Press the cursor ► or Enter button.

A message screen appears.

- **5.** Press the four buttons  $( \checkmark \land \checkmark )$  in order, to reset the lamp hour.
- 6. Press the MENU button to get back to Settings 2.



## **Cleaning the Projector**

Clean the projector frequently to prevent dust from settling on the surface. A dirty lens may ruin the quality of the projected image.

## Caution:

Before cleaning the projector, always turn it off, unplug it after the cooling fan stops, and wait at least 45 minutes. Otherwise, you may get burned because the main unit is very hot immediately after the projector is turned off.

Do not use adhesives, lubricants, oils, or alkaline detergents for maintenance of the projector. They could adhere to the cabinet and damage it, possibly resulting in the projector falling from its mounting and causing an accident or personal injury.

Wipe the projector's main unit softly with a soft cloth.

If the projector is heavily soiled, soak the cloth in water with a small amount of Neutral detergent in it, squeeze the cloth thoroughly, and then wipe the projector with it.

After cleaning, wipe the projector with a dry cloth.

### Cleaning the Lens

When cleaning the projector's lens, use a commonly available air blower or lens cleaning paper. The lens surface is easily damaged, so do not use a hard cloth or tissues.

### Cleaning the Case

Refer to the following to clean the projector case.

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

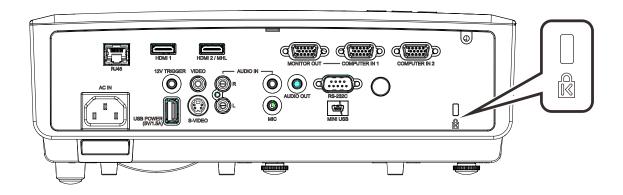
### Note:

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

## **Using the Kensington Lock**

## Using the Kensington Lock

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

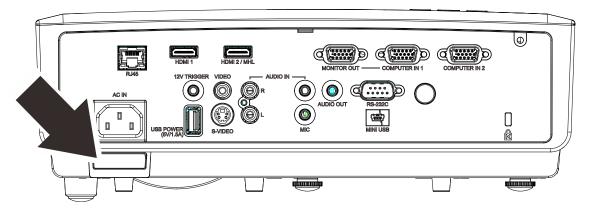


#### Note:

Contact your vendor for details on purchasing a suitable Kensington security cable. The security lock corresponds to Kensington's MicroSaver Security System. If you have any comment, contact: Kensington, 2853 Campus Drive, San Mateo, CA 94403, U.S.A. Tel: 800-535-4242, <u>http://www.Kensington.com</u>.

## Using the Security Bar

In addition to the Kensington lock, the Security Bar helps protect the projector from unauthorized removal. See the following picture.



# **TROUBLESHOOTING**

### **Common problems and solutions**

These guidelines provide tips to deal with problems you may encounter while using the projector. If the problem remains unsolved, contact Canon Customer Support Center.

Often after time spent troubleshooting, the problem is traced to something as simple as a loose connection. Check the following before proceeding to the problem-specific solutions.

- Use some other electrical device to confirm that the electrical outlet is working.
- Ensure the projector is turned on.
- Ensure all connections are securely attached.
- Ensure the attached device is turned on.
- Ensure a connected PC is not in suspending mode.
- Ensure a connected PC is configured for an external display. (This is usually done by pressing an Fn-key combination on the PC.)

### **Tips for Troubleshooting**

In each problem-specific section, try the steps in the order suggested. This may help you to solve the problem more quickly.

Try to pin point the problem and thus avoid replacing non-defective parts.

For example, if you replace batteries and the problem remains, put the original batteries back and go to the next step.

Keep a record of the steps you take when troubleshooting: The information may be useful when calling for technical support or for passing on to service personnel.

## **LED Error Messages**

Error Code Messages	Power LED Green	LAMP LED Red	TEMP LED Red
System Initial	Flashing	OFF	OFF
Ready to Power on (Standby)	ON	OFF	OFF
System Power on	Flashing	OFF	OFF
Lamp Lit , System stable	ON	OFF	OFF
Cooling	Flashing	OFF	OFF
1W MCU detects scaler stops working (initial fail)	2 blinks	OFF	OFF
Over Temperature	OFF	OFF	ON
Thermal Break Sensor error	4 blinks	OFF	OFF
Lamp Fail	5 blinks	OFF	OFF
Lamp Temperature shut down	5 blinks	1 blinks	OFF
Lamp Short circuit in output detected	5 blinks	2 blinks	OFF
Lamp End of lamp life detected	5 blinks	3 blinks	OFF
Lamp did not ignite	5 blinks	4 blinks	OFF
Lamp extinguished normal	5 blinks	5 blinks	OFF
Lamp extinguished run-up	5 blinks	6 blinks	OFF
Lamp voltage too low	5 blinks	7 blinks	OFF
Lamp ballast Fail	5 blinks	8 blinks	OFF
Lamp ballast Communication error	5 blinks	10 blinks	OFF
Fan-1 error	6 blinks	1 blinks	OFF
Fan-2 error	6 blinks	2 blinks	OFF
Fan-3 error	6 blinks	3 blinks	OFF
Fan-4 error	6 blinks	4 blinks	OFF
Lamp Cover Open	7 blinks	OFF	OFF
DMD error	8 blinks	OFF	OFF
Color wheel error	9 blinks	OFF	OFF

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

## **Problem and Countermeasures**

### Image Problems

### Problem: No image appears on the screen

- 1. Verify the settings on your notebook or desktop PC.
- 2. Turn off all equipment and power up again in the correct order.

### Problem: The image is blurred

- 1. Adjust the **Focus** on the projector.
- 2. Press the Auto button on the remote control or the projector.
- 3. Ensure the projector-to-screen distance is within the specified range.
- 4. Check that the projection lens is clean.

### Problem: The image is wider at the top or bottom (trapezoid effect)

- 1. Position the projector so it is as perpendicular to the screen as possible.
- 2. Use the Keystone button on the remote control or the projector to correct the problem.

### Problem: The image is reversed

Check the Projection setting on the Settings 1 menu of the OSD.

#### Problem: The image is streaked

- 1. Set the **Frequency** and **Tracking** settings on the **Image->Analog setting** menu of the OSD to the default settings.
- 2. To ensure the problem is not caused by a connected PC's video card, connect to another computer.

#### Problem: The image is flat with no contrast

Adjust the **Contrast** setting on the **Image** menu of the OSD.

#### Problem: The color of the projected image does not match the source image.

Adjust the **Color Temperature** and **Gamma** settings on the **Image->Advanced** menu of the OSD.

### Lamp Problems

### Problem: There is no light from the projector

- 1. Check that the power cable is securely connected.
- **2.** Ensure the power source is good by testing with another electrical device.
- 3. Restart the projector in the correct order and check that the Power LED is on.
- 4. If you have replaced the lamp recently, try resetting the lamp connections.

#### Problem: The lamp goes off

Power surges can cause the lamp to turn off. Re-plug power cord. When the Power LED is on, press the power button.

### **Remote Control Problems**

### Problem: The projector does not respond to the remote control

- 1. Direct the remote control towards remote sensor on the projector.
- 2. Ensure the path between remote and sensor is not obstructed.
- 3. Turn off any fluorescent lights in the room.
- 4. Check the battery polarity.
- **5.** Replace the battery.
- 6. Turn off other Infrared-enabled devices in the vicinity.
- 7. Have the remote control serviced.

### Audio Problems

### Problem: There is no sound

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

### Problem: The sound is distorted

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

## Having the Projector Serviced

If you are unable to solve the problem, you should have the projector serviced. Pack the projector in the original carton. Include a description of the problem and a checklist of the steps you took when trying to fix the problem: For servicing, return the projector to the place you purchased it or Canon Customer Support Center.

# **SPECIFICATIONS**

## **Specifications**

-		LV-HD420	LV-X420		
Model name Display system					
	-	1-chip DLP™			
Optical system		Time division color extra	ction, sequential display		
Display device	Effective display area size	0.65" / 16:9	0.55" / 4:3		
Dis de	Number of pixels	2,073,600 (1920 X 1080) X 1 panel	786,432 (1024 X 768) X 1 panel		
_	Zoom	Manual	(X 1.5)		
s tion	Focus	Mar	nual		
jecti lens	Lens shift	V:65%, Fixed	V:64%, Fixed		
Projection lens	Focal length	f=20.7 –	31.1mm		
	F number	F=2.42	- 2.97		
Light so (Lamp r	ource node normal / eco)	High-pressure mercu	ury lamp : 310/245W		
	ize / Projection distance	Minimum: 76 cm (30"); maximum: 813 cm (320") Projection distance: 1.2 m – 10.0 m (3.9 – 32.8')	Minimum: 76 cm (30"); maximum: 660 cm (260") Projection distance: 1.2 m – 10.0 m (3.9 – 32.8')		
Number	r of colors	16,770,0	00 colors		
Brightn	ess (*1) (*2)	420	0lm		
Contras (Fully w	st ratio /hite: fully black) (*2)(*3)	8000:1	10000:1		
Ratio of to cente	<sup>;</sup> brightness at periphery er (*2)	80%			
Speake	r	10W, monaural			
Suppor	ted input signal types	See " <i>Timing Mode Table</i> " (page 75).			
Display resolution	Computer signal input	Maximum input resolution 1920×1200 dot (Re-sizing display) Panel display resolution 1920×1080	Maximum input resolution 1920×1200 dot (Re-sizing display) Panel display resolution 1024×768		
	Analog PC input	WUXGA / WSXGA+ / UXGA / SXGA SVGA / V	GA / MAC		
gnals	Digital PC input	WUXGA / WSXGA+ / UXGA / SXGA SVGA			
o si	Digital video input	1080p / 1080i / 72	20p / 576p / 480p		
Video sign	MHL input	1080p / 1080i / 720p / 5	576p / 480p / 576i / 480i		
>	Component video input	1080p / 1080i / 720p / 5	576p / 576i / 480p / 480i		
	Video input / S-video	NTSC / PAL / SECAM / N	TSC4.43 / PAL-M / PAL-N		
	D-sub 15 x 2	Analog PC / comp	ponent video input		
ut	D-sub 15	Analog PC / comp	onent video output		
ign utp nal	HDMI / MHL	Digital PC / digital	video / MHL input		
deo sign put/outp terminal	HDMI	Digital PC / dig	ital video input		
Video signal input/output terminal	Mini DIN4	S-vide	o input		
> .=	RCAx1	Video	input		
		Video input			

g	RCA x 2	Audio-L / Audio-R input	
Other terminals and connectors	Mini jack x 3	Audio input x1, audio output x1, microphone input x1	
	Mini jack	Trigger output (12 V)	
rmii nec	Dsub9	RS-232 connection	
ther tel coni	RJ-45	Network connection (100BASE-TX / 10BASE-T)	
	Mini USB	Service port	
ō	USB A	Power feeding (1.5A)	
Noise		40/36 dB (Lamp mode: Normal/Eco)	
Operati	on temperature	5°C – 40°C	
Power s	supply	AC100V – 240V 50 / 60Hz	
	m power consumption node: Normal)	410W	
	consumption node: Eco)	320W	
Power sumption standby	RS-232	0.5W	
Power consumption in standby	Network	2.0W	
Standar	d dimensions	W: 314 mm (12.4"), H: 112 mm (4.4"), D: 231 mm (9.1")	
Weight		3.4 kg	
Accessories		Remote control, battery for remote control, power cord, computer cable, User's Manual(CD-ROM),Important Information and Warranty Card	

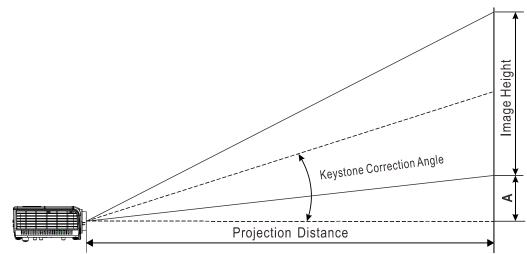
\*1: Picture mode: Presentation

\*2: Compliance with ISO21118-2012

\*3: Optimizes the contrast depending on the brightness of each scene by adjusting lamp output.

- Using the projector continuously for an extended period of time may accelerate the deterioration of optical parts.
- Product specifications and appearance are subject to change without notice.

# **Projection Distance vs. Projection Size**



# Projection Distance and Size Table

### LV-HD420

Image size (16:9)			Projection Distance						
Diagonal	Width	Height	W	/ide	Table				Offset-A
inch	cm	cm	m	inch	m	inch	mm		
30	66	37	—	_	1.39	55	56		
40	89	50	1.23	48	1.85	73	75		
60	133	75	1.85	73	2.78	109	113		
80	177	100	2.46	97	3.7	146	150		
100	221	125	3.08	121	4.63	182	188		
120	266	149	3.69	145	5.55	219	224		
140	310	174	4.31	170	6.48	255	261		
160	354	199	4.92	194	7.4	291	299		
180	398	224	5.54	218	8.33	328	336		
200	443	249	6.15	242	9.25	364	374		
210	465	262	6.46	254	9.72	383	393		
220	487	274	6.77	267	_	—	411		
240	531	299	7.39	291	_	—	449		
260	576	324	8	315	_	—	486		
280	620	349	8.62	339	_	—	524		
300	664	374	9.23	363	_	—	561		
320	708	398	9.85	388			597		

Image size (16:9)				Projection Distance				
Diagonal	Width	Height	w	ide	Table		- Offset-A	
inch	cm	cm	m	inch	m	inch	mm	
30	61	46	_	—	1.68	66	64	
40	81	61	1.49	59	2.24	88	85	
60	122	91	2.23	88	3.35	132	126	
80	163	122	2.97	117	4.47	176	170	
100	203	152	3.72	146	5.59	220	211	
120	244	183	4.46	176	6.71	264	254	
140	284	213	5.21	205	7.82	308	296	
160	325	244	5.95	234	8.94	352	339	
170	346	249	6.32	249	9.5	374	346	
180	366	274	6.69	263	—		381	
200	406	305	7.44	293	—		424	
220	447	335	8.18	322	—		466	
230	467	351	8.55	337	—		488	
240	188	366	8.92	351			509	
260	528	396	9.67	381		_	550	

### LV-X420

# Timing Mode Table

Signal	RESOLUTION	H-Sync (KHz)	V-Sync (Hz)	Composite / S-Video	Component	RGB	DVI/ HDMI
NTSC	—	15.734	60.0	0	—	_	—
PAL/SECAM	—	15.625	50.0	0	—	_	_
PAL/SECAM	720 x 400	37.9	85.0	—	—	0	0
	640 x 480	31.5	60.0	—	—	0	0
	640 x 480	37.9	72.8	—	—	0	0
	640 x 480	37.5	75.0	—	—	0	0
	640 x 480	43.3	85.0	—	—	0	0
	800 x 600	35.2	56.3	—	—	0	0
	800 x 600	37.9	60.3	—	—	0	0
	800 x 600	46.9	75.0	—	—	0	0
	800 x 600	48.1	72.2	—	—	0	0
	800 x 600	53.7	85.1	—	—	0	0
	800 x 600	76.3	120.0	—	—	0	0
	1024 x 768	48.4	60.0	—	—	0	0
	1024 x 768	56.5	70.1	—	—	0	0
VESA	1024 x 768	60.0	75.0	—	—	0	0
VESA	1024 x 768	68.7	85.0	—	—	0	0
	1024 x 768	97,6	120.0	—	—	0	0
	1280 x 720	45.0	60.0	—	—	0	0
	1280 x 720	91.5	119.9	—	—	0	0
	1280 x 800	49.7	59.8	—	—	0	0
	1280 x 800	62.8	74.9	—	—	0	0
	1280 x 800	71.6	84.8	—	—	0	0
	1280 x 800	101.6	119.9	_	—	0	0
	1280 x 1024	64.0	60.0	_	—	0	0
	1280 x 1024	80.0	75.0	_	—	0	0
	1280 x 1024	91.1	85.0	_	—	0	0
	1280 x 960	60.0	60.0	_	_	0	0
	1280 x 960	85.9	85.0	—	—	0	0
	1400 x 1050	65.3	60.0	_	—	0	0

Signal	RESOLUTION	H-Sync (KHz)	V-Sync (Hz)	Composite / S-Video	Component	RGB	DVI/ HDMI
	1440 x 900	70.6	75.0	—	—	0	0
	1440 x 900	55.9	60.0	—	—	0	0
	1600 x1200	75.0	60.0	—	—	0	0
	1680 x1050	64.7	59.9	—	—	0	0
	1680 x1050	65.3	60.0	—	—	0	0
	1920 x1200	74.0	60.0	—	—	0	0
	640 x 480	35.0	66.7	—	—	0	0
Apple Mee	832 x 624	49.7	74.5	—	—	0	0
Apple Mac	1024 x 768	60.2	74.9	—	—	0	0
	1152 x 870	68.7	75.1	—	—	0	0
SDTV	480i	15.734	60.0	_	0	—	0
3017	576i	15.625	50.0	—	0	—	0
EDTV	576p	31.3	50.0	-	0	_	0
EDIV	480p	31.5	60.0	—	0	_	0
	720p	37.5	50.0	—	0	_	0
	720p	45.0	60.0	—	0	—	0
	1080i	33.8	60.0	—	0	—	0
	1080i	28.1	50.0	—	0	—	0
HDTV	1080p	67.5	60.0	_	0	—	0
	1080p	56.3	50.0	—	0	—	0
	1080p	27	24.0	_	0	—	0
	1080p	28	25.0	—	0	—	0
	1080p	33.7	30.0	—	0	—	0

O: Frequency supported

-: Frequency not supported

\* : LV-HD420 native resolution of the panel is 1920 x 1080

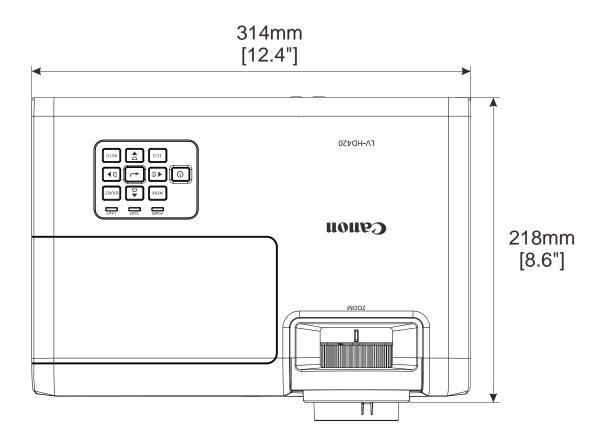
LV-X420 native resolution of the panel is 1024 x 768

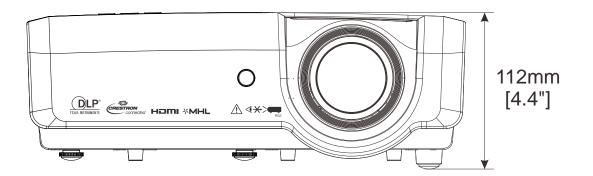
The aspect ratio of an input signal may be changed if its resolution is different with the panel resolution.

\* : The color of \_\_\_\_ mean Displayable only. (4:3 only)

\* : The color of \_\_\_\_ mean may have a little noise

# **Projector Dimensions**





# **REGULATORY COMPLIANCE**

## FCC Warning

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Changes or modifications not expressly approved by the parties responsible for compliance could void the user's authority to operate the equipment.

### Canada

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

### **Safety Certifications**

FCC-B, cUL, UL, CCC, CECP, PSB, EAC, KC, CE, RCM



## **RS-232 Protocol**

RS232 Setting

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

Minimum delay for next command: 1ms

Control Command Structure

	Header code	Command code	Data code	End code
HEX		Command	Data	0Dh
ASCII	'V'	Command	Data	CR

**Operation Command** 

Note:

"CR" mean Carriage Return

XX=00-98, projector's ID, XX=99 is for all projectors

Return Result P=Pass / F=Fail

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

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

	Command Group 01							
ASCII	HEX	Function	Description	Return Value				
VXXG0101	56h Xh Xh 47h 30h 31h 30h 31h 0Dh	Get Brightness	n=0~100	Pn/F				
VXXS0101n	56h Xh Xh 53h 30h 31h 30h 31h nh 0Dh	Set Brightness	n=0~100	P/F				
VXXG0102	56h Xh Xh 47h 30h 31h 30h 32h 0Dh	Get Contrast	n=0~100	Pn/F				
VXXS0102n	56h Xh Xh 53h 30h 31h 30h 32h nh 0Dh	Set Contrast	n=0~100	P/F				
VXXG0103	56h Xh Xh 47h 30h 31h 30h 33h 0Dh	Get Color	n=0~100	Pn/F				
VXXS0103n	56h Xh Xh 53h 30h 31h 30h 33h nh 0Dh	Set Color	n=0~100	P/F				
VXXG0104	56h Xh Xh 47h 30h 31h 30h 34h 0Dh	Get Tint	n=0~100	Pn/F				
VXXS0104n	56h Xh Xh 53h 30h 31h 30h 34h nh 0Dh	Set Tint	n=0~100	P/F				
VXXG0105	56h Xh Xh 47h 30h 31h 30h 35h 0Dh	Get Sharpness	0~31	Pn/F				

	Command	Group 01		
ASCII	HEX	Function	Description	Return Value
VXXS0105n	56h Xh Xh 53h 30h 31h 30h 35h nh 0Dh	Set Sharpness	0~31	P/F
VXXG0106	56h Xh Xh 47h 30h 31h 30h 36h 0Dh	Get Color Temperature	0:6500K 1:7500K 2:8300K	Pn/F
VXXS0106n	56h Xh Xh 53h 30h 31h 30h 36h nh 0Dh	Set Color Temperature	0:6500K 1:7500K 2:8300K	P/F
VXXG0107	56h Xh Xh 47h 30h 31h 30h 37h 0Dh	Get Gamma	0:1.8 1:2.0 2:2.2 3:2.4 5:Linear	Pn/F
VXXS0107n	56h Xh Xh 53h 30h 31h 30h 37h nh 0Dh	Set Gamma	0:1.8 1:2.0 2:2.2 3:2.4 5:Linear	P/F
VXXG0108	56h Xh Xh 53h 30h 33h 31h 38h 0Dh	Adjust the Picture mode	0:Standard 1:Presentation 3:Movie 5:sRGB 7:User	Pn/F
VXXS0108n	56h Xh Xh 47h 30h 33h 31h 38h nh 0Dh	Adjust the Picture mode	0:Standard 1:Presentation 3:Movie 5:sRGB 7:User	P/F

	Command Group 02						
ASCII	HEX	Function	Description	Return Value			
VXXS0201	56h Xh Xh 53h 30h 32h 30h 31h 0Dh	Select COMPUTER1		P/F			
VXXS0202	56h Xh Xh 53h 30h 32h 30h 32h 0Dh	Select COMPUTER2		P/F			
VXXS0204	56h Xh Xh 53h 30h 32h 30h 34h 0Dh	Select Video		P/F			
VXXS0205	56h Xh Xh 53h 30h 32h 30h 35h 0Dh	Select S-Video		P/F			
VXXS0206	56h Xh Xh 53h 30h 32h 30h 36h 0Dh	Select HDMI		P/F			
VXXS0208	56h Xh Xh 53h 30h 32h 30h 38h 0Dh	Select Component		P/F			
VXXS0209	56h Xh Xh 53h 30h 32h 30h 39h 0Dh	Select HDMI 2/MHL		P/F			
VXXG0220	56h Xh Xh 47h 30h 32h 32h 30h 0Dh	Get Current Source	Return 1:COMPUTER1 2:COMPUTER2 4:Video 5:S-Video 6:HDMI 8:Component 9:HDMI 2/MHL	Pn/F			

Command Group 03							
ASCII	HEX	Function	Description	Return Value			
VXXG0301	56h Xh Xh 47h 30h 33h 30h 31h 0Dh	Get Scaling	0:Fill 1:4:3 2:16:9 3:Letter Box 4:Real 5:2.35:1	Pn/F			
VXXS0301n	56h Xh Xh 53h 30h 33h 30h 31h nh 0Dh	Set Scaling	0:Fill 1:4:3 2:16:9 3:Letter Box 4:Real 5:2.35:1	P/F			
VXXG0302	56h Xh Xh 47h 30h 33h 30h 32h 0Dh	Get Blank		Pn/F			
VXXS0302n	56h Xh Xh 53h 30h 33h 30h 32h nh 0Dh	Set Blank		P/F			
VXXG0304	56h Xh Xh 47h 30h 33h 30h 34h 0Dh	Get Freeze On		Pn/F			
VXXS0304n	56h Xh Xh 53h 30h 33h 30h 34h nh 0Dh	Set Freeze On		P/F			
VXXG0305	56h Xh Xh 47h 30h 33h 30h 35h 0Dh	Get Volume	n=0~10	Pn/F			
VXXS0305n	56h Xh Xh 53h 30h 33h 30h 35h nh 0Dh	Set Volume	n=0~10	P/F			
VXXG0308	56h Xh Xh 47h 30h 33h 30h 38h 0Dh	Get Projection Mode	0:Front 1:Rear 2:Ceiling 3:Rear+Ceiling	Pn/F			
VXXS0308n	56h Xh Xh 53h 30h 33h 30h 38h nh 0Dh	Set Projection Mode	0:Front 1:Rear 2:Ceiling 3:Rear+Ceiling	P/F			
VXXG0309	56h Xh Xh 47h 30h 33h 30h 39h 0Dh	Get vertical keystone value	n=-30~+30	Pn/F			
VXXS0309n	56h Xh Xh 53h 30h 33h 30h 39h nh 0Dh	Set vertical keystone value	n=-30~+30	P/F			
VXXG0310	56h Xh Xh 47h 30h 33h 31h 30h 0Dh	Get horizontal keystone value	n=-30~+30	Pn/F			
VXXS0310n	56h Xh Xh 53h 30h 33h 31h 30h nh 0Dh	Set horizontal keystone value	n=-30~+30	P/F			
VXXG0315	56h Xh Xh 47h 30h 33h 31h 35h 0Dh	Get 3D Mode	n=0~1	Pn/F			
VXXS0315n	56h Xh Xh 53h 30h 33h 31h 35h nh 0Dh	Set 3D Mode	0:Off 1:DLP	P/F			
VXXG0316	56h Xh Xh 47h 30h 33h 31h 36h 0Dh	Get 3D sync inverter	n=0~1	Pn/F			
VXXS0316n	56h Xh Xh 53h 30h 33h 31h 36h nh 0Dh	Set 3D sync inverter	0:Off 1:On	P/F			
VXXG0317	56h Xh Xh 53h 30h 33h 31h 37h 0Dh	Get 3D format	n=0~3	Pn/F			
VXXS0317n	56h Xh Xh 47h 30h 33h 31h 37h nh 0Dh	Set 3D format	0:FS 1:TB 2:SBS 3:FP	P/F			
VXXG0319	56h Xh Xh 47h 30h 33h 31h 39h 0Dh	Get Lamp mode	n=0~2	Pn/F			
VXXS0319n	56h Xh Xh 53h 30h 33h 31h 39h nh 0Dh	Set Lamp mode	0:Eco 1:Normal 2:Smart ECO	P/F			
VXXG0322	56h Xh Xh 47h 30h 33h 32h 32h 0Dh	Get Fan Speed	n=0~1	Pn/F			
VXXS0322n	56h Xh Xh 53h 30h 33h 32h 32h nh 0Dh	Set Fan Speed	0:Normal 1:High Speed	P/F			

Command Group 03							
ASCII	HEX	Function	Description	Return Value			
VXXG0331	56h Xh Xh 47h 30h 33h 33h 31h 0Dh	Get the R gain	n=0~200	Pn/F			
VXXS0331n	56h Xh Xh 53h 30h 33h 33h 31h nh 0Dh	Set the R gain	n=0~200	P/F			
VXXG0332	56h Xh Xh 47h 30h 33h 33h 32h 0Dh	Get the G gain	n=0~200	Pn/F			
VXXS0332n	56h Xh Xh 53h 30h 33h 33h 32h nh 0Dh	Set the G gain	n=0~200	P/F			
VXXG0333	56h Xh Xh 47h 30h 33h 33h 33h 0Dh	Get the B gain	n=0~200	Pn/F			
VXXS0333n	56h Xh Xh 53h 30h 33h 33h 33h nh 0Dh	Set the B gain	n=0~200	P/F			
VXXG0334	56h Xh Xh 53h 30h 33h 31h 37h 0Dh	Get the R offset	n=-100~100	Pn/F			
VXXS0334n	56h Xh Xh 47h 30h 33h 31h 37h nh 0Dh	Set the R offset	n=-100~100	P/F			
VXXG0335	56h Xh Xh 47h 30h 33h 31h 39h 0Dh	Get the G offset	n=-100~100	Pn/F			
VXXS0335n	56h Xh Xh 53h 30h 33h 31h 39h nh 0Dh	Set the G offset	n=-100~100	P/F			
VXXG0336	56h Xh Xh 47h 30h 33h 32h 32h 0Dh	Get the B offset	n=-100~100	Pn/F			
VXXS0336n	56h Xh Xh 53h 30h 33h 32h 32h nh 0Dh	Set the B offset	n=-100~100	P/F			
VXXG0337	56h Xh Xh 47h 30h 33h 33h 37h 0Dh	Get the white R gain	n=0~100	Pn/F			
VXXS0337n	56h Xh Xh 53h 30h 33h 33h 37h nh 0Dh	Set the white R gain	n=0~100	P/F			
VXXG0338	56h Xh Xh 47h 30h 33h 33h 38h 0Dh	Get the white G gain	n=0~200	Pn/F			
VXXS0338n	56h Xh Xh 53h 30h 33h 33h 38h nh 0Dh	Set the white G gain	n=0~200	P/F			
VXXG0339	56h Xh Xh 47h 30h 33h 33h 39h 0Dh	Get the white B gain	n=0~200	Pn/F			
VXXS0339n	56h Xh Xh 53h 30h 33h 33h 39h nh 0Dh	Set the white B gain	n=0~200	P/F			
VXXG0340	56h Xh Xh 53h 30h 33h 34h 30h 0Dh	Get the Red Hue	n=-100~100	Pn/F			
VXXS0340n	56h Xh Xh 47h 30h 33h 34h 30h nh 0Dh	Set the Red Hue	n=-100~100	P/F			
VXXG0341	56h Xh Xh 47h 30h 33h 34h 31h 0Dh	Get the Red Saturation	n=-100~100	Pn/F			
VXXS0341n	56h Xh Xh 53h 30h 33h 34h 31h nh 0Dh	Set the Red Saturation	n=-100~100	P/F			
VXXG0342	56h Xh Xh 47h 30h 33h 34h 32h 0Dh	Get the Red Gain	n=-100~100	Pn/F			
VXXS0342n	56h Xh Xh 53h 30h 33h 34h 32h nh 0Dh	Set the Red Gain	n=-100~100	P/F			
VXXG0343	56h Xh Xh 53h 30h 33h 34h 33h 0Dh	Get the Green Hue	n=-100~100	Pn/F			
VXXS0343n	56h Xh Xh 47h 30h 33h 34h 33h nh 0Dh	Set the Green Hue	n=-100~100	P/F			
VXXG0344	56h Xh Xh 47h 30h 33h 34h 34h 0Dh	Get the Green Saturation	n= -100~100	Pn/F			
VXXS0344n	56h Xh Xh 53h 30h 33h 34h 34h nh 0Dh	Set the Green Saturation	n= -100~100	P/F			
VXXG0345	56h Xh Xh 47h 30h 33h 34h 35h 0Dh	Get the Green Gain	n= -100~100	Pn/F			
VXXS0345n	56h Xh Xh 53h 30h 33h 34h 35h nh 0Dh	Set the Green Gain	n= -100~100	P/F			
VXXG0346	56h Xh Xh 53h 30h 33h 34h 36h 0Dh	Get the Blue Hue	n= -100~100	Pn/F			
VXXS0346n	56h Xh Xh 47h 30h 33h 34h 36h nh 0Dh	Set the Blue Hue	n= -100~100	P/F			
VXXG0347	56h Xh Xh 47h 30h 33h 34h 37h 0Dh	Get the Blue Saturation	n= -100~100	Pn/F			
VXXS0347n	56h Xh Xh 53h 30h 33h 34h 37h nh 0Dh	Set the Blue Saturation	n= -100~100	P/F			
VXXG0348	56h Xh Xh 47h 30h 33h 34h 38h 0Dh	Get the Blue Gain	n= -100~100	Pn/F			
VXXS0348n	56h Xh Xh 53h 30h 33h 34h 38h nh 0Dh	Set the Blue Gain	n= -100~100	P/F			
VXXG0349	56h Xh Xh 53h 30h 33h 34h 39h 0Dh	Get the Cyan Hue	n= -100~100	Pn/F			
VXXS0349n	56h Xh Xh 47h 30h 33h 34h 39h nh 0Dh	Set the Cyan Hue	n= -100~100	P/F			
VXXG0350	56h Xh Xh 47h 30h 33h 35h 30h 0Dh	Get the Cyan Saturation	n=-100~100	Pn/F			
VXXS0350n	56h Xh Xh 53h 30h 33h 35h 30h nh 0Dh	Set the Cyan Saturation	n=-100~100	P/F			

	Command Group 03						
ASCII	HEX	Function	Description	Return Value			
VXXG0351	56h Xh Xh 47h 30h 33h 35h 31h 0Dh	Get the Cyan Gain	n=-100~100	Pn/F			
VXXS0351n	56h Xh Xh 53h 30h 33h 35h 31h nh 0Dh	Set the Cyan Gain	n=-100~100	P/F			
VXXG0352	56h Xh Xh 53h 30h 33h 35h 32h 0Dh	Get the Magenta Hue	n=-100~100	Pn/F			
VXXS0352n	56h Xh Xh 47h 30h 33h 35h 32h nh 0Dh	Set the Magenta Hue	n=-100~100	P/F			
VXXG0353	56h Xh Xh 47h 30h 33h 35h 33h 0Dh	Get the Magenta Saturation	n=-100~100	Pn/F			
VXXS0353n	56h Xh Xh 53h 30h 33h 35h 33h nh 0Dh	Set the Magenta Saturation	n=-100~100	P/F			
VXXG0354	56h Xh Xh 47h 30h 33h 35h 34h 0Dh	Get the Magenta Gain	n=-100~100	Pn/F			
VXXS0354n	56h Xh Xh 53h 30h 33h 35h 34h nh 0Dh	Set the Magenta Gain	n=-100~100	P/F			
VXXG0355	56h Xh Xh 53h 30h 33h 35h 35h 0Dh	Get the Yellow Hue	n=-100~100	Pn/F			
VXXS0355n	56h Xh Xh 47h 30h 33h 35h 35h nh 0Dh	Set the Yellow Hue	n=-100~100	P/F			
VXXG0356	56h Xh Xh 47h 30h 33h 35h 36h 0Dh	Get the Yellow Saturation	n=-100~100	Pn/F			
VXXS0356n	56h Xh Xh 53h 30h 33h 35h 36h nh 0Dh	Set the Yellow Saturation	n=-100~100	P/F			
VXXG0357	56h Xh Xh 47h 30h 33h 35h 37h 0Dh	Get the Yellow Gain	n=-100~100	Pn/F			
VXXS0357n	56h Xh Xh 53h 30h 33h 35h 37h nh 0Dh	Set the Yellow Gain	n=-100~100	P/F			
VXXG0358	56h Xh Xh 47h 30h 33h 35h 38h 0Dh	Get IR On/Off Status	n= 0~3	Pn/F			
VXXS0358n	56h Xh Xh 53h 30h 33h 35h 38h nh 0Dh	Set IR On/Off Status	0:Both on 1:Front on 2:Back on 3:Both off	P/F			



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