NEC

Projector

UM383WL

User's Manual

Please visit our web site for User's Manual in the latest version:
https://www.nec-display.com/dl/en/pj_manual/lineup.html

Model No.
NP-UM383WL

- Apple, Mac, Mac OS, OS X, MacBook, and iMac are trademarks of Apple Inc. registered in the U.S. and other countries.
- iOS is a trademark or registered trademark of Cisco in the U.S. and other countries and is used under license.
- APP Store is a service mark of Apple Inc.
- Microsoft, Windows, Windows Vista, Internet Explorer, .NET Framework and PowerPoint are either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.
- MicroSaver is a registered trademark of Kensington Computer Products Group, a division of ACCO Brands in the U.S. and other countries.
- AccuBlend, NaViSet, MultiPresenter, and Virtual Remote are trademarks or registered trademarks of NEC Dispolay Solutions, Ltd. in Japan, in the United State and other countries.
- The terms HDMI and HDMI High-Definitio   Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. in the United States and other countries.

- 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.
- Ethernet is either a registered trademark or trademark of Fuji Xerox Co., Ltd.
- Android and Google Play are trademarks of Google Inc.
- Other product names and logos mentioned in this user's manual may be the trademarks or registered trademarks of their respective holders.
- Virtual Remote Tool uses WinI2C/DDC library, © Nicomsoft Ltd.
- GPL/LGPL Software Licenses

  The product includes software licensed under GNU General Public License (GPL), GNU Lesser General Public License (LGPL), and others.

  For more information on each software, see "readme.pdf" in the "about GPL&LGPL" folder on the supplied CD-ROM.

NOTES

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

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

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

(4) Notwithstanding article (3), NEC will not be responsible for any claims on loss of profi or other matters deemed to result from using the Projector.

Important Information

Safety Cautions

Precautions

Please read this manual carefully before using your NEC projector and keep the manual handy for future reference.

CAUTION

To turn off main power, be sure to remove the plug from power outlet.
The power outlet socket should be installed as near to the equipment as possible, and should be easily accessible.

CAUTION

TO PREVENT SHOCK, DO NOT OPEN THE CABINET.
THERE ARE HIGH-VOLTAGE COMPONENTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns the user that uninsulated voltage within the unit may be sufficien to cause electrical shock. Therefore, it is dangerous to make any kind of contact with any part inside of the unit.

This symbol alerts the user that important information concerning the operation and maintenance of this unit has been provided.
The information should be read carefully to avoid problems.

WARNING: TO PREVENT FIRE OR SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.
DO NOT USE THIS UNIT'S PLUG WITH AN EXTENSION CORD OR IN AN OUTLET UNLESS ALL THE PRONGS CAN BE FULLY INSERTED.

CAUTION

Avoid displaying stationary images for a prolonged period of time.
Doing so can result in these images being temporarily sustained on the surface of the LCD panel.
If this should happen, continue to use your projector. The static background from previous images will disappear.

WARNING TO CALIFORNIA RESIDENTS:

Handling the cables supplied with this product will expose you to lead, a chemical known to the State of California to cause birth defects or other reproductive harm. WASH HANDS AFTER HANDLING.

FCC Information (for USA only)

WARNING

The Federal Communications Commission does not allow any modifications or changes to the unit EXCEPT those specified by NEC Display Solutions of America, Inc. in this manual. Failure to comply with this government regulation could void your right to operate this equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Disposing of your used product

If you wish to dispose of used electrical and electronic products, please contact your local authority and ask for the correct method of disposal.

Important Safeguards

These safety instructions are to ensure the long life of your projector and to prevent fir and shock. Please read them carefully and heed all warnings.

⚠ Installation

- Do not place the projector in the following conditions:
  - on an unstable cart, stand, or table.
  - near water, baths, or damp rooms.
  - in direct sunlight, near heaters, or heat radiating appliances.
  - in a dusty, smoky or steamy environment.
  - on a sheet of paper or cloth, rugs or carpets.
- If you wish to have the projector installed on the ceiling:
  - Do not attempt to install the projector yourself.
  - The projector must be installed by qualifie technicians in order to ensure proper operation and reduce the risk of bodily injury.
  - In addition, the ceiling must be strong enough to support the projector and the installation must be in accordance with any local building codes.
  - Please consult your dealer for more information.
- Do not install and store the projector in the below circumstances. Failure to do so may cause of malfunction.
  - In powerful magnetic field
  - In corrosive gas environment
  - Outdoors

WARNING

- Do not place any objects, which are easily affected by heat, in front of the projection window. Doing so could lead to the object melting from the heat that is emitted from the light output.
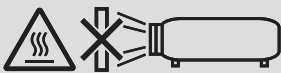
- Do not use a spray containing flammable gas to get rid of accumulated dust and dirt on the filters and the projection window. It may cause of fire.

Place the projector in a horizontal position

The projector should not be installed in any way other than the desktop, ceiling mount, and ways described in this manual, otherwise light life could decrease dramatically.

⚠ Fire and Shock Precautions ⚠

- Ensure that there is sufficien ventilation and that vents are unobstructed to prevent the build-up of heat inside your projector. Allow at least 4 inches (10cm) of space between your projector and a wall.
- Do not try to touch the exhaust vent as it can become heated while the projector is turned on and immediately after the projector is turned off. 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.

HOT

- Prevent foreign objects such as paper clips and bits of paper from falling into your projector. Do not attempt to retrieve any objects that might fall into your projector. Do not insert any metal objects such as a wire or screwdriver into your projector. If something should fall into your projector, disconnect it immediately and have the object removed by a qualifie service personnel.
- Do not place any objects on top of the projector.
- Do not touch the power plug during a thunderstorm. Doing so can cause electrical shock or fire
- The projector is designed to operate on a power supply of 100-240V AC 50/60 Hz. Ensure that your power supply fit this requirement before attempting to use your projector.
- Do not look the lens while the projector is on. Serious damage to your eyes could result. The following label, that is indicated near the lens-mounting-section on the projector cabinet, describes this projector is categorized in the risk group 2 of IEC 62471-5: 2015. As with any bright source, do not stare into the beam, RG2 IEC 62471-5: 2015.

RG2
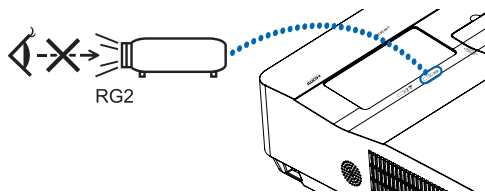
- Keep any items such as magnifying glass out of the light path of the projector. The light being projected from the lens is extensive, therefore any kind of abnormal objects that can redirect light coming out of the lens, can cause unpredictable outcome such as fire or injury to the eyes.
- Do not place any objects, which are easily affected by heat, in front of a projector exhaust vent.
  Doing so could lead to the object melting or getting your hands burned from the heat that is emitted from the exhaust.
- Do not splash water over the projector. Doing so can cause electrical shock or fire. If the projector gets wet, turn off the projector, unplug the power cord and have the projector serviced by a qualified service personnel.
- Handle the power cord carefully. A damaged or frayed power cord can cause electric shock or fire.
  - Do not use any power cord other than the one supplied with the projector.
  - Do not bend or tug the power cord excessively.
  - Do not place the power cord under the projector, or any heavy object.
  - Do not cover the power cord with other soft materials such as rugs.
  - Do not heat the power cord.
  - Do not handle the power plug with wet hands.
- Turn off the projector, unplug the power cord and have the projector serviced by a qualified service personnel under the following conditions:
  - When the power cord or plug is damaged or frayed.
  - If liquid has been spilled into the projector, or if it has been exposed to rain or water.
  - If the projector does not operate normally when you follow the instructions described in this user's manual.
  - If the projector has been dropped or the cabinet has been damaged.
  - If the projector exhibits a distinct change in performance, indicating a need for service.
- Disconnect the power cord and any other cables before carrying the projector.
- Turn off the projector and unplug the power cord before cleaning the cabinet or replacing the light.
- Turn off the projector and unplug the power cord if the projector is not to be used for an extended period of time.
- When using a LAN cable:
  For safety, do not connect to the terminal for peripheral device wiring that might have excessive voltage.

> ⚠ **CAUTION**
> - Do not use the adjustable tilt foot for purposes other than originally intended. Misuses such as gripping the tilt-foot or hanging on the wall can cause damage to the projector.
> - Select [HIGH] in Fan mode if you continue to use the projector for consecutive days. (From the menu, select [SETUP] → [OPTIONS(1)] → [FAN MODE] → [HIGH].)
> - This projector has a "click" sound at power on or during some switching, which is not a malfunction.

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.

About High Altitude mode

- Set [FAN MODE] to [HIGH ALTITUDE] when using the projector at altitudes approximately 5500 feet/1700 meters or higher.

  Using the projector at altitudes approximately 5500 feet/1700 meters or higher without setting to [HIGH ALTITUDE] can cause the projector to overheat and the protector could shut down. If this happens, wait a couple minutes and turn on the projector.

- Using the projector at altitudes approximately 5500 feet/1700 meters or higher can shorten the life of optical components such as the light.

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.

Cable Information

Use shielded cables or cables attached ferrite cores so as not to interfere with radio and television reception.
For details, please refer to "6.2. Making Connections" in this user's manual.

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] for [STANDBY MODE].

NOTE:
- *When [NORMAL] is selected for [STANDBY MODE], the following terminals and functions will not work:*
  MONITOR OUT terminal, AUDIO OUT terminal, LAN functions, Mail Alert function, DDC/CI (Virtual Remote Tool). Please refer to page 73 about details.
- *When [NETWORK STANDBY] has been set for [STANDBY MODE] and the LAN has been in link-down condition for 3 minutes, [STANDBY MODE] will transit into [NORMAL] automatically for the purpose to save the consumption power.*

---

2. AUTO POWER OFF (Factory preset: 1 hour)

To control the projector from an external device, select [OFF] for [AUTO POWER OFF].

NOTE:
- *When [1:00] is selected for [AUTO POWER OFF], you can enable the projector to automatically turn off in 60 minutes if there is no signal received by any input or if no operation is performed.*

Table of Contents

1. Introduction

❶ 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
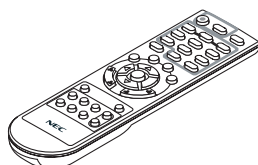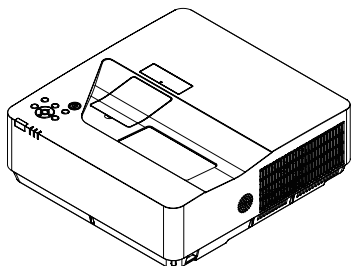
*Remote control
(7N901053)*
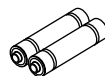
Batteries (AAA × 2)
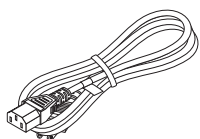
*Power cord
(7N080236/7N080242)*
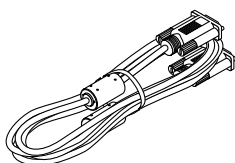
*Computer cable (VGA)
(7N520089)*

*NEC Projector CD-ROM
User's manual (PDF)
(7N952943)*

For North America only
Limited warranty

- *Important Infomation (7N8R0231)*
- *Quick Setup Guide (7N8R0241)*

1

❷ Introduction to the Projector

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

Features you'll enjoy:

- **Ultra short throw distances**

  Ultra short focal lenses provide for a larger image using a shorter throw distance when compared to a typical projector lens.

  Max 130", throw distance: 42.9 cm/17 inches
  (The throw distance refers to the distance between the screen and the screen side of the projector)

- **Quick start (6 seconds[*1]), Quick Power Off, Direct Power Off**

  6 seconds[*1] after turning on the power, the projector is ready to display PC or video images.

  The projector can be put away immediately after the projector is powered down. No cool down period is required after the projector is turned off from the remote control or cabinet control panel.

  The projector has a feature called "Direct Power Off". This feature allows the projector to be turned off (even when projecting an image) by using the Main Power Switch or disconnecting the AC power supply.

  To turn off the AC power supply when the projector is powered on, use a power strip equipped with a switch and a breaker.

  [*1] The quick start time is only when [STANDBY MODE] is set to [NETWORK STANDBY] in the on-screen message.

- **Tilt-free**

  This projector can be set to any angle within a vertical 360° range.

- **0.26 W (100-130 V AC)/0.39 W (200-240 V AC) in standby condition with energy saving technology**
  Selecting [NORMAL] for [STANDBY MODE] from the menu can put the projector in power-saving mode that consumes only 0.26 W (100-130 V AC)/0.39 W (200-240 V AC).

- **Carbon Meter**

  This feature will show energy-saving effect in terms of CO_2 emission reduction (kg) when the projector's [ECO MODE] is set to [AUTO ECO], [NORMAL], or [ECO].

  The amount of CO_2 emission reduction will be displayed in the confirmation message at the time of power-off and in the INFO of the on-screen menu.

- **High color gamut**

  The projector adopts HLD+LED new solid light source and optical components that can improve color reproducibility. The reproducible color gamut is greatly expanded compared to traditional lamp projectors (when [ADJUST] - [PICTURE] - [PRESET] is set to [GRAPHIC]).

- **HLD+LED new light source with 20,000 hours long life**

  With a brightness of 3,800 lumens and an ultra long life of up to 20,000 hours, it maintains brightness of the display throughout the life.

- **Wide range of input terminals (HDMI × 2)**
  The projector is equipped with a variety of input terminals: HDMI (× 2), Computer (analog), Video. HDMI input terminal on this product supports HDCP.

- **Compatible with the MultiPresenter application**
  This projector is compatible with the NEC MultiPresenter application, so multi-screen projection is possible via the network (wired LAN).

- **2 ×10 W built-in speaker for an integrated audio solution**
  Two powerful 10 watt stereo speakers are built in.

- **The supplied remote control allows you to assign a CONTROL ID to the projector**

  Multiple projectors can be operated separately and independently with the same single remote control by assigning an ID number to each projector.

- **Convenient utility software (User Supportware)**

  This projector supports our utility software (NaViSet Administrator 2, Virtual Remote Tool, etc.) NaViSet Administrator 2 helps you control the projector by a computer via wired LAN connection. Virtual Remote Tool helps you perform operations by a virtual remote control such as projector's power on or off and signal selection via wired LAN connection. Moreover, it has function to send an image to the projector and register it as the logo data.

  Please visit our web site for downloading each software.

  URL: https://www.nec-display.com/dl/en/index.html

- **AUTO POWER ON and AUTO POWER OFF features**

  The DIRECT POWER ON, AUTO POWER ON, AUTO POWER OFF, and OFF TIMER features eliminate the need to always use the POWER button on the remote control or projector cabinet.

- **Preventing unauthorized use of the projector**

  Enhanced smart security settings for keyword protection, cabinet control panel lock, security slot, and security chain opening to help prevent unauthorized access, adjustments and theft deterrence.

- **High resolution up to WUXGA*2**

  High resolution display - up to WUXGA compatible, WXGA native resolution.

  - An image with higher or lower resolution than the projector's native resolution (1280 × 800) will be displayed with Advanced AccuBlend.

  *2 When WXGA MODE is set to ON.

- **INTELLIGENT CONNECTION**

  It enables easily to connect your projector to computers or smartphones, on which the application software, MultiPresenter, has been installed, by inputting PIN code.

About this user's manual

The fastest way to get started is to take your time and do everything right the first time. Take a few minutes now to review the user's manual. This may save you time later on. At the beginning of each section of the manual you'll find an overview. If the section doesn't apply, you can skip it.

❸ Part Names of the Projector

Front/Top

Focus Ring
(→ page 18)

Lens shift cover
(→ page 16)

Controls
(→ page 6)

Indicators
(→ page 6)

Remote Sensor
(→ page 9)

Zoom Lever
(→ page 19)

Lens (Projection Window)

Exhaust Vent
Heated air is exhausted from here.

Stereo Speaker (10W)

Security chain opening
Attach an anti-theft device.
The security chain opening accepts
security wires or chains up to 0.18
inch/4.6 mm in diameter.

Rear

Terminal Panel
(→ page 7)

AC Input
Connect the supplied power
cord's three-pin plug here, and
plug the other end into an active
wall outlet.(→ page 11)

Built-in Security Slot (🔒)*

Intake Vent / Filter Cover
(→ page 93)

Rear Foot (→ page 21)

* This security slot supports the MicroSaver ® Security System.

Controls/Indicator Panel
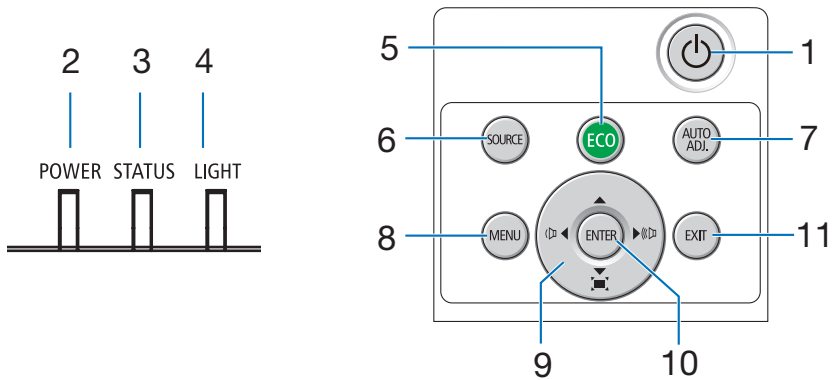
1. ⏻ **(POWER) Button**
   (→ page 12, 25)
2. **POWER Indicator**
   (→ page 11, 12, 25, 96)
3. **STATUS Indicator**
   (→ page 96)
4. **LIGHT Indicator**
   (→ page 96)
5. **ECO Button**
   (→ page 28)
6. **SOURCE Button**
   (→ page 14)
7. **AUTO ADJ. Button**
   (→ page 24)
8. **MENU Button**
   (→ page 51)
9. **▲▼◀▶ / Volume Buttons ◀▶ / Keystone Buttons**
   (→ page 22, 24, 30, 51)
10. **ENTER Button**
    (→ page 51)
11. **EXIT Button**
    (→ page 51)

Terminal Panel Features
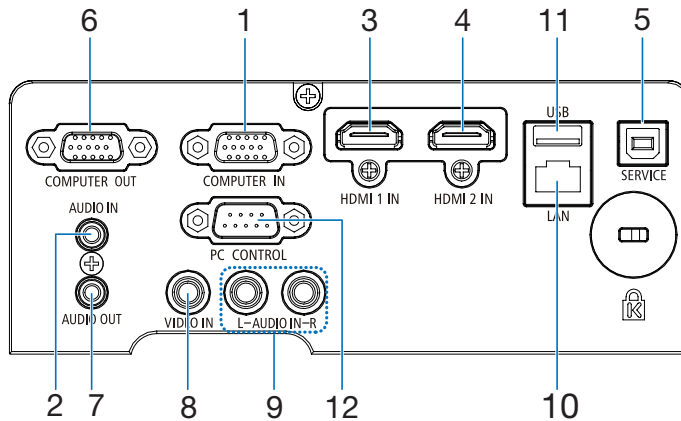
1. **COMPUTER IN/ Component Input Terminal (Mini D-Sub 15 Pin)**
   (→ page 86, 90)

2. **COMPUTER AUDIO IN Mini Jack (Stereo Mini)**
   (→ page 86, 87, 90)

3. **HDMI 1 IN Terminal (Type A)**
   (→ page 86, 87, 91)

4. **HDMI 2 IN Terminal (Type A)**
   (→ page 86, 87, 91)

5. **SERVICE Port (USB Type B)**
   (for service purpose only)

6. **COMPUTER OUT Terminal (Mini D-Sub 15 Pin)**
   (→ page 88)

7. **AUDIO OUT Mini Jack (Stereo Mini)**
   (→ page 88)

8. **VIDEO IN Terminal (RCA)**
   (→ page 89)

9. **AUDIO IN L, R (RCA)**
   (→ page 89)

10. **LAN Port (RJ-45)**
    (→ page 92)

11. **USB Port (Type A)**
    For USB memory
    (→ page 45)

12. **PC CONTROL Port (D-Sub 9 Pin)**
    (→ page 107)
    Use this port to connect a PC or control system. This enables you to control the projector using serial communication protocol. If you are writing your own program, typical PC control codes are on page 107.

❹ Part Names of the Remote Control
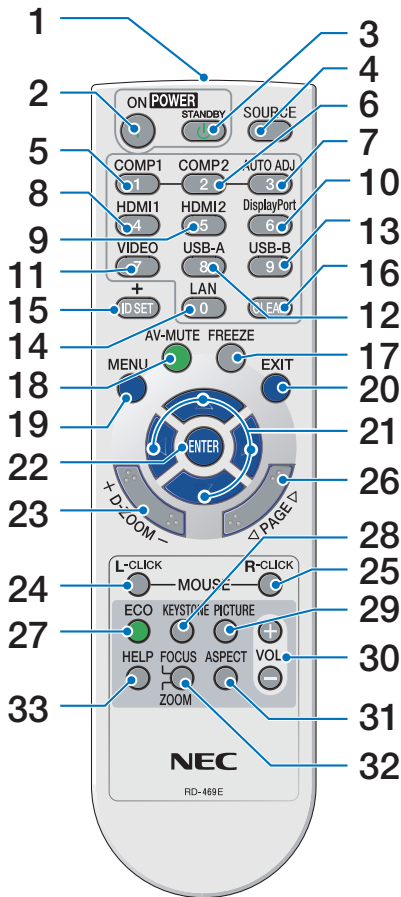
10. DisplayPort Button
   (This button does not work in this series of projectors)

11. VIDEO Button (→ page 14)

12. USB-A Button (→ page 14, 45, 47)

13. USB-B Button (This button does not work on this series of projectors)

14. LAN Button (→ page 14)

15. ID SET Button
   (→ page 70)

16. Numeric Keypad Button/CLEAR Button
   (→ page 70)

17. FREEZE Button
   (→ page 26)

18. AV-MUTE Button
   (→ page 26)

19. MENU Button
   (→ page 51)

20. EXIT Button (→ page 51)

21. ▲▼◀▶ Button (→ page 51)

22. ENTER Button (→ page 51)

23. D-ZOOM (+)(−) Button
   (→ page 27)

24. MOUSE L-CLICK Button (This button does not work on this series of projectors)

25. MOUSE R-CLICK Button (This button does not work on this series of projectors)

26. PAGE ▽/ △ Button
   (→ page 46)

27. ECO Button (→ page 28)

28. KEYSTONE Button
   (→ page 22, 30)

29. PICTURE Button
   (→ page 57, 59)

30. VOL. (+)(−) Button
   (→ page 24)

31. ASPECT Button
   (→ page 62)

32. FOCUS/ZOOM Button
   (→ page 20)

33. HELP Button
   (→ page 77)

1. Infrared Transmitter
   (→ page 9)

2. POWER ON Button
   (→ page 12)

3. POWER STANDBY Button
   (→ page 25)

4. SOURCE Button
   (→ page 14)

5. COMPUTER 1 Button
   (→ page 14)

6. COMPUTER 2 Button (This button does not work on this series of projectors)

7. AUTO ADJ. Button
   (→ page 24)

8. HDMI 1 Button
   (→ page 14)

9. HDMI 2 Button
   (→ page 14)

Battery Installation

1. Press firmly and slide the battery cover off.

2. Install new batteries (AAA). 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.
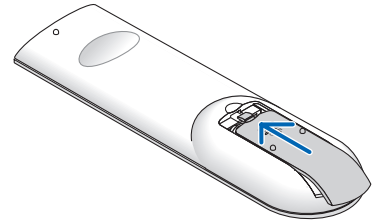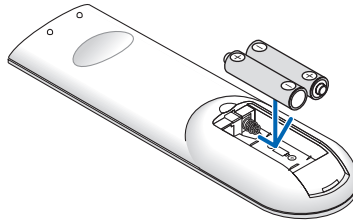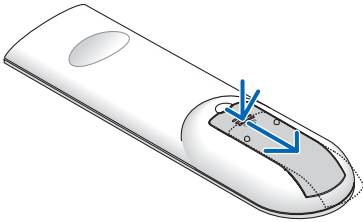
Remote Control Precautions

- 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

30°
30°
Remote control
Remote sensor on projector cabinet
22 feet/7 m
30°
30°
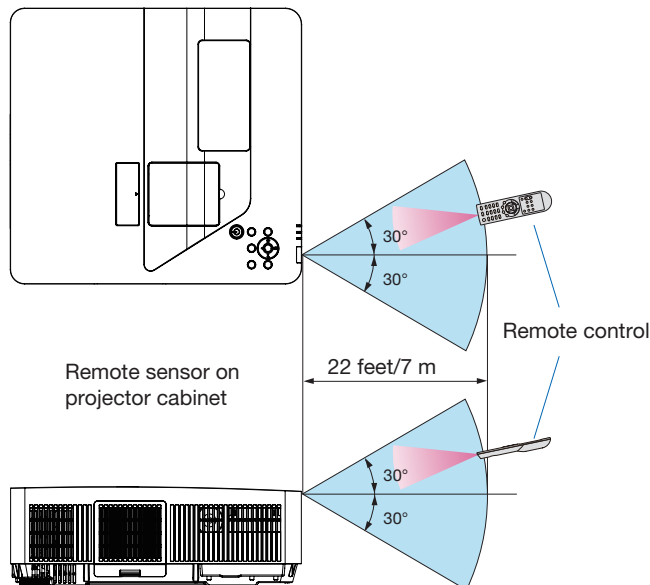
- The infrared signal operates by line-of-sight up to a distance of about 22 feet/7 m and within a 60-degree angle of the remote sensor on the projector cabinet.
- The projector will not respond if there are objects between the remote control and the sensor, or if strong light falls on the sensor. Weak batteries will also prevent the remote control from properly operating the projector.

2. Projecting an Image (Basic Operation)

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

❶ Flow of Projecting an Image

Step 1
- *Connecting your computer / Connecting the power cord (→ page 11)*

Step 2
- *Turning on the projector (→ page 12)*

Step 3
- *Selecting a source (→ page 14)*

Step 4
- *Adjusting the picture size and position (→ page 15)*
- *Correcting keystone distortion [KEYSTONE] (→ page 22)*

Step 5
- *Adjusting a picture and sound*
  - *Optimizing a computer signal automatically (→ page 24)*
  - *Turning up or down volume (→ page 24)*

Step 6
- *Making a presentation*

Step 7
- *Turning off the projector (→ page 25)*

Step 8
- *When Moving the Projector (→ page 25)*

❷ 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. Installation and Connections" on page 86.

Connect the computer cable (VGA) between the projector's COMPUTER IN terminal and the computer's port (mini D-Sub 15 Pin). Turn two thumb screws of both terminals to fix the computer cable (VGA)

2. Connect the supplied power cord to the projector.

First connect the supplied power cord's three-pin plug to the AC IN of the projector, and then connect the other plug of the supplied power cord in the wall outlet.

The projector's power indicator will start blinking orange.

* This will apply for both indicators when [NORMAL] is selected for [STANDBY MODE]. See the Power Indicator section.(→ page 96)
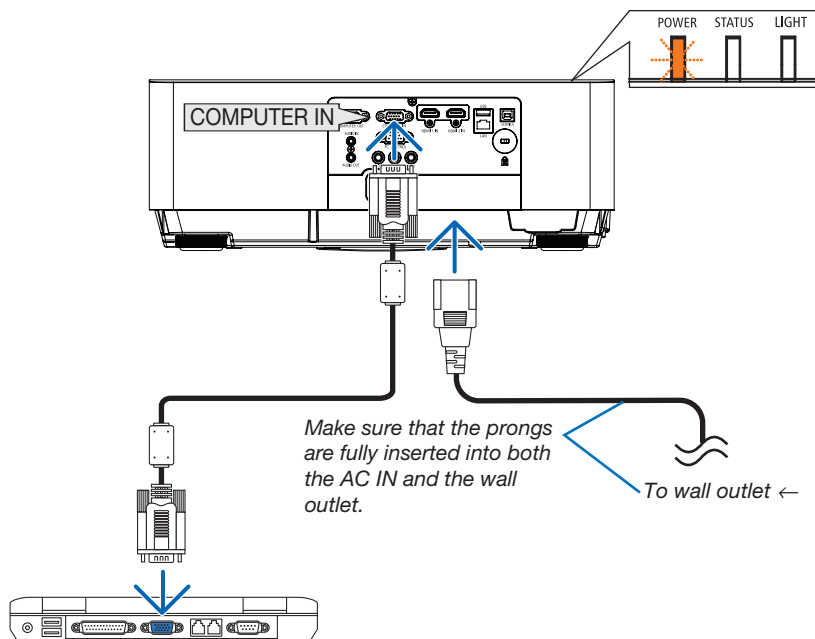
Make sure that the prongs are fully inserted into both the AC IN and the wall outlet.

To wall outlet ←

⚠ 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.
Be careful to handle the projector.

❸ Turning on the Projector

1. Press the ⏻ (POWER) button on the projector cabinet or the POWER ON button on the remote control.

The POWER indicator will blink and the projector will become ready to use.

TIP:
- *When the message "Projector is locked! Enter your password." is displayed, it means that the [SECURITY] feature is turned on. (→ page 34)*

After you turn on your projector, ensure that the computer or video source is turned on.

NOTE: When no input signal is present, the no-signal guidance is displayed (factory menu setting).

Standby	Blinking	Power On
POWER	POWER	POWER
Blinking orange light	Blinking blue light	Steady blue light
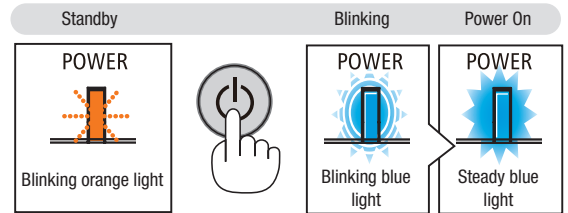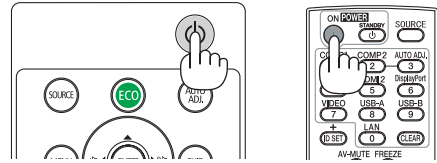
(→ page 96)

Note on Startup screen (Menu Language Select screen)

When you firs turn on the projector, you will get the Startup menu. This menu gives you the opportunity to select one of the 30 menu languages.

To select a menu language, follow these steps:

1. Use the ▲, ▼, ◀ or ▶ button to select one of the 30 languages from the menu.

```
PLEASE SELECT A MENU LANGUAGE.

 ○ ENGLISH      ○ DANSK        ○ SUOMI
 ○ DEUTSCH      ○ PORTUGUÊS    ○ NORSK
 ○ FRANCAIS     ○ ČEŠTINA      ○ TÜRKÇE
 ○ ITALIANO     ○ MAGYAR       ○ ROMÂNĂ
 ○ ESPAÑOL      ○ POLSKI       ○ HRVATSKI
 ○ SVENSKA      ○ NEDERLANDS   ○ INDONESIA
 ○ РУССКИЙ      ○ БЪЛГАРСКИ    ○ EΛΛHNIKA
 ○ عربي         ○ हिंदी          ○ ไทย
 ○ ئۇيغۇر        ○ 简体中文       ○ 한국어
 ○ 日本語        ○ 繁體中文       ○ TIẾNG VIỆT

 ENTER :EXIT    EXIT :EXIT    ⬍:SELECT    ◀▶:SELECT
```
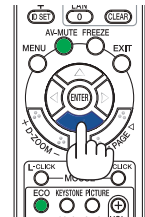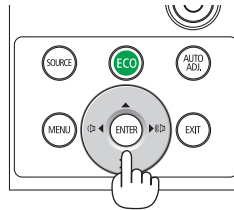
2. Press the ENTER button to execute the selection.

After this has been done, you can proceed to the menu operation.
If you want, you can select the menu language later.
(→ [LANGUAGE] on page 53 and 67)
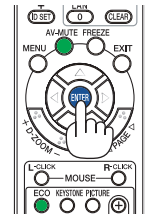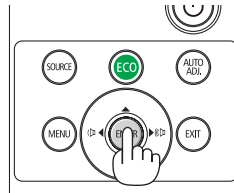
NOTE:
- *If the projector is shut off by DIRECT POWER OFF (pulling out the power cord) during projection, wait for 1 second at least for reconnect the power cord for turning on the projector.*
  Failing to do so could result in no power to the projector. (There will be no stand-by LED)
  Should this happen, unplug the power cord and plug it in again. Turn on the main power.
- *If one of the following things happens, the projector will not turn on.*
  - *If the internal temperature of the projector is too high, the projector detects abnormal high temperature. In this condition the projector will not turn on to protect he internal system. If this happens, wait for the projector's internal components to cool down.*
  - *If the STATUS indicator lights orange with the power button pressed, it means that the [CONTROL PANEL LOCK] is turned on. Cancel the lock by turning it off. (→ page 69)*
  - *If the light fails to light, and if the POWER indicator blinks in red and the LIGHT indicator lights in red, wait a full minute and then turn on the power.*
- *While the POWER indicator is blinking blue in short cycles, the power cannot be turned off by using the power button.*

❹ Selecting a Source

Selecting the computer or video source

NOTE: Turn on the computer or video source equipment connected to the projector.

Detecting the Signal Automatically

Press the SOURCE button once. The projector will search for the available input source and display it. The input source will change as follows:

HDMI1 → HDMI2 → COMPUTER → VIDEO → USB-A → LAN

- With the SOURCE screen displayed, you can press the SOURCE button a few times to select the input source.

TIP: If no input signal is present, the input will be skipped.

Using the Remote Control

Press any one of the COMPUTER1, HDMI1, HDMI2, VIDEO or USB-A buttons.

Selecting Default Source

You can so that it will be displayed each time the projector is turned on.

1. *Press the MENU button.*

   The menu will be displayed.

2. *Press the ▶ button twice to select [SETUP] and the ▼ button or the ENTER button to select [GENERAL].*

3. *Press the ▶ button four times to select [OPTIONS(2)].*

4. *Press the ▼ button five times to select [DEFAULT SOURCE SELECT] and press the ENTER button.*

   The [DEFAULT SOURCE SELECT] screen will be displayed.
   (→ page 74)

5. *Select a source as the default source, and press the ENTER button.*

6. *Press the EXIT button a few times to close the menu.*

7. *Restart the projector.*

   The source you selected in step 5 will be projected.

TIP:
- *When the projector is in Standby mode, applying a computer signal from a computer connected to the COMPUTER IN input will power on the projector and simultaneously project the computer's image.*
  ([AUTO POWER ON] → page 74)
- *On Windows 7, a combination of the Windows and P keys allows you to set up external display easily and quickly.*

14
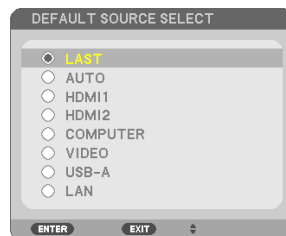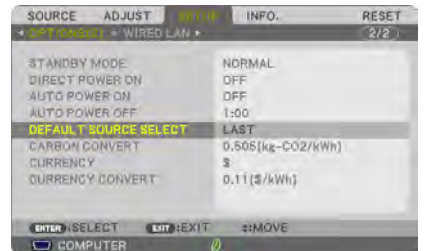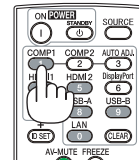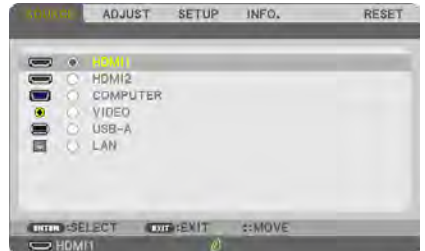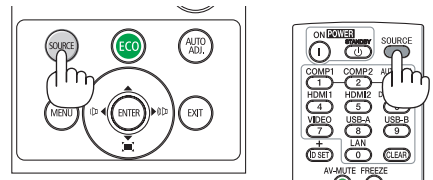
❺ Adjusting the Picture Size and Position

Use the lens shift dial, the adjustable tilt foot lever, the zoom lever and the focus ring to adjust the picture size and position.

In this chapter drawings and cables are omitted for clarity.

Adjusting the projected image's vertical and horizontal position [Lens shift] (→ page 16)	Adjusting the focus [Focus ring] (→ page 18)
Finely adjusting the size of an image [Zoom lever] (→ page 19)	Adjusting the throw angle (the height of an image) [Tilt foot] (→ page 21)
Correcting the keystone distortion [Keystone] (→ page 22)	
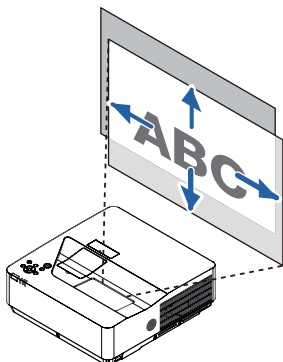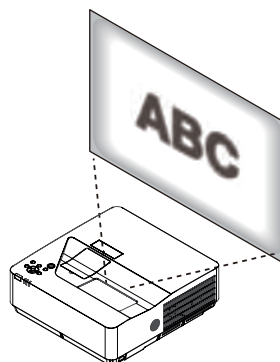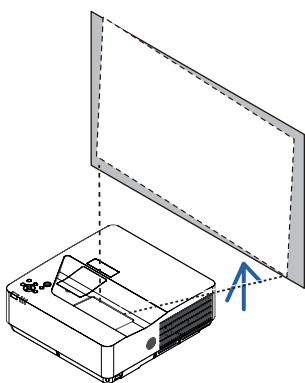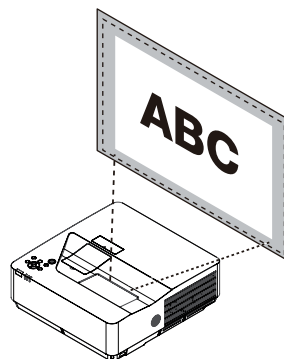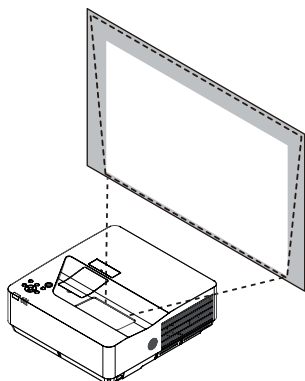
Adjusting the position of a projected image (Lens shift)

> ⚠ **CAUTION:**
> Perform the adjustment from behind or from the side of the projector. Adjusting from the front could expose your eyes to strong light which could injure them.

1. Open the lens shift cover.

Open with the cover's stopper pushed forward.

• The lens shift cover cannot be removed.

Stopper
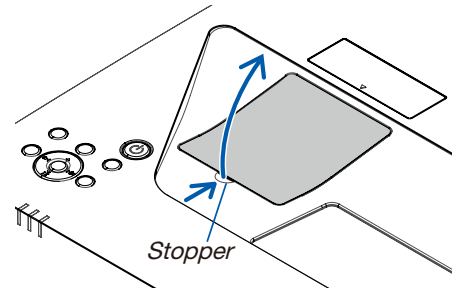
2. Turn the lens shift dials clockwise or counterclockwise.

Vertical dial

Turn this clockwise or counterclockwise to adjust the projection position in the vertical direction.

Horizontal dial

Turn this clockwise or counterclockwise to adjust the projection position in the horizontal direction.

Lens shift dial (Vertical) Lens shift dial (Horizontal)

Upward Downward Leftward Rightward
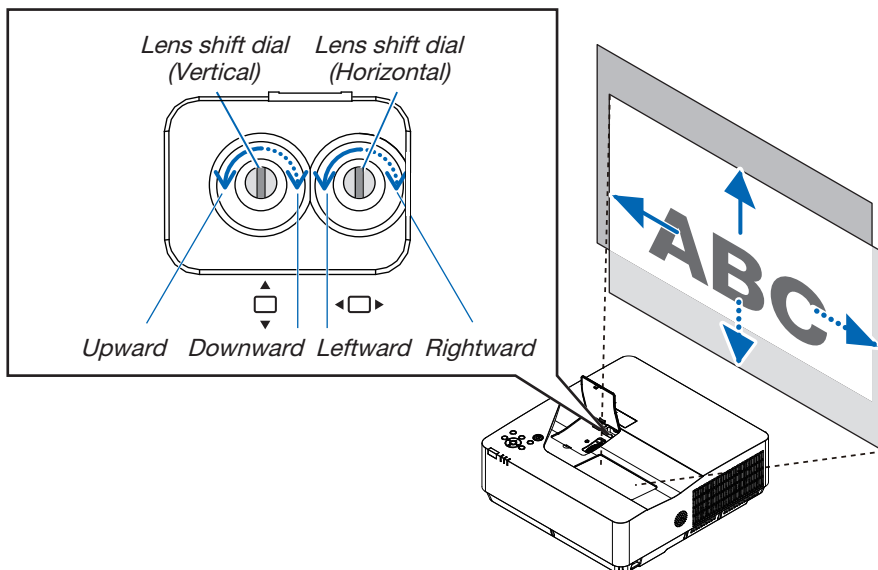
NOTE:

• The dials can be turned more than one full turn, but the projection position cannot be moved more than the range indicated on the following page. Do not force to turn the dials. Doing so may damage the dials.

• If the lens is shifted to the maximum in the diagonal direction, the edges of the screen will be dark or shaded.

• The vertical shift adjustment must be finished with an image shifted upward. If you finish the vertical shift adjustment with an image shifted down, the zoom/focus adjustments or strong shaking may cause a projected image to slightly shift down.

• When adjusting the position of the lens, if you find that the dial does not move, it may have been beyond the adjustment range, do not forcibly rotate the dial, otherwise there is a risk of damage. When there is a lack of image, it has been beyond the adjustment range, adjust in the opposite direction to the range of full image.

3. Close the lens shift cover.

Insert the cover's 2 (two) hooks into the grooves in the projector, then close the cover.

Hook

Groove
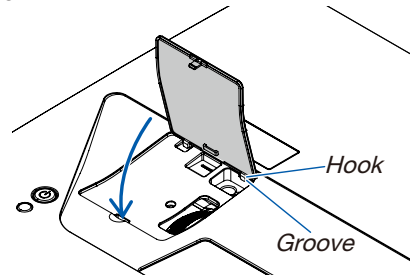
TIP:
- *The diagram below shows the lens shift adjustment range ([ORIENTATION]: [DESKTOP FRONT]).*
- *For the lens shift adjustment range regarding the [CEILING FRONT] projection, see page 84.*

Width of projected image

100% H

3%V

100% V

Height of projected image

3%V

2%H

2%H
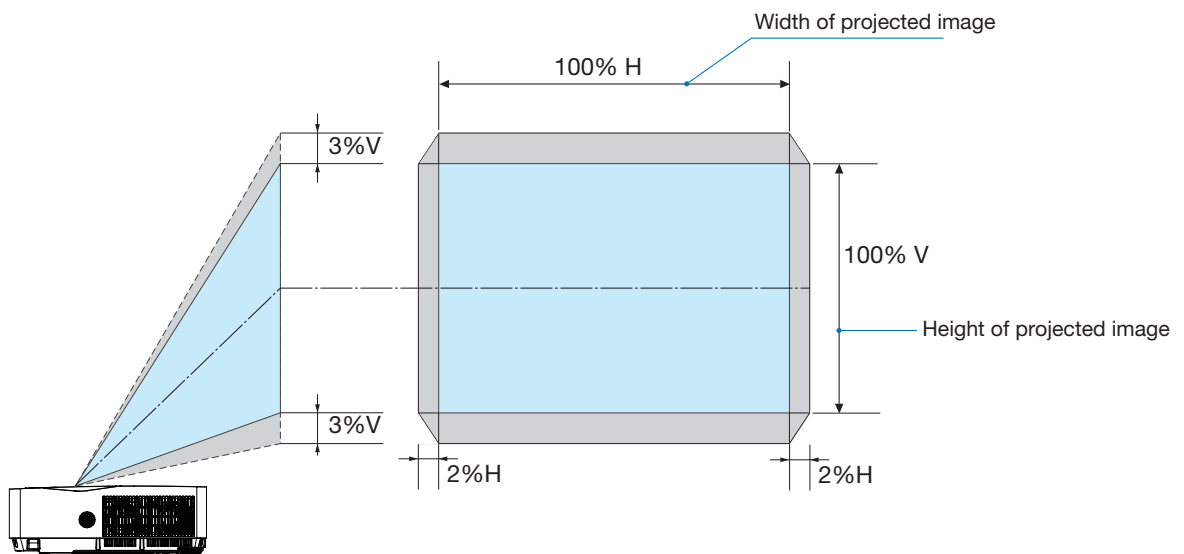
Description of symbols: V indicates vertical (height of the projected image), H indicates horizontal (width of the projected image).

Focus (Focus ring)

1. *Open the lens shift cover.*

Open with the cover's stopper pushed forward.

- *The lens shift cover cannot be removed.*

Stopper
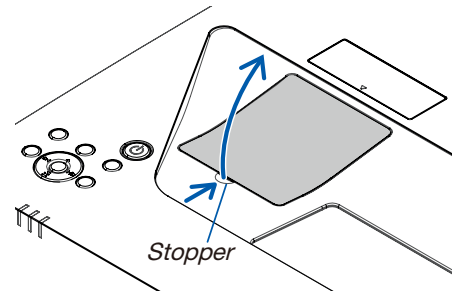
2. *Rotate the Focus ring until you obtain the best focus.*
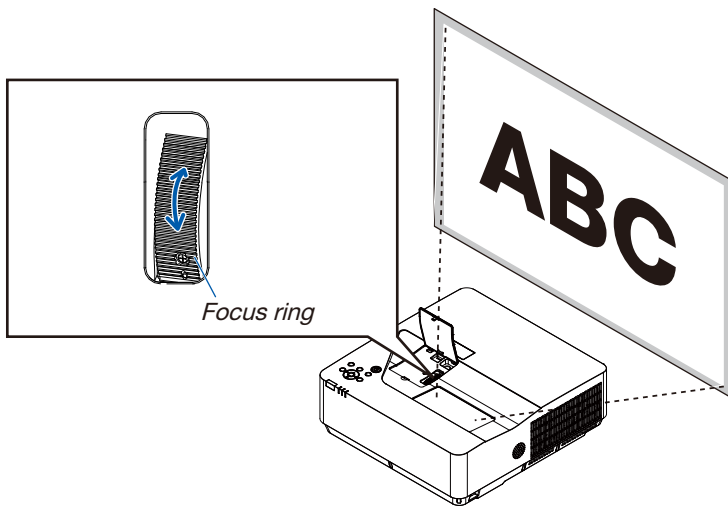
ABC

Focus ring

3. Close the lens shift cover.

Insert the cover's 2 (two) hooks into the grooves in the projector, then close the cover.

Hook

Groove
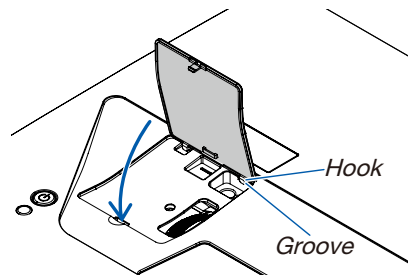
NOTE:

- *It is recommended to perform focus adjustment after the projector has been projecting for more than 30 minutes in TEST PATTERN mode. About TEST PATTERN, please refer to page 71.*

Zoom (Zoom lever)

1. *Open the Zoom cover.*

   The zoom cover is a spring buckle, which can be opened by gently pressing down.

   • *The zoom cover cannot be removed.*

   Spring buckle
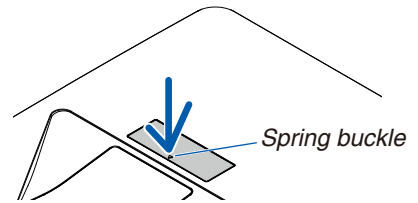
2. **Adjust the Zoom lever *left or right,* until you obtain the best zoom.**

   Zoom lever
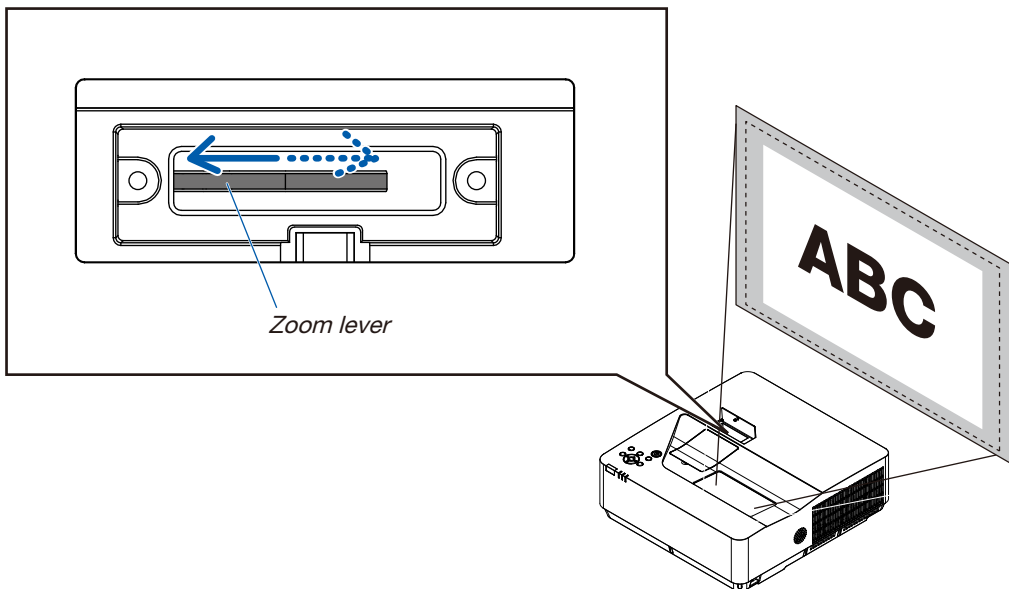
3. *Close the zoom cover.*

   Press down on the cover and hear a "ticking" sound to close the cover.

   Spring buckle

19
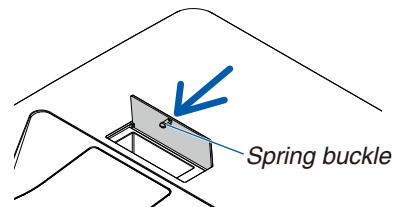
Adjusting the size [Digital Zoom]

Use the remote control to finely adjust the size of the image.

1. Press the FOCUS/ZOOM button on the remote control.

The DIGITAL ZOOM bar will be displayed.
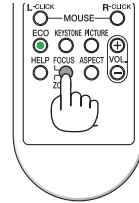
2. Press the ◀ or ▶ button to finely zoom in or out.

3. After completing the adjustment, press the ENTER button.

The DIGITAL ZOOM bar will be closed.

NOTE:
- *This feature allows you to electronically fine adjust the image size on the screen.*
- *This feature can not be used when USB-A or LAN is selected as an input terminal.*
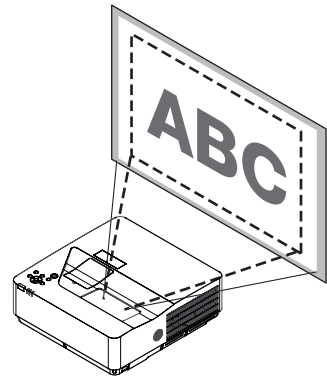
Adjusting the tilt (Tilt foot)

Adjusting the left and right tilt.

1. **Rotate the tilt foot to adjust the left and right tilt.**

   The tilt foot is equipped at the left and the right front bottom of the projector.

   If the projected image is tilted, rotate one of the tilt foot to adjust the angle to project.

   If keystone distortion is appeared, adjust it either by the ▼ button on the cabinet or keystone button on the remote control

   NOTE:
   - *Do not extend the tilt foot beyond its height limit (18 mm/0.7 inches). Doing so may cause the tilt foot to come out of the projector.*
   - *Do not use the tilt-foot for purposes other than originally intended. Misuses such as using the tilt foot to carry or hang (from the wall or ceiling) the projector can cause damage to the projector.*

Up

Down
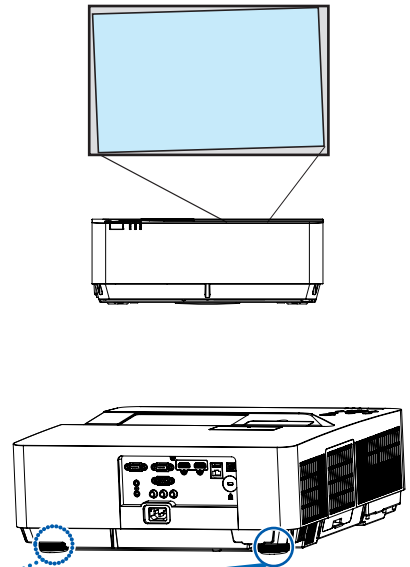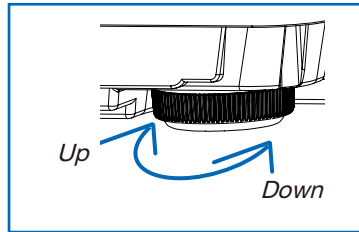
❻ Correcting Keystone Distortion [KEYSTONE]

When the projector is not exactly perpendicular to the screen, keystone distortion occurs. For correcting this distortion, you can use the "Keystone" function, a digital technology that can adjust for keystone-type distortion, resulting in a crisp, square image.

The following procedure explains how to use the [KEYSTONE] screen from the menu to correct trapezoidal distortions when the projector is placed diagonally to the screen.

• Before performing KEYSTONE correction

The KEYSTONE correction has four features, KEYSTONE HORIZONTAL, KEYSTONE VERTICAL, PINCUSHION, and CORNERSTONE. If the value of either CONERSTONE or PINCUSHION has corrected, KEYSTONE HORIZONTAL and KEYSTONE VERTICAL are disabled. In this case, RESET the corrected values and restart to correct distortion.
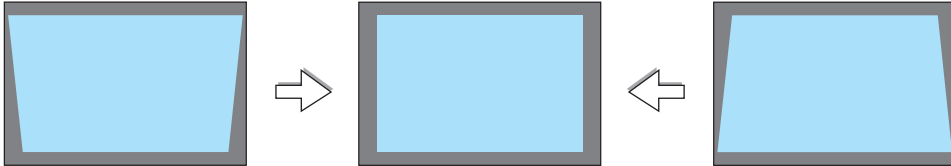
1. Press the ▼ button on the projector cabinet.

The Keystone screen will be displayed on the screen.

- *Press the KEYSTONE button when using the remote control.*
- *See page for PINCUSHION.*
- *See page for CORNERSTONE.*
- *See page for RESET.*

2. Press the ▼ button to select [KEYSTONE VERTICAL] and then use the ◀ or ▶ so that the left and right sides of the projected image are parallel.

- ** Adjust the vertical keystone distortion.*

Projected area

Screen frame
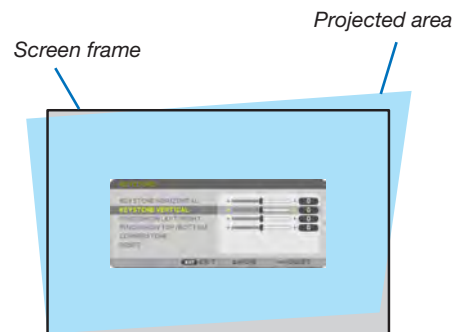
3. Align the left (or right) side of the screen with the left (or right) side of the projected image.

- *Use the shorter side of the projected image as the base.*
- *In the right example, use the left side as the base.*

Align left side
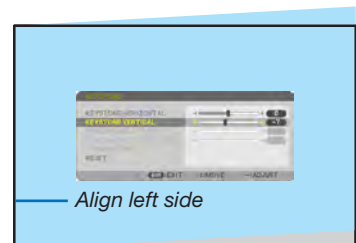
4. Press the ▲ button to select [KEYSTONE HORIZONTAL] and then use the ◀ or ▶ so that the top and bottom sides of the projected image are parallel.

• *Adjust the horizontal keystone distortion.*

5. Repeat steps 2 and 4 to correct keystone distortion.

6. After completing Keystone correction, press the EXIT button.

The Keystone screen will disappear.

• *To perform Keystone correction again, press the ▼ button to display the Keystone screen and repeat above steps 1 to 6.*

To return the keystone adjustments to default:
1. Press the ▼ button to select [RESET] and press the ENTER button.

2. Press the ◀ or ▶ button to select [YES] and press the ENTER button.
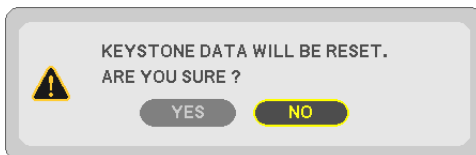
The adjustments will be reset.

All the adjustments for all the five items will be reset at the same time.

• *The KEYSTONE feature can cause an image to be slightly blurred because the correction is made electronically.*

❼ Optimizing Computer Signal Automatically

Adjusting the Image Using Auto Adjust

Optimizing a computer image automatically. (COMPUTER)

Press the AUTO ADJ. button to optimize a computer image automatically. This adjustment may be necessary when you connect your computer for the firs time.
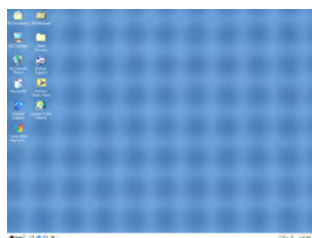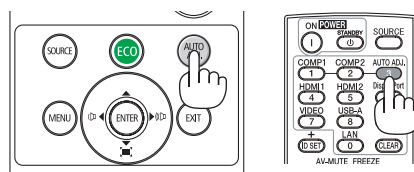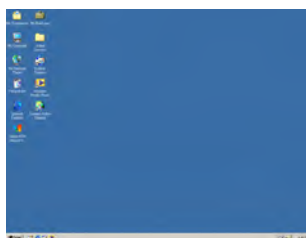
[Poor picture]   *[Adjusted picture]*

NOTE:
Some signals may take time to display or may not be displayed correctly.
- *If the Auto Adjust operation cannot optimize the computer signal, try to adjust [HORIZONTAL], [VERTICAL], [CLOCK], and [PHASE] manually.*
  (→ page 60, 61)

❽ Turning Up or Down Volume

Sound level from the speaker or audio output can be adjusted.

Increase volume

Decrease volume

VOLUME

11

ENTER :EXIT   **EXIT :EXIT**   ⊕:ADJUST
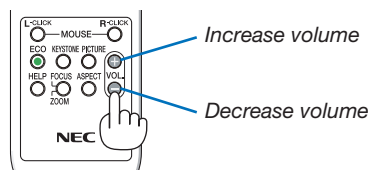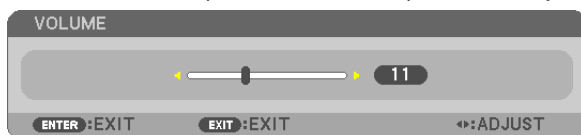
TIP: When no menus appear, the ◀ and ▶ buttons on the projector cabinet work as a volume control.

NOTE:
- *Volume control is not available with the ◀ or ▶ button when an image is magnified by using the D-ZOOM (+) button or when the menu is displayed.*
- *Volume control is not available with the ◀ or ▶ button when VIEWER is used.*
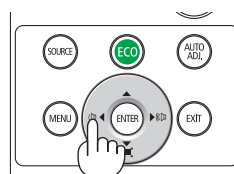
TIP: The [BEEP] sound volume cannot be adjusted. To turn off the [BEEP] sound, from the menu, select [SETUP] → [OPTIONS (1)] → [BEEP] → [OFF].

❾ Turning off the Projector

To turn off the projector:

1. First, press the ⏻ (POWER) button on the projector cabinet or the STANDBY button on the remote control.

The confirmation message will be displayed.

> POWER OFF
> ARE YOU SURE ?
>
> **YES**   NO
>
> CARBON SAVINGS-SESSION
> 0.000[g-CO2]
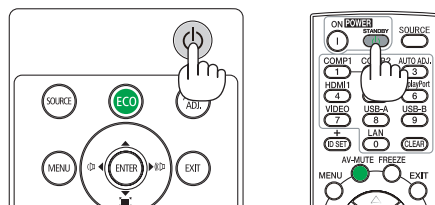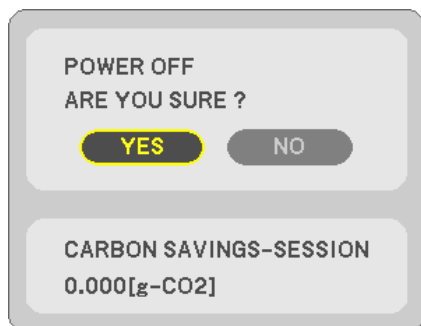
2. Secondly, press the ENTER button or press the ⏻ (POWER) or the STANDBY button again.

The light will turn off and the projector will go into standby mode. When in standby mode, the POWER indicator will blinking orange and the STATUS indicator will turn off when [NORMAL] is selected for [STANDBY MODE].
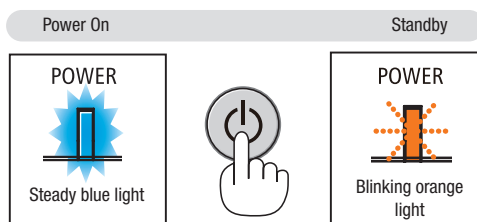
Power On		Standby
POWER		POWER
Steady blue light		Blinking orange light

⚠ 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:
- *While the power indicator is blinking blue in short cycles, the power cannot be turned off.*
- *Do not disconnect the AC power supply to the projector within 10 seconds after making adjustment or setting changes and closing the menu. Doing so can cause loss of adjustments and settings.*

---

❿ When Moving the Projector

Preparation: Make sure that the projector is turned off.

1. Unplug the power cord.

2. Disconnect any other cables.

- *Remove the USB memory if it is inserted into the projector.*

(→ page 47)

3. Convenient Features

❶ Turning off the Image and Sound

Press the AV-MUTE button to turn off the image and sound for a short period of time. Press again to restore the image and sound.

The projector's power-saving function will work 10 seconds after the image is turned off.

As a result, the light power will be reduced.

NOTE:
- *Even though the image is turned off, the menu still remains on the screen.*
- *Sound from the AUDIO OUT jack (Stereo mini) can be turned off.*
- *Even when the power-saving function works, the light power may be restored to its original level temporarily.*
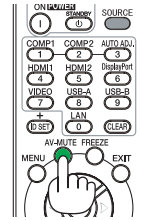
❷ Freezing a Picture

Press the FREEZE button to freeze a picture. Press again to resume motion.

NOTE: The image is frozen but the original video is still playing back.

- This feature can not be used when USB-A is selected as the input terminal.
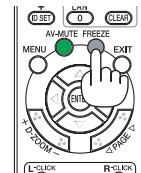
❸ Magnifying a Picture

You can enlarge the picture up to four times.

NOTE: The maximum magnification may be less than four times depending on the signal.

To do so:

1. Press the D-ZOOM (+) button to magnify the picture.

To move the magnified image, use the ▲,▼,◀ or ▶ button.
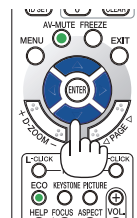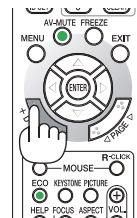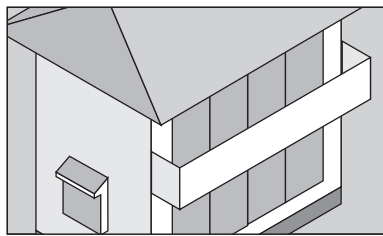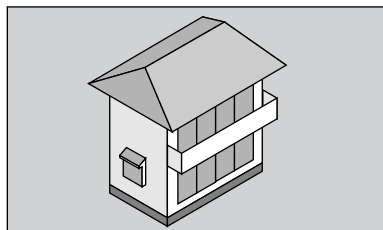
2. Press the ▲▼◀▶ button.

The area of the magnified image will be moved.
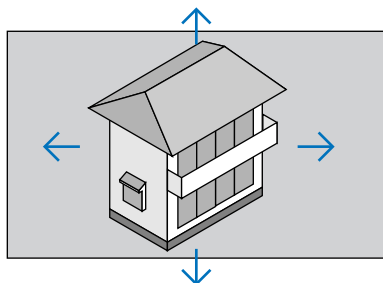
3. Press the D-ZOOM (–) button.

Each time the D-ZOOM (–) button is pressed, the image is reduced.

NOTE:
- *The image will be magnified or demagnified at the center of the screen.*
- *Displaying the menu will cancel the current magnification.*

27
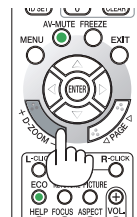
❹ Changing Eco Mode/Checking Energy-Saving Effect

Using Eco Mode [ECO MODE]

The ECO MODE (NORMAL and ECO) increases light life, while lowering power consumption and cutting down on CO_2 emissions.

Four brightness modes of the light can be selected: [OFF], [AUTO ECO], [NORMAL] and [ECO] modes.

[ECO MODE]	Description	Status of LIGHT indicator	
[OFF]	The light brightness is 100%.	LIGHT	Steady Green light
[AUTO ECO]	Light power consumption will be changed between [100%] and [80%] automatically according to picture level *NOTE: A bright gradation may be less visible depending on the image.*		
[NORMAL]	Light power consumption: approx. 80% brightness.The light life will extend by lowering the light power.		
[ECO]	Light power consumption: approx. 50% brightness. The light life will extend longer than the one on NORMAL mode by controlling power appropriate for the light. The maximum power becomes equivalent to the power in NORMAL.	LIGHT	Blinking Green light

To turn on the [ECO MODE], do the following:

1. Press the ECO Button on the remote control to display [ECO MODE] screen.

2. Press the ECO button again to select a mode you wish.

*   *Each time the ECO button is pressed, the choices will be changed:*

    OFF → AUTO ECO → NORMAL → ECO → OFF

TIP:
*   *The leaf symbol at the bottom of the menu shows the current selection of ECO mode.*

NOTE:
*   *The [ECO MODE] can be changed by using the menu.*
    Select [SETUP] → [GENERAL] → [LIGHT MODE] → [ECO MODE].
*   *The light hours used can be checked in [USAGE TIME]. Select [INFO.] → [USAGE TIME].*
*   *The projector is always in [NORMAL] for 10 seconds after the light is turned on. The light condition will not be affected even when [ECO MODE] is changed.*
*   *After a lapse of 1 minute from when the projector displays no-signal guidance, a blue, black or logo screen, [ECO MODE] will automatically switch to [ECO]. The projector will return to its original setting once a signal is accepted.*
*   *If the projector is overheated in [OFF] mode, there may be a case where the [ECO MODE] automatically changes to [NORMAL] mode to protect the projector. When the projector is in [NORMAL] mode, the picture brightness decreases. When the projector comes back to normal temperature, the [ECO MODE] returns to its original setting.*
    Thermometer symbol [ ] indicates the [ECO MODE] is automatically set to [NORMAL] mode because the internal temperature is too high.

Checking Energy-Saving Effect [CARBON METER]

This feature will show energy-saving effect in terms of CO_2 emission reduction (kg) when the projector's [ECO MODE] is set to [AUTO ECO], [NORMAL], or [ECO]. This feature is called as [CARBON METER].

There are two messages: [TOTAL CARBON SAVINGS] and [CARBON SAVINGS-SESSION]. The [TOTAL CARBON SAVINGS] message shows the total amount of CO_2 emission reduction from the time of shipment up to now. You can check the information on [USAGE TIME] from [INFO.] of the menu. (→ page 77)

```
SOURCE     ADJUST    SETUP    INFO.          RESET
◄ USAGE TIME ● SOURCE(1) ● SOURCE(2) ►        ( 1/3 )

LIGHT HOURS USED          00000[H](Y)   00000[H](B)
FILTER HOURS USED         00000[H]
TOTAL CARBON SAVINGS      0.000[kg-CO2]
TOTAL COST SAVINGS        0.00[$]




              EXIT :EXIT    ↕:MOVE    ↔:MOVE
  ▭ HDMI1                   ∅
```

The [CARBON SAVINGS-SESSION] message shows the amount of CO_2 emission reduction between the time of changing to ECO MODE immediately after the time of power-on and the time of power-off. The [CARBON SAVINGS-SESSION] message will be displayed in the [POWER OFF/ ARE YOU SURE?] message at the time of power-off.

```
POWER OFF
ARE YOU SURE ?
   YES        NO


CARBON SAVINGS-SESSION
0.000[g-CO2]
```
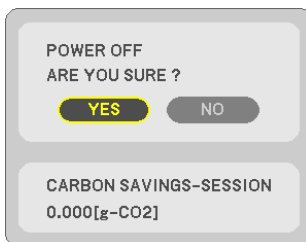
TIP:
- *The formula as shown below is used to calculate the amount of CO_2 emission reduction.*
  Amount of CO_2 emission reduction = (Power consumption in OFF for ECO MODE – Power consumption in AUTO ECO/NORMAL/ECO for ECO MODE) × CO_2 conversion factor.* When the image is turned off with the AV-MUTE button, the amount of CO_2 emmission reduction will also increase.
  * Calculation for amount of CO_2 emission reduction is based on an OECD publication "CO_2 Emissions from Fuel Combustion, 2008 Edition".
- *The [TOTAL CARBON SAVINGS] is calculated based on savings recorded in 15 minutes intervals.*
- *This formula will not apply to the power consumption which is not affected by whether [ECO MODE] is turned on or off.*

❺ Using 4-Point Corner to Correct Keystone Distortion [CORNERSTONE]

Use the [CORNERSTONE] and [PINCUSHION] features to correct keystone (trapezoidal) distortion to make the top or bottom and the left or right side of the screen longer or shorter so that the projected image is rectangular.

Before performing correction

The KEYSTONE correction has features, KEYSTONE (HORIZONTAL/VERTICAL), PINCUSHION, and CORNERSTONE. If the value of either CONERSTONE or PINCUSHION has corrected, KEYSTONE HORIZONTAL and KEYSTONE VERTICAL are disabled. In this case, RESET the corrected values and restart to correct distortion.

Cornerstone

1. Press the KEYSTONE button with no menu displayed.
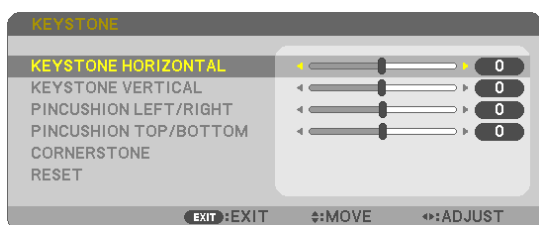
The KEYSTONE screen will be displayed.

- *Press the KEYSTONE button when using the remote control.*
- *See page for PINCUSHION.*

2. Press the ▼ button to select [CORNERSTONE] and press the ENTER button.

The drawing shows the upper left icon (▼) is selected.

The CORNERSTONE screen will be displayed.

3. Project an image so that the screen is smaller than the area of the raster.

4. Pick up any one of the corners and align the corner of the image with a corner of the screen.

Projected image
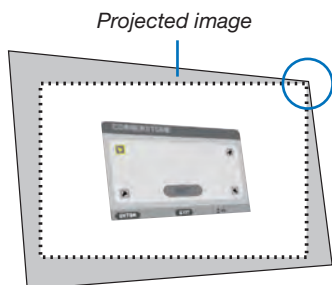
The drawing shows the upper right corner.

30

TIP: If either CORNERSTONE or PINCUSION is adjusted, the options KEYSTONE VERTICAL and KEYSTONE HORIZONTAL become unavailable. In this case, RESET the corrected values and restart to correct distortion.

5. Use the ▲▼◀▶ button to select one icon (▲) which points in the direction you wish to move the projected image frame.

6. Press the ENTER button.

7. Use the ▲▼◀▶ button to move the projected image frame as shown on the example.

8. Press the ENTER button.

9. Use the ▲▼◀▶ button to select another icon which points in the direction.

On the Cornerstone adjustment screen, select [EXIT] or press the EXIT button on the remote control.

The confirmation screen is displayed.

10. Press the ◀ or ▶ button to highlight the [OK] and press the ENTER button.

This completes the Cornerstone correction.
Selecting [CANCEL] will return to the adjustment screen without saving changes (Step 3).
Selecting [RESET] will return to the factory default.
Selecting [UNDO] will exit without saving changes.

Pincushion

By this feature, it enables to adjust left and right side or top and bottom side independently for reforming pincushion distortion.

1. Press the KEYSTONE button with no menu displayed.

The KEYSTONE screen will be displayed.

KEYSTONE		
KEYSTONE HORIZONTAL	◀━━━━━━━▶	0
KEYSTONE VERTICAL	◀━━━━━━━▶	0
PINCUSHION LEFT/RIGHT	◀━━━━━━━▶	0
PINCUSHION TOP/BOTTOM	◀━━━━━━━▶	0
CORNERSTONE		
RESET		
EXIT:EXIT ↕:MOVE ◀▶:ADJUST		
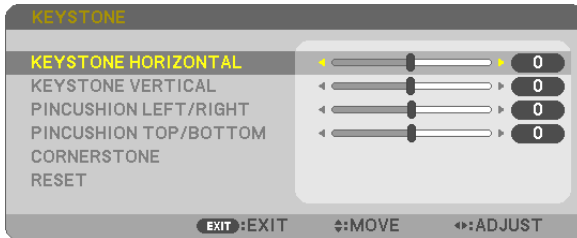
• *Press the KEYSTONE button when using the remote control.*

2. Press the ▼ or ▲ button to select [PINCUSHION LEFT/RIGHT] or [PINCUSHION TOP/BOTTOM].

KEYSTONE		
KEYSTONE HORIZONTAL	◀━━━━━━━▶	0
KEYSTONE VERTICAL	◀━━━━━━━▶	0
PINCUSHION LEFT/RIGHT	◀━━━━━━━▶	0
PINCUSHION TOP/BOTTOM	◀━━━━━━━▶	0
CORNERSTONE		
RESET		
EXIT:EXIT ↕:MOVE ◀▶:ADJUST		
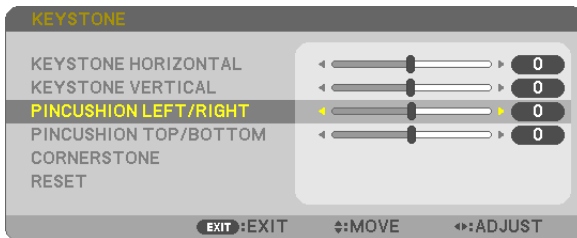
3. Press the ◀ or ▶ button to correct distortion.

NOTE:
- *The [PINCUSHION LEFT/RIGHT] or [PINCUSHION TOP/BOTTOM] item is not available when [KEYSTONE HORIZONTAL], [KEYSTONE VERTICAL] or [COR-NERSTONE] is activated.*
- *Before performing correction, set the lens shift to the center position.*
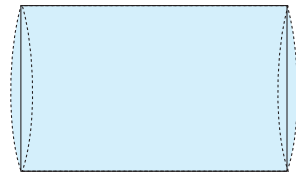
4. Press the EXIT when PINCUSHION adjustment is completed.

NOTE:
- *Even when the projector is turned on, the last used correction values are applied.*
- *[PINCUSHION] and [CORNERSTONE] corrections can cause the image to be slightly blurred because the correction is made electronically.*

Reset the keystone and pincushion adjustment to the default value

*1.	Press the KEYSTONE button with no menu displayed.*

	ON the displayed KEYSTONE menu, set the cursor at RESET using the ▼ button and press ENTER button.

```
KEYSTONE

KEYSTONE HORIZONTAL        ◀ ━━━━━━━┃━━━ ▶  ⓪
KEYSTONE VERTICAL          ◀ ━━━━━━━┃━━━ ▶  ⓪
PINCUSHION LEFT/RIGHT      ◀ ━━━━━━━┃━━━ ▶  ⓪
PINCUSHION TOP/BOTTOM      ◀ ━━━━━━━┃━━━ ▶  ⓪
CORNERSTONE
RESET

 ENTER :SELECT    EXIT :EXIT    ✚:MOVE
```
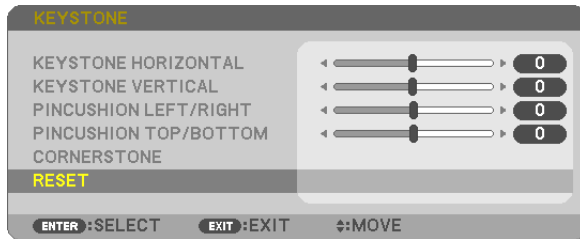
	*•	Confirmation message is displayed on.*

*2.	Move the cursor onto YES using either ◀ or ▶ button and then press the ENTER.*

```
⚠   KEYSTONE DATA WILL BE RESET.
     ARE YOU SURE ?
        YES        NO
```
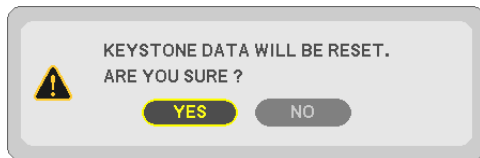
NOTE:
*•	All adjusted values set in the KEYSTONE adjustment are reset to initial values.*

TIP:
Adjustable range of the KEYSTONE and the CORNERSTONE:

	Horizontal Direction	Vertical Direction
CORNERSTONE	Approx. ±10° (Max)	Approx. ±10° (Max)
KEYSTONE		

Adjustable range may be narrower depending on input signal.

❻ Preventing the Unauthorized Use of the Projector [SECURITY]

A keyword can be set for your projector using the Menu to avoid operation by an unauthorized user. When a keyword is set, turning on the projector will display the Keyword input screen. Unless the correct keyword is entered, the projector cannot project an image.

• The [SECURITY] setting cannot be cancelled by using the [RESET] of the menu.

To enable the Security function:

1. Press the MENU button.

	The menu will be displayed.

2. Press the ▶ button twice to select [SETUP] and press the ▼ button or the ENTER button to select [GENERAL].

3. Press the ▶ button to select [INSTALLATION].

4. Press the ▼ button three times to select [SECURITY] and press the ENTER button.
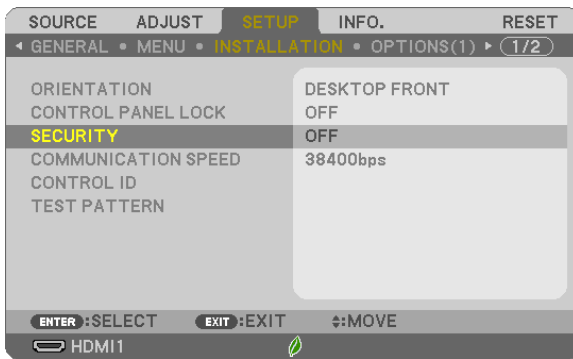
	The OFF/ON menu will be displayed.

5. Press the ▼ button to select [ON] and press the ENTER button.
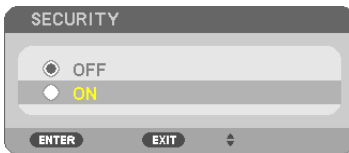
	The [SECURITY KEYWORD] screen will be displayed.

6. Type in a combination of the four ▲▼◀▶ buttons and press the ENTER button.

	NOTE: A keyword must be 4 to 10 digits in length.

	The [CONFIRM KEYWORD] screen will be displayed.

7. Type in the same combination of ▲▼◀▶ buttons and press the ENTER button.

```
CONFIRM KEYWORD

                    ****

 ENTER :ENTER    EXIT :EXIT    ▲▼:INPUT   ◀▶:INPUT
```

The confirmation screen will be displayed.

8. Select [YES] and press the ENTER button.

```
        ⚠   SECURITY FUNCTION WILL BE ENABLED.
            ARE YOU SURE ?
                   YES        NO
```
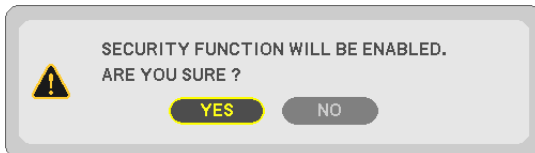
The SECURITY function has been enabled.

To turn on the projector when [SECURITY] is enabled:

1. Press the POWER button.

The projector will be turned on and display a message to the effect that the projector is locked.

2. Press the MENU button.

```
SECURITY KEYWORD

            NB52-YGK8-2VD6-K585-JNE6-EYA8

 ENTER :ENTER    EXIT :EXIT    ▲▼:INPUT    ◀▶:INPUT
```

3. Type in the correct keyword and press the ENTER button. The projector will display an image.

```
SECURITY KEYWORD

            NB52-YGK8-2VD6-K585-JNE6-EYA8
                        ****

 ENTER :ENTER    EXIT :EXIT    ▲▼:INPUT    ◀▶:INPUT
```

NOTE: The security disable mode is maintained until the main power is turned off or unplugging the power cord.

To disable the SECURITY function:

1. Press the MENU button.

The menu will be displayed.

2. Select [SETUP] → [INSTALLATION] → [SECURITY] and press the ENTER button.

SOURCE	ADJUST	SETUP	INFO.	RESET
◀ GENERAL • MENU • INSTALLATION • OPTIONS(1) ▶ (1/2)

ORIENTATION   DESKTOP FRONT
CONTROL PANEL LOCK   OFF
SECURITY   OFF
COMMUNICATION SPEED   38400bps
CONTROL ID
TEST PATTERN

ENTER:SELECT   EXIT:EXIT   ↕:MOVE
HDMI1
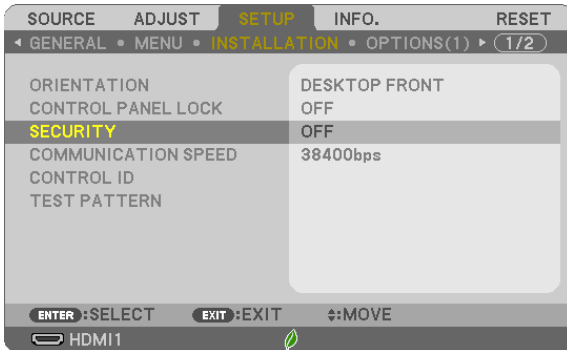
The OFF/ON menu will be displayed.

3. Select [OFF] and press the ENTER button.

SECURITY

○ OFF
○ ON

ENTER   EXIT   ↕

The SECURITY KEYWORD screen will be displayed.

SECURITY KEYWORD

NB52-YGK8-2VD6-K585-JNE6-EYA8
****

ENTER:ENTER   EXIT:EXIT   ↕:INPUT   ◀▶:INPUT

4. Type in your keyword and press the ENTER button.

When the correct keyword is entered, the SECURITY function will be disabled.

NOTE: If you forget your keyword, contact your dealer. Your dealer will provide you with your keyword in exchange for your request code. Your request code is displayed in the Keyword Confirmation screen. In this example [NB52-YGK8-2VD6-K585-JNE6-EYA8] is a request code.

❼ Controlling the Projector by Using an HTTP Browser

Overview

The HTTP Server function provides settings and operations for:

1. Setting for wired network (NETWORK SETTINGS)

To use wired LAN connection, connect the projector to the computer with a commercially available LAN cable. (→ page 92)

2. Setting Alert Mail (ALERT MAIL)

When the projector is connected to a wired network, light replace time or error messages will be sent via e-mail.

3. Operating the projector

Power on/off, selecting input, volume control and picture adjustments are possible.

4. Setting PJLink PASSWORD and AMX BEACON

How to access to the HTTP server:

- **Start the Web browser on the computer via the network connected to the projector and enter the following URL :**

  http://<the projector's IP address> /index.html

TIP: The factory setting IP address is [DHCP ON].

NOTE:
- *To use the projector in a network, consult with your network administrator about network settings.*
- *The display's or button's response can be slowed down or operation may not be accepted depending the settings of your network. Should this happen, consult your network administrator. The projector may not respond if its buttons are repeatedly pressed in rapid intervals. Should this happen, wait a moment and repeat. If you still can't get any response, turn off and back on the projector.*
- *If the PROJECTOR NETWORK SETTINGS screen does not appear in the web browser, press the Ctrl+F5 keys to refresh your web browser (or clear the cache).*
- *This device uses "JavaScript" and "Cookies" and the browser should be set to accept these functions. The setting method will vary depending on the version of browser. Please refer to the help files and the other information provided in your software.*

Preparation before Use

Connect the projector to a commercially available LAN cable before engaging in browser operations. (→ page 93) Operation with a browser that uses a proxy server may not be possible depending on the type of proxy server and the setting method. Although the type of proxy server will be a factor, it is possible that items that have actually been set will not be displayed depending on the effectiveness of the cache, and the contents set from the browser may not be reflecte in operation. It is recommended that a proxy server not be used unless it is unavoidable.

Handling of the Address for Operation via a Browser

Regarding the actual address that is entered for the address or entered to the URL column when operation of the projector is via a browser, the host name can be used as it is when the host name corresponding to the IP address of the projector has been registered to the domain name server by a network administrator, or the host name corresponding to the IP address of the projector has been set in the "HOSTS" fil of the computer being used.

Example 1: When the host name of the projector has been set to "pj.nec.co.jp", access is gained to the network setting by specifying
http://pj.nec.co.jp/index.html
for the address or the entry column of the URL.

Example 2: When the IP address of the projector is "192.168.73.1", access is gained to the network setting by specifying
http://192.168.73.1/index.html
for the address or the entry column of the URL.

PROJECTOR ADJUSTMENT

POWER: This controls the power of the projector.

ON ....Power is switched on.

OFF..........................Power is switched off.

VOLUME: This controls the volume of the projector.

▲.............................Increases the volume adjustment value.

▼.............................Decreases the volume adjustment value.

AV-MUTE: This controls the mute function of the projector.

PICTURE ON ....Mutes the video.

PICTURE OFF............Cancels the video muting.

SOUND ON ....Mutes the audio.

SOUND OFF.............Cancels the audio muting.

ALL ON....................Mutes each of the video, and audio functions.

ALL OFF ....Cancels the muting of each of the video, and audio functions.

PICTURE: Controls the video adjustment of the projector.

CONTRAST ▲...........Increases the contrast adjustment value.

CONTRAST ▼..........Decreases the contrast adjustment value.

BRIGHTNESS ▲........Increases the brightness adjustment value.

BRIGHTNESS ▼........Decreases the brightness adjustment value.

SHARPNESS ▲.........Increases the sharpness adjustment value.

SHARPNESS ▼.........Decreases the sharpness adjustment value.

COLOR ▲................Increases the color adjustment value.

COLOR ▼................Decreases the color adjustment value.

HUE ▲ ....Increases the hue adjustment value.

HUE ▼ ....Decreases the hue adjustment value.

- The functions that can be controlled will vary depending on the signal being input to the projector. (→ page 59)

SOURCE SELECT: This switches the input terminal of the projector.

HDMI1......................Switches to the HDMI 1 IN terminal

HDMI2......................Switches to the HDMI 2 IN terminal.

COMPUTER ....Switches to the COMPUTER IN terminal.

VIDEO......................Switches to the VIDEO IN terminal.

USB-A......................Switches to the data on the USB memory device.

LAN ....Switches to the LAN terminal.

PROJECTOR STATUS: This displays the condition of the projector.

LIGHT(Y) HOURS USED .... Displays how many hours the light(Y) has been used.

LIGHT(B) HOURS USED .... Displays how many hours the light(B) has been used.

FILTER HOURS USED .... Displays how many hours the filter has been used.

ERROR STATUS .... Displays the status of errors occurring within the projector.

LOG OFF: Logging off your projector and returning to the authentication screen (LOGON screen).

NETWORK SETTINGS

• SETTINGS

PIN

PIN TYPE	Select type of PIN code.	
	ONE-TIME	The PIN CODE is automatically created every time powering ON the projector. Created PIN CODE is kept unchanged until the projector is powered OFF.
	STATIC	Enables to set up random number for the PIN CODE.
PIN CODE	For the case ONE-TIME is selected as PIN TYPE, automatically created PIN CODE is displayed on (disabled to input). For the case STATIC is selected as PIN TYPE, input random 4 digits number as PIN CODE. Select if you use the PIN CODE as a security password for connecting to the Multi-Presenter application. For using the PIN code as a security password, add a check mark into the square. □ .... UTILIZE PIN CODE AS PASSWORD FOR CONNECTING WITH MultiPresenter.	
APPLY	Make the settings for PIN effective.	

WIRED LAN

ENABLE	Turn on wired LAN connection
DISABLE	Turn off wired LAN connection
SETTING	Set for wired LAN.
DHCP ON	Automatically IP ADDRESS, SUBNET MASK, and GATEWAY are assigned to the projector by your DHCP server.
DHCP OFF	Set IP ADDRESS, SUBNET MASK, and GATEWAY to the projector assigned by your network administrator.
IP ADDRESS	Set your IP ADDRESS of the network connected to the projector.
SUBNET MASK	Set your SUBNET MASK number of the network connected to the projector.
GATEWAY	Set the default GATEWAY of the network connected to the projector.
AUTO DNS ON	DHCP server will automatically assign IP ADDRESS of DNS server connected to the projector.
AUTO DNS OFF	Set your IP ADDRESS of DNS server connected to the projector.
APPLY	Make the settings for wired LAN effective.

• NAME

PROJECTOR NAME	Enter a name for your projector so that your computer can identify the projector. A projector name must be 16 characters or less. TIP: Projector name will not be affected even when [RESET] is done from the menu.
HOST NAME	Enter the hostname of the network connected to the projector. A host name must be 16 or less.

• ALERT MAIL

ALERT MAIL (English only)	This option will notify your computer of light replace time or error messages via e-mail when using wired LAN.
	Placing a checkmark will turn on the Alert Mail feature.
	Clearing a checkmark will turn off the Alert Mail feature.
	Sample of a message to be sent from the projector:
	    The light and filter are at the end of its usable life. Please replace the light and filters.
	    Projector Name: NEC Projector
	    Light Hours Used: 100 [H]

SENDER'S ADDRESS	Enter sender's address.
SMTP SERVER NAME	Enter the SMTP server name to be connected to the projector.
RECIPIENT'S ADDRESS 1,2,3	Enter your recipient's address. Up to three addresses can be entered.
TEST MAIL	Send a test mail to check whether your settings are correct or not *NOTE:* *• If you execute a test, you may not receive an Alert mail. Should this happen, check if network settings are correct.* *• If you entered an incorrect address in a test, you may not receive an Alert mail. Should this happen, check if the Recipient's Address is correct.*
SAVE	Click this button to save the above settings on the projector.

• NETWORK SERVICE

PJLink PASSWORD	Set a password for PJLink*. A password must be 32 characters or less. Do not forget your password. However, if you forget your password, consult with your dealer.
HTTP PASSWORD	Set a password for HTTP server. A password must be 10 characters or less.
AMX BEACON	Turn on or off for detection from AMX Device Discovery when connecting to the network supported by AMX's NetLinx control system. *TIP:* *When using a device that supports AMX Device Discovery, all AMX NetLinx control system will recognize the device and download the appropriate Device Discovery Module from an AMX server.* *Placing a checkmark will enable detecting the projector from AMX Device Discovery.* *Clearing a checkmark will disable detecting the projector from AMX Device Discovery.*

*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 projector supports all the commands of PJLink Class 1.

Setting of PJLink will not be affected even when [RESET] is done from the menu.

• INFORMATION

WIRED LAN	Display a list of settings of wired LAN connection.
UPDATE	Reflec settings when they are changed.

4. Using the Viewer

❶ What you can do with the Viewer

The Viewer has the following features.

- When a commercially available USB memory that stores image file is inserted into the USB port (Type A) of the projector, the Viewer allows you to view the image file on the USB memory.

  Even if no computer is available, presentations can be conducted simply with the projector.

- Supported graphic format is JPEG.

- The Viewer displays the thumbnail screen (JPEG Exif only) on which you can jump to any specifi image you wish to project.

- There are two ways of playback for slideshow: manual playback and auto playback. The interval time can be changed in auto playback.

- The order of displaying images can be set by name, date or size. Ascending or descending order can be selected.

- Images can be rotated by 90 degrees during playback.

NOTE
- *The USB port of the projector does not support USB hub.*
- *The following operations by using the buttons on the projector are not possible when the VIEWER screen such as the slide screen and the thumbnail screen is displayed.*
  Buttons on the cabinet
  - *Keystone correction by using the ▲ / ▼ button*
  - *Auto Adjustment by using the AUTO ADJ. button*
  - *Volume control with the ◄ or ► button*
    To perform Keystone correction or Source selection during display of the Viewer, press the MENU button twice to display the menu and operate Viewer from the menu.
  Remote control
  - *Auto Adjustment button*
  - *Freeze button*
- *Executing [RESET] → [ALL DATA] from the menu will return the settings for the Viewer toolbar to the factory default.*
- *USB memory*
  - *Be sure to use a USB memory device formatted with the FAT32 or FAT16 file system.*
    The projector does not support NTFS formatted USB memory.
    If the projector does not recognize your USB memory, check if the format is supported.
    To format your USB memory in your computer, refer to the document or help file that comes with your Windows.
  - *We do not warrant that the USB port of the projector will support all USB memories in the market.*
- *Supported images*
  - *Supported file format for Viewer are as follows.*
    We do not warrant all the images are supported for Viewer.
    Images other than mentioned in the table may not be supported.

Image type	Extension	Description
JPEG	JPG/JPEG	Baseline/Exif are supported

- *Image can be displayed at a resolution up to 10000 × 10000 pixels.*
- *Even if images are met by the above conditions, there may be some images which cannot be played back.*
- *More than 200 icons (total number of image file icons and folder icons) cannot be displayed in a thumbnail screen.*
- *Long file/folder name will be limited to the specified length. This can be shown by bracket added.*
- *If one folder has many files, it takes some time to play back.*
- *If a single folder contains too many files, switching images will take time. To shorten switching time, reduce the number of images contained in a single folder.*

TIP:
- *Exchangeable image file format (Exif) is a standard image file format used by digital cameras with the addition of specific shooting data.*

❷ Projecting images stored in a USB memory device

This section explains the basic operation of the Viewer.
The explanation provides the operational procedure when the Viewer toolbar (→ page 49) is set to the factory default.

Preparation: Before starting the Viewer, store images to the USB memory using your computer.

Starting the Viewer

1. Turn on the projector. (→ page 12)
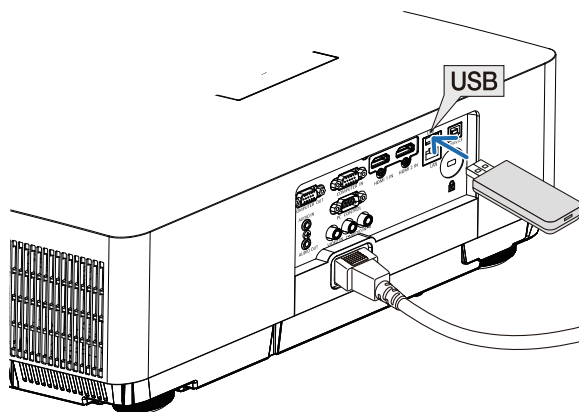
2. Insert the USB memory into the USB port of the projector.

• *Do not remove the USB memory from the projector while it's LED flashes. Doing so may corrupt the data.*
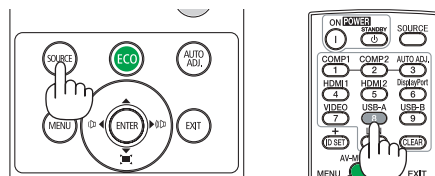
3. Press the SOURCE button on the projector cabinet.

The Viewer start screen will be displayed.

• *Press the USB-A button on the remote control.*

45
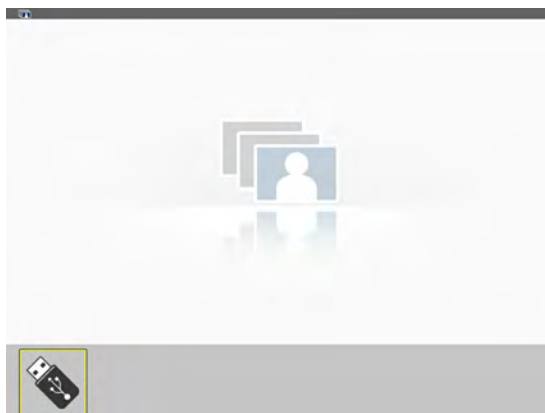
4. Press the ENTER button.

The thumbnail screen will be displayed. (→ page 48)

5. Use the ▲▼◀ or ▶ button to select an icon.

- *The → (arrow) symbol on the right indicates there are more pages. Pressing the PAGE ▽ (page down) button will show the next page; pressing the PAGE △ (page up) will show the previous page.*

6. Press the ENTER button.

The selected slide will be displayed.

- *When a folder icon is selected, icons contained in the folder will be displayed.*

7. Press the ▶ button to select the next slide.

The slide on the right will be displayed.

- *The ◀ or ▶ button can be used to select the next (right) slide or the previous (left) slide in the thumbnail screen.*
- *Pressing the MENU button during display of the thumbnail screen, the slide screen, or the slideshow screen will display the toolbar. The toolbar is used to select or rotate an slide.(→ page 50)*

8. Press the EXIT button when the toolbar is not displayed.

The thumbnail screen will be displayed.

- *Another way to display the thumbnail screen is to press the ENTER button.*
- *To close the toolbar, press the MENU button to return to the SOURCE list, and press the MENU button again to close the SOURCE list.*
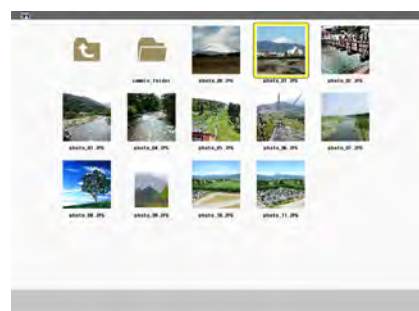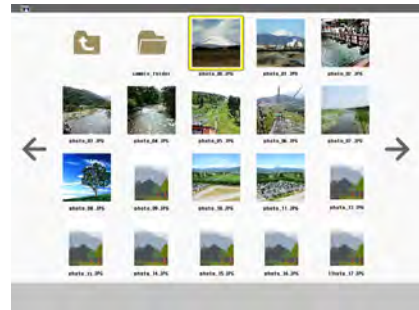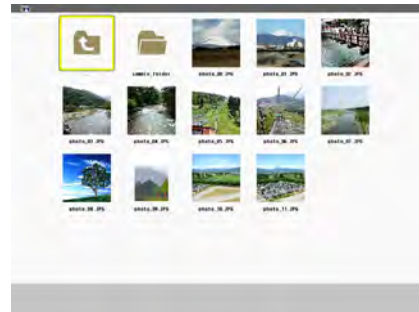
Removing the USB memory from the projector

1. Select the VIEWER start screen.

Press the EXIT button with no menu displayed.
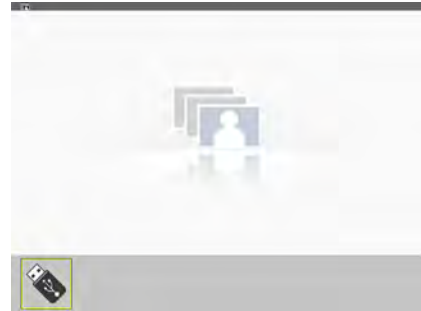
2. Remove the USB memory from the projector.

Make sure that the LED on the USB memory is not flashing before removing the USB memory.

NOTE: If you remove the USB memory from the projector with a slide displayed, the projector may not operate correctly. If this happens, turn off the projector and unplug the power cord. Wait 3 minutes, then connect the power cord, and turn on the projector.
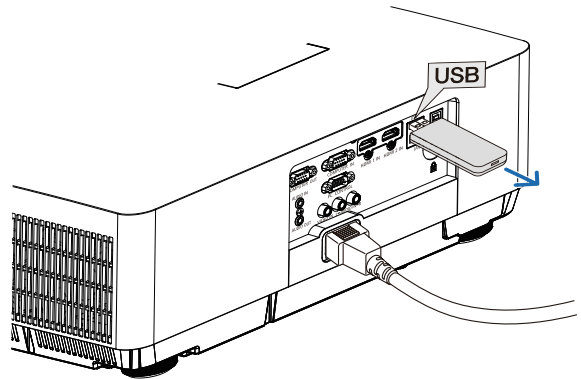
Exiting the Viewer

1. Press the MENU button with the slide screen or the thumbnail screen displayed.

The control bar or the pop-up menu will be displayed.
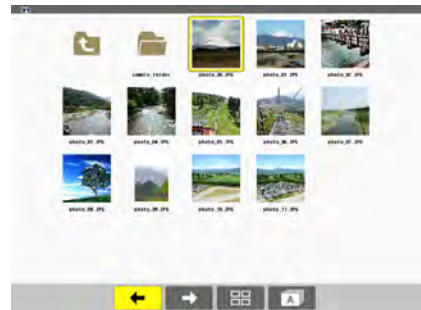
2. Press the MENU button again.

The on-screen menu will be displayed.

3. Select a source other than [USB-A] and press the ENTER button.

The Viewer will be exited.

TIP: To exit the Viewer using the remote control, select a source other than [USB-A].
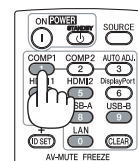
Parts of each screen

The Viewer has four screens.

(1) Viewer start screen

(2)

(3) Thumbnail screen

(5) (6) (4)   *(7)*

(8)

(9) Slide screen/
(11) Slideshow screen

(10) (12)
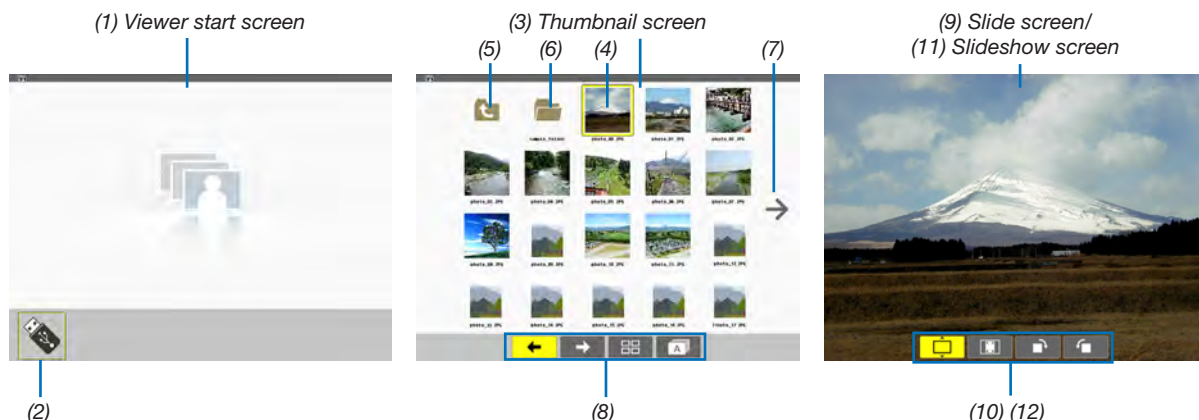
Name	Description
(1) Viewer start screen	This screen will be displayed first when you select the Viewer.
(2) USB icon	This icon indicates that the USB memory is inserted into the projector.
(3) Thumbnail screen	This screen will show a list of folders and image files stored in the USB memory. The JPEG Exif files will be displayed in thumbnail screen only. • The maximum number of image files or folders within one page is 6 × 4 lateral by longitudinal.
(4) Cursor	The cursor is used to select (highlight) the folder or image file by using ▲▼◄► button.
(5) Back icon	This icon is used to return to the upper (parent) folder.
(6) Folder icon	This icon shows that the USB memory has folders.
(7) Page up (Page down) icon	This icon shows further folders or image files are available in the next (previous) page. Use the ► button to go to the next (previous) row. The PAGE ▽ or PAGE △ on the remote control is used to go to the next or previous page directly.
(8) Thumbnail toolbar	This toolbar is used in the thumbnail screen. Pressing the MENU button will display this toolbar. (→ page 49)
(9) Slide screen	This screen is used for manual playback. The selected image will be displayed in full screen.
(10) Slide toolbar	This toolbar is used in the slide screen. Pressing the MENU button will display this toolbar. (→ page 50)
(11) Slideshow screen	This screen is used for auto playback. The slides will be changed automatically.
(12) Slideshow toolbar	This toolbar is used in the slideshow screen. Pressing the MENU button will display this toolbar. (→ page 50)

Using the toolbar

*1. **Press the MENU button.***

The toolbar will be displayed.

The SOURCE screen will be displayed as Viewer connection screen.

*2. **Use the ◀ or ▶ button to select an item and use the ▲ or ▼ button to select its available option.***

When the cursor is placed, the selected item will be changed to yellow.

The ▲ or ▼ shows more available choices.

*3. **Press the ENTER button.***

The selected item will be displayed.

*4. **Press the MENU button two times.***

The toolbar will be closed and the SOURCE list will be displayed. Press the MENU button again to close the SOURCE list.

Thumbnail toolbar

(1)　　　*(2)*　　　*(3)*　　　*(4)*
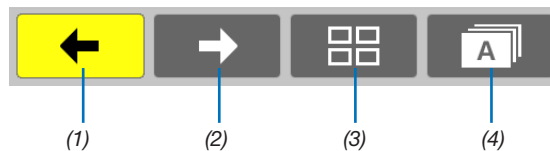
Menu	Options	Description
(1) Back ←	—	Goes back to the previous image. When the cursor reaches the top left of the screen, it will go to the previous page.
(2) Forward →	—	Goes to the next image. When the cursor reaches the bottom right of the screen, it will go to the next page.
(3) Display	⊞	Closes the menu and returns to the thumbnail screen.
	⬛	Closes the menu and starts the slideshow from the highlighted item.
	⬜	Closes the menu and displays the slide screen.
(4) Order	Ⓐ	Displays the icons alphabetically by name. (number before alphabet)
	⬛	Displays the icons in descending order of fil size.
	⬛	Displays the icons in the order of creation date

Slide toolbar

(1) (2) (3) (4)
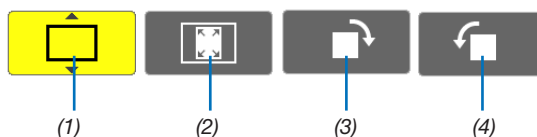
Menu	Options	Description
(1) Display		Closes the menu and switches to the slide screen.
		Closes the menu and displays the thumbnail screen.
		Closes the menu and starts the slideshow from the highlighted item.
(2) Image display		Closes the menu and displays the image in its actual size.
		Closes the menu and displays the image in the projector's maximum resolution.
(3) Clockwise rotation	—	Close the menu and rotate the image 90° clockwise.
(4) Counter-clockwise rotation	—	Close the menu and rotate the image 90° counter clockwise.

Slideshow toolbar

(1) (2) (3) (4) (5)
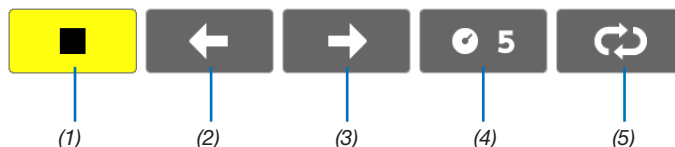
Menu	Options	Description
(1) Stop	—	Closes the menu and changes to the slide screen.
(2) Back	—	Goes back to the previous image.
(3) Forward	—	Goes to the next image.
(4) Interval		Specifie interval time when playing back the slides.
(5) Repeat		Repeats to play back the images in the folder.
		Returns to the thumbnail screen.

TIP:
- *A picture icon at the center of the screen shows that the file cannot be displayed in the slide screen or thumbnail screen.*
- *Slide toolbar setting for rotation will be cancelled if the folder is moved from one place to another.*

5. Using On-Screen Menu

❶ Using the Menus

NOTE: The on-screen menu may not be displayed correctly while interlaced motion video image is projected.

1. Press the MENU button on the remote control or the projector cabinet to display the menu.

```
┌─────────────────────────────────────────────────────┐
│ SOURCE   ADJUST   SETUP   INFO.           RESET       │
├─────────────────────────────────────────────────────┤
│                                                       │
│   ▭  ◉  HDMI1                                         │
│   ▭  ○  HDMI2                                         │
│   ▭  ○  COMPUTER                                      │
│   ◉  ○  VIDEO                                         │
│   ▭  ○  USB-A                                         │
│   ▤  ○  LAN                                           │
│                                                       │
│                                                       │
│  ENTER :SELECT   EXIT :EXIT   ↕:MOVE    ◆:MOVE        │
│  ▭ HDMI1                     🍃                        │
└─────────────────────────────────────────────────────┘
```

NOTE: The commands such as ENTER, EXIT, ▲▼, ◀▶ in the bottom show available buttons for your operation.

2. Press the ◀▶ buttons on the remote control or the projector cabinet to display the submenu.

3. Press the ENTER button on the remote control or the projector cabinet to highlight the top item or the first tab.

4. Use the ▲▼ buttons on the remote control or the projector cabinet to select the item you want to adjust or set.

You can use the ◀▶ buttons on the remote control or the projector cabinet to select the tab you want.

5. Press the ENTER button on the remote control or the projector cabinet to display the submenu window.

6. Adjust the level or turn the selected item on or off by using the ▲▼◀▶ buttons on the remote control or the projector cabinet.

Changes are stored until adjusted again.

7. Repeat steps 2 -6 to adjust an additional item, or press the EXIT button on the remote control or the projector cabinet to quit the menu display.

NOTE: When a menu or message is displayed, several lines of information may be lost, depending on the signal or settings.

8. Press the MENU button to close the menu.

To return to the previous menu, press the EXIT button.

❷ Menu Elements

Tab　　　　　　　　*Slide bar*

Solid triangle

Available buttons

Source

Highlight

Radio button

ECO mode symbol
High Altitude symbol
Thermometer symbol
Key Lock symbol
Off Timer remaining time
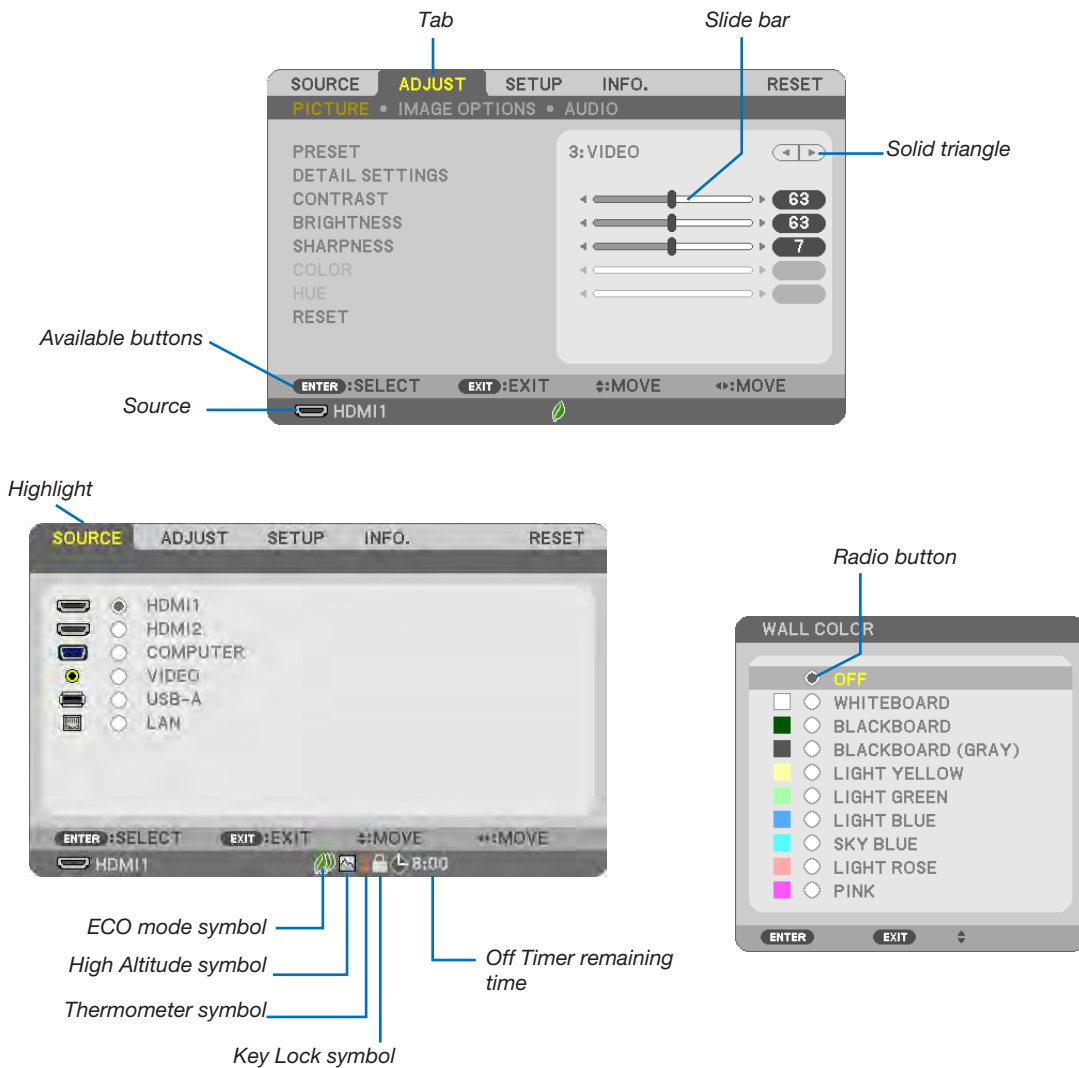
Menu windows or dialog boxes typically have the following elements:

Highlight ....Indicates the selected menu or item.

Solid triangle........................Indicates further choices are available. A highlighted triangle indicates the item is active.

Tab.......................................Indicates a group of features in a dialog box. Selecting on any tab brings its page to the front.

Radio button.........................Use this round button to select an option in a dialog box.

Source ....Indicates the currently selected source.

Off Timer remaining time.......Indicates the remaining countdown time when the [OFF TIMER] is preset.

Slide bar ....Indicates settings or the direction of adjustment.

ECO mode symbol.................Indicates ECO MODE is set.

Key Lock symbol ....Indicates the [CONTROL PANEL LOCK] is enabled.

Thermometer symbol ....Indicates the [ECO MODE] is forcibly set to [NORMAL] mode because the internal temperature is too high.

High Altitude symbol..............Indicates the [FAN MODE] is set to [HIGH ALTITUDE] mode.

❸ List of Menu Items

Some menu items are not available depending on the input source.

Menu Item				Default	Options
SOURCE	HDMI1			*	
	HDMI2			*	
	COMPUTER			*	
	VIDEO			*	
	USB-A			*	
	LAN			*	
ADJUST	PICTURE	PRESET		*	1-7
		DETAIL SETTINGS	GENERAL		
			REFERENCE	*	HIGH-BRIGHT, PRESENTATION, VIDEO, MOVIE, GRAPHIC, sRGB, DICOM SIM
			GAMMA CORRECTION		DYNAMIC, NATURAL, BLACK DETAIL
			SCREEN SIZE	*	LARGE, MEDIUM, SMALL
			COLOR TEMPERATURE	*	5000, 6500, 7800, 8500, 9300, 10500
			DYNAMIC CONTRAST	*	OFF, ON
			IMAGE MODE	*	STILL, MOVIE
			COLOR ENHANCEMENT	*	OFF, ON
			WHITE BALANCE		
			CONTRAST R	0	
			CONTRAST G	0	
			CONTRAST B	0	
			BRIGHTNESS R	*	
			BRIGHTNESS G	*	
			BRIGHTNESS B	*	
		CONTRAST		63	
		BRIGHTNESS		63	
		SHARPNESS		7	
		COLOR		31	
		HUE		31	
		RESET			
	IMAGE OPTIONS	CLOCK		*	
		PHASE		*	
		HORIZONTAL		*	
		VERTICAL		*	
		OVERSCAN		*	AUTO, 0[%], 5[%], 10[%]
		ASPECT RATIO		*	AUTO, 4:3, 16:9, 15:9, 16:10, LETTERBOX, NATIVE
	AUDIO	VOLUME		11	0-31
SETUP	GENERAL	DIGITAL ZOOM		100	70-100
		KEYSTONE	KEYSTONE HORIZONTAL	0	
			KEYSTONE VERTICAL	0	
			PINCUSHION LEFT/RIGHT	0	
			PINCUSHION TOP/BOTTOM	0	
			CORNERSTONE	0	
			RESET		
		WALL COLOR		OFF	OFF, WHITEBOARD, BLACKBOARD, BLACKBOARD (GRAY), LIGHT YELLOW, LIGHT GREEN, LIGHT BLUE, SKY BLUE, LIGHT ROSE, PINK
		LIGHT MODE	ECO MODE	AUTO ECO	OFF, AUTO ECO, NORMAL, ECO
			ADJUST	100	16-100
			CONSTANT BRIGHTNESS	OFF	OFF, ON
			BALANCE	0	-512 - 512
		CLOSED CAPTION		OFF	OFF, CAPTION1, CAPTION2, CAPTION3, CAPTION4, TEXT1, TEXT2, TEXT3, TEXT4
		OFF TIMER		OFF	OFF, 0:30, 1:00, 2:00, 4:00, 8:00, 12:00, 16:00
		LANGUAGE		ENGLISH	ENGLISH, DEUTSCH, FRANÇAIS, ITALIANO, ESPAÑOL, SVENSKA, 日本語, DANSK, PORTUGUÊS, ČEŠTINA, MAGYAR, POLSKI, NEDERLANDS, SUOMI, NORSK, TÜRKÇE, РУССКИЙ, عربي, Ελληνικά, 简体中文, 한국어, TIẾNG VIỆT, ROMÂNĂ, HRVATSKI, БЪЛГАРСКИ, INDONESIA, हिन्दी, ไทย, ئۇيغۇر, 繁體中文

* The asterisk (*) indicates that the default setting varies depending on the signal.

Menu Item					Default	Options
SETUP	MENU	COLOR SELECT			COLOR	COLOR, MONOCHROME
		SOURCE DISPLAY			ON	OFF, ON
		ID DISPLAY			ON	OFF, ON
		ECO MESSAGE			OFF	OFF, ON
		DISPLAY TIME			AUTO 45 SEC	MANUAL, AUTO 5 SEC, AUTO 15 SEC, AUTO 45 SEC
		BACKGROUND			BLUE	BLUE, BLACK, LOGO
		FILTER MESSAGE			2000[H]	OFF, 100[H], 500[H], 1000[H], 2000[H]
	INSTALLATION	ORIENTATION			DESKTOP FRONT	DESKTOP FRONT, CEILING REAR, DESKTOP REAR, CEILING FRONT
		CONTROL PANEL LOCK			OFF	OFF, ON
		SECURITY			OFF	OFF, ON
		COMMUNICATION SPEED			38400bps	4800bps, 9600bps, 19200bps, 38400bps
		CONTROL ID	CONTROL ID NUMBER		1	1-254
			CONTROL ID		OFF	OFF, ON
		TEST PATTERN				
	OPTIONS(1)	AUTO ADJUST			NORMAL	OFF, NORMAL, FINE
		SEAMLESS SWITCHING			OFF	OFF, ON
		FAN MODE			AUTO	AUTO, HIGH, HIGH ALTITUDE
		SIGNAL SELECT	COMPUTER		RGB/COMPONENT	RGB/COMPONENT, RGB, COMPONENT
			VIDEO		AUTO	AUTO, NTSC3.58, NTSC4.43, PAL, PAL-M, PAL-N, PAL60, SECAM
		WXGA MODEL			ON	OFF, ON
		DEINTERLACE			ON	OFF, ON
		HDMI SETTINGS	HDMI1	VIDEO LEVEL	AUTO	AUTO, NORMAL, ENHANCED
			HDMI2	VIDEO LEVEL	AUTO	AUTO, NORMAL, ENHANCED
		AUDIO SELECT	HDMI1		HDMI1	HDMI1, COMPUTER
			HDMI2		HDMI2	HDMI2, COMPUTER
			LAN		LAN	LAN, COMPUTER
		BEEP			ON	OFF, ON
	OPTIONS(2)	STANDBY MODE			NORMAL	NORMAL, NETWORK STANDBY
		DIRECT POWER ON			OFF	OFF, ON
		AUTO POWER ON			OFF	OFF, ON
		AUTO POWER OFF			STANDBY (NORMAL):1:00 NETWORK STANDBY:0:15	OFF, 0:05, 0:10, 0:15, 0:20, 0:30, 1:00
		DEFAULT SOURCE SELECT			LAST	LAST, AUTO, HDMI1, HDMI2, COMPUTER, VIDEO, USB-A, LAN
		CARBON CONVERT				
		CURRENCY			$	$, €, JP¥, RMB¥
		CURRENCY CONVERT				
	WIRED LAN	WIRED LAN			ENABLE	DISABLE, ENABLE
		SETTINGS			DHCP:ON AUTO DNS:ON	DHCP, IP ADDRESS, SUBNET MASK, GATEWAY, AUTO DNS, DNS
		RECONNECT				

Menu Item			Default	Options
INFO	USAGE TIME	LIGHT HOURS USED		
		FILTER HOURS USED		
		TOTAL CARBON SAVINGS		
		TOTAL COST SAVINGS		
	SOURCE(1)	SOURCE NAME		
		SOURCE INDEX		
		HORIZONTAL FREQUENCY		
		VERTICAL FREQUENCY		
		SYNC TYPE		SEPARATE SYNC、COMPOSITE SYNC、SYNC ON GREEN、SYNC ON VIDEO
		SYNC POLARITY		
		SCAN TYPE		
	SOURCE(2)	SIGNAL TYPE		
		VIDEO TYPE		
		BIT DEPTH		8[bits]、10[bits]、12[bits]
		VIDEO LEVEL		
	WIRED LAN	IP ADDRESS		
		SUBNET MASK		
		GATEWAY		
		MAC ADDRESS		
	CONNECTION	PROJECTOR NAME		
		PIN CODE		
		WIRED LAN	IP ADDRESS		
	VERSION	FIRMWARE		
		DATA		
	OTHERS	PROJECTOR NAME		
		HOST NAME		
		MODEL NO.		
		SERIAL NUMBER		
		CONTROL ID（when[CONTROL ID]is set）		
RESET	CURRENT SIGNAL			
	ALL DATA			
	CLEAR FILTER HOURS			

❹ Menu Descriptions & Functions [SOURCE]

```
SOURCE   ADJUST   SETUP   INFO.        RESET

⬜ ⦿  HDMI1
⬜ ◯  HDMI2
⬜ ◯  COMPUTER
⦿ ◯  VIDEO
⬜ ◯  USB-A
⬜ ◯  LAN


ENTER:SELECT   EXIT:EXIT   ⬍:MOVE   ⬌:MOVE
⬜ HDMI1                    🍃
```
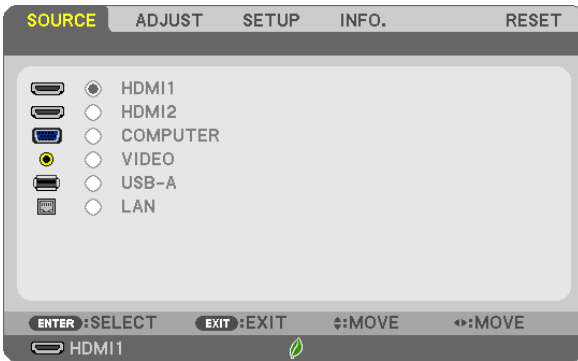
HDMI1 and HDMI2

Selects the HDMI compatible equipment connected to your HDMI1 or 2 IN terminal.

COMPUTER

Selects the computer connected to your COMPUTER input terminal signal.

NOTE: When the component input signal is connected to the COMPUTER IN terminal, select [COMPUTER].

VIDEO

Selects what is connected to your VIDEO input-VCR, DVD player or document camera.

USB-A

This feature enables you to make presentations using a USB memory that contains slides.
(→ page 43 "4. Using the Viewer")

LAN

Selects a signal from the LAN port (RJ-45).

❺ Menu Descriptions & Functions [ADJUST]

[PICTURE]

```
SOURCE    ADJUST    SETUP    INFO.         RESET
PICTURE • IMAGE OPTIONS • AUDIO

PRESET            3: VIDEO              ◄ ►
DETAIL SETTINGS
CONTRAST          ◄━━━━━┃━━━━►    63
BRIGHTNESS        ◄━━━━━┃━━━━►    63
SHARPNESS         ◄━━━━━┃━━━━►     7
COLOR             ◄━━━━━━━━━━━━►
HUE               ◄━━━━━━━━━━━━►
RESET

ENTER:SELECT   EXIT:EXIT   ⬍:MOVE   ◄►:MOVE
⊏⊐ HDMI1           ∅
```
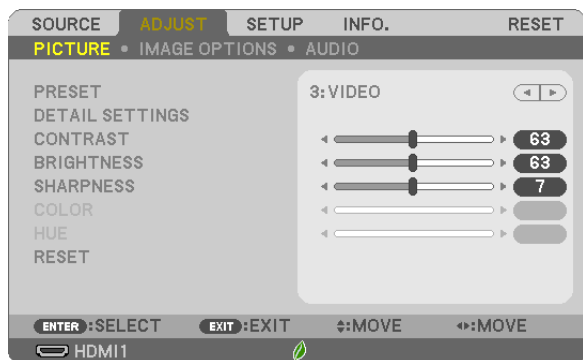
[PRESET]

This function allows you to select optimized settings for your projected image.

You can adjust neutral tint for yellow, cyan or magenta.

There are seven factory presets optimized for various types of images. You can also use [DETAIL SETTINGS] to set user adjustable settings to customize each gamma or color.

Your settings can be stored in [PRESET 1] to [PRESET 7].

HIGH-BRIGHT ....Recommended for use in a brightly lit room.

PRESENTATION.........Recommended for making a presentation using a PowerPoint fil .

VIDEO......................Recommended for typical TV program viewing.

MOVIE ....Recommended for movies.

GRAPHIC ....Recommended for graphics.

sRGB.......................Standard color values

DICOM SIM..............Recommended for DICOM simulation format.

NOTE:
- *The [DICOM SIM.] option is for training/reference only and should not be used for actual diagnosis.*
- *DICOM stands for Digital Imaging and Communications in Medicine. It is a standard developed by the American College of Radiology (ACR) and the National Electrical Manufacturers Association (NEMA).*
  The standard specifies how digital image data can be moved from system to system.

[DETAIL SETTINGS]

```
DETAIL SETTINGS
GENERAL • WHITE BALANCE

REFERENCE           PRESENTATION
GAMMA CORRECTION    BLACK DETAIL      ◄ ►
COLOR TEMPERATURE   ---               ◄ ►
DYNAMIC CONTRAST    OFF               ◄ ►
IMAGE MODE          ---               ◄ ►
COLOR ENHANCEMENT   OFF               ◄ ►




ENTER:SELECT   EXIT:EXIT   ⬍:MOVE   ◄►:MOVE
```

```
DETAIL SETTINGS
GENERAL • WHITE BALANCE

CONTRAST R      ◄━━━┃━━━►    0
CONTRAST G      ◄━━━┃━━━►    0
CONTRAST B      ◄━━━┃━━━►    0
BRIGHTNESS R    ◄━━━┃━━━►    0
BRIGHTNESS G    ◄━━━┃━━━►    0
BRIGHTNESS B    ◄━━━┃━━━►    0




ENTER:SELECT   EXIT:EXIT   ⬍:MOVE   ◄►:MOVE
```
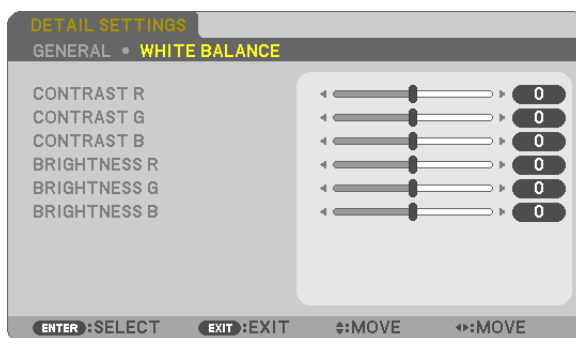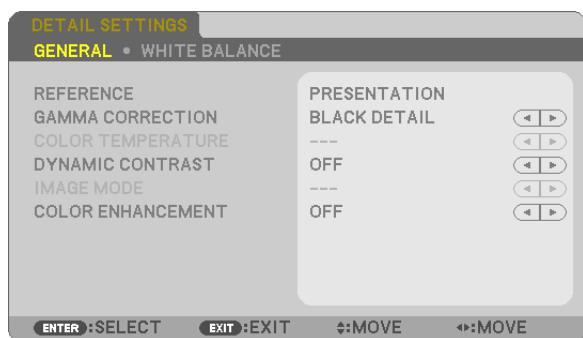
[GENERAL]

Storing Your Customized Settings [REFERENCE]

This function allows you to store your customized settings in [PRESET 1] to [PRESET 7].

First, select a base preset mode from [REFERENCE], then set [GAMMA CORRECTION] and [COLOR TEMPERATURE].

HIGH-BRIGHT ....Recommended for use in a brightly lit room.

PRESENTATION.........Recommended for making a presentation using a PowerPoint fil .

VIDEO......................Recommended for typical TV program viewing.

MOVIE ....Recommended for movies.

GRAPHIC ....Recommended for graphics.

sRGB.......................Standard color values.

DICOM SIM..............Recommended for DICOM simulation format.

Selecting Gamma Correction Mode [GAMMA CORRECTION]

Each mode is recommended for:

DYNAMIC ....Creates a high-contrast picture.

NATURAL.................Natural reproduction of the picture.

BLACK DETAIL..........Emphasizes detail in dark areas of the picture.

NOTE: This function is not available when [DICOM SIM.] is selected for [DETAIL SETTINGS].

Selecting Screen Size for DICOM SIM [SCREEN SIZE]

This function will perform gamma correction appropriate for the screen size.

LARGE.....................For screen size of 110"

MEDIUM..................For screen size of 90"

SMALL ....For screen size of 70"

NOTE: This function is available only when [DICOM SIM.] is selected for [DETAIL SETTINGS].

Adjusting Color Temperature [COLOR TEMPERATURE]

This option allows you to select the color temperature of your choice.

NOTE: When [PRESENTATION] or [HIGH-BRIGHT] is selected in [REFERENCE], this function is not available.

Adjusting Brightness and Contrast [DYNAMIC CONTRAST]

This function allows you to adjust the contrast ratio optically using the built-in iris.

To increase the contrast ratio, select [ON].

Selecting Still Image Mode or Movie Mode [IMAGE MODE]

This function allows you to select the still image mode or the movie mode.

STILL ....This mode is for a still image.

MOVIE ....This mode is for a movie.

NOTE: This function is available only when [HIGH-BRIGHT] is selected for [REFERENCE].

Enhancing the Color [COLOR ENHANCEMENT]

This function allows you to enhance the color of image.

ON ....Enhances the color.

NOTE: This function is available only when [PRESENTATION] is selected [REFERENCE].

Adjusting White Balance [WHITE BALANCE]

This allows you to adjust the white balance. Contrast for each color (RGB) to adjust the white level of the screen; Brightness for each color (RGB) is used to adjust the black level of the screen.

[CONTRAST]

Adjusts the intensity of the image according to the incoming signal.

[BRIGHTNESS]

Adjusts the brightness level or the back raster intensity.

[SHARPNESS]

Controls the detail of the image.

[COLOR]

Increases or decreases the color saturation level.

[HUE]

Varies the color level from +/– green to +/– blue. The red level is used as reference.

Input signal	CONTRAST	BRIGHTNESS	SHARPNESS	COLOR	HUE
COMPUTER/HDMI (RGB)	Yes	Yes	Yes	No	No
COMPUTER/HDMI (COMPONENT)	Yes	Yes	Yes	Yes	Yes
VIDEO	Yes	Yes	Yes	Yes	Yes
USB-A	Yes	Yes	Yes	No	No
LAN	Yes	Yes	Yes	No	No

Yes = Adjustable, No = Not adjustable

[RESET]

The settings and adjustments for [PICTURE] will be returned to the factory settings with the exception of the following; Preset numbers and [REFERENCE] within the [PRESET] screen.
The settings and adjustments under [DETAIL SETTINGS] within the [PRESET] screen that are not currently selected will not be reset.

[IMAGE OPTIONS]
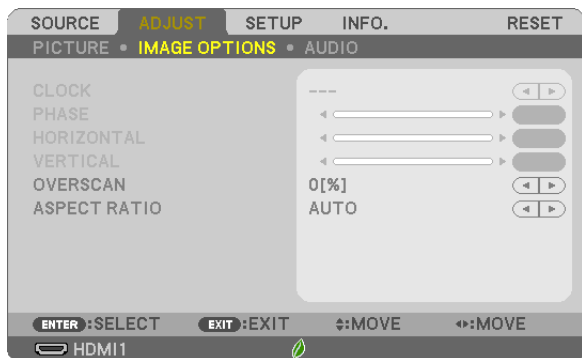
Adjusting Clock and Phase [CLOCK/PHASE]

This allows you to manually adjust CLOCK and PHASE.
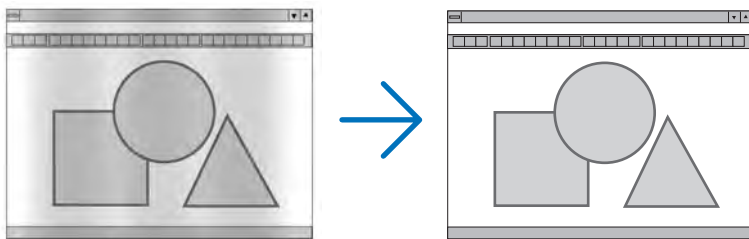
CLOCK ....Use this item to fine tune the computer image or to remove any vertical banding that might appear. This function adjusts the clock frequencies that eliminate the horizontal banding in the image.

This adjustment may be necessary when you connect your computer for the first time.
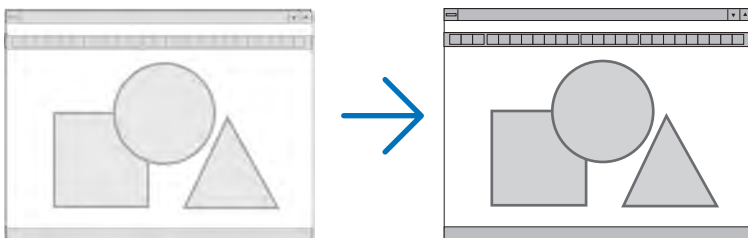
PHASE......................Use this item to adjust the clock phase or to reduce video noise, dot interference or cross talk. (This is evident when part of your image appears to be shimmering.)

Use [PHASE] only after the [CLOCK] is complete.

Adjusting Horizontal/Vertical Position [HORIZONTAL/VERTICAL]

Adjusts the image location horizontally and vertically.
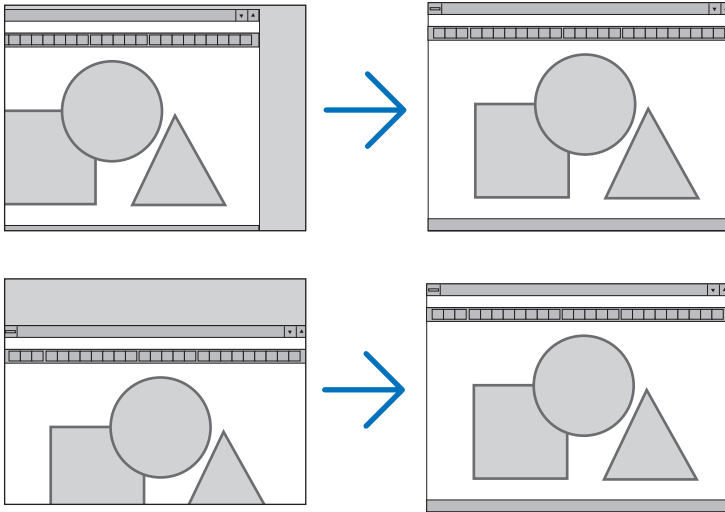
- An image can be distorted during the adjustment of [CLOCK] and [PHASE]. This is not malfunction.
- The adjustments for [CLOCK], [PHASE], [HORIZONTAL], and [VERTICAL] will be stored in memory for the current signal. The next time you project the signal with the same resolution, horizontal and vertical frequency, its adjustments will be called up and applied.

  To delete adjustments stored in memory, from the menu, you select [RESET] → [CURRENT SIGNAL] or [ALL DATA] and reset the adjustments.

Selecting Overscan Percentage [OVERSCAN]

Select overscan percentage (AUTO, 0%, 5% and 10%) for signal.

Projected image

Overscaned by 10%
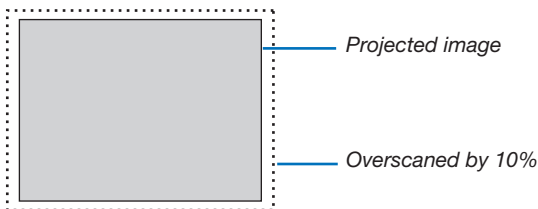
NOTE:
- *The [0[%]] cannot be selected when VIDEO signal is used.*
- *The [OVERSCAN] item is not available:*
  - *when [NATIVE] is selected for [ASPECT RATIO].*

61
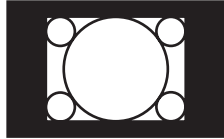
Selecting Aspect Ratio [ASPECT RATIO]

The term "aspect ratio" refers to the ratio of width to height of a projected image.
The projector automatically determines the incoming signal and displays it in its appropriate aspect ratio.
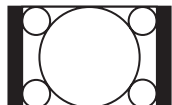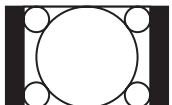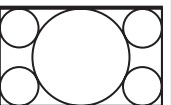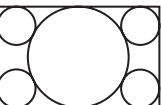
- This table shows typical resolutions and aspect ratios that most computers support.

	Resolution	Aspect Ratio
VGA	640 × 480	4:3
SVGA	800 × 600	4:3
XGA	1024 × 768	4:3
WXGA	1280 × 768	15:9
WXGA	1280 × 800	16:10
WXGA+	1440 × 900	16:10
SXGA	1280 × 1024	5:4
SXGA+	1400 × 1050	4:3
UXGA	1600 × 1200	4:3
WUXGA	1920 × 1200	16:10
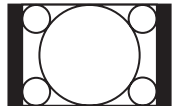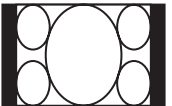
Options	Function
AUTO	The projector will automatically determine the incoming signal and display it in its aspect ratio. (→ next page) The projector may erroneously determine the aspect ratio depending on its signal. If this occurs, select the appropriate aspect ratio from the following.
4:3	The image is displayed in 4:3 aspect ratio.
16:9	The image is displayed in 16:9 aspect ratio.
15:9	The image is displayed in 15:9 aspect ratio.
16:10	The image is displayed in 16:10 aspect ratio.
LETTERBOX	The image of a letterbox signal is stretched equally in the horizontal and vertical directions to fi the screen. Parts of the displayed image are cropped at the top and bottom edges and therefore not visible.
NATIVE	The projector displays the current image in its true resolution when the incoming computer signal has a lower resolution than the projector's native resolution. **[Example]** When the incoming signal with the resolution of 800 × 600 is displayed: *NOTE:* *• When a non-computer signal is displayed, the [NATIVE] is not available.* *• When a signal with a higher resolution than the projector's native resolution is displayed, [NATIVE] is not available.*

Sample image when the appropriate aspect ratio is automatically determined

[Computer signal]

Aspect ratio of incoming signal	4:3	5:4	16:9	15:9	16:10
Sample image when the appropriate aspect ratio is automatically determined					

[Video signal]

Aspect ratio of incoming signal	4:3	Letterbox	Squeeze
Sample image when the aspect ratio is automatically determined			
		NOTE: To display a letterbox signal properly, select [LETTERBOX].	*NOTE: To display a squeezed signal properly, select [16:9].*

TIP:
- *Image position can be adjusted vertically using [POSITION] when the [16:9], [15:9], or [16:10] aspect ratios are selected.*
- *The term "letterbox" refers to a more landscape-oriented image when compared to a 4:3 image, which is the standard aspect ratio for a video source.*
  The letterbox signal has aspect ratios with the vista size "1.85:1" or cinema scope size "2.35:1" for movie film.
- *The term "squeeze" refers to the compressed image of which aspect ratio is converted from 16:9 to 4:3.*

[AUDIO]

SOURCE	ADJUST	SETUP	INFO.	RESET

PICTURE • IMAGE OPTIONS • **AUDIO**

VOLUME ◄ ━━━━━▮━━━━━ ► **11**

ENTER :SELECT **EXIT** :EXIT ⬍:MOVE ◄►:MOVE

HDMI1
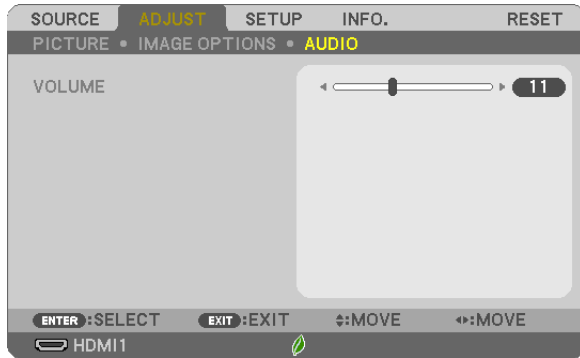
Turning Up or Down Sound

Adjusts the volume of the projector speaker and AUDIO OUT (Stereo Mini Jack).

TIP:
- *When no menus appear, the ◄ and ► buttons on the projector cabinet and the VOL. +/− buttons on the remote control work as a volume control. (→ page 24)*

❻ Menu Descriptions & Functions [SETUP]

[GENERAL]
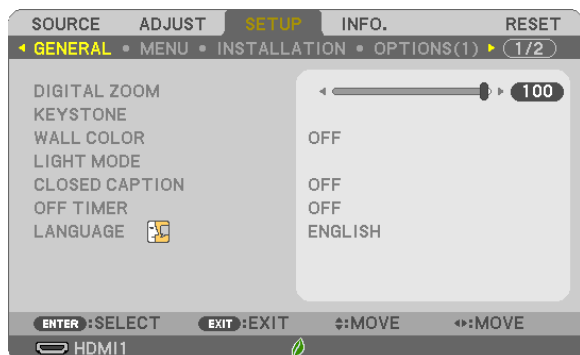
Using Digital Zoom [DIGITAL ZOOM]

This feature allows you to electronically fine adjust the image size on the screen.

NOTE:
• This feature can not be used when USB-A, LAN is selected as a input terminal.

TIP: To adjust the projected image size roughly, move the projector away or closer to the screen. To fine adjust the zoom, use the [DIGITAL ZOOM] function. (→ page 20)

Correcting Keystone Distortion Manually [KEYSTONE]

You can correct horizontal or vertical keystone, pincushion LEFT/RIGHT or TOP/BOTTOM, or cornerstone distortion manually.

NOTE:
• [KEYSTONE HORIZONTAL] and [KEYSTONE VERTICAL] can be adjusted at once.
• To change from one item to another item, reset the first item.
• Adjustment values will be overwritten. They will not be deleted even when the projector is turned off.
• Using [KEYSTONE], [PINCUSHION] and [CORNERSTONE] correction can cause the image to be slightly blurred because the correction is made electronically.

KEYSTONE HORIZONTAL ....Corrects horizontal keystone distortion. (→ page 22)

KEYSTONE VERTICAL ....Corrects vertical keystone distortion. (→ page 22)

PINCUSHION LEFT/RIGHT ....Corrects pincushion distortion at the left or right side. (→ page 32)

PINCUSHION TOP/BOTTOM ....Corrects pincushion distortion at the top or bottom side. (→ page 32)

CORNERSTONE ....Fits a projected image within the border of the screen easily by align the four corner of an image to the ones of the screen. (→ page 30)

RESET ....Returns all the above items to the factory preset values.

TIP:
• The maximum adjustment range with [CORNERSTONE] and [KEYSTONE] corrections is ±10° in the horizontal direction, ±10° in the vertical direction.
* - Depending on input signal, the adjustable range may be narrower.*

Using the Wall Color Correction [WALL COLOR]

```
WALL COLOR
    ○  OFF
 □  ○  WHITEBOARD
 ■  ○  BLACKBOARD
 ■  ○  BLACKBOARD (GRAY)
 ■  ○  LIGHT YELLOW
 ■  ○  LIGHT GREEN
 ■  ○  LIGHT BLUE
 ■  ○  SKY BLUE
 ■  ○  LIGHT ROSE
 ■  ○  PINK

 ENTER    EXIT    ↕
```
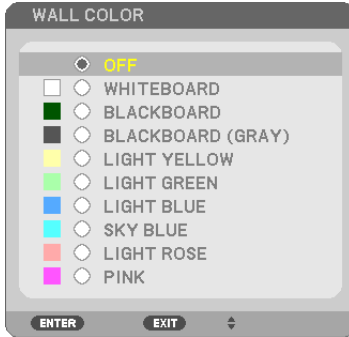
This function allows for quick adaptive color correction in applications where the screen material is not white.

NOTE: Selecting [WHITEBOARD] reduces light brightness.

[LIGHT MODE]

Adjusting the energy savings settings and the brightness of each projector in multi-screen projection. For energy savings settings, see page 28 "4 Changing Eco Mode/Checking Energy-Saving Effect".

ECO MODE	OFF	The light module luminance (brightness) will be at the setup brightness for [ADJUST].
	AUTO ECO	By controlling the brightness and fan speed according to the selected setting, energy can be saved and motion noise and the power consumption can be lowered.
	NORMAL	These options can be selected when [CONSTANT BRIGHTNESS] mode is set to [OFF].
	ECO	
ADJUST		Brightness can be adjusted in 1% increments from 16 to 100%. When several projectors are used for multi-screen projection, the brightness can be adjusted individually on each projector. The adjustment is valid when [ECO MODE] is set to [OFF] and [CONSTANT BRIGHTNESS] is set to [OFF].
CONSTANT BRIGHTNESS	OFF	[CONSTANT BRIGHTNESS] mode will be canceled.
	ON	Maintains 66% brightness of the factory default setting.
		NOTE: • *[CONSTANT BRIGHTNESS] mode is a function used to maintain the brightness at a constant level. Color will not be fixed.*
BALANCE		Color balance can be adjusted in increments of 1 from -512 to 512. When the screen color is yellow, adjust to the right; when the screen color is blue, adjust to the left.

TIP:
• *Brightness normally decreases with use, but by selecting [CONSTANT BRIGHTNESS] mode, the projector automatically adjust the output based on the projector used time, thereby maintaining a constant brightness throughout the life of the light module. However, if output is already at its maximum, brightness will decrease with use.*

Setting Closed Caption [CLOSED CAPTION]

This option sets several closed caption modes that allow text to be superimposed on the projected image of Video.

OFF .... This exits the closed caption mode.

CAPTION 1-4 .... Text is superimposed.

TEXT 1-4 .... Text is displayed.

NOTE:
- *The closed caption is not available under the following conditions:*
  - *when messages or menus are displayed.*
  - *when an image is magnified, frozen, or muted.*
- *Portions of superimposed text or closed caption may be truncated. If that happens, try to place the superimposed text or closed caption within the screen.*

Using Off Timer [OFF TIMER]

1. Select your desired time between 30 minutes and 16 hours: OFF, 0:30, 1:00, 2:00, 4:00, 8:00, 12:00, 16:00.

2. Press the ENTER button on the remote control.

3. The remaining time starts counting down.

4. The projector will turn off after the countdown is complete.

NOTE:
- *To cancel the preset time, set [OFF] for the preset time or turn off the power.*
- *When the remaining time reaches 3 minutes before the projector is turned off, the [THE PROJECTOR WILL TURN OFF WITHIN 3 MINUTES] message will be displayed on the bottom of the screen.*

Selecting Menu Language [LANGUAGE]

You can choose one of 30 languages for on-screen instructions.

NOTE: Your setting will not be affected even when [RESET] is done from the menu.

[MENU]

```
SOURCE    ADJUST    SETUP    INFO.        RESET
◄ GENERAL • MENU • INSTALLATION • OPTIONS(1) ► ( 1/2 )

COLOR SELECT            COLOR
SOURCE DISPLAY          ON
ID DISPLAY              ON
DISPLAY TIME            AUTO 45 SEC
BACKGROUND              BLUE
FILTER MESSAGE          2000[H]




ENTER :SELECT    EXIT :EXIT    ‡:MOVE    ◄►:MOVE
HDMI1                   ⬮
```

Selecting Menu Color [COLOR SELECT]

You can choose between two options for menu color: COLOR and MONOCHROME.

Turning On / Off Source Display [SOURCE DISPLAY]

This option turns on or off input name display such as HDMI1, HDMI2, COMPUTER, VIDEO, USB-A, to be displayed on the top right of the screen.
When no input signal is present, the no-signal guidance prompting you to check for an available input will be displayed. When the [USB-A] item is selected for [SOURCE], the no-signal guidance will not be displayed.

Turning ON/OFF Control ID [ID DISPLAY]

This option turns on or off the ID number which is displayed when the ID SET button on the remote control is pressed.

Selecting Menu Display Time [DISPLAY TIME]

This option allows you to select how long the projector waits after the last touch of a button to turn off the menu. The preset choices are [MANUAL], [AUTO 5 SEC], [AUTO 15 SEC], and [AUTO 45 SEC]. The [AUTO 45 SEC] is the factory preset.

Selecting a Color or Logo for Background [BACKGROUND]

Use this feature to display a blue/black screen or logo when no signal is available. The default background is [BLUE].

NOTE:
- *When [SOURCE DISPLAY] is turned on, the no-signal guidance prompting you to check for an available input will be displayed at the center of the screen regardless of its selection.*
- *Your setting will not be affected even when [RESET] is done from the menu.*

Selecting Interval Time for Filter Message [FILTER MESSAGE]

This option allows you to select the time preference between displaying the message for cleaning the filters. Clean the filters when you get the message "PLEASE CLEAN THE FILTER." (→ page 93)

Five options are available:
   OFF, 100[H], 500[H], 1000[H], 2000[H]

NOTE: Your setting will not be affected even when [RESET] is done from the menu.

[INSTALLATION]

```
 SOURCE     ADJUST     SETUP     INFO.        RESET
◄ GENERAL • MENU • INSTALLATION • OPTIONS(1) ► (1/2)

  ORIENTATION              DESKTOP FRONT
  CONTROL PANEL LOCK       OFF
  SECURITY                 OFF
  COMMUNICATION SPEED      38400bps
  CONTROL ID
  TEST PATTERN



  ENTER:SELECT    EXIT:EXIT    ♦:MOVE    ◆:MOVE
  ⊂⊃HDMI1                  🍃
```

Selecting Projector Orientation [ORIENTATION]

This reorients your image for your type of projection. The options are: desktop front projection, ceiling rear projection, desktop rear projection, and ceiling front projection.

DESKTOP FRONT	CEILING REAR

DESKTOP REAR	CEILING FRONT
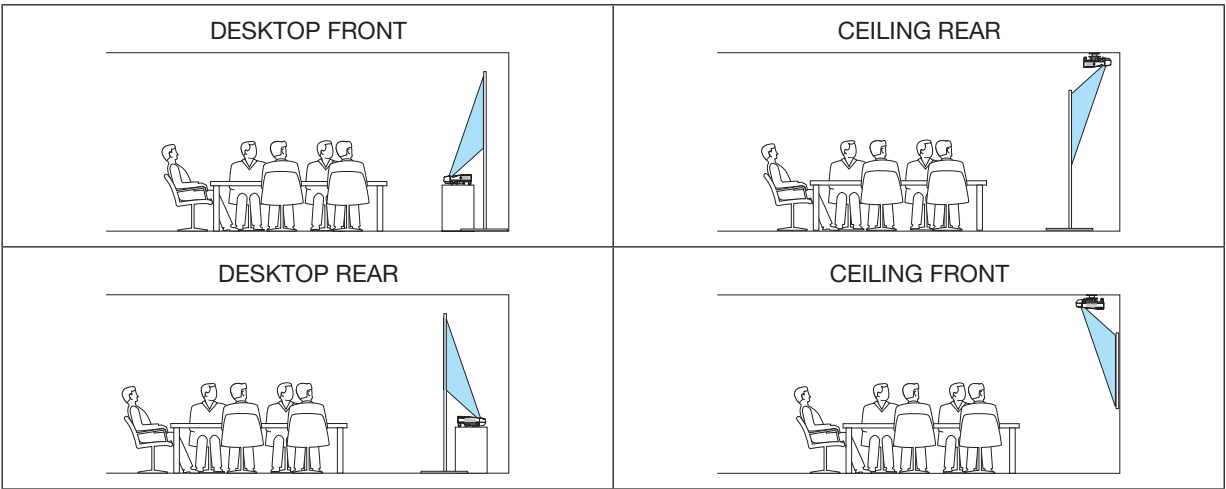
Disabling the Cabinet Buttons [CONTROL PANEL LOCK]

This option turns on or off the CONTROL PANEL LOCK function.

NOTE:
- *This CONTROL PANEL LOCK does not affect the remote control functions.*
- *When the control panel is locked, pressing and holding the SOURCE button on the projector cabinet for about 10 seconds will change the setting to [OFF].*

TIP: When the [CONTROL PANEL LOCK] is turned on, a key lock icon [🔒] will be displayed at the bottom right of the menu.

Enabling Security [SECURITY]

This feature turns on or off the SECURITY function.
Unless the correct keyword is entered, the projector cannot project an image. (→ page 34)

NOTE: Your setting will not be affected even when [RESET] is done from the menu.

Selecting Communication Speed [COMMUNICATION SPEED]

This feature sets the baud rate of the PC Control port (D-Sub 9P). It supports data rates from 4800 to 38400 bps. The default is 38400 bps. Select the appropriate baud rate for your equipment to be connected (depending on the equipment, a lower baud rate may be recommended for long cable runs).

NOTE: Your selected communication speed will not be affected even when [RESET] is done from the menu.

Setting ID to the Projector [CONTROL ID]

You can operate multiple projectors separately and independently with the single remote control that has the CON-TROL ID function. If you assign the same ID to all the projectors, you can conveniently operate all the projectors together using the single remote control. To do so, you have to assign an ID number to each projector.

CONTROL ID NUMBER .... Select a number from 1 to 254 you wish to assign to your projector.

CONTROL ID .... Select [OFF] to turn off the CONTROL ID setting and select [ON] to turn on the CONTROL ID setting.

NOTE:
- *When [ON] is selected for [CONTROL ID], the projector cannot be operated by using the remote control that does not support the CONTROL ID function. (In this case the buttons on the projector cabinet can be used.)*
- *Your setting will not be affected even when [RESET] is done from the menu.*
- *Pressing and holding the ENTER button on the projector cabinet for 10 seconds will display the menu for canceling the Control ID.*

Assigning or Changing the Control ID
1. Turn on the projector.
2. Press the ID SET button on the remote control.

The CONTROL ID screen will be displayed.
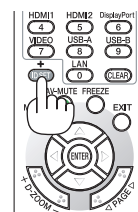
If the projector can be operated with the current remote control ID, the [ACTIVE] will be displayed. If the projector cannot be operated with the current remote control ID, the [INACTIVE] will be displayed. To operate the inactive projector, assign the control ID used for the projector by using the following procedure (Step 3).

3. Press one of numeric keypad buttons while pressing and holding the ID SET button on the remote control.

Example:

To assign "3", press the "3" button on the remote control.

No ID means that all the projectors can be operated together with a single remote control. To set "No ID", enter "000" or press the CLEAR button.

TIP: The range of IDs is from 1 to 254.

4. Release the ID SET button.

The updated CONTROL ID screen will be displayed.

NOTE:
- *The IDs can be cleared in a few days after the batteries are run down or removed.*
- *Accidentally pressing any one of the buttons of the remote control will clear currently specified ID with batteries removed.*
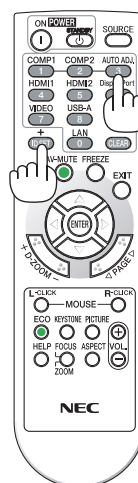
Using Test Pattern [TEST PATTERN]

Displays the test pattern to check for image distortion at the time of the projector setup. Press the ENTER button to display the test pattern; press the EXIT button to close the test pattern and return to the menu. Menu operation and corrections for keystone, cornerstone and pincushion are not available when the test pattern is displayed.

[OPTIONS(1)]

```
SOURCE    ADJUST   SETUP    INFO.         RESET
◀ GENERAL • MENU • INSTALLATION • OPTIONS(1) ▶ (1/2)

AUTO ADJUST           NORMAL
SEAMLESS SWITCHING    OFF
FAN MODE              AUTO
SIGNAL SELECT
WXGA MODE             OFF
DEINTERLACE           ON
HDMI SETTINGS
AUDIO SELECT
BEEP                  ON


ENTER:SELECT    EXIT:EXIT    ↕:MOVE    ↔:MOVE
    HDMI1                 🍃
```

Setting Auto Adjust [AUTO ADJUST]

This feature sets the Auto Adjust mode so that the computer signal can be automatically or manually adjusted for noise and stability. You can automatically make adjustment in two ways: [NORMAL] and [FINE].

OFF ....The computer signal will not be automatically adjusted. You can manually optimize the computer signal.

NORMAL ....Default setting. The computer signal will be automatically adjusted. Normally select this option.

FINE ....Select this option if fine adjustment is needed. It takes more time to switch to the source than when [NORMAL]is selected.
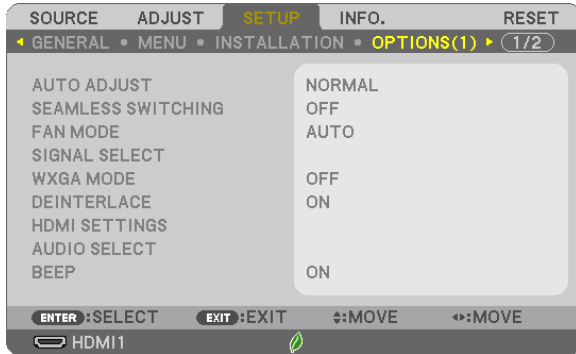
[SEAMLESS SWITCHING]

When the input connector is switched, the image displayed before switching is held to switch to the new image without a break due to absence of a signal.

Selecting Fan Mode [FAN MODE]

This option allows you to select three modes for fan speed: Auto mode, High speed mode, and High Altitude mode.

AUTO ....The built-in fans automatically run at a variable speed according to the internal temperature.

HIGH ....The built-in fans run at high speed.

HIGH ALTITUDE.........The built-in fans run at a high speed. Select this option when using the projector at altitudes approximately 5500 feet/1700 meters or higher.

When you wish to cool down the temperature inside the projector quickly, select [HIGH].

NOTE:
- *It is recommended that you select High speed mode if you use the projector non-stop for consecutive days.*
- *Set [FAN MODE] to [HIGH ALTITUDE] when using the projector at altitudes approximately 5500 feet/1700 meters or higher.*
- *Using the projector at altitudes approximately 5500 feet/1700 meters or higher without setting to [HIGH ALTITUDE] can cause the projector to overheat and the protector could shut down. If this happens, wait a couple minutes and turn on the projector.*
- *Using the projector at altitudes approximately 5500 feet/1700 meters or higher can shorten the life of optical components such as the light.*
- *Your setting will not be affected even when [RESET] is done from the menu.*

TIP:
- *When [HIGH ALTITUDE] is selected, an icon [🏔] is displayed at the bottom of the on-screen menu.*

Selecting Signal Format [SIGNAL SELECT]

[COMPUTER]
Allows you to choose [COMPUTER] for an RGB source such as a computer, or [COMPONENT] for a component video source such as a DVD player. Normally select [RGB/COMPONENT] and the projector automatically detects a component signal. However there may be some component signals that the projector is unable to detect. If this is the case, select [COMPONENT].

[VIDEO]
This feature enables you to select composite video standards automatically or manually.
Factory default setting is [AUTO] and the projector will automatically detect the video standard.
In the case where the projector has difficult detecting the video standard, select the appropriate video standard from the menu.

Enabling or Disabling WXGA Mode [WXGA MODE]

Selecting [ON] will give priority to WXGA (1280 × 800)/WUXGA (1920 × 1200) signals in recognizing an input signal.

NOTE: [ON] is selected at the time of shipment.

Enabling the deinterlace [DEINTERLACE]

Turns on or off the deinterlace function for a telecine signal.

OFF..........................Select this option if there is any jitter or artifacts in video.

ON ....Default standard setting.

NOTE: This feature is not available for HDTV (progressive) and computer signals.

Setting HDMI1, HDMI2 [HDMI SETTINGS]

Make the settings for each video level when connecting HDMI1 equipment such as a DVD player.

VIDEO LEVEL ....Select [AUTO] to automatically detect video level. If automatic detection may not work well, select [NORMAL] to disable the [ENHANCED] feature of your HDMI equipment or select [ENHANCED] to improve image contrast and increase detail in the dark areas.

Setting Audio [AUDIO SELECT]

Make the settings for each audio level when connecting HDMI equipment. Select between each equipment and computer.

HDMI1, HDMI2 ....Select [HDMI1] or [HDMI2] to switch the HDMI1 IN or HDMI 2 IN digital audio signal or select [COMPUTER] to switch the COMPUTER input audio signal.

Enabling Key Sound and Error Sound [BEEP]

This feature turns on or off the button sound or alarm when an error occurs or the following operations are performed.

- Displaying the main menu
- Switching sources
- Resetting data by using [RESET]
- Pressing POWER ON or STANDBY button

TIP:
• Volume control for [BEEP] is disabled. AV-MUTE button is not effective to stop beeping sound. If you want to activate BEEP function, set [BEEP] to [OFF].

[OPTIONS(2)]

```
SOURCE     ADJUST     SETUP     INFO.          RESET
◄ OPTIONS(2) ● WIRED LAN ►                      (2/2)

STANDBY MODE                NORMAL
DIRECT POWER ON             OFF
AUTO POWER ON               OFF
AUTO POWER OFF              1:00
DEFAULT SOURCE SELECT       LAST
CARBON CONVERT              0.505[kg-CO2/kWh]
CURRENCY                    $
CURRENCY CONVERT            0.11[$/kWh]


 ENTER :SELECT     EXIT :EXIT     ♦:MOVE     ◄►:MOVE
 ⊂⊃ HDMI1                        ∅
```
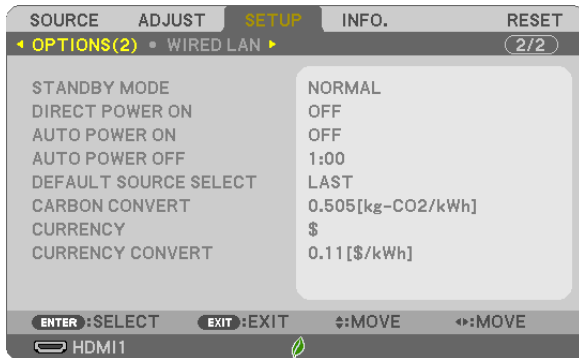
Selecting Power-saving in [STANDBY MODE]

The projector has two standby modes: [NORMAL] and [NETWORK STANDBY].
The NORMAL mode is the mode that allows you to put the projector in the power-saving condition which consumes less power than the NETWORK STANDBY mode.

NORMAL ....When [NORMAL] is selected, only the following buttons and feature will work:

POWER buttons on the projector cabinet and the remote control, AUTO POWER ON, and powering on from PC Control command.

NETWORK STANDBY..............When [NETWORK STANDBY] is selected, the projector can be turned on over a wired LAN connection and only the following buttons, port, and features will work:

POWER buttons on the projector cabinet and the remote control, powering on from PC Control command, AUTO POWER ON, operation by User Supportware, LAN feature, and Mail Alert feature.

IMPORTANT:
- *When [NETWORK STANDBY] has been set for [STANDBY MODE] and the LAN has been in link-down condition for 3 minutes, [STANDBY MODE] will transit into [NORMAL] automticially for the purpose to save the consumption power.*
- *When [NETWORK STANDBY] has been selected, [AUTO POWER OFF] becomes ineffective (displayed in grey) and [0:15] is selected automatically.*
- *In the below conditions, setting of the [STANDBY MODE] is disabled and the projector will go into the SLEEP mode*.*
  * Sleep mode refers the mode without functional restrictions by the [STANDBY MODE].
  When [STANDBY MODE] → [NETWORK STANDBY] is selected
  - When [NETWORK SERVICE] → [AMX SETTINGS] → [ENABLE] is selected
  - When the signal is input to the computer, HDMI 1 IN or HDMI 2 IN terminals

NOTE:
- *Even when [NORMAL] is selected for [STANDBY MODE], power on or off can be done by using the PC CONTROL port.*
- *The power consumption in the standby mode will not be included in calculating CO_2 emission reduction.*
- *Your setting for [STANDBY MODE] will not be affected even when [RESET] is done from the menu.*

Enabling Direct Power On [DIRECT POWER ON]

Turns the projector on automatically when the power cord is inserted into an active power outlet. This eliminates the need to always use the POWER button on the remote control or projector cabinet.

Turning On the Projector By Applying Computer Signal [AUTO POWER ON]

When the projector is in Standby mode, applying a computer or HDMI signal from a computer connected to the COMPUTER IN input, HDMI1, or HDMI2 input will power on the projector and simultaneously project the image.

This functionality eliminates the need to always use the POWER button on the remote control or the projector cabinet to power on the projector.

To use this function, firs connect a computer to the projector and the projector to an active AC input.

NOTE:
- *Disconnecting a computer signal from the computer will not power off the projector. We recommend using this function in combination of the AUTO POWER OFF function.*
- *This function will not be available under the following conditions:*
  - *when a component signal is applied to the COMPUTER IN terminal*
  - *when a Sync on Green RGB signal or composite sync signal is applied*
- *To enable the AUTO POWER ON after turning off the projector, wait 5 seconds and input a computer or HDMI signal.*
  If a computer or HDMI signal is still present when the projector is turned off, the AUTO POWER ON will not work and the projector remains in standby mode.
- *Depending on the projector in use, the AUTO POWER ON may not work properly. In this case, set [STANDBY MODE] to [NETWORK STANDBY].*

Enabling Power Management [AUTO POWER OFF]

When this option is selected you can enable the projector to automatically turn off (at the selected time: 0:05, 0:10, 0:15, 0:20, 0:30, 1:00) if there is no signal received by any input or if no operation is performed.

Selecting Default Source [DEFAULT SOURCE SELECT]

You can set the projector to default to any one of its inputs each time the projector is turned on.

LAST ....Sets the projector to default to the previous or last active input each time the projector is turned on.

AUTO ....Searches for an active source in order of HDMI1 → HDMI2 → COMPUTER → VIDEO → USB-A → LAN → HDMI1 and displays the first found sourc .

HDMI1......................Displays the digital source from the HDMI 1 IN terminal every time the projector is turned on.

HDMI2......................Displays the digital source from the HDMI 2 IN terminal every time the projector is turned on.

COMPUTER ....Displays the computer signal from the COMPUTER IN terminal every time the projector is turned on.

VIDEO......................Displays the Video source from the VIDEO IN terminal every time the projector is turned on.

USB-A......................Displays slides or plays back movie files from the USB memo y device every time the projector is turned on.

LAN........................ Displays a signal from LAN port (RJ-45).

Setting carbon footprint factor [CARBON CONVERT]

Adjusts the carbon footprint factor in the carbon saving calculation. The initial setting is 0.505[kg-CO2/kWh] based on the CO2 Emissions from Fuel Combustion (2008 Edition) published by OECD.

Selecting your currency [CURRENCY]

Displays electricity pricing (available in 4 currency units).

$ ....US Dollar

€ ....EU Euro

JP¥ ....Japanese Yen

RMB¥......................Chinese Yuan

Changing currency setting and currency convert setting [CURRENCY CONVERT]

Changes currency setting and currency convert setting for CARBON METER.
The initial setting are as follows:

US Dollar .... 0.11 [$/kWh]

EU Euro .... 0.19 [€/kWh]

Japanese Yen .... 20 [¥/kWh]

Chinese Yuan .... 0.48 [¥/kWh]

The initial settings for US dollar, EU Euro, and Japanese Yen are based on "Energy Prices and Taxes (second quarter 2010" published by OECD.
The initial setting for Chinese Yuan is based on "Chinese Data File (2010)" published by JETRO.

Setting up the Projector for a Wired LAN Connection [WIRED LAN]

```
 SOURCE   ADJUST   SETUP   INFO.        RESET
◄ OPTIONS(2) • WIRED LAN ►                ( 2/2 )

 WIRED LAN            ENABLE
 SETTINGS




 RECONNECT

 ENTER :SELECT  EXIT :EXIT   ♦:MOVE   ◄►:MOVE
 ⊂⊃ HDMI1              ⦿
```
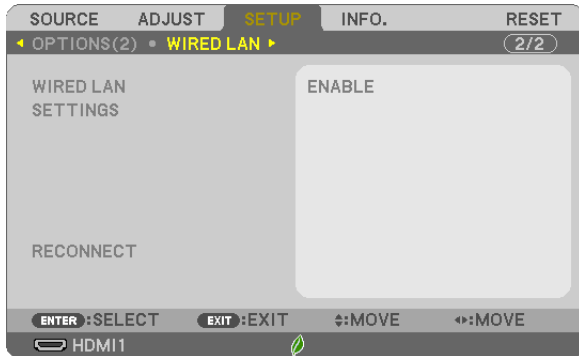
Important

- Consult with your network administrator about these settings.
- When using a wired LAN connection, connect a LAN cable (Ethernet cable) to the LAN port (RJ-45) of the projector. (→ page 92)

TIP: The network settings you make will not be affected even when [RESET] is done from the menu.

[WIRED LAN]	[DISABLE]	Wired LAN connection will be turned off.
	[ENABLE]	Wired LAN connection will be turned on.
[SETTINGS]	[DHCP]	ON........................... IP address, subnet mask, and gateway will be automatically assigned to the projector from your DHCP server.
		OFF.......................... Specify IP address, subnet mask, and gateway assigned by your network administrator.
	[IP ADDRESS]	Set your IP address of the network connected to the projector.
	[SUBNET MASK]	Set your subnet mask number of the network connected to the projector.
	[GATEWAY]	Set the default gateway of the network connected to the projector.
	[AUTO DNS]	ON........................... DHCP server will automatically assign IP address of DNS server connected to the projector.
		OFF.......................... Set your IP address of DNS server connected to the projector.
[RECONNECT]	Retry to connect the projector to a network.	

❼ Menu Descriptions & Functions [INFO.]

Displays the status of the current signal and light usage. This item has seven pages. The information included is as follows:

TIP: Pressing the HELP button on the remote control will show the [INFO.] menu items.

[USAGE TIME]

SOURCE	ADJUST	SETUP	INFO.	RESET

◀ USAGE TIME • SOURCE(1) • SOURCE(2) ▶   (1/2)

LIGHT HOURS USED	00000[H](Y)	00000[H](B)
FILTER HOURS USED	00000[H]	
TOTAL CARBON SAVINGS	0.000[kg-CO2]	
TOTAL COST SAVINGS	0.00[$]	

EXIT:EXIT   ↕:MOVE   ↔:MOVE

⎯ HDMI1

[LIGHT HOURS USED] (H)
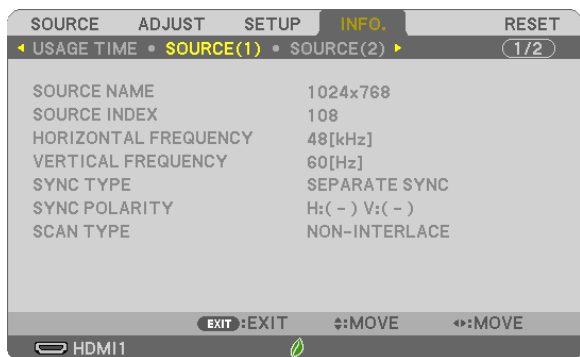[FILTER HOURS USED] (H)
[TOTAL CARBON SAVINGS] (kg-CO2)
[TOTAL COST SAVINGS]

• [TOTAL CARBON SAVINGS]
  This displays the estimated carbon saving information in kg. The carbon footprint factor in the carbon saving calculation is based on the OECD (2008 Edition). (→ page 29)

[SOURCE(1)]

SOURCE	ADJUST	SETUP	INFO.	RESET

◀ USAGE TIME • SOURCE(1) • SOURCE(2) ▶   (1/2)

SOURCE NAME	1024x768
SOURCE INDEX	108
HORIZONTAL FREQUENCY	48[kHz]
VERTICAL FREQUENCY	60[Hz]
SYNC TYPE	SEPARATE SYNC
SYNC POLARITY	H:(−) V:(−)
SCAN TYPE	NON−INTERLACE

EXIT:EXIT   ↕:MOVE   ↔:MOVE

⎯ HDMI1

[SOURCE NAME]   [SOURCE INDEX]
[HORIZONTAL FREQUENCY]   [VERTICAL FREQUENCY]
[SYNC TYPE]   [SYNC POLARITY]
[SCAN TYPE]

[SOURCE(2)]

SOURCE	ADJUST	SETUP	INFO.		RESET
◄ USAGE TIME • SOURCE(1) • **SOURCE(2)** ►					1/2

SIGNAL TYPE   RGB
VIDEO TYPE   ---
BIT DEPTH   8[bits]
VIDEO LEVEL   ENHANCED

EXIT :EXIT   ✦:MOVE   ◄►:MOVE

HDMI1

[SIGNAL TYPE]   [VIDEO TYPE]
[BIT DEPTH]   [VIDEO LEVEL]

[WIRED LAN]

SOURCE	ADJUST	SETUP	INFO.		RESET
◄ **WIRED LAN** • CONNECTION • VERSION • OTHERS ►					2/2

IP ADDRESS   . . .
SUBNET MASK   . . .
GATEWAY   . . .
MAC ADDRESS   00:00:00:00:00:00

EXIT :EXIT   ✦:MOVE   ◄►:MOVE

HDMI1

[IP ADDRESS]   [SUBNET MASK]
[GATEWAY]   [MAC ADDRESS]

[CONNECTION]

SOURCE	ADJUST	SETUP	INFO.		RESET
◄ WIRED LAN • **CONNECTION** • VERSION • OTHERS ►					2/2

PROJECTOR NAME   PJ-XXXXXXXXX
PIN CODE   9915
WIRED LAN
  IP ADDRESS   . . .

EXIT :EXIT   ✦:MOVE   ◄►:MOVE

HDMI1

[PROJECTOR NAME]   [PIN CODE]
[WIRED LAN]   [IP ADDRESS]

[VERSION]

SOURCE	ADJUST	SETUP	INFO.		RESET
◄ WIRED LAN • CONNECTION • **VERSION** • OTHERS ►					2/2

FIRMWARE	1.00
DATA	1.00

EXIT :EXIT ✦:MOVE ◄►:MOVE

HDMI1

[FIRMWARE] Version
[DATA] Version

[OTHERS]
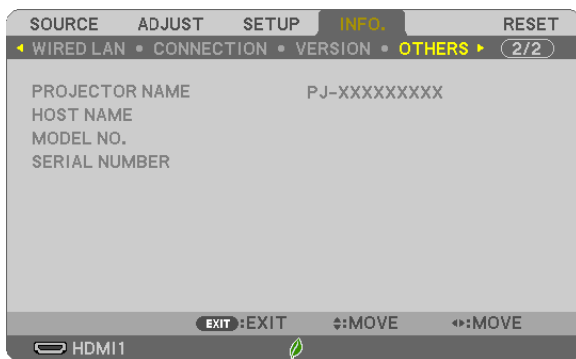
SOURCE	ADJUST	SETUP	INFO.		RESET
◄ WIRED LAN • CONNECTION • VERSION • **OTHERS** ►					2/2

PROJECTOR NAME	PJ–XXXXXXXXX
HOST NAME	
MODEL NO.	
SERIAL NUMBER	

EXIT :EXIT ✦:MOVE ◄►:MOVE

HDMI1

[PROJECTOR NAME]
[HOST NAME]
[MODEL NO.]
[SERIAL NUMBER]
[CONTROL ID] (when [CONTROL ID] is set)

79

❽ Menu Descriptions & Functions [RESET]

```
SOURCE    ADJUST    SETUP    INFO.              RESET

CURRENT SIGNAL
ALL DATA
CLEAR FILTER HOURS

ENTER :SELECT      EXIT :EXIT      ↕:MOVE      ↔:MOVE
     HDMI1                      🍃
```

Returning to Factory Default [RESET]

The RESET feature allows you to change adjustments and settings to the factory preset for a (all) source (s) except the following:

[CURRENT SIGNAL]
Resets the adjustments for the current signal to the factory preset levels.
The items that can be reset are: [PRESET], [CONTRAST], [BRIGHTNESS], [COLOR], [HUE], [SHARPNESS], [AS-PECT RATIO], [HORIZONTAL], [VERTICAL], [CLOCK], [PHASE], and [OVERSCAN].

[ALL DATA]
Reset all the adjustments and settings for all the signals to the factory preset.
All items can be reset **EXCEPT** [LANGUAGE], [BACKGROUND], [ORIENTATION], [FILTER MESSAGE], [SECU-RITY], [COMMUNICATION SPEED], [CONTROL ID], [STANDBY MODE], [FAN MODE], [CARBON CONVERT], [CURRENCY], [CURRENCY CONVERT], [LIGHT HOURS USED], [FILTER HOURS USED], [TOTAL CARBON SAVINGS], and [WIRED LAN].

Clearing the Filter Usage Hours [CLEAR FILTER HOURS]

Resets the filter usage back to zero. Selecting this option displays submenu for a confirmation Select [YES] and press the ENTER button.

NOTE: Elapsed time of the filter use will not be affected even when [RESET] is done from the menu.
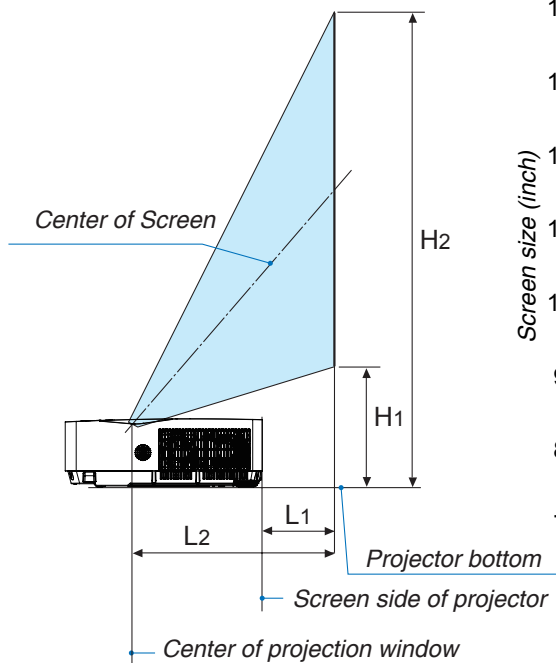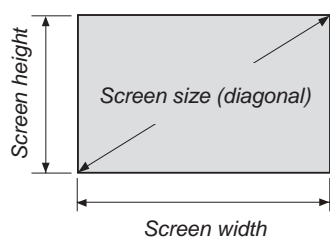
6. Installation and Connections

❶ Setting Up the Screen and the Projector

The further your projector is from the screen or wall, the larger the image. The minimum size the image can be is 70" (1778mm) measured diagonally when the projector is 3.2 inches (80 mm) between the screen side of the projector and the wall or screen. The largest the image can be is 130" (3302 mm) when the projector is 16.9 inches (429 mm) between the screen side of the projector and the wall or screen.

Tables of screen sizes and dimensions

Screen Size						H1		H2		L1		L2	
Diagonal		Width		Height						Wide			
inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
70	1778	59.4	1508	37.1	942	12.0	305	49.1	1247	3.2	80	16.2	410
80	2032	67.8	1723	42.4	1077	13.2	335	55.6	1412	5.4	138	18.4	468
90	2286	76.3	1939	47.7	1212	14.4	366	62.1	1578	7.7	197	20.7	527
100	2540	84.8	2154	53.0	1346	15.6	397	68.6	1743	10.0	255	23.0	585
110	2794	93.3	2369	58.3	1481	16.8	428	75.1	1909	12.3	313	25.3	643
120	3048	101.8	2585	63.6	1615	18.1	458	81.7	2074	14.6	371	27.6	701
130	3302	110.2	2800	68.9	1750	19.3	489	88.2	2239	16.9	429	29.9	759

NOTE: The above values are design values and may vary.

Screen height

Screen size (diagonal)

Screen width

Center of Screen

H2

H1

L1

L2

Projector bottom

Screen side of projector

Center of projection window
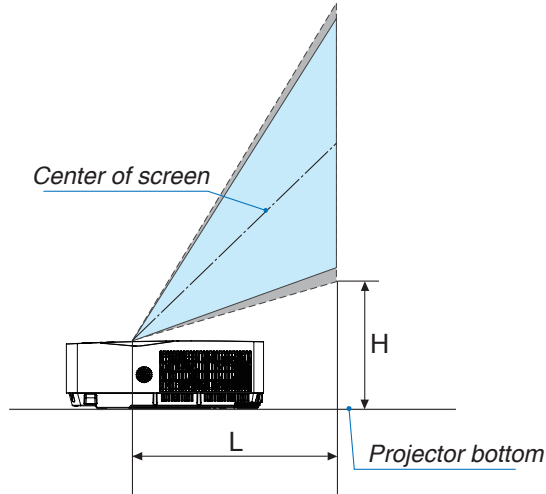
Screen size (inch)

L1

L2

Throw distance L1/L2(cm)
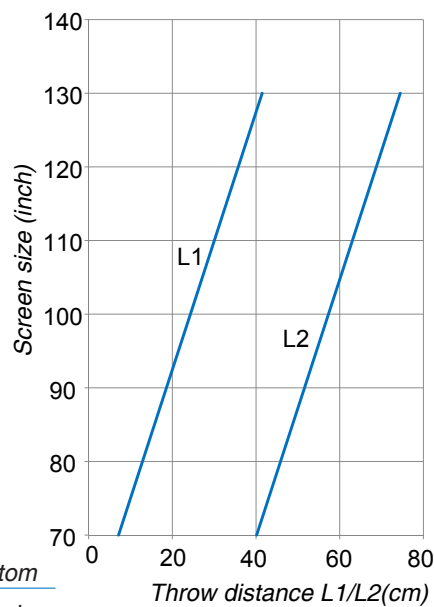
WARNING

- Installing your projector on the ceiling must be done by a qualified technician. Contact your NEC dealer for more information.
- Do not attempt to install the projector yourself.
- Only use your projector on a solid, level surface. If the projector falls to the ground, you can be injured and the projector severely damaged.
- Do not use the projector where temperatures vary greatly. The projector must be used at temperatures between 41°F (5°C) and 104°F (40°C) (Eco mode selected automatically at 95°F to 104°F/35°C to 40°C).
- Do not expose the projector to moisture, dust, or smoke. This will harm the screen image.
- Ensure that you have adequate ventilation around your projector so heat can dissipate. Do not cover the vents on the side or the front of the projector.

Example of installation on a desktop

The diagram below shows an example of when the projector is used on a desktop.
Horizontal projection position: Equal distance to the left and right from the center of the lens
Vertical projection position: (see table below)

(Note) Height from lens center to lower edge of screen (with tilt feet screwed in)

Screen size (inch)	Height(H)						Throw distance(L)			
	Min		Max		0V		Wide		Tele	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
70	10.9	276	13.1	333	12.0	305	16.2	410	17.0	432
80	11.9	303	14.5	368	13.2	335	18.4	468	19.4	493
90	13.0	330	15.8	402	14.4	366	20.7	527	21.8	554
100	14.0	357	17.2	437	15.6	397	23.0	585	24.2	615
110	15.1	383	18.6	472	16.8	428	25.3	643	26.6	676
120	16.1	410	20.0	507	18.1	458	27.6	701	29.0	738
130	17.2	437	21.3	542	19.3	489	29.9	759	31.4	799

Lens shifting range

This projector is equipped with a lens shift function (→ page 16) for adjusting the image position using dials. Lens shifting is possible within the range shown below.

NOTE:

• In case lens shifted volume exceeds the below illustrated range, blur and shade may appear around ends of projected image.

Legend: V "Vertical" refers to the screen height and H "Horizontal" refers to the screen width. The lens shift range is expressed as a ratio of height and width, respectively.

Lens shifting range:
Vertical direction: ±3%
Horizontal direction: ±2%
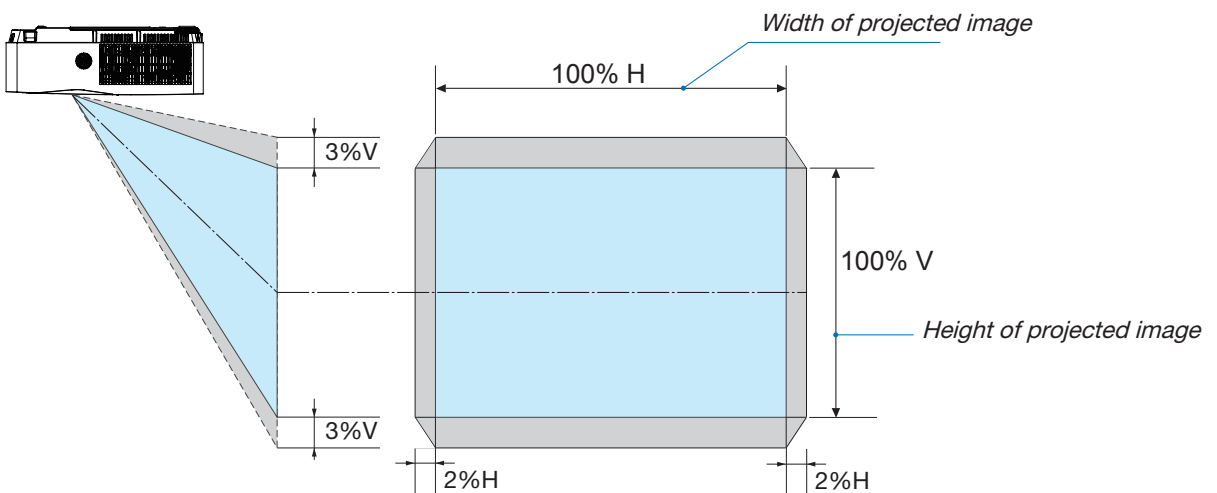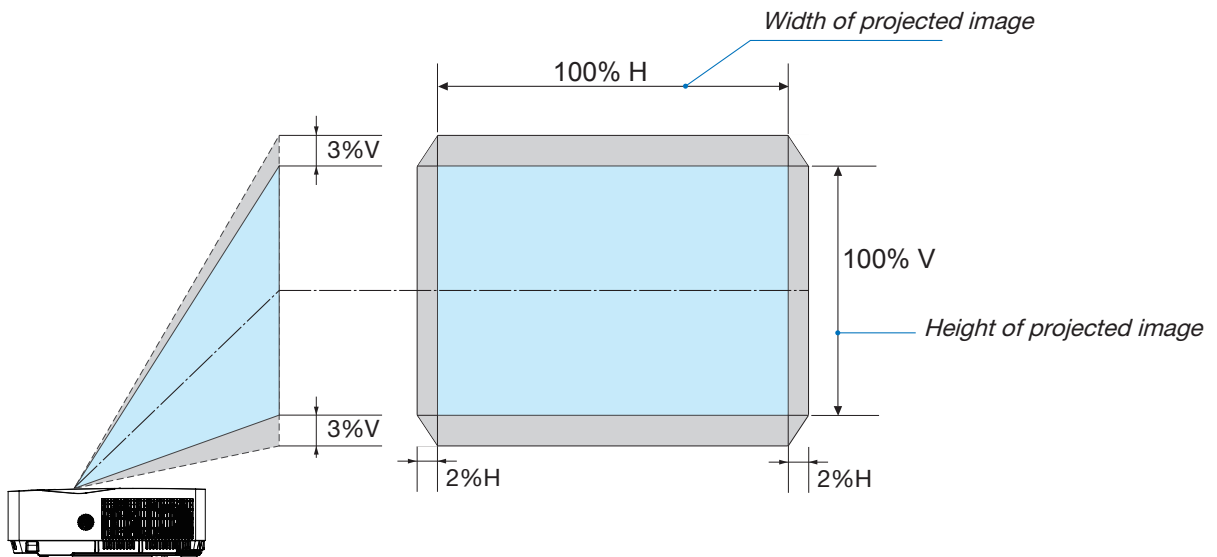
(Example) When using to project on a 100" screen

According to the "Tables of screen sizes and dimensions" (→ page 81), H = 84.8"/215.4 cm, V = 53.0"/134.6 cm.
Adjustment range in the vertical direction: the projected image can be moved upwards 0.03 × 53"/134.6 cm ≈ 1.6"/4.06 cm (when the lens is at the center position).
Adjustment range in the horizontal direction: the projected image can be moved to the left or right 0.02 × 84.8"/215.4 cm ≈ 1.7"/4.27 cm.

* Figures differ by several % because the calculation is approximate.

❷ Making Connections

Connecting Your Computer

Computer cables, HDMI can be used to connect to a computer. The connection cable is not enclosed with the projector. Please get ready a suitable cable for the connection.

NOTE: Signals supported by Plug & Play (DDC2)

INPUT		
COMPUTER IN	HDMI 1 IN	HDMI 2 IN
analog	digital	digital
Yes	Yes	Yes
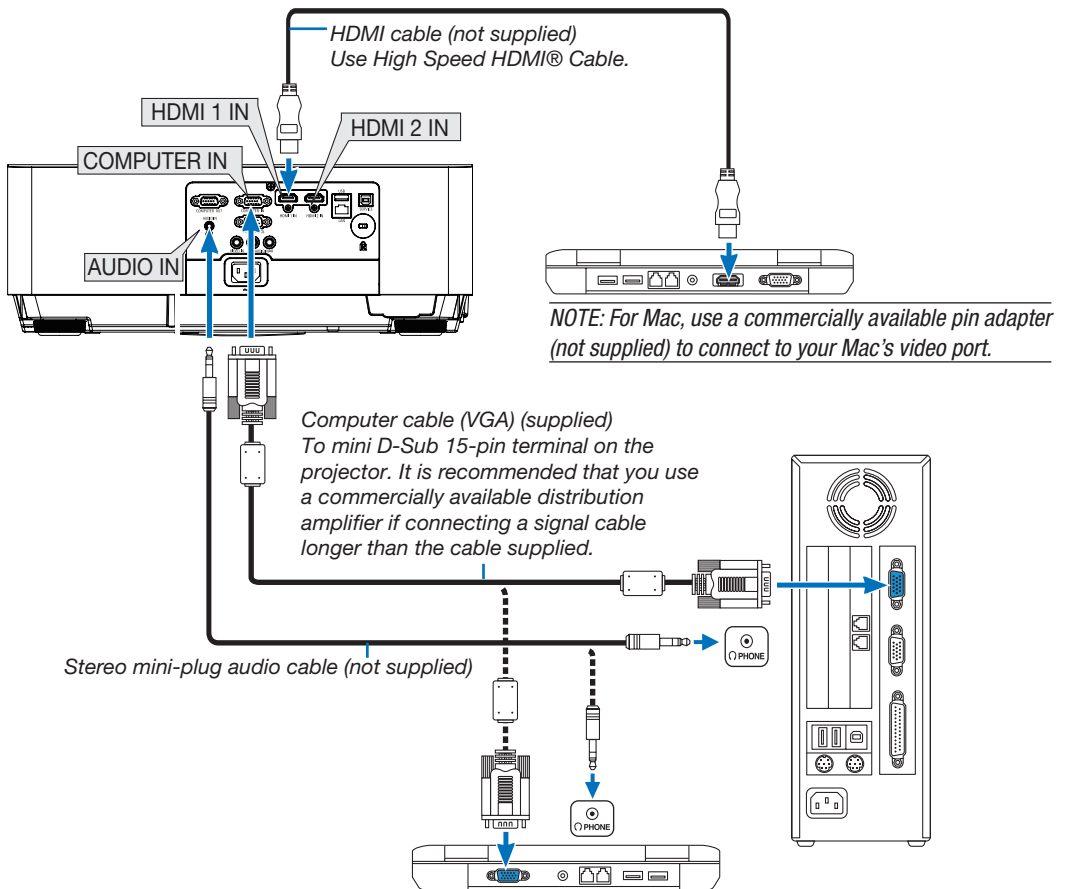
HDMI cable (not supplied)
Use High Speed HDMI® Cable.

HDMI 1 IN

HDMI 2 IN

COMPUTER IN

AUDIO IN

NOTE: For Mac, use a commercially available pin adapter (not supplied) to connect to your Mac's video port.

Computer cable (VGA) (supplied)
To mini D-Sub 15-pin terminal on the projector. It is recommended that you use a commercially available distribution amplifier if connecting a signal cable longer than the cable supplied.

Stereo mini-plug audio cable (not supplied)

- Select the source name for its appropriate input terminal after turning on the projector.

Input terminal	SOURCE button on the projector cabinet	Button on the remote control
COMPUTER IN	🖥 COMPUTER	(COMPUTER 1)
HDMI 1 IN	🔲 HDMI1	(HDMI 1)
HDMI 2 IN	🔲 HDMI2	(HDMI 2)

NOTE: The projector is not compatible with video decoded outputs of the NEC ISS-6020 switcher.

NOTE: An image may not be displayed correctly when a Video source is played back via a commercially available scan converter.
This is because the projector will process a video signal as a computer signal at the default setting. In that case, do the following.
* When an image is displayed with the lower and upper black portion of the screen or a dark image is not displayed correctly:
  Project an image to fill the screen and then press the AUTO ADJ. button on the remote control or the projector cabinet.
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. For example, NEC laptops use Fn + F3, while Dell laptops use Fn + F8 key combinations to toggle through external display selections.

Cautions when using a DVI signal

• When the computer has a DVI output terminal, use a commercially available converter cable to connect the computer to the projector's HDMI 1 or HDMI 2 input terminal (only digital video signals can be input).
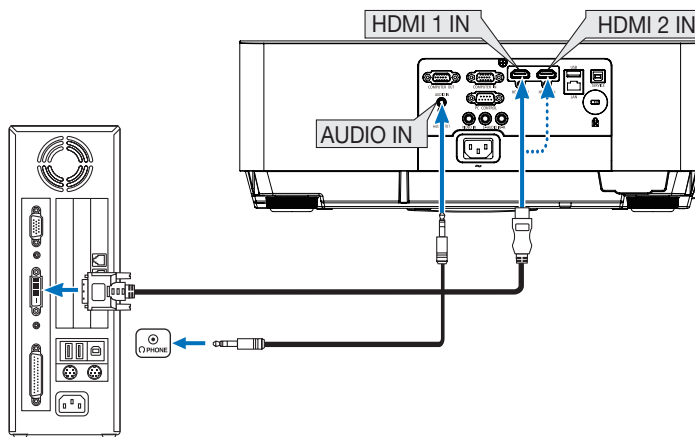
NOTE: When Viewing a DVI Digital Signal
• *Turn off the power of the computer and projector before connecting.*
• *When a video deck is connected via a scan converter, etc., the display may not be correct during fast-forwarding and rewinding.*
• *Use a DVI-to-HDMI cable compliant with DDWG (Digital Display Working Group) DVI (Digital Visual Interface) revision 1.0 standard.*
  The cable should be within 197"/5 m long.
• *Turn off the projector and the PC before connecting the DVI-to-HDMI cable.*
• *To project a DVI digital signal: Connect the cables, turn the projector on, then select the HDMI input. Finally, turn on your PC.*
  Failure to do so may not activate the digital output of the graphics card resulting in no picture being displayed. Should this happen, restart your PC.
• *Do not disconnect the DVI-to-HDMI cable while the projector is running. If the signal cable has been disconnected and then reconnected, an image may not be correctly displayed. Should this happen, restart your PC.*
• *The COMPUTER video input terminals support Windows Plug and Play.*
• *A Mac signal adapter (commercially available) may be required to connect a Mac computer.*

Connecting an External Monitor

COMPUTER OUT

AUDIO OUT

Computer cable (VGA) (not supplied)

Computer cable (VGA) (supplied)

Stereo mini-plug audio cable (not supplied)

AUDIO IN
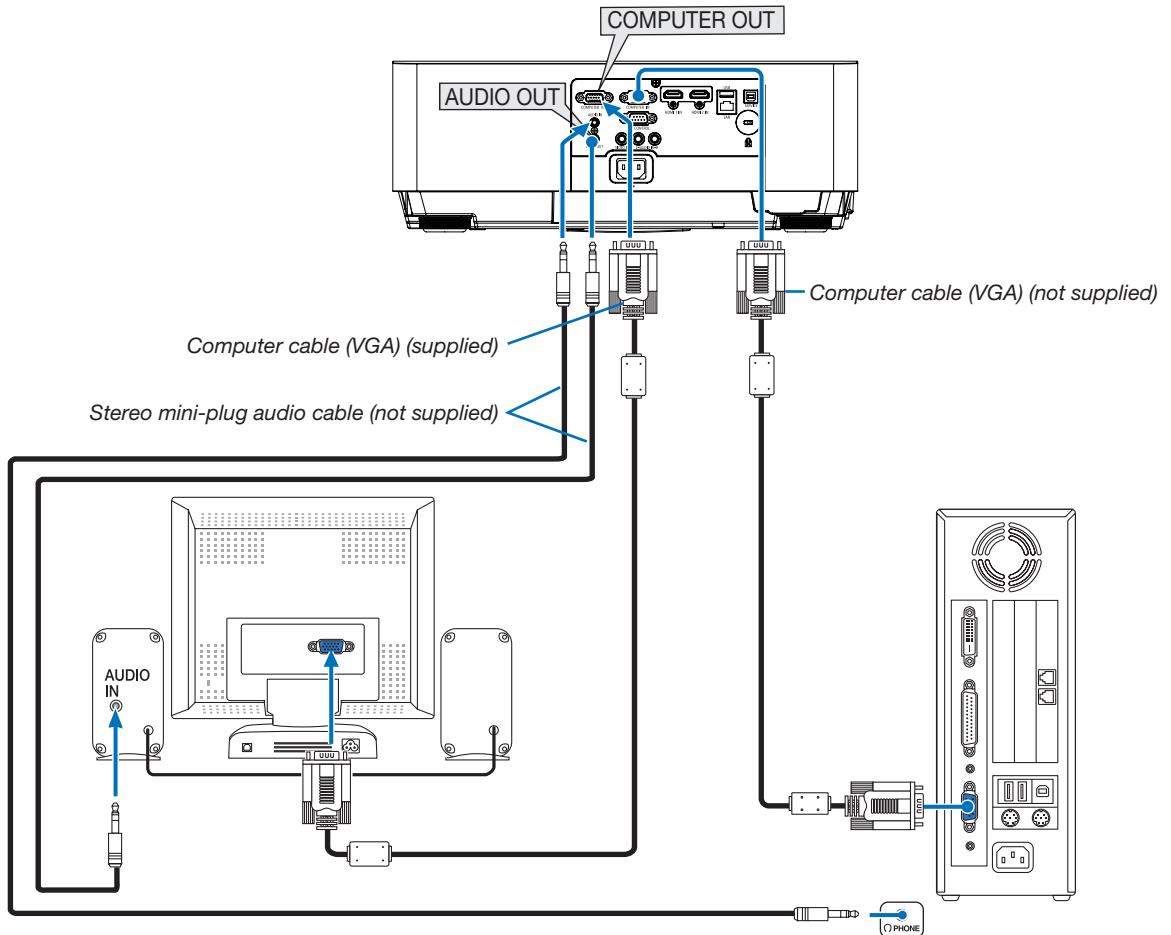
PHONE

You can connect a separate, external monitor to your projector to simultaneously view on a monitor the computer analog image you're projecting.
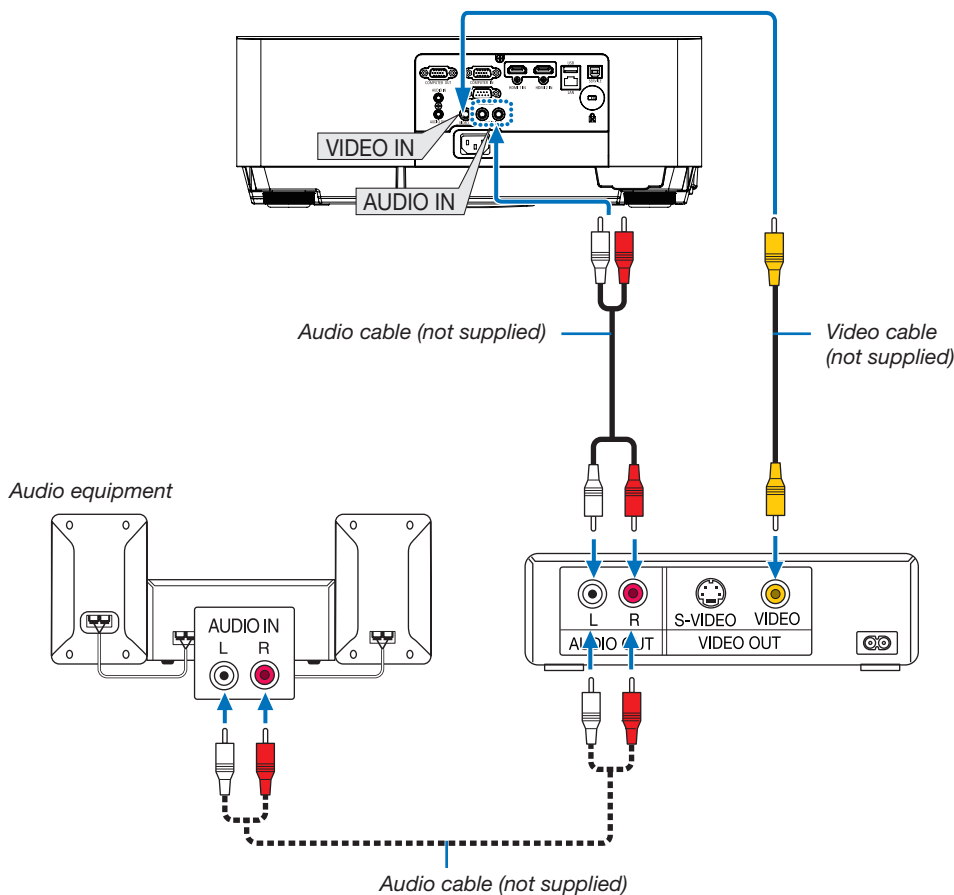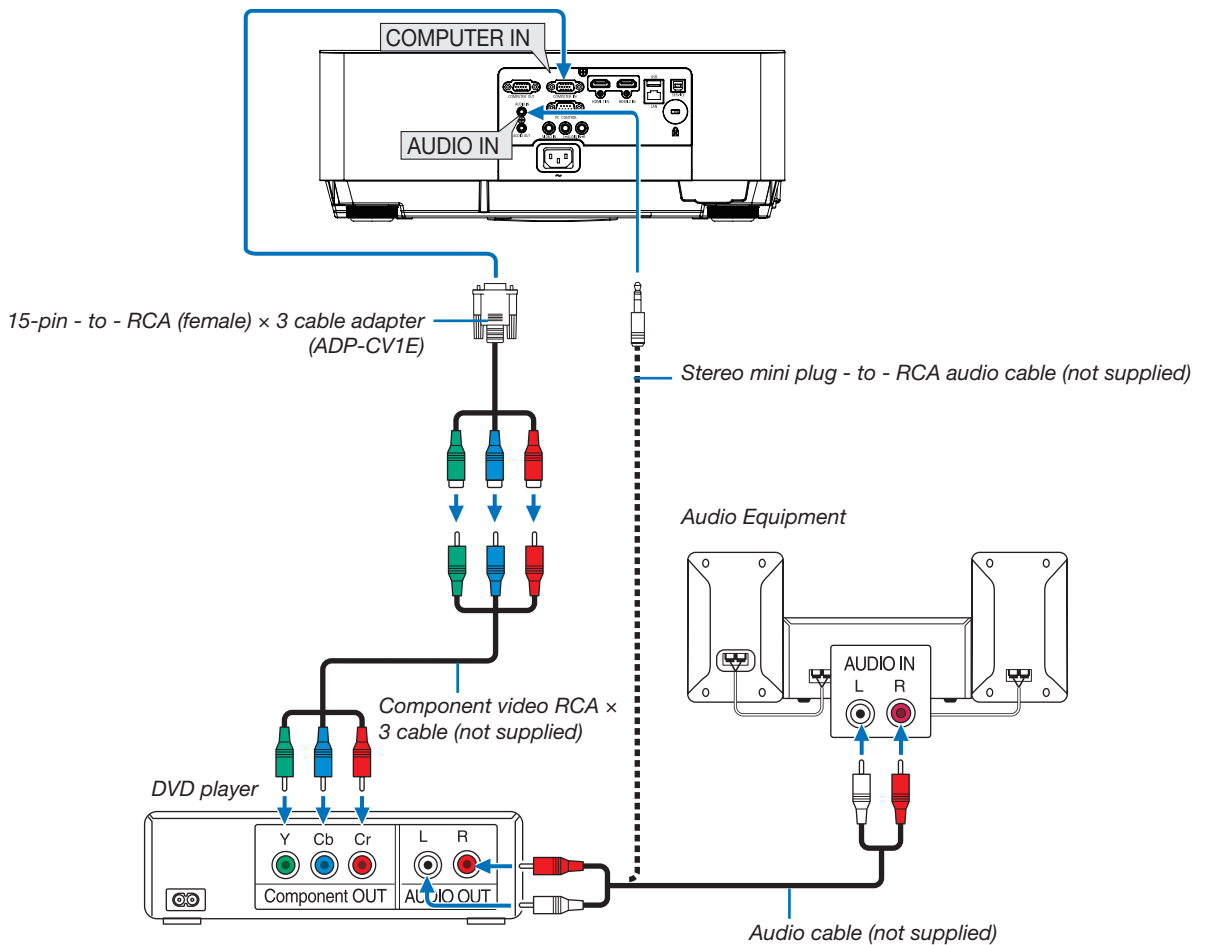

NOTE:
- *The AUDIO OUT jack does not support headphone terminal.*
- *When audio equipment is connected, the projector speaker is disabled.*
- *The signal output from the COMPUTER OUT of this projector is for projecting image on exclusive one display.*
- *When no signal is applied over 3 minutes in the condition of projector standby when NETWORK STANDBY is set in the Standby mode, output from the COMPUTER OUT or AUDIO OUT terminal will be stopped. In this case pull out the computer cable and set it back after inputting video signal*

Monitor out and sleep mode:
- *The COMPUTER OUT terminal will not work when [NORMAL] is selected for [STANDBY MODE].*
  The COMPUTER OUT terminal will work only in the sleep mode.
  Applying a signal from the COMPUTER IN terminal will put the projector in the sleep mode, which allows you to use the COMPUTER OUT terminal and the AUDIO OUT mini jack.
  The sleep mode is one of the standby modes. The sleep mode cannot be selected from the menu.
- *In the network standby mode, sound for the last viewed computer or video source will be heard.*
  BNC-to- COMPUTER IN terminal converted signal will not be output in the standby mode and sleep mode.

Connecting Your DVD Player or Other AV Equipment

Connecting Video Input

Audio cable (not supplied) — *Video cable (not supplied)*

Audio equipment

Audio cable (not supplied)

- Select the source name for its appropriate input terminal after turning on the projector.

Input terminal	SOURCE button on the projector cabinet	Button on the remote control
VIDEO IN	◉ VIDEO	(VIDEO)

NOTE: Refer to your VCR owner's manual for more information about your equipment's video output requirements.

NOTE: An image may not be displayed correctly when a Video source is played back in fast-forward or fast-rewind via a scan converter.

Connecting Component Input

15-pin - to - RCA (female) × 3 cable adapter (ADP-CV1E)

Stereo mini plug - to - RCA audio cable (not supplied)

Audio Equipment

Component video RCA × 3 cable (not supplied)

DVD player

Audio cable (not supplied)

A component signal will be automatically displayed. If not, from the menu, select [SETUP] → [OPTIONS(1)] → [SIGNAL SELECT] → [COMPUTER], and then place a check mark in the Component radio button.

• Select the source name for its appropriate input terminal after turning on the projector.

Input terminal	SOURCE button on the projector cabinet	Button on the remote control
COMPUTER IN	🖥 COMPUTER	(COMPUTER 1)

NOTE: Refer to your DVD player's owner's manual for more information about your DVD player's video output requirements.

Connecting HDMI Input

You can connect the HDMI output of your DVD player, hard disk player, Blu-ray player, or notebook type PC to the HDMI IN terminal of your projector.
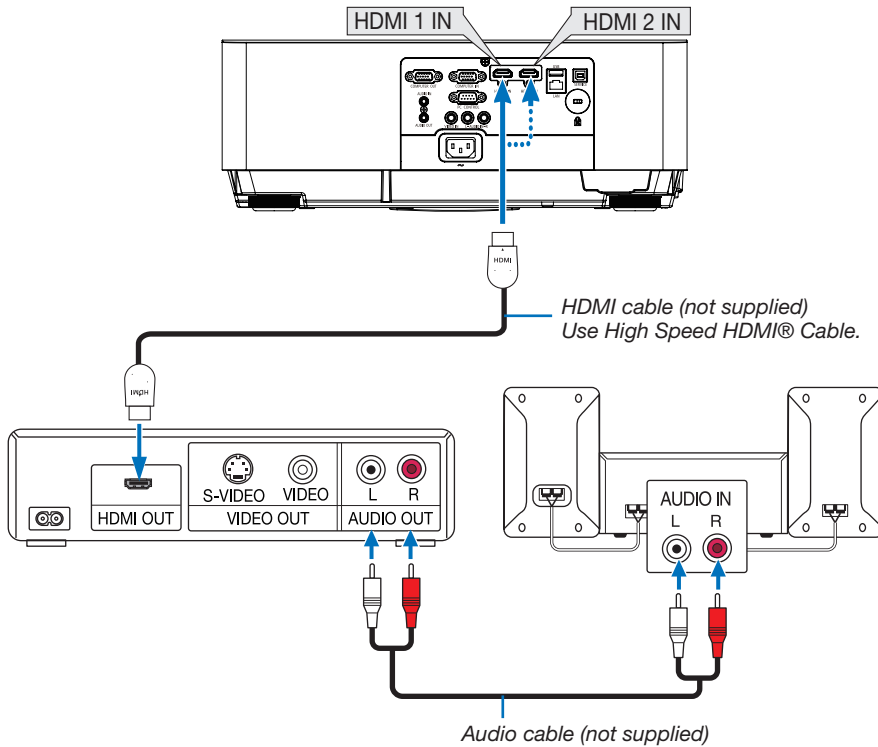
HDMI cable (not supplied)
Use High Speed HDMI® Cable.

Audio cable (not supplied)

- Select the source name for its appropriate input terminal after turning on the projector.

Input terminal	SOURCE button on the projector cabinet	Button on the remote control
HDMI 1 IN	🔲 HDMI1	(HDMI1)
HDMI 2 IN	🔲 HDMI2	(HDMI2)

- When connecting the HDMI1 IN terminal (or HDMI2 terminal) of the projector to the DVD player, the projector's video level can be made settings in accordance with the DVD player's video level. In the menu select [HDMI SETTINGS] → [VIDEO LEVEL] and make necessary settings.

- If the HDMI input sound cannot be heard, in the menu select [AUDIO SELECT] → [HDMI1] or [HDMI2]. (→ page 72)

Connecting to a Wired LAN

The projector comes standard with a LAN port (RJ-45) which provides a LAN connection using a LAN cable.
To use a LAN connection, you are required to set the LAN on the projector menu. Select [SETUP] →[WIRED LAN].
(→ page 76).

Example of LAN connection

Server

Hub

LAN cable (not supplied)

NOTE: Use a Category 5 or higher LAN cable.

LAN
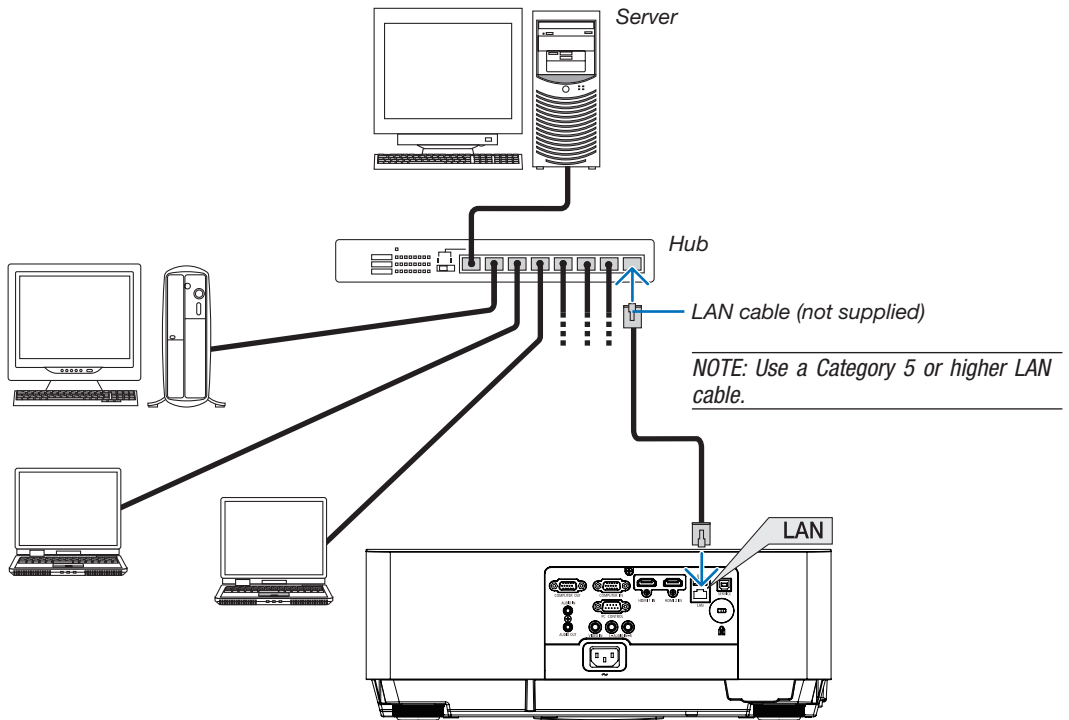
7. Maintenance

This section describes the simple maintenance procedures you should follow to clean the filter, the projection window, and the cabinet.

❶ Cleaning the Filters

The filter at the intake vent keeps dust and dirt from getting inside the projector. If the filter is dirty or clogged, your projector may overheat.

⚠ **WARNING**

- Please do not use a spray containing flammable gas to remove dust attached to the filter etc. Doing so may result in fires

---

NOTE: The message for filter cleaning will be displayed for one minute after the projector is turned on or off. When the message is displayed, clean the filters. The time to clean the filter is set to [2000 H] at time of shipment.
To cancel the message, press any button on the projector cabinet or the remote control.

To clean the filter detach the filte unit and the filte cover.

⚠ **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. Press down two buttons and then pull the filter cover towards you to open it.
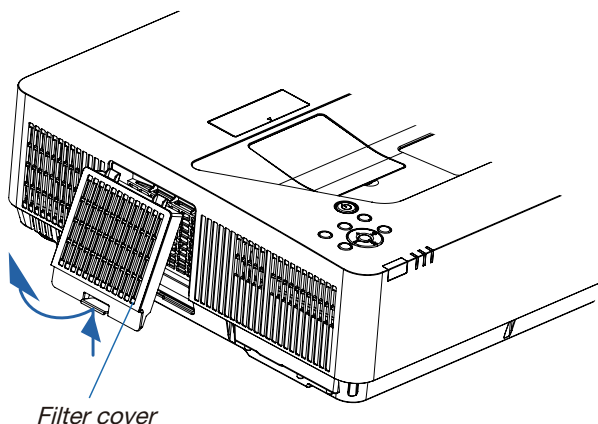
Filter cover

2. Vacuum dust on the front and back faces of the filter unit.

- *Get rid of dust in the filter.*
- *Gently get rid of dust on the filter cover and in the accordion pleats of the filter.*

NOTE:
- *Whenever you vacuum the filter, use the soft brush to vacuum. This is to avoid damage to the filter.*
- *Do not wash the filter with water. Doing so can result in filter clogging.*

Filter cover

Filter unit
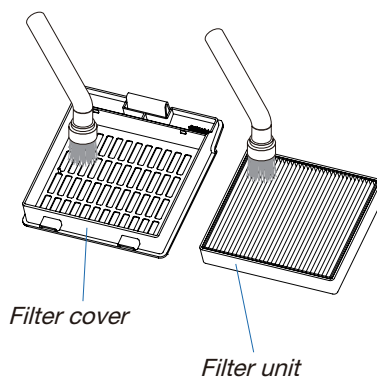
3. Put the filter cover back to the projector cabinet.

Keep to push the filter cover frame around the buttons until a "click" sound is heard. The filter cover will be secured in position.
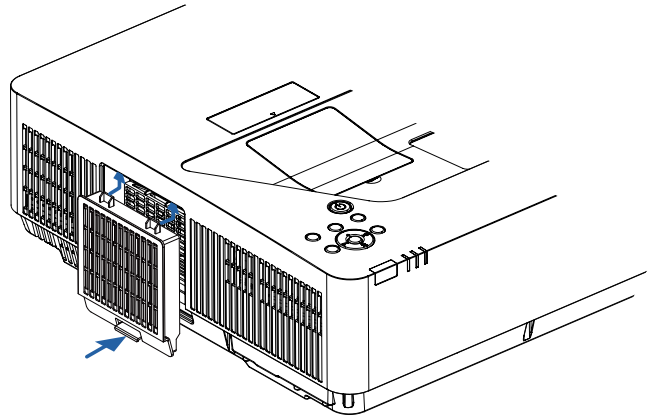
4. Clear the filter usage hours.

Plug the power cord into the wall outlet, and then turn on the projector.

From the menu, select [RESET] → [CLEAR FILTER HOURS]. (→ page 80)

❷ Cleaning the Projection Window

- Turn off the projector before cleaning.
- Do not scratch or mar the projection windows as it is made of glass.
- Use a blower or lens paper to clean the projection window, and be careful not to scratch or mar the glass surface.

⚠ WARNING

- Do not use a spray containing flammable gas to get rid of accumulated dust and dirt on the projection window. It may cause of fire.

---
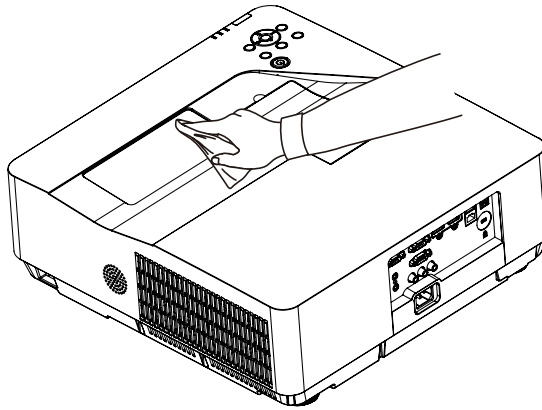
❸ Cleaning the Cabinet

Turn off the projector, and unplug the projector before cleaning.

- Use a dry soft cloth to wipe dust off the cabinet.
  If heavily soiled, use a mild detergent.
- Never use strong detergents or solvents such as alcohol or thinner.
- When cleaning the vents or the speaker using a vacuum cleaner, do not force the brush of the vacuum cleaner into the slits of the cabinet.
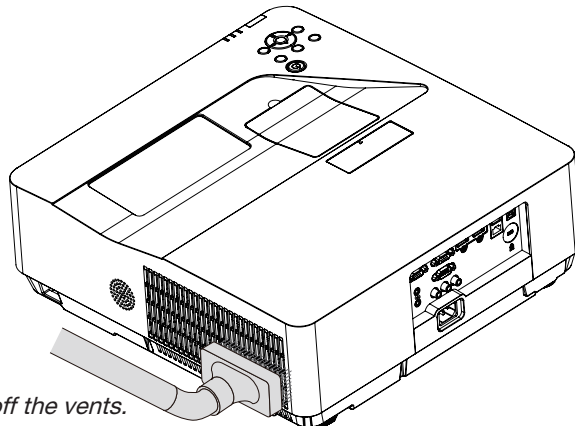
Vacuum the dust off the vents.

- Clogged vents may cause a rise in the internal temperature of the projector, resulting in malfunction.
- Do not scratch or hit the cabinet with your finger or any hard objects
- Contact your dealer for cleaning the inside of the projector.

NOTE: Do not apply volatile agent such as insecticide on the cabinet, the projection window, or the screen. Do not leave a rubber or vinyl product in pro-longed contact with it. Otherwise the surface finish will be deteriorated or the coating may be stripped off.

8. Appendix

❶ Troubleshooting

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

Feature of each indicator
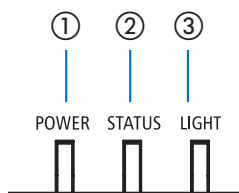
① POWER indicator
This indicator informs the power status of the projector.

② STATUS indicator
This indicator lights/blinks when a button is pressed while the CONTROL PANEL LOCK function is utilized, or while performing the specifi operations.

③ LIGHT indicator
This indicator informs the state of light, usage time of the light, and the status of ECO MODE.

Indicator Message (Status message)

POWER	STATUS	LIGHT	Projector status
Off	Off	Off	Power is off
Orange (Blink*1)	Off	Off	In the state of Standby (Standby mode is NETWORK STANDBY and network is ready)
Orange (Blink*2)	Off	Off	In the state of Standby (Network is unavailable)
Orange (Light)	Off	Off	In the state of Standby (Standby mode is NETWORK STANDBY and network is available)
Green (Light)	Off	Off	In the state of Sleep
Blue (Light)	Off	Green (Light)	Powered state (ECO mode is OFF)
Blue (Light)	Off	Green (Blink*3)	Powered state (ECO mode is ON)
Blue (Blink*3)	Off	Status varies	OFF Timer is activated, OFF time as the program timer is activated (Powered state)
Blue (Blink*4)	Off	Off	Preparing for powering ON

*1 Repetition to light on for 1.5 seconds / off for 1.5 seconds
*2 Repetition to light on for 1.5 seconds / off for 7.5 seconds
*3 Repetition to light on for 2.5 seconds / off for 0.5 seconds
*4 Repetition to light on for 0.5 seconds / off for 0.5 seconds

Indicator Message (Error message)

POWER	STATUS	LIGHT	Projector status	Procedure
Blink	Orange (Light)	Status varies	A button has been pressed while the KEY LOCK is activated.	The projector's keys are locked. The setting must be canceled to operate the projector. (→ page 69)
			ID numbers for the projector and the remote control do not match.	Check the control IDs (→ page 70)
Blue (Blink*4)	Off	Green (Blink*4)	Preparing to relight light after lighting has failed.	Wait a while.
Blue (Light)	Off	Orange (Light)	Temperature problem (In the Forced ECO)	Ambient temperature is high. Lower the room temperature.
Red (Blink*4)	Off	Off	Temperature problem	Ambient temperature is out of the operation temperature. Check if any obstruction stays near the exhaust vent.
Red (Blink*4)	Green (Light)	Red (Light)	Light does not light.	Wait at least 1 minute, then turn on the power back on. if the light still does not light, contact your dealer or service personnel.
Red (Light)	Status varies	Status varies	Error requiring service support	Contact your dealer or service personnel. Make sure to check and inform indicator status for asking to repair.

*1 Repetition to light on for 1.5 seconds / off for 1.5 seconds
*2 Repetition to light on for 1.5 seconds / off for 7.5 seconds
*3 Repetition to light on for 2.5 seconds / off for 0.5 seconds
*4 Repetition to light on for 0.5 seconds / off for 0.5 seconds
• When the thermal protector is activated:
  When inside temperature of the projector becomes too high or low, the POWER indicator start to red blink in a short cycle. After this happened, the thermal protector will activate and the projector may be turned off.
  In this case, please take the below measures:
  - Pull out the power plug from the wall inlet.
  - Place the projector in cool place if it has been placed in high ambient temperature.
  - Clean the exhaust vent if dust has accumulated on.
  - Leave the projector for about one hour until inside temperature gets lower.

Explanation on the POWER indicator and standby state

In the state the selected STANBY MODE is NETWORK STANDBY.

Available ports in each state (○: Available, ✕: Unavailable)		
	LAN	PC CONTROL
	○	○
	○	○
	○	○
	✕	○

Indicator : Lights in blue
Powerd On state

Power On

Power Off

Power On

No operation/No communication with the link-up network / No signal input for approx. 180 seconds

Indicator : Lights in green
Sleep state

No operation/Link-down network/No signal input for approx. 180 seconds

Input signal

Power On

Input signal

Link-up network

Power On

Indicator : Lights in orange
Standby state: The network is linked.

Indicator : Blinks in orange
Standby state : Waiting to link with the network

Link-down network

Link-down for approx. 180 seconds

Power On

Indicator : Blinks in orange (with long interval)
Standby state : The network is unavailable.

Power consumption

High

Low

In the state the selected STANBY MODE is NORMAL.

Available ports in each state ($\bigcirc$: Available, $\times$: Unavailable)	
LAN	PC CONTROL

Power consumption

Indicator : Lights in blue
Powered ON state

Power Off

Power On

High

$\bigcirc$ | $\bigcirc$

Indicator : Lights in green
Sleep state

No operation/No signal input for approx. 10 seconds

$\bigcirc$ | $\bigcirc$

Power On

Indicator : Blinks in orange (with long interval)
Standby state : The network is unavailable.

Low

$\times$ | $\bigcirc$

Common Problems & Solutions

(→ "Power/Status/Light Indicator" on page 96.)

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 11, 12) • Check to see if the projector has overheated. If there is insufficien ventilation around the projector or if the room where you are presenting is particularly warm, move the projector to a cooler location. • The light may fail to light. Wait a full minute and then turn on the power again. • Set [FAN MODE] to [HIGH ALTITUDE] when using the projector at altitudes approximately 5500 feet/1700 meters or higher. Using the projector at altitudes approximately 5500 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 71)
Will turn off	• Ensure that the [OFF TIMER] or [AUTO POWER OFF] is off. (→ page 67, 74)
No picture	• Use the COMPUTER1, HDMI1, HDMI2, VIDEO or USB-A button on the remote control to select your source (COMPUTER, HDMI1, HDMI2, VIDEO or USB-A). (→ page 14) If there is still no picture, press the button again. • Ensure your cables are connected properly. • Use menus to adjust the brightness and contrast. (→ page 59) • Reset the settings or adjustments to factory preset levels using the [RESET] in the Menu. (→ page 80) • Enter your registered keyword if the Security function is enabled. (→ page 34) • 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 next page.
Picture suddenly becomes dark	• Check if the projector is in the Forced ECO mode because of too high ambient temperature. If this is the case, lower the internal temperature of the projector by selecting [HIGH] for [FAN MODE]. (→ page 71)
Color tone or hue is unusual	• Check if an appropriate color is selected in [WALL COLOR]. If so, select an appropriate option. (→ page 66) • Adjust [HUE] in [PICTURE]. (→ page 59)
Image isn't square to the screen	• Reposition the projector to improve its angle to the screen. (→ page 15, 21) • Use the Keystone correction function to correct the trapezoid distortion. (→ page 22)
Picture is blurred	• Adjust the focus. (→ page 18) • Reposition the projector to improve its angle to the screen. (→ page 15, 21) • Ensure that the distance between the projector and screen is within the adjustment range. (→ page 81)
Image is scrolling vertically, horizontally or both	• Check the computer's resolution and frequency. Make sure that the resolution you are trying to display is supported by the projector. (→ page 106) • Adjust the computer image manually with the Horizontal/Vertical in the [IMAGE OPTIONS]. (→ page 61)
Remote control does not work	• Install new batteries.(→ page 9) • Make sure there are no obstacles between you and the projector. • Stand within 22 feet (7 m) of the projector. (→ page 9)
Indicator is lit or blinking	• See the POWER/STATUS/LIGHT indicator. (→ page 96)
Cross color in RGB mode	• Press the AUTO ADJ. button on the projector cabinet or the remote control. (→ page 24) • Adjust the computer image manually with [CLOCK]/[PHASE] in [IMAGE OPTIONS] in the menu. (→ page 60)

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 77 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. For example, NEC laptops use Fn + F3, while Dell laptops use Fn + F8 key combinations to toggle through external display selections.

- 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" fixe 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 1024 × 768 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.

❷ Specifications

This section provides technical information about projector's performance.

Optical

Model Number		NP-UM383WL
LCD Panel		0.76 inch LCD with Micro Lens Array (Aspect Ratio 16: 10)
Resolution[*1]		1280×800 pixels (WXGA)
Lens		F = 1.78-1.83 f = 4.92-5.18mm
	Zoom	Digital Zoom and Manual
	Focus	Manual
	Lens shifting	H: ±2%, V: ±3%
Light		HLD + LED
	ECO MODE OFF	340W
	NORMAL	272W
	ECO	170W
Light Output [*2*3]		3800 lumens
	NORMAL	80%
	ECO	50%
Contrast Ratio（full white/full black）		200000：1
Screen Size（Diagonal）		70-130 inches
Projection Distance（Min.-Max.）		0.4-0.8m
Projection Angle		59-60 (wide), 58-59 (tele)

*1 Effective pixels are more than 99.99%.
*2 This is the light output value (lumens) when the [PRESET] mode is set to [HIGH-BRIGHT]. If any other mode is selected as the [PRESET] mode, the light output value may drop slightly.
*3 Compliance with ISO21118-2012

Mechanical

Model Number	NP-UM383WL
Installation Orientation	Desktop/Front, Desktop/Rear, Ceiling/Front, Ceiling/Rear
Dimensions	16.7" (W) × 6.2" (H) × 17.7" (D)/425 mm (W) × 156.7 mm (H) × 449 mm (D) (including protrusions) 16.7" (W) × 6.0" (H) × 17.7" (D)/425 mm (W) × 153.2 mm (H) × 449 mm (D) (not including protrusions)
Weight	10.7 kg/23.6 lbs
Environmental Considerations	Operational Temperatures : 41° to 104°F (5° to 40°C), (ECO mode selected automatically at 95°F to 104°F/35°C to 40°C) 20% to 80% humidity (non-condensing) Storage Temperatures : 14° to 122°F (-10° to 50°C), 20% to 80% humidity (non-condensing) Operating altitude: 0 to 2700 m/8800 f (Set [FAN MODE] to [HIGH ALUTITUDE] when using the projector at altitudes approximately 1700 m/5500 f) or higher.
Regulations	UL/C-UL Approved (UL 60950-1, CSA 60950-1) Meets DOC Canada Class B requirements Meets FCC Class B requirements Meets AS/NZS CISPR.22 Class B Meets EMC Directive (EN55022, EN55024, EN61000-3-2, EN61000-3-3) Meets Low Voltage Directive (EN60950-1, TÜV GS Approved) CE

Electrical

Model Number		NP-UM383WL
Inputs		1 × RGB/Component (D-SUB 15 P), 2 × HDMI Type A (19P, HDMI® Terminal) HDCP supported[*4], 1 × Video (RCA), 1 × (L/R) RCA Audio, 1 × Stereo Mini Audio
Outputs		1 × RGB (D-Sub 15 P), 1 × Stereo Mini Audio
PC Contral		1 × PC Control Port (D-Sub 9 P), 1 × SERVICE Port (Type: USB-B)
Wired LAN Port		1 × RJ-45 (10BASE-T/100BASE-TX)
USB Port		1 × Type A
Color Reproduction		10-bit signal processing (1.07 billion colors) (Viewer, Network: 16.7 million colors)
Compatible Signals[*5]		Analog: VGA/SVGA/XGA/WXGA/Quad-VGA/SXGA/SXGA+/WXGA+ /WXGA++/UXGA/WSXGA+/HD/Full HD/WUXGA/Mac13", 16", 21", 23" Component: 480i/480p/576i/576p/720p/1080i/1080p HDMI: VGA/SVGA/XGA/WXGA/Quad-VGA/SXGA/SXGA+/WXGA+ /WXGA++/WSXGA+/480p/576p/720p/1080i/1080p
Horizontal Resolution		540 TV lines: NTSC/NTSC4.43/PAL/PAL-M/PAL-N/PAL60 300 TV lines: SECAM
Scan Rate		Horizontal: 15 kHz to 100 kHz (RGB: 24 kHz or over) Vertical: 50 Hz to 120 Hz (HDMI: 50 Hz to 85 Hz)
Sync Compatibility		Separate Sync
Built in Speaker		2 ×10 W (stereo)
Power Requirement		100 - 240 V AC, 50/60 Hz
Input Current		4.9 A-1.9 A
Power Consumption	ECO MODE OFF	460 W (100-130 V)/443 W (200-240 V)
	NORMAL	374 W (100-130 V)/341 W (200-240 V)
	ECO	248 W (100-130 V)/219 W (200-240 V)
	STANDBY (NETWORK STANDBY)	1.6 W (100-130 V)/1.8 W (200-240 V)
	STANDBY (NORMAL)	0.26 W (100-130 V)/0.39 W (200-240 V)

*4 HDMI® (Deep Color, Lip Sync) with HDCP
   What is HDCP/HDCP technology?
   HDCP is an acronym for High-bandwidth Digital Content Protection. High bandwidth Digital Content Protection (HDCP) is a system for preventing illegal copying of video data sent over a High-Definition Multimedia Interface (HDMI).
   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, LipSync
   Audio: LPCM; up to 2 ch, sample rate 32/44.1/48 KHz, sample bit; 16/20/24-bit

*5 An image with higher or lower resolution than the projector's native resolution (1280 × 800) will be displayed with Advanced AccuBlend. (→ page 106)

For additional information visit:
US : https://www.necdisplay.com/
Global : https://www.nec-display.com/global/index.html
For information on our optional accessories, visit our website or see our brochure.

The specification are subject to change without notice.

❸ Cabinet Dimensions

Unit: mm (inch)

449(17.7)

117.6(4.6)

134.7(5.3)

425(16.7)

153.2(6.0)

156.7(6.2)

153.2(6.0)

270(10.6)

180(7.1)

14.4(0.6)

333(13.1)

200(7.9)

⌀46.3(1.8)

330(13)

104
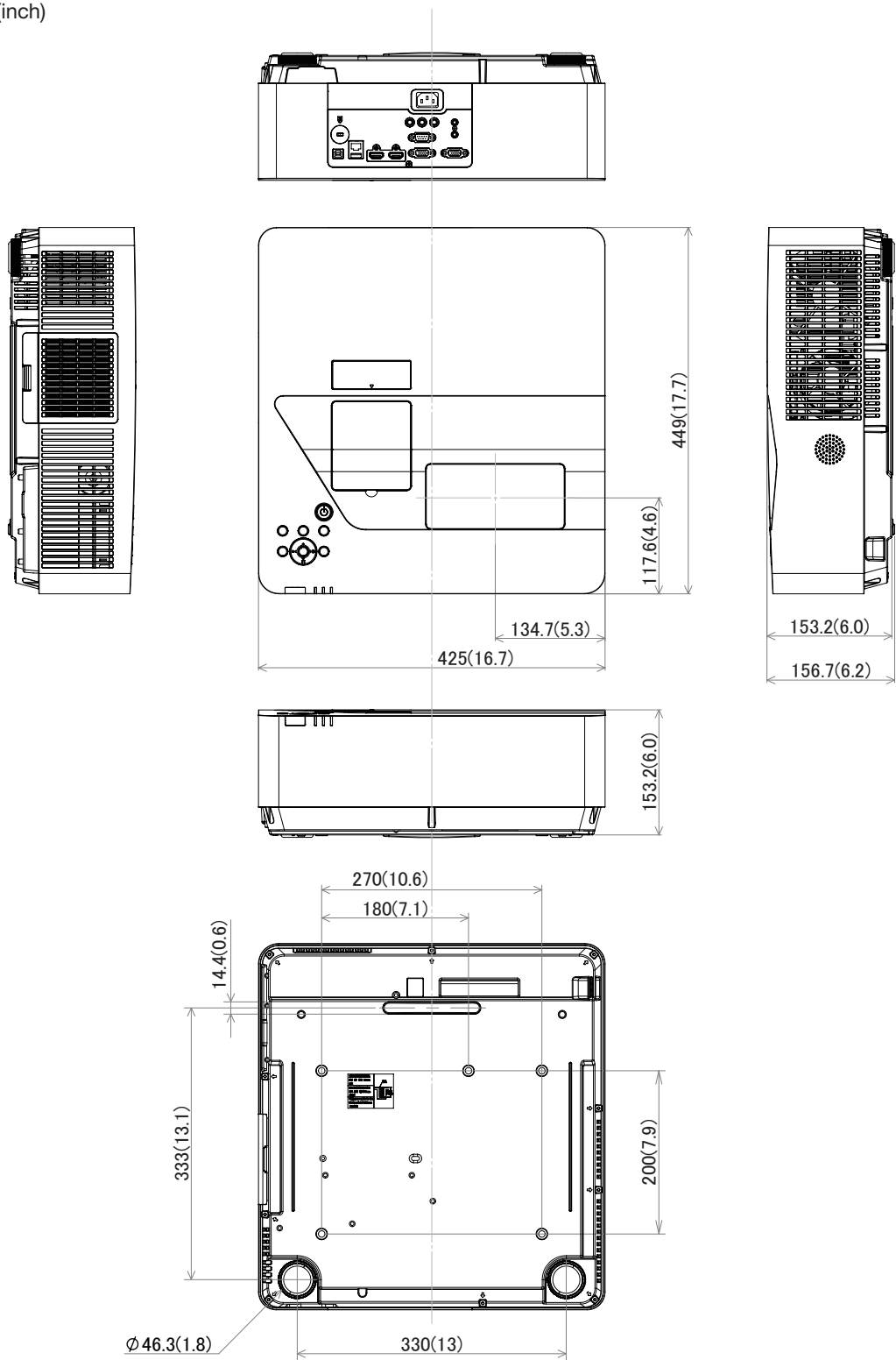
❹ Pin Assignments of D-Sub COMPUTER Input
Terminal Mini D-Sub 15 Pin Terminal
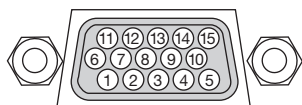
Signal Level
Video signal : 0.7Vp-p (Analog)
Sync signal : TTL level

Pin No.	RGB Signal (Analog)	YCbCr Signal
1	Red	Cr
2	Green or Sync on Green	Y
3	Blue	Cb
4	Ground	
5	Ground	
6	Red Ground	Cr Ground
7	Green Ground	Y Ground
8	Blue Ground	Cb Ground
9	Hotplug	
10	Sync Signal Ground	
11	No Connection	
12	Bi-directional DATA (SDA)	
13	Horizontal Sync or Composite Sync	
14	Vertical Sync	
15	Data Clock	

COMPUTER IN
NOTE: Pin Nos. 12 and 15 are required for DDC/CI.

❺ Compatible Input Signal List

Analog RGB

Signal	Resolution (dots)	Aspect Ratio	Refresh Rate (Hz)
VGA	640 × 480	4:3	60/72/75/85/iMac
SVGA	800 × 600	4:3	56/60/72/75/85/iMac
XGA	1024 × 768	4:3	60/70/75/85/iMac
WXGA	1280 × 768*1	15:9	60
	1280 × 800*1	16:10	60
	1360 × 768*2	16:9	60
	1366 × 768*2	16:9	60
Quad-VGA	1280 × 960	4:3	60/75
SXGA	1280 × 1024	5:4	60/75
SXGA+	1400 × 1050	4:3	60
WXGA+	1440 × 900	16:10	60
WXGA++	1600 × 900*2	16:9	60
UXGA	1600 × 1200*3	4:3	60
WSXGA+	1680 × 1050	16:10	60
HD	1280 × 720	16:9	60
Full HD	1920 × 1080	16:9	60
WUXGA	1920 × 1200*4	16:10	60
MAC 13"	640 × 480	4:3	67
MAC 16"	832 × 624	4:3	75
MAC 19"	1024 × 768	4:3	75
MAC 21"	1152 × 870	4:3	75
MAC 23"	1280 × 1024	5:4	65

Component

Signal	Format	Aspect Ratio	Refresh Rate (Hz)
HDTV (1080p)	1920 × 1080	16:9	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

Composite Video

Signal	Aspect Ratio	Refresh Rate (Hz)
NTSC	4:3	60
PAL	4:3	50
PAL60	4:3	60
SECAM	4:3	50

HDMI

Signal	Resolution (dots)	Aspect Ratio	Refresh Rate (Hz)
VGA	640 × 480	4:3	60
SVGA	800 × 600	4:3	60
XGA	1024 × 768	4:3	60
WXGA	1280 × 768*1	15:9	60
	1280 × 800*1	16:10	60
	1366 × 768	16:9	60
Quad-VGA	1280 × 960	4:3	60
SXGA	1280 × 1024	5:4	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
WUXGA	1920 × 1200	16:10	60*5
HDTV (1080p)	1920 × 1080	16:9	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 Native resolution
*2 The projector may fail to display these signals correctly when [AUTO] is selected for [ASPECT RATIO] in the on-screen menu. The factory default is [AUTO] for [ASPECT RATIO]. To display these signals, select [16:9] for [ASPECT RATIO].
*3 WXGA MODE: OFF
*4 WXGA MODE: ON
*5 RB (Reduced blanking signal) is effective up to 154MHz.

NOTE:

- *An image with higher or lower resolution than the projector's native resolution (1280 × 800) will be displayed with Advanced AccuBlend.*
- *Sync on Green and Composite sync signals are not supported.*
- *Signals other than those specified in the table above may not be displayed correctly. If this should happen, change the refresh rate or resolution on your PC. Refer to Display Properties help section of your PC for procedures.*

❻ PC Control Codes and Cable Connection

PC Control Codes

Function	Code Data						
POWER ON	02H	00H	00H	00H	00H	02H	
POWER OFF	02H	01H	00H	00H	00H	03H	
INPUT SELECT COMPUTER	02H	03H	00H	00H	02H	01H	01H	09H
INPUT SELECT HDMI1	02H	03H	00H	00H	02H	01H	A1H	A9H
INPUT SELECT HDMI2	02H	03H	00H	00H	02H	01H	A2H	AAH
INPUT SELECT VIDEO	02H	03H	00H	00H	02H	01H	06H	0EH
INPUT SELECT USB-A	02H	03H	00H	00H	02H	01H	1FH	27H
INPUT SELECT LAN	02H	03H	00H	00H	02H	01H	20FH	28H
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	

NOTE: 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.

PC Control Terminal (D-SUB 9P)
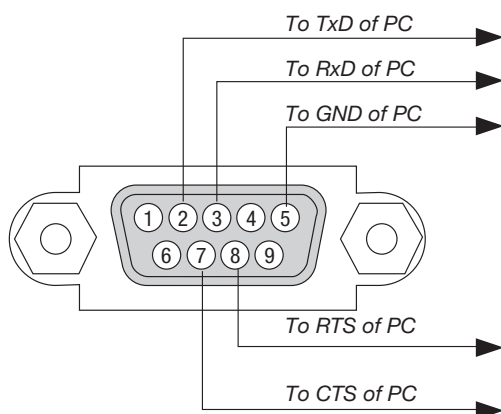
NOTE 1: Pins 1, 4, 6 and 9 are no used.

NOTE 2: Jumper "Request to Send" and "Clear to Send" together on both ends of the cable to simplify cable connection.

NOTE 3: For long cable runs it is recommended to set communication speed within projector menus to 9600 bps.

❼ Using the Computer Cable (VGA) to Operate the Projector (Virtual Remote Tool)

Using the utility software "Virtual Remote Tool" that is available to download from our web site, Virtual Remote screen (or toolbar) can be displayed on your computer screen.

This will help you perform operations such as projector's power on or off and signal selection via the computer cable (VGA), serial cable, or LAN connection. Only via serial or LAN connection it is also used to send an image to the projector and register it as the logo data of the projector. After registering it, you can lock the logo to prevent it from changing.

Control Functions

Power On/Off, signal selection, picture freeze, picture mute, audio mute, Logo transfer to the projector, and remote control operation on your PC.
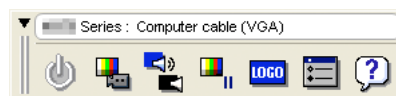
Virtual Remote screen   Toolbar

For getting the Virtual Remote Tool, please visit our web site and download it:

https://www.nec-display.com/dl/en/index.html

NOTE:
- *When [COMPUTER] is selected from your source selection, the Virtual Remote screen or the toolbar will be displayed as well as your computer screen.*
- *Use the supplied computer cable (VGA) to connect the COMPUTER IN terminal directly with the monitor output terminal of the computer to use Virtual Remote Tool.*
  Using a switcher or other cables than the supplied computer cable (VGA) may cause failure in signal communication.
  VGA cable terminal:
  Pin Nos. 12 and 15 are required for DDC/CI.
- *Virtual Remote Tool may not work depending on your computer's specifications and version of graphic adapters or drivers.*
- *To run Virtual Remote Tool, "Microsoft .NET Framework Version 2.0" is required. The Microsoft .NET Framework Version 2.0, 3.0 or 3.5 is available from Microsoft's web page. Download and install it on your computer.*
- *Logo data (graphics) that can be sent to the projector with Virtual Remote Tool has the following restrictions:*
  (Only via serial or LAN connection)
  - *File size: Less than 1 MB*
  - *Image size (resolution): Horizontal 1280 × vertical 800 dots or less*
  - *Number of colors: 256 colors or less*

TIP:
- *Virtual Remote Tool can be used with a LAN and a serial connection.*
- *The projector's COMPUTER IN terminal supports DDC/CI (Display Data Channel Command Interface). DDC/CI is a standard interface for bidirectional communication between display/projector and computer.*

❽ 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.
- ☐ [AUTO POWER OFF] is turned off (only models with the [AUTO POWER OFF] function).
- ☐ [OFF TIMER] is turned off (only models with the [OFF TIMER] 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 P .
- ☐ 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 press the AUTO ADJUST button.
- ☐ 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 press the AUTO ADJUST button.
- ☐ Still unchanged even though you carry out [RESET] in the projector's menu.

☐ Image is shifted in the vertical or horizontal direction.
- ☐ Horizontal and vertical positions are correctly adjusted on a computer signal.
- ☐ Input source's resolution and frequency are supported by the projector.
- ☐ Some pixels are lost.

☐ Image is flickerin .
- ☐ Still unchanged even though you press the AUTO ADJUST button.
- ☐ Still unchanged even though you carry out [RESET] in the projector's menu.
- ☐ Image shows flickering or color drift on a computer signal.

☐ 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.
- ☐ Batteries are new and are not reversed in installation.

☐ 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.
- ☐ Still unchanged even though you press and hold the SOURCE button for a minimum of 10 seconds.

In the space below please describe your problem in detail.

Information on application and environment where your projector is used

Projector

Model number:

Serial No.:

Date of purchase:

Light operating time (hours):

Eco Mode: ☐ OFF ☐ AUTO ECO
☐ NORMAL ☐ ECO

Information on input signal:

Horizontal synch frequency [ ] kHz

Vertical synch frequency [ ] Hz

Synch polarity H ☐ (+) ☐ (−)
V ☐ (+) ☐ (−)

Synch type ☐ Separate ☐ Composite
☐ Sync on Green

Indicator Message:

☐ POWER

Blinks in ☐ Blue ☐ Green ☐ Orange ☐ Red
[ ] cycles

Lights in ☐ Blue ☐ Green ☐ Orange ☐ Red

☐ STATUS

Blinks in ☐ Blue ☐ Green ☐ Orange ☐ Red
[ ] cycles

Lights in ☐ Blue ☐ Green ☐ Orange ☐ Red

☐ LIGHT

Blinks in ☐ Blue ☐ Green ☐ Orange ☐ Red
[ ] cycles

Lights in ☐ Blue ☐ Green ☐ Orange ☐ Red

Remote control model number:

Signal cable

NEC standard or other manufacturer's cable?

Model number: Length: inch/m

Distribution amplifie

Model number:

Switcher

Model number:

Adapter

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:
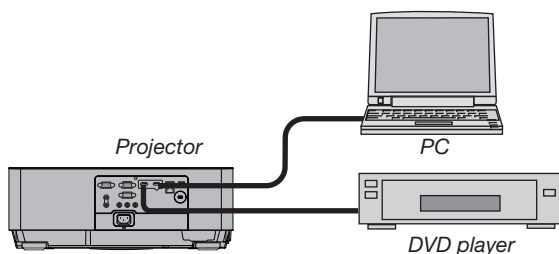
Other:

Projector *PC*

DVD player

Video equipment

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

Manufacturer:

Model number:

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

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

Visit our web site at www.necdisplay.com, click on support center/register product and submit your completed form online.

Upon receipt, we will send a confi mation letter with all the details you will need to take advantage of fast, reliable warranty and service programs from the industry leader, NEC Display Solutions of America, Inc.

NEC

7N952943