

**DLP Cinema® Projector**

**NEC**

# **User's Manual**

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DLP Cinema® Projector

**NC1000C**

**NEC Display Solutions, Ltd.**

Model No.  
NP-NC1000C

# Important Information

**Precautions:** Please read this manual carefully before using your **NC1000C** and keep the manual handy for future reference.

The NC1000C (projector unit) is called the “projector”, and the NP-90MS02 (integrated media server) is called the “media block” or “IMB” in this manual.

- DLP, DLP Cinema and their respective logos are trademarks or registered trademarks of Texas Instruments.
- Microsoft, Windows and Internet Explorer are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Java is a registered trademark of Oracle and/or its affiliates.
- Other product names and manufacturer names described in this manual are the registered trademarks or trademarks of their respective companies.
- The display screens and illustrations shown in this manual may differ slightly from the actual ones.
- 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” inside the “about GPL&LGPL” folder on the supplied CD-ROM.



## WARNING

TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.



## CAUTION

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT OPEN COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any part inside of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

## DOC compliance Notice

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

## Machine Noise Information Regulation - 3. GPSGV,

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



## WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.



## CAUTION

- In order to reduce any interference with radio and television reception use a signal cable with ferrite core attached. Use of signal cables without a ferrite core attached may cause interference with radio and television reception.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the installation manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## Important Safeguards

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

## Installation

1. Consult your dealer for information about transporting and installing the projector. Do not attempt to transport and install the projector yourself.  
The projector must be installed by qualified technicians in order to ensure proper operation and reduce the risk of bodily injury.
2. Place the projector on a flat, level surface in a dry area away from dust and moisture. Tilting the front of the projector up or down from level could reduce lamp life. Do not put the projector on its side when the lamp is on. Doing so may cause damage to the projector.
3. Do not place the projector in direct sunlight, near heaters or heat radiating appliances.
4. Exposure to direct sunlight, smoke or steam could harm internal components.
5. Handle your projector carefully. Dropping or jarring your projector could damage internal components.
6. To carry the projector, a minimum of four persons are required.
7. Do not hold the lens part with your hand. Otherwise the projector may tumble or drop, causing personal injury.
8. Do not place heavy objects on top of the projector.
9. Turn off the projector, and disconnect the power cable before moving the projector.
10. The cooling fan settings need to be configured when using the projector in a location at an altitude of approximately 5500 feet/1600 meters or higher. Consult your dealer in advance.
11. Do not install and store the projector in the below circumstances.  
Failure to do so may cause of malfunction.
  - In powerful magnetic fields
  - In corrosive gas environment
  - Outdoors

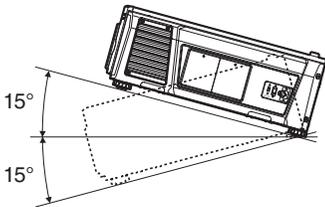
12. If you wish to have the projector installed on the ceiling;
- Do not attempt to install the projector yourself.
  - The projector must be installed by qualified technicians in order to ensure proper operation and reduce the risk of bodily injury.
  - In addition, the ceiling must be strong enough to support the projector and the installation must be in accordance with any local building codes.
  - Please consult your dealer for more information.

### WARNING

1. Do not cover the lens with the supplied lens cap or equivalent while the projector is on. Doing so can lead to distorting or melting of the cap and burning your hands due to the heat emitted from the light output.
2. Do not place any objects, which are easily affected by heat, in front of the projector lens. Doing so could lead to the object melting from the heat that is emitted from the light output.



Do not tilt the projector forward or back at a greater angle than 15°. Doing so may result in malfunction. When mounting the projector on the ceiling, select an appropriate option for [Fan Tilt Setting].



### Power Supply

1. The projector is so designed that it operates with the power supply voltage described below.
  - AC100–130V 12.2 to 9.0 A 50/60Hz Single-phase
  - AC200–240V 5.8 to 4.8 A 50/60Hz Single-phase
 Ensure that your power supply fits this requirement before attempting to use your projector.
2. The power cable is not included with the projector. Ask your dealer for the power cable to select and purchase. Use a power cable that meets the standards and power supply voltage of the country where you are using the projector. Refer to “2-2. Connecting the Power Cable” (page 17) for details on connecting the power cable.

3. Handle the power cable carefully. A damaged or frayed power cable can cause electric shock or fire.
  - Do not bend or tug the power cable excessively.
  - Do not place the power cable under the projector, or any heavy object.
  - Do not cover the power cable with other soft materials such as rugs.
  - Do not heat the power cable.
4. Placing the power cable and the signal cable closely to each other can cause beat noise. If this happens, keep the two separated so that beat noise is not generated. Beat noise is corruption of the picture often seen as a rolling band moving through the image.
5. Do not touch the projector during a thunder storm. Doing so can cause electrical shock or fire.
6. When installed on the ceiling, install the breaker in a location that is easy to reach by hand.

### Fire and Shock Precautions

1. Ensure that there is sufficient ventilation and that vents are unobstructed to prevent potentially dangerous concentrations of ozone and the build-up of heat inside your projector. Allow at least 12 inches (30cm) of space between your projector and a wall. In particular, clear a space of 27.6 inches (70 cm) or more in front of the air outlet on the rear surface and 19.8 inches (50 cm) or more in front of the air outlet on the lamp side.
2. 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 qualified service person.
3. Turn off the projector, unplug the power cable and have the projector serviced by a qualified service personnel under the following conditions:
  - When the power cable 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.
4. 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.
5. When using a LAN cable:
  - For safety, do not connect to the connector for peripheral device wiring that might have excessive Voltage.
6. Do not look into the lens while the projector is on. Serious damage to your eyes could result.



7. Do not try to touch the air outlets on the projector during normal operation as it is hot.

## Important Information

### Cleaning

1. Turn off the projector and unplug the power cable before cleaning the cabinet or replacing the lamp.
2. Clean the cabinet periodically with a cloth. If heavily soiled, use a mild detergent. Never use strong detergents or solvents such as alcohol or thinner.
3. Use a blower or lens paper to clean the lens, and be careful not to scratch or mar the lens.
4. Do not touch the projector or the power plug with wet hand. Doing so can cause electrical shock or fire.



#### CAUTION

1. Do not unplug the power cable from the wall outlet or projector when the projector is powered on. Doing so can damage the projector.
  - While projecting images
  - While cooling after the projector has been turned off.  
(The POWER button LED blinks in green while the fan is rotating, and "cooling..." is displayed on the LCD screen. The cooling fan continues to work for 90 seconds.)
2. Do not turn off the AC power for 90 seconds after the lamp is turned on and while the POWER indicator is blinking green. Doing so could cause premature lamp failure.
3. Use of a wall outlet with a 20 A or more circuit breaker is recommended.

### Caution on Carrying the Projector/Handling the Optional Lens

When shipping the projector with the lens, remove the lens before shipping the projector. Always attach the dust cap to the lens whenever it is not mounted on the projector. The lens and the lens shift mechanism may encounter damage caused by improper handling during transportation.

#### 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

#### Note for US Residents

The lamp in this product contains mercury. Please dispose according to Local, State or Federal Laws.

### Lamp Replacement

1. Use the specified lamp for safety and performance.
2. To replace the lamp, follow all instructions provided on page 52.

3. Due to the lamp being sealed in a pressurized environment, there is a small risk of explosion, if not operated correctly. There is minimal risk involved, if the unit is in proper working order, but if damaged or operated beyond the recommended hours, the risk of explosion increases. Please note that there is a warning system built in, that displays following message when you reach a preset operating time "Lamp1 OverTime" or "Lamp2 OverTime". When you see this message please replace the lamp 1 or lamp 2. If the lamp does explode, smoke will be discharged from the vents located on the back of the unit. Do not stand in front of the vents during the operation. This smoke is comprised of glass in particulate form and Mercury gas, and will not cause harm if kept out of your eyes. If your eyes have been exposed to this gas, please flush your eyes out with water immediately and seek immediate medical attention. Do not rub your eyes! This could cause serious injury.

#### A Lamp Characteristic

The projector has a discharge lamp for special purposes as a light source.

A lamp has a characteristic that its brightness gradually decreases with age. Also repeatedly turning the lamp on and off will increase the possibility of its lower brightness.



#### CAUTION

- DO NOT TOUCH THE LAMP immediately after it has been used. It will be extremely hot. Turn the projector off and then disconnect the power cable. Allow at least one hour for the lamp to cool before handling.
- When removing the lamp from a ceiling-mounted projector, make sure that no one is under the projector. Glass fragments could fall if the lamp has been burned out.

### Disposing of your used product



EU-wide legislation as implemented in each Member State requires that used electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste.

This includes projectors and their electrical accessories or lamps. When you dispose of such products, please follow the guidance of your local authority and/or ask the shop where you purchased the product.

After collecting the used products, they are reused and recycled in a proper way. This effort will help us reduce the wastes as well as the negative impact such as mercury contained in a lamp to the human health and the environment at the minimum level.

The mark on the electrical and electronic products only applies to the current European Union Member States.

### **For questions relating to unclear points or repairs**

Contact your dealer or the following support branch for questions relating to unclear points, malfunctions and repairs of the product.

### **In Europe**

Company Name: NEC Display Solutions Europe GmbH  
Address: Landshuter Allee 12-14, D-80637 Muenchen, Germany  
Telephone: +49 89 99699 0  
Fax Line: +49 89 99699 500  
Email Address: [info@nec-displays.com](mailto:info@nec-displays.com)  
WEB Address: <http://www.nec-display-solutions.com>

### **In North America**

Company Name: NEC Display Solutions of America, Inc.  
Address: 500 Park Boulevard, Suite 1100 Itasca, Illinois 60143, U.S.A.  
Telephone: +1 800 836 0655  
Fax Line: +1 800 356 2415  
Email Address: [pjtechsupport@necdisplay.com](mailto:pjtechsupport@necdisplay.com)  
WEB Address: <http://www.necdisplay.com/>

### **In China**

Company Name: NEC Solutions (China) Co., Ltd.  
Address: Rm 1903, Shining Building, 35 Xueyuan Rd, Haidian District Beijing 100191, P.R.C.  
Telephone: +8610-4008-900-678  
Email Address: [nec-support@nec.cn](mailto:nec-support@nec.cn)

### **In Hong Kong and Taiwan**

Company Name: Strong Westrex, Inc.  
Address: Room 4108 China Resources Building, No. 26 Harbour Road, Wanchai, Hong Kong  
Telephone: +852 2827 8289  
Fax Line: +852 2827 5993  
Email Address: [Felix.chen@btn-inc.com](mailto:Felix.chen@btn-inc.com)

### **In South Korea**

Company Name: Hyosung ITX Co., Ltd.  
Address: 1F, Ire Building, 2, Yangpyeong-dong 4-ga, Yeongdeungpo-gu, Seoul, Korea 150-967  
Telephone: +82-2-2102-8591  
Fax Line: +82-2-2102-8600  
Email Address: [moneybear@hyosung.com](mailto:moneybear@hyosung.com)  
WEB Address: <http://www.hyosungitx.com>

### **In Australia and New Zealand**

Company Name: NEC Australia Pty Ltd  
Address: 26 Rodborough Road Frenchs Forest NSW 2086  
Telephone: 131 632 (from anywhere in Australia)  
Email Address: [displays@nec.com.au](mailto:displays@nec.com.au)  
WEB Address: <http://www.nec.com.au>

### **In Thailand, Singapore, Malaysia, Indonesia and Philippines**

Company Name: Goldenduck International Co., Ltd.  
Address: 65 Soi Phutthamothon Sai 1, 21 Bangramad, Talingchan, Bangkok, Thailand 10170  
Telephone: +66-2887-8807  
Fax Line: +66-2887-8808  
Email Address: [contact@goldenduckgroup.com](mailto:contact@goldenduckgroup.com)

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# 1.

# What's in the Box? and the Names of the Projector Parts

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## 1-1. Features

- **DLP Cinema® projector**

Complies with the strict projection standards defined by the Digital Cinema Initiatives (DCI) industry group in the United States using leading imaging technology of NEC. It also supports 3D projection and high frame rates (HFR).

- **Reduced installation space and increased freedom through a more compact and lightweight body**

By employing a compact 0.69" DLP Cinema chip, the DLP Cinema projector is compact and lightweight with dimensions of 621mm (wide) × 798mm (deep) × 314mm (high) and weight of approximately 44kg.

The projector does not need to be connected to an external exhaust duct. It also supports installation on both the floor and ceiling. Therefore the projector delivers reduced installation space and improved freedom. A wide variety of optional lenses (sold separately) are also available for the projector in order to support a wide variety of installation methods (a lens is not mounted when the projector is shipped from the factory).

- **Reduced maintenance time through the lamp replacement at the unit level**

The lamps can be replaced at the unit level. This method makes the lamp replacement easier and greatly reduces the time for maintenance work. The projector operates while keeping power consumption to a minimum through the adoption of a high-pressure mercury lamp.

By employing a two lamp system, even if one lamp is extinguished, projection can continue using the other lamp although the brightness is degraded (the projector does not comply with DCI standards when using only a single lamp).

- **Equipped with easy to use functions**

(1) Equipped with a lens memory function and light memory function that makes it possible to use one touch adjustment settings

The projector is equipped with a lens memory function that saves the zoom position and the shift position of the lens and a light memory function that saves the brightness setting for each input signal. This allows you to project using preconfigured settings simply by selecting the signal even if you are projecting multiple different input signals with different screen size and brightness settings (refer to "6-9. Related products list" (page 84) for details on the lenses that support the lens memory function).

## 1. What's in the Box? and the Names of the Projector Parts

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- (2) Frequently used titles can be registered in preset buttons

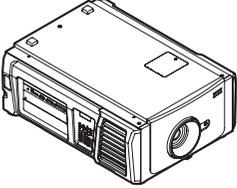
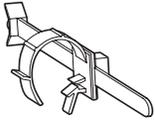
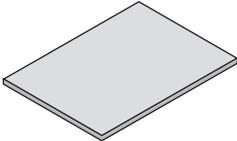
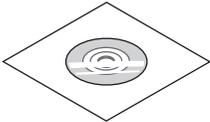
The projector has been equipped with 16 preset buttons that make it easy to select registered title (input signal). To this projector, 100 titles at most can be registered (input signal registration). Among the registered titles, any 16 titles can be assigned to the preset buttons.

- (3) You can operate and configure the projector via a network from a PC

You can operate and configure the projector via a network from a PC by using the separately supplied software Digital Cinema Communicator (DCC) for S2.

# 1-2. What's in the Box?

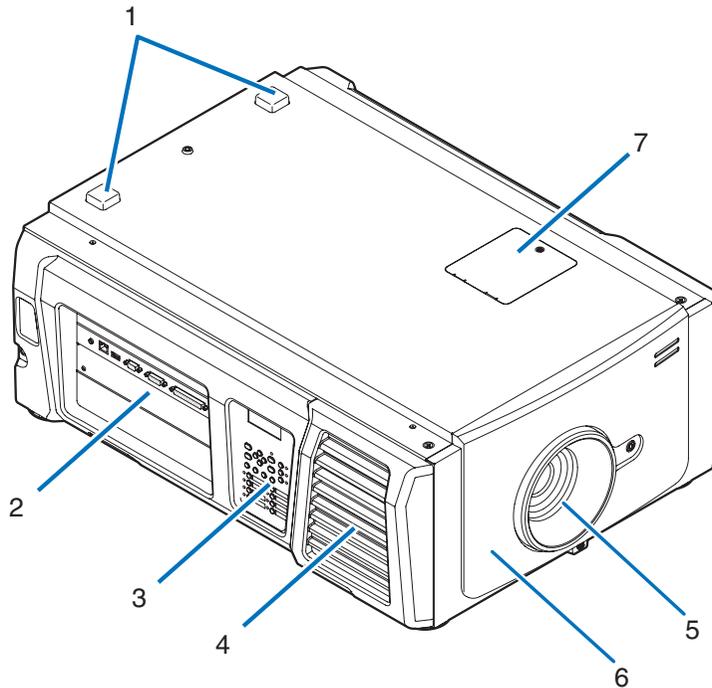
Check the content of the accessories.

<input type="checkbox"/> Projector 	<input type="checkbox"/> Power cable stopper 
<input type="checkbox"/> Dust cap for lens 	<input type="checkbox"/> Dummy bracket 
<input type="checkbox"/> Service door key x 2 	<input type="checkbox"/> Important Information 
<input type="checkbox"/> CD-ROM (User's Manual) 	

.....  
**TIP** In the event that you did not receive all of the accessories outlined above, or some are damaged, contact your dealer/distributor.  
Differs slightly from the drawings in this manual, but there is no problem in actual use.  
.....

## 1-3. Names of the Projector Parts

### 1-3-1. Front of the Projector



#### 1. STATUS indicator

These indicate the status of the projector. When the projector is operating normally, these light/blink in green or orange. When an error occurs, they light/blink in red. When an error occurs, check the contents of the display on the LCD screen. (See page 67)

#### 2. Connection terminals

Various image signal cable are to be connected here. (See page 13)

You can expand signal input terminals by installing the optional board. (See page 84).

Contact your dealer/distributor for more information on separately sold optional products.

#### 3. Control panel

On the control panel, power to your projector is turned on or off, titles are selected, and various adjustments are made of projected screen. (See page 14)

#### 4. Air inlet / Air filter

The air inlet for cooling inside the projector. Do not cover.

An air filter is attached over the air inlet to prevent dust. Refer to "5-3. Replacing the Lamp and the Air Filter" (page 52) on how to replace the air filter.

#### 5. Lens (optional)

Images are projected from the lens. Request your dealer/distributor to install or replace the lens.

#### 6. Interlock connector (inside front of projector)

This is the connector for the projector safety device. This is used to control the projector from an external source. Consult with your dealer/distributor about using this.

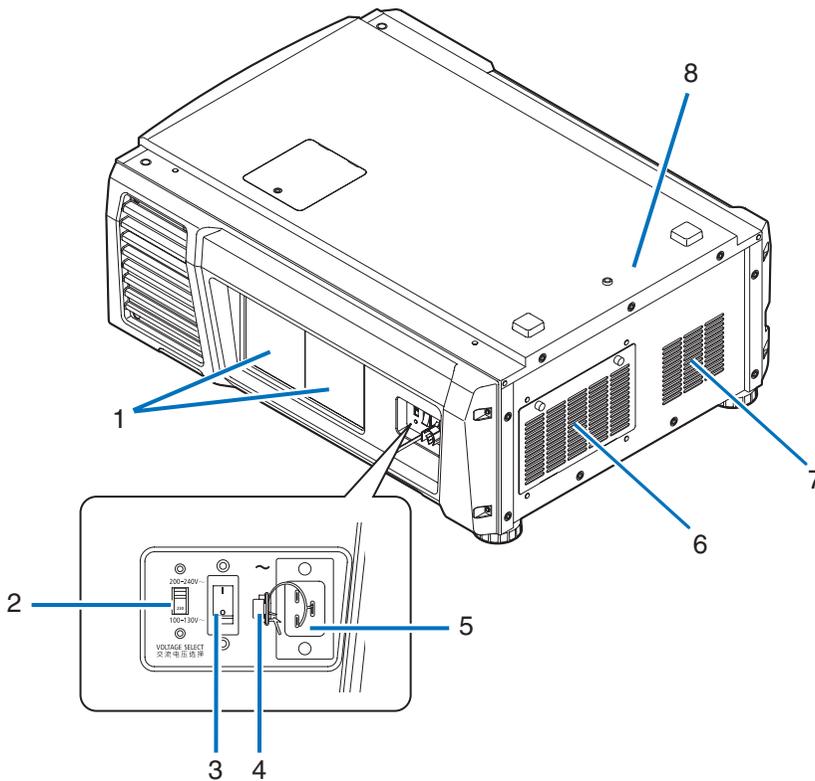
#### 7. Notch filter cover

Remove the cover when replacing the notch filter. Contact your dealer/distributor for details on replacement notch filters.

## 1. What's in the Box? and the Names of the Projector Parts

**NOTE** Do not cover the air inlets and outlet while the projector is in operation. Insufficient ventilation leads to a rise of the internal temperature and may cause a fire or malfunction.

### 1-3-2. Rear of the projector



#### 1. Lamp cover

This opens to allow the lamp to be replaced. Refer to "5-3. Replacing the Lamp and the Air Filter" (page 52) on how to replace the lamp.

#### 2. VOLTAGE SELECT switch

Can be switched to match the voltage of the power supply. (See page 17)

#### 3. Main power switch

While AC power is being supplied, set the main power switch to ON position (1), then your projector will enter a standby state.

#### 4. Power cable stopper

Prevents the power plug from falling out from the projector.

#### 5. AC input

Connects to the AC power cable. The AC power cable is not an accessory. Consult with your dealer/distributor about the AC power cable.

#### 6. Air inlet / Air filter

The air inlet for cooling inside the projector. Do not cover.

An air filter is attached over the air inlet to prevent dust. Refer to "5-3. Replacing the Lamp and the Air Filter" (page 52) on how to replace the air filter.

#### 7. Air Outlet

The air outlet to exhaust heat inside the projector. Do not cover.

#### 8. Buzzer (inside rear of projector)

The buzzer rings when the power is turned on or an error has occurred.

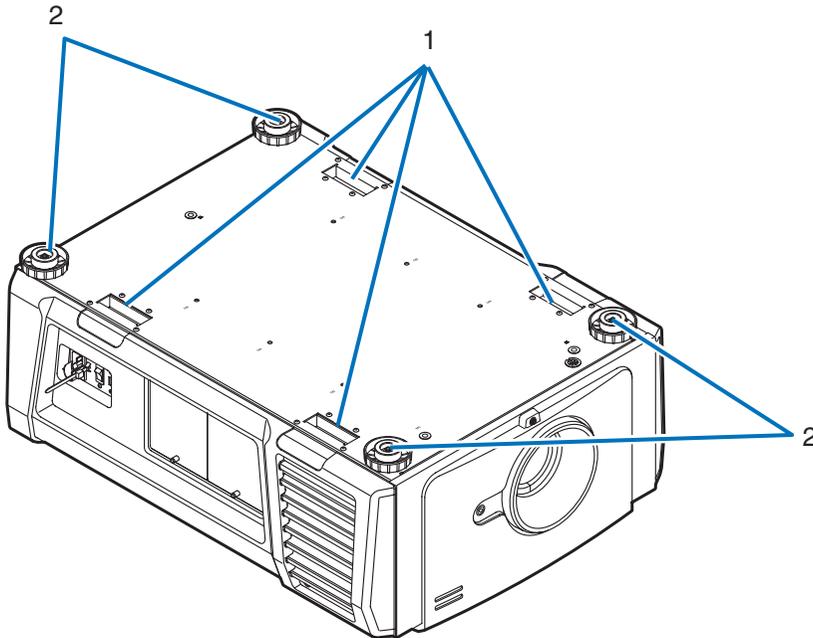
## 1. What's in the Box? and the Names of the Projector Parts

**NOTE** Do not cover the air inlets and outlet while the projector is in operation. Insufficient ventilation leads to a rise of the internal temperature and may cause a fire or malfunction.

**⚠ CAUTION:**

DO NOT TOUCH THE LAMP immediately after it has been used. It will be extremely hot. Turn the projector off and then disconnect the power cable. Allow at least one hour for the lamp to cool before handling.

### 1-3-3. Bottom of the projector



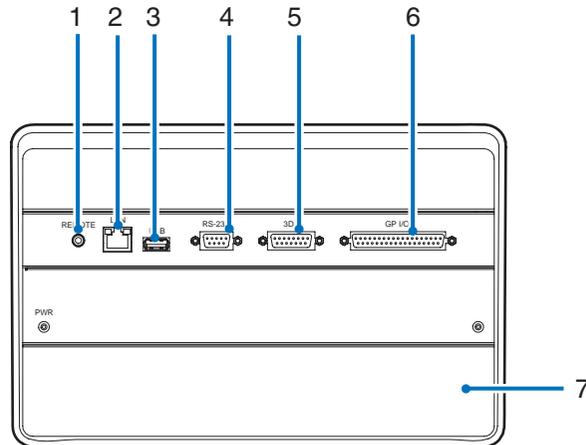
**1. Handle (4 locations)**

Handles for moving the projector.

**2. Level adjusters (in four positions)**

In the ordinary installation, you can adjust the projector inclination at 4 positions.

### 1-3-4. Connection terminals



**1. Service terminal (REMOTE) (Stereo mini)**

This terminal is used for service purpose only.

**2. Ethernet port (LAN) (RJ-45)**

The port for interfacing with an image signal server or controlling the projector from a PC via a network. Connect the projector and the PC with a commercially available Ethernet cable (10/100/1000Base-T).

**3. USB port (USB) (type A)**

The port for the projector maintenance.

**4. PC control terminal (RS-232) (D-Sub 9P)**

The terminal for operating the projector from a PC via an RS-232C or for service personnel to set data for the projector. Connect the projector and the PC with a commercially available RS-232C straight cable.

**5. 3D terminal (3D) (D-Sub 15P)**

The terminal for connecting a 3D image system to the projector. (See page 83)

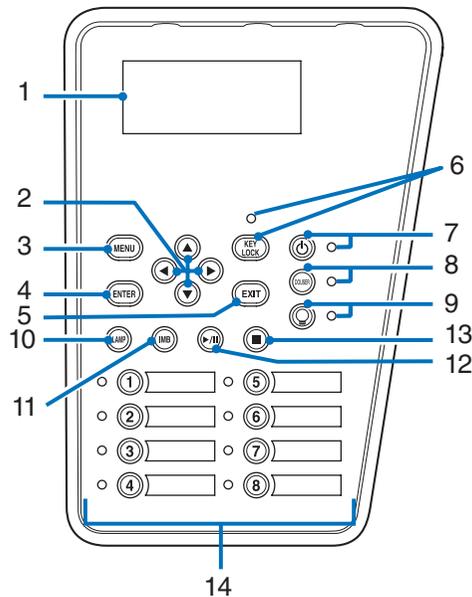
**6. External control terminal (GP I/O) (D-Sub 37P)**

The terminal for externally controlling the projector or connecting a 3D image system to the projector. (See page 78)

**7. Slot**

The slot is used for an image media block (IMB). Contact your dealer/distributor for an installation of IMB. Refer to the IMB instruction manual for details on IMB.

## 1-3-5. Control panel



### 1. LCD screen

The LCD screen displays menus and setting values for the projector operations.

### 2. ▲/▼/◀/▶ (UP/DOWN/LEFT/RIGHT) buttons

Press these buttons to select a menu item while a menu is displayed.

### 3. MENU button

Press this button to display the menu for various settings and adjustments. (See page 42)

### 4. ENTER button

Press this button to select the menu item.

### 5. EXIT button

Press this button to return to the previous menu item.

### 6. KEY LOCK button

Press this button to lock (KEY LOCK) the buttons on the control panel. Buttons on the control panel do not function while KEY LOCK is on.

Pressing the KEY LOCK button for one second or longer while KEY LOCK is off locks the buttons.

Pressing the KEY LOCK button for one second or longer while KEY LOCK is on unlocks the buttons. (See page 33)

**NOTE** KEY LOCK becomes automatically on if no control panel operation takes place in the standby state for 30 seconds by default. (See page 33)

### 7. POWER button

Press this button for more than three seconds to turn on or off (standby) the projector. (See page 66)

In order to start up the projector, turn on the main power switch for the projector to set the projector in the standby state. (See page 24)

### 8. DOUSER button

Press this button to open and close the douser. (See page 66)

### 9. LAMP ON/OFF button

Press this button for three seconds or longer to turn on or off the lamp while the projector is on. (See page 34)

### 10. LAMP button

Press this button to display the lamp adjustment menu. (See page 31)

## 11. IMB button (planned to be supported in a future update)

This button is operable when the media block is installed in the projector.  
Press this button to display the operation menu of the media block.

## 12. Play/pause button (planned to be supported in a future update)

This button is operable when the media block is installed in the projector.  
Press this button to play or pause the image contents.

## 13. Stop button (planned to be supported in a future update)

This button is operable when the media block is installed in the projector.  
Press this button to stop playing the image contents.

## 14. Preset buttons

Press the preset button to select a title (input signal) assigned to each button. Up to 100 titles (input signals) can be registered to this projector, and any 16 titles from them can be assigned to the preset button. Please request your dealer to register and change the titles of the buttons as required.

The preset button indicators show their assigned title or selection status. (See page 65)



**TIP** To select a title allocated to one of the preset buttons, use the following procedure.

- To select a title allocated to one of "Preset Button1" to "Preset Button8"  
Press the button which corresponds to the number of the preset button (button <1> to <8>).
  - Press the <1> button to select the "Preset Button1".
  - Press the <8> button to select the "Preset Button8".
- To select a title allocated to one of "Preset Button9" to "Preset Button16"  
Press the preset button (button <1> to <8>) while holding down the UP button.
  - Press the <1> button while holding down the UP button to select the "Preset Button9".
  - Press the <8> button while holding down the UP button to select the "Preset Button16".



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# 2.

## Installation and Connection

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### 2-1. Steps for setting up and connecting

Use the following steps for setting up your projector:

- **Step 1**

Setup the screen and projector. (Contact your dealer to carry out the setup.)

- **Step 2**

Connect the power cable to the projector. (See page 17)

- **Step 3**

Connect cables to the image input terminals. (See page 22)

Connect cables to the various control terminals. (See page 22)

## 2-2. Connecting the Power Cable

The power cable is not included with the projector. Use a power cable that meets the standards and power supply voltage of the country where you are using the projector. Ask your dealer for the power cable to select and purchase.

 **WARNING:**

Carefully read the contents described in this section before connection and connect the cables according to the proper procedure. Inappropriate handling may cause fatal, serious or other bodily injuries due to fire or electric shock.

 **CAUTION:**

- Before connecting the power cables, check that the main power switch of the projector is turned off. Implement the connection with AC power shut off.
- Be sure to ground the equipment to ensure safety. Use a power cable that meets the standards and power supply voltage of the country where you are using the projector (page 75), and always connect the equipment to the ground. If the ground is not connected, it may cause electrical shocks.
- When connecting the power cable plugs to the AC IN and the electrical outlet, securely insert the plugs all the way in. If the connection between the power cable plug and the electrical outlet is loose, the plug area may generate heat, causing burns and accidents.
- Switch the power cable and power supply voltage of the projector to match the projector to the voltage of the electrical outlet you are connecting to. If selected incorrectly, it may cause damage or fires.

**NOTE**

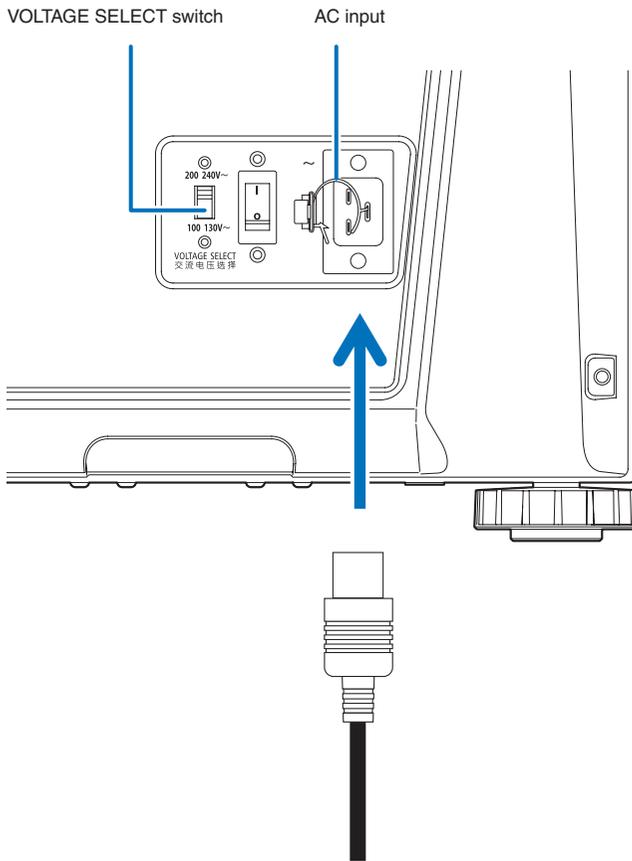
- Install the electric outlet nearby the projector main unit so that the power supply can be cut by unplugging the AC power cable.
- When plugging in or unplugging the AC power cable, make sure that the main power switch is pushed to the [O] position. Failure to do so may cause damage to the projector.
- Do not use a three-phase power supply. Doing so may cause malfunction.

## 2. Installation and Connection

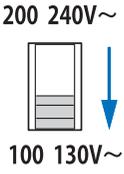
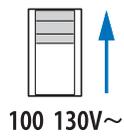
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### **1** Connect the AC power supply cable.

Connect the AC power supply cable to the projector.



**2** Set VOLTAGE SELECT switch according to the voltage being used.

Voltage of power to use	Power cable to use	Position of the VOLTAGE SELECT switch
AC100V-130V outlet	AC100V-130V power cable	"100 130V~" 
AC200V-240V (single phase) outlet	AC200V-240V power cable	"200 240V~" 

**3** Connect the power plug to the electrical outlet.

This completes the connection of the AC power supply cable.

## 2. Installation and Connection

### Using the supplied power cable stopper

To prevent the power cable from accidentally removing from the AC IN of the projector, attach the supplied power cable stopper to clamp the power cable.

#### CAUTION:

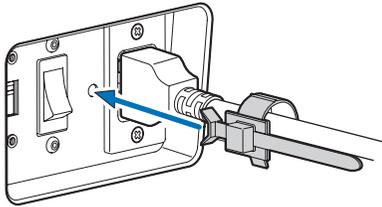
- To prevent the power cable from coming loose, make sure that all the prongs of the power cable are fully inserted into the AC IN terminal of the projector before using the power cable stopper to fix the power cable. A loose contact of the power cable may cause a fire or electric shock.
- Do not bundle the power cable. Doing this could cause heat or a fire.

#### NOTE

- Do not clamp the power cable with other cables. Doing so can generate noise, which can affect adversely the signal cable.
- Be careful not to insert the band inversely. Once the band is attached, it cannot be removed from the slot.

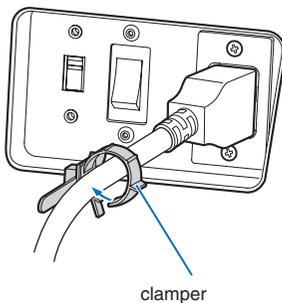
### Attaching the power cable stopper

- 1** Insert the end of band of the power cable stopper into the slot next to the AC IN on the terminal panel.

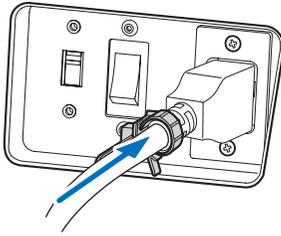


- 2** Use the power cable stopper to clamp the power cable.

Push the clasper to lock it.



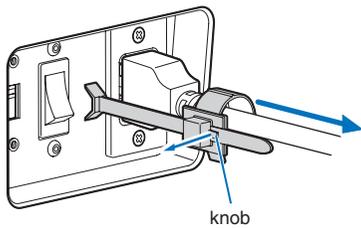
- 3 Slide the clamper to the hilt of the power cable.



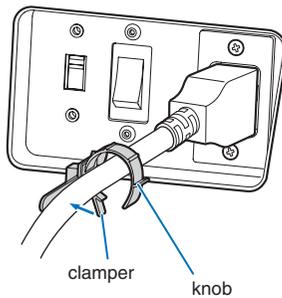
This completes the attachment of the power cable stopper.

### Removing the power cable from the power cable stopper

- 1 Push the clamper of the power cable stopper to unclasp it.



- 2 Push the power cable clamper to open it wide enough to pull out the power cable.



## 2-3. Connecting the image input terminals

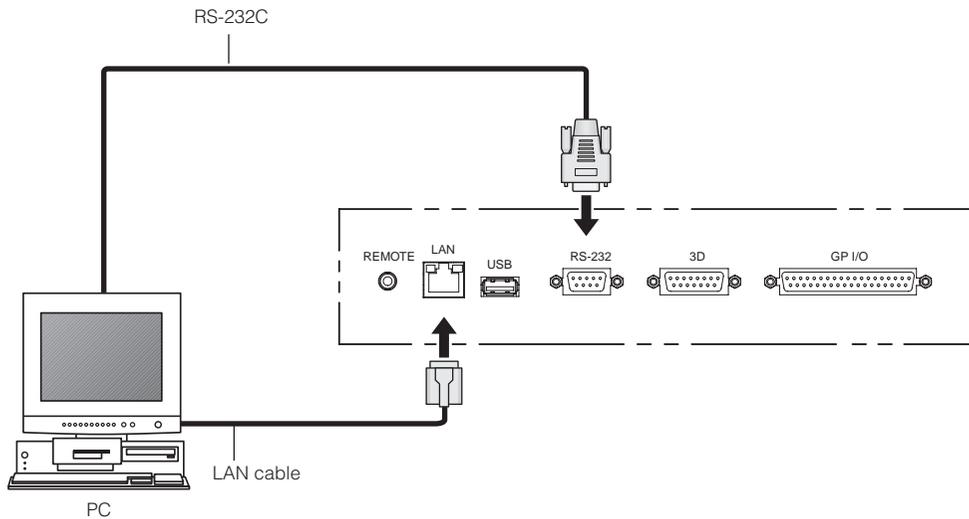
The video input ports that can be used with the IMB are as follows. Refer to the instruction manual of the IMB for details on connecting the video input ports with external equipment.

NP-90MS02	HDMI input port	x 1
	3G SDI input port	x 2

## 2-4. Connecting the various control terminal

For control, your projector comes with such ports as the PC control terminal and the Ethernet port (RJ-45).

- PC control terminal (RS-232) ----- Use this terminal when controlling the projector in serial connection from a PC.
- LAN port (LAN) ----- Use this port when controlling the projector in LAN connection from a PC.



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# 3.

## Projection of Images (Basic Operation)

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### 3-1. Steps of projecting images

- **Step 1**

Turn on the power to the projector. (See page 24)

- **Step 2**

Select the title of input signal. (See page 27)

- **Step 3**

Adjust the position and size of the projected screen. (See page 28)

- **Step 4**

Turn off the power to the projector. (See page 35)

### 3. Projection of Images (Basic Operation)

## 3-2. Turning your projector on

- Preparation:**
- Connect the power cable to the projector. (See page 17)
  - Supply AC power to the projector.

- NOTE**
- Turn off the main power switch to the projector when supplying or cutting AC power to the projector. Supplying or shutting down the AC power while the main power switch is on will damage the projector.
  - Turning on and off the projector involves a two-step operation; the “main power switch” and the “POWER button”.
  - Turning power on. (See this page)
    - [1] Turn on the “main power switch” of the projector.  
Your projector is set in a standby state.
    - [2] If KEY LOCK is on, press the KEY LOCK button for one second or longer.  
KEY LOCK is off and buttons on the control panel become operable.
    - [3] Press the POWER button three seconds or longer.  
Your projector is turn on.
  - Turning power off. (See page 35)
    - [1] Press the POWER button three seconds or longer.  
Your projector is set in a standby state.
    - [2] Turn off the “main power switch” of the projector.  
Your projector is turned off.

- 1** Remove the lens cap.
- 2** Check that the VOLTAGE SELECT switch is set to match the voltage of the power supply you are using.

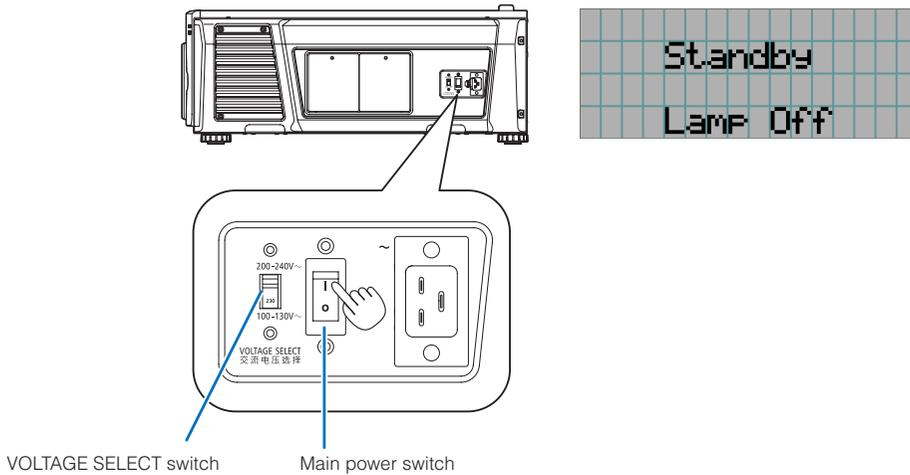
**CAUTION:**

You should select a power cable which is appropriate for the voltage of the electrical outlet you are connecting the projector to, and set the VOLTAGE SELECT switch properly. If the selection or setting is wrong, it may cause fires, or damage to the projector.

Voltage of power to use	Position of the VOLTAGE SELECT switch
AC100V-130V outlet	“100 130V~”  200 240V~ 100 130V~
AC200V-240V (single phase) outlet	“200 240V~”  200 240V~ 100 130V~

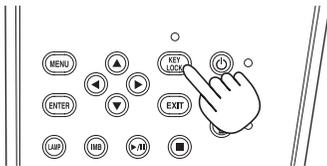
**3** Turn on the main power switch on the side of the projector.

A buzzer will ring on the projector. The POWER button indicator will blink green and the STATUS indicator will light orange (standby state). KEY LOCK becomes automatically on if no control panel operation takes place in the standby state for 30 seconds by default. Buttons on the control panel do not function while KEY LOCK is on. (See page 33)



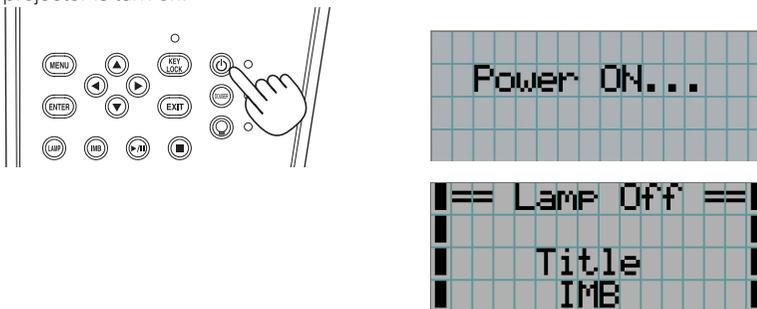
**4** If KEY LOCK is on, press the KEY LOCK button for one second or longer.

KEY LOCK becomes off. The KEY LOCK button indicator turns off and buttons on the control panel become operable. (See page 33)



**5** Press the POWER button on the control panel of your projector three seconds or longer.

Your projector is turn on.



When the startup of the projector completes, the status of the POWER button, DOUSER button, LAMP ON/OFF button, and preset button (button <1> to <8>) changes as follows.

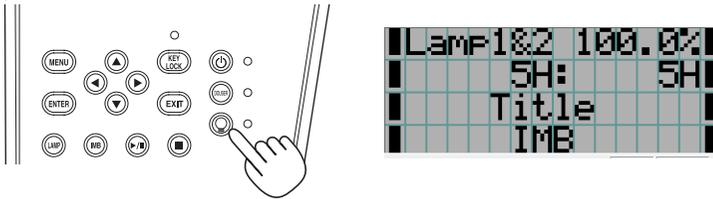
POWER button	Lit green
DOUSER button	Initial settings: Off (douser is off)
LAMP ON/OFF button	Initial settings: Blinking green (lamp is off)
Button <1> to <8>	The preset button which was last selected is lit green

### 3. Projection of Images (Basic Operation)

#### 6 Press the LAMP ON/OFF button on the control panel for three seconds or longer.

The lamp is turned on and the screen glows light about 15 seconds later. The LAMP ON/OFF button indicator blinks in cycles of 2 (and changes to steady green light 90 seconds later).

The douser is closed until the screen glows light (the DOUSER button indicator lights green). When the douser is open, the DOUSER button indicator turns off.



#### NOTE

- While your projector is on, be sure to have the lens cap removed from the lens. Otherwise, the lens cap may get deformed due to a heat buildup.
- In the following instances, the power to your projector cannot be turned on even if you press the POWER button.
  - When the inside temperature is abnormally high. The protective function prevents power from turning on. Wait some time (until the projector inside cools down) and then turn on the power.
  - When the STATUS indicator is blinking in red without the lamp lighting up after power-on. Your projector may be in trouble. Check the error display on the LCD screen and contact your dealer/distributor for instructions.
- Note that the image may sometimes flicker until the lamp has stabilized (5 to 10 minutes) after power-on. This is due to the characteristics of the lamp and is not trouble of your projector.

### 3-3. Selecting the title of input signal

This projector allows you to select pre-registered title (input signal) using the preset buttons on the control panel (up to 16 titles). Request your dealer/distributor for details on registering and changing titles. This section explains the steps for selecting registered titles.

- 1** Turn on the power to the image devices connected to the projector.
- 2** Press the MENU button.
- 3** Press the LEFT/RIGHT button to display "Title Select" on the LCD screen.

At each press of the LEFT/RIGHT buttons, the display will cycle as "Title Select" ↔ "Configuration" ↔ "(Title Setup)" ↔ "Information."



- 4** Press the DOWN button.

The title of the input signal is displayed.

- When you have made a wrong selection, press the UP button. A return will be made to the previous menu.



- 5** Press the LEFT/RIGHT buttons to display "Title of Signal to be Projected" on the LCD screen.
- 6** Press the ENTER button.

The title of the signal to be projected is selected.

- The (\*) mark on the LCD indicates that this is the currently selected item.

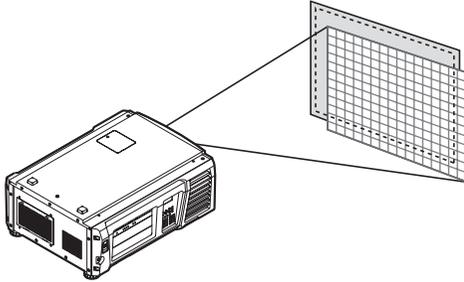


## 3-4. Adjusting the position and the size of projected screen

### 3-4-1. Displaying the test pattern

- 1 Press the MENU button, or select a test pattern from preset buttons (button <1> to <8>).

If you register the test patterns to the preset buttons (<1> to <8> buttons), select the test pattern according to "3-3. Selecting the title of input signal (See page 27)".



- 2 Press the LEFT/RIGHT button to display "Title Select" on the LCD screen.



- 3 Press the DOWN button.

The title of the input signal is displayed.



- 4 Press the LEFT/RIGHT button to display "TEST Pattern" on the LCD screen.

- 5 Press the DOWN button.

The LCD screen enters the mode where you can select a test pattern.



- 6 Press the LEFT/RIGHT button.

This switches the test pattern name displayed on the LCD screen.

- 7** Display on the LCD the name of the test pattern to be projected, then press the ENTER button.

The test pattern is displayed.



To cancel the test pattern display, select the title of the signal to project or select the "OFF" test pattern.



### 3-4-2. Adjusting the position of the projected screen (Lens shift)

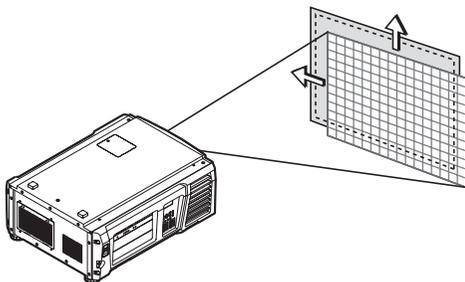
- 1** Press the MENU button.
- 2** Press the LEFT/RIGHT button to display "Configuration" on the LCD screen.
- 3** Press the DOWN button.
- 4** Press the LEFT/RIGHT button to display "Lens Control" on the LCD screen.
- 5** Press the DOWN button.

The screen ("Lens Position") to adjust the position of the projected screen is displayed.



- 6** Press the UP/DOWN/LEFT/RIGHT button.

The position of the projected screen moves in the selected direction.



- 7** Press the EXIT button when adjustment is complete.

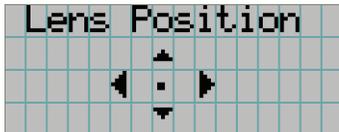
The display will return to a menu one level above (where "Lens Control" is displayed).

### 3. Projection of Images (Basic Operation)

#### 3-4-3. Adjustment of the size (zoom) and focus of the projected screen

- 1** Press the MENU button.
- 2** Press the LEFT/RIGHT button to display “Configuration” on the LCD screen.
- 3** Press the DOWN button.
- 4** Press the LEFT/RIGHT button to display “Lens Control” on the LCD screen.
- 5** Press the DOWN button.

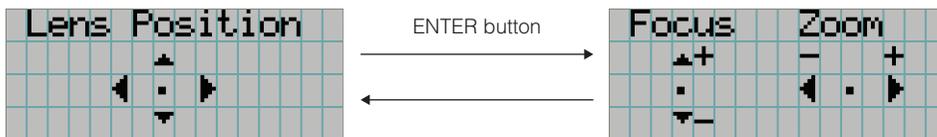
The screen (“Lens Position”) to adjust the position of the projected screen is displayed.



- 6** Press the ENTER button.

The screen to adjust the size and focus of the projected screen is displayed.

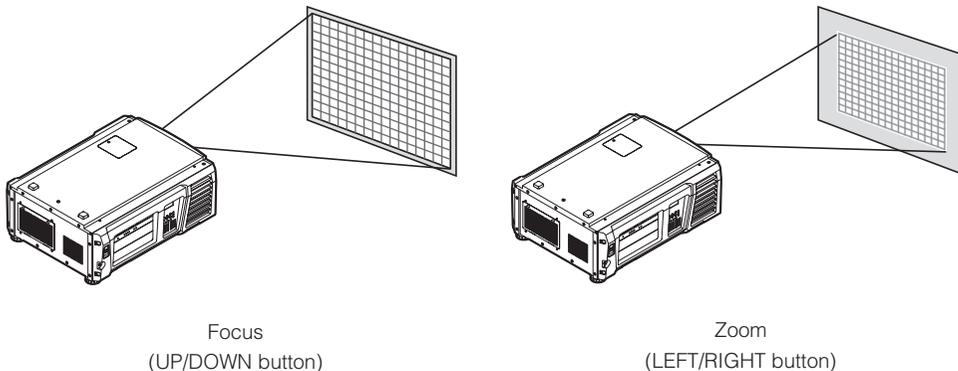
Press the ENTER button to switch the display between “Lens Position” and “Focus Zoom” adjustments.



- 7** Adjust the size and focus of the projected screen.

Press the UP/DOWN button to adjust the focus.

Press the LEFT/RIGHT button to adjust the size.



- 8** Press the EXIT button when adjustment is complete.

The display will return to a menu one level above (where “Lens Control” is displayed).

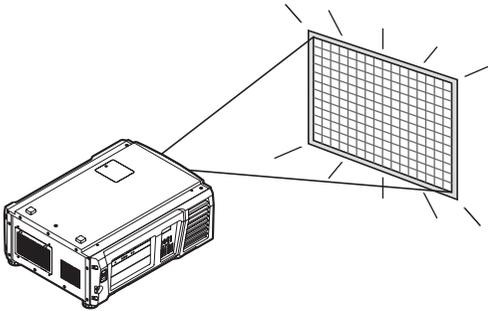
## 3-4-4. Adjusting the brightness of the projected screen (Lamp output)

**1** Press the LAMP button.

The screen to adjust the lamp output is displayed.



**TIP** Press the ENTER button to switch the display between “Lamp Setup (Adjust)” and “Lamp Setup (Lamp Mode)”. Note that while the LAMP ON/OFF button indicator is blinking green (page 66), you cannot use the lamp mode settings screen because the lamp cannot be turned off and the lamp mode cannot be set.

**2** Press the DOWN button.**3** Press the LEFT/RIGHT button to adjust the lamp output.

The specified adjustment value is applied.

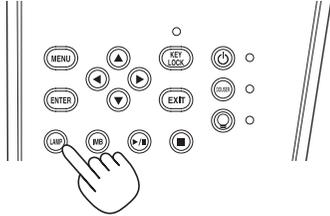
### 3. Projection of Images (Basic Operation)

#### 3-4-5. Adjusting the brightness of the projected screen (Lamp mode)

**NOTE** While the LAMP ON/OFF button indicator is blinking green (page 66), you cannot use the lamp mode settings screen because the lamp mode cannot be set. Wait until the LAMP ON/OFF button indicator changes from blinking to steady on.

**1** Press the LAMP button.

The screen to adjust the lamp output is displayed.

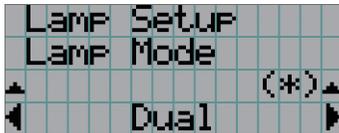


**2** Press the LAMP button while the lamp output adjustment screen is displayed.

The screen to select the lamp mode is displayed.

**TIP** Press the ENTER button to switch the display between "Lamp Setup (Adjust)" and "Lamp Setup (Lamp Mode)".

**3** Press the LEFT/RIGHT button to select the lamp to use.



Dual	Uses lamp 1 and lamp 2 at the same time.
Lamp 1	Uses only lamp 1 (lamp 2 is not used).
Lamp 2	Uses only lamp 2 (lamp 1 is not used).

**4** Press the ENTER button.

- If the lamp is on, the changed settings are applied immediately.
- If the lamp is off, the settings are applied the next time the lamp is turned on.

**NOTE** When the lamp mode is changed, the LAMP ON/OFF button indicator blinks green (See page 66). You cannot change the lamp mode while the LAMP ON/OFF button indicator is blinking. Wait until the LAMP ON/OFF button indicator changes from blinking to steady on.

## 3-5. Preventing misoperations

Buttons on the control panel can be locked (KEY LOCK) to prevent misoperations. Buttons on the control panel do not function while KEY LOCK is on. KEY LOCK must be off to operate these buttons.

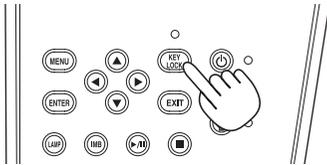
### NOTE

- KEY LOCK is automatically turned on in the following cases.
  - When the projector has entered the standby state by turning on the main power switch of the projector while the AC power is supplied.
  - When the projector has entered the standby state after turning off the power using the POWER button.
- The timing where KEY LOCK is turned on while the projector is in standby state depends on the "Auto Key Lock" setting in the adjustment menu.
  - When Auto Key Lock is enabled, KEY LOCK becomes automatically on if no control panel operation takes place in the standby state for 30 seconds. KEY LOCK becomes automatically on again even after KEY LOCK is turned off if no control panel operation takes place for 30 seconds.
  - When Auto Key Lock is disabled, KEY LOCK becomes automatically on when the projector enters the standby state; however, it stays off after KEY LOCK is turned off.

### 3-5-1. KEY LOCK setting

- Press the KEY LOCK button on the control panel for one second or longer.

KEY LOCK becomes on. The KEY LOCK button indicator lights orange. When you press a button on the control panel of the projector while KEY LOCK is on, "Panel is Locked. (KEY LOCK)" is displayed, and the button will not function. (See page 38)



### 3-5-2. Turning KEY LOCK off

- Press the KEY LOCK button for one second or longer while KEY LOCK is on.

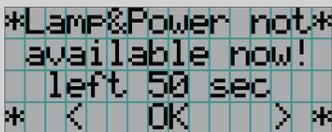
KEY LOCK becomes off. The KEY LOCK button indicator turns off.

## 3-6. Turning on/off the lamp with the projector turned on

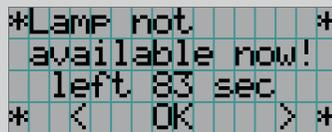
**NOTE** The indicators on the control panel blink when the following operations are carried out. (See page 65)

- When you turn the lamp on or change the lamp mode  
The indicators of the POWER button and the LAMP ON/OFF button blink green. The projector cannot be turned off while the POWER button indicator is blinking (in cycles of 2). The lamp cannot be turned off while the LAMP ON/OFF button indicator is blinking.
- When you turn the lamp off  
The LAMP ON/OFF button indicator blinks green. The lamp cannot be turned on while the LAMP ON/OFF button indicator is blinking.

If you operate the POWER button or LAMP ON/OFF button while the indicators are blinking, the LCD screen displays the warning screen below. The POWER button or LAMP ON/OFF button becomes operable when the amount of time remaining reaches 0.



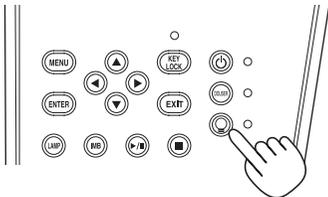
When you turn the lamp on or change the lamp mode



When you turn the lamp off

### 3-6-1. Turning off the lamp

- Press the LAMP ON/OFF button on the control panel for three seconds or longer.



### 3-6-2. Turning on the lamp

- Press the LAMP ON/OFF button on the control panel for three seconds or longer.

**TIP** The LCD screen displays “Lamp Lit Change” if any of the following events occurs when the lamp mode is set to “Dual”.

- One of the lamps has failed to turn on when you turn the lamps on
- One of the lamps has extinguished while the lamps are on

To once again light a lamp which has failed to turn on or extinguished, press both the LAMP ON/OFF button and the MENU button three seconds or longer. However, the lamp cannot be turned on again while the LAMP ON/OFF button indicator is blinking.

## 3-7. Turning your projector off

**NOTE** The indicators on the control panel blink when the following operations are carried out. (See page 65)

- When you turn the lamp on or change the lamp mode  
The indicators of the POWER button and the LAMP ON/OFF button blink green. The projector cannot be turned off while the POWER button indicator is blinking (in cycles of 2). The lamp cannot be turned off while the LAMP ON/OFF button indicator is blinking.

If you operate the POWER button or LAMP ON/OFF button while the indicators are blinking, the LCD screen displays the warning screen below. The POWER button or LAMP ON/OFF button becomes operable when the amount of time remaining reaches 0.

```
*Lamp&Power not*
available now!
left 50 sec
* <   OK   > *
```

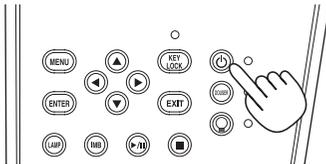
When you turn the lamp on or change the lamp mode

### 1 Press the POWER button on the projector control panel for three seconds or longer.

The lamp is turned off, the POWER button indicator blinks green, and the STATUS indicator blinks orange (cooling state).

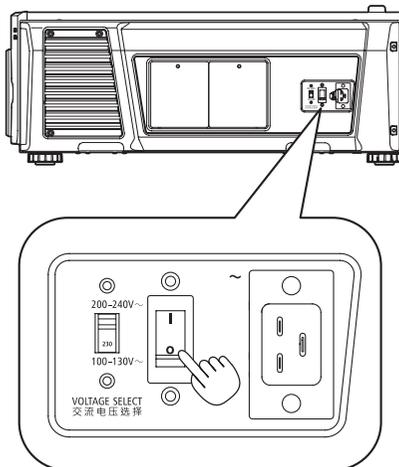
The fan will continue to rotate while cooling, and the amount of time remaining for cooling is displayed on the LCD screen. The cooling-off time is 90 seconds.

When the cooling is finished, the POWER button indicator turns off and the status indicator lights orange (standby state). KEY LOCK becomes automatically on if no control panel operation takes place in the standby state for 30 seconds by default. Buttons on the control panel do not function while KEY LOCK is on. (See page 33)



### 2 Wait till the projector enters standby state before turning off the main power switch of the projector.

The POWER button indicator is turned off and the main power is turned off.



### 3. Projection of Images (Basic Operation)

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#### **3** Turn off the AC power to the projector.

**NOTE** In the following instances, do not turn off the main power switch or disconnect the AC power. Doing so can damage the projector.

- While projecting images
- While the fan is running after the power is turned off (The cooling-off time is 90 seconds)

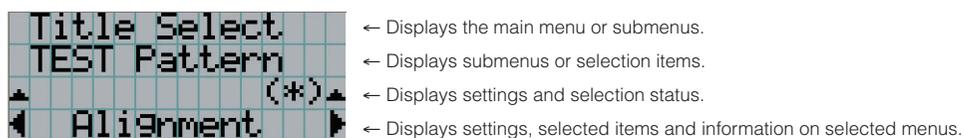
# 4. Using Menus

## 4-1. Basic operation with adjustment menus

To adjust the projector, display the menu on the LCD screen of the projector control panel.

### 4-1-1. Screen display

The menu display screen is composed of a menu display field (the upper two lines) and a setting item display field (the bottom two lines).



The meanings of symbols in the menu display screen are outlined below.

	Indicates that there is a menu of a higher level. Press the UP button to return to a menu one level above.
	Indicates that there is a selected item or menu at the same level. Press the LEFT/RIGHT button to display other selected items or menus.
	Indicates that there is a menu of a lower level. Press the DOWN button to display the menu one level below.
	Indicates that there are setting items of a higher or lower level. Press the UP button to return to a menu one level above. Press the DOWN button to display the setting item one level below.

## 4. Using Menus

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When not displaying menus, the following screen is normally displayed.

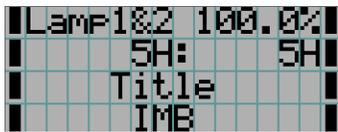
### When in standby

When the projector is in a standby state (the main power switch in on), the following is displayed.



### When power is turned on

When the power is turned on, the following is displayed.



← Displays the lamp mode and lamp output (%).

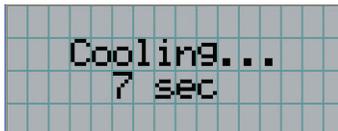
← Displays the lamp usage time. (Left: Lamp 1, Right: Lamp 2)

← Displays the selected title.

← Displays the selected video input port.

### When the power is turned off

When you press the POWER button on the control panel of the projector for 3 or more seconds, the projector starts cooling. When cooling finishes, the projector enters the standby mode. The amount of time remaining for cooling is displayed as shown below during cooling.



### When a button is pressed while the key lock function is on

If a button on the control panel is pressed while the key lock function is on, the following is displayed and the button will not function.



## 4-1-2. Operating menus

**Preparation:** Turn your projector on. (See page 24)

- 1 Press the MENU button on the control panel of your projector.

The menu is displayed in the LCD screen.



- 2 Press the LEFT/RIGHT buttons to display "Information."

At each press of the LEFT/RIGHT buttons, the display will cycle as "Title Select" ↔ "Configuration" ↔ "(Title Setup)" ↔ "Information."

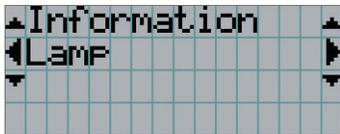


- 3 Press the DOWN button.

The submenu "Lamp" of "Information" is displayed.

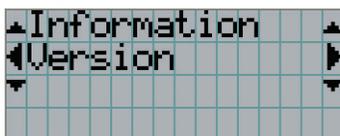
The menu item can be selected by pressing the ENTER button instead of the DOWN button.

To return to the previous state, press the UP button, or the EXIT button.



- 4 Press the LEFT/RIGHT button to select the submenu "Version."

At each press of the LEFT/RIGHT button, the display will cycle as "Lamp" ↔ "Lens Type" ↔ "Preset Button" ↔ "Usage" ↔ "Error Code" ↔ "Version" ↔ "IP Address" ↔ "Setup Date" ↔ "Option Status."



- 5 Press the DOWN button.

The submenu "System" another rank lower than "Version" is displayed.



## 4. Using Menus

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### 6 Press the DOWN button.

The submenu "BIOS" another rank lower than "Model" is displayed.



### 7 Press the LEFT/RIGHT button to select the submenu "Release Package."

At each press of the LEFT/RIGHT button, the display will cycle as "Model" ↔ "Serial No." ↔ "Release Package" ↔ "Kernel" ↔ "U-Boot" ↔ "System Files" ↔ "Cinema Firmware" ↔ "Cinema Data" ↔ "ICP Firmware" ↔ "ICP ConfigFile" ↔ "FMT FPGA" ↔ "Slave BIOS" ↔ "Slave Firmware" ↔ "Opt MCU" ↔ "Secure Processor" ↔ "Lens" ↔ "Ballast," and each version information is displayed.



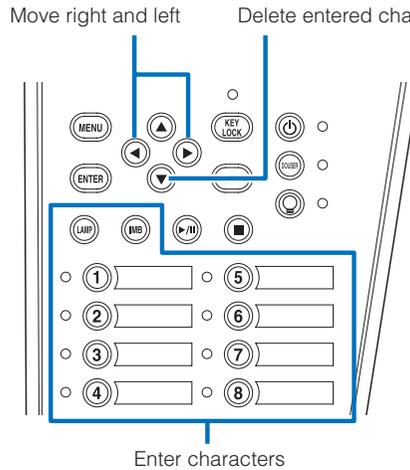
### 8 Press the UP button several times.

At each press of the UP button, the display will return to a menu one level above.

### 4-1-3. How to enter alphanumeric characters

Alphanumeric characters are entered for items, such as the log file of the specified period is written to USB memory. (See page 70)

Characters can be entered by pressing numeric buttons on the control panel on this projector.



Characters can be entered by pressing each button as shown in the following table.

- To delete a character during entry, press the DOWN button.

#### [Example of Entry]

To enter "XGA" for example, use the following procedure:

- Press the "8" button three times.  
V → W → X
- Press the RIGHT button.  
XG
- Press the "3" button.  
XG
- Press the RIGHT button.  
XGA
- Press the "1" button.  
XGA

Button	Entered character
1	A → B → C → 1 → a → b → c → ! → ↑
2	D → E → F → 2 → d → e → f → " → ↑
3	G → H → I → 3 → g → h → i → # → ↑
4	J → K → L → 4 → j → k → l → \$ → ↑
5	M → N → O → 5 → m → n → o → % → ↑
6	P → Q → R → 6 → p → q → r → & → ↑
7	S → T → U → 7 → s → t → u → ' → ↑
8	V → W → X → 8 → v → w → x → ( → ↑
LAMP	Y → Z → / → 9 → y → z → ? → ) → ↑
IMB	* → , → . → 0 → ; → : → + → - → ↑

## 4-2. Table of adjustment menus

Menus in parentheses are menus for our service personnel. Normally, these menus cannot be used.

Main menu	Submenu		Description	Reference page	
Title Select	"Title Memory Name"		Selects the title of the signal to be projected.	43	
	TEST Pattern		Selects the test pattern to be projected.	43	
Configuration	Lamp Setup	Adjust	Adjusts lamp brightness.	44	
		Lamp Mode	Selects the lamp to use.	44	
	Lens Control	Lens Position	Adjusts the position of the projected screen.	45	
		Focus Zoom	Adjusts the size and focus of the projected screen.	45	
	Reset	(FactoryDefault)	Returns the settings to their default values. Selects between preset buttons and titles only, LAN settings only and all settings.	-	
		Lamp Usage	Initializes the usage time of the lamp.	46	
		Filter Usage	Initializes the usage time of the air filter.	46	
		Filter Cleaning	Initializes the air filter usage time (for confirming the filter cleaning time).	46	
		(Fan Usage)	Initializes the usage time of the fan.	-	
		(Douser Count)	Resets the number of times the douser has been used.	-	
		(Setup)	Douser Setup	Sets the douser open/close state.	-
		Panel Key Lock	Locks the buttons on the projector's control panel so that they cannot be operated.	-	
		Auto Key Lock	Enables or disables Auto Key Lock.	-	
		3D Connector	Sets the signal input terminal for a 3D image system (3D terminal or GPI/O terminal). Sets the video input port for 3D video systems.	-	
		Unlit Mode	Sets the projector operation when the lamp does not turn on.	-	
		Off Timer	Sets the time until the projector power is turned off automatically.	-	
		Message	Sets the time to display the message indicating the lamp replacement cycle, air filter replacement cycle, and air filter cleaning cycle.	-	
		Silent Mode	Selects whether to use the status indicator, buzzer, indicators on the control panel and backlight.	-	
		(Installation)	Option Slot	Configures the device installed in slot (only when the projector is in standby mode).	-
			Orientation	Sets the projection method and cooling fan operating mode.	-
			Lens Type	Sets the type of lens (supports or does not support the lens memory function) attached to the projector.	-
			Lens Center	Moves the lens shift position to the center.	-
			Baudrate	Sets the PC control connector (RS-232) data transmission speed (bps).	-
			Date/Time	Sets the date and time on the projector.	-
			Fan Speed Mode	Sets the cooling fan operating mode.	-
			Fan Noise Reduc.	Sets the silent mode of the cooling fan.	-
		(Memory)	Lamp	The content of the selected Lamp memory (Lamp output power value) can be overwritten with the current settings.	-
			Lens	The content of the selected lens memory can be overwritten with the current settings.	-
	(Title Setup)	Preset Button	Preset Button 1–16	Sets the title to be assigned to the preset buttons (<1> to <8> buttons).	47
	Information	Lamp	Output	Displays the lamp output setting.	47
			Voltage	Displays the lamp voltage value.	47
			Serial	Displays the serial number of the lamp.	47
		Lens Type		Displays the lens type setting.	47
Preset Button		Preset Button 1–16	Displays the titles which are assigned to the preset buttons (<1> to <8> buttons).	48	
Usage		Displays information related to projector usage.	48		
Error Code		Displays the currently occurring error.	48		
Version		System	Displays the model name and various version information about the projector.	49	
		IMB	Displays the vendor name and version information about the media block (IMB).	49	
IP Address		System	Displays the IP address of the projector.	49	
Setup Date		Displays the date when the projector was set up (starting date of the warranty period).	50		
Option Status		Displays the link status of the device mounted in slot and projector.	50		

## 4-3. Title Select

### 4-3-1. Title select (Title Memory)

Selects the title of the signal to be projected.

You can register up to 100 titles. You can also assign registered titles to the preset buttons (<1> to <8> buttons) on the projector's control panel and call them up directly using those buttons.

Request your dealer/distributor for details on registering and changing titles.



← Displays the currently selected item with asterisk (\*).

← Selects the title to be projected.

### 4-3-2. Test Pattern

Selects the test pattern to be projected.



← Displays the currently selected item with asterisk (\*).

← Selects the test pattern to be projected.

OFF, Alignment, Cross Hatch, Convergence, Red, Green, Blue, White, Black,  
White 50% [IRE], H-Ramp, Logo

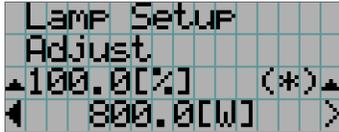
## 4-4. Configuration

Please request your dealer/distributor to perform the settings.

### 4-4-1. Lamp Setup

#### Adjust

Adjusts the lamp output (brightness).

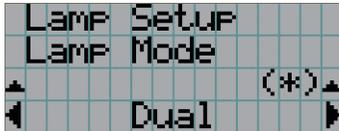


← Displays the current output power value (%) when the lamp rated output is 100%.

← Displays the current power value (W).

#### Lamp Mode

Selects the lamp to use. When “Dual” is selected, lamp 1 and lamp 2 turn on/off at the same time. When “Lamp 1” or “Lamp 2” is selected, the other lamp is not used.



← Displays the currently selected item with asterisk (\*).

← Displays the setting.

Dual	Uses lamp 1 and lamp 2 at the same time.
Lamp 1	Uses only lamp 1 (lamp 2 is not used).
Lamp 2	Uses only lamp 2 (lamp 1 is not used).

#### TIP

- If you change the lamp mode while the lamp is on, the changed settings are applied immediately.
- If you change the lamp mode while the lamp is off, the changed settings are applied the next time the lamp is turned on.

#### NOTE

When the lamp mode is changed, the LAMP ON/OFF button indicator blinks green (See page 66). You cannot change the lamp mode while the LAMP ON/OFF button indicator is blinking. Wait until the LAMP ON/OFF button indicator changes from blinking to steady on.

## 4-4-2. Lens Control

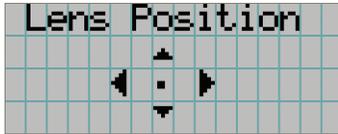
Adjust the position, size, and focus of the projected screen.

Press the ENTER button to switch the display between “Lens Position” and “Focus Zoom” adjustments. Press the EXIT button to return to a menu one level above.

### Lens Position

Adjusts the position of the projected screen.

The projected screen moves in the selected direction as you press the UP/DOWN/LEFT/RIGHT button.



### Focus Zoom

Adjusts the size (Zoom) and focus (Focus) of the projected screen.

Press the UP/DOWN button to adjust the focus.

Press the LEFT/RIGHT button to adjust the size of the projected screen.



## 4. Using Menus

### 4-4-3. Reset

This is used to reset the lamp and air filter usage times.

#### Lamp Usage

Resets the lamp usage time. When both lamp 1 and lamp 2 are replaced at the same time, reset the usage times of both lamp 1 and lamp 2.

- [1] Press the LEFT/RIGHT button to select the lamp to reset the usage time of, and then press the ENTER button.
- [2] Press the ENTER button in the "Lamp1", "Lamp2" or "ALL" screen, the confirmation screen will appear.
- [3] Select "Yes" and press the ENTER button on the confirmation screen to display the serial number input screen for the selected lamp.
- [4] After entering the serial number of the lamp, press the ENTER button to reset the lamp usage time. (If you selected "ALL", enter the serial numbers for lamp 1 and lamp 2.)



← Selects the lamp to reset the usage time of.

← Press the ENTER button to display the confirmation screen.

#### Filter Usage

Resets the air filter usage time.

- [1] Press the LEFT/RIGHT button to select the filter to reset the usage time of, and then press the ENTER button.
- [2] Press the ENTER button in the "Filter1", "Filter2" or "ALL" screen, the confirmation screen will appear.
- [3] Select "Yes" in the confirmation screen, and then press the ENTER button to reset the filter usage time.



← Selects the filter to reset the usage time of.

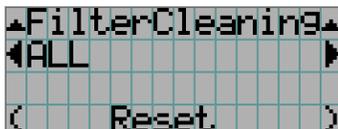
← Press the ENTER button to display the confirmation screen.

Filter1	Air filter (rear)
Filter2	Air filter (side)

#### Filter Cleaning

Resets the air filter usage time (for confirming the filter cleaning time).

- [1] Press the LEFT/RIGHT button to select the filter to reset the usage time of, and then press the ENTER button.
- [2] Press the ENTER button in the "Filter1", "Filter2" or "ALL" screen, the confirmation screen will appear.
- [3] Select "Yes" in the confirmation screen, and then press the ENTER button to reset the filter usage time.



← Selects the filter to reset the usage time of.

← Press the ENTER button to display the confirmation screen.

Filter1	Air filter (rear)
Filter2	Air filter (side)

## 4-5. Title Setup

Sets the title to be assigned to the preset buttons (<1> to <8> buttons) (up to 16 titles).  
Request your dealer/distributor to perform the settings.

## 4-6. Information

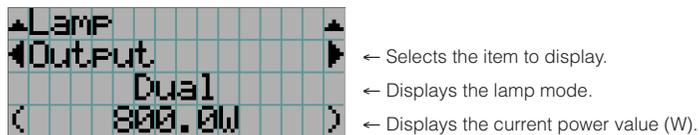
Displays the hours of lamp use, the version information and error codes.

### 4-6-1. Lamp

Displays information relating to the lamp.

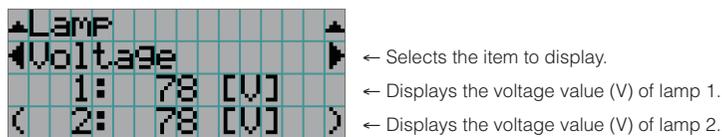
#### Output

Displays the lamp mode and lamp output power value (W).



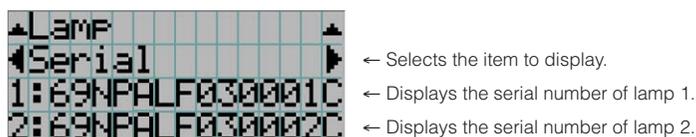
#### Voltage

Displays the voltage value (V) of the currently used lamp.



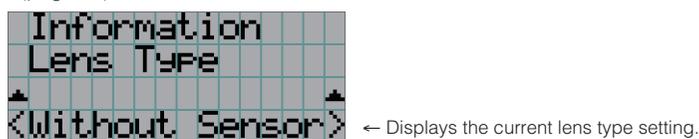
#### Serial

Displays the serial number of the currently used lamp.



### 4-6-2. Lens Type

Displays the current lens type setting. The lens type setting is configured from "Lens Type" in the "Configuration" - "Installation" menu (page 44).

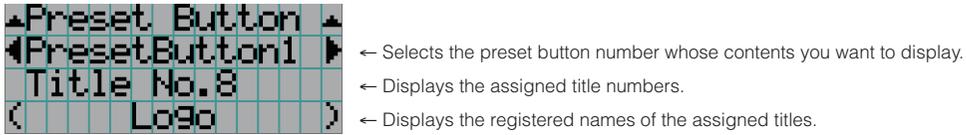


Without Sensor	Using a lens unit that does not support the lens memory function.
With Sensor	Using a lens unit that supports the lens memory function.

## 4. Using Menus

### 4-6-3. Preset Button

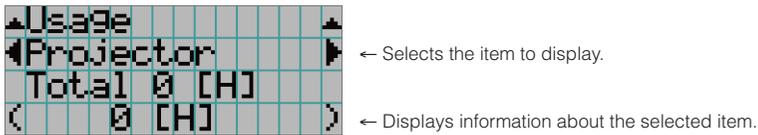
Sets the title to be assigned to the preset buttons (<1> to <8> buttons) on the projector's control panel.



**TIP** To select a title allocated to one of "Preset Button9" to "Preset Button16", press the preset button while holding down the UP button. For example, to select the title allocated to "Preset Button9", press the <1> button while holding down the UP button.

### 4-6-4. Usage

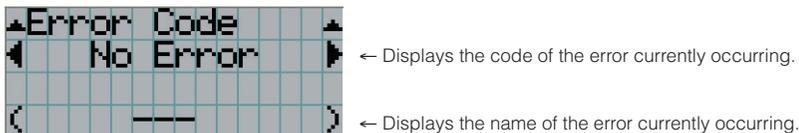
Displays information related to the projector usage, such as the usage time of the projector, lamps, air filters, and fan, and information about the lamp replacement cycle.



Projector	Displays the usage time of the projector. The upper row shows the usage time including standby mode while the lower row shows the usage time not including standby mode.
Lamp	Displays the usage time of the lamp.
Lamp Remaining	Displays the amount of usage time remaining (approximate) from the current usage time with the unused state as 100% and 0% when the lamp needs replacement.
Lamp Strike	Displays the number of times the lamp has been turned on.
Filter	Displays the usage time of the air filter.
Fan	Displays the usage time of the fan.
Douser Count	Displays the number of times the douser has been used.

### 4-6-5. Error Code

Displays the error code when an error occurs.



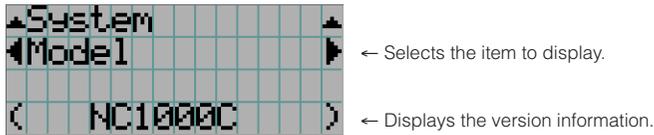
When multiple errors occur, you can display them by pressing the LEFT/RIGHT buttons.

## 4-6-6. Version

Displays version information about the projector, optional boards, and IMB.

### System

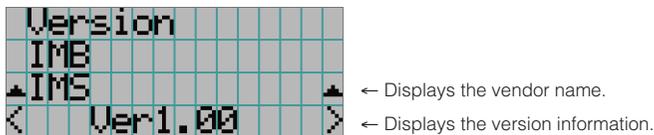
Displays the version information of the projector.



- Model
- Release Package
- U-Boot
- Cinema Firmware
- ICP Firmware
- FMT FPGA
- Slave Firmware
- Secure Processor
- Ballast
- Serial No.
- Kernel
- System Files
- Cinema Data
- ICP ConfigFile
- Slave BIOS
- Opt MCU
- Lens

### IMB

Displays the vendor name and version information about the media block (IMB). When the projector is in standby mode, the vendor name is blank and the version information displays "---".



## 4-6-7. IP Address

Displays the IP address set in the projector.



System	Displays the IP address set for the projector (System).
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## 4. Using Menus

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### 4-6-8. Setup Date

Displays the date when the projector was set up (starting date of the warranty period).



← Displays the date when the projector was set up (starting date of the warranty period).

### 4-6-9. Option Status

Displays the link status of the device mounted in slot on the projector. The device name is displayed in ( ) when the projector is in standby or when connection to the device cannot be confirmed.



← Displays the link status of the device in slot.

- NP-90MS: NP-90MS01/NP-90MS02
- <Vendor Name> IMB: Media block
- No Board: No device mounted

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# 5.

## Maintenance of Your Projector

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**NOTE** Please request your dealer to perform cleaning of the projector inside.

### 5-1. Cleaning the Cabinet

Before carrying out maintenance of your projector, be sure to always check that the projector is turned off and the power plug is unplugged from the electrical outlet.

- Wipe with a dry, soft cloth without nap.

When the cabinet is excessively dirty, wipe with cloth well wrung after being dampened with a neutral detergent diluted with water and then finish up with a dry cloth.

When you use a chemical dust cloth, follow the instructions in the manual attached to it.

- Do not use a solvent, such as thinner or benzene. The coating may deteriorate or peel off.
- When removing dust on the ventilation opening, suck it off using an adapter with a brush on a vacuum cleaner. Never allow the cleaner without an adapter to come into direct contact or use a nozzle adapter in cleaning.
- Clean the ventilation opening at regular intervals. Dust, if allowed to accumulate there, may cause heating inside, which leads to functional trouble. The interval, which can vary with the location of your projector, is about 100 hours.
- Do not damage the cabinet by scratching it or allowing hard objects to hit it. This can scratch the projector.
- Consult your dealer/distributor about cleaning the inside of the projector.

**NOTE** Do not allow insecticide or other volatile liquid to splash on the cabinet, lens or screen. Also, do not allow any rubber or plastic object to remain in contact with the cabinet for a long time. The coating may deteriorate or peel off.

### 5-2. Cleaning the Lens

Clean the lens the same way as with camera lens (using a commercially available camera blower or cleaning paper for glasses). Take care not to damage the lens when cleaning.

## 5-3. Replacing the Lamp and the Air Filter

### 5-3-1. Warnings About Replacing the Lamp

When the usage time of the lamp being used as the light source exceeds the lamp replacement time (approximate), the message "Lamp1 OverTime" or "Lamp2 OverTime" is displayed on the projector LCD screen. When this happens, the lamp has reached its replacement time and you should replace it with a new lamp.

- TIP**
- The lamp replacement time (approximate) is 3,000 hours.
  - You can check the current amount of lamp usage remaining (approximate) using the following items in the adjustment menu. (See page 48)
    - Amount of lamp usage remaining (approximate): "Information" → " Usage" → "Lamp Remaining"

 **CAUTION**

DO NOT TOUCH THE LAMP immediately after it has been used. It will be extremely hot. Turn the projector off and then disconnect the power cable. Allow at least one hour for the lamp to cool before handling.

- Use the specified lamp for safety and performance.
- Do not mount the lamp that you first used mounted in lamp 1 in lamp 2, and do not mount the lamp that you first used mounted in lamp 2 in lamp 1. If you do, the lamp replacement time (approximate) will not be calculated properly.
- Please purchase the replacement lamp at your dealer/distributor. Specify NP-10LP01 as the model number for the replacement lamp when ordering.
- Replace the air filters at the same time as when you replace the lamp. Specify NP-9AF01 as the model number for the replacement filter when ordering.
- A replacement lamp and air filter kit is also provided. Specify NP-10LF01 as the model number for the replacement lamp and filter kit when ordering.
- Do not remove any screws other than as specified.
- The lamp has glass attached for protecting the lamp. Handle with care to avoid accidentally breaking it. Furthermore, do not touch the surface of the glass. This may lead to perform degradation in terms of brightness.
- If you continue using the lamp after the message has been displayed, the lamp may blow. When the lamp blows, it shatters creating a large sound, and fragments of the lamp become scattered around within the lamp house. If this happens, please contact your dealer/distributor for a replacement.
- If you replace the lamp while the unit is installed suspended from the ceiling, take care to ensure that no one can enter below the unit. If the lamp shatters, there is a risk of lamp fragments flying everywhere.

**NOTE** The lamp replacement time is not the guarantee time. The actual replacement time varies depending on the usage environment.

### 5-3-2. Warnings About Replacing the Air Filter

Air filters are attached over the air inlet of the projector to prevent dust. Replace air filters periodically to maintain the projector's performance.

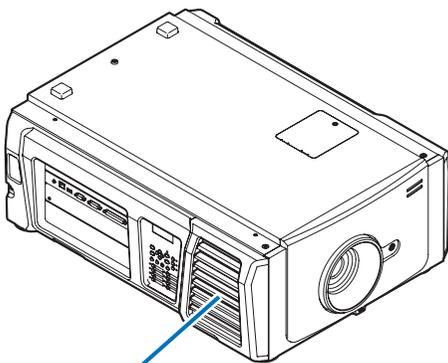
**⚠ WARNING:**

- When replacing air filters, turn off the projector and unplug the power cable.
- Dust in air filters will hinder ventilation of the projector, lead to a rise of the internal temperature and can cause a fire or malfunction.

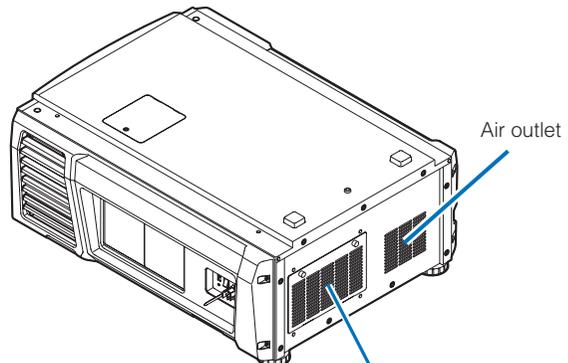
**⚠ CAUTION**

Before replacing the filters, turn off the projector, disconnected the power cable and then allow the cabinet to cool. Failure to do so can result in electric shock or burn injuries.

- Please purchase the replacement air filter at your dealer/distributor. Specify the NP-9AF01 (optional) when you order.
- A replacement lamp and air filter kit is also provided. Specify NP-10LF01 as the model number for the replacement lamp and filter kit when ordering.
- Always replace both of the air filters at the same time. If you do not replace both of the air filters, the air filter usage time will not be calculated correctly.



- Air inlet
- Air filter (side)



- Air inlet
- Air filter (rear)

Model number	Replacement cycle
NP-9AF01	Replace each time you replace the lamp.
NP-10LF01 (Replacement lamp and filter kit)	

### 5-3-3. Procedure for Replacing the Lamp and Air Filter

- **Step 1**

Replace the lamp (See page 54)

- **Step 2**

Replace the rear air filter (See page 58)

Replace the side air filter (See page 61)

- **Step 3**

Reset the lamp usage time and air filter usage time (See page 63)

### 5-3-4. Replacing the Lamp

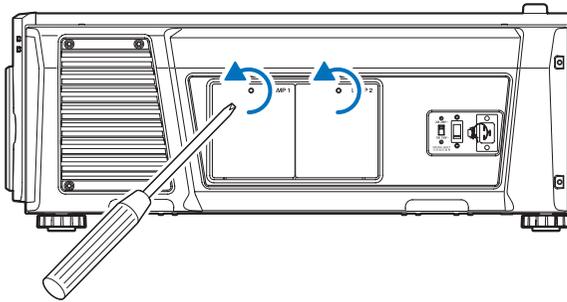
This section describes the procedure for replacing both of the lamps.

**Preparation:** Have a Phillips head screwdriver ready.

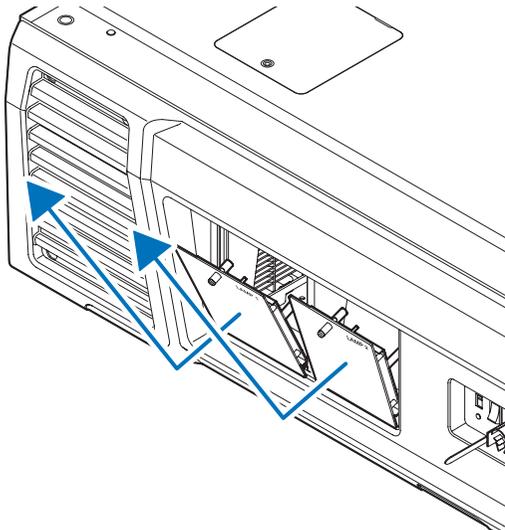
**1** Remove the lamp cover.

1. Loosen the screw securing the lamp cover until the Phillips screwdriver goes into a free-wheeling condition.

The screw is not removable.



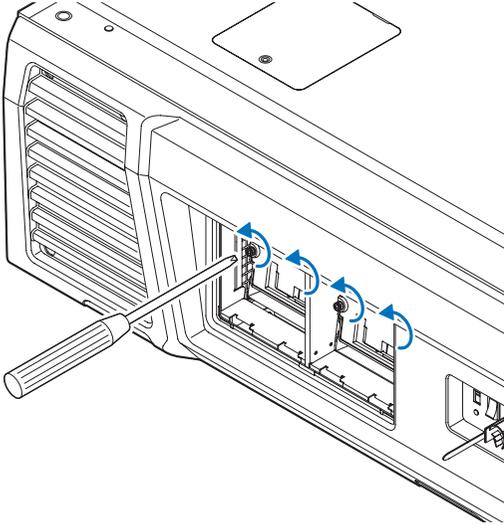
2. Grasp the standoff pillar of the screw securing the lamp cover and pull it up towards you to remove the lamp cover.



**2** Remove the lamp housing.

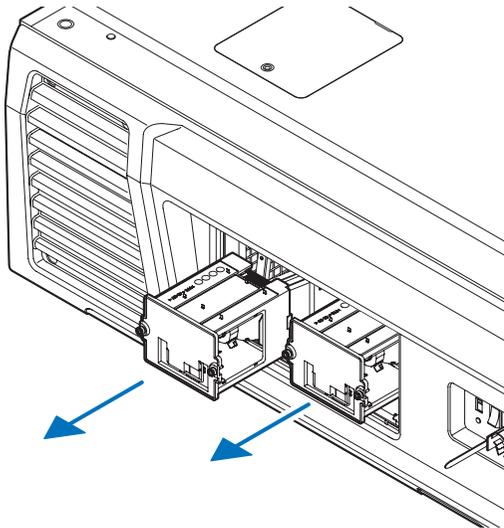
1. Loosen the two screws securing the lamp housing until the Phillips screwdriver goes into a freewheeling condition.

The two screws are not removable.



2. Grasp the handle and remove the lamp housing.

At this time, pull the lamp housing straight out.

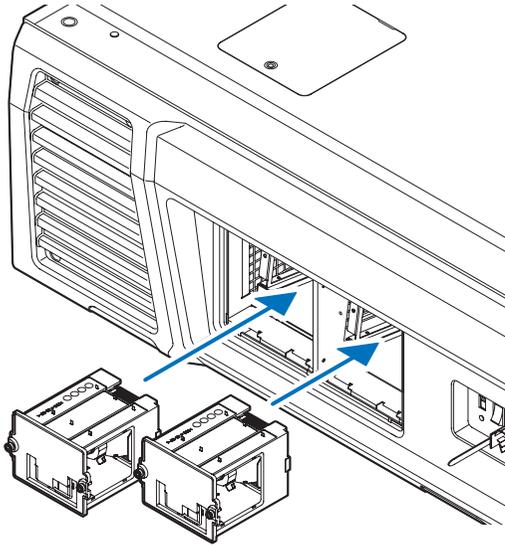


**CAUTION**

Make sure that lamp housing is cool enough to handle before removing it.

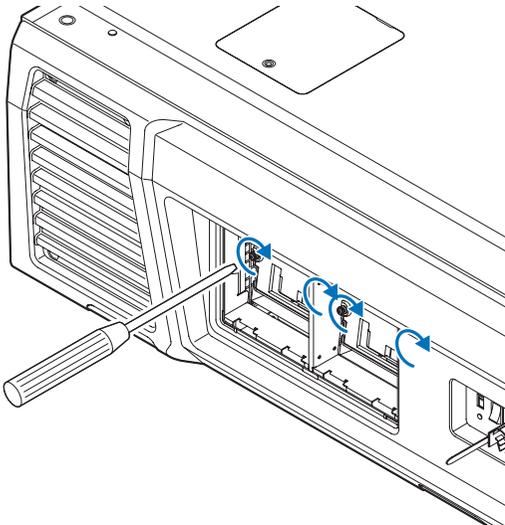
**3** Install a new lamp housing.

1. Insert a new lamp housing until the lamp housing is plugged into the socket.



2. Secure it in place with the two screws.

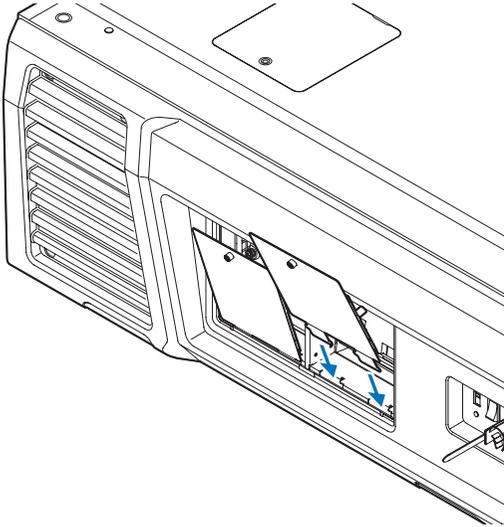
Be sure to tighten the screws.



**NOTE** Be sure to install both Lamp 1 and Lamp 2. The projector will not turn on unless both the lamps are installed.

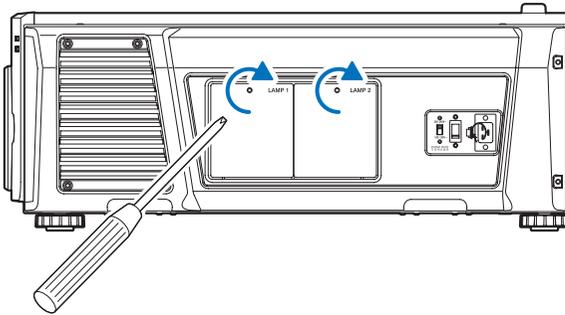
**4** Reattach the lamp cover.

1. Align the protrusions (2 locations) in the lamp cover with the receptacle holes in the projector and mount the lamp cover.



2. Tighten the screw to secure the lamp cover.

Be sure to tighten the screw.



This completes replacing the lamp. Next, replace the air filters.

- Replace the rear air filter (See page 58)
- Replace the side air filter (See page 61)

**NOTE**

- Always reset the usage time of the replaced lamp after replacing the lamp. (See page 46)
- Always replace both of the air filters at the same time.

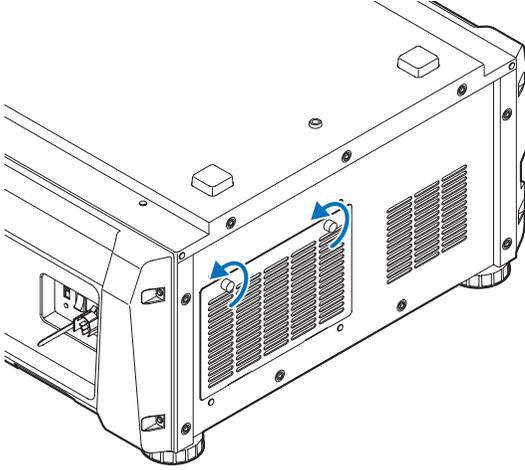
### 5-3-5. Replacing the Rear Air Filter

**Preparation:** Replace the lamp first. (See page 54)

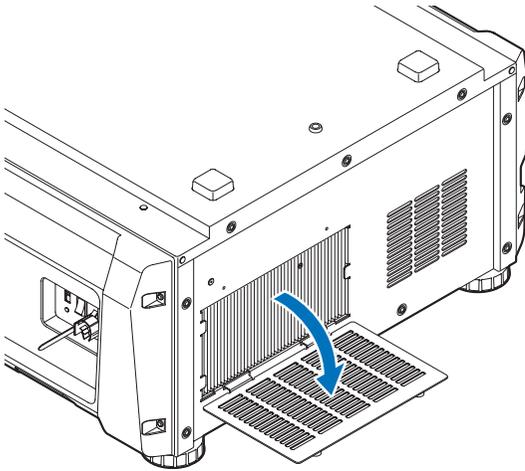
**1** Open the filter cover.

1. Loosen each of the two knobs by turning them counterclockwise.

The knobs are not removable. If the knob is too tight to turn, use a Phillips screwdriver.

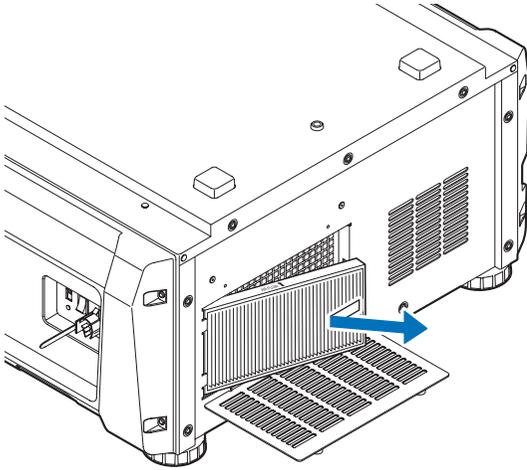


2. Tilt the filter cover towards you to open it.



**2** Remove the air filter.

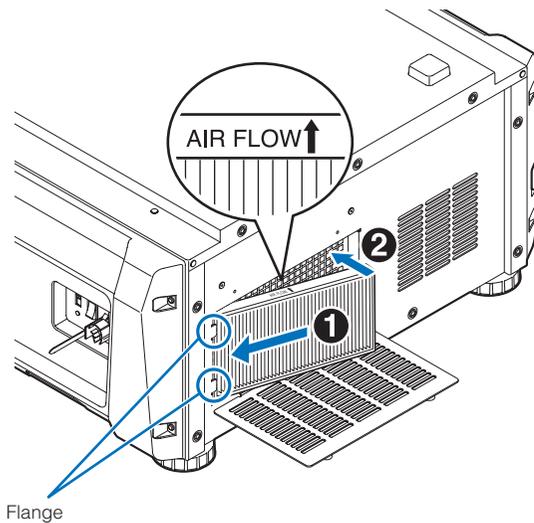
Pull the right side of the air filter towards you to remove it.



**3** Mount the air filter to the projector.

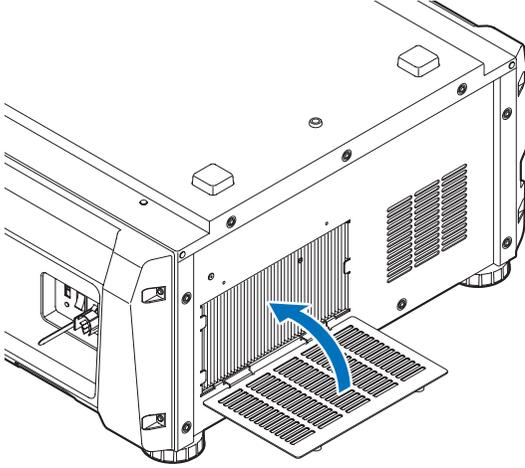
Look for an arrow (↑AIR FLOW) indicating the installation direction on the side of the air filter. Point the arrow towards the projector.

1. Align the air filter to the flange on the left side of the air inlet.
2. Push the right side of the air filter against the air inlet on the projector.

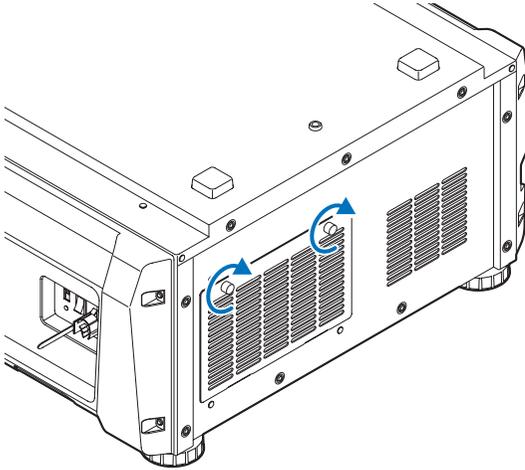


### **4** Mount the filter cover to the projector.

1. Grasp the knob on the filter cover and mount it to the projector.



2. Tighten the two knobs clockwise to secure the filter cover.



This completes replacing the rear air filter. Next, replace the side air filter.

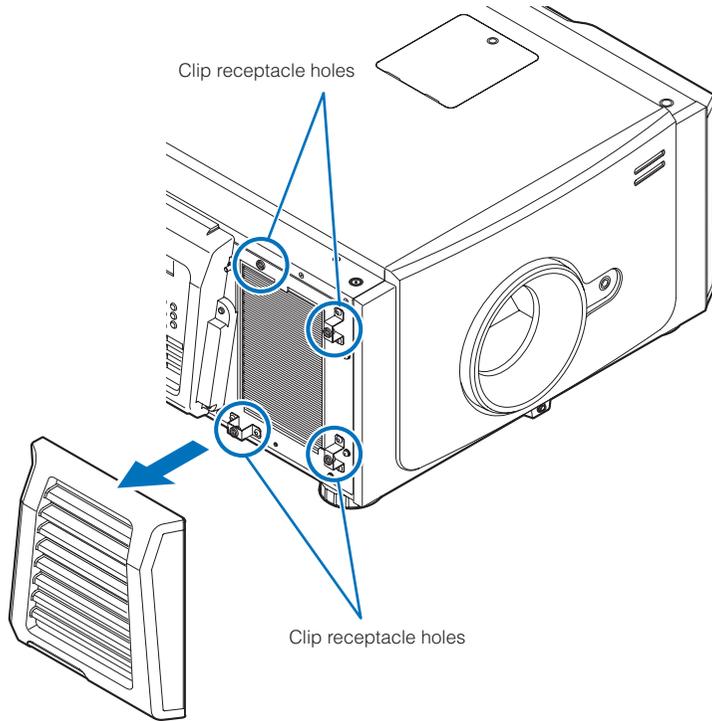
**NOTE** Always reset the Filter1 usage time after replacing the rear air filter. (See page 46)

### 5-3-6. Replacing the Side Air Filter

**Preparation:** Replace the lamp first. (See page 54)

**1** Remove the filter cover.

The filter cover is fastened by plastic clips (4 locations). Grasp the top and bottom edges of the cover and pull it towards you to remove it.



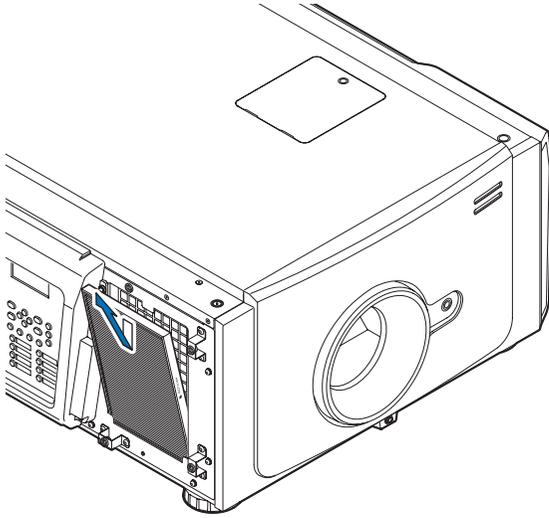
**NOTE** When removing the filter cover, remove it by applying force evenly. If you only apply force to one side, it may cause the clips to become damaged.

## 5. Maintenance of Your Projector

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### 2 Remove the air filter.

Pull the upper part of the air filter towards you and lift it up to remove it.

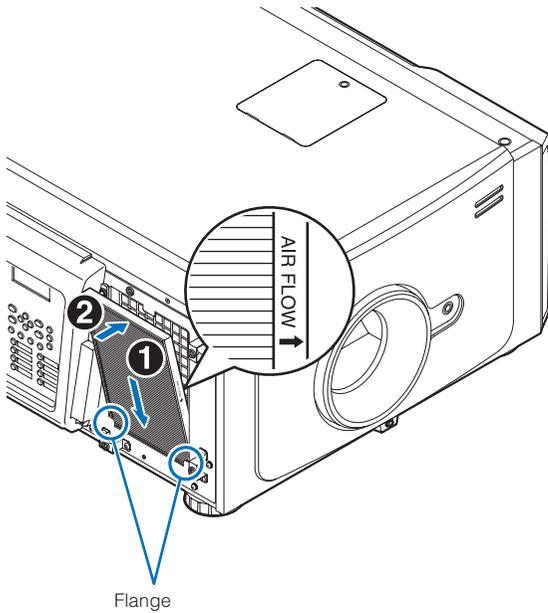


### 3 Mount the air filter to the projector.

Look for an arrow (↑AIR FLOW) indicating the installation direction on the side of the air filter. Point the arrow towards the projector.

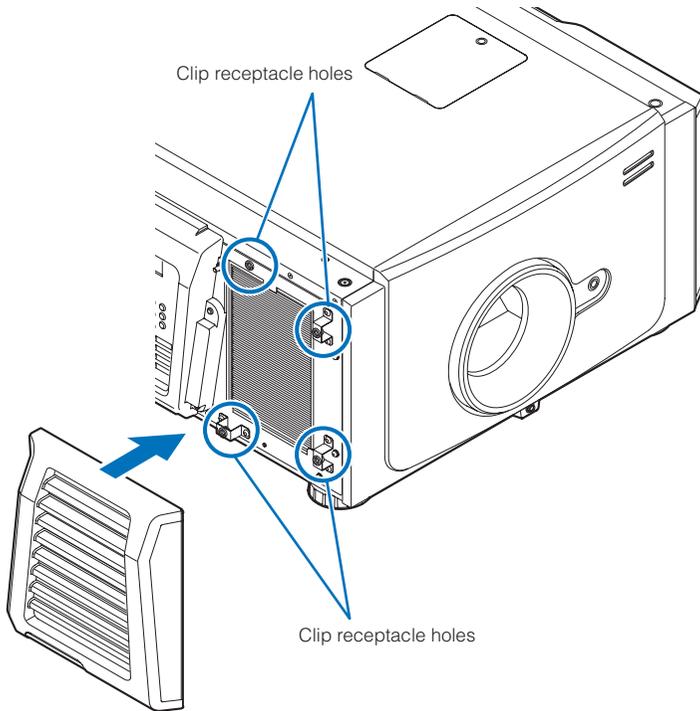
1. Align the air filter to the flange under the air inlet.

2. Push the top side of the air filter against the air inlet on the projector.



**4** Mount the filter cover to the projector.

1. Align the positions of the plastic clips (4 locations) with the clip receptacle holes on the projector.
2. Push it in straight to fasten the filter cover.



This completes replacing the side air filter. If you have not yet finished replacing the rear air filter, replace the rear air filter next (See page 58).

**NOTE** Always reset the Filter2 usage time after replacing the side air filter. (See page 46)

### 5-3-7 Resetting the Lamp Usage Time and Air Filter Usage Time

- 1** Turn on the power to the projector.
- 2** Reset the usage time in “Configuration” → “Reset” in the adjustment menu.
  - “Lamp Usage”: Resets the lamp usage (See page 46)
  - “Filter Usage”: Resets the filter usage (See page 46)

This completes resetting the lamp usage time and air filter usage time.

# 6.

## Appendix

### 6-1. Troubleshooting

Before asking for repair, please check your connection, settings and operation once again. If the trouble cannot be corrected, please contact your dealer/distributor for instructions or repair.

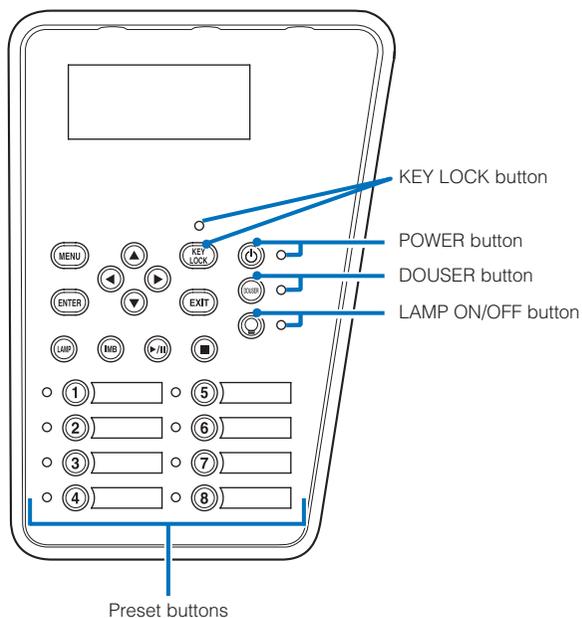
#### 6-1-1. Problems and where to check

Problem	Check these items
The projector cannot be turned on.	Check to see if AC power is supplied to the projector.
	Make certain that the main power switch is ON.
	Check to see whether the panel key lock function is activated. If so, the main unit's control buttons are locked and do not work.
	Is the temperature inside the projector too high? When the inside temperature is too high, the protective function does not allow your projector to be turned on. Wait some time and then turn it on.
The image cannot be projected.	Are you using the projector at high elevations with an altitude of approximately 5500 feet/1600 meters or higher? The cooling fan settings need to be configured when using the projector at high elevations. Please contact your dealer/distributor for instructions.
	Check to see if the connected input has been selected.
	Check to see if a cable is properly connected to the input terminal.
	Check to see whether the douser is closed.
The image is distorted.	Check to see if the settings are all adjusted properly.
	Check to see if the protractor is properly set up.
The image is blurred.	Check to see if the protractor is properly set up.
	Make certain that the lens is properly focused.
	Check to see if the screen and a projector are installed at correct angles.
	The projection distance may be larger than the focusing range.
	See if the lens and other parts have condensation on them. If the projector is turned on in a warm place after storage in a cold place, the lens and other optical components inside may develop condensation. In such a case, please wait several minutes until the condensation disappears.

Problem	Check these items
Video image is disturbed.	Check whether the signal cable connected to the projector is disconnected.
The STATUS indicator blinks in red.	Your projector may have trouble. Please contact your dealer/distributor for instructions.
An error code is displayed.	Please contact your dealer/distributor for instructions.

## 6-2. Indicator display list

See the descriptions below when the buttons on the control panel or the STATUS indicator on the rear of the projector is lit or blinking. The projector also has a warning function that uses a buzzer.



### 6-2-1. Preset buttons

Indicator condition		Projector condition	Note
Off		No title is assigned to the button.	-
Steady light	Green	A title is assigned to the button.	-
	White	The title is not selected.	-

### 6-2-2. KEY LOCK button

Indicator condition		Projector condition	Note
Off		The key lock is off.	-
Steady light	Orange	The key lock is on.	-

## 6. Appendix

### 6-2-3. POWER button

Indicator condition		Projector condition	Note
Off		The projector power supply is off.	-
Blinking light	Orange	While the projector software is starting	Wait for a moment.
	Green (cycles of 1) (Note 1)	Preparing to turn power on/cooling fan rotating (State from turning the power off to entering standby mode).	Wait for a moment.
	Green (cycles of 2) (Note 2)	State where power cannot be turned off (Immediately after turning the lamp on or immediately after changing the lamp mode).	Wait for a moment. (for a maximum of about 90 seconds)
	Green (cycle of 3 seconds) (Note 3)	When the sleep timer is activated	-
Steady light	Green	The projector is turned on.	-
	Orange	The projector is in standby.	-

(Note 1) Repeats 0.5 seconds on → 0.5 seconds off.

(Note 2) Repeats 0.5 seconds on → 1.5 seconds off.

(Note 3) Repeats 2.5 seconds on → 0.5 seconds off.

### 6-2-4. DOUSER button

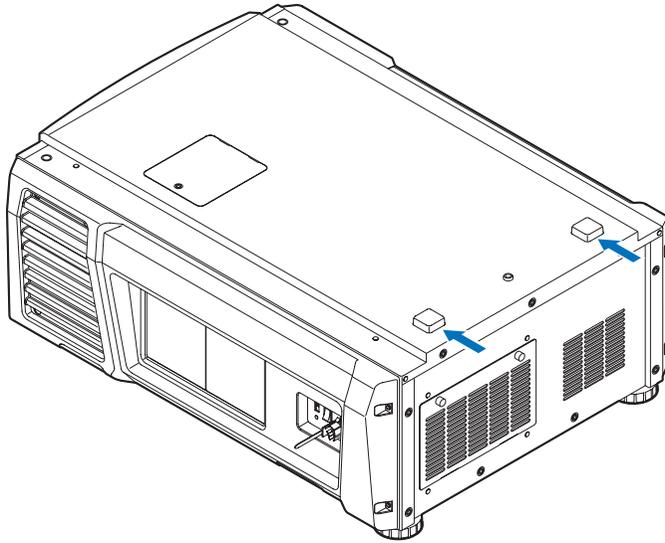
Indicator condition		Projector condition	Note
Steady light	Green	The douser is closed.	-
Off		The douser is opened.	-

### 6-2-5. LAMP ON/OFF button

Indicator condition		Projector condition	Note
Off		The lamp is off.	-
Steady light	Green	The lamp is on (Dual/Lamp 1/Lamp 2).	-
Blinking light	Green (cycles of 2) (Note 1)	State where the lamp cannot be turned on/off or the lamp mode cannot be changed (Immediately after turning the lamp on/off or immediately after changing the lamp mode).	Wait for a moment. (for a maximum of about 90 seconds)

(Note 1) Repeat 0.5 seconds on → 1.5 seconds off.

## 6-2-6. STATUS indicator



Indicator condition		Projector condition	Note
Off		Main power is off.	-
Blinking light	Green	The projector is getting ready to turn on. The douser is closed. The lamp is off.	Wait for a moment.
	Orange	The projector is cooling down.	Wait for a moment.
	Red (With buzzer)	Safety problem, error.	An error message is displayed in the LCD screen. Check the content of the error.
	Red (Without buzzer)	Error with possible image project under certain conditions.	
Steady light	Green	The projector is turned on.	-
	Orange	The projector is in standby.	-
	Red	Error at a level with not affect on projection.	An error message is displayed in the LCD screen. Check the content of the error.

## 6-3. Operation using an HTTP browser

### 6-3-1. Overview

The use of HTTP server functions will allow control of the projector from a web browser. Please be sure to use “Microsoft Internet Explorer 4.x” or a higher version for the web browser.

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 the browser. Please refer to the help files and the other information provided in your software.

**NOTE** The display's or button's response can be slowed down or operation may not be accepted depending on 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.  
Access is gained to the HTTP server functions by and specifying  
`http://<the projector's IP address>/index.html`  
in the entry column of the URL.

### 6-3-2. Preparation before use

Make network connections and set up the projector and confirm that it is complete before engaging in browser operations. Operations 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 a browser not be reflected in operation. It is recommended that a proxy server not be used unless it is unavoidable.

### 6-3-3. 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 with the host name corresponding to the IP address of the projector has been registered in 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” file of the computer being used.

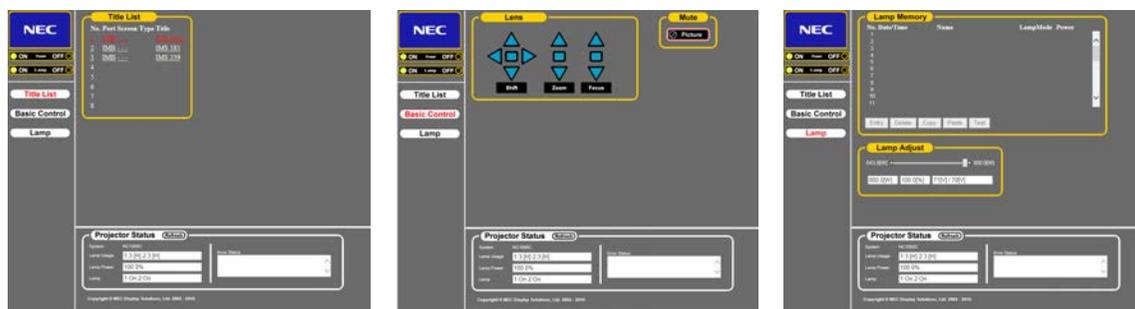
**(Example 1) When the host name of the projector has been set to “pj.nec.co.jp”**

`http://pj.nec.co.jp/index.html` is specified for the address or the entry column of the URL to access HTTP server functions.

**(Example 2) When the IP address of the projector is “192.168.10.10”**

`http://192.168.10.10/index.html` is specified for the address or the entry column of the URL to access HTTP server functions.

## 6-3-4. Structure of the HTTP server



Power		Controls the power to your projector. <ul style="list-style-type: none"> <li>• On: Turns the power on.</li> <li>• Off: Turns the power off.</li> </ul>
Lamp		Turn the lamp on/off. <ul style="list-style-type: none"> <li>• On: Turns the lamp on.</li> <li>• Off: Turns the lamp off.</li> </ul>
Title List		Displays titles set in the projector (such as input port, screen type, and title). Check, and the title will be changed.
Basic Control		Displays the basic control items.
Lens	Shift	<ul style="list-style-type: none"> <li>▲ : Shifts the projected screen upward.</li> <li>▼ : Shifts the projected screen downward.</li> <li>◀ : Shifts the projected screen leftward.</li> <li>▶ : Shifts the projected screen rightward.</li> <li>■ : Stops the shifting.</li> </ul> Shifting can also be stopped by clicking the same button one more time.
	Zoom	<ul style="list-style-type: none"> <li>▲ : Zooms up the lens.</li> <li>▼ : Zooms down the lens.</li> <li>■ : Stops the zooming.</li> </ul> Zooming can also be stopped by clicking the same button one more time.
	Focus	<ul style="list-style-type: none"> <li>▲ : Focuses up the lens.</li> <li>▼ : Focuses down the lens.</li> <li>■ : Stops the focusing.</li> </ul> Focusing can also be stopped by clicking the same button one more time.
Mute	Picture	Click and the douser closes and the projected picture disappears. Click once again and the picture will be projected again.
Projector Status		Displays the condition of the projector. <ul style="list-style-type: none"> <li>• Lamp Usage: Displays the hours of lamp use.</li> <li>• Lamp Power: Displays lamp output (%).</li> <li>• Lamp Status: Displays the status of the lamp (On: Lights / Off: Off).</li> <li>• Error Status: Displays the status of errors occurring within the projector.</li> <li>• Refresh: Updates the display of the following conditions.</li> </ul>
Lamp Memory	Entry	Saves the current lamp mode and lamp output value in the memory.
	Delete	Deletes the memory selected in the list from the Lamp Memory.
	Copy	Copies the memory selected in the list.
	Paste	Saves/overwrites the copied memory to the selected memory in the list.
	Test	Tests the adjustment value of the memory selected in the list.

## 6-4. Writing of the log file (Save Information)

Log files saved on the main unit can be written to USB memory connected to the USB port of the main unit. To perform the writing of the log file, use the following procedure.

**1** Connect the USB memory to the USB port of the main unit.

Wait until the USB memory is recognized, and it enters the condition in which it can be used (5 or more seconds). For details, refer to the instruction guide of the USB memory.

**2** Simultaneously press the UP button and ENTER button.

The "Save Info." screen is displayed.



**TIP** If you press the EXIT button during operation, operation is stopped and the display returns to the normal screen.

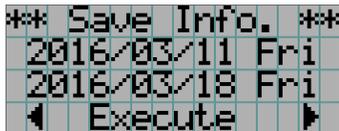
**3** Press the LEFT/RIGHT button, and select the log file writing period.

The items that can be selected are as follows.

Today	Writes today's log files.
7days	Writes 7 days' log files from today.
30days	Writes 30 days' log files from today.
2years	Writes 2 years' log files from today.
Manual	Writes the specified period's log files.

**4** Press the ENTER button.

When "Today", "7days", "30days" or "2years" is selected, the log file writing period is displayed.



← The log file writing period is displayed.

When "Manual" is selected, specify the log file writing period. For how to enter numerals, refer to "4-1-3. How to enter alphanumeric characters" (See page 41). If you press the ENTER button, the display advances to the following screen.

```

** Save Info. **
  Date Filter
  From Date
[2016/03/18 Fri]

```

← Enter the date/time to start writing.

Press the ENTER button.

```

** Save Info. **
  Date Filter
  To Date
[2016/12/21 Wed]

```

← Enter the date/time to stop writing.

Press the ENTER button.

```

** Save Info. **
2016/03/18 Fri
2016/12/21 Wed
◀ Execute ▶

```

← The log file writing period is displayed.

- 5** Confirm the log file writing period, press the LEFT/RIGHT button to select "Execute," and press the ENTER button.

The log files of the specified period are written to the USB device. When writing completes, the following screen is displayed.

```

** Save Info. **
  Complete(USB)
  <OK>
*****

```

- TIP** If you select "Cancel" and press the ENTER button, the writing of log files is stopped, and the display returns to the normal screen.

- 6** Press the ENTER button.

The display returns to the normal screen.

```

|| Lamp1&2 100.0% ||
||   5H:   5H ||
||   Title ||
||   IMB  ||

```

- 7** Remove the USB from the USB port of the main unit.

## 6. Appendix

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### 6-4-1. Names of log files

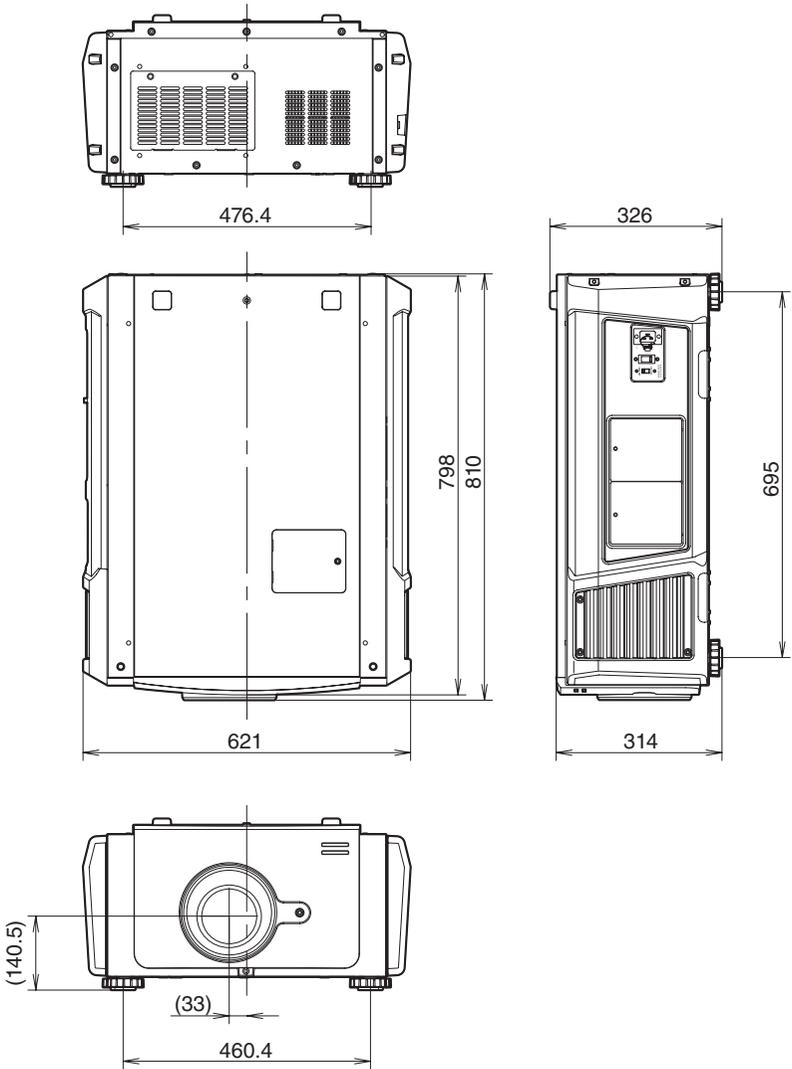
Written log files are saved with the following file names.

(Model name)\_(Serial Number)\_YYMMDDHHmm.txt

(Model name)	This shows the model of projector.
(Serial Number)	This shows the serial number of projector.
YYMMDDHHmm	Shows the date/time when written. YY: Year (lower 2 digits) MM: Month (2 digits) DD: Date (2 digits) HH: Hour (2 digits) mm: Minute (2 digits)

For example, if NC1000C log file is written at 14:05 on June 1, 2016, it is saved with the "NC1000C\_abcd1234\_1606011405.txt" file name.

# 6-5. Outline Drawing



Units: mm

## 6-6. Specifications

Model name	NC1000C		
Projection method	3 chip DLP Cinema® method		
	0.69-inch DC2K chip		
Panel resolution	2048 x 1080		
Lamp type	400W AC lamp		
Screen sizes	Max. 10.6 m @14ft-L / Screen Gain 1.8 (Depends on setup conditions)		
Contrast ratio	1600:1 with DCI specified color representation		
Lens adjustment function	Motorized lens shift (vertical/horizontal), motorized zoom, motorized focus, douser		
Signal input ports	When shipped from factory: Empty (for mounting optional components) (Note 1)		
External Control	RS-232C (D-sub 9pin) x 1 GPIO port (D-sub 37 pin) x 1 Service terminal (stereo mini jack) x 1 3D CTL (D-sub 15 pin) x 1 USB (Type A) x 1 Interlock port x 1 Ethernet port (G-bit RJ-45) x 1		
Power supply voltage	AC 100 to 130 V, 50/60 Hz single phase AC 200 to 240 V, 50/60 Hz single phase		
Input current	12.2 to 9.0A (100 to 130 V) 5.8 to 4.8A (200 to 240 V)		
Power consumption	1210 W (100 to 130 V) (Note 2) 1135 W (200 to 240 V) (Note 2)		
Cooling method	Cooling air system (includes dust filter)		
Noise level	Less than 48 dB		
Installation	Orientation: Desktop/front, Desktop/rear, Ceiling/front, Ceiling/rear		
Net weight	44 kg (Excluding lens)		
Dimensions	621 mm (W) x 798 mm (D) x 314 mm (H) (Does not include protruding portions, includes foot.)		
Environment	Operating temperature: 10 to 35°C Operating humidity: 10 to 85% (non-condensing) Storage temperature: -10 to 50°C Storage humidity: 10 to 85% (non-condensing) Operating altitude: 0 to 3000 m/9800 feet (1600 m/5500 feet to 3000 m/9800 feet: Set "Fan Speed Mode" to "High Altitude")		
Regulations		<Safety>	<EMC>
	USA	UL60950-1	FCC Part15 Class A
	Canada	CSA60950-1	ICES-003 Class A
	Europe	EN60950-1	EN55032 Class A, EN55024, EN61000-3-2/-3-3
	Russia Belarus Kazakhstan	IEC60950-1	EN55022 Class A, EN55024, EN61000-3-2/-3-3
	Oceania	IEC60950-1	AS/NZS CISPR. 32 Class A
	Asia	IEC60950-1	CISPR. 32 Class A
	Korea	K60950-1	KN32 Class A, KN35
	Saudi Arabia	IEC60950-1	EN55022 Class A, EN55024, EN61000-3-2/-3-3
	Japan	J60950-1, J3000	VCCI Class A, JIS C 61000-3-2, J55022 Class-A
India	IS13252	-	

(Note 1)The video input slots are empty when the device is shipped. Input ports can be added by mounting option boards, which are sold separately. (See page 84)

(Note 2)The value is typical.

\* Note that these specifications and design can change without prior notice.

## 6-7. Power Cable

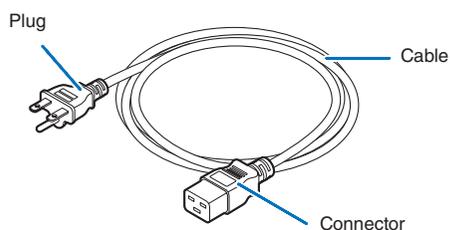
**NOTE** Ask your dealer for the power cable to select and purchase.

### Power Cable Electrical Specification

The projector is equipped with an IEC60320 C19 connector to connect an AC power supply cable. Ensure that the AC power cables that connect the connectors built into the projector to the AC power mains have the current capacities as shown below.

Power supply voltage	Projector input current	Power cable current capacity
AC 100–130V	12.2 to 9.0A	125V 15A or higher 250V 15A or higher
AC 200–240V	5.8 to 4.8A	250V 15A or higher

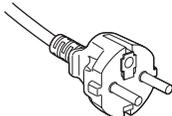
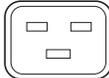
### Type of Power Cable



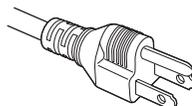
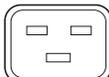
Use plugs, cables, and connectors that are suitable for the regulations of the country of installation, as shown in the following table.

**NOTE** For users in North America  
Use a power cable no longer than 4.5m/14.76 ft according to National Electrical Code.

### Germany

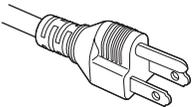
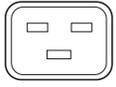
Plug	Cable	Connector
CEE 7 	H05VV-F 3G1.5 	IEC 320 C19 

### USA

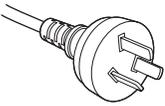
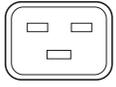
Plug	Cable	Connector
NEMA 5-15P 	SJT 3 x AWG 14 	IEC 320 C19 

## 6. Appendix

### Japan

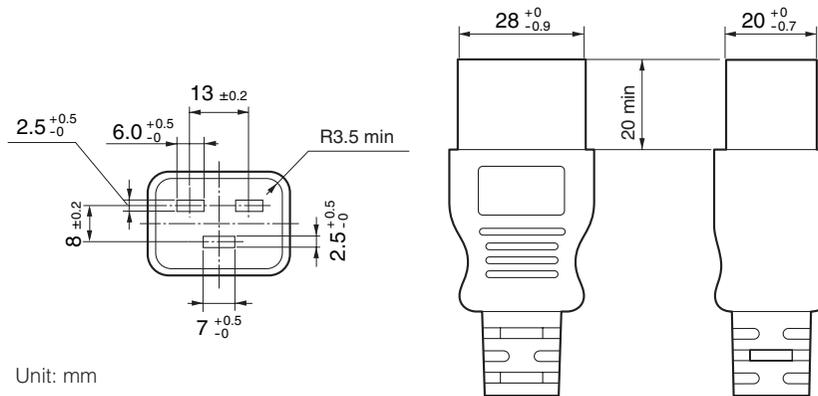
Plug	Cable	Connector
JIS C 8303	VCTF 3 x 2.0mm	IEC 320 C19
		

### China

Plug	Cable	Connector
GB2099	RVV 300/500	GB17465.1
		

### Connector

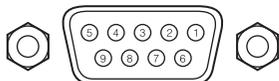
Dimensions of the connector of the power cable are shown below.



## 6-8. Pin Assignment and Functions of Terminal

### 6-8-1. PC CONTROL connector (RS-232) (D-Sub 9 pin)

This is an RS-232C interface for controlling the projector from a PC. The projector operates as a DCE (Data Communication Equipment), so use a straight cable when connecting to a PC.



Pin No.	RS-232C Signal Name	Functions as RS-232C	Projector Connector Operation
1	CD	Carrier detection	Not used (N.C.)
2	RXD	Reception data	Data transmission to an external device
3	TXD	Transmission data	Data reception from an external device
4	DTR	Data Terminal ready (Note)	Connection to 6 pins
5	GND	Signal GND	Signal GND
6	DSR	Data set ready (Note)	Connection to 4 pins
7	RTS	Transmission request	SYSTEM: Hi-Z (Not used) CINEMA: Hi-Z (Used)
8	CTS	Transmission available	SYSTEM: Fixed at -6.5 V (Not used) CINEMA: $\pm 10.5$ V (Used: Depends on communication status)
9	RI	Ring indicator	Not used (N.C.)

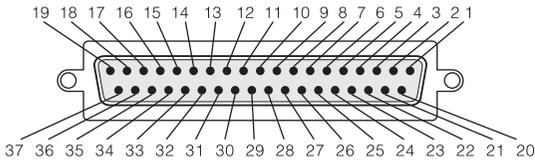
(Note) Do not use DTR and DSR signals when communicating.

## 6. Appendix

### 6-8-2. External control connector (GP I/O) (D-Sub 37 pin)

It is possible to control the projector with an external device and to control the external device from the projector using an external control connector (GPIO: General Purpose I/O Ports). Each pin is electrically separated from the projector internal circuits by a photo-coupler. 8 port input and 8 port output are available.

Please contact your dealer/distributor regarding how to use and to operate them.



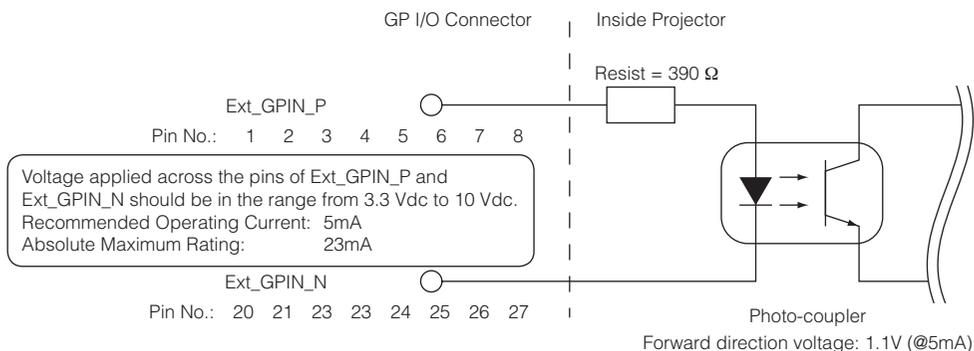
Pin view of female connector

Pin No.	Signal Name	I/O	Pin No.	Signal Name	I/O
1	GPIN1+ (3D L/R Input Reference +)	IN	20	GPIN1- (3D L/R Input Reference -)	IN
2	GPIN2+ (3D L/R Display Reference +)	IN	21	GPIN2- (3D L/R Display Reference -)	IN
3	GPIN3+ (system reserved)	IN	22	GPIN3- (system reserved)	IN
4	GPIN4+ (system reserved)	IN	23	GPIN4- (system reserved)	IN
5	EXT_GPIN1+ (Control and Title Selection +)	IN	24	EXT_GPIN1- (Control and Title Selection -)	IN
6	EXT_GPIN2+ (Control and Title Selection +)	IN	25	EXT_GPIN2- (Control and Title Selection -)	IN
7	EXT_GPIN3+ (Control and Title Selection +)	IN	26	EXT_GPIN3- (Control and Title Selection -)	IN
8	EXT_GPIN4+ (Control and Title Selection +)	IN	27	EXT_GPIN4- (Control and Title Selection -)	IN
9	GPOUT1+ (External 3D L/R Output Reference +)	OUT	28	GPOUT1- (External 3D L/R Output Reference -)	OUT
10	GPOUT2+ (system reserved)	OUT	29	GPOUT2- (system reserved)	OUT
11	GPOUT3+ (system reserved)	OUT	30	GPOUT3- (system reserved)	OUT
12	GPOUT4+ (Internal 3D L/R Output Reference +)	OUT	31	GPOUT4- (Internal 3D L/R Output Reference -)	OUT
13	EXT_GPOUT1+ (Projector Ready/Busy +)	OUT	32	EXT_GPOUT1- (Projector Ready/Busy -)	OUT
14	EXT_GPOUT2+ (Projector Error Status +)	OUT	33	EXT_GPOUT2- (Projector Error Status -)	OUT
15	EXT_GPOUT3+ (IMB Play/End Status +)	OUT	34	EXT_GPOUT3- (IMB Play/End Status -)	OUT
16	EXT_GPOUT4+ (Projector Heartbeat +)	OUT	35	EXT_GPOUT4- (Projector Heartbeat -)	OUT
17	NC (not connected)	-	36	NC (not connected)	-
18	GND	PWR	37	GND	PWR
19	GND	PWR	-	-	-

EXT\_GPIN1 - EXT\_GPIN4: You can control the projector externally by combinations of input signals (high/low).  
(Projector power supply/turning the lamp on or off/image mute/title selection)

EXT\_GPOUT1 - EXT\_GPOUT4: Functions in the above table are default settings. You can change the assigned functions.

## Input Connector



### • Using GPIO Control

Momentary "ON" pulse enables you to control projector. To enable "ON" pulse, hold it for at least 500 ms. Hold "OFF" for at least 500 ms before "ON". (See page 80)

Here is function list to control projector by using GPIO port.

Pin No.	Photo-coupler ON/OFF				Function
1-20	ON/OFF				3D L/R timing signal input ON/OFF
2-21	ON/OFF				3D L/R display timing signal input ON/OFF
3-22	-				System reserved (used internally)
4-23	-				System reserved (used internally)
5-24 6-25 7-26 8-27	8-27	7-26	6-25	5-24	The following functions apply depending on the combination of input terminals.
	OFF	OFF	OFF	ON	Power ON
	OFF	OFF	ON	OFF	Power OFF
	OFF	OFF	ON	ON	Lamp ON
	OFF	ON	OFF	OFF	Lamp OFF
	OFF	ON	OFF	ON	Image douser ON
	OFF	ON	ON	OFF	Image douser OFF
	OFF	ON	ON	ON	System reserved (used internally)
	ON	OFF	OFF	OFF	Selects the title registered to the preset button 1
	ON	OFF	OFF	ON	Selects the title registered to the preset button 2
	ON	OFF	ON	OFF	Selects the title registered to the preset button 3
	ON	OFF	ON	ON	Selects the title registered to the preset button 4
	ON	ON	OFF	OFF	Selects the title registered to the preset button 5
	ON	ON	OFF	ON	Selects the title registered to the preset button 6
	ON	ON	ON	OFF	Selects the title registered to the preset button 7
	ON	ON	ON	ON	Selects the title registered to the preset button 8

Example for dousing image: Input ON to 5-24 and 7-26 while 6-25 and 8-27 are OFF.

Example for selecting the preset button 2: Input ON to 5-24 and 8-27 while 6-25 and 7-26 are OFF.

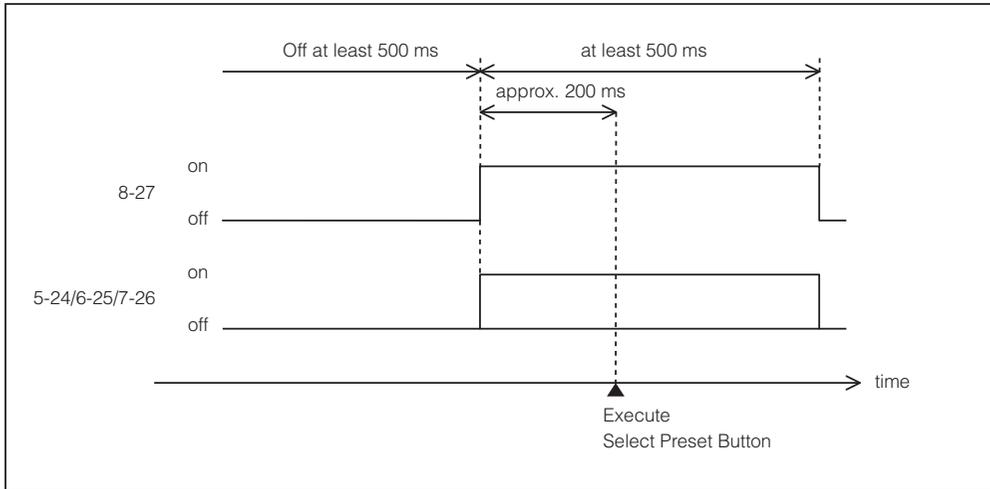
#### NOTE

- The operation command coming from GPI/O port will be canceled when the projector is processing other tasks, such as lamp cooling and switching title.
- Set all other pins than those in use to "OFF".
- The operation command is executed upon continuous input of the "ON" pulse for approximately 200 ms.

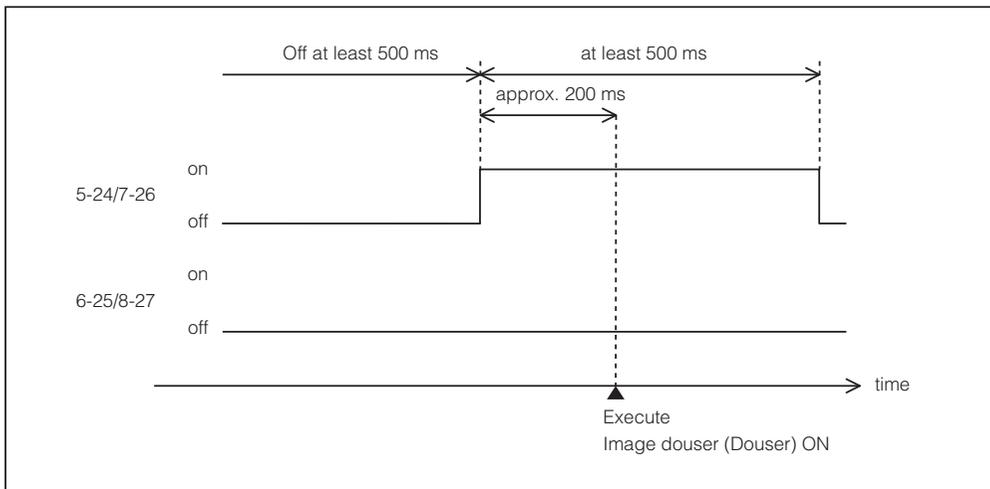
## 6. Appendix

### • Timing chart of GPIO control

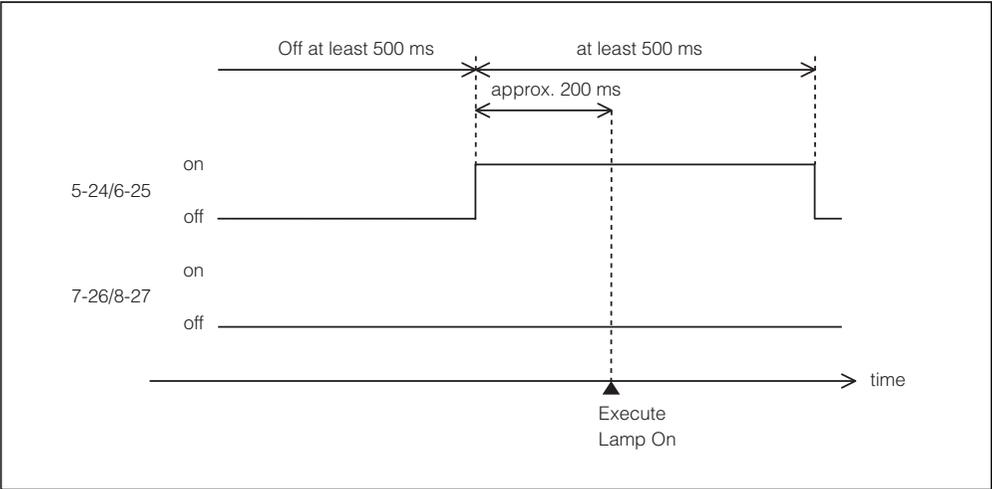
Example of Select Preset Button



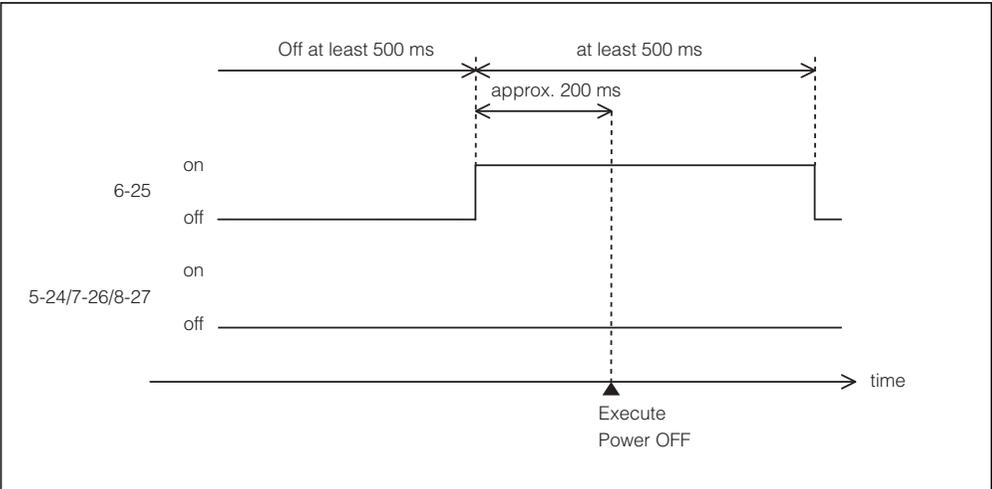
Example for turning the image douser (Douser) on



Example of Lamp On

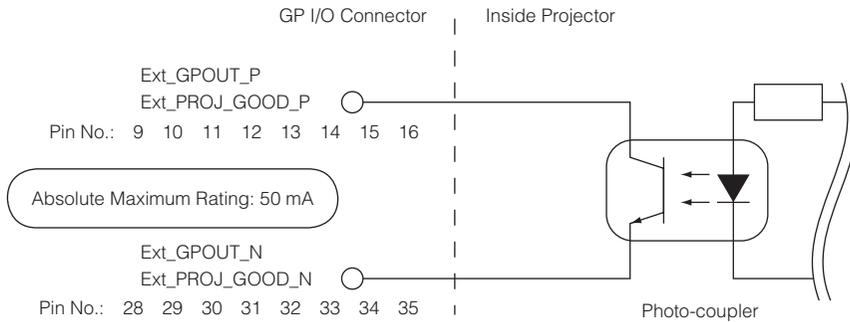


Example for turning the power off



## 6. Appendix

### Output Connector



#### • Using GPIO Control

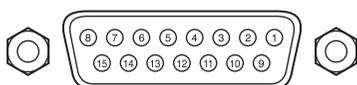
You can use GPIO control for the projector's health check and error check. Also, you can use the output as the trigger to control external devices.

The following functions are assigned to the pin number 13-32, 14-33, 15-34, and 16-35 (EXT\_GPOUT1 - EXT\_GPOUT4) as the default. You can change the assigned functions.

Pin No.	Photo-coupler ON/OFF	Function
9-28	ON/OFF	External 3D L/R timing signal output ON/OFF
10-29	-	System reserved (used internally)
11-30	-	System reserved (used internally)
12-31	ON/OFF	Internal 3D L/R timing signal output ON/OFF
13-32	ON/OFF	GPIO control status check ON: GPIO control (input) is unavailable. OFF: GPIO control (input) is available.
14-33	ON/OFF	Error check ON: Error OFF: No error
15-34	ON/OFF	IMB status check ON: The content is being played. OFF: The content is stopped/paused.
16-35	ON/OFF	Health check (heart beat) ON and OFF are alternately output when operations are normal.

### 6-8-3. 3D connector (D-sub 15 pin)

This is used to connect a 3D image system to the projector.



Pin view of a female connector

Pin No.	Signal Name	I/O	Function
1	+12V	PWR	Supplies power (+12V) to the 3D image system
2	GNDC	GND	Ground
3	GNDC	GND	Ground
4	RS232_RX	IN	Data transmission from the 3D image system (1200 Baud, 8 bits, No Parity)
5	RS232_TX	OUT	Data transmission to the 3D image system (1200 Baud, 8 bits, No Parity)
6	CONN_3D_MODE+	OUT	3D mode status (+) (Connects to the collector of the output transistor of the photo coupler inside the projector)
7	CONN_SYNC+	OUT	3D L/R switching timing signal (+) (Connects to the collector of the output transistor of the photo coupler inside the projector)
8	3D_INPUT_REFERENCE+	IN	3D L/R timing signal (+) (Connects to the anode of the input diode of the photo coupler inside the projector)
9	+12V	PWR	Supplies power (+12V) to the 3D image system
10	3D_INPUT_REFERENCE-	IN	3D L/R timing signal (-) (Connects to the cathode of the input diode of the photo coupler inside the projector)
11	3D_DISPLAY_REFERENCE+	IN	3D L/R display timing signal (+) (Connects to the anode of the input diode of the photo coupler inside the projector)
12	3D_DISPLAY_REFERENCE-	IN	3D L/R display timing signal (-) (Connects to the cathode of the input diode of the photo coupler inside the projector)
13	CONN_3D_MODE-	OUT	3D mode status (-) (Connects to the emitter of the output transistor of the photo coupler inside the projector)
14	CONN_SYNC-	OUT	3D L/R switching timing signal (-) (Connects to the emitter of the output transistor of the photo coupler inside the projector)
15	N/C	-	Unused

## 6-9. Related products list

Product name	Lens memory	Model name	
Lens	Zoom lens 1.63 to 2.03	-	NP-9LS16Z1
	Zoom lens 2.03 to 2.72	-	NP-9LS20Z1
	Zoom lens 4.07 to 6.34	-	NP-9LS40Z
	Zoom lens 1.2 to 1.72	○	NP-9LS12ZM1
	Zoom lens 1.33 to 2.1	○	NP-9LS13ZM1
	Zoom lens 1.62 to 2.7	○	NP-9LS16ZM1
	Zoom lens 2.09 to 3.9	○	NP-9LS20ZM1
	Zoom lens 4.07 to 6.34	○	NP-9LS40ZM1
Lamp	Replacement Lamp	NP-10LP01	
Air Filter	Replacement Filter	NP-9AF01	
Lamp and Air Filter Kit	Replacement Lamp and Filter	NP-10LF01	
Integrated Media Server	Integrated Media Server	NP-90MS02	

