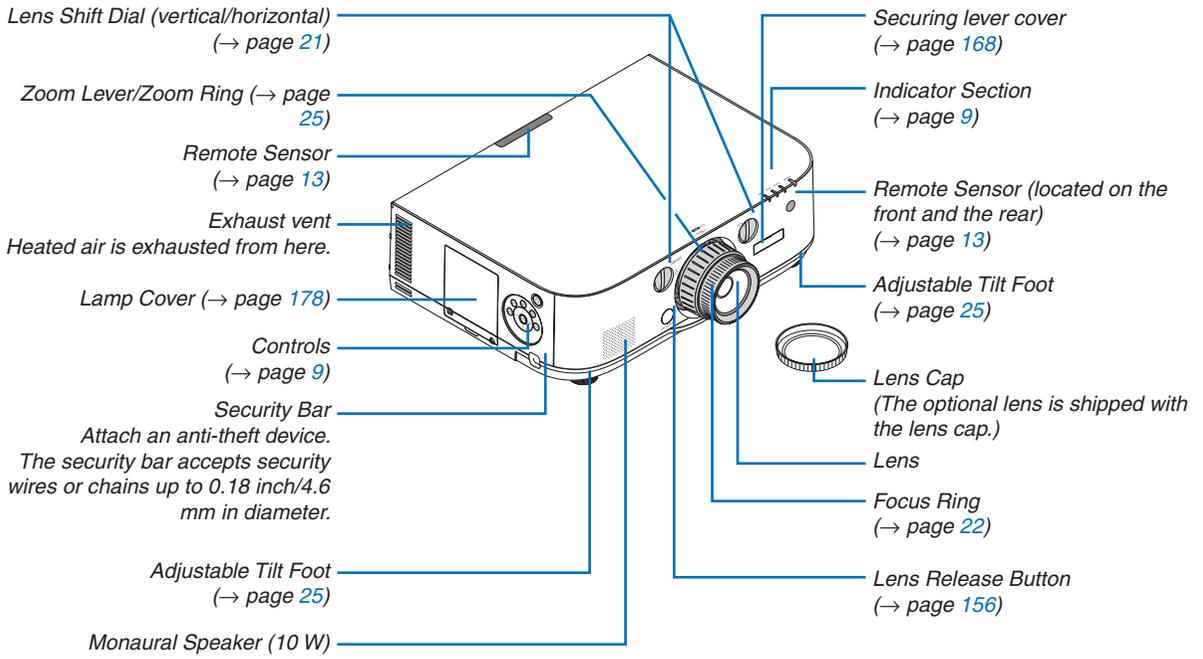


3 Part Names of the Projector

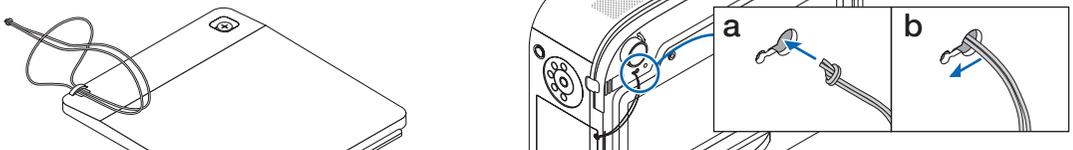
Front/Top

The lens is sold separately. The description below is for when the NP13ZL lens is mounted.



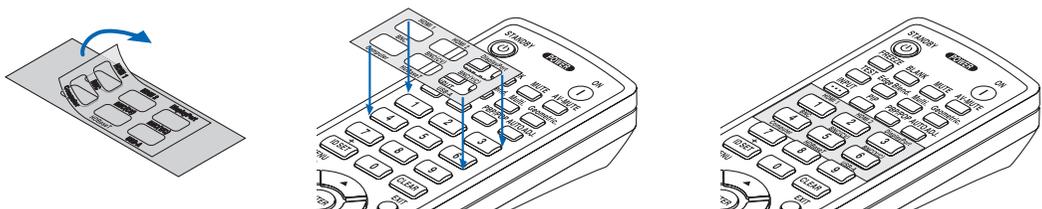
Mounting the strap

1. Mount the strap to the filter cover and lamp cover as shown on the diagram below.
2. Insert the knot in the strap into the hole on the bottom of the projector and pull in the direction of the arrow to fasten.

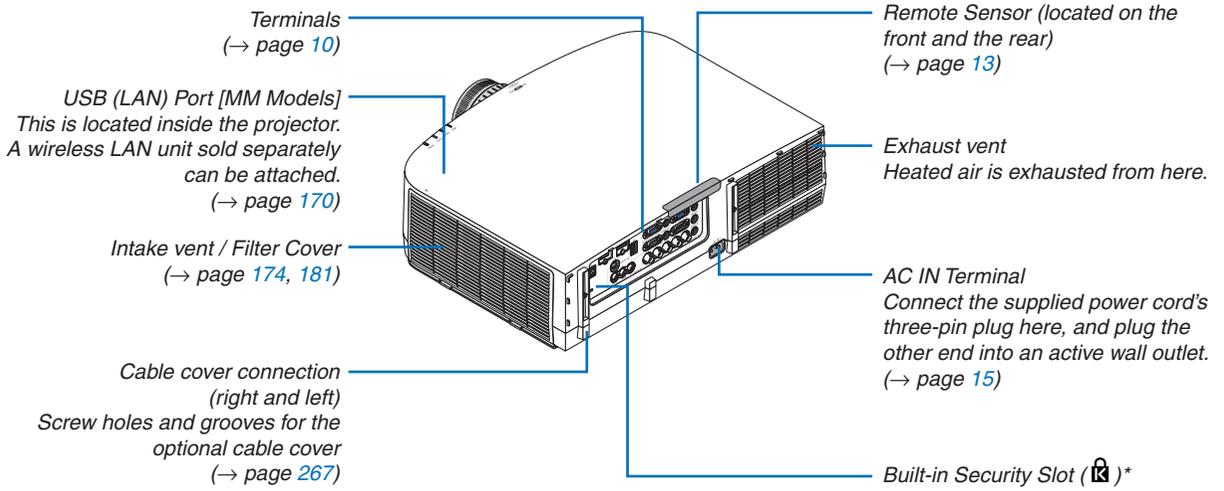


How to paste the input selection character sticker of the remote control

- Peel off the cover of the sticker and align the sticker holes with Buttons 1 to 6 before pasting.
 - Please take care not to let the sticker contact the buttons when pasting.
 - The explanations and illustrations in this manual are provided with the sticker pasted.

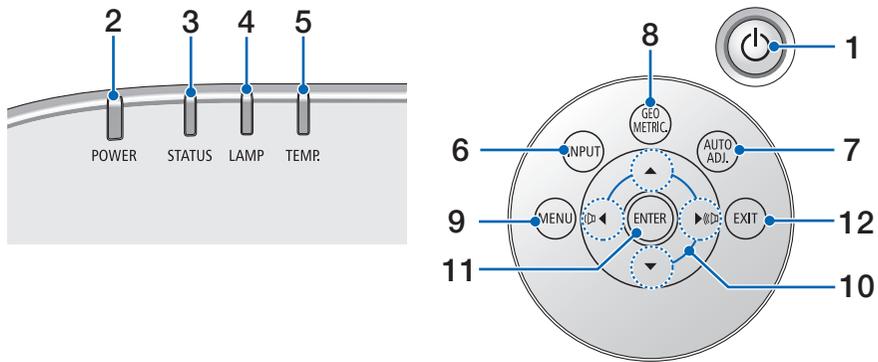


Rear



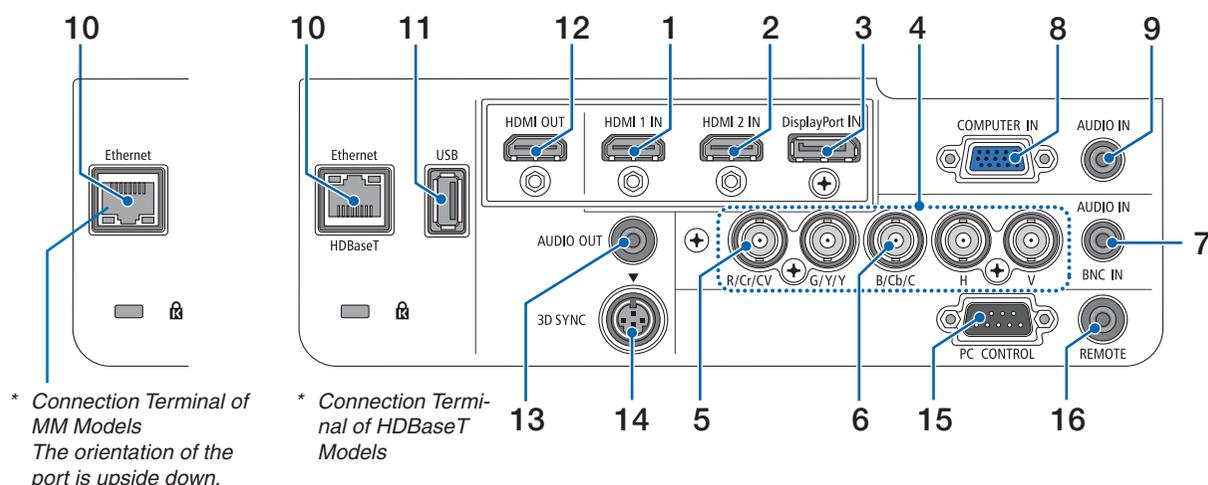
* This security slot supports the MicroSaver® Security System.

Controls/Indicator Panel



1.  (POWER) Button
(→ page 16, 27)
2. POWER Indicator
(→ page 15, 16, 27, 270)
3. STATUS Indicator
(→ page 270)
4. LAMP Indicator
(→ page 178, 271)
5. TEMP. Indicator
(→ page 271)
6. INPUT Button
(→ page 18)
7. AUTO ADJ. Button
(→ page 26)
8. Geometric. Button
(→ page 35)
9. MENU Button
(→ page 77)
10.  / Volume Buttons 
(→ page 26, 77)
11. ENTER Button
(→ page 77)
12. EXIT Button
(→ page 77)

Terminals

**1. HDMI 1 IN Connector (Type A)**

(→ page 158, 160, 164)

2. HDMI 2 IN Connector (Type A)

(→ page 158, 160, 164)

3. DisplayPort IN Connector

(→ page 158)

4. BNC IN [R/Cr/CV, G/Y/Y, B/Cb/C, H, V] Connectors (BNC × 5)

(→ page 157, 162)

5. BNC (CV) Input Connector (BNC × 1)

(→ page 162)

6. BNC (Y/C) Input Connector (BNC × 2)

(→ page 162)

7. BNC AUDIO IN Mini Jack (Stereo Mini)

(→ page 160, 162)

8. COMPUTER IN/ Component Input Connector (Mini D-Sub 15 Pin)

(→ page 157, 163)

9. COMPUTER AUDIO IN Mini Jack (Stereo Mini)

(→ page 157, 163)

10. Ethernet/HDBaseT Port (RJ-45) [HDBaseT Models]

(→ page 165, 169)

Ethernet Port (RJ-45) [MM Models]

(→ page 169)

11. USB-A Port (Type A)

(→ page 225)

(HDBaseT Models: For future expansion. This port allows for power supply.)

12. HDMI OUT Connector (Type A)

(→ page 161)

13. AUDIO OUT Mini Jack (Stereo Mini)

(→ page 161)

14. 3D SYNC Connector (Mini DIN 4 Pin)

(→ page 41)

15. PC CONTROL Port (D-Sub 9 Pin)

(→ page 269)

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 275.

16. REMOTE Connector (Stereo Mini)

Use this connector for wired remote control of the projector using the NEC remote control for PX750U/PH1000U/PH1400U series.

Connect the projector and optional remote control using a commercially available wired remote control cable.

NOTE:

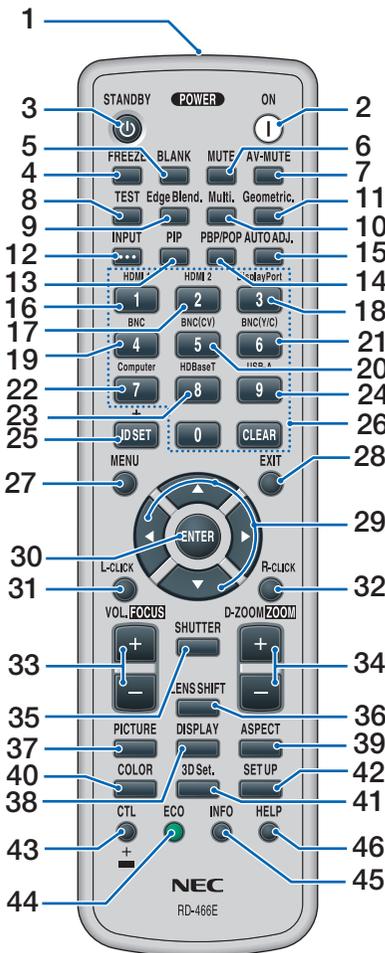
- When a remote control cable is connected to the REMOTE connector, infrared remote control operations cannot be performed.
- Both the composite video signal from each input connector as the computer, BNC, and BNC (CV), and the S-video signal from the BNC (Y/C) Input connector are not output from HDMI OUT Connector of this projector.

[HDBaseT Models]

- When [HDBaseT] is selected in the [REMOTE SENSOR] and the projector is connected to a commercially-available transmission device that supports HDBaseT, remote control operations in infra-red cannot be carried out if transmission of remote control signals has been set up in the transmission device. However, remote control using infrared rays can be carried out when the power supply of the transmission device is switched off.

4 Part Names of the Remote Control

The HDBaseT model is described in the illustrations of the remote control.



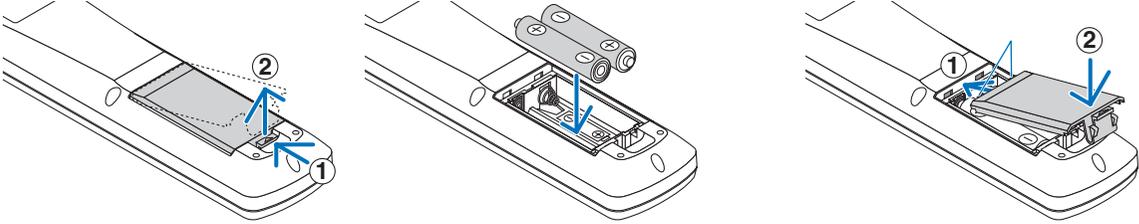
- | | | |
|--|--|--|
| <p>1. Infrared Transmitter
(→ page 13)</p> <p>2. POWER ON Button
(→ page 16)</p> <p>3. STANDBY Button
(→ page 27)</p> <p>4. FREEZE Button
(→ page 30)</p> <p>5. BLANK Button
(→ page 29)</p> <p>6. MUTE Button
(→ page 29)</p> <p>7. AV-MUTE Button
(→ page 29)</p> | <p>8. TEST Button
(→ page 85)</p> <p>9. Edge Blend. Button
(→ page 71, 106)</p> <p>10. Multi. Button
(→ page 107)</p> <p>11. Geometric. Button
(→ page 35, 102)</p> <p>12. INPUT Button
(→ page 18)</p> <p>13. PIP Button
(→ page 68)</p> <p>14. PBP/POP Button
(→ page 68)</p> <p>15. AUTO ADJ. Button
(→ page 26)</p> <p>16. 1 (HDMI 1) Button
(→ page 18)</p> <p>17. 2 (HDMI 2) Button
(→ page 18)</p> <p>18. 3 (DisplayPort) Button
(→ page 18)</p> <p>19. 4 (BNC) Button
(→ page 18)</p> <p>20. 5 (BNC(CV)) Button
(→ page 18)</p> <p>21. 6 (BNC(Y/C)) Button
(→ page 18)</p> <p>22. 7 (Computer) Button
(→ page 18)</p> <p>23. 8 (HDBaseT) Button [HDBaseT Models]
8 (Ethernet) Button [MM Models]
(→ page 18)</p> <p>24. 9 (USB-A) Button
(→ page 18)</p> <p>25. ID SET Button
(→ page 120)</p> <p>26. Numeric Keypad Button/ CLEAR Button
(→ page 120)</p> <p>27. MENU Button
(→ page 77)</p> | <p>28. EXIT Button
(→ page 77)</p> <p>29. ▲▼◀▶ Button
(→ page 77)</p> <p>30. ENTER Button
(→ page 77)</p> <p>31. L-CLICK Button*
(→ page 34)</p> <p>32. R-CLICK Button*
(→ page 34)</p> <p>33. VOL./FOCUS (+)(-) Button
(→ page 26)</p> <p>34. D-ZOOM/ZOOM (+)(-) Button
(→ page 30)
("ZOOM" Button does not work on this series of projectors)</p> <p>35. SHUTTER Button
(not available on this series of projectors)</p> <p>36. LENS SHIFT Button
(not available on this series of projectors)</p> <p>37. PICTURE Button
(→ page 89)</p> <p>38. DISPLAY Button
(→ page 100)</p> <p>39. ASPECT Button
(→ page 95)</p> <p>40. COLOR Button
(→ page 91)</p> <p>41. 3D Set. Button
(→ page 99)</p> <p>42. SETUP Button
(→ page 109)</p> <p>43. CTL Button
(→ page 34)</p> <p>44. ECO Button
(→ page 31)</p> <p>45. INFO Button
(→ page 134)</p> <p>46. HELP Button
(→ page 134)</p> |
|--|--|--|

* The ▲▼◀▶, L-CLICK and R-CLICK buttons work only when a USB cable is connected with your computer.

Battery Installation

1. Press the catch and remove the battery cover.
2. Install new ones (AA). Ensure that you have the batteries' polarity (+/-) aligned correctly.
3. Slip the cover back over the batteries until it snaps into place.

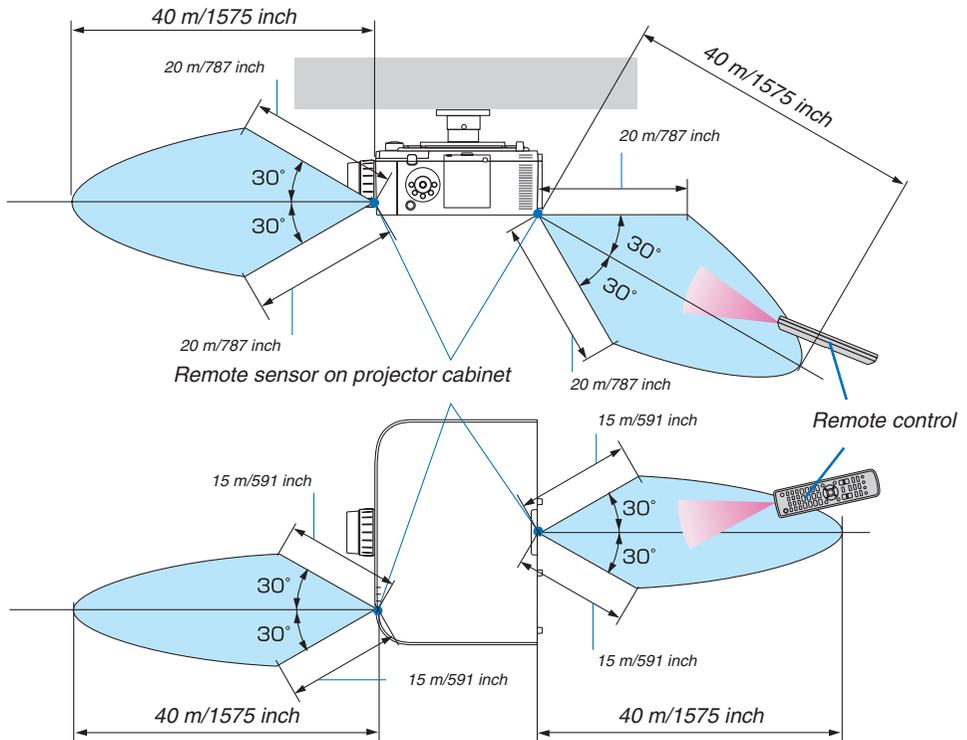
NOTE: Do not mix different types of batteries or new and old batteries.



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



- The infrared signal operates by line-of-sight up to a distance of above meters 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.

① Flow of Projecting an Image

Step 1

- *Connecting your computer / Connecting the power cord (→ page 15)*



Step 2

- *Turning on the projector (→ page 16)*



Step 3

- *Selecting a source (→ page 18)*



Step 4

- *Adjusting the picture size and position (→ page 20)*
- *Correcting keystone distortion [CORNERSTONE] (→ page 35, 102)*



Step 5

- *Adjusting a picture and sound*
 - *Optimizing a computer signal automatically (→ page 26)*
 - *Turning up or down volume (→ page 26)*



Step 6

- *Making a presentation*



Step 7

- *Turning off the projector (→ page 27)*



Step 8

- *After use (→ page 28)*

② Connecting Your Computer/Connecting the Power Cord

1. Connect your computer to the projector.

This section will show you a basic connection to a computer. For information about other connections, see “(2) Making Connections” on page 157.

Connect the display output terminal (mini D-sub 15 pin) on the computer to the computer video input terminal on the projector with a commercially-available computer cable (with ferrite core) and then turn the knobs of the connectors to secure them.

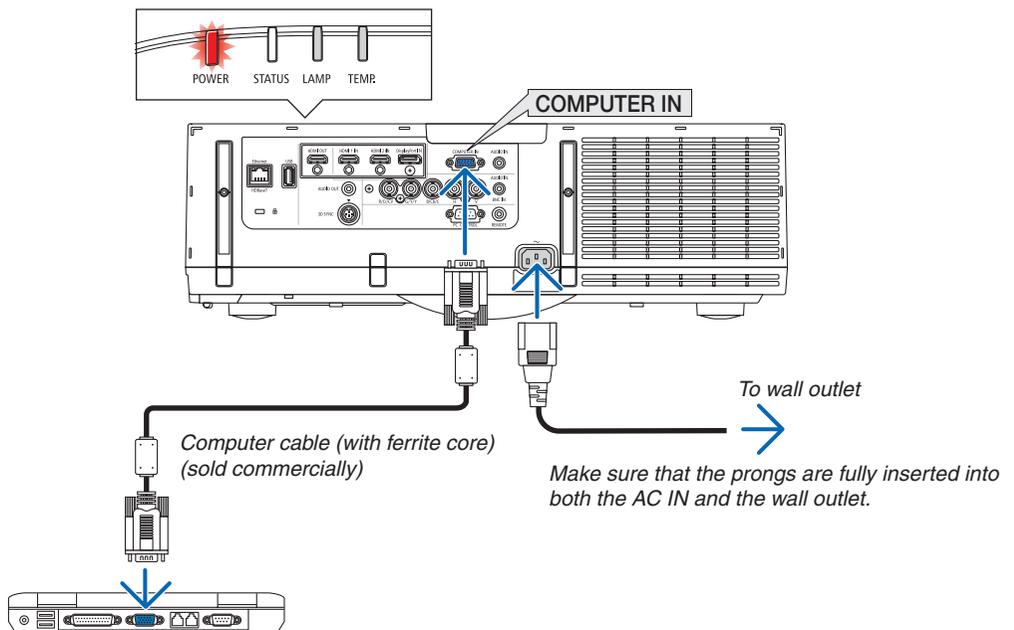
2. Connect the supplied power cord to the projector.

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

Upon connecting the power cable, the POWER indicator of the projector will light up in orange. If there are no input signals, the device will go into the standby mode after about 10 seconds and light up in red*.

The STATUS indicator will light off*.

* This will apply for both indicators when [NORMAL] is selected for [STANDBY MODE]. See the Power Indicator section. (→ page 270)



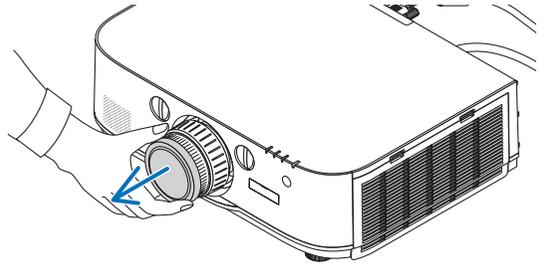
⚠ CAUTION:

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.

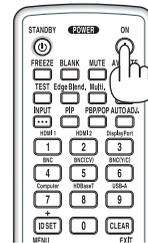
3 Turning on the Projector

1. Remove the lens cap.



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

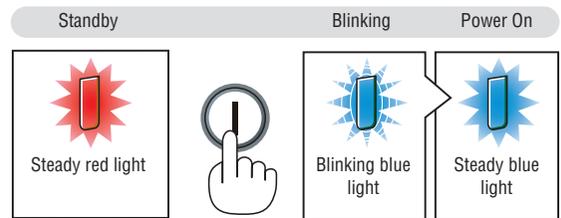
The POWER indicator will light up in blue from red and then start blinking. After that, the image will be projected onto the screen.



TIP:

- When the message “PROJECTOR IS LOCKED! ENTER YOUR PASSWORD.” is displayed, it means that the [SECURITY] feature is turned on. (→ page 38)
- When the ECO message is displayed, it means that [ON] is selected for [ECO MESSAGE]. (→ page 110)
- Pressing buttons such as power button and MENU button will make sound. To turn off the beep sound, select [OFF] for [BEEP] from the menu. (→ page 121)

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



(→ page 270)

NOTE: A blue screen (blue background) is displayed when no signal is being input (by factory default menu settings).

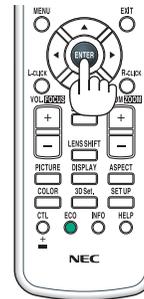
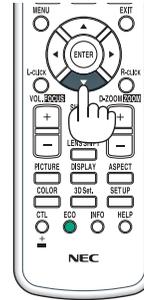
2. Projecting an Image (Basic Operation)

Note on Startup screen (Menu Language Select screen)

When you first turn on the projector, you will get the Startup menu. This menu gives you the opportunity to select one of the 29 menu languages.

To select a menu language, follow these steps:

1. Use the ▲, ▼, ◀ or ▶ button to select one of the 29 languages from the menu.



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 81 and 109)

NOTE:

- During projection, after shutting down the power supply (direct power off), wait for about 1 minute or longer before turning on the power again.
- Keep the lens cap off the lens while the projector's power is on. If the lens cap is on, it could be warped due to high temperature.
- 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 the internal system. If this happens, wait for the projector's internal components to cool down.
 - When the lamp reaches its end of usable life, the projector will not turn on. If this happens, replace the lamp.
 - 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 119)
 - If the lamp fails to light, and if the LAMP indicator flashes on and off in a cycle of six times, 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.
- Immediately after turning on the projector, screen flicker may occur. This is normal. Wait 3 to 5 minutes until the lamp lighting is stabilized.
- When the projector is turned on, it may take some time before the lamp light becomes bright.
- If you turn on the projector immediately after the lamp is turned off or when the temperature is high, the fans run without displaying an image for some time and then the projector will display the image.

4 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 INPUT button for 1 second or longer. The projector will search for the available input source and display it. The input source will change as follows:

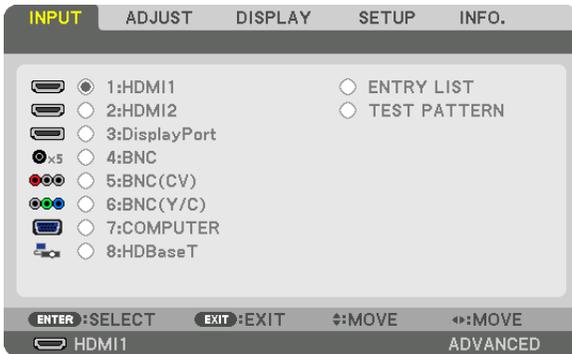
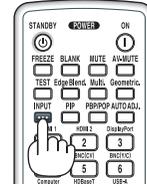
[HDBaseT Models]

HDMI1 → HDMI2 → DisplayPort → BNC → BNC(CV) → BNC(Y/C) → COMPUTER → HDBaseT → HDMI1 → ...

[MM Models]

Automatically checks for any input signal in the order HDMI 1 → HDMI 2 → Display Port → BNC → BNC(CV) → BNC(Y/C) → COMPUTER → USB-A. The input signal will be projected when it is detected.

- Press it briefly to display the [INPUT] screen.



- * This screen belongs to a HDBaseT model.

Press the ▼/▲ buttons to match the target input terminal and then press the ENTER button to switch the input. To delete the menu display in the [INPUT] screen, press the MENU or EXIT button.

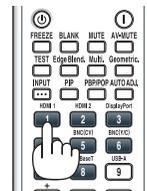
TIP: If no input signal is present, the input will be skipped.

Using the Remote Control

Press any one of the 1/HDMI 1, 2/HDMI 2, 3/DisplayPort, 4/BNC, 5/BNC(CV), 6/BNC(Y/C), 7/Computer, 8/HDBaseT*¹, or 9/USB-A*² buttons.

*¹ For MM models, "8/Ethernet" will be selected and the projector will switch to the Ethernet.

*² HDBaseT model cannot be used.



Selecting Default Source

You can set a source as the default source so that it will be displayed each time the projector is turned on.

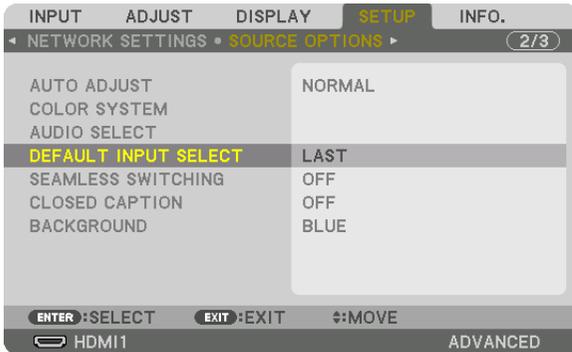
1. Press the MENU button.

The menu will be displayed.

2. Press the ► button to select [SETUP] and press the ▼ button or the ENTER button to select [BASIC].

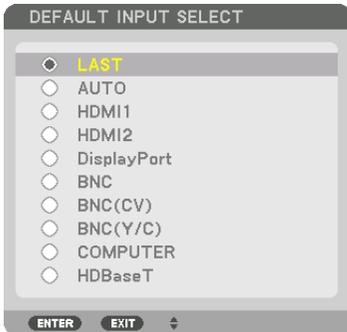
3. Press the ► button to select [SOURCE OPTIONS].

4. Press the ▼ button four times to select [DEFAULT INPUT SELECT] and press the ENTER button.



The [DEFAULT INPUT SELECT] screen will be displayed.

(→ page 128)



* This screen belongs to a HDBaseT model.

NOTE:

[MM Models]

- Ethernet cannot be detected automatically even if [DEFAULT INPUT SELECT] has been set to [AUTO]. Select [ETHERNET] in [DEFAULT INPUT SELECT] to enable Ethernet to be selected automatically when power to the projector is turned on.

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.

NOTE: Even when [AUTO] is turned on, the [HDBaseT] will not be automatically selected. To set your network as the default source, select [HDBaseT].

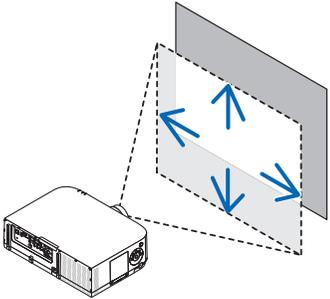
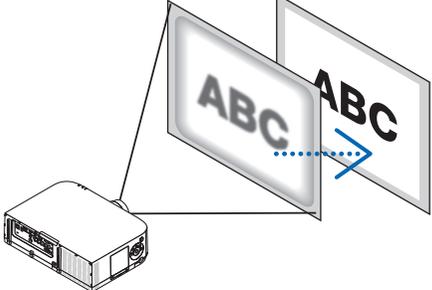
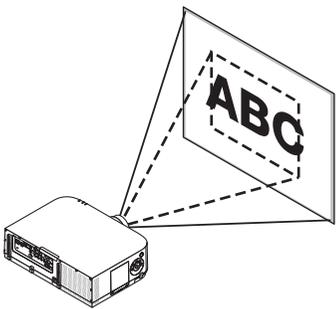
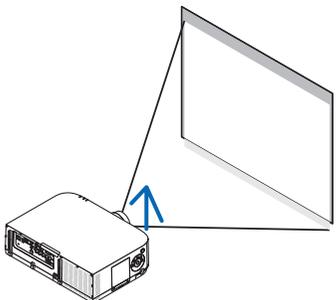
TIP:

- 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 SELECT] → page 130)
- On the Windows 7 keyboard, a combination of the Windows and P keys allows you to set up external display easily and quickly.

5 Adjusting the Picture Size and Position

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

In this chapter drawings and cables are omitted for clarity.

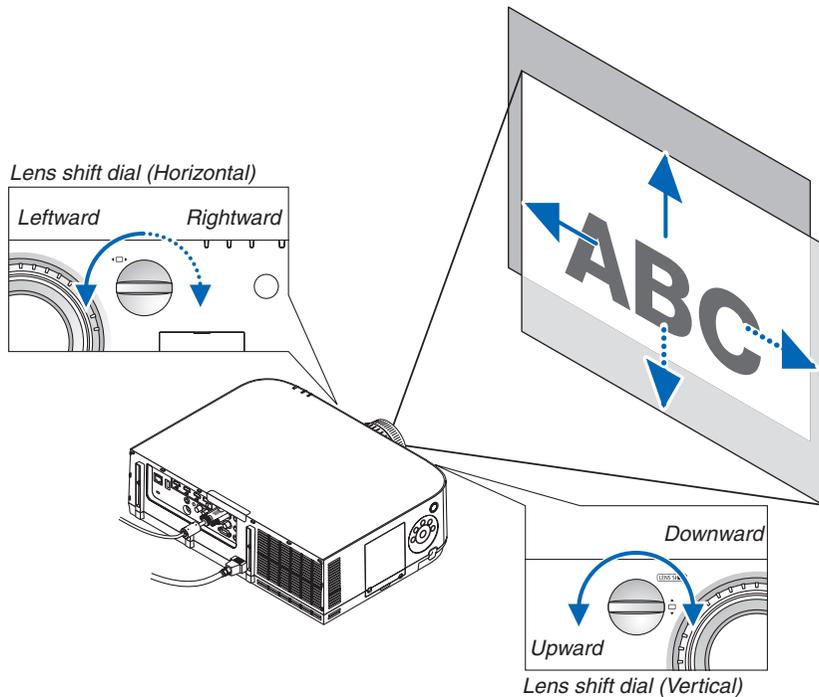
<p>Adjusting the projected image's vertical and horizontal position [Lens shift] (→ page 21)</p> 	<p>Adjusting the focus [Focus ring] (→ page 22)</p> 
<p>Finely adjusting the size of an image [Zoom lever/Zoom ring] (→ page 25)</p> 	<p>Adjusting the projected image's height and horizontal tilt [Tilt foot] *1 (→ page 25)</p> 

NOTE*1: Adjust the projected image's height using the tilt feet when you want to project the image at a position higher than the lens shift adjustment range.

Adjusting the vertical 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.



- **Turn the lens shift dials clockwise or counterclockwise.**

Vertical dial

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

Approximate turning range: About 6 turns counterclockwise, about 2 turns clockwise when the lens is at the center position.

Horizontal dial

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

Approximate turning range: About 1 turn counterclockwise, about 1 turn clockwise when the lens is at the center position.

NOTE:

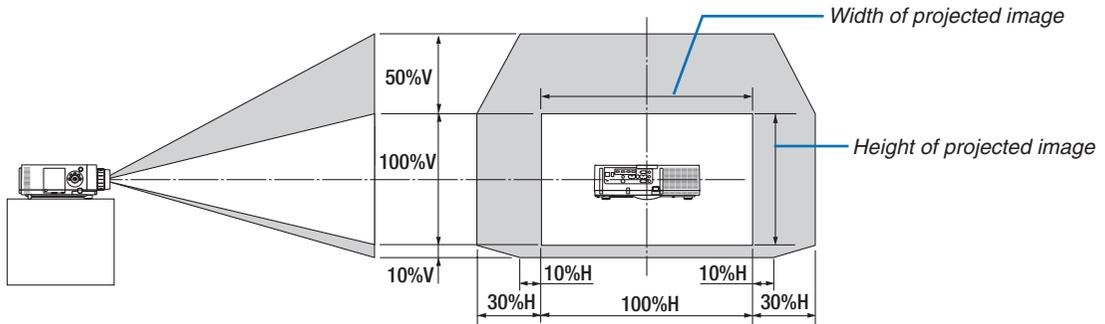
- The dials can be turned more than one full turn, but the projection position cannot be moved more than the range indicated on the following page.
- If the lens is shifted to the maximum in the diagonal direction, the edges of the screen will be dark or shaded.
- The vertical shift adjustment must be 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.
- The lens shift function cannot be used when using the separately sold NP11FL lens.

2. Projecting an Image (Basic Operation)

TIP:

- The diagram below shows the lens shift adjustment range (projection format: desk/front) of the WUXGA type (excluding the lens unit NP30ZL). Use the tilt foot if you wish to raise the projection position beyond this. (→ page 25)
- Refer to Page 257 for the lens shift adjustment range of the WXGA type/XGA type and for ceiling hanging/front projection.

PA622U/PA522U

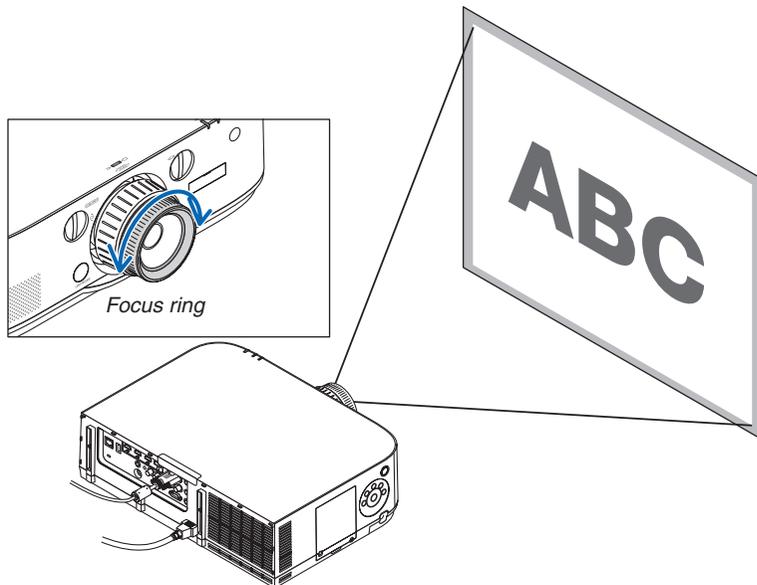


Description of symbols: V indicates vertical (height of the projected image), H indicates horizontal (width of the projected image).

Focus

Applicable lens: NP12ZL/NP13ZL/NP14ZL/NP15ZL

Use the FOCUS ring to obtain the best focus.

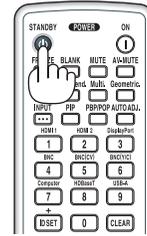


8 Turning off the Projector

To turn off the projector:

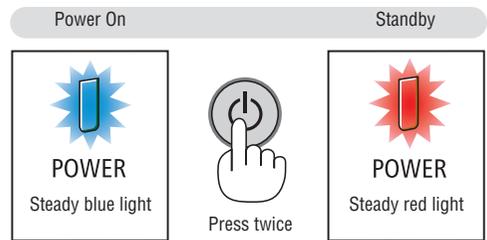
1. First, press the  (POWER) button on the projector cabinet or the STANDBY button on the remote control.

The [POWER OFF / ARE YOU SURE ? / CARBON SAVINGS- SESSION 0.000[g-CO2]] message will appear.



2. Secondly, press the ENTER button or press the  (POWER) or the STANDBY button again.

The lamp will go off and the power supply will be cut. At this point, if there are no input signals, the projector will go into the standby mode after about 10 seconds. When in standby mode, the POWER indicator will light red and the STATUS indicator will light off when [NORMAL] is selected for [STANDBY MODE].



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.
- You cannot turn off the power for 60 seconds immediately after turning it on and displaying an image.
- Do not unplug the power cord from the projector or from the power outlet while an image is being projected. Doing so could deteriorate the projector's AC IN terminal or the power plug's contact. To turn off the AC power while an image is being projected, use the power strip's switch, the breaker, etc.
- Do not disconnect the AC power supply to the projector within 10 seconds of making adjustment or setting changes and closing the menu. Doing so can cause loss of adjustments and settings.