SHARP

Projector

E501U-W

User's Manual

HDMI™

Model No.
XP-E501U-W

Table of Contents

Introduction

Thank you for purchasing the projector.

This projector can be connected to computers, video devices, etc. to project images sharply onto a screen.

Please read this manual carefully before using your projector.

Read this manual if you have any doubts about operation or if you believe the projector may be faulty.

NOTES

(1) The contents of this manual may not be reprinted in part or whole without permission.

(2) The contents of this manual are subject to change without notice.

(3) Great care has been taken in the preparation of this manual; however, should you notice any questionable points, errors or omissions, please contact us.

(4) The image shown in this manual is indicative only. If there is inconsistency between the image and the actual product, the actual product shall govern.

(5) Notwithstanding article (3) and (4), we will not be responsible for any claims on loss of profit or other matters deemed to result from using this device.

(6) This manual is commonly provided to all regions so they may contain descriptions that are pertinent for other countries.

Important Information

FCC Information (for USA only)

<div style="border:1px solid">

Supplier's Declaration of Conformity

SHARP PROJECTOR, XP-E501U-W

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.

Responsible Party: SHARP ELECTRONICS CORPORATION
100 Paragon Drive, Montvale, NJ 07645
TEL: 1-888-GO-SHARP / 1-888-467-4277 www.sharpusa.com

WARNING:

FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

NOTE:

This equipment has been tested and found to comply with the limits for a Class A 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 own expense.

U.S.A. ONLY

</div>

Cable information

Use shielded cables to prevent interference with radio or television reception.

Notice Concerning Electromagnetic Interference (EMI) (For other regions)

<div style="border:1px solid">

WARNING:

Operation of this equipment in a residential environment could cause radio interference.

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(For Customers in U.K.)

IMPORTANT

- The wires in this mains lead are coloured in accordance with the following code:

GREEN-AND-YELLOW:	**"Earth"**
BLUE:	**"Neutral"**
BROWN:	**"Live"**

- As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
- The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter **E** or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
- The wire which is coloured BLUE must be connected to the terminal which is marked with the letter **N** or coloured black.
- The wire which is coloured BROWN must be connected to the terminal which is marked with the letter **L** or coloured red.
- Ensure that your equipment is connected correctly. If you are in any doubt consult a qualified electrician.

"WARNING: THIS APPARATUS MUST BE EARTHED."

Information on the Disposal of this Equipment and its Batteries

IF YOU WISH TO DISPOSE OF THIS EQUIPMENT OR ITS BATTERIES, DO NOT USE THE ORDINARY WASTE BIN, AND DO NOT PUT THEM INTO A FIREPLACE!

Used electrical and electronic equipment and batteries should always be collected and treated SEPARATELY in accordance with local law.

Separate collection promotes an environment-friendly treatment, recycling of materials, and minimizing final disposal of waste. IMPROPER DISPOSAL can be harmful to human health and the environment due to certain substances! Take USED EQUIPMENT to a local, usually municipal, collection facility, where available.

Remove USED BATTERIES from equipment, and take them to a battery collection facility; usually a place where new batteries are sold.

If in doubt about disposal, contact your local authorities or dealer and ask for the correct method of disposal.

ONLY FOR USERS IN THE EUROPEAN UNION, AND SOME OTHER COUNTRIES; FOR INSTANCE NORWAY AND SWITZERLAND: Your participation in separate collection is requested by law.

The symbol shown above appears on electrical and electronic equipment and batteries (or the packaging) to remind users of this. If 'Hg' or 'Pb' appears below the symbol, this means that the battery contains traces of mercury (Hg) or lead (Pb), respectively.

Users from PRIVATE HOUSEHOLDS are requested to use existing return facilities for used equipment and batteries.

Batteries are collected at points of sale. Return is free of charge.

If the equipment has been used for BUSINESS PURPOSES, please contact your SHARP dealer who will inform you about take-back. You might be charged for the costs arising from take-back. Small equipment (and small quantities) might be taken back by your local collection facility.

For Spain: Please contact the established collection system or your local authority for take-back of your used products.

(for Germany only)

Machine Noise Information Regulation - 3. GPSGV,

The highest sound pressure level is less than 70 dB (A) in accordance with EN ISO 7779.

Information of the AUDIO OUT mini jack

The AUDIO OUT mini jack does not support earphone/headphone terminal.

Laser Safety Caution

⚠ WARNING

CLASS 1 LASER PRODUCT [IEC 60825-1:2014]
CLASS 1 CONSUMER LASER PRODUCT OF EN 60825-1:2014+A11:2021 (For EU and UK)
• The laser module is equipped in this product. Use of controls or adjustments of procedures other than those specified herein may result in hazardous radiation exposure.
Laser energy exposure near aperture may cause burns.

• This product is classified as Class 1 of IEC60825-1:2014.
• For EU and UK, EN 60825-1:2014+A11:2021 and EN 50689:2021 are also conformed.
• Obey the laws and regulations of your country in relation to the installation and management of the device.

For USA

Complies with 21 CFR 1040.10 and 1040.11 except for conformance as a Risk Group 2 LIP as defined in IEC 62471-5:Ed. 1.0. For more information see Laser Notice No. 57, dated May 8, 2019.

⚠ WARNING

• Do not allow to look into the projector beam at any distance from the projector. An adult should supervise the children to prevent exposure risks.
• Check that there is no one looking at the lens, when using the remote control for starting the projector.
• Do not look at the projected light using optical devices(binoculars, telescopes, magnifying glasses, reflectors, etc).
• [WARNING: MOUNT ABOVE THE HEADS OF CHILDREN.]
The use of a ceiling mount is recommended with this product to place it above the eyes of children.

• Outline of laser emitted from the built-in light module:
  - Wave length: 455 nm
  - Maximum power: 88W

Light Module
• A light module containing multiple laser diodes is equipped in the product as the light source.
• These laser diodes are sealed in the light module. No maintenance or service is required for the performance of the light module.
• End user is not allowed to replace the light module.
• Contact qualified distributor for light module replacement and further information.

Risk groups

This projector is classified as risk group 2 of IEC/EN 62471-5:2015.

⚠ WARNING

As with any bright light source, do not stare into the beam, RG2 IEC/EN 62471-5:2015.

About the symbols

To ensure safe and proper use of the product, this manual uses a number of symbols to prevent injury to you and others as well as damage to property.

The symbols and their meanings are described below. Be sure to understand them thoroughly before reading this manual.

⚠️ WARNING	Failing to heed this symbol and handling the product erroneously could result in accidents leading to death or major injury.
⚠️ CAUTION	Failing to heed this symbol and handling the product erroneously could result in personal injury or damage to surrounding property.

Examples of symbols

⚡	This symbol indicates you should be careful of electric shocks.
🔥	This symbol indicates you should be careful of high temperatures.
🚫	This symbol indicates something that must be prohibited.
🚫	This symbol indicates something that must not be got wet.
🚫	This symbol indicates you should not touch with wet hands.
🚫	This symbol indicates something that must not be disassembled.
❗	This symbol indicates things you must do.
🔌	This symbol indicates that the power cord should be unplugged from the power outlet.

Safety Cautions

⚠️ **WARNING**
Projected light

	Projected light and the pictogram/label indicated on the cabinet
🚫 **PROHIBITED**	• Do not look into the projector's lens. Strong light that could damage your vision is projected when the projector is operating. Laser energy exposure near aperture may cause burns. Be especially careful when children are around. • Do not look at the projected light using optical devices (magnifying glasses, reflectors, etc.). Doing so could result in vision impairment. • Check that there is no one looking at the lens within the projection range before turning on the projector. • Do not allow children to operate the projector alone. When a child is operating the projector an adult should always be present and watch the child carefully. • The below pictogram, that is indicated near the lens on the cabinet, describes looking into the projector is prohibited.
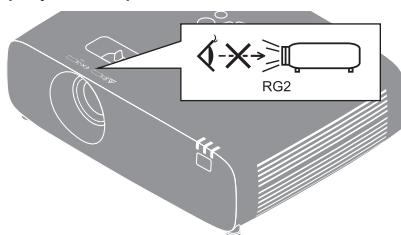
⚠ WARNING

- The following labels are stuck on the projector.
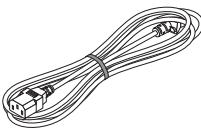
Label 1
Laser explanatory label

```
CLASS 1 LASER PRODUCT
APPAREIL À LASER DE CLASSE 1
LASERPRODUKT DER KLASSE 1
PRODUCTO LÁSER DE CLASE 1
등급 1 레이저 제품    1类激光产品    第一級雷射產品
IEC 60825-1:2014

CONSUMER LASER PRODUCT
APPAREIL À LASER GRAND PUBLIC
VERBRAUCHER-LASERPRODUKT
PRODUCTO LÁSER PARA EL CONSUMIDOR
EN 60825-1:2014+A11:2021  EN 50689:2021
クラス 1 レーザ製品    JIS C6802:2018
```

Label 2
FDA additional warning label
(for USA only)

```
WARNING
MOUNT ABOVE THE HEADS OF CHILDREN.
NO DIRECT EYE EXPOSURE FOR CLOSE EXPOSURES
LESS THAN 1m IS PERMITTED.
AVERTISSEMENT
FIXER AU-DESSUS DE LA TÊTE DES ENFANTS,
AUCUNE EXPOSITION DIRECTE DES YEUX POUR DES
EXPOSITIONS PROCHES MOINS DE 1 m N'EST AUTORISÉE.
ADVERTENCIA
INSTALE POR ENCIMA DE LA CABEZA DE LOS NIÑOS,
NO SE PERMITE LA EXPOSICIÓN DIRECTA DE LOS OJOS
EN CASO DE EXPOSICIONES CERCANAS INFERIORES A 1 m.
```

Label 2

Label 1

⚠️ **WARNING**

Power supply

ⓘ **REQUIRED**	**Use a suitable voltage power supply.** • This projector is designed to be used with a 100–240 VAC, 50/60 Hz power supply. Before using the projector, check that the power supply to which the projector is to be connected meets these requirements. • Use a power outlet as the projector's power supply. Do not connect the projector directly to electrical light wiring. Doing so is dangerous.
⏚ **MUST BE EARTHED**	**Connecting the power cord to earth** • This equipment is designed to be used in the condition of the power cord connected to earth. If the power cord is not connected to the earth, it may cause electric shock. Please make sure the power cord is connected to the wall outlet directly and earthed properly. Do not use a 2-pin plug converter adapter. • Be sure to connect the projector and the computer (signal source) to the same earth point. If the projector and the computer (signal source) will be connected to different earth points, fluctuations in the earth potential may cause fire or smoke.
ⓘ **REQUIRED** 🚫 **PROHIBITED**	**Handling the power cord** • Please use the power cord supplied with this projector. If the supplied power cord does not satisfy requirements of your country's safety standard, and voltage and current for your region, make sure to use the power cord that conforms to and satisfies them. • The power cord you use must be approved by and comply with the safety standards of your country. Please refer to the page 89 about the power cord specification. For selecting an appropriate power cord, please check rated voltage for your region by yourself. • The power cord included with this projector is exclusively for use with this projector. For safety, do not use it with other devices.

⚠ WARNING

HAZARDOUS VOLTAGE	• Handle the power cord with care. Damaging the cord could lead to fire or electric shock.
	  - Do not place heavy objects on the cord.
	  - Do not place the cord under the projector.
	  - Do not cover the cord with a rug, etc.
	  - Do not scratch or modify the cord.
	  - Do not bend, twist or pull the cord with excessive force.
	  - Do not apply heat to the cord.
	Should the cord be damaged (exposed core wires, broken wires, etc.), ask your dealer to replace it.
	• Do not touch the power plug should you hear thunder. Doing so could result in electric shock.
	• Do not connect or disconnect the power cord with wet hands. Doing so could result in electric shock.

DO NOT TOUCH WITH WET HANDS	

Installation

PROHIBITED	**Do not use in places such as those described below.**
	• Do not use in places such as those described below. Doing so could lead to fire or electric shock.
	  - Shaky tables, inclined surfaces or other unstable places.
	  - Poorly ventilated spaces.
	  - Near a radiator, other heat sources, or in direct sunshine.
	  - Continual vibration areas.
	  - Humid, dusty, steamy, or oily areas.
	  - An environment where there are corrosive gases (sulfur dioxide, hydrogen sulfide, nitrogen dioxide, chlorine, ammonia, ozone, etc.).
	  - Outdoors.
	  - High-temperature environment where humidity changes rapidly and condensation is likely to occur.

DO NOT WET
 	
UNPLUG THE POWER CORD
	• Do not use in places such as those described below where the projector could get wet. Doing so could lead to fire or electric shock.
	  - Do not use in the rain or snow, on a seashore or waterfront, etc.
	  - Do not use in a bathroom or shower room.
	  - Do not install under equipment that discharges water, such as air conditioners.
	  - Do not place vases or potted plants on the projector.
	  - Do not place cups, cosmetics or medicines on the projector.
	Should water, etc. get inside the projector, first turn off the projector's power, then unplug the power cord from the power outlet and contact your dealer.

⚠ WARNING	
⚠ **CAUTION**	**Installing suspended from the ceiling** • Consult your dealer for installing the projector on the ceiling. Special skills are required for ceiling installation. DO NOT perform installation work by people other than installers. Doing so may result in the projector falling and causing injury. • We are not liable for any accident or/and damage resulting from improper installation or handling, misuse, modification, or natural disasters. • When installed suspended from the ceiling, etc. do not hang from the projector. The projector could drop and cause injury. • When installing suspended from the ceiling, use a power outlet that is within reach so the power cord can be easily plugged and unplugged.
On use	
🚫 **PROHIBITED** **UNPLUG THE POWER CORD**	**Do not place objects inside the projector.** • Do not insert or drop metal or combustible objects or other foreign materials into the projector from the vents. Doing so could lead to fire or electric shock. Be particularly careful if there are children in the home. Should a foreign object get inside the projector, first turn off the projector's power, then unplug the power cord from the power outlet and contact your dealer.
UNPLUG THE POWER CORD	**Unplug the power cord if the projector malfunctions.** • Should the projector emit smoke or strange odors or sounds, or if the projector has been dropped or the cabinet broken, turn off the projector's power, then unplug the power cord from the power outlet. Otherwise it may cause not only fire or electric shock but also serious damage to your eyesight or burns. Contact your dealer for repairs. Never try to repair the projector on your own. Doing so is dangerous.
DO NOT DISASSEMBLE	**Do not disassemble the projector.** • Do not remove or open the projector's cabinet. Also, do not modify the projector. There are high voltage areas in the projector. It may cause fire, electric shock, or laser light leakage, resulting in serious damage to your eyesight or burns. Have qualified service personnel perform inspection, adjustments and repairs of the interior.

⚠️ **WARNING**

🚫 **PROHIBITED** ⚠️ **CAUTION FOR HIGH TEMPERATURE**	**Do not place objects in front of the lens while the projector is operating.** • Do not place objects in front of the lens that obstruct the light while the projector is operating. The object could get hot and be broken or catch fire. • The below pictogram indicated on the cabinet means the precaution for avoiding to place objects in front of the projector lens.
🚫 **PROHIBITED**	**When cleaning the projector** • Do not use flammable gas sprays to remove dust from the lens, cabinet, etc. Doing so could lead to fire.
🚫 **PROHIBITED**	**Do not use in high security locations.** • Usage of the product must not be accompanied by fatal risks or dangers that, could lead directly to death, personal injury, severe physical damage or other loss, including nuclear reaction control in nuclear facility, medical life support system, and missile launch control in a weapon system.

⚠️ CAUTION

Power cord

REQUIRED	**Handling the power cord** • The projector should be installed close to an easily accessible power outlet. • When connecting the power cord to the projector's AC IN terminal, make sure the connector is fully and firmly inserted. Loose connection of the power cord could lead to fire or electric shock.
REQUIRED **UNPLUG THE POWER CORD**	**Handling the power cord by following below to avoid fire or electric shock** • When disconnecting the power cord, pull the power cord out by holding onto its plug. • Unplug the power cord from the power outlet before cleaning the product or when not planning to use the product for an extended time. • When the power cord or plug is heat or damaged, unplug the power cord from the power outlet, and contact your dealer.
REQUIRED	**Periodically clean dust and other debris from the power plug** • Failure to do so could result in fire or electric shock.
REQUIRED	**Disconnect power cords and other cables before moving the projector** • Before moving the product, make sure the product power is off, then unplug the power cord from the power outlet and check that all cables connecting the product to other devices are disconnected.
PROHIBITED	**Do not use the power cord with a power tap** • Adding an extension cord may lead to fire as a result of overheating.

⚠ CAUTION

On use	
🚫 **PROHIBITED**	**Do not use on networks subject to overvoltage.** • Connect the projector's LAN port to a network for which there is no risk of overvoltage being applied. Overvoltage applied to the LAN port could result in electric shock.
❗ **REQUIRED**	**Focus and zoom operations** • When adjusting the focus or zoom, do so from either behind or the side of the projector. If adjustments are performed from the front, your eyes could be exposed to strong light and get injured.
🚫 **PROHIBITED**	**Handling batteries** Incorrect usage of batteries can result in leaks or bursting. • Use the specified batteries only. • Insert batteries matching the (+) and (–) signs on each battery to the (+) and (–) signs of the battery compartment. • Do not mix battery brands. • Do not combine new and old batteries. This can shorten battery life or cause liquid leakage of batteries. • Remove dead batteries immediately to prevent battery acid from leaking into the battery compartment. If leaked battery fluid gets on your skin or clothing, rinse immediately and thoroughly. If it gets into your eye, bathe your eye well rather than rubbing and seek medical treatment immediately. Leaked battery fluid that gets into your eye or your clothing may cause a skin irritation or damage your eye. • If you will not use the remote control for a long time, remove the batteries. • Leaving a battery in an extremely high temperature surrounding environment, or a battery subject to extremely low air pressure, that can result in an explosion or the leakage of flammable liquid or gas. • Properly dispose of depleted batteries. Disposal of a battery into water, fire, or a hot oven, or mechanically crushing, cutting, or modifying a battery can result in an explosion. • Do not short-circuit the batteries. • Do not charge the batteries. The batteries provided are not rechargeable. • Contact your dealer or local authorities when disposing of batteries.

⚠ CAUTION

PROHIBITED ⚠ **CAUTION FOR HIGH TEMPERATURE**	**About the vents** • Do not obstruct the projector's vents. Also, do not place such soft objects as paper or cloths underneath the projector. Doing so could lead to fire. Leave sufficient space between the place where the projector is installed and its surroundings. (→ page xx) • Do not touch the exhaust vent area while projecting or immediately after projecting images. The exhaust vent area may be hot at this time and touching it could cause burns.
PROHIBITED	**Moving the projector** • When moving the projector, do not hold the lens section. The focus ring could turn, causing the projector to drop and resulting in injury. Also, if you put your hand on the gap between the cabinet and the lens, the projector may be damaged, falling and causing injury. • Do not put your hand into the recess of the connection terminal. The projector could be damaged or fall down, resulting in injuries. Do not carry the projector by holding the recessed area that is exposed after the filter cover has been removed. Doing so could damage the cabinet, and the projector could fall and cause an injury.
PROHIBITED	**Do not push or climb on the product. Do not grab or hang onto the product. Do not rub or tap the product with hard objects.** The product may fall, causing damage to the product or personal injury.
REQUIRED	**Avoid locations with extreme temperatures and humidity** • Failure to do so could lead to fire or electric shock or damage to the projector. The usage environment for this projector is as follows: - The operating temperature: 0°C to 45°C / 32°F to 113°F / humidity: 20 to 80% (without condensation) - The storage temperature: -10°C to 50°C / 14°F to 122°F / humidity: 20 to 85% (without condensation)

Inspections and Cleaning

REQUIRED	**Inspecting the projector and cleaning the inside** • Consult with your dealer about once per year for cleaning of the inside of the projector. Dust could accumulate inside of the projector if it is not cleaned for extended periods of time, leading to fires or malfunction.

Notes on installation and maintenance

Do not install or store in such places as those described below.

- Locations that amplify vibrations and impacts
  If installed in places where the vibrations from power sources and the like are conveyed, or in vehicles or on vessels, etc. the projector could be affected by vibrations or shocks that may damage internal parts and lead to malfunction.
- Close to high voltage power lines and power sources
  It could disrupt the unit.
- Places where strong magnetic fields are generated
  Doing so could lead to malfunction.
- Outdoors and places with humid or dust
  Places exposed to oil smoke or steam
  Places where corrosive gases are generated
  Attached substances such as oil, chemicals and moisture may cause deformation or cracks of the cabinet, corrosion of the metal parts, or malfunction.

Precautions when installing on the ceiling (To the dealer and the installer)

1. To prevent the projector from falling, install it on the ceiling in a way with sufficient strength to withstand the combined weight of the projector and the ceiling mount unit for an extended period of time.
2. When installing the projector on the ceiling, be sure to do so correctly in accordance with the installation manual for the Ceiling Mount Unit. Be sure to use the fixed metal fittings and to tighten the screws securely.
3. To prevent the projector from falling, use fall prevention wires.
   - Use commercially available metal fittings to join the robust part of a building or construction and the security bar of the projector with the fall prevention wires.
   - Use commercially available metal fittings and fall prevention wires that have sufficient strength to withstand the combined weight of the projector and the ceiling mount unit.
   - Slightly slack off the fall prevention wires so as not to put a load on the projector.
   - Refer to the "Part Names of the Projector" for the location of the security bar. (→ page 5)

Securing personal information

Personally identifiable information, such as IP addresses, may be saved on the projector.
Before transferring or disposing of the projector, clear this data by performing [RESTORE FACTORY SETTINGS] on the on-screen menu.

## Cautions for ensuring the projector's performance

- If intense light like laser beams enters from the lens, it could lead to malfunction.
- Consult your dealer before using in places where much cigarette smoke or dust is present.
- When the altitude of the installation location exceeds 2600 m, the brightness (luminance) of the light source automatically decreases as the altitude increases.
- When the ambient temperature is high, the brightness (luminance) of the light source may automatically decrease due to the unit's protection function.
- When the same still image is projected for a long period of time with a computer, etc. the pattern of the image may remain on the screen after the projection is stopped, but it will disappear after a while. This happens due to the properties of liquid crystal panels, and is not a malfunction. We recommend using a screensaver on the computer side.
- When using the projector at altitudes of about 5577 feet/1700 meters or higher, be sure to set the [FAN MODE] to [HIGH ALTITUDE]. If not, the inside of the projector may get hot, leading to malfunction.
- When the projector is used at high altitudes (places where the atmospheric pressure is low), it may be necessary to replace the optical parts sooner than usual.
- About moving the projector
  - Do not subject the projector to vibrations or strong shocks.
  The projector could be damaged otherwise.
- Do not use the tilt feet for purposes other than adjusting the projector's tilt.
  Improper handling, such as carrying the projector by the tilt feet or using it leaned against a wall, could lead to malfunction.
- The projector does not support stack installation. Do not stack projectors directly on top of each other. Failure to do so may cause damage or failure.
- Do not touch the surface of the projection lens with bare hands.
  Fingerprints or dirt on the surface of the projection lens will be enlarged and projected on the screen. Do not touch the surface of the projection lens.
- Do not unplug the power cord from the projector or the power outlet while projecting. Doing so could cause deterioration of the projector's AC IN terminal or power plug contact. To interrupt the AC power supply while images are being projected, use a breaker, etc.
- About handling of the remote control
  - The remote control will not work if the projector's remote signal sensor or the remote control's signal transmitter is exposed to strong light or if there are obstacles between them that obstruct the signals.
  - Operate the remote control from within 6 meters (19.7 feet) from the projector, pointing it at the projector's remote signal sensor.
  - Do not drop the remote control or handle it improperly.
  - Do not let water or other liquids get on the remote control. Should the remote control get wet, wipe it off immediately.
  - Avoid using in hot and humid places as far as possible.
- Take measures to prevent external light from shining on the screen.
  Make sure only the light from the projector shines on the screen. The less external light on the screen, the higher the contrast and the more beautiful the images.
- About screens
  Images will not be clear if there is dirt, scratches, discoloration, etc. on your screen. Handle the screen with care, protecting it from volatile substances, scratches and dirt.

Clearance for Installing the Projector

• When installing the projector, keep sufficient space around it, as described below. If not, the hot exhaust emitted from the projector may be taken back in.
Also, make sure no wind from an air-conditioner hits the projector.
The projector's heat control system may detect an abnormality (temperature error) and automatically shut off the power.
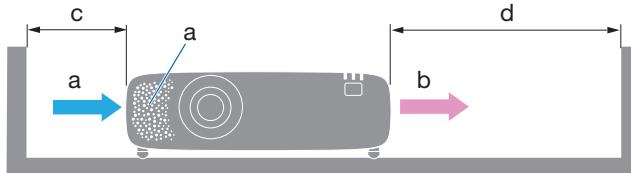
a: Intake vent / b: Exhaust vent / c: 50 cm/19.7" or greater / d: 100 cm/39.4" or greater

NOTE:
• In the above figure, it is assumed that there is sufficient space above the projector.

About Copyright of original projected pictures:

Please note that using this projector for the purpose of commercial gain or the attraction of public attention in a venue such as a coffee shop or hotel and employing compression or expansion of the screen image with the following functions may raise concern about the infringement of copyrights which are protected by copyright law.
[ASPECT RATIO], [KEYSTONE], Magnifying feature and other similar features.

Power management function

The projector has power management functions. To reduce power consumption, the power management functions (1 and 2) are factory preset as shown below. To control the projector from an external device via a LAN or serial cable connection, use the on-screen menu to change the settings for 1 and 2.

1. STANDBY MODE (Factory preset: NORMAL)
To control the projector from an external device, select [NETWORK STANDBY] or [SLEEP] for [STANDBY MODE].

2. POWER MANAGEMENT (Factory preset: READY)
To control the projector from an external device, select [OFF] for [POWER MANAGEMENT].

NOTE:
• If [POWER MANAGEMENT] mode is set to [READY] or [SHUT DOWN], the projector will automatically turn off if no input signal is received or the projector is not operated within the time set for [TIMER] and [READY COUNTDOWN] in the same settings.

REGISTER YOUR PROJECTOR! (for residents in the United States and Mexico)

Please take time to register your new projector. This will activate your limited parts and labor warranty and InstaCare service program.

Visit our website at https://proavreg.sharpusa.com and submit your completed form online.

Upon receipt, we will send a confirmation letter with all the details you will need to take advantage of fast, reliable warranty and service programs from the industry leader, Sharp Imaging and Information Company of America.

Registration Information and Software License

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- Apple, Mac, MacBook, and iMac are trademarks of Apple Inc. registered in the U.S. and other countries.
- Microsoft, Windows, and PowerPoint are either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.
- AMX is a registered trademark of AMX LLC of the United States.
- Trademark PJLink is a trademark applied for trademark rights in Japan, the United States of America and other countries and areas.
- Blu-ray is a trademark of Blu-ray Disc Association.
- CRESTRON and CRESTRON ROOMVIEW are trademarks or registered trademarks of Crestron Electronics, Inc. in the United States and other countries.
- Other product and company names mentioned in this user's manual may be the trademarks or registered trademarks of their respective holders.
- GPL/LGPL Software Licenses

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  For more information on each software, visit our web site.

  https://sharp-displays.jp.sharp/dl/en/pj_manual/lineup.html

1. Check the product overview, supplied items and part names

1-1. Introduction to the Projector

This section introduces you to your new projector and describes the features and controls.

General

- **Liquid crystal type high brightness/high resolution projector**

Model name	Brightness	Resolution	Aspect ratio
E501U-W	5000 lm (Center 5300 lm)	WUXGA (1920 × 1200 pixels)	16:10

- **Compact and lightweight**

  Main unit dimensions: 390 (W) x 128 (H) x 294 (D) mm (including protrusions)

  Main unit weight: 5 kg

Light source and brightness

- **Long-life laser light source**

  The laser light source has a long lifespan, so no maintenance procedures such as replacing the light source or making adjustments are necessary for an extended period, thereby reducing operation costs.

- **Brightness adjustable over a wide range**

  Unlike lamps, the output can be adjusted from 100% to 50% in 1% increments.

Installation

- **360-degree vertical installation, portrait projection possible**

  This unit can be installed at any angle in the 360-degree vertical direction.

  When installing the unit at an angle, use fittings with sufficient strength.

  In addition, portrait projection with the projected image tilted 90 degrees is possible. Be sure to build and install on a dedicated stand.

- **Rich keystone correction functions**

  This unit is equipped with rich keystone correction functions (horizontal/vertical keystone correction, cornerstone correction and warping), enabling projection on non-flat screens.

- **Built-in 16-watt monaural speaker**

  The projector has a built-in 16-watt monaural speaker for listening and viewing in meeting rooms and classrooms.

Picture

- **Two HDMI input terminals**

  This projectors is equipped with two HDMI input terminals.

  The projector's HDMI input terminals are HDCP compatible.

- **Viewer function for projecting images saved on USB flash drives**

  Images on a commercially available USB flash drive can be projected from this unit by inserting a USB flash drive with images stored on it into the USB port (Type A). This allows for presentations without using a computer.

Network

- **Wired LAN compatible**

  The projector is equipped with a LAN port (RJ-45) so it can be connected by wired LAN and controlled from a computer.

- **Supports convenient application software**

  The projector supports the NaViSet Administrator 2 application software. The projector's status can be monitored and various functions controlled from a computer connected via wired LAN.

- **Compatible with CRESTRON ROOMVIEW®**

  This projector is compatible with CRESTRON ROOMVIEW®. Multiple devices connected to the network can be managed and controlled from a computer or controller.

Energy saving

- **Energy-saving design with 0.5-watt or less power consumption in standby**

  When the standby mode in the on-screen menu is set to [NORMAL] (this projector's factory default), the power consumption in the standby mode is set to 0.5 watts or less.

- **LIGHT MODE reduces operating noise and power consumption**

  Setting [LIGHT MODE] in the on-screen menu to [SILENT 1], [SILENT 2], or [LONG LIFE] will reduce the brightness of the light source to reduce operating noise and power consumption.

- **The light source automatically turns off if no signal is input or no operation is performed within the set time.**

  When [POWER MANAGEMENT] in the on-screen menu is set to [READY] (this projector's factory default) or "Shut Down", the light source and the power can be automatically turned off if no signal is input or no operation is performed within the set time, reducing power consumption.
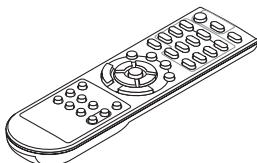
1-2. What's in the Box?

Make sure your box contains everything listed. If any pieces are missing, contact your dealer. Please save the original box and packing materials if you ever need to ship your projector.
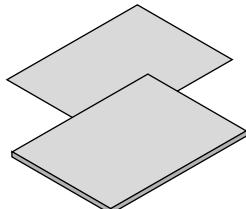
Projector
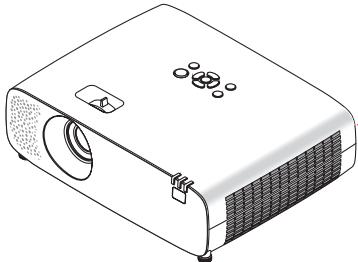
Remote control

AAA alkaline batteries (× 2)

Power cord

Plug type	
For USA	For EU

- **Important Infomation**
  (For North America: TINS-0107VW02)
  (For Other countries than North America: TINS-0107VW02 and TINS-0108VW02)
- **Safety Cautions**
  (For Europe)
- **Quick Setup Guide**
- **Security Sticker**
  (Use this sticker when security password is set on.)
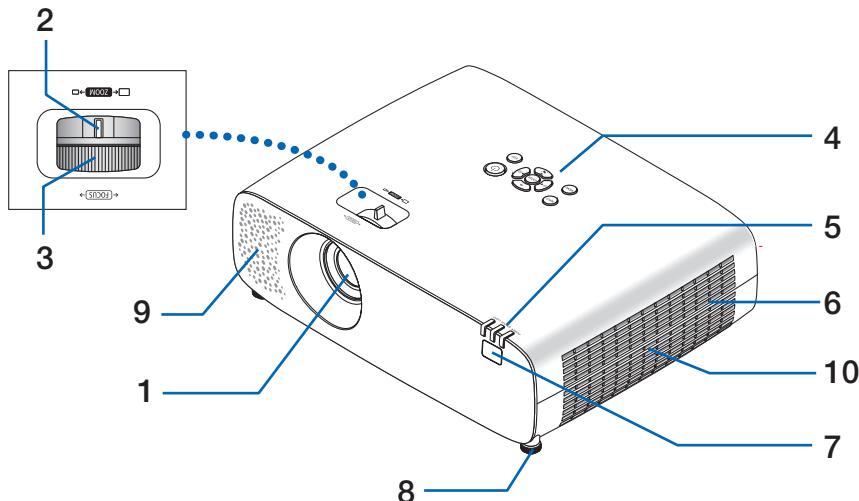

For USA only
Limited warranty
For customers in Europe
You will find our current valid Guarantee Policy on our website:
https://sharpdisplays.eu

1-3. Part Names of the Projector

Front

1. Lens

The picture is projected from here.

2. Zoom lever

Adjusts the size of the projected image.
(→ Page 23)

3. Focus ring

Adjusts the picture's focus. (→ Page 23)

4. Main unit control panel

This is used to turn the projector's power on and off, to switch the projected video signal, etc. (→ Page 6)

5. Indicators

The indicators show the projector's operating status. (→ Pages 7, 100)

6. Speaker (monaural)

Outputs the audio input from the HDMI1 and 2 input terminals. (→ Page 28)

7. Remote control signal sensors

Signals from the remote control are received here. There are two sensors, one each on the front and rear panels.

8. Tilt feet

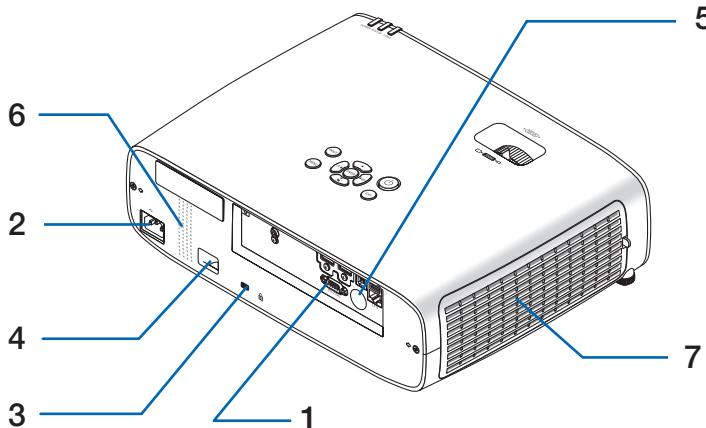Use the tilt feet to adjust the projector's vertical and horizontal tilt. (→ Page 24)

9. Air intake vent

Draws in outside air to cool the inside of the projector.

10. Exhaust vent

Exhausts the internal heat.

Rear

1. Connection terminals

Connect the various video and audio signal cables here. (→ Page 8)

2. AC IN terminal

Connect the included power cord here. (→ Page 17)

3. Security Slot (🔒)*

This is used when attaching an anti-theft cable.

4. Security bar

The projector's security bar supports thicknesses of up to approximately 5 mm in diameter.

Attach the security cable (or wire).

5. Remote control signal sensor

Signals from the remote control are received here. There are two sensors, one each on the front and rear panels.
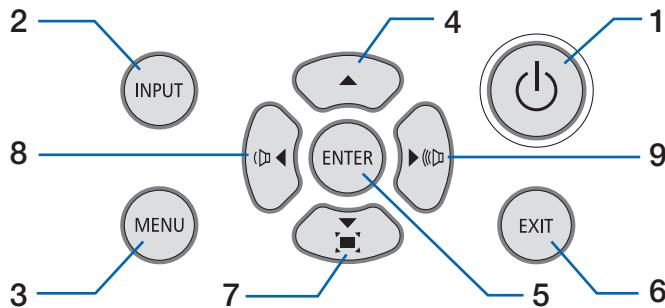
6. Air intake vent

Draws in outside air to cool the inside of the projector.

7. Air intake vent (filter)

Draws in outside air to cool the inside of the projector. (→ Page 80)

* Security and theft protection lock compatible with Kensington security cables/equipment. For products, visit Kensington's website.

Controls

1. ⏻ **(Power) button**

Turns the unit power on and off (standby mode).

To turn off the power (put it in standby mode), press the button once. A confirmation message will appear on the screen. Now press the (⏻) button again.

2. INPUT button

When pressed while the on-screen menu is not displayed, the input terminal screen is displayed.

3. MENU button

Displays the on-screen menu for performing various settings and adjustments. (→ Page 38)

When pressed while the on-screen menu is displayed, the menu turns off.

4. ▼▲◀▶ buttons

When the on-screen menu is displayed, pressing the ▼▲◀▶ buttons allows you to select the item you want to set or adjust.

5. ENTER button

When the on-screen menu is displayed, advances to the next level of the menu and confirms the selected item.

When the confirmation message is displayed, confirms the item.

6. EXIT button

When the on-screen menu is displayed, returns to the previous level of the menu.

7. ▗■▖ (Keystone Correction) button

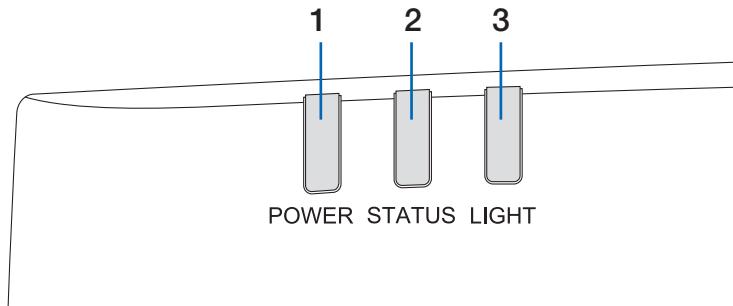When pressed while the on-screen menu is not displayed, adjusts the trapezoidal distortion. (→ Page 25)

8. ◁📢 (Volume –) button

When pressed while the on-screen menu is not displayed, adjusts the volume. (→ Page 28)

9. 📢))) (Volume +) button

When pressed while the on-screen menu is not displayed, adjusts the volume. (→ Page 28)

Indicators

1   2   3

POWER STATUS LIGHT

1. **POWER indicator**

    This indicator shows the projector's power status.

    The indicator is lit blue when the power is on.

    In standby, it is lit or flashing orange, or lit green. (This depends on on-screen menu's [STANDBY MODE] setting.)

2. **STATUS indicator**
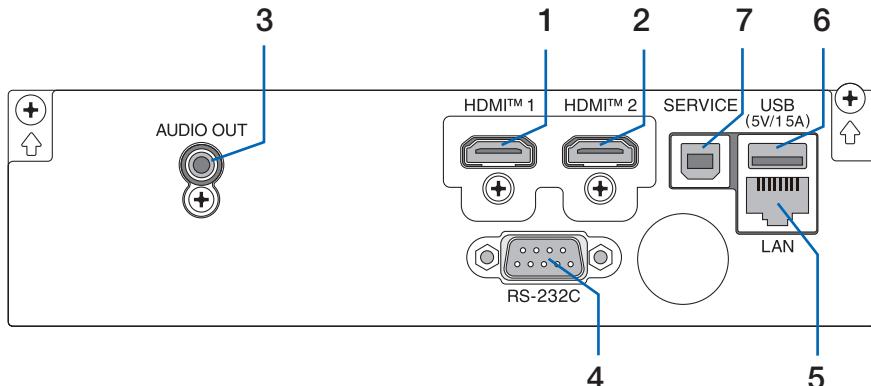
    This notifies of unit abnormalities.

3. **LIGHT indicator**

    This indicates the setting status of the on-screen menu's [LIGHT MODE] or a light source abnormality.

TIP:
- For details, refer to the "List of Indicator Displays".
  (→ Page 100)

7

Terminal Panel Features

1. **HDMI1 input terminal (Type A)**

   Connect this to the output terminal of devices such as Blu-ray players or digital broadcast tuners.

   The audio output from this unit's speaker is monaural.

2. **HDMI2 input terminal (Type A)**

   Connect this to the output terminal of devices such as Blu-ray players or digital broadcast tuners.

   The audio output from this unit's speaker is monaural.

3. **Audio output terminal (mini stereo)**

   This outputs the audio signal of the video being projected from the projector.

   - This unit's audio output terminal is not for headphones.
   - If an audio cable is connected to this unit's audio output terminal, no sound will be output from the unit's speaker.

4. **RS-232C terminal (D-Sub 9-pin)**

   This is used to operate the projector from a computer.

5. **LAN port (RJ-45)**

   Use this to connect the projector to a wired LAN.

   - The projector's HTTP server function can be used to control the projector using a web browser on a computer. (→ Page 73)
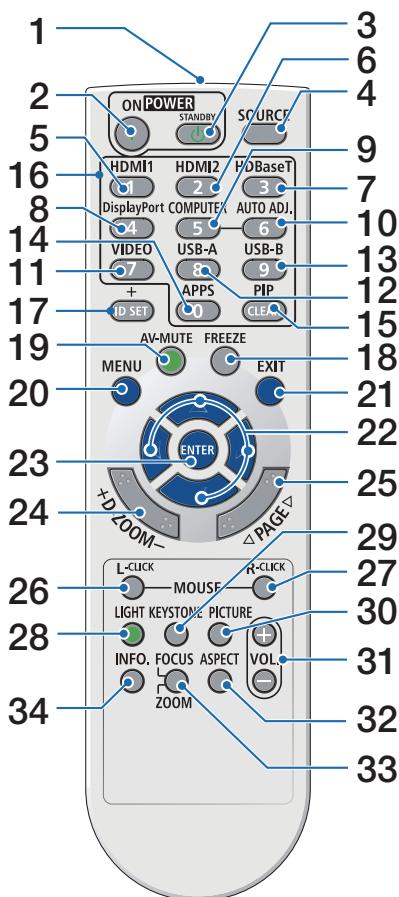
6. **USB port (Type A)**

   - A USB memory stick containing images can be inserted here to project slides using the viewer function. (→ Page 35)
   - When the projector is turned on, 5.0 V / 1.5 A power is supplied.

7. **SERVICE terminal (Type B)**

   This terminal is for service personnel only. Customers cannot use it.

1-4. Part Names of the Remote Control

1. **Infrared Transmitter**

   Infrared remote control signals are transmitted from here.

   Point the remote control toward the signal sensor on the main unit when operating it.

2. **POWER ON (|) Button**

   When in the standby mode (with the POWER indicator flashing orange*), turns the projector's power on.

   (*When the standby mode is set to [NORMAL])

3. **POWER STANDBY ⏻ Button**

   When pressed once, the power off confirmation message is displayed. When pressed again the projector's power turns off (standby mode).

4. **SOURCE Button**

   Displays the input terminal screen.

5. **HDMI1 Button**

   Selects the HDMI1 input.

6. **HDMI2 Button**

   Selects the HDMI2 input.

7. **HDBaseT Button**

   (This button does not work in this projector.)

8. **DisplayPort Button**

   (This button does not work in this projector.)

9. **COMPUTER Button**

   (This button does not work in this projector.)

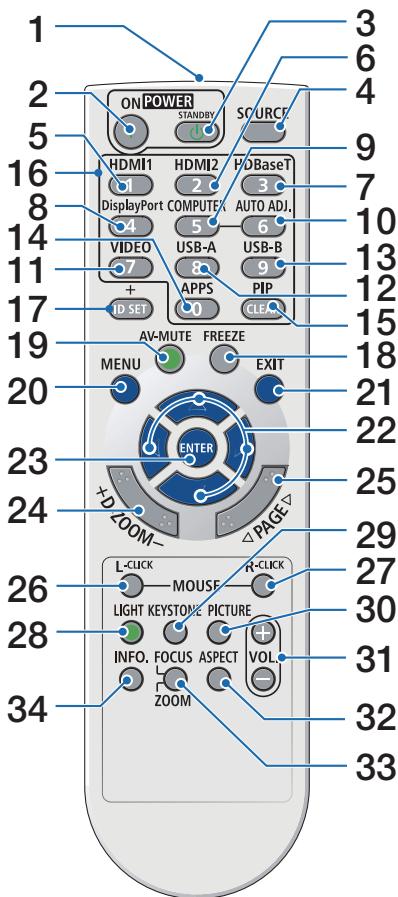10. **AUTO ADJ. Button**

    (This button does not work in this projector.)

11. **VIDEO Button**

    (This button does not work in this projector.)

12. **USB-A Button**

    Selects the viewer. (→ Page 35)

13. USB-B Button

(This button does not work in this projector.)

14. APPS Button

(This button does not work in this projector.)

15. PIP Button

(This button does not work in this projector.)

16. Numeric Keypad Button/CLEAR Button

Used for inputting IDs when setting the control ID.

The CLEAR button is used to cancel the control ID setting.

17. ID SET Button

Used for setting the control ID when operating multiple projectors individually with this unit's remote control. (→ Page 65)

18. FREEZE Button

Displays the image as a still picture.

Press again to return.

19. AV-MUTE Button

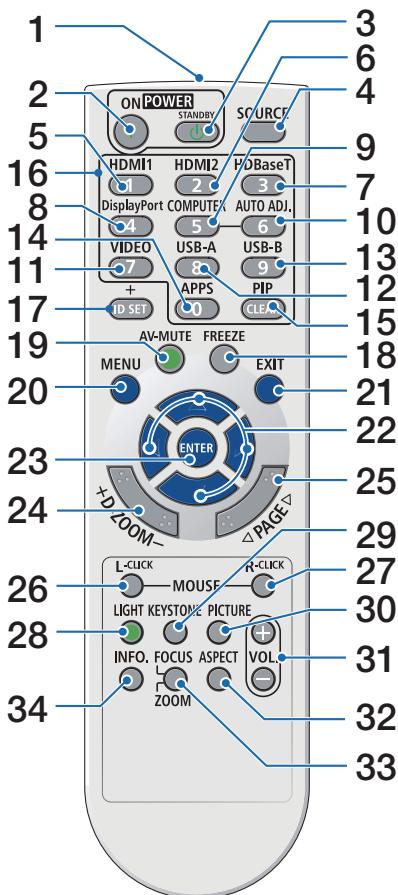Temporarily mutes the picture and sound. Press again to return.

20. MENU Button

Displays the on-screen menu for performing various settings and adjustments.

21. EXIT Button

When the on-screen menu is displayed, returns to the previous level of the menu. When the cursor is on the main menu, closes the menu.

When a confirmation message is displayed, cancels the operation.

22. ▼▲◀▶ Buttons

These are used for on-screen menu operations, adjusting the display position when zooming in on the screen using the D-ZOOM (+)(-) buttons, and switching slide screens with the viewer.

23. ENTER Button

When the on-screen menu is displayed, advances to the next level of the menu.

When the confirmation message is displayed, confirms the item.

24. D-ZOOM (+)(−) Button

Use these to enlarge and reduce (return to the original size) the screen.

When the screen is zoomed in, you can move the display position using the ▼▲◀▶ buttons.

25. PAGE ▽/△ Buttons

(This button does not work in this projector.)

26. MOUSE L-CLICK Button

(This button does not work in this projector.)

27. MOUSE R-CLICK Button

(This button does not work in this projector.)

28. LIGHT Button

This switches the light mode. (→ Page 33)

29. KEYSTONE Button

Displays the keystone correction menu. (→ Page 25)
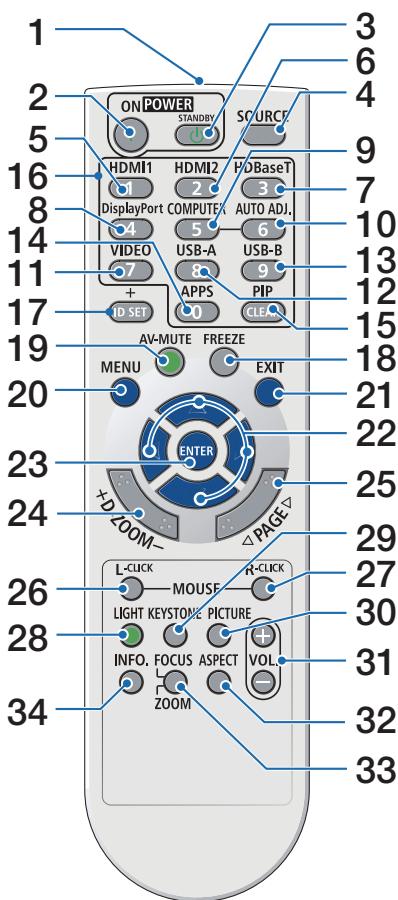
30. PICTURE Button

This switches the picture management mode. (→ Page 45)

31. VOL. (+)(−) Button

These adjust the volume of the built-in speaker. They also adjust the volume of the audio output terminal.

32. ASPECT Button

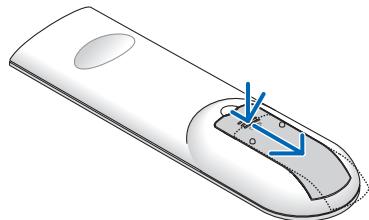This switches the aspect ratio. (→ Page 48)

33. FOCUS/ZOOM Button

(This button does not work in this projector.)
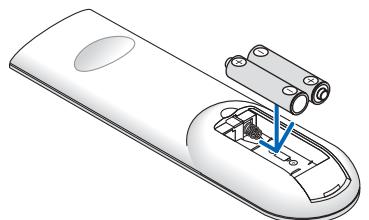
34. INFO. Button

Displays the information screen. (→ Page 70)

Battery Installation

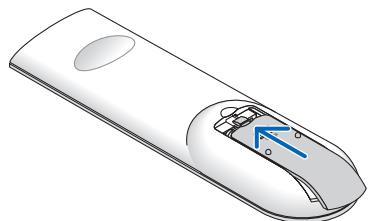**1. Press firmly and slide the battery cover off.**

2. Install AAA alkaline batteries. Ensure that you have the batteries' polarity (+/−) aligned correctly.

3. Slip the cover back over the batteries until it snaps into place. Do not mix different types of batteries or new and old batteries.

• When replacing the batteries, purchase 2 of the same type of AAA alkaline batteries.
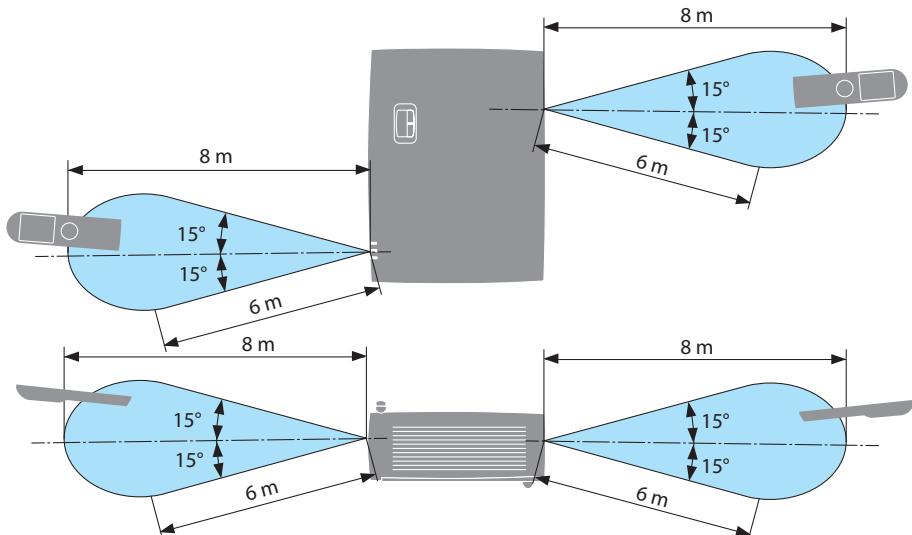
Remote Control Precautions

• Handle the remote control carefully.
• If the remote control gets wet, wipe it dry immediately.
• Avoid excessive heat and humidity.
• Do not short, heat, or take apart batteries.
• Do not throw batteries into fire.
• If you will not be using the remote control for a long time, remove the batteries.
• Ensure that you have the batteries' polarity (+/−) aligned correctly.
• Do not use new and old batteries together, or use different types of batteries together.
• Dispose of used batteries according to your local regulations.

Operating Range for Wireless Remote Control

Point the remote control's transmitter towards the remote control sensor on the main unit when operating it. Approximately
Remote control signals can be received within the range shown below.

Reception range

This diagram is an illustration of the effective range and may differ slightly from the actual range.

NOTE:
• For precautions on using the remote control, please refer to page xix.

2. Projecting an Image (Basic Operation)

This section describes how to turn on the projector and to project a picture onto the screen.

2-1. Flow of Projecting an Image

Step 1

• **Connecting your computer / Connecting the power cord (→ page 16)**

⬇

Step 2

• **Turning on the projector (→ page 18)**

⬇

Step 3

• **Selecting a source (→ page 20)**

⬇

Step 4

• **Adjusting the picture size and position (→ page 22)**
• **Correcting keystone distortion (→ page 25)**

⬇

Step 5

• **Turning up or down volume (→ page 28)**

⬇

Step 6

• **Making a presentation**

⬇

Step 7

• **Turning off the projector (→ page 29)**

⬇

Step 8

• **When Moving the Projector (→ page 30)**

2-2. Connecting Your Computer/Connecting the Power Cord

1. Connect your computer to the projector.

This section will show you a basic connection to a computer. For information about other connections, see "6. Making Connections" on page 71.

Connect a commercially available HDMI cable between the computer's HDMI output connector and the projector's HDMI 1 or HDMI 2 connector.

2. Connect the supplied power cord to the projector.

First connect the supplied power cord's three-pin plug to the AC IN terminal of the projector, and then connect another plug of the supplied power cord directly in the wall outlet. Do not use any plug converter.
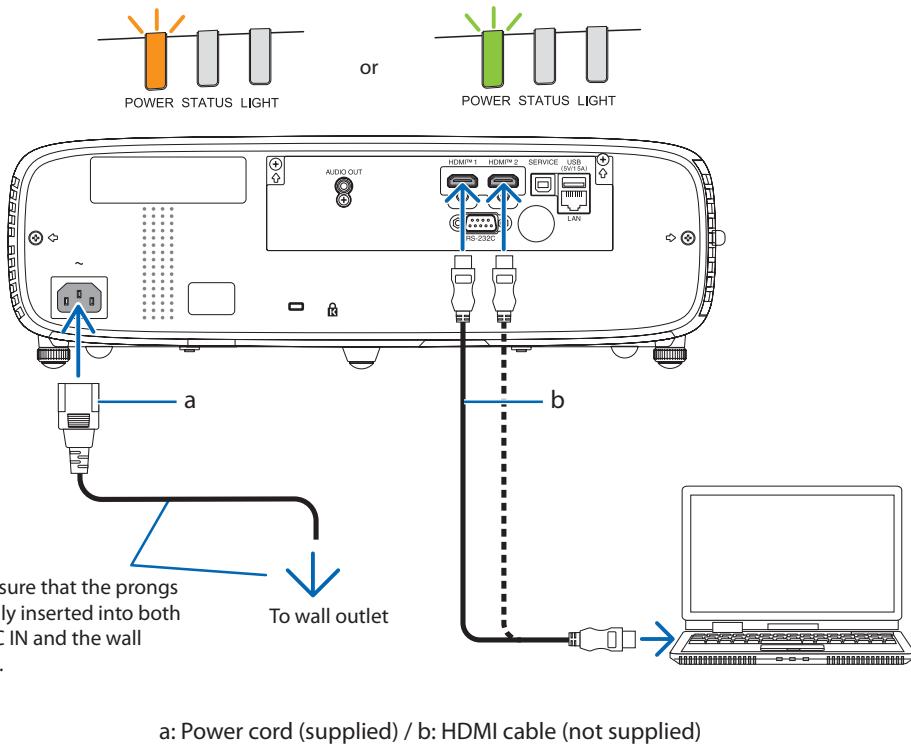

⚠️ **CAUTION:**

- This equipment is designed to be used in the condition of the power cord connected to earth. If the power cord is not connected to the earth, it may cause electric shock. Please make sure the power cord is connected to the wall outlet directly and earthed properly. Do not use a 2-core plug converter adapter.
- Be sure to connect the projector and the computer (signal source) to the same earth point. If the projector and the computer (signal source) will be connected to different earth points, fluctuations in the earth potential may cause fire or smoke.

Depending on the standby mode, the power indicator of this projector will light up in either green or orange, or blink orange. Refer to the "Indicator Message" section for details.

POWER   STATUS   LIGHT   or   POWER   STATUS   LIGHT

a

b

Make sure that the prongs are fully inserted into both the AC IN and the wall outlet.

To wall outlet

a: Power cord (supplied) / b: HDMI cable (not supplied)

⚠ **CAUTION:**

Parts of the projector may become temporarily heated if the projector is turned off with the POWER button. Be careful to handle the projector.

2-3. Turning on the Projector

> ⚠️ **WARNING**
>
> The projector projects a strong light. When turning on the power, make sure there is no one looking at the lens within the projection range.

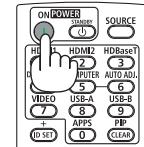**1. Press the ⏻ (Power) button.**

The power indicator lights blue, and the picture is projected onto the screen.

- When operating from the remote control, press the power on (|) button.

- If no signal is being input, a blue screen is displayed. (this projector's factory defaults)

- If the picture is blurry, turn the focus ring to focus the screen. (→ Page 23)
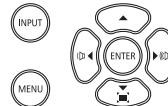
Projector unit   Remote control

NOTE:
- Do not block the light during operation by placing objects in front of the lens. The object may become hot, leading to damage or fire.
  Furthermore, the reflected light may cause the projector lens to become hot, potentially deforming the lens.
 To temporarily turn off the screen during projection, press the "AV-MUTE" button on the remote control. To redisplay the screen, press the "AV-MUTE" button once more.
- In the cases below, the power will not turn on even if you press the ⏻ button.
  - If the internal temperature is abnormally high, the power will not turn on for protection. Please wait for a while (until the internal temperature lowers) before turning on the power.
  - If the status indicator lights up orange while the ⏻ button is pressed, the control panel is locked. Unlock the control panel. (→ Page 52)

To select a menu language, follow these steps:

1. **Press the MENU button on the remote control or the main unit's control panel.**

   The on-screen menu is displayed.
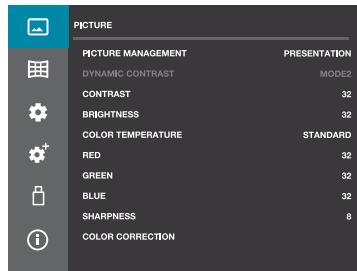
2. **Use the ▲/▼ buttons to move the cursor to the [SETUP(2)] icon, then press the ENTER button or the ▶ button.**

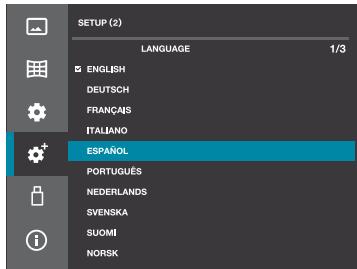   The [SETUP(2)] menu is displayed.
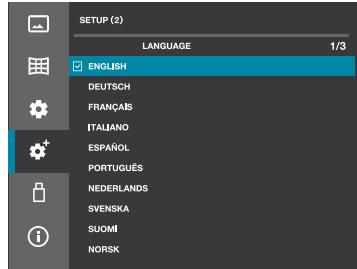
3. **Check that the cursor is set to [LANGUAGE], then press the ENTER button or the ▶ button.**

   The list of display languages is displayed.

4. **Use the ▲ or ▼ button to select one of the 25 languages from the menu.**

5. **Press the ENTER button to execute the selection.**

   After this has been done, you can proceed to the menu operation.
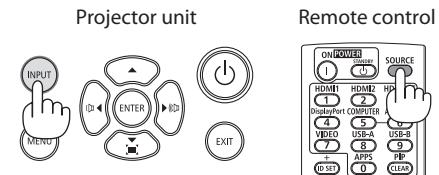
2-4. Selecting a Source

Selecting by pressing the input selector button

1. **Turn on the power of the computer or DVD player connected to the projector.**

   To project the picture from a DVD player, etc., perform the playback (PLAY) operation.

2. **Press the INPUT (input selector) button.**

   The input terminal screen is displayed.

   Projector unit   Remote control

3. **Use the ▲/▼ buttons to move the cursor to the terminal whose picture you want to project, then press the ENTER button.**

   ☑ HDMI 1

   HDMI 2

   USB-A
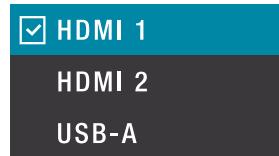
Selecting by pressing the HDMI1 or HDMI2 button on the remote control

1. **Turn on the power of the computer or DVD player connected to the projector.**

   To project the picture from a DVD player, etc., perform the playback (PLAY) operation.
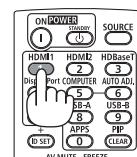
2. **Press the HDMI1 or HDMI2 button on the remote control.**

20

TIP:
- If no signal is being input, a blue screen is displayed. (this projector's factory defaults)

  For DVD players, etc., perform the playback (PLAY) operation.
- If a notebook computer's screen cannot be projected properly

  Switch the notebook computer's external output (monitor output) setting to external.
    - For Windows notebook computers, the external output can be enabled and disabled using a combination of the [Fn] key with one of the 12 function keys.

  Examples of computer brands and key operations

[Fn] + [F5]	Dynabook
[Fn] + [F8]	DELL

  * For detailed operations, please refer to your computer's User's Manual.
    - For Apple MacBooks, set video mirroring.
    - If the picture is still not projected, select the input terminal again. (→ Previous page)

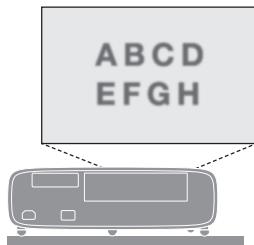## 2-5. Adjusting the position and size of the projected image

Adjust the position and size of the projected image by operating the focus ring, zoom lever, tilt feet, etc.
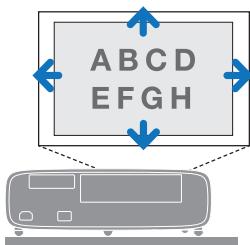
⚠ **CAUTION**	Perform the adjustment from behind or from the side of the projector. If adjustments are performed from the front, your eyes could be exposed to strong light and get injured.

Adjusting the focus of the projected image [Focus Ring] (→ Next page)	Adjusting the size of the projected image [Zoom Lever] (→ Next page)
A B C D E F G H	**A B C D E F G H**
Adjusting the height of the projected image [Tilt Feet] (→ Page 24)	Adjusting the horizontal tilt of the projected image [Tilt Feet] (→ Page 24)
	A B C D E F G H
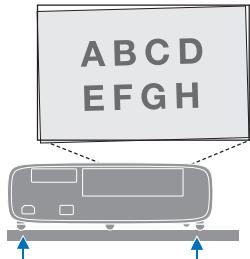
Correcting trapezoidal distortion of the projected image
[Keystone Correction] (→ Page 25)

A B C D E F G H ➡ **A B C D E F G H**
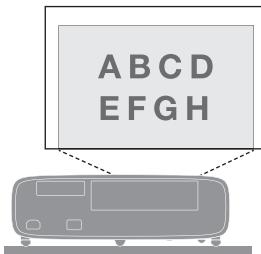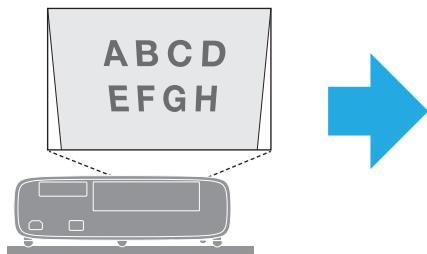
* The illustrations here do not show the cables connected to the projector.

Adjusting the focus of the projected image (focus ring)

1. Turn the focus ring left and right to adjust the focus.

Focus ring
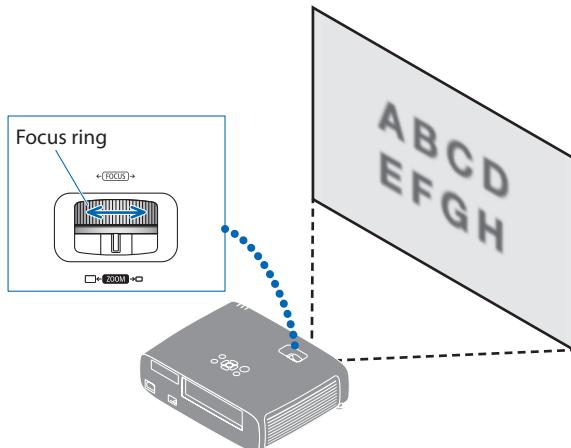
NOTE:
• When adjusting the focus, pay attention to the balance, looking at the entire projected screen. If you only focus on the center of the projected image, the periphery may be blurry.

Adjusting the size of the projected image (zoom lever)

1. Move the zoom lever left and right.

Zoom lever
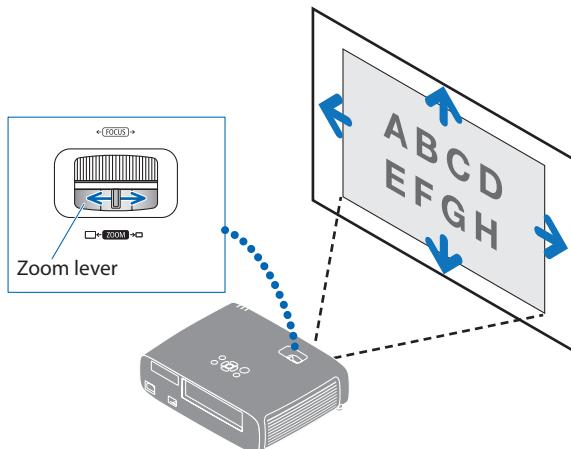
Adjusting the height and left/right tilt of the projected image (Tilt feet)

1. Adjust by rotating the tilt feet located on the left and right sides of the front of the projector.

Rotating the tilt feet extends and retracts them.

Turn both the left and right tilt feet to adjust the height of the projected image.

If the projected image is tilted, rotate one of the tilt feet to adjust it horizontally.

- If the projected image is distorted, refer to "2-6. Adjusting for Trapezoidal Distortion (Keystone Correction)".
- The tilt feet can be extended up to 18 mm.
- The tilt feet allow the projector to be tilted by up to approximately 3.5 degrees.

Maximum length 18 mm

Maximum angle 3.5 degrees
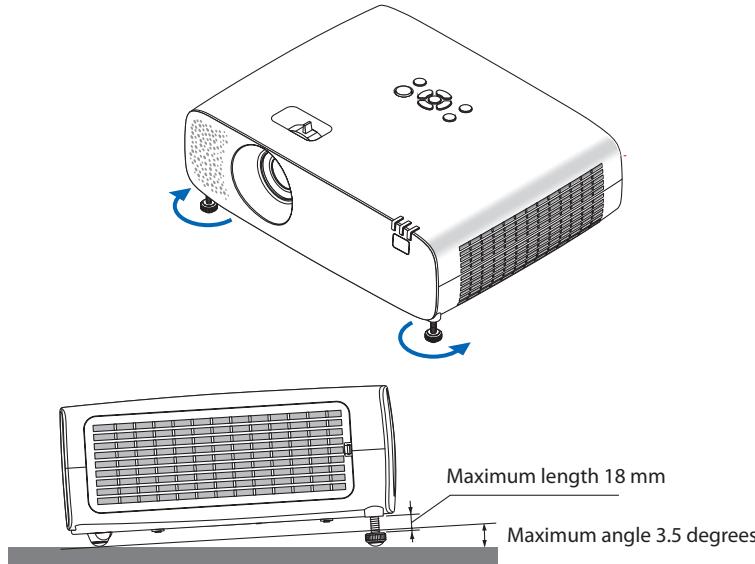
NOTE:
- Do not touch the exhaust port while adjusting the tilt feet. The projector may be hot when it is on, and also after it has been turned off.
- Do not extend the tilt feet by more than 18 mm. Exceeding 18 mm will make the tilt foot mounting unstable, and the tilt foot could come detached from the projector.
- Do not use the tilt feet for any purpose other than adjusting the projector's projection angle.
  Incorrect handling, such as carrying the unit by the tilt feet or using them to suspend the projector from a wall, can cause damage.

2-6. Adjusting for Trapezoidal Distortion (Keystone Correction)

Trapezoidal distortion of the projected image can be adjusted using the keystone correction function. This section describes the procedure for the "Horizontal/Vertical Keystone Correction" function.

About the types of keystone correction functions on this projector

This projector has the five types of keystone correction functions described below.

- Some of the five correction functions cannot be combined for adjustment.
  If you select a correction function that cannot be combined, the correction state will be reset automatically.
- For details on each correction function, refer to page .
- The keystone corrected state is retained even after the projector's power is turned off (The factory default setting for [KEYSTONE] is [STORE]). To reverse keystone correction, perform the resetting procedure.

H/V KEYSTONE	Use the ▲▼◄► buttons to adjust for horizontal and vertical trapezoidal distortion.
CORNERSTONE	Adjust the trapezoidal distortion for the four corners of the projected image using the ▲▼◄► buttons.
VERTICAL CORNER	Use the ▲▼◄► buttons to adjust the trapezoidal distortion for a total of six points, consisting of the four corners of the projected image plus two points in the center of the upper and lower edges.
PINCUSHION	Adjust the curved distortion when projecting images onto a curved surface.
GRID IMAGE TUNE	Select multiple adjustment points displayed on the projected image to adjust for distortion.
RESET	This restores the adjusted image to its original state.

Performing Horizontal/Vertical Keystone Correction

1. Press the ▼ (▣) button on the main unit's control panel.

The "KEYSTONE" menu is displayed.

- When operating from the remote control, press the KEYSTONE button.

Projector unit   Remote control

| **H/V KEYSTONE** |
| CORNERSTONE |
| VERTICAL CORNER |
| PINCUSHION |
| GRID IMAGE TUNE |
| RESET |
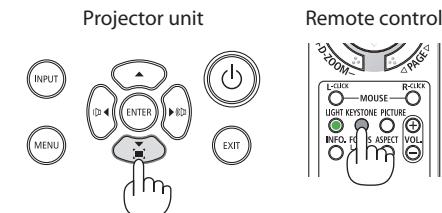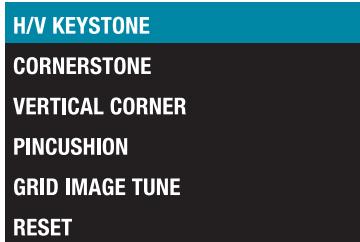
2. Use the ▲/▼ buttons to move the cursor to [H/V KEYSTONE], then press the ENTER button.

The [H/V KEYSTONE] screen appears at the center of the projected image.

H/V KEYSTONE

Screen frame   Projected image

3. While the [H/V KEYSTONE] screen is displayed, use the ◀/▶ buttons to adjust the left/right tilt of the projected image.

- The triangular mark on the [H/V KEYSTONE] screen in the adjusted direction turns blue. A white triangular mark indicates that no adjustment has been made.

H/V KEYSTONE

- If the [H/V KEYSTONE] screen disappears, press the ▼ button (or the KEYSTONE button on the remote control) on the unit's control panel again, select [H/V KEYSTONE], and press the ENTER button.
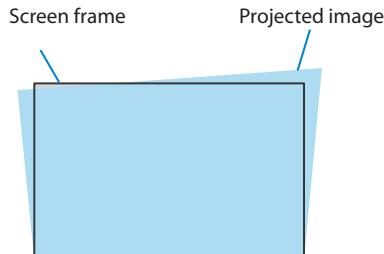
4. While the [H/V KEYSTONE] screen is displayed, use the ▲/▼ buttons to adjust the trapezoidal distortion in the vertical direction.

5. Repeat steps 3 and 4 to adjust the trapezoidal distortion of the projected image.

TIP:
- When the upper limit of horizontal/vertical keystone correction is reached, the triangular mark disappears.
- The adjustable range varies depending on the input signal source.
- When using the viewer (USB-A), the keystone correction menu cannot be displayed even by pressing the ▼ button on the main unit's control panel.

2-7. Adjusting the unit's volume

Adjust the volume of the projector's built-in speaker and the volume of the audio signal output from the audio output terminal.

Adjusting with the operation buttons on the main unit

1. **When the on-screen menu is not displayed, press the ◄ ((◻) / ► (((◻) buttons.**

    The volume adjustment bar is displayed.

(((◻ side	The volume increases.
(◻ side	The volume decreases.

    *   When the volume adjustment bar is displayed, the sound can be temporarily muted using the ▲/▼ buttons.

        To turn the sound back on, use the ◄/► buttons after the volume adjustment bar has turned off.

NOTE:
*   The volume cannot be adjusted using the ◄/► buttons when the on-screen menu is displayed and the picture is zoomed with the D-ZOOM (+) button.

Adjusting using the remote control

1. **Press the remote control's VOL. +/- buttons.**

    The volume adjustment bar is displayed.

+ side	The volume increases.
- side	The volume decreases.

    *   When the volume adjustment bar is displayed, the sound can be temporarily muted using the ▲/▼ buttons.

        To turn the sound back on, use the Volume +/- buttons after the volume adjustment bar has turned off.
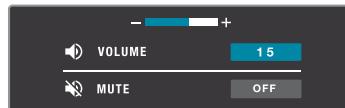   *   When the volume adjustment bar is displayed, the volume can also be adjusted using the ◄/► buttons.
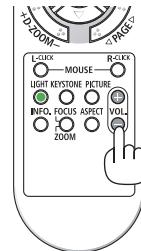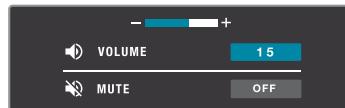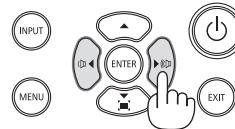
2-8. Turning off the Projector

1. Press the ⏻ button.

Projector unit   Remote control

• When operating from the remote control, press the power standby button.

The power off confirmation message is displayed on the screen.
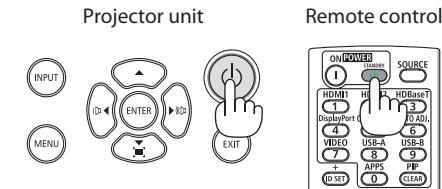
2. Press the button again.

The light source turns off, and so does the power. (Standby mode)

POWER OFF ?

YES   NO

- When operating from the remote control, press the power standby button again.

CARBON SAVING-SESSION

0.0000   [g-CO2]

- When the standby mode is set, the power indicator flashes orange. (* When the standby mode is set to [NORMAL])

- If you do not want to turn the power off, press the EXIT button.
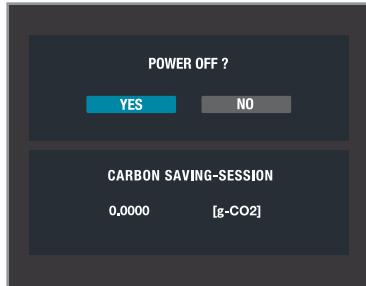
⚠ **CAUTION**	Parts of the projector may become temporarily heated if the projector is turned off with the POWER button or if the AC power supply is disconnected during normal projector operation. Use caution when picking up the projector.

NOTE:
- Do not unplug the power cord from the projector or from the power outlet while an image is being projected. Doing so could deteriorate the projector's AC IN terminal or the power plug's contact.
  To disconnect the power cord or cut off the AC power supply, first press the power button and wait until the projector is to set to the standby mode (with the power indicator lit or flashing orange or lit green).

TIP:
- If you are using the projector with the light mode set to [SILENT 1], [SILENT 2], or [LONG LIFE], a number other than 0 will be displayed for "CARBON SAVINGS-SESSION" in the power-off confirmation message.

2-9. When Moving the Projector

Preparation: Make sure that the projector is turned off.

1. **Unplug the power cord from the wall outlet.**

2. **Unplug the power cord from the projector.**

3. **Disconnect any other cables.**
   - Remove the USB memory if it is inserted into the projector.

3. Convenient Features

3-1. Muting the picture and sound (AV-MUTE)

1. **Press the AV-MUTE button on the remote control.**

   The picture being projected and the sound being output from the built-in speaker and audio output terminals are temporarily turned off.

   • Press the AV-MUTE button again to turn the picture and sound back on.
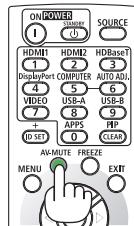
TIP:
• The sound from the audio output terminal (mini stereo) can also be turned off.
• The picture turns off, but not the menu.

3-2. Freezing a movie (still image)

1. **Press the FREEZE button on the remote control.**

   When the picture of a DVD player is being projected, the movie is frozen and a still image is displayed.
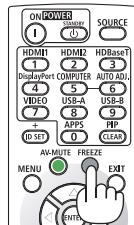
   • Press the FREEZE button again to return to the movie.

NOTE:
• This function cannot be used when the USB-A input terminal is selected.

TIP:
• When the still image mode is set, the picture being projected at that time is stored in the projector's memory and the picture (still image) stored in the memory is projected. Playback on the DVD player, etc., proceeds even while the still image is displayed.

3-3. Zooming part of the picture (Partial Zoom)

1. **Press the D-ZOOM (+) button on the remote control.**

   The picture is zoomed each time the button is pressed.

   • The picture can be zoomed to a maximum of 4 times the original size.
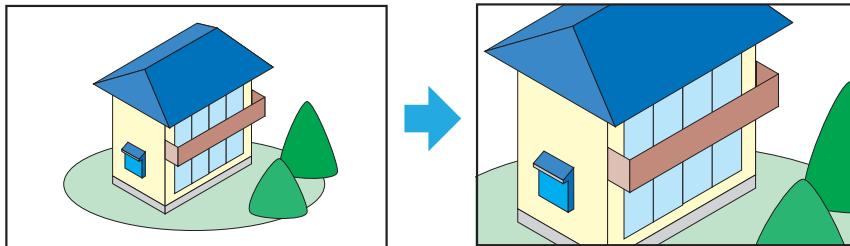
2. **Press the ▼▲◀▶ buttons.**

   The area of the picture that is zoomed moves.
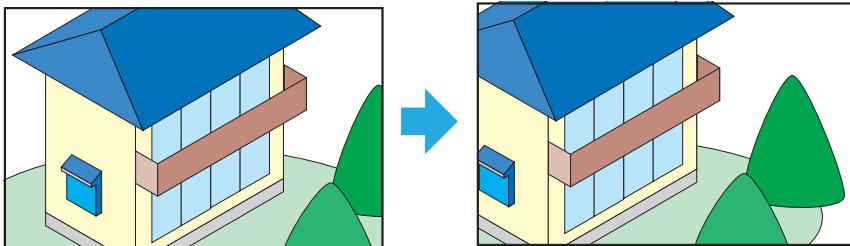
3. **Press the D-ZOOM (-) button.**

   The picture is reduced each time the button is pressed.

   • Once returned to the original size, the picture cannot be reduced any further.

NOTE:
- With some signals, it may not be possible to zoom up to 4 times the original size.
- This function cannot be used when the USB-A input terminal is selected.
- This cannot be used when displaying the projector's built-in test pattern.

TIP:
- Picture enlargement and reduction is centered at the middle of the screen.
- Partial zooming is canceled when the ASPECT button on the remote control is pressed or when [ASPECT] is selected under [DISPLAY] in the on-screen menu and the aspect rate is changed.

3-4. Adjusting the luminance (brightness) (Light mode)

This projector offers four light modes that can be selected according to the usage purpose, etc.
Also, when [NORMAL] is selected for the light mode, the luminance (brightness) output can be adjusted in 1% increments.

LIGHT MODE	NORMAL	The picture is projected onto the screen at normal brightness. Also, in the [LIGHT ADJUST] section, you can adjust the light source brightness within the range of 100% to 50%. The brightness is set to 100% upon shipment from the factory.
	SILENT 1	Lowering the brightness to approximately 80%, and reducing power consumption and operating noise.
	SILENT 2	Lowering the brightness to approximately 50%, and reducing power consumption and operating noise.
	LONG LIFE	Prioritizes extending the service life of optical components.
LIGHT ADJUST		When [NORMAL] is selected for the LIGHT MODE, the light source brightness can be adjusted within the range of 100% to 50%. When [SILENT 1], [SILENT 2] or [LONG LIFE] is selected, LIGHT ADJUST cannot be selected.

Change [LIGHT MODE]

1. Press the MENU button.

The on-screen menu is displayed.
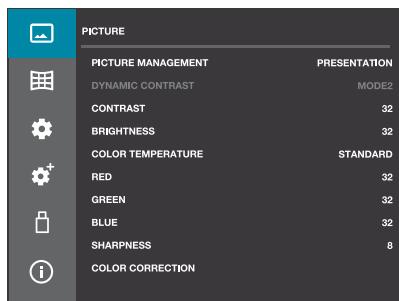
2. Use the ▲/▼ buttons to move the cursor to the [SETUP(1)] icon, then press the ENTER button or the ▶ button.

The [SETUP(1)] menu is displayed.
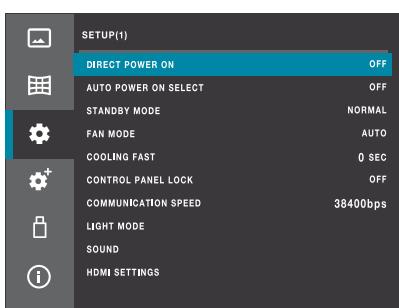
3. **Use the ▲/▼ buttons to move the cursor to [LIGHT MODE]. Press the ▲/▼ buttons to move the cursor to [LIGHT MODE], then press either the ENTER button or the ▶ button.**

SETUP(1)	
DIRECT POWER ON	OFF
AUTO POWER ON SELECT	OFF
STANDBY MODE	NORMAL
FAN MODE	AUTO
COOLING FAST	0 SEC
CONTROL PANEL LOCK	OFF
COMMUNICATION SPEED	38400bps
LIGHT MODE	↵ ...
SOUND	
HDMI SETTINGS	
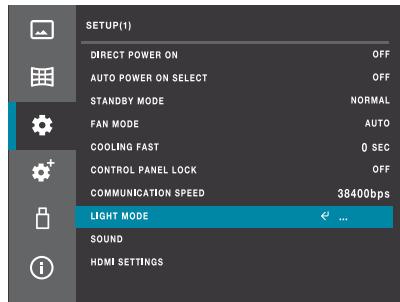
4. **Check that the cursor is set to [LIGHT MODE], then press the ENTER button.**

   "⇕" is displayed at the center of the cursor.

5. **Use the ▲/▼ buttons to display the desired mode ([NORMAL] →[SILENT 1] → [SILENT 2] → [LONG LIFE]), then press the ENTER button.**

   If [NORMAL] is selected in step 5, [LIGHT AD-JUST] can be selected. In the [LIGHT ADJUST] mode, the brightness can be increased or decreased between 100% and 50%.

SETUP(1)	
LIGHT MODE	
LIGHT MODE	⬍ NORMAL
LIGHT ADJUST	100%
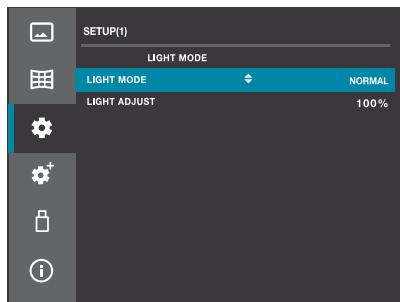
TIP:
- You can quickly switch the light mode by pressing the LIGHT button on the remote control. When you press the LIGHT button on the remote control, the currently set light mode is displayed in the upper left corner of the screen. After this, the light mode switches in the order [NORMAL] → [SILENT 1] → [SILENT 2] → [LONG LIFE] each time the LIGHT button is pressed. Note that the light adjustment setting cannot be changed with this operation.

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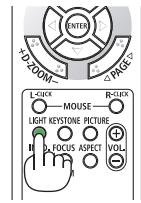
4. Using the Viewer (USB-A)

4-1. What you can do with the Viewer

The viewer has the following features:

- Images on a commercially available USB flash drive can be projected from this unit by inserting a USB flash drive with images stored on it into the USB port (Type A). Thanks to this, you can make presentations without using a computer.

- The types of images that can be projected by the viewer are JPEG, PNG, BMP, GIF, and TIFF.

- When projecting multiple images in succession (playing a slideshow), the following settings can be made:

EFFECT	This sets the direction for switching slides (right or down).
SORT ORDER	This sets the order for switching slides (by name, by time, by size or by extension).
ROTATE	This sets the direction of rotation of the image (90, 180 or 270 degrees).
BEST FIT	This sets the image's display size relative to the screen.
REPEAT	This sets the action performed after the last slide is displayed.

NOTE:

- The remote control's D-ZOOM and FREEZE buttons cannot be used on the viewer screen.
- About USB flash drives

    - Format USB flash drives to be used with the projector's viewer function in FAT32 format.
    - This unit cannot recognize USB flash drives in NTFS format.
    - If the USB memory inserted into the projector is not recognized, check its format.
    - For formatting instructions, refer to the instruction manual or help file for your Windows operating system.
    - We do not guarantee that all commercially available USB flash drives will operate with the projector's USB port.
    - Check the USB flash drive for viruses as necessary.
- Supported Images

    The images that can be projected by the viewer are as follows:

Extension	Format	Description
jpg/jpeg	Baseline encoder 24	Maximum resolution: 10000 x 10000
	Progressive RGB 24-bit	Maximum resolution: Panel resolution
bmp	1-, 4- and 8-bit palette base	Maximum resolution: 1280 x 800
	RGB24, 32-bit	
png	24- and 48-bit, true color	
gif	1-, 4- and 8-bit palette base	
tiff		

4-2. Projecting images stored on USB flash drives (basic operation)

This section explains the basic operations of the viewer. Please see page 67 for the viewer's option menu.

1. **Turn on the projector's power.**

2. **Insert the USB flash drive into the projector's USB port (USB-A).**
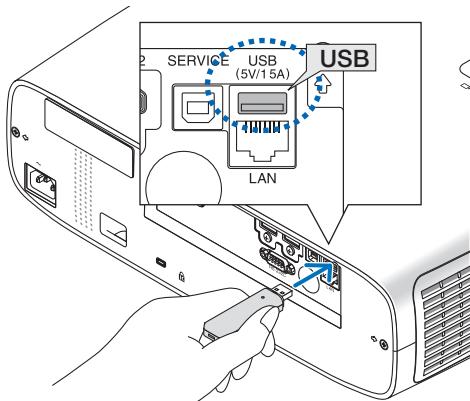
3. **Press the INPUT button.**

   The input terminal screen is displayed.

   • When operating from the remote control, press the USB-A button.

   HDMI 1

   HDMI 2
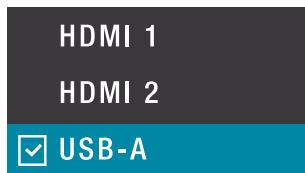
   ☑ USB-A

4. **Use the ▼/▲ buttons to select [USB-A], then press the ENTER button.**

   The screen switches to the viewer screen.

   • To exit the viewer, press the input selector button and select a terminal other than [USB-A].

5. **Press the ENTER button on the viewer screen.**

   The icons of the folders and images stored on the USB flash drive are displayed.
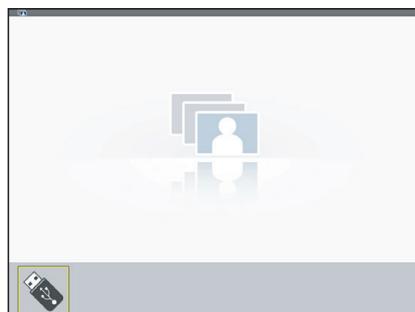
6. **Press the MENU button, then use the ▼/▲ buttons to move the cursor to the USB-A menu icon.**

    The USB-A menu is displayed.
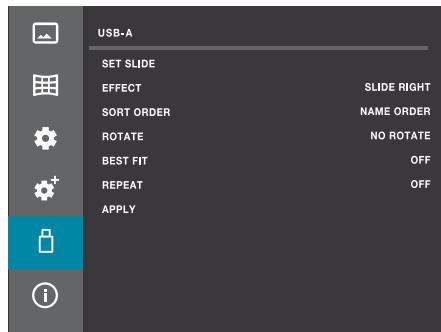
7. **Make the necessary settings for the [EF-FECT], [SORT ORDER], [ROTATE], [BEST FIT] and [REPEAT] menu items.**

USB-A	
SET SLIDE	
EFFECT	SLIDE RIGHT
SORT ORDER	NAME ORDER
ROTATE	NO ROTATE
BEST FIT	OFF
REPEAT	OFF
APPLY	

8. **Set the cursor to the [APPLY] menu item, then press the ENTER button.**

    The settings made in step 7 are applied.

9. **Set the cursor to the [SET SLIDE] menu item, then press the ENTER button.**

    Slideshow playback starts.

    • To end slideshow playback, press the EXIT button.

5. Using On-Screen Menu

5-1. Basic Operations of the On-Screen Menu

The on-screen menu can be displayed to adjust the sharpness of the projected picture, to switch the unit's operation mode, etc. Hereafter, "on-screen menu" is abbreviated as "menu".

5-1-1. Structure of the on-screen menu screen

To display the menu, press the MENU button on the projector unit or the remote control. To close the menu, press the EXIT button or the MENU button.
This section explains how to view and operate the menu.

Preparation: Turn on the projector's and project a picture onto the screen.

1. **Press the MENU button.**

   • Pressing the EXIT button or MENU button will close the menu.

   • You can change the position in which the menu is displayed on the screen. (Menu Position → Page 50)

2. **Press the ▼/▲ buttons.**

   • The cursor moves between the main menu icons ([PICTURE] ⇔ [IMAGE OPTIONS] ⇔ [SETUP(1)] ⇔ [SETUP(2)] ⇔ [USB-A] ⇔ [INFORMATION]).

   • When the main menu icon changes, the submenu also changes.

Icon	Main menu name
🖼	PICTURE
▦	IMAGE OPTIONS
⚙	SETUP (1)
⚙⁺	SETUP (2)
🗄	USB-A (Viewer)
ⓘ	INFORMATION

3. With the cursor set to a main menu icon, press ▶ or the ENTER button.

The cursor moves to the submenu.

- To return from a submenu to the main menu icon, press ◀ or the EXIT button.
- Press the MENU button to close the menu.

4. Use the ▼/▲ buttons to move the cursor to the desired submenu item.

The marks and item names displayed on the right edge of the submenu items indicate key operations.
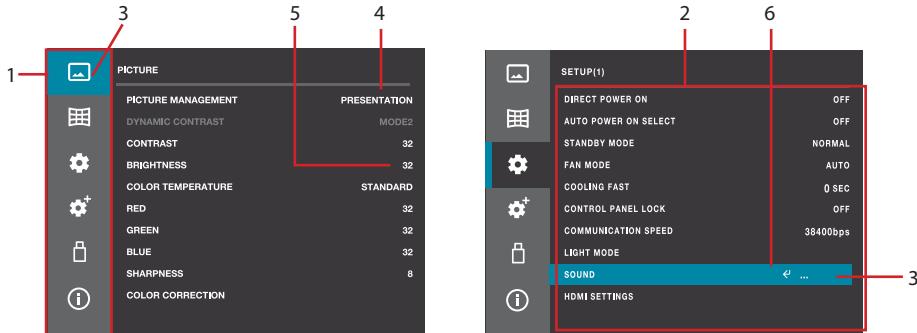
Explanation of a menu screen example

1. Main menu icon

2. Submenu

3. Cursor

4. When an item name is displayed, press the ENTER button, then use the ▼/▲ buttons to cycle through the options. Press the ENTER button to confirm the option.

5. When a number is displayed, press the ENTER button, then use the ▼/▲ buttons to increase or decrease the value. Press the ENTER button to confirm the value.

6. When (↵) is displayed, pressing the ENTER button displays the next lower level of the menu.

5-1-2. Changing numbers

As an example of operation, the following describes the procedure for changing the contrast value.

1. Press the MENU button to display the on-screen menu.

2. Press the ▶ or ENTER button.

   The cursor moves to the [PICTURE] submenu.

3. Use the ▼/▲ buttons to select [CONTRAST], then press the ENTER button.

   ⇔ is displayed at the center of the cursor.

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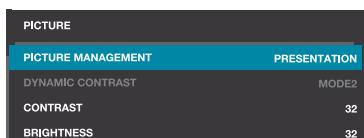
4. **Use the ▼ / ▲ buttons to increase or decrease the value.**

5. **Press the ENTER button.**

The value is set, and the " ⇕ " in the center of the cursor disappears.

PICTURE	
PICTURE MANAGEMENT	PRESENTATION
DYNAMIC CONTRAST	MODE2
CONTRAST	32
BRIGHTNESS	32
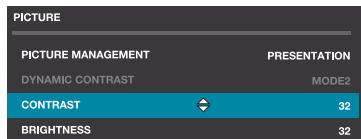
5-1-3. Confirmation message

A confirmation message is displayed in certain cases, for example when resetting adjusted values to the factory defaults.
Use the ◄/► buttons to move the cursor to [YES] or [NO], then press the ENTER button.

RETURN TO FACTORY DEFAULT?

YES   NO

▲▼◄►: MOVE   ENTER : SELECT   EXIT : BACK

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5-2. On-screen menu list

[▢] indicates the factory default value for each item.

Main menu	Sub-menu/Setting Value			(See page)
PICTURE	PICTURE MANAGE-MENT	HIGH-BRIGHT, PRESENTATION, VIDEO, GRAPHIC, BLACKBOARD(GREEN), USER		45
	DYNAMIC CON-TRAST	OFF, MODE 1, MODE 2, MODE 3		
	CONTRAST	0 – 63 (32)		
	BRIGHTNESS	0 – 63 (32)		
	COLOR TEMPERA-TURE	WARM, STANDARD, COOL, USER		
	RED	0 – 63 (32)		46
	GREEN	0 – 63 (32)		
	BLUE	0 – 63 (32)		
	SHARPNESS	0 – 15 (8)		
	COLOR CORRECTION	COLOR CORRECTION	HUE, BRIGHTNESS, SATURATION	
		HUE	RED (0-63), YELLOW (0-63), GREEN (0-63), CYAN (0-63), BLUE (0-63), MAGENTA (0-63)	
		BRIGHTNESS	RED (0-63), YELLOW (0-63), GREEN (0-63), CYAN (0-63), BLUE (0-63), MAGENTA (0-63)	47
		SATURATION	RED (0-63), YELLOW (0-63), GREEN (0-63), CYAN (0-63), BLUE (0-63), MAGENTA (0-63)	
		RESET		
IMAGE OPTIONS	ASPECT RATIO	AUTO, WIDE, FULL, 4:3		48
	ORIENTATION	DESKTOP FRONT, DESKTOP REAR, AUTO CEILING FRONT, AUTO CEILING REAR, CEILING FRONT, CEILING REAR		
	MENU POSITION	TOP-LEFT, TOP-RIGHT, CENTER, BOTTOM-LEFT, BOTTOM-RIGHT		50
	BACKGROUND	BLUE, BLACK, LOGO		
SETUP (1)	DIRECT POWER ON	OFF, ON		51
	AUTO POWER ON SELECT	OFF, HDMI1, HDMI2		
	STANDBY MODE	NORMAL, NETWORK STANDBY, SLEEP		
	FAN MODE	AUTO, HIGH ALTITUDE		52
	COOLING FAST	0 SEC, 30 SEC, 60 SEC		
	CONTROL PANEL LOCK	OFF, ON		
	COMMUNICATION SPEED	4800bps, 9600bps, 19200bps, 38400bps		53
	LIGHT MODE	LIGHT MODE	NORMAL, SILENT 1, SILENT 2, LONG LIFE	
		LIGHT ADJUST	50% – 100%	
	SOUND	VOLUME	0 – 25 (12)	
		MUTE	OFF, ON	
	HDMI SETTINGS	VIDEO LEVEL	AUTO, NORMAL, ENHANCED	54

Main menu		Sub-menu/Setting Value			(See page)
SETUP (2)	LANGUAGE	English, 日本語, 中文, 中文繁體, DEUTSCH, FRANÇAIS, ITALIANO, ESPAÑOL, PORTUGUÊS, NEDERLANDS, SVENSKA, SUOMI, NORSK, DANSK, POLSKI, ČEŠTINA, MAGYAR, РУССКИЙ, TÜRKÇE, العربية, TIẾNG VIỆT, 한국어, ไทย, BAHASA INDONESIA, ROMÂNĂ			55
	AUTO SETUP	INPUT SEARCH	OFF, ON		
		AUTO KEYSTONE	OFF, ON		
	KEYSTONE	KEYSTONE	STORE, RESET		56
		H/V KEYSTONE			
		CORNERSTONE			57
		VERTICAL CORNER			
		PINCUSHION	PINCUSHION X/Y GAIN ,		
			PINCUSHION X OFFSET,		58
			PINCUSHION Y OFFSET		59
		GRID IMAGE TUNE			60
		RESET			
	START-UP LOCK	PIN CODE LOCK	OFF, ON		61
		PIN CODE CHANGE			62
	POWER MANAGE-MENT	READY, SHUT DOWN, OFF			
		TIMER	1 – 30 (5)		63
		READY COUNT-DOWN	0 – 30 (5)		
	FILTER MESSAGE	FILTER COUNTER			
		TIMER	OFF, 500H, 1000H, 2000H		
		FILTER COUNTER RESET			
	TEST PATTERN	OFF, GRAYSCALE (1–4), COLOR BAR, RED, GREEN, BLUE, CROSS HATCH, WHITE, BLACK, RASTER GRAY, FOCUS			
	NETWORK SETUP	NETWORK SETTING	PROFILE (DISABLE, ENABLE)		
			DHCP (OFF, ON)		64
			IP ADDRESS		
			SUBNET MASK		
			GATEWAY		
			DNS		
		NETWORK INFORMATION			
		MAC ADDRESS			
		IP ADDRESS			
	NETWORK SERVICE	HTTP SERVER	OFF, ON		64
	CONTROL ID	CONTROL ID	OFF, ON		65
		CONTROL ID NUMBER	1-254 (1)		
	RESTORE FACTORY SETTINGS				66

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Main menu	Sub-menu/Setting Value		(See page)
USB-A	SET SLIDE		67
	EFFECT	SLIDE DOWN, SLIDE RIGHT	
	SORT ORDER	EXTEND ORDER, NAME ORDER, TIMER ORDER, SIZE ORDER	
	ROTATE	NO ROTATE, 270 DEGREES, 180 DEGREES, 90 DEGREES	
	BEST FIT	ON/OFF	
	REPEAT	ON/OFF	
	APPLY		
INFORMATION	INPUT		70
	HORIZONTAL FREQUENCY		
	VERTICAL FREQUENCY		
	LIGHT HOURS USED		
	MODEL NAME		
	SERIAL NUMBER		
	FIRMWARE VERSION		
	SUBCPU		

5-3. PICTURE

5-3-1. PICTURE MANAGEMENT

Select the optimal setting for the projected image.

HIGH-BRIGHT	Projects images at maximum brightness. Use this setting in bright locations.
PRESENTATION	Makes images brightly vivid. Use this setting when projecting content via computer signals.
VIDEO	Makes images naturally vivid. Use this setting when projecting content from televisions or general image sources.
GRAPHIC	Enables natural reproduction with high color intensity. Use this setting when projecting photographs, pictures, signage, or other such content in dark spaces.
BLACKBOARD(GREEN)	This mode is suitable for projecting onto a black or green board.
USER	If the CONTRAST, BRIGHTNESS, COLOR TEMPERATURE, RED, GREEN, BLUE, or SHARPNESS color adjustments are changed, [USER] is displayed.

5-3-2. DYNAMIC CONTRAST

This automatically adjusts the light source output according to the video to create an image with optimal contrast.

OFF	The contrast is not optimized.
MODE1	The contrast is optimized.
MODE2	The contrast is optimized prioritizing brightness.
MODE3	The contrast is optimized with the brightness reduced.

NOTE:
• [DYNAMIC CONTRAST] cannot be selected when [LIGHT MODE] is set to [SILENT1], [SILENT2], or [LONG LIFE].

5-3-3. CONTRAST

This makes the difference between dark and bright parts of the image clearer or softer.

5-3-4. BRIGHTNESS

This makes the picture brighter or darker.

5-3-5. COLOR TEMPERATURE

This adjusts the hue of red, green, and blue colors.

WARM	This makes the entire screen appear reddish. The color temperature is approximately 500 K lower than when set to [STANDARD].
STANDARD	This sets the entire screen to a medium tone. The factory default color temperature setting is approximately 8000 K.
COOL	This makes the entire screen appear bluish. The color temperature is approximately 500 K higher than when set to [STANDARD].
USER	If the values for [RED], [GREEN] and [BLUE] are adjusted individually, [USER] is displayed.

TIP:
• Color temperature varies depending on the settings of [PICTURE MANAGEMENT] and [LIGHT MODE].

5-3-6. RED/GREEN/BLUE

These individually adjust the red, green and blue hues of the entire screen.

5-3-7. SHARPNESS

This makes the picture crisper or softer.

5-3-8. COLOR CORRECTION

This adjusts the hue, brightness and saturation of the picture.

COLOR CORREC-TION	Select the setting to be adjusted ([HUE], [BRIGHTNESS] or [SATURATION])	
HUE	RED	Adjusts the color centered around and in the vicinity of red. Move in the "+" direction to change the color towards yellow, in the "−" direction to change it towards magenta.
	YELLOW	Adjusts the color centered around and in the vicinity of yellow. Move in the "+" direction to change the color towards green, in the "−" direction to change it towards red.
	GREEN	Adjusts the color centered around and in the vicinity of green. Move in the "+" direction to change the color towards cyan, in the "−" direction to change it towards yellow.
	CYAN (Bright blue-green)	Adjusts the color centered around and in the vicinity of cyan. Move in the "+" direction to change the color towards blue, in the "−" direction to change it towards green.
	BLUE	Adjusts the color centered around and in the vicinity of blue. Move in the "+" direction to change the color towards magenta, in the "−" direction to change it towards cyan.
	MAGENTA (purple)	Adjusts the color centered around and in the vicinity of magenta. Move in the "+" direction to change the color towards red, in the "−" direction to change it towards blue.

BRIGHTNESS	RED	Adjusts the brightness of red. Move in the "+" direction to increase the brightness, in the "−" direction to decrease the brightness.
	YELLOW	Adjusts the brightness of yellow. Move in the "+" direction to increase the brightness, in the "−" direction to decrease the brightness.
	GREEN	Adjusts the brightness of green. Move in the "+" direction to increase the brightness, in the "−" direction to decrease the brightness.
	CYAN (Bright blue-green)	Adjusts the brightness of cyan. Move in the "+" direction to increase the brightness, in the "−" direction to decrease the brightness.
	BLUE	Adjusts the brightness of blue. Move in the "+" direction to increase the brightness, in the "−" direction to decrease the brightness.
	MAGENTA (purple)	Adjusts the brightness of magenta. Move in the "+" direction to increase the brightness, in the "−" direction to decrease the brightness.
SATURATION	RED	Adjusts the strength of red. Move in the "+" direction to increase the vividness, in the "−" direction to weaken the color.
	YELLOW	Adjusts the strength of yellow. Move in the "+" direction to increase the vividness, in the "−" direction to weaken the color.
	GREEN	Adjusts the strength of green. Move in the "+" direction to increase the vividness, in the "−" direction to weaken the color.
	CYAN (Bright blue-green)	Adjusts the strength of cyan. Move in the "+" direction to increase the vividness, in the "−" direction to weaken the color.
	BLUE	Adjusts the strength of blue. Move in the "+" direction to increase the vividness, in the "−" direction to weaken the color.
	MAGENTA (purple)	Adjusts the strength of magenta. Move in the "+" direction to increase the vividness, in the "−" direction to weaken the color.
RESET	This resets the color correction adjustment values.	

5-4. IMAGE OPTIONS

5-4-1. ASPECT RATIO
Select the screen's aspect ratio.

AUTO	The picture is projected at maximum size without changing the aspect ratio of the input signal.
WIDE	The picture is projected with a 16:9 aspect ratio.
FULL	The picture is projected to the maximum extent.
4:3	The picture is projected with a 4:3 aspect ratio.

5-4-2. ORIENTATION
Select according to the installation conditions of the projector and screen.

⚠ WARNING	Consult your dealer for installing the projector on the ceiling. Special skills are required for ceiling installation. Never try to install the projector yourself in such cases. The projector could drop and cause injury.

DESKTOP FRONT	When the projector is placed on a table and projects from in front of the screen.
DESKTOP REAR	When the projector is placed on a table and projects from behind the screen (using a semitransparent screen).
AUTO CEILING FRONT	When projecting from the front of the screen, after the built-in angle sensor automatically detects the projector's angle, switch to [DESKTOP FRONT] or [CEILING FRONT]. Select this item if you are projecting from the front of the screen.
AUTO CEILING REAR	When projecting from behind the screen, after the built-in angle sensor automatically detects the projector's angle, switch to [DESKTOP REAR] or [CEILING REAR]. Select this item if you are projecting from behind the screen.

| CEILING FRONT | When installing the projector high on the ceiling in front of the screen using a ceiling mount fitting (sold separately). |
| CEILING REAR | When installing the projector high on the ceiling behind the screen using a ceiling mount fitting (sold separately) (using a semitransparent screen). |

TIP:

• About the Angle Sensor
  The detectable angle range of the projector's built-in angle sensor is as shown in the figure below.

If you select [AUTO CEILING FRONT] or [AUTO CEILING REAR] for the orientation, the projector automatically determines the image will be projected from the front.
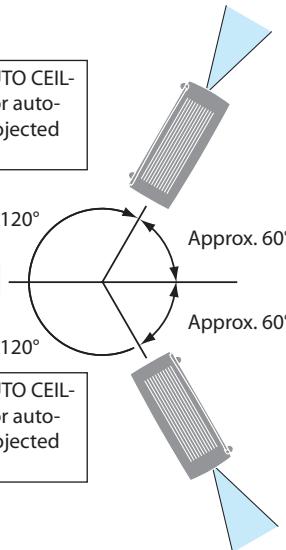
If you select [AUTO CEILING FRONT] or [AUTO CEILING REAR] for the orientation, the projector automatically determines the image will be projected from the ceiling.

Approx. 120°

Approx. 60°

Approx. 60°

Approx. 120°

If you select [AUTO CEILING FRONT] or [AUTO CEILING REAR] for the orientation, the projector automatically determines the image will be projected from the front.

5-4-3. MENU POSITION

This changes the on-screen menu's display position.

TOP-LEFT	The menu is displayed in the upper left corner of the screen.
TOP-RIGHT	The menu is displayed in the upper right corner of the screen.
CENTER	The menu is displayed in the center of the screen.
BOTTOM-LEFT	The menu is displayed in the lower left corner of the screen.
BOTTOM-RIGHT	The menu is displayed in the lower right corner of the screen.

5-4-4. BACKGROUND

This selects the color of the background when there is no input signal.

BLUE	The entire projection area is displayed in blue.
BLACK	The entire projection area is displayed in black.
LOGO	The registered background is displayed over the entire projection area. BLACK (no logo image) is displayed when shipped from the factory.

NOTE:
• This function is disabled when USB-A is selected as the input signal.

TIP:
• To register a logo image, use the HTTP server function.

5-5. SETUP (1)

5-5-1. DIRECT POWER ON

This sets the operation when the power cord is connected to the projector or when power is supplied.

OFF	When the power cord is connected to the projector or when power is supplied, the projector is set to the standby mode. Press the power button to turn on the power.
ON	When the power cord is connected to the projector or when power is supplied, the projector's power automatically turns on.

NOTE:
- After turning off the power, disconnect the power cord, wait about 20 seconds, then reconnect the power cord. The projector may not operate normally if the power is turned on and off or the power cord is connected and disconnected in a short period of time.

5-5-2. AUTO POWER ON SELECT

This function automatically projects a picture when an HDMI signal is input while the unit is in the standby mode.

OFF	The Auto Power On function will not operate.
HDMI1	When a signal is detected at the HDMI1 input terminal, the picture is projected.
HDMI2	When a signal is detected at the HDMI2 input terminal, the picture is projected.

NOTE:
- If [AUTO POWER ON] is set to HDMI1 or HDMI2, [STANDBY MODE] will be grayed out and cannot be selected.
- When [AUTO POWER ON] is set to HDMI1, turn off the power while projecting the image from the HDMI 1 input terminal. Similarly, when [AUTO POWER ON] is set to HDMI2, turn off the power while projecting the image from the HDMI 2 input terminal.

5-5-3. STANDBY MODE

This selects the operation mode when the projector is in standby.

NORMAL	In this mode, power consumption is lower than in "Network Standby" or "Sleep" mode, but the projector cannot be controlled via the LAN port when this mode is selected. To turn on the projector's power, press the power button on the main unit's control panel or remote control.
NETWORK STANDBY	In this mode, power consumption is higher than in [NORMAL] mode, but the unit can be turned on from standby using the "Wake on LAN" function via LAN. For details on the "Wake on LAN" function, please consult your network administrator.
SLEEP	In this mode, power consumption is higher than in "Network Standby" mode, but the projector's power can be turned on using control software.

5-5-4. FAN MODE

This sets the operation of the cooling fan to reduce the projector's internal temperature.
This changes the speed of the cooling fan according to the altitude of the location where the projector is used.

AUTO	The cooling fan runs at normal speed. The cooling fan runs at high speed depending on the temperature of the place in which the projector is used and the temperature inside the projector.
HIGH ALTITUDE	The cooling fan runs at high speed. Set this when the altitude of the location where the projector is used is between 1 700 m/5 577 feet and 3 000 m/9 842 feet.

NOTE:
- If the projector is used at altitudes exceeding approximately 2,600 m/8,530 feet, the brightness is automatically dimmed to protect the projector.
- The projector can be used up to an altitude of approximately 3,000 m/9,842 feet, but if the exceeds this, the power automatically turns off to protect the projector.

5-5-5. COOLING FAST

This sets the time the cooling fan runs after the projector is turned off.
The power indicator blinks green while the cooling fan is running.
Do not unplug the power cord while the cooling fan is running.

0 SEC	The cooling fan does not run after the unit is turned off.
30 SEC	The cooling fan runs for 30 seconds after the projector is turned off.
60 SEC	The cooling fan runs for 60 seconds after the projector is turned off.

5-5-6. CONTROL PANEL LOCK

This disables the operation buttons on the projector.

OFF	The buttons on the projector's control panel work.
ON	The buttons on the projector's control panel do not work (they are locked).

TIP:
- The remote control buttons will work even when the main unit's operation buttons are locked.

5-5-7. COMMUNICATION SPEED

This sets the data transfer speed for the RS-232C terminal. Set this according to the transfer speed of the connected device.

5-5-8. LIGHT MODE

By changing the brightness of the light source, you can save energy and adjust the balance of the brightness between projectors during multi-screen projection.

LIGHT MODE

NORMAL	The picture is projected onto the screen at normal brightness. Also, in the [LIGHT ADJUST] section, you can adjust the light source brightness within the range of 100% to 50%. The brightness is set to 100% upon shipment from the factory.
SILENT 1	Lowering the brightness to approximately 80%, and reducing power consumption and operating noise.
SILENT 2	Lowering the brightness to approximately 50%, and reducing power consumption and operating noise.
LONG LIFE	Prioritizes extending the service life of optical components.

LIGHT ADJUST

This is only effective when the light mode is set to [NORMAL], and the adjustment range is 100-50%. When [SILENT 1], [SILENT 2], or [LONG LIFE] is selected, [LIGHT ADJUST] will be grayed out and cannot be selected.

5-5-9. SOUND

This adjusts the audio output from the projector.

VOLUME	Press the ◄ button to decrease the volume, the ► button to increase the volume. The range is 0 to +25.
MUTE	Sound is output when [OFF] is selected, and no sound is output when [ON] stops audio output.

5-5-10. HDMI SETTINGS

Change these settings according to the output conditions of the device connected to the HDMI1 or HDMI2 input terminal.

VIDEO LEVEL

AUTO	Full range or limited range of the HDMI signal level is detected automatically. If the range cannot be correctly detected automatically, manually switch to [NORMAL] or [ENHANCED].
NORMAL	Select this when connecting a device whose HDMI signal level is set to full range.
ENHANCED	Select this when connecting a device whose HDMI signal level is set to limited range.

5-6. SETUP(2)

5-6-1. LANGUAGE

This selects the language for the menu's display.
The language will revert to English if you reset the factory defaults from the on-screen menu.

5-6-2. AUTO SETUP

This turns automatic input signal search, automatic adjustment of the computer's video signals and automatic keystone correction on or off.

INPUT SEARCH

OFF	Press the input selector button to select the input signal manually.
ON	The input signal is detected automatically and the image is projected.

AUTO KEYSTONE

OFF	Perform keystone correction manually.
ON	The projector's tilt is detected and keystone distortion of the projected picture is automatically adjusted the vertical direction.

NOTE:
- Automatic keystone correction may not work even when [AUTO KEYSTONE] is set to [ON].
- Auto keystone correction does not work when [CEILING FRONT] or [CEILING REAR] is set at [ORIENTATION] in the on-screen menu.
- When [AUTO CEILING FRONT] or [AUTO CEILING REAR] is set at [ORIENTATION] in the on-screen menu and this unit is mounted on the ceiling, auto keystone correction will not work.
- The USB-A terminal cannot be searched when [INPUT SEARCH] is set to [ON].

5-6-3. Keystone correction

When projecting onto a tilted or curved screen, the projected image will be distorted and extend beyond the screen.

In this case, use the unit's "Keystone Correction" function to adjust the projected image so that it fits within the screen.

When [KEYSTONE] is selected in the on-screen menu, the keystone correction menu appears.

This projector has the five types of keystone correction functions described below.

- H/V KEYSTONE
- CORNERSTONE
- VERTICAL CORNER
- PINCUSHION
- GRID IMAGE TUNE

• Some of the five correction functions cannot be combined for adjustment.

 If you select a correction function that cannot be combined, the correction state will be reset automatically.

• The keystone correction status is retained even after the projector's power is turned off (The factory default setting for [KEYSTONE] is [STORE]). To reverse keystone correction, perform the resetting procedure.

Combining correction functions

	H/V KEYSTONE	CORNERSTONE	VERTICAL CORNER	PINCUSHION	GRID IMAGE TUNE
H/V KEYSTONE	-	No	No	No	No
CORNERSTONE	No	-	No	No	No
VERTICAL CORNER	No	No	-	Yes	Yes
PINCUSHION	No	No	Yes	-	Yes
GRID IMAGE TUNE	No	No	Yes	Yes	-

Yes : adjustable / No : non-adjustable

• Displaying the projector's built-in [CROSS HATCH] test pattern makes it easier to adjust. (→ Page 63)
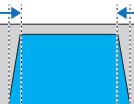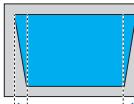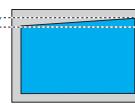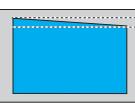
KEYSTONE

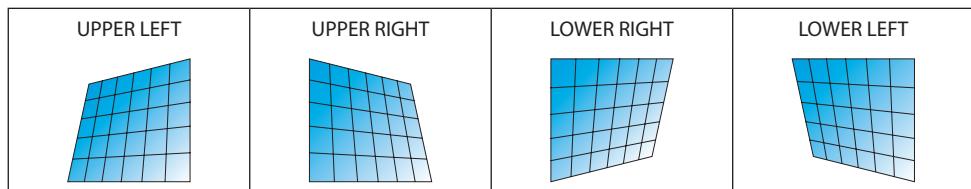| STORE	The keystone correction values are retained even after the projector is turned off.
RESET	When the projector is turned off, the keystone correction values are reset.

H/V KEYSTONE

Use the ▲▼◄► buttons to adjust for horizontal and vertical trapezoidal distortion.

For operating instructions, please refer to page 25.

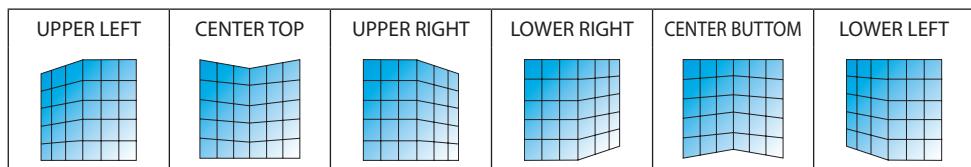| Pressing the ▲ button reduces the width of the top edge.	Pressing the ▼ button reduces the width of the bottom edge.	Pressing the ◄ button reduces the width of the left edge.	Pressing the ► button reduces the width of the right edge.

CORNERSTONE

Adjust the trapezoidal distortion for the four corners of the projected image using the ▲▼◄► buttons.

UPPER LEFT	UPPER RIGHT	LOWER RIGHT	LOWER LEFT

VERTICAL CORNER

Use the ▲▼◄► buttons to adjust the trapezoidal distortion for a total of six points, consisting of the four corners of the projected image plus two points in the center of the upper and lower edges.

UPPER LEFT	CENTER TOP	UPPER RIGHT	LOWER RIGHT	CENTER BUTTOM	LOWER LEFT

PINCUSHION
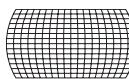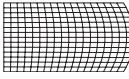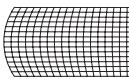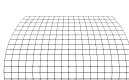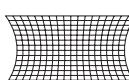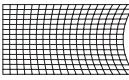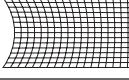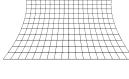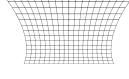
Adjust the curved distortion when projecting images onto a curved surface.
Curved correction is divided into 3 modes. The mode switches when the ENTER button is pressed.
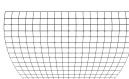
1. PINCUSHION X/Y GAIN	➡	2. PINCUSHION X OFFSET	➡	3. PINCUSHION Y OFFSET
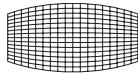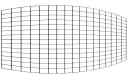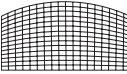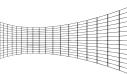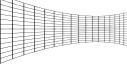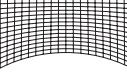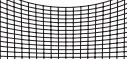
1. PINCUSHION X/Y GAIN

Before correction	Operation	After correction	Description
	◄ button		Expands left and right edges horizontally.
	► button		Reduces the left and right edges inwards.
	▲ button		Reduces the top and bottom edges inwards.
	▼ button		Expands the top and bottom edges vertically.

2. PINCUSHION X OFFSET

Before correction	Operation	After correction	Description
	◀ button		Corrects the distortion on the left side. Expands the top and bottom of the left edge outwards while maintaining the distortion on the right side.
	▶ button		Corrects the distortion on the right side. Expands the top and bottom of the right edge outwards while maintaining the distortion on the left side.
	▲ button		Corrects the horizontal distortion. Expands the left and right of the top section outwards, and reduces the left and right of the bottom section inwards.
	▼ button		Corrects the horizontal distortion. Expands the left and right of the bottom section outwards, and reduces the left and right of the top section inwards.
	◀ button		Corrects the distortion on the left side. Expands the center of the left edge outwards while maintaining the distortion on the right side.
	▶ button		Corrects the distortion on the right side. Expands the center of the right edge outwards while maintaining the distortion on the left side.
	▲ button		Corrects the horizontal distortion. Expands the left and right of the top section inwards while maintaining the distortion of the bottom section.
	▼ button		Corrects the horizontal distortion. Reduces the left and right of the bottom section inwards while maintaining the distortion of the top section.

3. PINCUSHION Y OFFSET

Before correction	Operation	After correction	Description
	◀ button		Corrects the vertical distortion. Expands the top and bottom of the left edge outwards and reduces the top and bottom of the right edge inwards.
	▶ button		Corrects the vertical distortion. Expands the top and bottom of the right edge outwards and reduces the top and bottom of the left edge inwards.
	▲ button		Corrects the distortion on the top side. Expands the left and right of the top edge upwards while maintaining the distortion on the bottom side.
	▼ button		Corrects the distortion on the bottom side. Expands the left and right of the bottom edge downwards while maintaining the distortion on the top side.
	◀ button		Corrects the vertical distortion. Reduces the top and bottom of the left edge inwards while maintaining the distortion on the right side.
	▶ button		Corrects the vertical distortion. Reduces the top and bottom of the right edge inwards while maintaining the distortion on the left side.
	▲ button		Corrects the distortion on the top side. Expands the center of the top edge upwards while maintaining the distortion on the bottom side.
	▼ button		Corrects the distortion on the bottom side. Expands center of the bottom edge downwards while maintaining the distortion on the top side.

GRID IMAGE TUNE

Select one of the multiple adjustment points displayed on the entire projection screen and use the
▲▼◄► buttons to adjust the distortion.
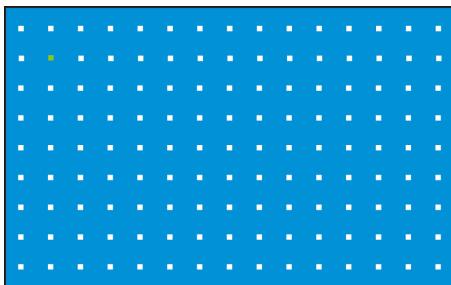
RESET

This restores the adjusted image to its original state.

NOTE:
- The maximum keystone correction range is ±30 degrees vertically and horizontally. However, using maximum correction will reduce image quality and make focusing more difficult. Please use the minimum correction value for the projector.
- Keystone correction may affect the image's aspect ratio.

5-6-4. START-UP LOCK

You can prevent unauthorized use of the projector by setting a PIN code (a 3-digit number).
If START-UP LOCK is enabled, the PIN CODE input screen will appear when the unit's power is turned on, and projection will not be possible without inputting the correct PIN code.

Important
- When you enter the PIN code, pay enough attention to people around for the PIN code abuse prevention.
  If you have anxiety the PIN code is cheated, change the PIN code immediately.
- The PIN code is not canceled even when you reset the factory defaults from the on-screen menu. Please write down and store the PIN code you have set in a safe place so you don't forget it.

PIN CODE LOCK

When you select [PIN CODE LOCK], the PIN code (a 3-digit number) input screen appears. Input the PIN code. The PIN code is set to "111" upon shipment from the factory.

OFF	The Pin Code Lock function cannot be used.
ON	When the projector's power is turned on, the PIN code input screen will appear.

PIN code input field
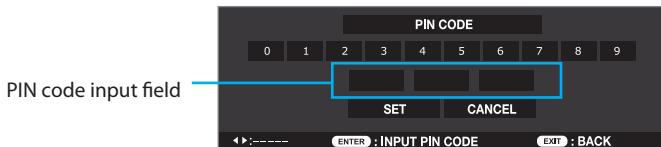
How to input the PIN code

1. **At the PIN code input screen, press the ENTER button.**

   The "0" frame and the left frame of the PIN code input field turns blue.

2. **Press the ▶ button.**

   The color of the "1" frame turns blue.

3. **Press the ENTER button.**

   "1" is input into the left frame of the PIN code input field, and the frame at its right turns blue.
   The input "1" will change to " * " after a short while.

4. **Press the ENTER button.**

   "1" is input into the center frame of the PIN code input field, and the frame at its right turns blue.

5. **Press the ENTER button.**

   "1" is input into the right frame of the PIN code input field, and [SET] turns orange.

6. **Check that the cursor is set to [SET], then press the ENTER button.**

   The PIN code input screen disappears.

PIN CODE CHANGE

You can change the factory default PIN code ("111") to any other number.
If you select "PIN CODE CHANGE", the PIN code input screen appears. Input the current PIN code.
Next, the screen for inputting the new PIN code appears. Input the new PIN code.

TIP:
* If you forget your PIN code
  - If you can display the on-screen menu, go to [SETUP(2)] → [RESTORE FACTORY SETTINGS] to reset the PIN code.
    Using [RESTORE FACTORY SETTINGS] will return all settings to the factory default.
  - If you cannot display the on-screen menu, contact your dealer.

5-6-5. POWER MANAGEMENT

If no signal is input for longer than the set amount of time and the projector is not operated, the projector's light source automatically turns off or the power will turn off.
Set the modes (Ready, Shut Down, and Off) and the times.

READY	When the time set at [TIMER] below is reached, the projector switches to the Ready (standby) mode (with the light source off). When in the Ready mode, the POWER indicator is flashing green. If an input signal is detected or if a button (other than the power button) on the main unit's control panel or on the remote control is pressed while in the Ready mode, the light source turns back on.
SHUT DOWN	When the time set at [TIMER] below is reached, the projector's power turns off and the standby mode is set.
OFF	The power management function is disabled.

TIMER

Set the time until the light source is turned off or until the projector is shut down. The time can be set from 1 to 30 minutes. The factory default setting is "5 minutes".
If the unit remains without a signal and no button is operated for 30 seconds, "NO INPUT" and the time remaining until the projector is switched to the Ready mode (light source off) or shuts down are displayed in the lower right corner of the screen.

```
        NO INPUT

    0  5  :  0  0
```

READY COUNTDOWN

This sets the time (0 to 30 minutes) after entering the Ready mode until the projector's power turns off and the standby mode is set. The factory default setting is "5 minutes". If set to "0 minutes", the projector stays in the Ready mode.

5-6-6. FILTER MESSAGE

A filter is installed on the projector's air intake vent. Depending on the installation environment, dust may accumulate on the filter if the projector is used for an extended period of time. If dust accumulates on the filter, ventilation will decrease and cooling effectiveness will be reduced. Continued use in this condition may cause malfunction.
Set a time to clean the filter, and clean the filter regularly.

FILTER COUNTER (Note: The cursor does not move.**)**	Displays the filter usage time. Once the filter has been cleaned, perform the filter counter reset procedure to set the filter counter back to "0 hours".
TIMER	This sets the time until the filter warning icon is displayed. When the filter counter time reaches the time set for the timer, the filter warning icon is displayed on the screen. When the filter warning icon appears on the screen, immediately remove the filter and clean it. (→ Page 80) **FILTER WARNING** 🗑️
FILTER COUNTER RESET	Once the filter has been cleaned, perform the filter counter reset procedure to set the filter counter back to "0 hours".

5-6-7. TEST PATTERN

This displays several types of test patterns built into the projector.
Display a test pattern when adjusting the focus or keystone correction of the projected image.
To return from the test pattern screen to the original screen, press the MENU button, select "TEST PATTERN" again, move the cursor to [OFF], then press the ENTER button.

5-6-8. NETWORK SETUP

When controlling the projector from a computer via a network, make the network settings so that the projector can be connected.

- Before making the network settings, connect the projector and router, etc., with a LAN cable. (→ Page 72)
- For instructions on changing the IP address, subnet mask, gateway and DNS, refer to page 73.
- After changing the network settings, use the ▲/▼ buttons to move the cursor to [SET], then press the ENTER button.
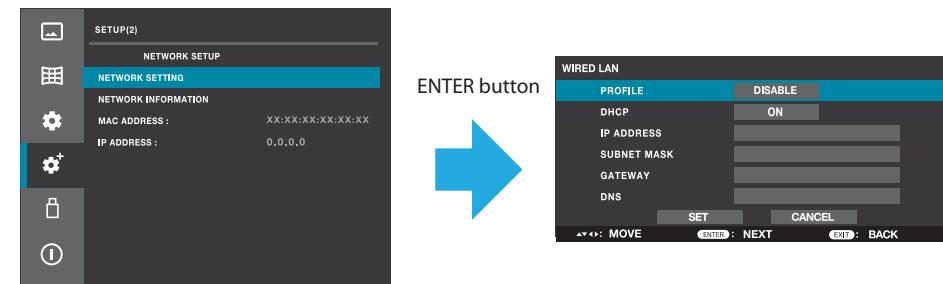
ENTER button

PROFILE	Set the cursor in place then press the ENTER button. Use the ▲ / ▼ buttons to switch to "DISABLE" or "ENABLE," then press the ENTER button.
DISABLE	Disables wired LAN.
ENABLE	Enables wired LAN.
DHCP	Set the cursor in place then press the ENTER button. Use the ▲/▼ buttons to move the cursor to [ON] or [OFF], then press the ENTER button.
OFF	Manually set the IP address and subnet mask assigned by the network administrator.
ON	The IP address, subnet mask and gateway are automatically assigned by the DHCP server.
IP ADDRESS	If "DHCP" was set to [OFF], set the projector's IP address on the network to which the projector is connected.
SUBNET MASK	If "DHCP" is set to [OFF], set the projector's subnet mask on the network to which the projector is connected.
GATEWAY	If "DHCP" is set to [OFF], set the projector's default gateway on the network to which the projector is connected.
DNS	If "DHCP" was set to [OFF], set the IP address of the DNS server on the network to which the projector is connected.

5-6-9. NETWORK SERVICE

Set whether or not to connect to the projector's HTTP server.

HTTP SERVER

| OFF | Connection to the HTTP server is not possible. |
| ON | Connection to the HTTP server is possible. |

5-6-10. CONTROL ID

Multiple projectors can be operated individually by assigning IDs to them and switching IDs using a single remote control unit.

This function can also be used to set the same ID for multiple projectors and operate all the projectors at once with a single remote control unit.

CONTROL ID	OFF	The control ID function is disabled.
	ON	The control ID function is enabled.
CONTROL ID NUMBER	Select a number from 1 to 254 to assign to the projector. The factory default setting is "1".	

NOTE:
• When "CONTROL ID" is set to [ON], it is not possible to operate the projector(s) from remote control units that do not support the control ID function (the operation buttons on the projector can still be used).

How to set and change IDs on the remote control

1. **Turn on the projector's power.**

2. **Press the ID SET button on the remote control.**

   The control ID screen is displayed.

   At this time, if the current remote control ID can operate the projector, the "Active" screen is displayed; if not, the "Inactive" screen is displayed.

   If you want to operate a projector for which "Inactive" is displayed, set the remote control to the same number as the projector's control ID number set in step 3.
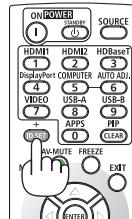
When "CONTROL ID" is set to [OFF]

CONTROL ID (ACTIVE)	
CONTROL ID NUMBER	---

When "CONTROL ID" is set to [ON], the control ID number is "1", and the remote control ID matches

CONTROL ID (ACTIVE)	
CONTROL ID NUMBER	1

When "CONTROL ID" is set to [ON], the control ID number is "1", and the remote control ID does not match

CONTROL ID (INACTIVE)	
CONTROL ID NUMBER	1

3. **Press and hold the ID SET button on the remote control, then press a number button to set the remote control's ID.**

   For example, to change to the control ID to "3", press number 3.

   To set no ID (and operate all the projectors at once), either input "000" or press the CLEAR button.

   TIP:
   • You can register remote control IDs from 1 to 254.

4. **Release the ID SET button.**

   The control ID screen is displayed.

   At this time, the active/inactive screen is updated with the changed remote control ID.

   NOTE:
   • The IDs may be cleared after a while if the remote control's battery is low or the battery is removed.
   • Note that the set IDs will be cleared if any button is pressed while the remote control's battery is removed.

5-6-11. RESTORE FACTORY SETTINGS

This returns the adjusted values for all the adjustments and settings stored in the projector or for the currently displayed signal
to the factory defaults.

5-7. USB-A

Display the viewer screen by following the procedure below.

1. **Turn on the projector's power.**

2. **Insert the USB flash drive containing the images to be projected into the projector's USB port.**
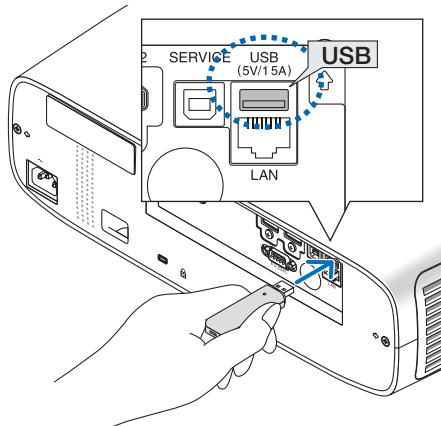
3. **Press the INPUT button on the projector's control panel or on the remote control and select [USB-A].**

   The screen switches to the viewer screen.

   • When operating from the remote control, press the USB-A button.

   • To exit the viewer, press the input selector button and select a terminal other than [USB-A].

4. **Press the ENTER button on the viewer screen.**

   The icons of the folders and images stored on the USB flash drive are displayed.

5. Press the MENU button, then use the ▼ / ▲ buttons to move the cursor to the USB-A menu icon.

The USB-A menu is displayed.

USB-A	
SET SLIDE	
EFFECT	SLIDE RIGHT
SORT ORDER	NAME ORDER
ROTATE	NO ROTATE
BEST FIT	OFF
REPEAT	OFF
APPLY	

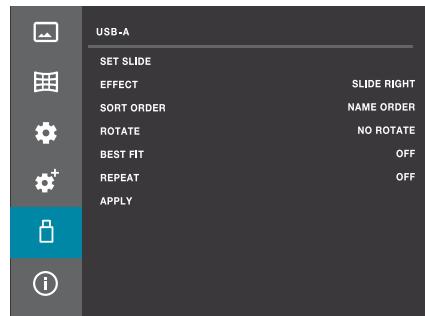| SET SLIDE	The images as displayed as slides according to the [EFFECT], "SORT ORDER", "ROTATE", "BEST FIT" and "REPEAT" settings.	
	If you change any settings, be sure to set the cursor to [APPLY] and press the ENTER button.	
EFFECT	This sets the direction for switching slides.	
	SLIDE RIGHT	The slides switch from left to right.
	SLIDE DOWN	The slides switch from top to bottom.
SORT ORDER	This sets the order for switching the slides.	
	NAME ORDER	The files or folders are sorted by name.
	TIMER ORDER	The files or folders are sorted by time.
	SIZE ORDER	The files or folders are sorted by size.
	EXTEND ORDER	The files or folders are sorted by extension.
ROTATE	This sets the direction of rotation of the images.	
	NO ROTATE	Rotation is disabled.
	90 DEGREE	The images are rotated 90 degrees clockwise.
	180 DEGREE	The images are rotated 180 degrees clockwise.
	270 DEGREE	The images are rotated 270 degrees clockwise.
BEST FIT	This sets the display size of the images.	
	OFF	Displays the image at normal pixel resolution.
	ON	Displays the image according to the screen aspect ratio.
REPEAT	This sets the action performed after the last slide is displayed.	
	OFF	After the last image is displayed, the image list screen reappears.
	ON	After the last image is displayed, the slideshow starts over from the first image.
APPLY	This applies the settings for [EFFECT], [SORT ORDER], [ROTATE], [BEST FIT], and [REPEAT].	
	If you change any settings, be sure to set the cursor to [APPLY] and press the ENTER button.	

5-8. INFORMATION

This displays information about the projected signal, the projector, etc.

INPUT	This displays the terminal name selected with the input selector. Also, when set to COMPUTER, HDMI1, or HDMI2, the signal resolution is displayed.
HORIZONTAL FREQUENCY	This displays the input signal's horizontal synchronizing frequency in kHz. "--- kHz" is displayed when there is no signal.
VERTICAL FREQUENCY	This displays the input signal's vertical synchronizing frequency in Hz. "--- Hz" is displayed when there is no signal.
LIGHT HOURS USED	This displays the light source's usage time.
MODEL NAME	This displays the model name.
SERIAL NUMBER	This displays the projector's serial number.
FIRMWARE VERSION	This displays the projector's firmware version.
SUBCPU	This displays the projector's SUBCPU firmware version.

6. Making Connections

6-1. Connecting to Computers and Video Devices

Below is an example of connections to external devices.

NOTE:
* Use shielded type cables for the commercially available HDMI, LAN, RS-232C and audio cables.
  Using cables of types other than those indicated below may cause reception interference.

Blu-ray player, etc.

Audio device, etc.

Computer, etc.
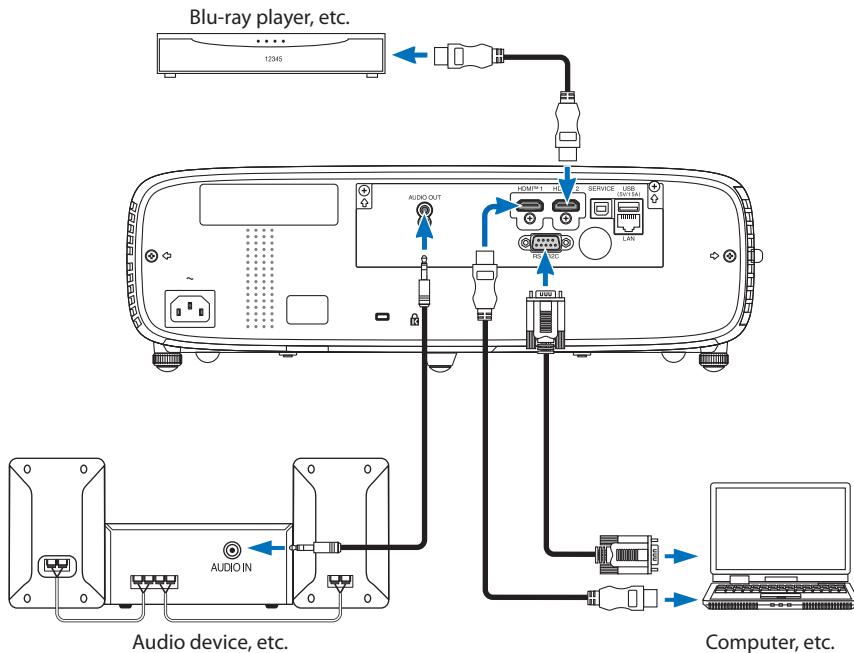
Cautions on Signal Cables

HDMI cable (commercially available)

* Use a Premium High Speed HDMI cable.
* The projector automatically detects whether the HDMI signal level is full range or limited range.

  If the HDMI input signal is not projected correctly, check the signal level of the device connected to the HDMI1 or HDMI2 input terminal and switch the [HDMI SETTINGS] in the on-screen menu. (→ Page 54)

6-2. Connecting to a Wired LAN

By connecting the projector to a wired LAN, you can use the HTTP server function to control the projector using a web browser on a computer.

For details, see "7. Connecting to a Network" (→ Next page).

For the LAN cables, use commercially available Category 5e or higher shielded twisted pair (STP) cables.

Example of connections
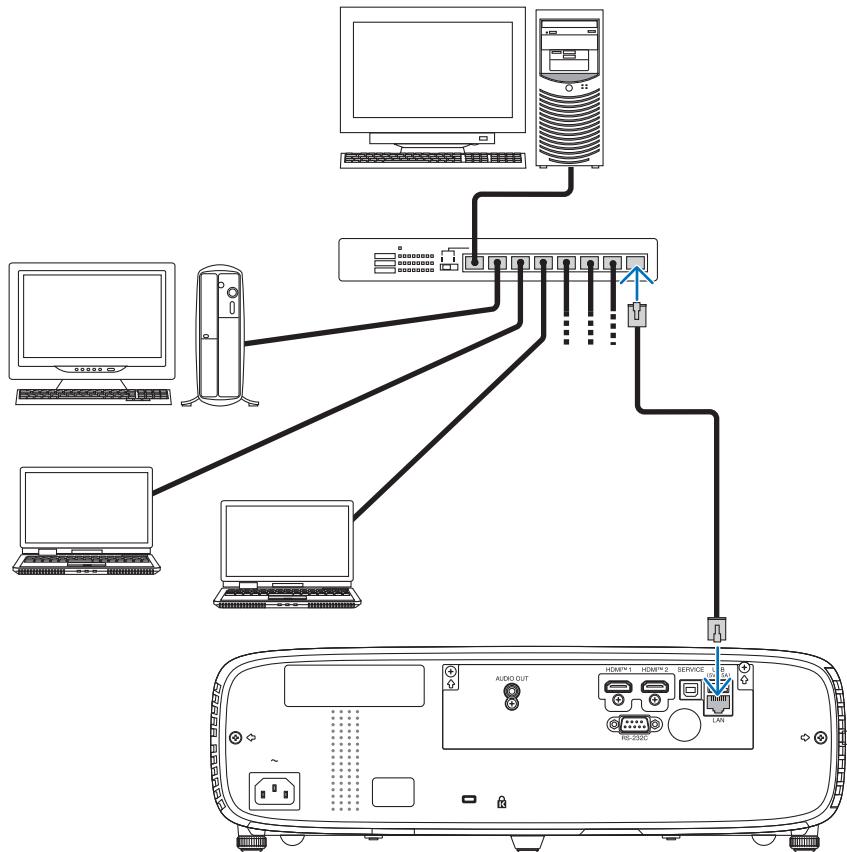
7. Connecting to a Network

7-1. What You Can Do by Connecting to a Network

- A web browser on a computer or tablet connected to the same network (via wireless or wired router) can be used to access the projector's HTTP server through its wired LAN connection. This allows the user to control the projector and configure network settings.
- The projector's HTTP server allows you to change the HTTP server login password, adjust images, adjust the screen, configure network settings, make the Crestron control settings, AMX settings, PJLink settings, and more.

7-2. Enabling the projector's wired LAN function

Preparation

- Connect a LAN cable to the projector. (→ Previous page)

1. **Press the MENU button to display the on-screen menu.**

2. **Use the ▼ / ▲ buttons to move the cursor to the [SETUP (2)] icon, then press the ▶ or ENTER button.**

   The cursor moves to the submenu.

3. **Use the ▼/▲ buttons to select [NETWORK SETTING], then press the ENTER button.**

   The NETWORK SETTING menu is displayed.
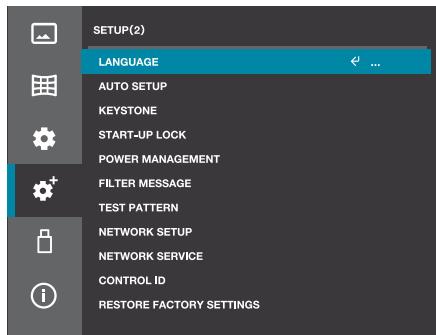
4. **Check that the cursor is set to [NETWORK SETTING], then press the ENTER button.**

   The wired LAN settings screen is displayed.
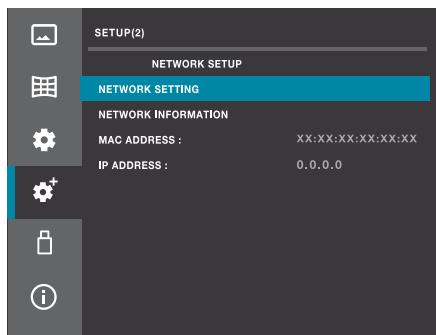
5. Check that the cursor is set to [PROFILE], then press the ENTER button.

The background of [DISABLE] in PROFILE changes to blue.

```
WIRED LAN
    PROFILE                    DISABLE
    DHCP                       ON
    IP ADDRESS
    SUBNET MASK
    GATEWAY
    DNS
                    SET              CANCEL
    ▲▼◀▶: MOVE      ENTER : NEXT     EXIT : BACK
```

```
WIRED LAN
    PROFILE                    DISABLE
    DHCP                       ON
```
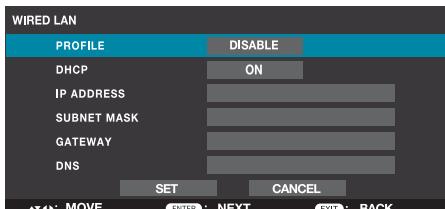
6. Use the ▼/▲ buttons to select [ENABLE], then press the ENTER button.

When PROFILE is set to [ENABLE], wired LAN is enabled.

-   If you want to save the network settings in the projector while DHCP is [ON], proceed to **step 13**.

-   To change to a desired IP address, proceed to **step 7**.

```
WIRED LAN
    PROFILE                    ENABLE
    DHCP                       ON
```

Changing the IP address

(Example: To set the projector's IP address to 192.168.1.100)

---

7. Use the ▼/▲ buttons to select [DHCP], then press the ENTER button.

8. Use the ▼/▲ buttons to select [OFF], then press the ENTER button.

The IP address can be changed when DHCP is turned off.

```
WIRED LAN
    PROFILE                    ENABLE
    DHCP                       OFF
    IP ADDRESS           0 . 0 . 0 . 0
    SUBNET MASK          0 . 0 . 0 . 0
    GATEWAY              0 . 0 . 0 . 0
    DNS                  0 . 0 . 0 . 0
                    SET              CANCEL
    ▲▼◀▶: MOVE      ENTER : NEXT     EXIT : BACK
```
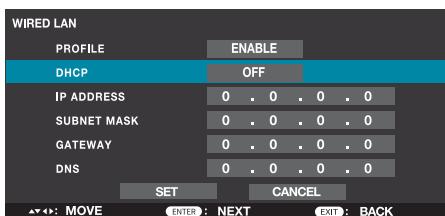
9. Use the ▼/▲ buttons to select [IP AD-DRESS], then press the ENTER button.

The IP address' leftmost input field turns blue.

```
    PROFILE                    ENABLE
    DHCP                       OFF
    IP ADDRESS           0 . 0 . 0 . 0
    SUBNET MASK          0 . 0 . 0 . 0
```

10. Use the ▼/▲ button to change the value, then press the ENTER button.

The next IP address input field to the right turns blue.

11. Repeat step 10 to set the IP address.

When you press the ENTER button at the right-most input field, the IP address row turns blue.

12. Use this same procedure to set [SUBNET MASK], [GATEWAY], [DNS], etc.

PROFILE	ENABLE
DHCP	OFF
IP ADDRESS	1 9 2 . 0 . 0 . 0
SUBNET MASK	0 . 0 . 0 . 0

13. Use the ▼/▲ buttons to set the cursor to [SET], then press the ENTER button.

The network settings are saved in the projector unit.

PROFILE	ENABLE
DHCP	OFF
IP ADDRESS	1 9 2 . 1 6 8 . 1 . 1 0 0
SUBNET MASK	0 . 0 . 0 . 0
GATEWAY	0 . 0 . 0 . 0

WIRED LAN

PROFILE	ENABLE
DHCP	OFF
IP ADDRESS	1 9 2 . 1 6 8 . 1 . 1 0 0
SUBNET MASK	2 5 5 . 2 5 5 . 2 5 5 . 0
GATEWAY	1 9 2 . 1 6 8 . 1 . 1
DNS	1 9 2 . 1 6 8 . 1 . 1

SET   CANCEL

▲▼◀▶: MOVE   ENTER : NEXT   EXIT : BACK

7-3. Connecting to the projector's HTTP server

Preparation

• Configure the projector's network settings. (→ Page 73)

1. Display and confirm the projector's IP address.

• Select [SETUP(2)] → [NETWORK SETUP] from the projector's on-screen menu.

2. Use the network settings on your computer or tablet.

3. Launch the web browser on your computer or tablet device.

Screen example

SETUP(2)

NETWORK SETUP

NETWORK SETTING

NETWORK INFORMATION

MAC ADDRESS :   XX:XX:XX:XX:XX:XX

IP ADDRESS :   192.168.1.100
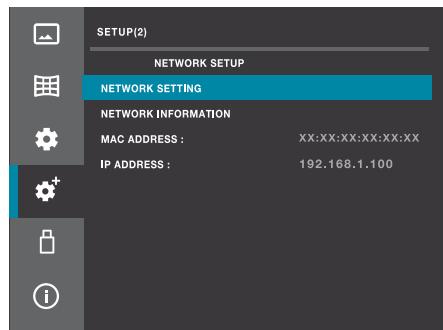
4. Input the projector's IP address as displayed on the network settings screen into the web browser's URL field as shown below.

If the IP address displayed on the screen is "192.168.1.100"

Enter "http://192.168.1.100/index.html" into the URL input field.

After a moment, the HTTP server screen will be displayed on the web browser.
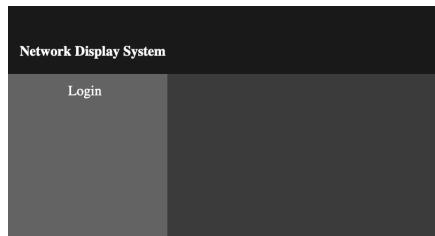
5. Click the [Login] button in the upper left of the screen.

The screen for setting the login password appears the first time you click the [Login] or after you have reset the factory defaults in the on-screen menu.

• Once the password has been set, the login password input screen will appear the next time you click the [Login] button.
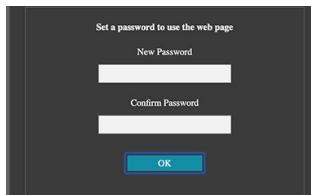
6. Input your desired login password and the same password again, then click the [OK].

The login password input screen is displayed.

• The password can be changed on the HTTP server screen under [General Setup].

7. Input the password set in step 6, then click the [Login].

The HTTP server screen is displayed.

Network Display System > System Status	
Model Name	**XP-E501U**
Versions	
Firmware Version	
LAN Status	
IP Address	192.168.1.100
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1
Wire MAC Address	

The settings on the HTTP server screen are as follows:

System Status	Model Name	Displays the device model name.	
	Versions	This displays the projector's firmware version.	
	LAN Status	This displays the LAN connection status.	
General Setup	Change Password for Webpage	The login password can be changed here.	
	Projector Name	Enter the device name when controlling it over the network.	
	Power & Input	This turns the power on and off and switches the signal.	
Picture Setup	Brightness	This adjusts the brightness of the projected image.	
	Contrast	This adjusts the contrast of the projected image.	
	Sharpness	This adjusts the sharpness of the projected image.	
	Color Temperature (Red/Green/Blue)	This adjusts the color temperature of the projected image.	
Image Setup	Aspect	This switches the projected image's aspect ratio.	
	Freeze	This switches screen freeze on and off.	
	V Keystone	This corrects for vertical keystone distortion.	
	H Keystone	This corrects for horizontal keystone distortion.	
	Corner correction	TopLeft_x	This corrects for distortion in the upper left corner.
		TopLeft_y	
		TopRight_x	This corrects for distortion in the upper right corner.
		TopRight_y	
		BottomLeft_x	This corrects for distortion in the lower left corner.
		BottomLeft_y	
		BottomRight_x	This corrects for distortion in the lower right corner.
		BottomRight_y	
Network Setup	LAN Setup	Obtain an IP address automatically Use the following IP address.	This select whether to enable or disable DHCP. When DHCP is disabled, set the IP address, subnet mask, gateway, and DNS below.
		IP Address	Sets the IP address when DHCP is disabled.
		Subnet	Sets the subnet mask when DHCP is disabled.
		Gateway	Sets the gateway when DHCP is disabled.
		DNS	Sets the DNS when DHCP is disabled.

Network Setup	Crestron control	IP Address	Sets the options for Crestron control.
		IP ID	
		PORT	
	PJLink Setup	Password Enable	Select on or off for password setting.
		Password Disable	
		Input Password	Input the PJLink password.
		Confirm Password	Re-enter the PJLink password to confirm.
	Network Service	AMX Beacon	Select whether or not to send an AMX beacon. - Default: Off (not sent)
		PJLink	Select whether to enable or disable PJLink. - Default: On (enabled)
		Crestron	Select whether to enable or disable Crestron. - Default: On (enabled)
		PC Control	Select whether to enable or disable the projector's RS-232C terminal. - Default: On (enabled)
		Search	When turned on, the projector responds to search notifications used by compatible applications. When turned off, the projector does not respond to search notifications. - Default: On (responds)
Logo	Choose File		Select the image to be used as the logo.
	Update		Sends the selected logo image to the projector.

NOTE:
- Always click [APPLY] after making a change to any General Setup or Network Setup setting.
- Any changes to the Network Service settings will be reflected the next time the projector is turned on.
- When you enter the password, pay enough attention to people around for the password abuse prevention.
  If you have anxiety the password is cheated, change the password immediately.
- When using the projector in a network environment, always follow the network administrator's instructions to configure the settings.
- Depending on your network environment, the display speed or button response may be slow, or operations may not be accepted. In such cases, consult your network administrator.
  Also, if you continue to operate the buttons, the projector may stop responding. In such cases, wait a while and then perform the operation again. If the projector still does not respond after waiting a while, turn the power off then back on.
- If the network settings screen does not appear in your web browser, press the Ctrl + F5 keys to refresh the web browser's display.
- The projector uses JavaScript and cookies, so configure your browser to enable these functions. The setting method varies depending on the firmware version. Refer to the help file or other explanations for the software.
- About Proxy Servers
  Depending on the type and setting method of the proxy server, operation of the web browser via the proxy server may not be possible. Depending on the type of proxy server, phenomena such as what was actually set not being displayed due to the effect of caching, or settings made from the web browser not being reflected, may occur. We recommend you avoid using a proxy server if possible.

TIP:
- If you forget your password, go to [SETUP(2)] → [RESTORE FACTORY SETTINGS] in the unit's on-screen menu to reset the password. Using [RESTORE FACTORY SETTINGS] will return all settings to the factory default.
- What is PJLink?
  PJLink is a standardization of protocol used for controlling projectors of different manufacturers. This standard protocol is established by Japan Business Machine and Information System Industries Association (JBMIA) in 2005.
- The CRESTRON settings are required only for use with CRESTRON ROOMVIEW.
  For more information, visit https://www.crestron.com

7-4. Registering the Background Logo

An image can be sent from a computer to the projector and registered as the background logo.
On the projector's HTTP server screen, display the [Logo] tab, then click [Choose File]. Next, select the image file you want to display on the logo screen, then update the background logo.

Logo	
Logo File	Choose File No file chosen
Update	
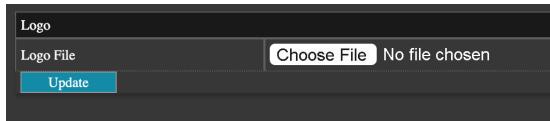
Conditions for logo images

  * File size: Within 500 KB
  * Image size: Within the projector's resolution (1920 × 1200 dots)
  * File format: JPEG (full color)

Once registered, if [BACKGROUND] in the on-screen menu's [IMAGE OPTIONS] is set to [LOGO], the logo image will be displayed in the background when there is no signal.
If the logo image is smaller than the projector's resolution, the logo image is displayed in the center and the surrounding area is black.

NOTE:
- Make sure the projector is powered on before clicking "Update". The logo image cannot be transmitted if the projector is in Sleep or Standby mode.

8. Maintenance

8-1. Cleaning the Filter

The intake vent's filter protects the inside of the projector from dust and dirt.
If dust accumulates in the filter, airflow will be impeded, causing the internal temperature to rise and potentially leading to malfunctions. Therefore, clean the filter when it appears dirty.

⚠️ **WARNING**	Please do not use a spray containing flammable gas to remove dust attached to the filters, etc. Doing so may result in fires.

TIP:
- About the filter cleaning time display
  - The projector has a function to notify you when it's time to clean the filter. When the projector's usage time reaches the preset time, a "Filter Warning" message will appear on the screen. When this message appears, clean the filter.

FILTER WARNING

  - You can change the filter cleaning message display interval (OFF, 500H, 1000H or 2000H) to suit your installation environment.
  - The filter cleaning interval (timer) is set to 1000 hours by factory default.
  - After cleaning the filter, reset the filter counter.
  - For the settings, refer to "Filter" in the on-screen menu (→ page 63).

Filter cleaning procedure

To clean the filter, remove the filter unit and filter cover and clean them.

⚠️ **CAUTION**	Before cleaning the filters, turn off the projector, disconnect the power cord and then allow the cabinet to cool. Failure to do so can result in electric shock or burn injuries.

1. **While pressing the knob on the right side of the filter cover towards the left, pull and remove the filter cover.**
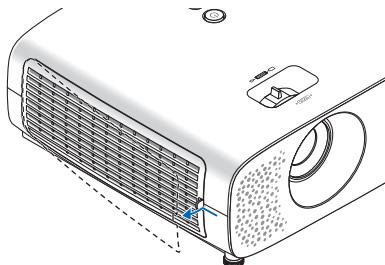
2. Remove the filter from the projector unit.

- Lightly pinch the projecting part on the right side of the filter and pull.
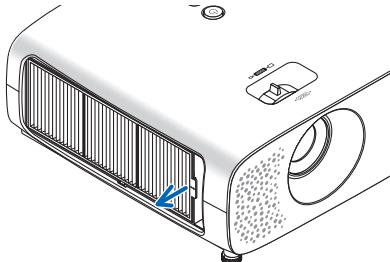
3. Remove the dust from the filter and filter cover.

Clean both the front and back sides.

NOTE:

- Use an adapter with a brush to clean the filter. Avoid touching the filter directly without an adapter and avoid using a nozzle adapter.
- Do not wash with water. Doing so could cause clogging.
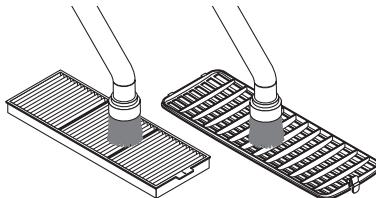
4. Attach the filter to the unit.

- There is a projecting part on one side of the filter's shorter edge.
- When attaching the filter, ensure the side with the projecting part is on the right and that the projecting part is facing outwards.
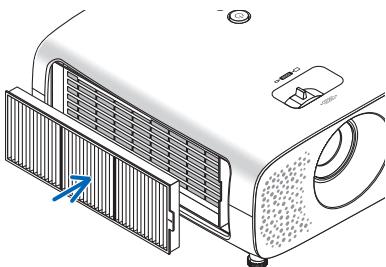
5. Attach the filter cover to the projector.

- First, align the projecting part on the left side of the filter cover with the projector, then press the right side of the filter cover in.

  Press firmly until you hear a click.
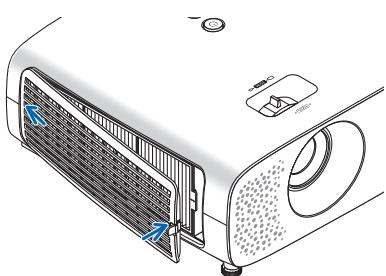
6. Reset the filter usage time.

    1. Plug the power cord into an outlet and turn on the projector's power.

    2. On the on-screen menu, select [SETUP(2)] → [FILTER MESSAGE] → [FILTER COUNTER RESET] then press the ENTER button. (→ Page 63)

SETUP(2)	
FILTER MESSAGE	
FILTER COUNTER	5 H
TIMER	1000H
FILTER COUNTER RESET	
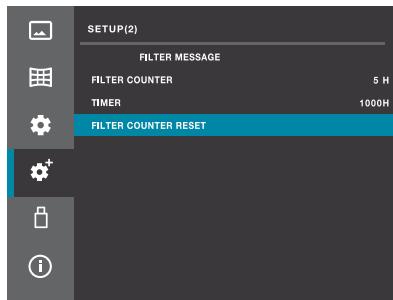
TIP:

• The recommended replacement time for the filter is 7000 hours.
Please contact your dealer for ordering a replacement filter.

> **Filter replacement procedure**
> For detailed instructions on how to remove and attach the filter cover and filter, refer to "Filter cleaning procedure" (pages 94 to 96).
> 1. Remove the filter cover from the projector unit.
> 2. Remove the filter from the projector unit.
> 3. Remove dust from the filter cover.
> 4. Attach the <u>new filter</u> to the projector body.
> 5. Attach the filter cover to the projector body.
> 6. Reset the filter usage time.

8-2. Cleaning the Lens

The projector's lens is made of plastic. Use a commercially available plastic lens cleaner to wipe any dirt off the lens.
Commercially available plastic lens cleaners can be purchased at camera stores, etc.

⚠ WARNING	• Turn off the power, unplug the power plug from the socket and remove the lens for cleaning. If the unit turns on while cleaning the lens, the strong light from the lens could damage your eyes. It could also burn your fingers. • Please do not use a spray containing flammable gas to remove dust attached to the lens. Doing so may result in fires.
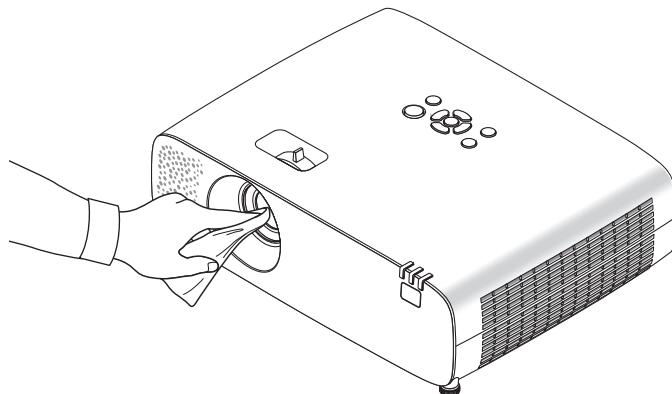
NOTE:
• NEVER use glass cleaner or alcohol. Doing so could corrode the surface of the plastic lens, causing a decrease in brightness and degradation of the image quality.

8-3. Cleaning the Cabinet

Always unplug the power cord from the outlet before cleaning.

- Wipe with a soft, dry cloth with little lint.
  For heavy dirt, apply some neutral detergent diluted with water to a cloth, wring the cloth out thoroughly, wipe the surface, then finish wiping with a dry cloth.
  If using a chemical cloth, follow the warning provided with the cloth.
- Do not wipe with solvents such as thinner or benzine. Doing so may cause deterioration or peeling of the paint.
- Use a vacuum cleaner adapter with a brush to remove dust from the vents or speaker area. Avoid touching the cabinet directly without an adapter and avoid using a nozzle adapter.

⚠ WARNING	• Turn off the projector, and unplug the projector before cleaning. • Please do not use a spray containing flammable gas to remove dust attached to the cabinet. Doing so may result in fires.
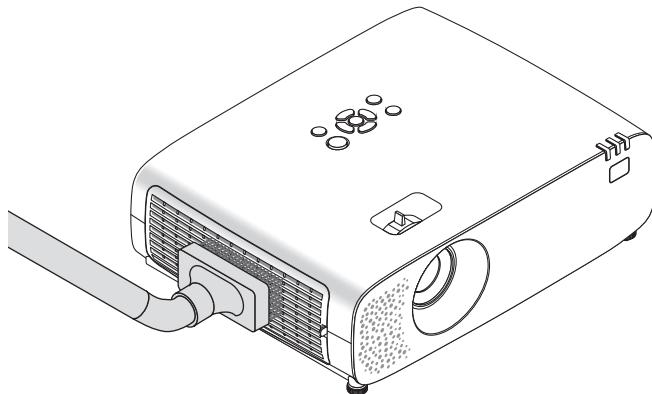
Vacuum the dust from the vents

- If dust accumulates in the intake vents, airflow will be impeded, causing the internal temperature to rise and potentially leading to malfunctions. Clean the intake vents when they appear dirty.
- Do not strongly scratch or hit the cabinet with your fingernails or other hard objects. Doing so could cause scratches.
- To clean the inside of the projector, contact your store of purchase or our customer service center.

NOTE:
- Do not apply volatile substances such as insecticides to the cabinet, lens, or screen.
  Also, do not leave rubber or vinyl products in contact with the projector for extended periods. Doing so may cause deterioration or paint peeling.

9. Appendix

9-1. Projection Distance and Screen Size

Use this as a guide to determine the picture size when installing the projector in a certain location, what size screen you will need, and what distance is required to project at the desired size.
The projection distance range at which the picture can be focused is between 0.86 m (for a 30-inch screen) to 10.65 m (for a 300-inch screen) from the front of the lens. Install within this range.

How to Read the Diagram

The diagram shows the projection range when the projector is installed horizontally.
From the diagram above we can see that to project in wide mode onto a 100-inch screen, the projector should be installed at a distance of about 3 meters.
The table below shows the upper and lower edges of the screen from the center of the projector's lens. Use this table to determine if you can secure the necessary height from the projector to the ceiling or the height for installing the screen.
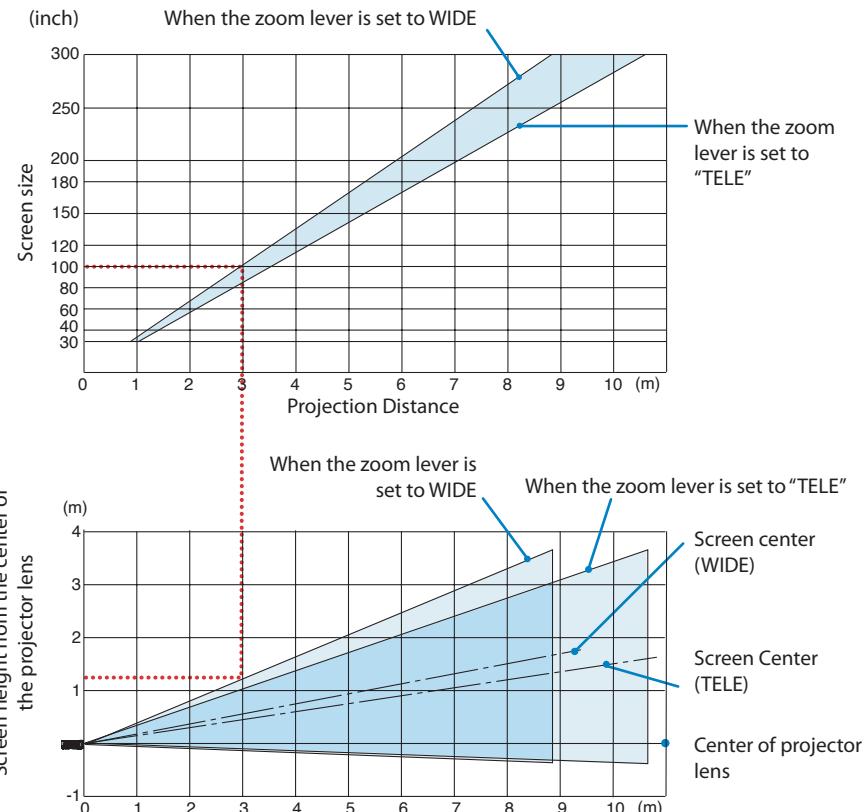
Example of Desktop Installation

The diagram below shows an example of using the projector on a desktop.

Horizontal projection position: Equidistant left and right from the center of the lens
Vertical projection position: Refer to the table below
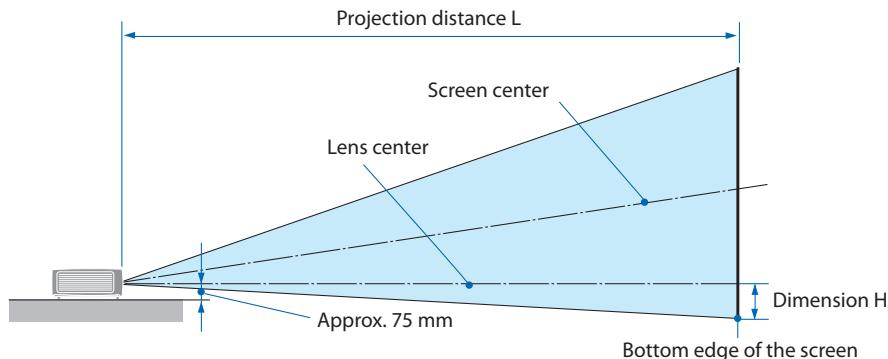
TIP:
- Height from the center of the lens to the bottom edge of the screen (with tilt feet retracted)
- Figures differ by several % because the calculation is approximate.

Screen size (inches)	Screen width		Screen height		Projection distance L				Dimensions H	
	(cm)	(inches)	(cm)	(inches)	(m)		(inches)		(cm)	(inches)
					WIDE	TELE	WIDE	TELE		
30	64.6	25.4	40.4	15.9	0.859	1.041	33.8	41.0	4.2	1.7
40	86.2	33.9	53.8	21.2	1.154	1.397	45.4	55.0	5.5	2.2
60	129.2	50.9	80.8	31.8	1.744	2.109	68.7	83.0	8.3	3.3
70	150.8	59.4	94.2	37.1	2.039	2.465	80.3	97.0	9.7	3.8
80	172.3	67.8	107.7	42.4	2.334	2.821	91.9	111.1	11.1	4.4
90	193.9	76.3	121.2	47.7	2.629	3.177	103.5	125.1	12.5	4.9
100	215.4	84.8	134.6	53.0	2.924	3.533	115.1	139.1	13.9	5.5
120	258.5	101.8	161.5	63.6	3.514	4.244	138.3	167.1	16.6	6.5
150	323.1	127.2	201.9	79.5	4.399	5.312	173.2	209.1	20.8	8.2
200	430.8	169.6	269.2	106.0	5.874	7.092	231.3	279.2	27.7	10.9
250	538.5	212.0	336.5	132.5	7.349	8.872	289.3	349.3	34.7	13.7
300	646.2	254.4	403.9	159.0	8.824	10.652	347.4	419.4	41.6	16.4

9-2. Compatible Input Signal List

Signal name	Resolution			Aspect ratio	Vertical scanning frequency (Hz)
VGA	640	×	480	4:3	60
SVGA	800	×	600	4:3	60
XGA	1024	×	768	4:3	60
HD	1280	×	720	16:9	60
WXGA	1280	×	768	15:9	60
	1280	×	800	16:10	60
Quad-VGA	1280	×	960	4:3	60
SXGA	1280	×	1024	5:4	60
FWXGA	1366	×	768	16:9	60
SXGA+	1400	×	1050	4:3	60
WXGA+	1440	×	900	16:10	60
WXGA++	1600	×	900	16:9	60
WSXGA+	1680	×	1050	16:10	60
UXGA	1600	×	1200	4:3	60
Full HD	1920	×	1080	16:9	60
WUXGA	1920	×	1200	16:10	60 [*1]
UWFHD	2560	×	1080	21:9	60
4K UHD	3840	×	2160	16:9	30
HDTV (1080p)	1920	×	1080	16:9	24/50/60
HDTV (1080i)	1920	×	1080	16:9	50/60
HDTV (720p)	1280	×	720	16:9	50/60
SDTV (480p)	720	×	480	4:3/16:9	60
SDTV (576p)	720	×	576	4:3/16:9	50
SDTV (480i)	720	×	480	4:3/16:9	60
SDTV (576i)	720	×	576	4:3/16:9	50

(*1) 1920 x 1200 @60Hz supports RB (Reduced Blanking) only.

9-3. Specifications

This section provides technical information about projector's performance.

Model name			E501U-W
Method			Three primary color liquid crystal shutter projection method
Specifications of main parts			
	Liquid crystal panel		
		Size	0.64" × 3 (aspect ratio: 16:10)
		Pixels (*1)	2,304,000 (1920 dots × 1200 lines)
	Projection lens		F = 1.6 - 1.76, f = 19.1 - 23.0 mm, Zoom Ratio = 1.2
		Zoom	Manual
		Focus	Manual
	Light source		Laser diode with Phosphor
	Optical device		Optical isolation by dichroic mirror, combining by dichroic prism
Light output (*2)			5000 lm(*3) / 5300 lm (Center)
Screen size (throw distance)			30 to 300 inches (0.86 - 10.65 m)
Color reproducibility			10-bit color processing (approx. 1.07 billion colors)
Scanning frequency			
		Horizontal	15 to 100 kHz
		Vertical	24 to 85 kHz
Input/output terminals			
	HDMI	Video input	Type A × 2 Deep Color, LipSync, HDCP (*4)
		Audio input	Sampling frequency: 32/44.1/48 kHz Sampling bit: 16/20/24 bit
	Audio output		Stereo mini jack × 1 (Common to all signals)
	USB		USB type A × 1, 5.0 V/1.5 A power supply
	SERVICE		USB type B x 1
	LAN		RJ-45 × 1, 100BASE-TX, PJLink Class1
Control Terminals			
	RS-232C		D-Sub 9-pin × 1
Built-in Speaker			16 W (monaural)
Usage environment (*5)			Operating temperature: 0 to 45℃ / 32 to 113℉ Operating humidity: 20 to 80% (with no condensation)
			Storage temperature: -10 to 50℃ / 14 to 122℉ Storage humidity: 20 to 85% (with no condensation)
			Operating altitude: 0 to 3000 m/9843 feet (1700 to 3000 m/5577 to 9843 feet: Set [FAN MODE] to [HIGH ALTITUDE])
Power supply			100–240 VAC, 50/60 Hz

Model name	E501U-W
Power consumption	330 W (100–130 VAC) 310 W (200–240 VAC)
Power consumption (Standby state)	
STANDBY MODE — NORMAL	0.37 W (100–130 VAC) / 0.37 W (200–240 VAC)
STANDBY MODE — NETWORK STANDBY	0.82 W (100–130 VAC) / 0.82 W (200–240 VAC)
Rated input current	3.3 A (100–130 VAC) – 1.4 A (200–240 VAC)
Power cord specification	10 A or higher
External dimensions	15.4" (width) × 4.7" (height) × 11.6" (depth)/ 390 (width) × 116 (height) × 294 (depth) mm (not including protrusions)
External dimensions	15.4" (width) × 5.0" (height) × 11.6" (depth)/ 390 (width) × 128 (height) × 294 (depth) mm (including protrusions)
Weight	11.0 lbs / 5.0 kg

*1 Effective pixels are more than 99.99%.

*2 This is the brightness when the [PICTURE MANAGEMENT] is set to [HIGH-BRIGHT] and the light mode is set to "NORMAL: 100%".
The brightness will decrease slightly if any other mode is selected. Also, the brightness is based on an ambient temperature of approximately 33°C. It varies depending on the usage environment.

*3 Compliance with ISO 21118-2020

*4 If you are unable to view material via the HDMI input, this does not necessarily mean the projector is not functioning properly. With the implementation of HDCP, there may be cases in which certain content is protected with HDCP and might not be displayed due to the decision/intention of the HDCP community (Digital Content Protection, LLC).
Video: Deep Color, 8/10/12-bit, Lip Sync.
Audio: LPCM; up to 2 ch, sample rate 32/44.1/48 KHz, sample bit; 16/20/24-bit
HDMI: Supports HDCP 1.4

*5 If the ambient temperature is high, the light source luminance (brightness) may automatically decrease due to the projector's protection function. If the temperature continues to rise, the power may turn off automatically.

• For additional information visit:

US: https://business.sharpusa.com/

Europe: https://sharpdisplays.eu

Global: https://sharp-displays.jp.sharp/global/index.html

The specifications are subject to change without notice.

9-4. Cabinet Dimensions

Unit: mm (inch)

128 (5.0)

116 (4.5)

294 (11.5)

390 (15.3)

125 (4.9)

63.3 (2.4)

75.1 (2.9)

107.1 (4.2)

183 (7.2)

64.3 (2.5)

149 (5.8)
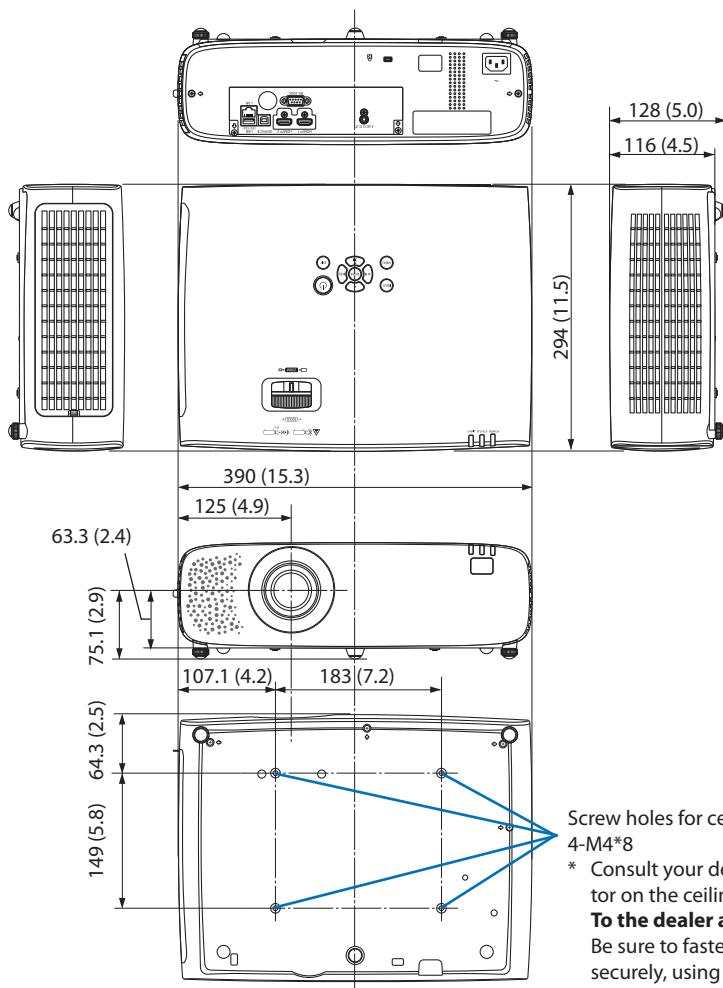
Screw holes for ceiling mount bracket*
4-M4*8
* Consult your dealer for installing the projec-
tor on the ceiling.
To the dealer and the installer
Be sure to fasten the ceiling mount fittings
securely, using all 4 screw holes.

Specifications of screws to be used

8 mm

Screw length excluding mounting bracket thickness: 8 mm

M4 screw

Mounting bracket

Projector's cabinet
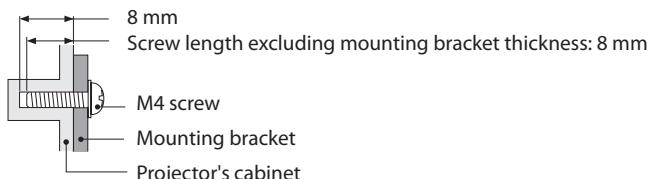
9-5. Pin assignments and signal names of main terminals

HDMI 1/HDMI 2 Terminal (Type A)
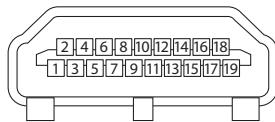
Pin No.	Signal
1	TMDS Data 2+
2	TMDS Data 2 Shield
3	TMDS Data 2−
4	TMDS Data 1+
5	TMDS Data 1 Shield
6	TMDS Data 1−
7	TMDS Data 0+
8	TMDS Data 0 Shield
9	TMDS Data 0−
10	TMDS Clock +
11	TMDS Clock Shield
12	TMDS Clock−
13	CEC
14	Disconnection
15	SCL
16	SDA
17	DDC/CEC grounding
18	+5 V power supply
19	Hot plug detection

LAN Port (RJ-45)
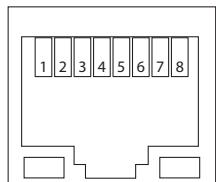
Pin No.	Signal
1	TxD+/HDBT0+
2	TxD−/HDBT0−
3	RxD+/HDBT1+
4	Disconnection/HDBT2+
5	Disconnection/HDBT2−
6	RxD−/HDBT1−
7	Disconnection/HDBT3+
8	Disconnection/HDBT3−

USB Port (Type A)
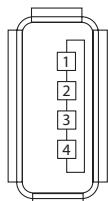
Pin No.	Signal
1	V_{BUS}
2	D−
3	D+
4	Grounding

RS-232C Port (D-Sub 9 Pin)
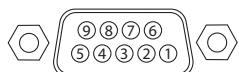
Pin No.	Signal
1	Unused
2	RxD reception data
3	TxD transmission data
4	Unused
5	Grounding
6	Unused
7	RTS transmission request
8	CTS transmission allowed
9	Unused

9-6. PC Control Codes and Cable Connection

PC Control Codes

Command Format - A

Function	Code Data							
POWER ON	02H	00H	00H	00H	00H	02H		
POWER OFF	02H	01H	00H	00H	00H	03H		
INPUT SELECT HDMI1	02H	03H	00H	00H	02H	01H	A1H	A9H
INPUT SELECT HDMI2	02H	03H	00H	00H	02H	01H	A2H	AAH
INPUT SELECT USB-A	02H	03H	00H	00H	02H	01H	1FH	27H
PICTURE MUTE ON	02H	10H	00H	00H	00H	12H		
PICTURE MUTE OFF	02H	11H	00H	00H	00H	13H		
SOUND MUTE ON	02H	12H	00H	00H	00H	14H		
SOUND MUTE OFF	02H	13H	00H	00H	00H	15H		

Command Format - B

Function	Code Data							
POWER ON	P	O	W	R	<SP>	<SP>	<SP>	1	<CR>
POWER OFF	P	O	W	R	<SP>	<SP>	<SP>	0	<CR>
INPUT SELECT HDMI1	I	R	G	B	<SP>	<SP>	3	1	<CR>
INPUT SELECT HDMI2	I	R	G	B	<SP>	<SP>	3	2	<CR>
INPUT SELECT USB-A	I	U	S	B	<SP>	<SP>	4	1	<CR>
AV MUTE OFF	I	M	B	K	<SP>	<SP>	<SP>	0	<CR>
AV MUTE ON	I	M	B	K	<SP>	<SP>	<SP>	1	<CR>
SOUND MUTE ON	M	U	T	E	<SP>	<SP>	<SP>	0	<CR>
SOUND MUTE OFF	M	U	T	E	<SP>	<SP>	<SP>	1	<CR>

NOTE:
- Command formats A and B are identified automatically.
- <SP> in Parameter area means "20H" in ASCII code.
  <CR> in Parameter area means "0DH" in ASCII code.
- Contact your local dealer for a full list of the PC Control Codes if needed.

Cable Connection

Communication Protocol

Baud rate	38400 bps
Data length	8 bits
Parity	No parity
Stop bit	One bit
X on/off	None
Communications procedure	Full duplex

NOTE:
- Depending on the equipment, a lower baud rate may be recommended for long cable runs.

RS-232C Terminal (D-Sub 9P)
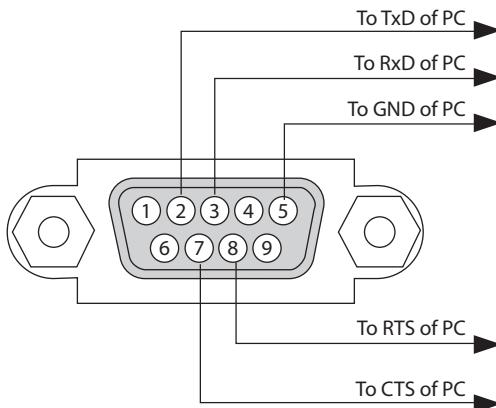
NOTE:
- Pins 1, 4, 6 and 9 are no used.
- Jumper "Request to Send" and "Clear to Send" together on both ends of the cable to simplify cable connection.
- For long cable runs it is recommended to set communication speed within projector menus to 9600 bps.

9-7. About the ASCII Control Command

This device supports the common ASCII Control Command for controlling our projector and monitor. Please visit our web site for detailed information about the command.
https://sharp-displays.jp.sharp/dl/en/pj_manual/lineup.html

How to connect with an external device

There are two methods to connect the projector with an external device such as a computer.

1. Connection thru the serial port.

    Connects the projector to a computer by a serial cable (a cross cable).

2. Connection via network (LAN)

    Connects the projector to a computer by a LAN cable.

    Concerning to the type of LAN cable, please ask to your network administrator.

Connection interface

1. Connection thru the serial port.

    Communication Protocol

Item	Information
Baud rate	38400/19200/9600/4800 bps
Data length	8 bits
Parity bit	No parity
Stop bit	1 bit
Flow control	None
Communications procedure	Full duplex

2. Connection via network

    Communication Protocol (Connection via LAN)

Item	Information
Communication speed	Set automatically (10/100 Mbps)
Supported standard	IEEE802.3 (10BASE-T)
	IEEE802.3u (100BASE-TX, Auto-Negotiation)

    Use the TCP port number 7142 for transmitting and receiving command.

Parameters for this device

Input command

Input terminal	Response	Parameter
HDMI1	hdmi1	hdmi1 or hdmi
HDMI2	hdmi2	hdmi2
USB-A	usb-a	usb-a

Status command

Response	Error Status
error:temp	Temperature error
error:fan	Fan trouble
error:light	Light source trouble
error:system	System trouble

9-8. Troubleshooting

This section helps you resolve problems you may encounter while setting up or using the projector.

Common Problems & Solutions

Problem	Check These Items
Does not turn on or shut down	• Check that the power cord is plugged in and that the power button on the projector cabinet or the remote control is on. (→ pages 16, 18) • Check to see if the projector has overheated. If there is insufficient ventilation around the projector or if the room where you are presenting is particularly warm, move the projector to a cooler location. • The light module may fail to light. Wait a full minute and then turn on the power again. • Cannot be used at elevations above 9,842 feet/3,000 m. Set [FAN MODE] to [HIGH ALTITUDE] when using the projector at altitudes approximately 5577 feet/1700 meters or higher. Using the projector at altitudes approximately 5577 feet/1700 meters or higher without setting to [HIGH ALTITUDE] can cause the projector to overheat and the projector could shut down. If this happens, wait a couple minutes and turn on the projector. (→ page 52) If you turn on the projector immediately after the light module is turned off, the fans run without displaying an image for some time and then the projector will display the image. Wait for a moment. • In case it's hard to think the trouble is not caused on the above mentioned conditions, unplug the power cord from the outlet. Then wait 5 minutes before plugging it in again. (→ page 29)
Will turn off	• Ensure that the [POWER MANAGEMENT] is off. (→ page 43, 62)

No picture	• Check if the appropriate input is selected. (→ page 20) If there is still no picture, press the SOURCE button or one of the source buttons again.
	• Ensure your cables are connected properly.
	• Use menus to adjust the brightness and contrast. (→ page 45)
	• Check that the AV-MUTE (image off) buttons are not pressed.
	• Reset the settings or adjustments to factory preset levels using the [RESTORE FACTORY SETTINGS] in the Menu. (→ page 66)
	• If the HDMI 1 or the HDMI 2 signal cannot be displayed, try the following.
	  - Reinstall your driver for the graphics card built in your computer, or use the updated driver.
	  For reinstalling or updating your driver, refer to the user guide accompanied with your computer or graphics card, or contact the support center for your computer manufacturer.
	  Install the updated driver or OS on your own responsibility.
	  We are not liable for any trouble and failure caused by this installation.
	• Be sure to connect the projector and notebook PC while the projector is in standby mode and before turning on the power to the notebook PC.
	In most cases the output signal from the notebook PC is not turned on unless connected to the projector before being powered up.
	* If the screen goes blank while using your remote control, it may be the result of the computer's screen-saver or power management software.
	• See also the page 102.

Picture suddenly becomes dark	• When the ambient temperature is high, the brightness of the light source may automatically decrease due to the unit's protection function. • If the projector is used at altitudes exceeding approximately 2,600 m (8,530 feet), the brightness is automatically dimmed to protect the projector. (→ page 52) • When the DYNAMIC CONTRAST function is enabled, the brightness may decrease depending on the image being displayed. (→ page 45)

Problem	Check These Items
Color tone or hue is unusual	• Adjust [HUE] in [PICTURE]. (→ page 46)
Image isn't square to the screen	• Reposition the projector to improve its angle to the screen. (→ page 22) • Use the Keystone correction function to correct the trapezoid distortion. (→ page 25)
Picture is blurred	• Adjust the focus. (→ page 23) • Reposition the projector to improve its angle to the screen. (→ page 22) • Ensure that the distance between the projector and screen is within the adjustment range of the lens. (→ page 85) • Condensation may form on the lens if the projector is cold, brought into a warm place and is then turned on. Should this happen, let the projector stand until there is no condensation on the lens.
The HDMI input signal is not projected correctly	• The HDMI signal level may not be detected correctly. Check the signal level of the device connected to either the HDMI 1 or HDMI 2 input terminal and try changing the setting in [HDMI SETTINGS] in the on-screen menu under [SETUP(1)]. (→ page 54)
No sound	• Is the volume turned down? (→ page 28) • Or, is the [MUTE] function in the on-screen menu set to [ON]? (→ page 53)
Remote control does not work	• Aim the remote control's infrared transmitter towards the projector's remote control receiver. (→ page 14) • Install new batteries. (→ page 13) • Make sure there are no obstacles between you and the projector. • Stand within 8 m/315 inch of the projector. (→ page 14) • If a [CONTROL ID] has been set, check whether the ID number for the remote control matches the ID number for the projector. (→ page 65)
Indicator is lit or blinking	• See the Indicator Message. (→ page 100)

For more information contact your dealer.

If there is no picture, or the picture is not displayed correctly.

• Power on process for the projector and the PC.
Be sure to connect the projector and notebook PC while the projector is in standby mode and before turning on the power to the notebook PC.
In most cases the output signal from the notebook PC is not turned on unless connected to the projector before being powered up.

NOTE:
• You can check the horizontal frequency of the current signal in the projector's menu under Information. If it reads "0kHz", this means there is no signal being output from the computer. (→ page 70 or go to next step)

• Enabling the computer's external display.
Displaying an image on the notebook PC's screen does not necessarily mean it outputs a signal to the projector. When using a PC compatible laptop, a combination of function keys will enable/disable the external display. Usually, the combination of the "Fn" key along with one of the 12 function keys gets the external display to come on or off.

• Non-standard signal output from the computer
If the output signal from a notebook PC is not an industry standard, the projected image may not be displayed correctly. Should this happen, deactivate the notebook PC's LCD screen when the projector display is in use. Each notebook PC has a different way of deactivate/reactivate the local LCD screens as described in the previous step. Refer to your computer's documentation for detailed information.

• Image displayed is incorrect when using a Mac
When using a Mac with the projector, set the DIPswitch of the Mac adapter (not supplied with the projector) according to your resolution. After setting, restart your Mac for the changes to take affect.
For setting display modes other than those supported by your Mac and the projector, changing the DIP switch on a Mac adapter may bounce an image slightly or may display nothing. Should this happen, set the DIP switch to the 13" fixed mode and then restart your Mac. After that, restore the DIP switches to a displayable mode and then restart the Mac again.

NOTE:
• A Video Adapter cable manufactured by Apple Inc. is needed for a MacBook which does not have a mini D-Sub 15-pin terminal.

• Mirroring on a MacBook
 * When using the projector with a MacBook, output may not be set to the display resolution of the projector unless "mirroring" is off on your MacBook. Refer to owner's manual supplied with your Mac computer for mirroring.

• Folders or icons are hidden on the Mac screen
Folders or icons may not be seen on the screen. Should this happen, select [View] → [Arrange] from the Apple menu and arrange icons.

9-9. Indicator Message

If the three indicators on the projector control panel are lit or flashing, check the following explanations.

POWER indicator

STATUS indicator

LIGHT indicator
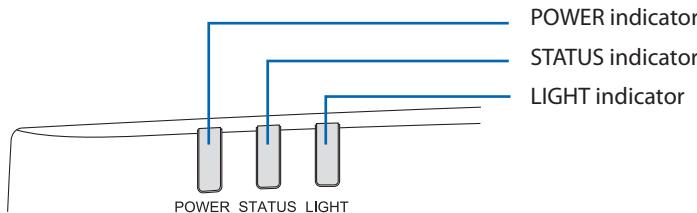
POWER STATUS LIGHT

Normal indicator display

POWER	STATUS	LIGHT	Projector status
Off	Off	Off	Power is off
Orange (Slow flashing)	Off	Off	Standby ([NORMAL] standby mode)
Orange (Lit)	Off	Off	Standby ([NETWORK STANDBY] standby mode)
Green (Lit)	Off	Off	Standby ([SLEEP] standby mode)
Blue (Lit)	Off	Green (Lit)	Power is on ([NORMAL] light mode)
Blue (Lit)	Off	Green (Flashing)	Power is on ([SILENT 1], [SILENT 2] or [LONG LIFE] light mode)
Green (Quick flashing)	Off	Off	Projector is cooling down

POWER	STATUS	LIGHT	Projector status
Green (Slow flashing)	Off	Off	Ready mode (→ page 62)

Indicator display when there is an abnormality

POWER	STATUS	LIGHT	Projector status
Off	Orange (Lit)	Statuses	When a button on the projector is pressed while the control panel keys are locked
			When the ID numbers of the projector and remote control do not match
Red (Quick flashing)	Off	Off	A temperature error was detected. Check if the air intake and exhaust vents are blocked.
Green (Lit)	Red (Quick flashing)	Off	Filter time exceeded. Clean the filter and reset the filter counter. (→ Page 80)
Red (Lit)	Other statuses	Other statuses	Hardware error. Please contact your dealer.
Red (Quick flashing)	Other statuses	Other statuses	

9-10. Troubleshooting Check List

Before contacting your dealer or service personnel, check the following list to be sure repairs are needed also by referring to the "Troubleshooting" section in your user's manual. This checklist below will help us solve your problem more efficiently.

* Print this page and the next page for your check.

Frequency of occurrence:
☐ always   ☐ sometimes (How often? _____)   ☐ other (_____)

Power

☐ No power (POWER indicator does not light blue). See also "Status Indicator (STATUS)".
　☐ Power cord's plug is fully inserted into the wall outlet.
　☐ Main power switch is pressed to the ON position.
　☐ No power even though you press and hold the POWER button.

☐ Shut down during operation.
　☐ Power cord's plug is fully inserted into the wall outlet.
　☐ [POWER MANAGEMENT] is turned off (only models with the [POWER MANAGEMENT] function).

Video and Audio

☐ No image is displayed from your PC or video equipment to the projector.
　☐ Still no image even though you connect the projector to the PC first, then start the PC.
　☐ Enabling your notebook PC's signal output to the projector.
　　• A combination of function keys will enable/disable the external display. Usually, the combination of the "Fn" key along with one of the 12 function keys turns the external display on or off.
　☐ No image (blue or black background, no display).
　☐ Still no image even though you carry out [RESET] in the projector's menu.
　☐ Signal cable's plug is fully inserted into the input terminal
　☐ A message appears on the screen.
　　(_____)
　☐ The source connected to the projector is active and available.
　☐ Still no image even though you adjust the brightness and/or the contrast.
　☐ Input source's resolution and frequency are supported by the projector.

☐ Image is too dark.
　☐ Remains unchanged even though you adjust the brightness and/or the contrast.

☐ Image is distorted.
　☐ Image appears to be trapezoidal (unchanged even though you carry out the [KEYSTONE] adjustment).

☐ Parts of the image are lost.
　☐ Still unchanged even though you carry out [RESET] in the projector's menu.

☐ Image is shifted in the vertical or horizontal direction.
　☐ Input source's resolution and frequency are supported by the projector.
　☐ Some pixels are lost.

☐ Image is flickering.
　☐ Still unchanged even though you carry out [RESET] in the projector's menu.
　☐ Image shows flickering or color drift on a computer signal.
　☐ Still unchanged even though you change [FAN MODE] from [HIGH ALTITUDE] to [AUTO].

☐ Image appears blurry or out of focus.
　☐ Still unchanged even though you checked the signal's resolution on PC and changed it to projector's native resolution.
　☐ Still unchanged even though you adjusted the focus.

☐ No sound.
　☐ Audio cable is correctly connected to the audio input of the projector.
　☐ Still unchanged even though you adjusted the volume level.
　☐ AUDIO OUT is connected to your audio equipment (only models with the AUDIO OUT terminal).

Other

☐ Remote control does not work.
　☐ No obstacles between the sensor of the projector and the remote control.
　☐ Projector is placed near a fluorescent light that can disturb the infrared remote controls.
　☐ ID for the projector and for the remote are same.

☐ Buttons on the projector cabinet do not work (only models with the [CONTROL PANEL LOCK] function)
　☐ [CONTROL PANEL LOCK] is not turned on or is disabled in the menu.

In the space below please describe your problem in detail.

[blank space]

Information on application and environment where your projector is used

Projector

Model number:

Serial No.:

Date of purchase:

Light module operating time (hours):

ECO MODE: ☐ OFF ☐ ECO

☐ LONG LIFE

Information on input signal:

Horizontal synch frequency [　　] kHz

Vertical synch frequency [　　] Hz

Synch polarity H ☐ (+) ☐ (−)

V ☐ (+) ☐ (−)

Synch type ☐ Separate ☐ Composite

☐ Sync on Green

STATUS Indicator:

Steady light ☐ Orange ☐ Green

Flashing light [　　] cycles

Remote control model number:

Installation environment

Screen size: 　　　　inch

Screen type: ☐ White matte ☐ Beads ☐ Polarization
☐ Wide angle ☐ High contrast

Throw distance: 　　　　feet/inch/m

Orientation: ☐ Ceiling mount ☐ Desktop

Power outlet connection:

☐ Connected directly to wall outlet

☐ Connected to power cord extender or other (the number of connected equipment _____)

☐ Connected to a power cord reel or other (the number of connected equipment _____)
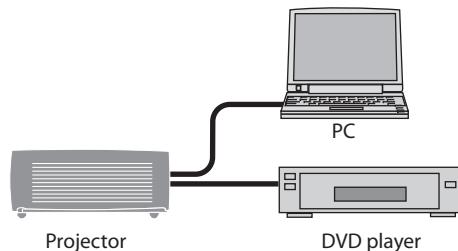
Computer

Manufacturer:

Model number:

Notebook PC ☐ / Desktop ☐

Native resolution:

Refresh rate:

Video adapter:

Other:

PC

Projector　　　　　　DVD player

Video equipment

VCR, DVD player, Video camera, Video game or other

Manufacturer:

Model number:

Signal cable

SHARP standard or other manufacturer's cable?

Model number: 　　　Length: 　　inch/m

Distribution amplifier

Model number:

Switcher

Model number:

Adapter

Model number:

103

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