

DLP Cinema® Projector

**NEC**

# Installation Manual

---

DLP Cinema® Projector

**NC1700L**

Chiller Unit

**NP-17CU01**

NEC Display Solutions, Ltd.

Model No.  
NP-NC1700L

# **Introduction**

---

DLP Cinema Projector Installation and Adjustment NEC Display Solutions, Ltd. Manual (This document) describes the procedures to install, adjust and maintain the projector (NC1700L), the chiller unit (NP-17CU01) and peripheral devices. For safe and correct installation, adjustment and use of the projector, carefully read this document before installation.

Refer to the operation manuals of the applicable products for basic operation and remarks of the projector. This document expects the readers who have basic knowledge about projector installation. After reading, please keep this document under care of the company which installed or adjusted the projector.

## **The product name used in this manual**

In this manual, the device name is written as listed below. If the function has difference by devices, the product name is written in the text.

- |                                      |                    |
|--------------------------------------|--------------------|
| • NC1700L                            | Projector          |
| • NP-17CU01                          | Chiller unit       |
| • NP-17AL01                          | Coolant            |
| • NP-90MS02-4K                       | Media block or IMB |
| • Digital Cinema Communicator for S2 | DCC                |

# Important Information

**Precautions:** Please read this manual carefully before using your **NC1700L** and keep the manual handy for future reference.

The NC1700L (projector unit) is called the “projector”, the NP-17CU01 (chiller unit) is called the “chiller unit”, and the NP-90MS02-4K (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.
- CineLink is a trademark of Texas Instruments.
- 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.

## **Laser Safety Caution**

This product is classified as Class 1 of IEC60825-1 Third edition 2014. This product is classified as RG3 of IEC62471-5 First edition 2015. Obey the laws and regulations of your country in relation to the installation and management of the device.

### **CAUTION**

Use of controls or adjustments of procedures other than those specified herein may lead to hazardous laser radiation exposure.

This products is classified as Class 4 of IEC60825-1:2007. Obey the laws and regulations of your country in relation to the installation and management of the device.

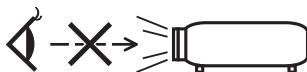


### **CAUTION – CLASS 4 LASER PRODUCT**

LASER LIGHT – AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION

## Important Information

- Do not look into the lens while the projector is on. Serious damage to your eyes could result.



- 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.
- When turning on the projector, ensure that nobody is facing towards the lens in the path of the light emitted from the laser.
- This product can only be operated in theaters by specified personnel. Customers should not operate this product.

### DOC Compliance Notice (for Canada only)

This Class A digital apparatus meets all requirements of the Canadian ICES-003 Standards.

#### **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.

#### **WARNING**

THE END USER IS NOT ALLOWED TO OPEN OR MODIFY THE PRODUCT.

NO USER SERVICEABLE PARTS.

MAINTAIN AND SERVICE OF THE PRODUCT IS ONLY TO BE HANDLED BY NEC AUTHORIZED TECHNICIANS.

### 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. Do not point the projection beam toward other people or reflective objects.
2. 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.
3. 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 laser life.  
Do not put the projector on its side when the laser is on.  
Doing so may cause damage to the projector.

4. Do not place the projector in direct sunlight, near heaters or heat radiating appliances.
5. Exposure to direct sunlight, smoke or steam could harm internal components.
6. Handle your projector carefully. Dropping or jarring your projector could damage internal components.
7. When moving the projector, be sure to remove the lens and chiller unit from the projector before moving it.
8. To carry the projector, a minimum of four persons are required.

9. Do not hold the lens part with your hand. Otherwise the projector may tumble or drop, causing personal injury.
10. Do not place heavy objects on top of the projector.
11. Turn off the projector, and disconnect the power cable before moving the projector.
12. 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.

- Refer to "About High Altitude mode" (page 7) for details.
13. Turn off the projector when removing and installing lenses. Failure to do so can cause loss of vision.

14. 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

15. When moving the projector, check the following:
  - That the projector and chiller unit are turned off, the power plug is disconnected from the outlet
  - That the connector cable and hose that connects the device to the projector is unplugged

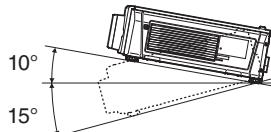
## **WARNING**

- 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.
- 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.



When using the projector tilted in the forward or backward direction, use it in the range of (+10° to -15°) from horizontal. If you tilt it outside of this range or tilt it to the left or right, it may become damaged.

If the projector is tilted outside of this range when used tilted in the forward or backward direction, "TiltDegreeOver" is displayed on the LCD screen. If this message appears, change the installation of the projector so that the angle is within the given range from horizontal.



When installed on a floor or a desktop



### **Power Supply**

- The projector is so designed that it operates with the power supply voltage described below.
  - Projector  
AC200-240V 10.7A(MAX) 50/60Hz Single-phase
  - Chiller unit  
AC200-240V 9.2A 50Hz Single-phase  
AC220-240V 10.3A 60Hz Single-phase

Ensure that your power supply fits this requirement before attempting to use your projector.
- 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 "2-3. Selecting the Power Cable (Projector) (English)" (page 51), "2-7. Connecting the Power Cable for the Chiller Unit" (page 64), for details on connecting the power cable.

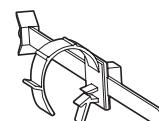
- Handle the power cable carefully. A damaged or frayed power cable can cause electric shock or fire.
  - Do not bend or tug the power cable excessively.
  - Do not place the power cable under the projector, or any heavy object.
  - Do not cover the power cable with other soft materials such as rugs.
  - Do not heat the power cable.
  - Do not change the arrangement of the installed power cable.
- If the projector will not be used for an extended period of time, turn off the projector and chiller unit, and disconnect the power plug from the outlet.
- 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.
- Do not touch the projector during a thunder storm. Doing so can cause electrical shock or fire.

**For UK only:** In UK, a BS approved power cable with moulded plug has a Black (five Amps) fuse installed for use with this equipment. If a power cable is not supplied with this equipment please contact your supplier.

## **CAUTION**

The power cable stopper (shown in below) is supplied with this projector.

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. For using the power cable stopper, refer to the user's manual.



### **Fire and Shock Precautions**

- 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 (30 cm) 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. Allow at least 19.8 inches (50 cm) of space between your chiller unit and a wall. (See page 32)

## Important Information

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, turn off the projector and chiller unit, disconnect the power plug from the outlet 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 try to touch the air outlets on the projector during normal projector operation as it is hot.

### Cleaning

1. Turn off the projector and unplug the power cable before cleaning the cabinet or replacing the laser.
2. During cleaning, turn off the projector and chiller unit, and disconnect the power plug from the outlet.
3. 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.
4. Use a blower or lens paper to clean the lens, and be careful not to scratch or mar the lens.
5. 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.)
2. Do not turn off the AC power for 90 seconds after the laser is turned on and while the POWER indicator is blinking green. Doing so could cause premature laser 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.

### Backing up authentication data

- In order to backup the authentication data needed to receive cinema video signals, a secondary battery is used inside the projector. If you have not used the projector at all for 6 months or more, the battery will lose power and the authentication data will not be able to be backed up. Always put the projector into standby mode for at least 48 hours once every 6 months to recharge the battery.

### Handling the Battery

- Take care when handling the battery, as it could cause fire, injury, or damage to surrounding objects.
  - Do not short out, dismantle, or place batteries in a fire.
  - Do not use the battery other than as designated.
  - Ensure that you have the batteries' polarity (+/-) aligned correctly.
- Dispose of used batteries according to your local regulations.
- There is a battery mounted on the electronic circuit board within the main unit. When disposing of the main unit, do not dismantle the device or remove the internal circuit board, and contact the shop where you purchased the product or your local government agency.

## Peripheral Devices and Connecting Cables

Use shielded cables for the cables connecting the IMB with peripheral devices (GPI, GPO, AES cables). If you use a non-shielded cable, there is a risk that radio interference may occur.

### 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

## Light Module

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

## About High Altitude mode

- Set [Fan Speed Mode] to [High Altitude] when using the projector at altitudes approximately 5500 feet/1600 meters or higher.

Using the projector at altitudes approximately 5500 feet/1600 meters or higher without setting to [High Altitude] can cause the projector to overheat and the projector could shut down. If this happens, wait a couple minutes and turn on the projector.

- Using the projector at altitudes less than approximately 5500 feet/1600 meters and setting to [High Altitude] can cause the projector to overcool, causing the image to flicker. Switch [Fan Speed Mode] to [Auto].
- Using the projector at altitudes approximately 5500 feet/1600 meters or higher can shorten the life of internal parts.

## 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. 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 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 EU:** The crossed-out wheeled bin implies that used batteries should not be put to the general household waste! There is a separate collection system for used batteries, to allow proper treatment and recycling in accordance with legislation.

**According to the EU directive 2006/66/EC, the battery can't be disposed improperly. The battery shall be separated to collect by local service.**

## 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 Munich, 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/>

## **Important Information**

---

### **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

### **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

### **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  
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  
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)

## Laser Aperture Modules

- The laser module is equipped in this product.

Use of controls or adjustments of procedures other than those specified herein may lead to hazardous laser radiation exposure.

- This product is classified as Class 4 of IEC60825-1 Second edition 2007.

This product is classified as Class 1 of IEC60825-1 Third edition 2014.

This product is classified as RG3 of IEC62471-5 First edition 2015.

Obey the laws and regulations of your country in relation to the installation and management of the device.

Internal laser output of the laser module

Blue laser diodes: Wave length 450-460 nm, Output power 450 W

Red laser diodes: Wave length 636-642 nm, Output power 100 W

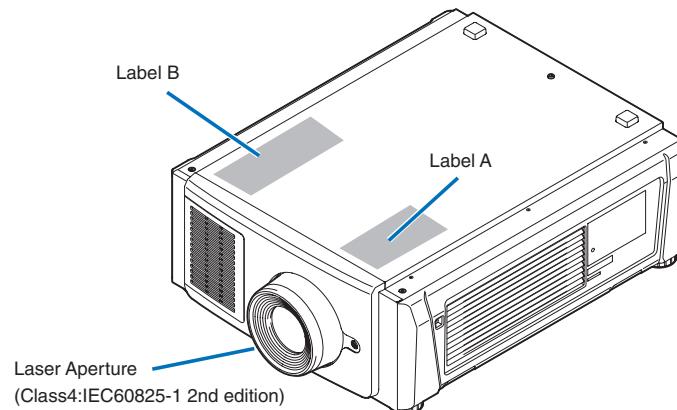
### **WARNING**

Always wear laser protection glasses (that meet the following conditions) while working to protect your eyes.

<Requirements for laser protection glasses>

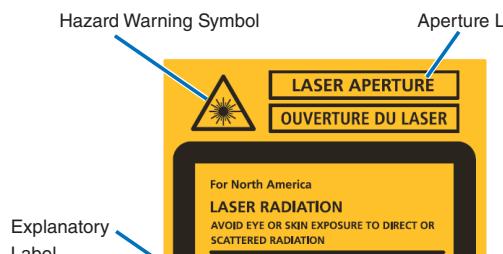
- Optical density: Blue (450 - 460 nm) OD4 or higher, Red (636 - 642 nm) OD4 or higher
- Transmissivity of visible light: 4.5% or higher

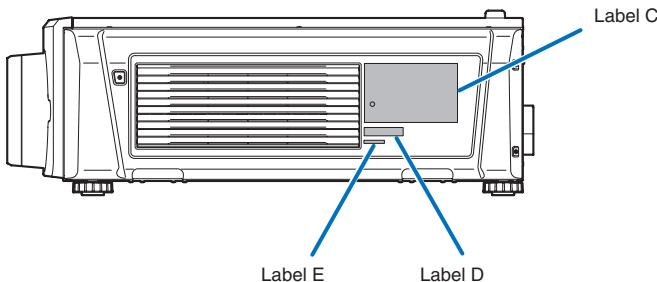
## Important Information



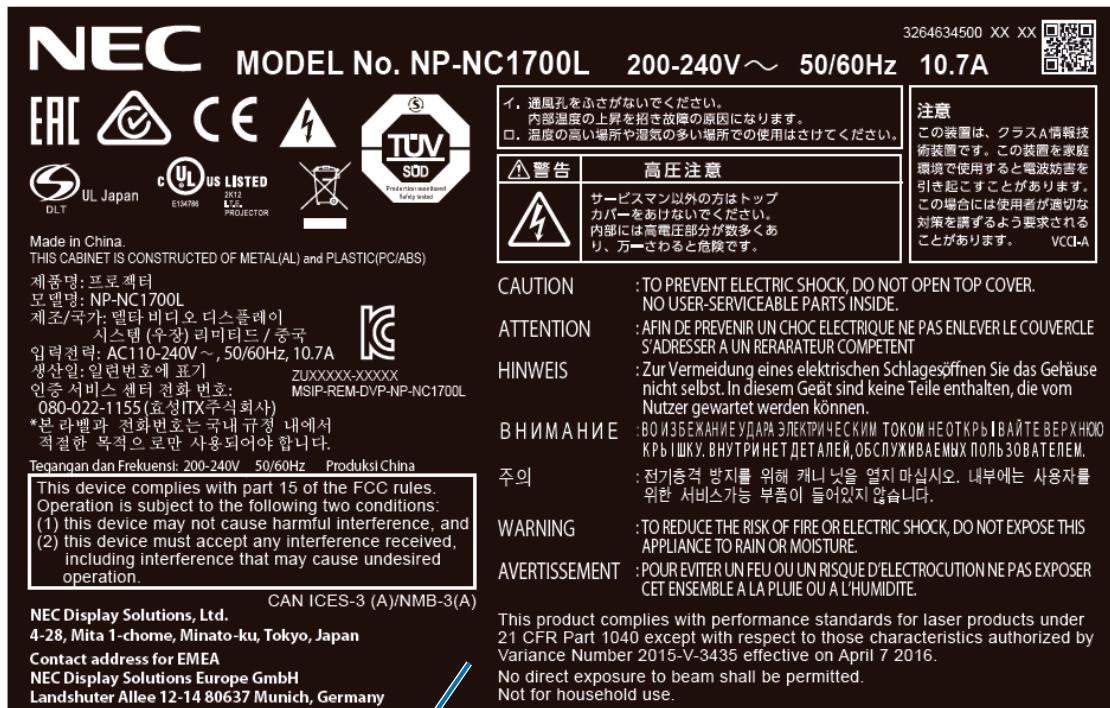
Label A: Hazard Warning Symbol,  
Explanatory Label and  
Aperture Label

Label B: Risk Group /  
Lamp Safety Label





Label C: Identification Label



Certification Statement Label

This product complies with performance standards for laser products under 21 CFR Part 1040 except with respect to those characteristics authorized by Variance Number 2015-V-3435 effective on April 7 2016.

Label D



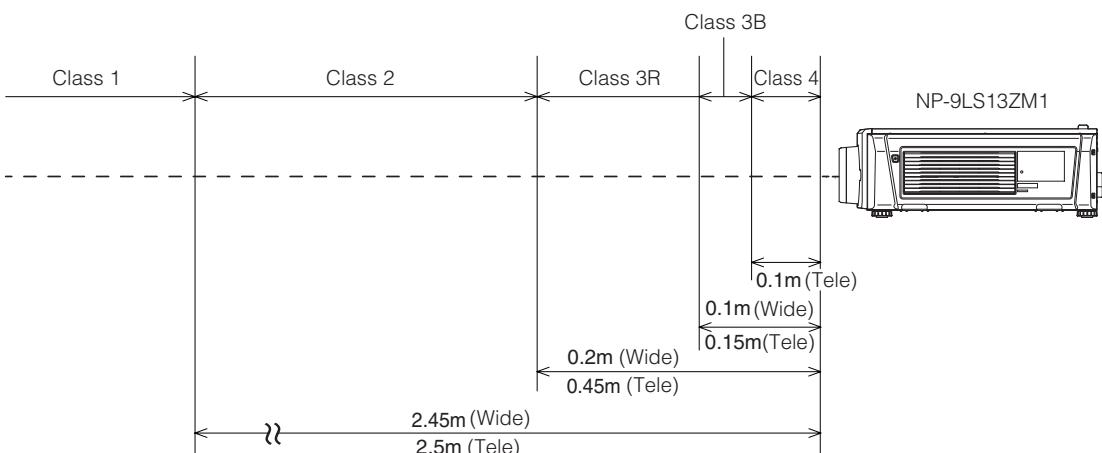
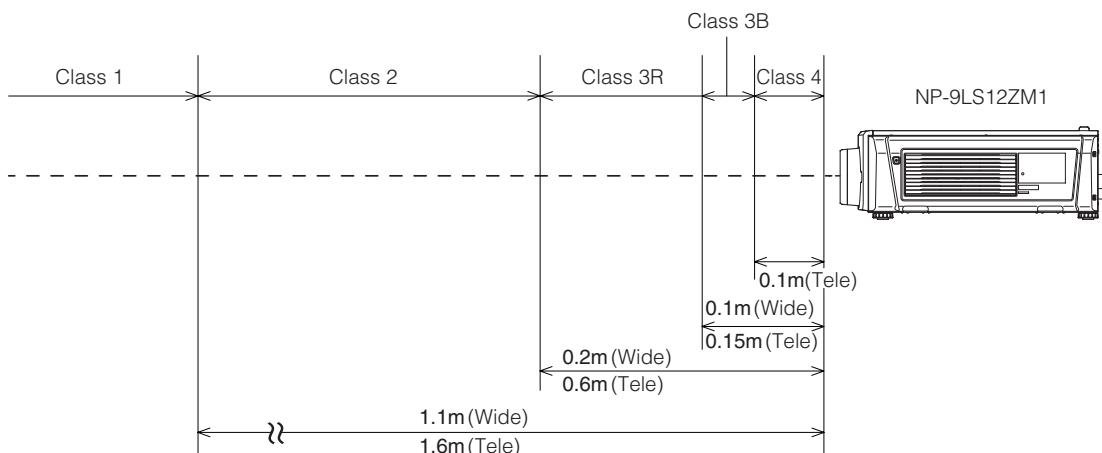
Label E

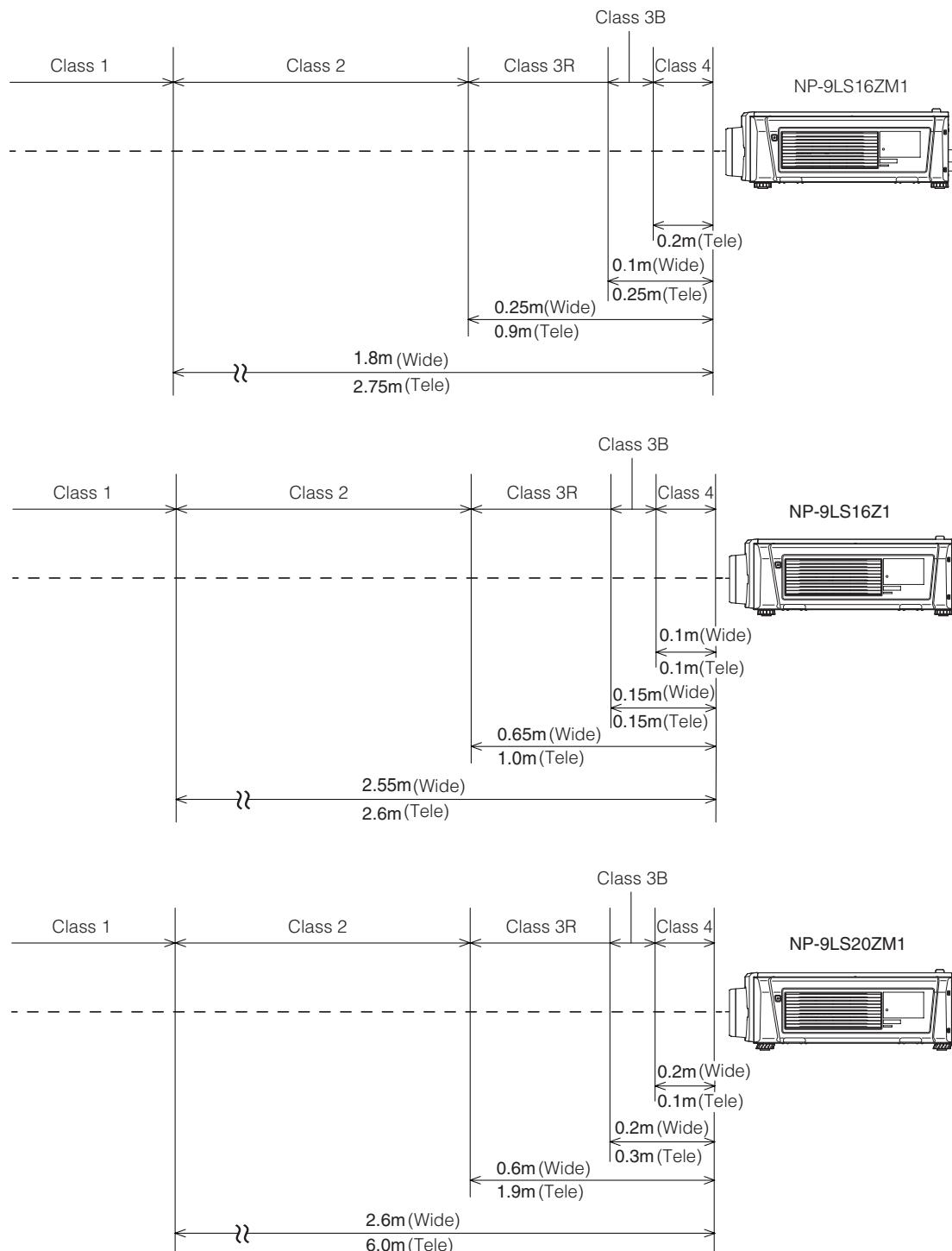
M/F Date : YYYY. MM. DD

## Important Information

### ■ Laser light specifications

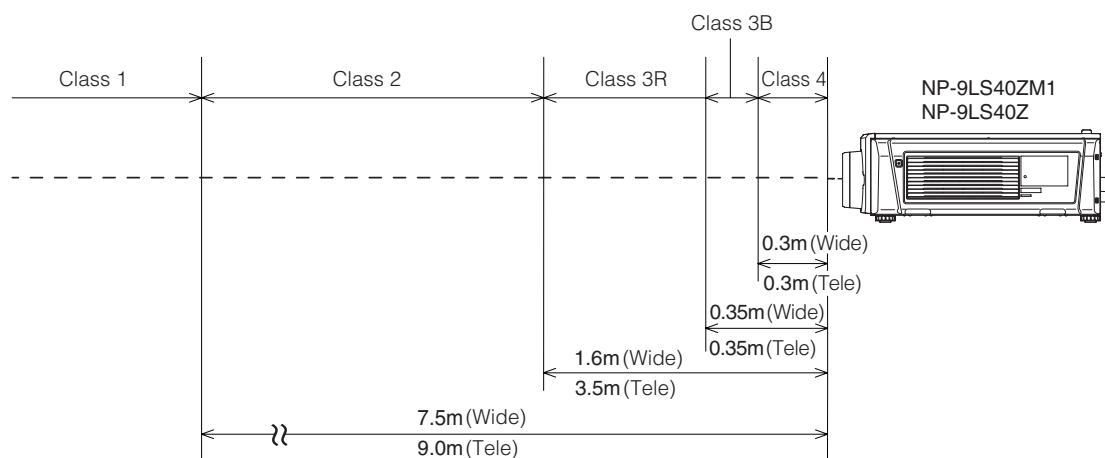
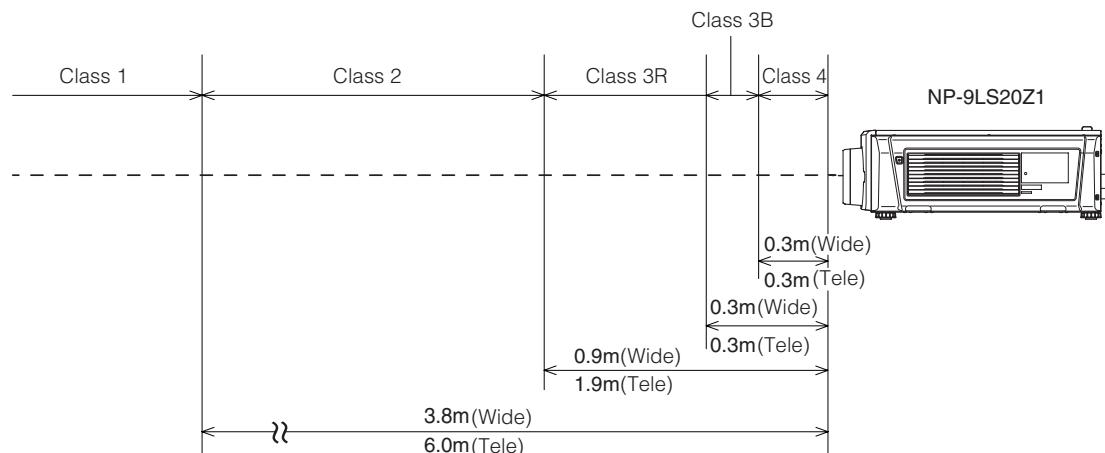
Class	Class 4 laser product
Wavelength	Blue: 450 - 460 nm, Red: 636 - 642 nm
Maximum optical output	Blue (450 - 460 nm): 800 mW, Red (636 - 642 nm): 890 mW
Beam diameter	10 mm
Divergence	2 Degree to 22 Degree, lens dependent
Pulse duration	CW (Continuous Wave)
Modulation	23 - 192 Hz, due to frame rate
MPE	Blue (450 - 460 nm), Red (636 - 642 nm): 260 J/m <sup>2</sup>
NOHD	11 m
Exposure duration	10 seconds





## Important Information

---



## Range of Laser Light Emissions

The following range indicates the maximum range of emission of laser light.

Horizon angle: H

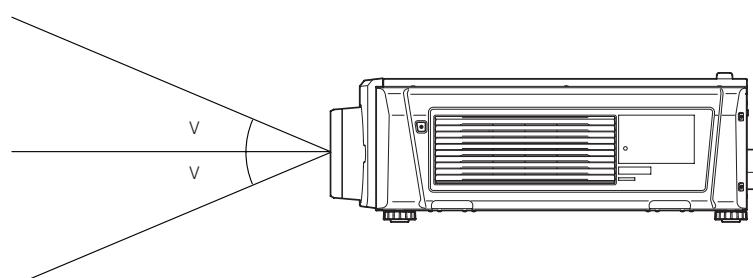
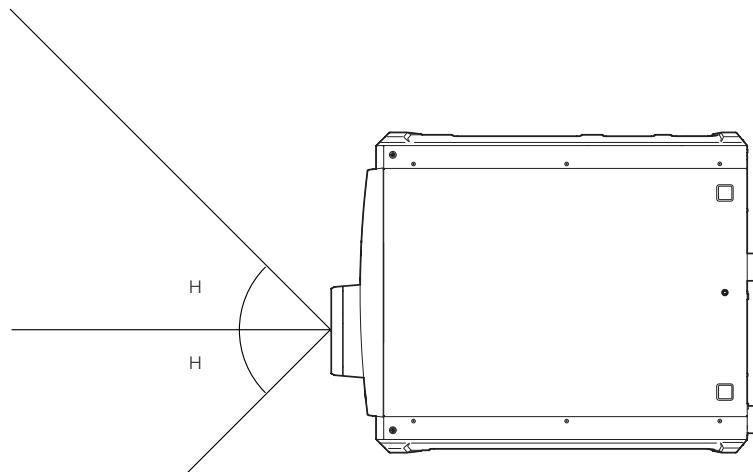
[Degree]

Lens	Zoom	
	Tele	Wide
NP-9LS12ZM1	15.7	22.1
NP-9LS13ZM1	13.3	20.2
NP-9LS16ZM1	10.1	16.6
NP-9LS16Z1	13.5	16.9
NP-9LS20ZM1	7.2	13.2
NP-9LS20Z1	10.1	13.2
NP-9LS40ZM1	4.4	6.8
NP-9LS40Z1		

Vertical angle: V

[Degree]

Lens	Zoom	
	Tele	Wide
NP-9LS12ZM1	8.5	12.2
NP-9LS13ZM1	7.1	11.0
NP-9LS16ZM1	5.4	9.0
NP-9LS16Z1	7.1	9.1
NP-9LS20ZM1	3.8	7.1
NP-9LS20Z1	5.4	7.1
NP-9LS40ZM1	2.3	3.6
NP-9LS40Z1		



## Radiation Range of Emitted Light by the Projector (HD: Hazard Distance)

- The below table describes the radiation range of emitted light by the projector that is classified as Risk Group 3 (RG3) of IEC62471.

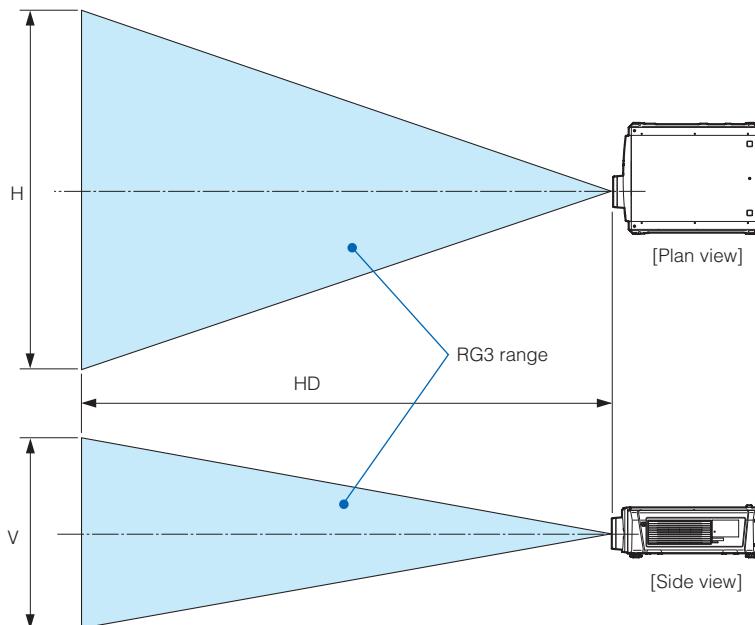
- Please keep within bounds for installing the projector.

Install a barrier for preventing human eyes from entering the RG3 area.

For the barrier installation position, keep horizontal safety zone over 1.5m from the RG3 area.

In case to install the projector over head, keep over 3m distance at least between the floor surface and the RG3 area.

Lens	HD(m)	H(m)	V(m)
NP-9LS12ZM1	2.8	1.63	0.86
NP-9LS13ZM1	3.5	1.67	0.88
NP-9LS16ZM1	4.2	1.56	0.82
NP-9LS16Z1	3.7	1.81	0.96
NP-9LS20ZM1	4.7	1.21	0.64
NP-9LS20Z1	5.2	1.91	1.01
NP-9LS40Z	10.0	1.58	0.83
NP-9LS40ZM1			



\* If lens shift is utilized, please consider the shift of projected image according to the volume of lens shift.

 **CAUTION**

**Please heed all precaution for safety.**

**To install the projector**

- For planning the layout of the projector, make sure to take safety measures instructed on the installation manual.
- In order to refuse danger, install either a wall outlet within easy reach for pulling out the power plug in emergency or a device as a breaker to shut down the power supply to the projector.
- Take safety measures preventing human eyes from entering the RG3 area.
- Considering the installation place, select an appropriate lens and secure safety zone that is determined for each lens. For operation on the powered projector as light adjustment, make sure appropriate safety measures have been taken.
- Check the validity of taken security measures if appropriate safety zone based on the installed lens is secured. Periodically check the validity and keep these results.
- Educate the administrator of the projector (operators) about safety before starting to operate the projector.

**To use the projector**

- Instruct the administrator of the projector (operators) to perform inspections before powering on the projector. (Including the safety check against emitted light by the projector)
- Instruct the administrator of the projector (operators) to be in circumstances able to control the projector whenever the projector is powered on for an emergency.
- Instruct the administrator of the projector (operators) to keep the installation manual, user's manual and inspection records to a place where they can take these documents out easily.
- Instruct them to clarify if the projector is conformed to standards of each country and region.

## Radiation Range of Emitted Light by the Projector (HD: Hazard Distance)

- The below table describes the radiation range of the MPE (Maximum Permissible Exposure) values of ANSI Z 136.1.
- Please keep within bounds for installing the projector.

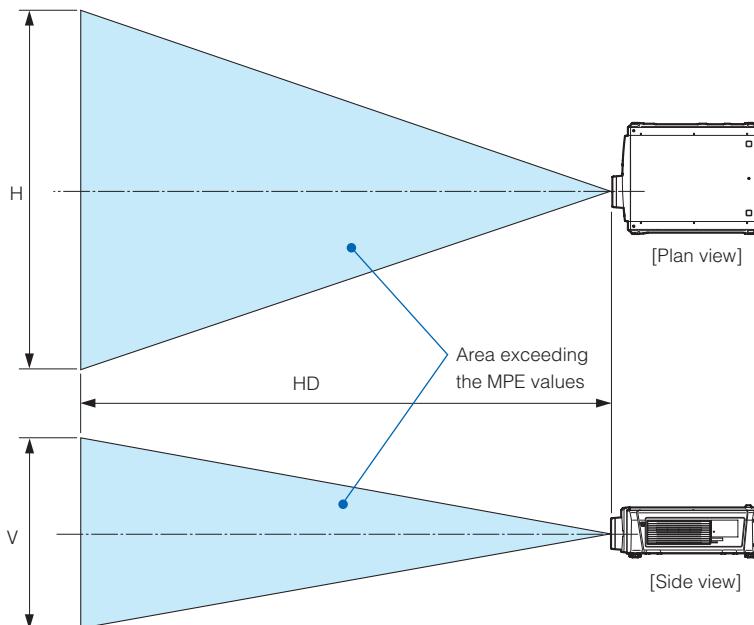
Install a barrier for preventing human eyes or skin from entering irradiation area by laser radiation exceeding the MPE values.

For the barrier installation position, keep over 1m as horizontal safety zone from the area exceeding the MPE values.

In case to install the projector over head, keep over 2.5m distance at least between the floor surface and the area exceeding the MPE values.

- Avoid eyes or skin from exposing to direct or scattered emission exceeding the MPE values.

Lens	Zoom	HD(m)	H(m)	V(m)
NP-9LS12ZM1	Wide	0.40	0.33	0.18
	Tele	0.80	0.47	0.25
NP-9LS13ZM1	Wide	0.35	0.26	0.14
	Tele	0.90	0.43	0.23
NP-9LS16ZM1	Wide	0.50	0.31	0.16
	Tele	1.87	0.69	0.37
NP-9LS16Z1	Wide	1.00	0.61	0.32
	Tele	1.22	0.60	0.32
NP-9LS20ZM1	Wide	1.10	0.53	0.28
	Tele	3.95	1.01	0.53
NP-9LS20Z1	Wide	1.60	0.79	0.42
	Tele	1.70	0.63	0.33
NP-9LS40Z	Wide	4.30	1.06	0.56
NP-9LS40ZM1	Tele	4.90	0.77	0.41



\* If lens shift is utilized, please consider the shift of projected image according to the volume of lens shift.

 **CAUTION**

**Please heed all precaution for safety.**

**To install the projector**

- For planning the layout of the projector, make sure to take safety measures instructed on the installation manual.
- In order to refuse danger, install either a wall outlet within easy reach for pulling out the power plug in emergency or a device as a breaker to shut down the power supply to the projector.
- Take safety measures preventing human eyes from entering the area exceeding the MPE values.
- Considering the installation place, select an appropriate lens and secure safety zone that is determined for each lens. For operation on the powered projector as light adjustment, make sure appropriate safety measures have been taken.
- Make sure to securely fix the projector for having enough durability to stand projector weight 66kg plus lens weight 3kg i.e. total weight 69kg for long time. At the same time, pay enough attention not to intrude the secured safety zone caused on shifting the light emission.
- Record the installation result onto the sheet at the end of this installation manual and submit it to NEC. This record is kept by the installation service agent and NEC.  
Moreover, submit this record to the responsible person of the theater, too.
- Check the validity of taken security measures if appropriate safety zone based on the installed lens is secured. Periodically check the validity and keep these results.
- Educate the administrator of the projector (operators) about safety before starting to operate the projector.  
The education, training, examination, and access control, etc should be taken place according to ANSI Z 136-1 (the latest version).
- Clearly indicate signs of "LASER RADIATION WARNING" , "ACCESS LIMIT" and "No direct exposure to beam shall be permitted." at the installation place as the projection room.
- Limit the access into the installation place by practical method as key lock or lock by a password.

**To use the projector**

- Instruct the administrator of the projector (operators) to perform inspections before powering on the projector. (Including the safety check against emitted light by the projector)
- Instruct the administrator of the projector (operators) to be in circumstances able to control the projector whenever the projector is powered on for an emergency.  
In emergency (as if the projector is shifted from the installation position, is fallen down, issues smoke and fire, abnormal motion is found, trouble is found, etc), the administrator of the projector should immediately pull out the power plug from the wall outlet or stop the projector by the safety device (a breaker).
- Instruct the administrator of the projector (operators) to keep the installation manual, user's manual and inspection records to a place where they can take these documents out easily.
- Study the standards and regulations of your state and area for installing and using the projector and conform them and then maintain confirmed conditions.

# Wichtige Informationen

**Vorsichtsmaßnahmen:** Lesen Sie sich dieses Handbuch bitte sorgfältig durch, bevor Sie den **NC1700L** benutzen, und bewahren Sie das Bedienungshandbuch in greifbarer Nähe als spätere Referenz auf.

In diesem Handbuch wird der NC1700L (Projektoreinheit „Projektor“ und Wird der NP-17CU01 als „Wasserkühleinheit“ bezeichnet, das NP-90MS02-4K (integriert Media-Server) „Media Block“ oder „IMB“ genannt.

- DLP, DLP Cinema und die entsprechenden Logos sind Warenzeichen oder registrierte Warenzeichen von Texas Instruments.
- CineLink ist ein Warenzeichen von Texas Instruments.
- Andere in diesem Handbuch genannte Produkt- und Herstellernahmen sind eingetragene Warenzeichen oder Warenzeichen der entsprechenden Unternehmen.
- Die Bildschirmanzeigen und Abbildungen in diesen Handbuch können leicht von den tatsächlichen Anzeigen abweichen.
- GPL/LGPL Softwarelizenzen

Das Produkt beinhaltet Software, die unter GNU General Public License (GPL), GNU Lesser General Public License (LGPL) und anderen lizenziert ist.

Für weitere Informationen zu jeder Software lesen Sie bitte die „readme.pdf“ im Ordner „about GPL&LGPL“ auf der mitgelieferten CD-ROM.

## **WARNUNG**

ZUR VERMEIDUNG VON FEUER UND ELEKTRISCHEN SCHLAGEN DARF DAS GERÄT WEDER REGEN NOCH FEUCHTIGKEIT AUSGESETZT WERDEN.

## **ACHTUNG**

ZUR VERMEIDUNG EINES ELEKTRISCHEN SCHLAGES ÖFFNEN SIE NICHT DAS GEHÄUSE. INNERHALB DES GEHÄUSES BEFINDEN SICH KEINE FÜR DIE BEDIENUNG DES GERÄTES ERFORDERLICHEN TEILE. LASSEN SIE DEN KUNDENDIENST NUR VON HIERFÜR QUALIFIZIERTEN PERSONEN DURCHFÜHREN.



Dieses Symbol warnt den Bediener, dass innerhalb des Gerätes unisolierte Teile vorhanden sind, die Hochspannung führen und deren Berührung einen elektrischen Schlag verursachen kann.



Dieses Symbol macht den Bediener darauf aufmerksam, dass wichtige, den Betrieb und die Wartung des Gerätes betreffende Schriften beigelegt sind. Um irgendwelche Probleme zu vermeiden, sollten diese Beschreibungen sorgfältig gelesen werden.

## **Vorsichtsmaßnahmen zur Lasersicherheit**

Dieses Produkt ist gemäß IEC60825-1 Dritte Auflage 2014 als Klasse 1 klassifiziert. Dieses Produkt ist als RG3 von IEC62471-5 Erste Ausgabe 2015 eingestuft. Beachten Sie bei der Installation und Verwaltung des Geräts die Gesetze und Bestimmungen Ihres Landes.

### **ACHTUNG**

Die Verwendung von Bedienelementen oder die Änderung von Prozeduren in Abweichung von den in diesem Handbuch beschriebenen könnte zu gefährlichem Kontakt mit Laserstrahlung führen.

- Schauen Sie nicht in die Linse, wenn der Projektor eingeschaltet ist. Dies könnte schwere Augenverletzungen zur Folge haben.



- Lichtkegel des Projektors fern. Da das von der Linse projizierte Licht umfassend ist, können alle abnormalen Gegenstände, die in der Lage sind, das aus der Linse austretende Licht umzulenken, unvorhersehbare Ereignisse wie z.B. einen Brand oder Augenverletzungen verursachen.
- Wenn Sie den Projektor einschalten, stellen Sie sicher, dass sich keine Personen in dem vom Laser abgegebenen Lichtstrahl zur Linse hingewandt befinden.
- Dieses Produkt darf in Vorführsälen nur durch festgelegtes Personal betrieben werden. Endkunden dürfen dieses Produkt nicht bedienen.

## **WARNUNG**

Dieses Gerät ist ein Produkt der Klasse A. Der Betrieb dieses Gerätes in Wohngebieten kann erhebliche Störungen des Funkempfangs verursachen. In diesem Fall muss der Benutzer diese Störungen beseitigen.

### ACHTUNG

- Verwenden Sie ein Signalkabel mit Ferritkern, um Störungen beim Radio- und Fernsehempfang zu reduzieren. Die Verwendung eines Signalkabels ohne Ferritkern kann Störungen beim Radio- und Fernsehempfang verursachen.
- Durch Prüfung dieses Gerätes nach FCC, Part 15 wurde die Einhaltung der Grenzwerte für digitale „Class A“-Geräte bestätigt. Diese Grenzwerte gelten für einen wirksamen Schutz gegen Störungen in Gewerbegebieten.

Dieses Gerät erzeugt und verwendet Funkfrequenzenergie und kann diese ausstrahlen und kann, wenn es nicht entsprechend dem Bedienungshandbuch aufgestellt und betrieben wird, Störungen beim Radio- und Fernsehempfang verursachen. Die Verwendung dieses Gerätes in Wohngebieten verursacht wahrscheinlich Störungen, die der Benutzer in eigener Verantwortung zu beseitigen hat.

### WARNUNG

DER ENDBENUTZER DARF DAS PRODUKT NICHT ÖFFNEN ODER MODIFIZIEREN.  
ES GIBT KEINE VOM BENUTZER ZU WARTENDEN TEILE.  
DIE WARTUNG DES PRODUKTS DARF NUR VON NECAUTORISIERTEN TECHNIKERN DURCHGEFÜHRT WERDEN.

### Wichtige Sicherheitshinweise

Diese Sicherheitshinweise sollen eine lange Lebensdauer Ihres Projektors sicherstellen und vor Feuer und elektrischen Schlägen schützen. Lesen Sie diese Hinweise sorgfältig durch und beachten Sie alle Warnungen.

### Installation

1. Richten Sie den Projektionsstrahl nicht auf Personen oder reflektierende Gegenstände.
  2. Wenn Sie Informationen zum Transport und zur Installation des Projektors wünschen, wenden Sie sich an Ihren Händler. Versuchen Sie nicht, den Projektor selbst zu transportieren oder zu installieren.
- Zur Gewährleistung eines ordnungsgemäßen Betriebs des Projektors und zur Minimierung des Risikos von Verletzungen von Personen muss der Projektor von qualifizierten Technikern installiert werden.
3. Stellen Sie den Projektor auf eine flache, waagerechte Fläche in einer trockenen Umgebung; frei von Staub und Feuchtigkeit.
  4. Stellen Sie den Projektor weder in direktes Sonnenlicht noch in die Nähe einer Heizung oder sonstiger Hitze abstrahlender Einrichtungen.

5. Wenn das Gerät direktem Sonnenlicht, Rauch oder Dampf ausgesetzt wird, können interne Komponenten beschädigt werden.
6. Behandeln Sie Ihren Projektor vorsichtig. Fallenlassen oder starkes Schütteln kann interne Komponenten beschädigen.
7. Beim Transportieren des Projektors sicherstellen, dass Linsen- und Kühleinheit vor dem Transport vom Projektor entfernt werden.
8. Zum Tragen des Projektors werden mindestens vier Personen benötigt.
9. Halten Sie den Projektor nicht mit der Hand am Linsenbereich fest. Andernfalls kann der Projektor umkippen oder herunterfallen und Verletzungen verursachen.
10. Legen Sie keine schweren Gegenstände auf den Projektor.
11. Schalten Sie den Projektor aus, und ziehen Sie das Netzkabel ab, bevor Sie den Projektor umsetzen.
12. Die Einstellungen des Kuhlgeblases müssen angepasst werden, wenn der Projektor in Hohenlagen von ca. 5500 Fuß / 1600 Meter oder höher verwendet wird. Wenden Sie sich vorher an Ihren Händler. Einzelheiten dazu finden Sie unter „Über den Modus Große Höhe“ (Seite 24).
13. Schalten Sie den Projektor beim Entfernen und Einsetzen der Linsen aus. Die Nichtbeachtung dieser Vorschrift kann zur Erblindung führen.
14. Installieren und bewahren Sie den Projektor nicht unter den nachfolgend aufgeführten Umständen auf. Nichtbeachtung kann eine Fehlfunktion verursachen.
  - In starken Magnetfeldern
  - In einer Umgebung mit Schadgas
  - Im Freien
15. Achten beim Transportieren des Projektors auf folgende Punkte:
  - Dass Projektor und Kühleinheit ausgeschaltet sind und das Netzkabel vom Stromnetz getrennt ist.
  - Dass das Anschlusskabel und der Schlauch, der das Gerät mit dem Projektor verbindet, nicht eingesteckt sind.

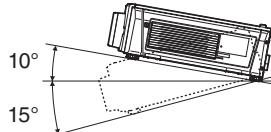
### **WARNUNG**

1. Bedecken Sie die Linse nicht mit der mitgelieferten Linsenkappe o.ä. während der Projektor eingeschaltet ist. Dies kann eine Verformung oder ein Schmelzen der Kappe verursachen. Darüber hinaus würden Sie sich aufgrund der vom Lichtausgang abgestrahlten Hitze wahrscheinlich die Hände verbrennen.
2. Platziere Sie keine hitzeempfindlichen Objekte vor der Projektionslinse. Dies könnte zum Schmelzen des Objekts durch die Hitze am Lichtausgang führen.

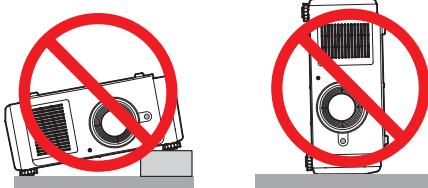


Wenn Sie den Projektor nach vorne oder hinten gekippt verwenden wollen, kippen Sie ihn in einem Bereich von +10° bis -15° von der Horizontalen. Wenn Sie ihn außerhalb dieses Bereichs oder nach links oder rechts kippen, kann es zu einer Beschädigung des Projektors kommen.

Wenn Sie den Projektor nach vorne oder hinten gekippt verwenden und der Projektor außerhalb dieses Bereichs gekippt wird, wird auf dem LCD-Bildschirm „TiltDegreeOver“ angezeigt. Wenn diese Meldung angezeigt wird, ändern Sie die Installation des Projektors, sodass der Winkel innerhalb des angegebenen Bereichs von der Horizontalen liegt.



Bei einer Boden- oder Tischmontage



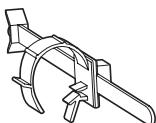
### **Spannungsversorgung**

1. Der Projektor wurde so konzipiert, dass er mit der unten aufgeführten Netzspannung läuft.
  - Projektor  
200-240V Wechselstrom 10,7A(MAX) 50/60Hz Einphasenstrom
  - Wasserkühleinheit  
200-240V Wechselstrom 9,2A 50Hz Einphasenstrom  
220-240V Wechselstrom 10,3A 60Hz EinphasenstromStellen Sie sicher, dass die vorhandene Spannungsversorgung diesen Vorgaben entspricht, bevor Sie versuchen, Ihren Projektor zu betreiben.
2. Es wird kein Netzkabel mit dem Projektor geliefert. Fragen Sie Ihren Händler, welches Netzkabel auszuwählen und zu kaufen ist. Verwenden Sie ein Netzkabel, das die Normen und Netzspannung des Landes, in dem der Projektor verwendet wird, erfüllt. Siehe „2-4. Auswahl des Netzkabels (Projektor) (Deutsch)“ (Seite 54), „2-7. Connecting the Power Cable for the Chiller Unit“ (Seite 64) für Einzelheiten zum Anschließen des Netzkabels.
3. Behandeln Sie das Netzkabel vorsichtig. Ein beschädigtes oder durchgescheueretes Netzkabel kann elektrische Schläge oder einen Brand verursachen.
  - Biegen oder ziehen Sie das Netzkabel nicht übermäßig.
  - Legen Sie das Netzkabel nicht unter den Projektor oder unter einen anderen schweren Gegenstand.
  - Bedecken Sie das Netzkabel auch nicht mit weichen Materialien, z. B. mit Teppichen.
  - Erhitzen Sie das Netzkabel nicht.
  - Verändern Sie nicht die Vorkehrungen für das installierte Netzkabel.
4. Falls der Projektor für längere Zeit nicht verwendet wird, schalten Sie den Projektor und die Kühleinheit aus, und trennen Sie das Netzkabel vom Stromnetz.
5. Wenn Sie das Netzkabel und das Signalkabel in unmittelbarer Nähe zueinander platzieren, kann Überlagerungsrauschen auftreten. Vergrößern Sie in einem derartigen Fall den Abstand zwischen diesen beiden Kabeln.
6. Berühren Sie den Projektor auf keinen Fall während eines Gewitters. Wenn Sie dies nicht beachten, kann dies zu einem elektrischen Schlag oder einem Feuer führen.

### **ACHTUNG**

Der nachfolgend abgebildete Netzkabelstopper wird mit diesem Projektor mitgeliefert.

Um zu verhindern, dass sich das Netzkabel löst, stellen Sie sicher, dass alle Stifte des Netzkabels vollständig in den Wechselstromeingangsanschluss des Projektors eingesteckt sind, bevor Sie den Netzkabelstopper verwenden, um das Netzkabel zu fixieren. Ein lockerer Kontakt des Netzkabels kann einen Brand oder Stromschlag verursachen. Informationen zur Verwendung des Netzkabelstoppers finden Sie im Benutzerhandbuch.



### **Vorsichtsmasnahmen zur Vermeidung von Bränden und elektrischen Schlägen**

1. Sorgen Sie für ausreichende Belüftung und stellen Sie außerdem sicher, dass die Lüftungsschlitzte frei bleiben, damit sich innerhalb des Projektors kein Hitzestau bilden kann. Lassen Sie mindestens 30 cm Abstand zwischen Ihrem Projektor und der Wand. Halten Sie insbesondere einen Freiraum von mindestens 70 cm vor dem Luftauslass auf der Rückseite. Zwischen der Kühleinheit und einer Wand müssen mindestens 19,8 Zoll (50 cm) Platz vorgesehen werden. (Seite 35)
2. Vermeiden Sie, dass Fremdgegenstände wie Büroklammern und Papierschnipsel in den Projektor fallen. Versuchen Sie nicht, in den Projektor gefallene Gegenstände selbst zu entfernen. Stecken Sie keine Metallgegenstände wie einen Draht oder Schraubendreher in Ihren Projektor. Sollte ein Gegenstand in den Projektor fallen, schalten Sie Projektor und Kühleinheit aus, und trennen Sie das Netzkabel vom Stromnetz. und den Gegenstand von qualifiziertem Servicepersonal entfernen lassen.
3. Schalten Sie den Projektor aus, ziehen Sie das Netzkabel ab und lassen Sie den ihn von einem qualifi - zierten Servicetechniker überprüfen, falls einer der folgenden Falle zutrifft:
  - Wenn das Netzkabel oder der Netzstecker beschädigt oder ausgefranzt ist.
  - Falls Flüssigkeit in den Projektor gelangt ist, oder wenn er Regen oder Wasser ausgesetzt war.
  - Falls der Projektor nicht normal arbeitet, obwohl Sie die in diesem Bedienungshandbuch beschriebenen Anleitungen befolgen.
  - Wenn der Projektor fallengelassen oder das Gehäuse beschädigt wurde.
  - Wenn der Projektor eine eindeutige Leistungsveränderung aufweist, die einer Wartung bedarf.

4. Lichtkegel des Projektors fern. Da das von der Linse projizierte Licht umfassend ist, können alle abnormalen Gegenstände, die in der Lage sind, das aus der Linse austretende Licht umzulenken, unvorhersehbare Ereignisse wie z.B. einen Brand oder Augenverletzungen verursachen.
5. Wenn ein LAN-Kabel verwendet wird:  
Schließen Sie es aus Sicherheitsgründen nicht an den Anschluss der Peripheriegeräte-Verbindung an, das sie eine zu hohe Spannung führen könnte.
6. Berühren Sie während des normalen Projektorbetriebs nicht den Luftauslass am Projektor, da dieser heiß ist.

### **Reinigung**

1. Schalten Sie den Projektor aus und trennen Sie das Netzkabel ab, bevor das Gehäuse gereinigt oder die Laser ausgetauscht wird.
2. Schalten Sie während der Reinigung den Projektor und die Kühleinheit aus, und trennen Sie das Stromkabel vom Stromnetz.
3. Reinigen Sie das Gehäuse regelmäßig mit einem Tuch. Bei starker Verschmutzung verwenden Sie ein mildes Reinigungsmittel. Reinigen Sie das Gerät niemals mit starken Reinigungsoder Lösungsmitteln wiez.B. Alkohol oder Verdünner.
4. Reinigen Sie die Linse mit einer Blaseinrichtung oder einem Linsentuch. Beachten Sie dabei, dass die Linsenoberfläche weder zerkratzt noch auf andere Weise beschädigt wird.
5. Berühren Sie den Projektor oder den Netzstecker nicht mit nassen Händen. Andernfalls kann es zu elektrischen Schlägen oder zu einem Brand kommen.

### **ACHTUNG**

1. Ziehen Sie das Netzkabel nicht aus der Steckdose oder vom Projektor ab, während der Projektor mit Strom versorgt wird.  
Andernfalls kann der Projektor beschädigt werden.
  - Während der Projizierung von Bildern
  - Während des Abkuhls, nach dem Projektor ausgeschaltet worden ist. (Die POWER-Anzeige blinkt grün, während das Geblase in Betrieb ist, und auf der LCD-Anzeige wird „cooling...“ angezeigt.)
2. Schalten Sie den Wechselstrom 90 Sekunden lang nicht aus, nachdem die Laser eingeschaltet wurde und während die POWER-Anzeige grün blinkt. Andernfalls könnte die Laser vorzeitig ausfallen.
3. Es wird empfohlen, eine Steckdose mit einem Schutzschalter von mindestens 20 A zu benutzen.

### Vorsicht beim Transportieren des Projektors/Umgang mit der optischen Linse

Wenn Sie den Projektor mit der Linse verschicken, entfernen Sie die Linse vor dem Versand. Bringen Sie immer die Staubschutzkappe an der Linse an, wenn diese nicht am Projektor angebracht ist. Die Linse und der Lens Shift Mechanismus können durch unsachgemäße Handhabung während des Transports beschädigt werden.

### Sicherung der Authentifizierungsdaten

- Eine Zweitbatterie ist im Projektor installiert, um die für den Empfang der Videosignale notwendigen Authentifizierungsdaten zu sichern. Falls der Projektor während den letzten 6 Monaten gar nicht mehr verwendet wurde, wird die Batterie leer sein, und die Authentifizierungsdaten können nicht gesichert werden. Lassen den Projektor alle 6 Monate mindestens 48 Stunden in Wartemodus um die Batterie wiederaufzuladen.

### Umgang mit der Batterie

- Seien Sie äußerst vorsichtig beim Hantieren der Batterie, um jedes Risiko von Brand, Verletzungen oder Beschädigungen anderer Objekte.
  - Die Batterien nicht kurzschließen, demontieren oder ins Feuer werfen.
  - Die Batterien nicht anders als zum vorgesehenen Verwendungszweck benutzen.
  - Stellen Sie sicher, dass Sie die Batterie mit der richtigen Polung (+/-) eingelegt haben.
- Entsorgen Sie verbrauchte Batterien entsprechend den in Ihrem Land geltenden Bestimmungen.
- Auf der Leiterplatte der Haupteinheit ist eine Batterie montiert. Zerlegen Sie die Haupteinheit beim Entsorgen nicht, und entfernen Sie nicht die interne Leiterplatte. Wenden Sie sich stattdessen an den Händler, bei dem Sie das Gerät erworben haben, oder an die zuständige Behörde.

### Peripheriegeräte und Verbindungskabel

Verwenden Sie abgeschirmte Kabel für die Verbindungsab-  
el zwischen dem IMB mit Peripheriegeräten (GPI-, GPO-,  
AES-Kabel). Wenn Sie ein nicht abgeschirmtes Kabel ver-  
wenden, besteht die Gefahr, dass Funkstörungen auftreten.

### Lichtmodul

1. Als Lichtquelle dient dem Produkt ein Lichtmodul bestehend aus mehreren Laserdioden.
2. Diese Laserdioden sind im Lichtmodul eingeschlossen.  
Für die Leistung des Lichtmoduls ist keine Wartung erforderlich.
3. Der Endbenutzer darf das Lichtmodul nicht austauschen.

4. Wenden Sie sich an einen qualifizierten Händler, wenn Sie das Lichtmodul austauschen wollen oder weitere Informationen benötigen.

### Über den Modus Große Höhe

- Stellen Sie den [Fan Speed Mode] auf [High Altitude], wenn Sie den Projektor in Höhenlagen bei ca. 5500 Fuß / 1600 Meter oder höher verwenden.  
Wenn Sie den Projektor in Höhenlagen bei ca. 5500 Fuß/1600 Meter ohne die Einstellung des Projektors auf [High Altitude] verwenden, kann dies dazu führen, dass sich der Projektor überhitzt und selbst ausschaltet.  
Warten Sie in diesem Fall einige Minuten und schalten Sie den Projektor wieder ein.
- Verwenden Sie den Projektor in Höhenlagen unterhalb von ca. 5500 Fuß/1600 Meter mit der Einstellung des Projektors auf [High Altitude], kann dies zu einer Unterkühlung der Lampe führen und dadurch das Bild flimmen.  
Schalten Sie den [Fan Speed Mode] auf [Auto].
- Die Verwendung des Projektors bei Höhenlagen von ca. 5500 Fuß/1600 Metern oder höher kann die Lebensdauer der inneren Komponenten, wie beispielsweise der Lampe, verkürzen.

### Entsorgung Ihres benutzten Gerätes



Die EU-weite Gesetzgebung, wie sie in jedem einzelnen Mitgliedstaat gilt, bestimmt, dass benutzte elektrische und elektronische Geräte mit dieser Markierung (links) getrennt vom normalen Haushaltsabfall entsorgt werden müssen.

Dies schließt Projektoren und deren elektrisches Zubehör mit ein. Folgen Sie beim Entsorgen eines solchen Gerätes bitte den Anweisungen Ihrer örtlichen Behörde und/oder konsultieren Sie den Händler, bei dem Sie das Gerät erworben haben.

Nach der Sammlung benutzter Geräte werden diese erneut verwendet und entsprechend den Umweltbestimmungen recycelt. Das trägt dazu bei, die Abfallmenge sowie die negativen Auswirkungen auf die menschliche Gesundheit und die Umwelt auf ein Minimum zu reduzieren.

Die Markierung auf elektrischen und elektronischen Geräten gilt nur für die gegenwärtigen Mitgliedstaaten der Europäischen Union.



**Für die EU:** Der durchgestrichene Abfallbehälter bedeutet, dass verbrauchte Batterien nicht über den allgemeinen Hausmüll entsorgt werden dürfen. Es gibt ein getrenntes Sammelsystem für Altbatterien, um die ordnungsgemäße Behandlung und Wiederverwertung entsprechend den geltenden Vorschriften zu ermöglichen.

**Gemäß der Richtlinie 2006/66/EG dürfen Batterien nicht auf ungeeignete Weise entsorgt werden. Die Batterie muss getrennt durch einen örtlichen Entsorger gesammelt werden.**

### Bei Fragen, die sich aus unklaren Punkten oder Reparaturarbeiten ergeben

Bei Fragen, die sich aus unklaren Punkten, Fehlfunktionen oder Reparaturarbeiten am Produkt ergeben, wenden Sie sich an Ihren Händler oder an die folgende Niederlassung.

### In Europa

Firmenname: NEC Display Solutions Europe GmbH  
Adresse: Landshuter Allee 12-14, D-80637 Munich, Germany  
Telefon: +49 89 99699 0  
Fax-Nummer: +49 89 99699 500  
E-Mail-Adresse: info@nec-displays.com  
Web-Adresse: http://www.nec-display-solutions.com

### In Nordamerika

Firmenname: NEC Display Solutions of America, Inc.  
Adresse: 500 Park Boulevard, Suite 1100 Itasca, Illinois 60143, U.S.A.  
Telefon: +1 800 836 0655  
Fax-Nummer: +1 800 356 2415  
E-Mail-Adresse: pjtechsupport@necd़isplay.com  
Web-Adresse: http://www.necd़isplay.com/

### In China

Firmenname: NEC Solutions (China) Co., Ltd.  
Adresse: Rm 1903, Shining Building, 35 Xueyuan Rd, Haidian District Beijing 100191, P.R.C.  
Telefon: +8610-4008-900-678  
E-Mail-Adresse: nec-support@nec.cn

### In Hongkong und Taiwan

Firmenname: Strong Westrex, Inc.  
Adresse: Room 4108 China Resources Building, No. 26 Harbour Road, Wanchai, Hong Kong  
Telefon: +852 2827 8289  
Fax-Nummer: +852 2827 5993  
E-Mail-Adresse: Felix.chen@btn-inc.com

### In Südkorea

Firmenname: Hyosung ITX Co., Ltd.  
Adresse: 1F, Ire Building, 2, Yangpyeong-dong 4-ga, Yeongdeungpo-gu, Seoul, Korea 150-967  
Telefon: +82-2-2102-8591  
Fax-Nummer: +82-2-2102-8600  
E-Mail-Adresse: moneybear@hyosung.com  
Web-Adresse: http://www.hyosungitx.com

### In Australien und Neuseeland

Firmenname: NEC Australia Pty Ltd  
Adresse: 26 Rodborough Road Frenchs Forest NSW 2086  
Telefon: 131 632 (von überall in Australien)  
E-Mail-Adresse: displays@nec.com.au  
Web-Adresse: http://www.nec.com.au

### In Thailand, Singapur, Malaysia, Indonesien und Philippinen

Firmenname: Goldenduck International Co., Ltd.  
Adresse: 65 Soi Phutthamothon Sai 1, 21 Bangramad, Talingchan, Bangkok, Thailand 10170  
Telefon: +66-2887-8807  
Fax-Nummer: +66-2887-8808  
E-Mail-Adresse: contact@goldenduckgroup.com

## Laseraustrittsmodule

- Das Lasermodul ist in dieses Gerät eingebaut.

Die Verwendung von Bedienelementen oder die Änderung von Prozeduren in Abweichung von den in diesem Handbuch beschriebenen könnte zu gefährlichem Kontakt mit Laserstrahlung führen.

- Dieses Produkt ist als Klasse 1 von IEC60825-1 Dritte Auflage 2014 eingestuft.

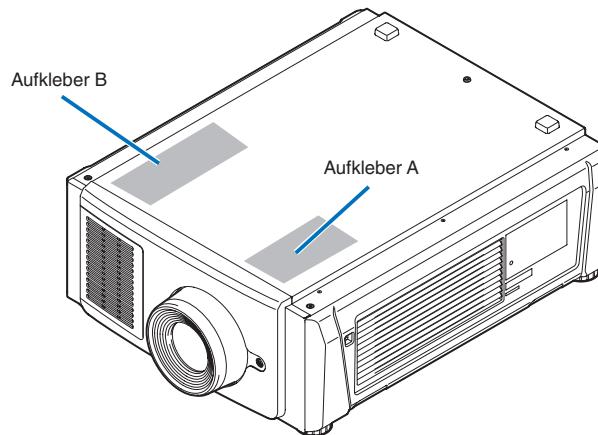
Dieses Produkt ist als RG3 von IEC62471-5 Erste Ausgabe 2015 eingestuft.

Beachten Sie bei der Installation und de Handhabung des Geräts die zutreffenden Gesetze und Vorschriften Ihres Landes.

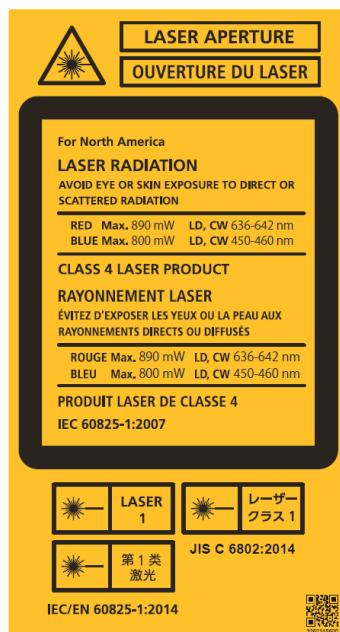
Innnerer Laserausgang des Lasermoduls

Blaue Laserdioden: Wellenlänge 450-460 nm, Ausgangsleistung 450 W

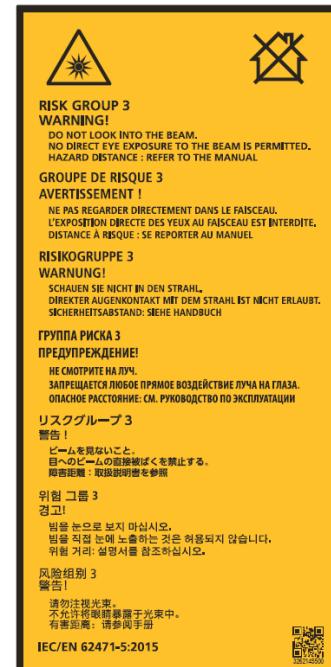
Rote Laserdiode: Wellenlänge 636-642 nm, Ausgangsleistung 100 W

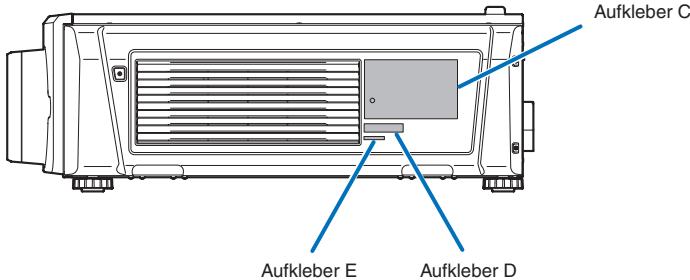


Aufkleber A: Laser-erläuterndes  
Etikett



Aufkleber B: Lampe Warnzeichen  
Etikette





Aufkleber C : Aufkleber mit Hersteller-ID



Aufkleber D



Aufkleber E

M/F Date : YYYY. MM. DD

## Strahlungsbereich des abgegebenen Lichts durch den Projektor (Sicherheitsabstand – HD: Hazard distance)

- Die nachfolgend abgebildete Tabelle gibt den Strahlungsbereich des abgegebenen Lichts durch den Projektor an, das als Risikogruppe 3 (RG3) nach IEC62471 klassifiziert ist.

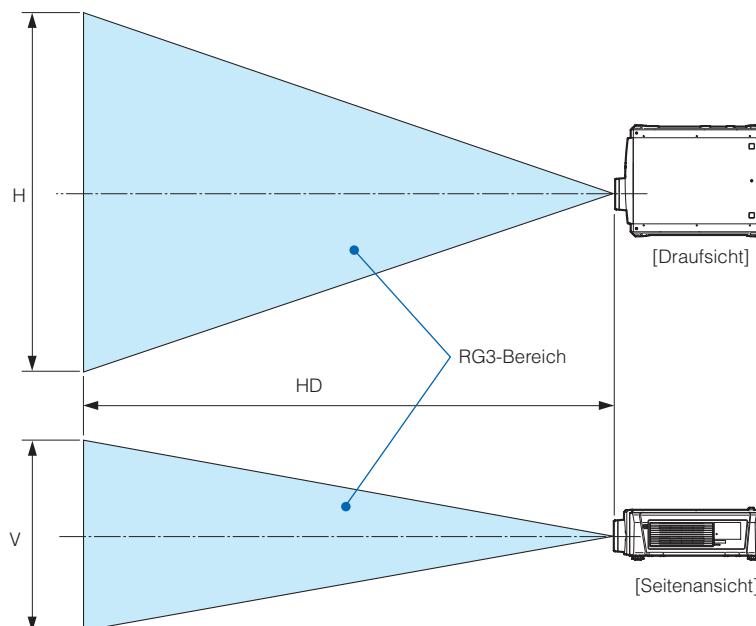
- Bitte bei der Installation des Projektors die Einschränkungen beachten.

Installieren Sie zum Schutz der menschlichen Augen vor dem RG3-Bereich eine Abdeckung.

Achten Sie darauf, dass sich bei der Installation der Abdeckung die horizontale Sicherheitszone mindestens 1,5 m vom RG3-Bereich entfernt befindet.

Falls der Projektor über Kopf installiert wird, halten Sie einen Abstand von mindestens 3 m zwischen der Bodenfläche und dem RG3-Bereich ein.

Linse	HD (m)	H (m)	V (m)
NP-9LS12ZM1	2.8	1.63	0.86
NP-9LS13ZM1	3.5	1.67	0.88
NP-9LS16ZM1	4.2	1.56	0.82
NP-9LS16Z1	3.7	1.81	0.96
NP-9LS20ZM1	4.7	1.21	0.64
NP-9LS20Z1	5.2	1.91	1.01
NP-9LS40Z	10.0	1.58	0.83
NP-9LS40ZM1			



\* Falls der Linsenversatz verwendet wird, berücksichtigen Sie bitte die Verschiebung des projizierten Bildes je nach Umfang des Linsenversatzes.

 **WARNUNG**

**Bitte beachten Sie alle Sicherheitshinweise.**

Installation des Projektors

- Beachten Sie bei der Planung des Aufbaus des Projektors die Sicherheitsmaßnahmen im Installationshandbuch.
- Installieren Sie zur Gefahrenverringerung eine Wandsteckdose in Reichweite, damit der Netzstecker im Notfall herausgezogen werden kann, oder einen Trennschalter, um die Stromversorgung zum Projektor unterbrechen zu können.
- Beachten Sie zum Schutz der menschlichen Augen vor dem RG3-Bereich die Sicherheitsmaßnahmen.
- Wählen Sie eine geeignete Linse für den Installationsort aus, und halten Sie die Sicherheitszone, die für die jeweilige Linse vorgesehen ist, ein. Beachten Sie die entsprechenden Sicherheitsmaßnahmen, wenn Sie Einstellungen am Licht des eingeschalteten Projektors vornehmen.
- Prüfen Sie, ob die Sicherheitsmaßnahmen eingehalten wurden, wenn die entsprechende Sicherheitszone gemäß der installierten Linse eingestellt wird. Prüfen Sie dies in regelmäßigen Abständen und dokumentieren Sie die Ergebnisse.
- Weisen Sie den Administrator des Projektors (Bediener) in die Sicherheitsbestimmungen ein, bevor dieser mit dem Betrieb des Projektors beginnt.

Verwendung des Projektors

- Weisen Sie den Administrator des Projektors (Bediener) an, den Projektor vor dem Einschalten zu überprüfen (einschließlich der Sicherheitsprüfung des abgegebenen Lichts durch den Projektor).
- Unterrichten Sie den Administrator des Projektors (Bediener) über die erforderlichen Maßnahmen zur Kontrolle des eingeschalteten Projektors, falls ein Notfall eintritt.
- Weisen Sie den Administrator des Projektors (Bediener) an, das Installationshandbuch, das Benutzerhandbuch und die Inspektionsdokumente an einem Ort zu verwahren, an dem leicht auf diese Dokumente zugegriffen werden kann.
- Weisen Sie ihn an, zu prüfen, ob der Projektor den Standards des entsprechenden Landes und der jeweiligen Region entspricht.

# Table of Contents

---

Introduction.....	2
Important Information .....	3
Wichtige Informationen.....	20
<b>1. Before Setting Up Your Projector and the Chiller Unit.....</b>	<b>32</b>
1-1. Clearance for Installing the Projector and the Chiller Unit (English).....	32
1-1-1. Projector .....	32
1-1-2. Installation Conditions for the Chiller Unit.....	33
1-2. Umgebung und Abstände beim Aufbau des Geräts (Deutsch).....	35
1-2-1. Aufbau des Projektors .....	35
1-2-2. Aufbau der Wasserkühleinheit.....	36
1-3. Selecting the lens unit.....	38
1-3-1. Screen Type .....	38
1-3-2. Calculating the lens zoom magnification to use.....	40
1-4. Carrying the projector .....	42
1-5. Removing the Projector Covers.....	43
1-5-1. Removing and Mounting the Front Cover.....	45
1-5-2. Removing and Mounting the Side Cover .....	47
<b>2. Setting Up Your Projector and Chiller Unit .....</b>	<b>49</b>
2-1. Setup Procedure .....	49
2-2. Projector Installation .....	50
2-3. Selecting the Power Cable (Projector) (English).....	51
2-3-1. AC Power Work Specifications (Projector).....	52
2-4. Auswahl des Netzkabels (Projektor) (Deutsch).....	54
2-4-1. Netzstrom-Spezifikationen (Projektor) .....	55
2-5. Mounting the Lens Unit.....	57
2-5-1. Removing the lens .....	59
2-6. Mounting the Option Board .....	60
2-6-1. Make the option board usable .....	62
2-7. Connecting the Power Cable for the Chiller Unit .....	64
2-7-1. AC Power Work Specifications (Chiller Unit) .....	65
2-7-2. Connecting the AC Power Cable to the Chiller Unit.....	69
2-8. Connecting the Hoses for the Chiller Unit and Control Cable .....	71
2-8-1. Connecting the Hoses for the Chiller Unit.....	71
2-8-2. Connecting the Control Cable .....	73
2-9. Pouring and Draining the Coolant.....	74
2-9-1. Pouring the Coolant.....	74
2-9-2. Draining the Coolant.....	75
2-10. Setting the Chiller Unit .....	76
2-10-1. Setting the Temperature of the Coolant .....	76
2-10-2. Fixing the Chiller Unit.....	77
<b>3. Projector Adjustment and Connecting .....</b>	<b>78</b>
3-1. Flow of Adjustment and Connecting.....	78
3-2. Recovering from Tamper Errors.....	79
3-2-1. Clearing tamper events .....	80
3-3. Turning your Projector On.....	82
3-4. Setting the Date and Time in the Projector .....	82
3-5. Setting the Projector Projection Method.....	83
3-6. Adjusting the Lens .....	84
3-6-1. Set the Lens Type.....	84
3-6-2. Carry out Calibration of the Lens .....	85
3-6-3. Display the Test Pattern .....	85
3-6-4. Adjusting the Screen Angle .....	86
3-7. Connecting with the Image Input Port .....	87
3-8. Connecting the Various Control Terminal .....	88

---

<b>4. LCD Menu .....</b>	<b>89</b>
4-1. List of Menu.....	89
4-1-1. When You Use the Service Personnel Menu.....	90
4-2. Title Select.....	91
4-2-1. Title select (Title Memory).....	91
4-2-2. Test Pattern.....	91
4-3. Configuration .....	92
4-3-1. Light Setup .....	92
4-3-2. Lens Control.....	92
4-3-3. Reset .....	93
4-3-4. Setup .....	95
4-3-5. Installation .....	99
4-3-6. Memory .....	103
4-4. Title Setup .....	104
4-4-1. Preset Button.....	104
4-5. Information .....	105
4-5-1. Light Output .....	105
4-5-2. Lens Type.....	105
4-5-3. Preset Button.....	105
4-5-4. Usage .....	106
4-5-5. Error Code .....	106
4-5-6. Version .....	107
4-5-7. IP Address.....	107
4-5-8. Setup Date .....	108
4-5-9. Option Status .....	108
<b>5. Appendix.....</b>	<b>109</b>
5-1. List of Registered Titles (when shipped from the factory).....	109
5-2. Error Code List.....	110
5-3. Remote Interlock Connector .....	115
5-4. Index .....	117

# 1. Before Setting Up Your Projector and the Chiller Unit

## 1-1. Clearance for Installing the Projector and the Chiller Unit (English)

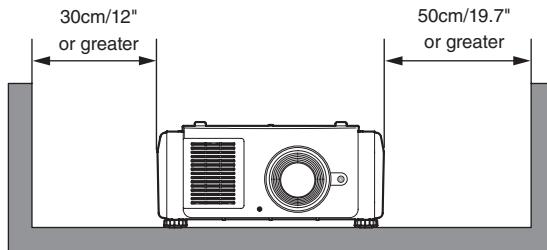
Allow ample clearance between the projector and its surroundings as shown below.

Avoid installing the projector in a place where air movement from the HVAC is directed at the projector.

Heated air from the HVAC can be taken in by the projector's intake vent. If this happens, the temperature inside the projector will rise too high causing the over-temperature protector to automatically turn off the projectors power.

### 1-1-1. Projector

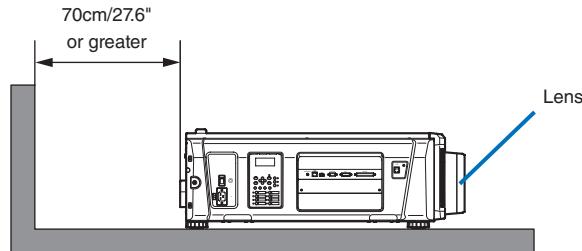
Example 1 – If there are walls on both sides of the projector.



**NOTE** The drawing shows the proper clearance required for the front, back and top of the projector.

Example 2 – If there is a wall behind the projector.

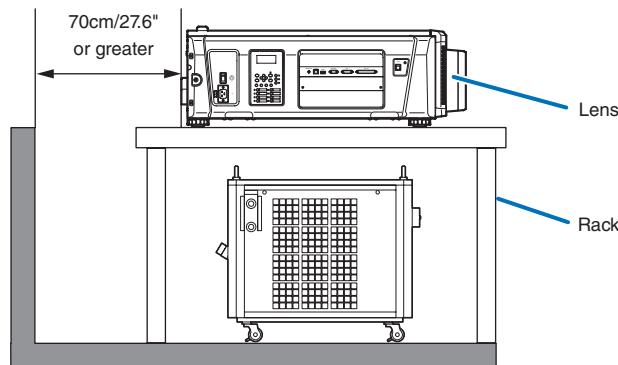
(1) For floor installation:



**NOTE** The drawing shows the proper clearance required for the front, sides and top of the projector.

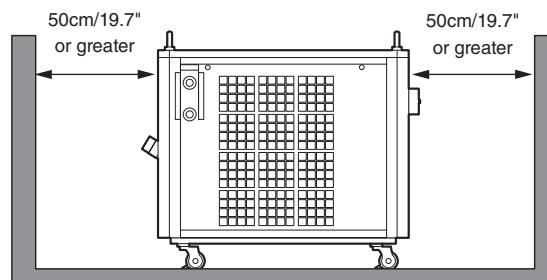
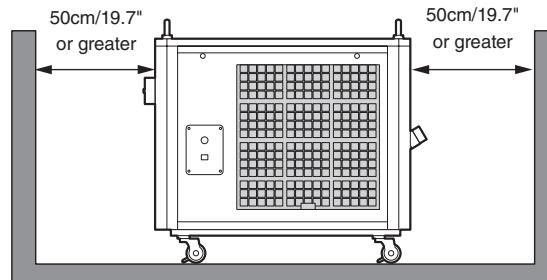
(2) For rack installation

- When using a rack, do not store the projector in a case or the like.



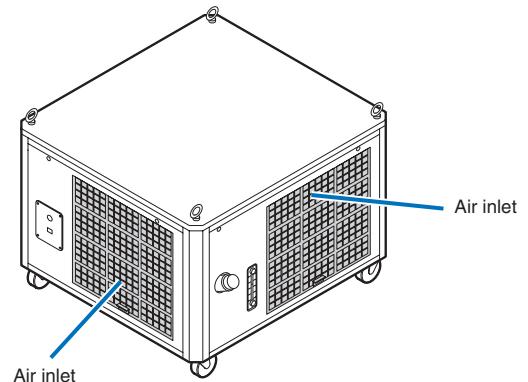
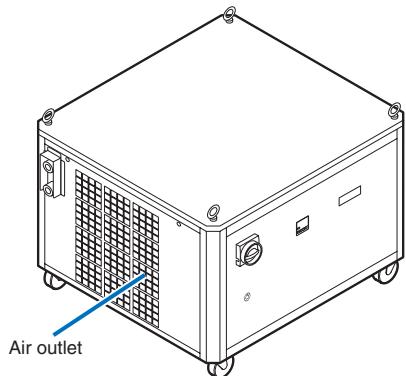
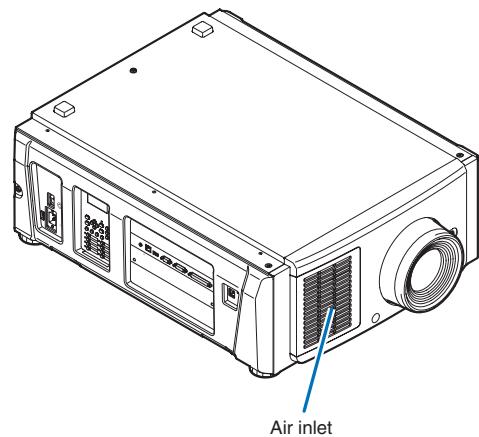
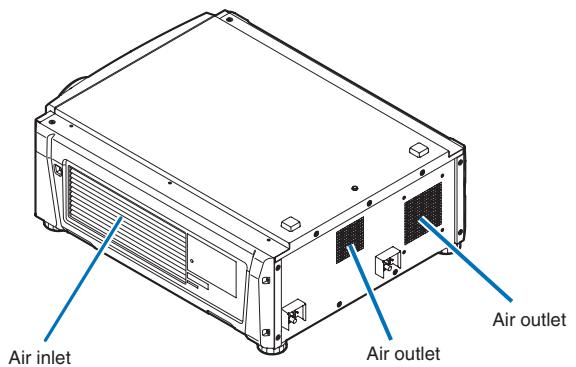
### 1-1-2. Installation Conditions for the Chiller Unit

- Allow a clearance of 50 cm/19.7" or greater between the chiller unit and its surroundings.



## Before Setting Up Your Projector and the Chiller Unit

- Avoid placing the projector and chiller unit in such a way in which any air inlet and any outlet of them face each other.

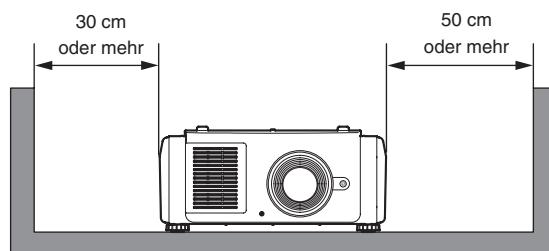


## 1-2. Umgebung und Abstände beim Aufbau des Geräts (Deutsch)

Achten Sie auf ausreichenden Freiraum zwischen dem Projektor und seiner Umgebung, wie unten gezeigt. Vermeiden Sie es, den Projektor an einer Stelle zu installieren, an der er den Luftströmungen von Klimaanlagen ausgesetzt ist. Die aufgeheizte Luft aus einer Klimaanlage kann vom Lüftungseinlass des Projektors aufgenommen werden. Dadurch wird die Innentemperatur des Projektors zu stark erhöht, was dazu führt, dass der Überhitzungsschutz des Projektors diesen automatisch ausschaltet.

### 1-2-1. Aufbau des Projektors

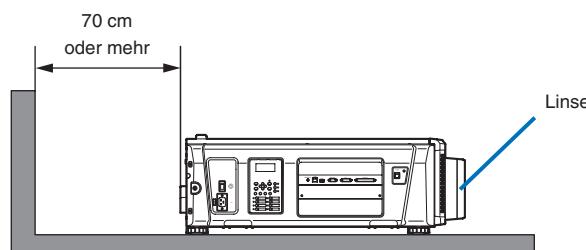
Beispiel 1 - Wenn sich Wände auf beiden Seiten des Projektors befinden.



**HINWEIS** Die Abbildung zeigt den ordnungsgemäßen Abstand für die Vorder-, Rück- und Oberseite des Projektors.

Beispiel 2 - Wenn sich eine Wand hinter dem Projektor befindet.

(1) Bei Installation auf einem flachen Untergrund:



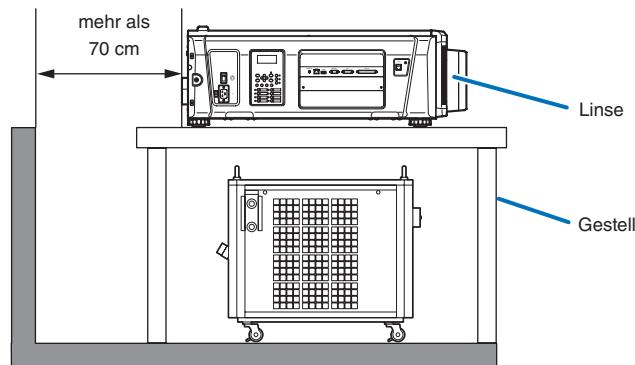
**HINWEIS** Die Abbildung zeigt den ordnungsgemäßen Abstand für die linke, rechte, Vorder- und Oberseite des Projektors.

## Before Setting Up Your Projector and the Chiller Unit

---

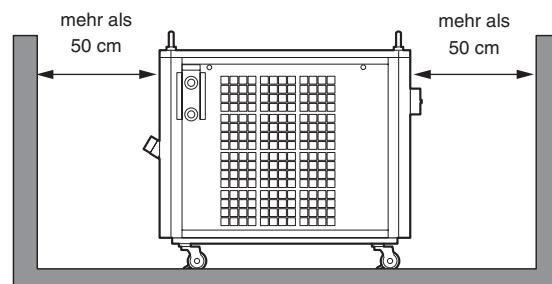
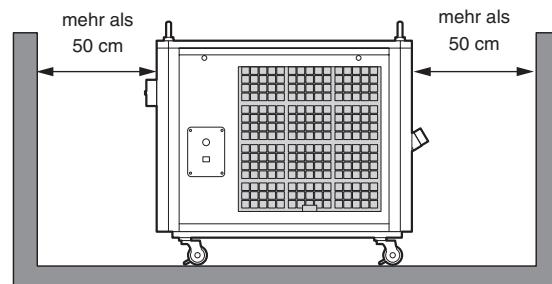
### (2) Aufbau auf ein Gestell

- Legen Sie das Gerät nicht in einen Behälter, wenn Sie ein Gestell verwenden.



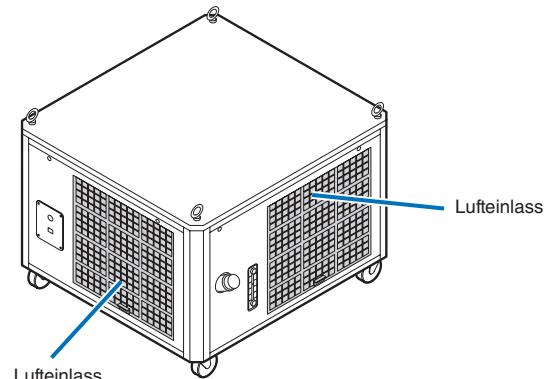
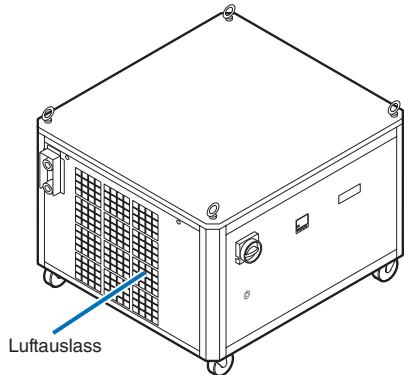
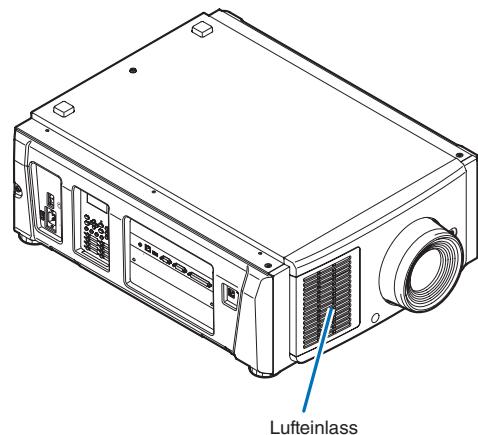
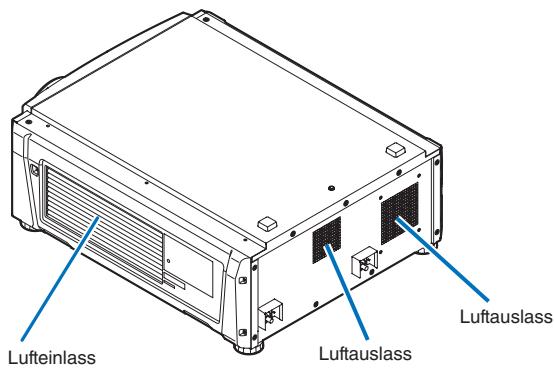
### 1-2-2. Aufbau der Wasserkühleinheit

- Bitte lassen Sie im Umkreis von 50 cm um das Gerät einen Freiraum.



## Before Setting Up Your Projector and the Chiller Unit

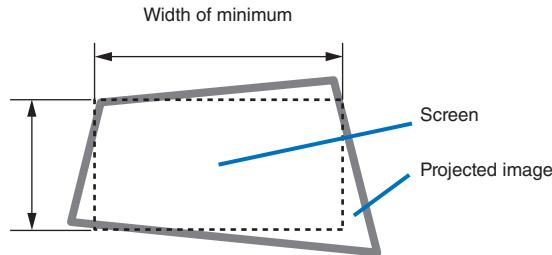
- Achten Sie darauf, dass sich Lufteinlass und Luftauslass der Wasserkühlleinheit nicht gegenseitig stören, wenn Sie den Projektor aufbauen.



## 1-3. Selecting the lens unit

This section provides the guideline information on how to select a screen size, projector mounting position, and type of lens units, which is appropriate for your presentation purposes. Select the lens unit for your projector according to the environment in which it is installed.

Note that all descriptions given in this manual assume that the angle of projection is zero degree. In case of projection from an upper position or from the right or left, it is necessary to calculate the width for the minimum projected image that is a little larger than the screen size.

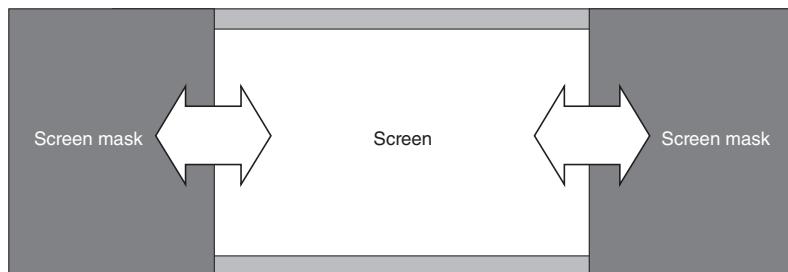


### 1-3-1. Screen Type

The following two types of screen masks can be used for the DLP Cinema Projector. Check the screen mask for your projector for its type before selecting lens units, because types of lens units to be used on the projector and its settings depend upon the type of screen mask you use.

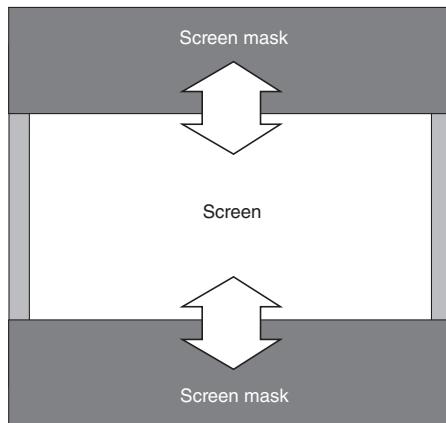
#### Horizontal moving screen mask

Screen masks move horizontally to adjust the screen.



**Vertical moving screen mask**

Screen masks move vertically to adjust the screen.



### 1-3-2. Calculating the lens zoom magnification to use

The lens zoom magnification required when installing the projector is calculated using the following method.

- (1) Calculate the lens zoom magnification for SCOPE projection
- (2) Calculate the lens zoom magnification for VISTA (FLAT) and HDTV projection
- (3) Select the lens that satisfies the zoom magnification calculated in (1) and (2).

**SCOPE projection:**

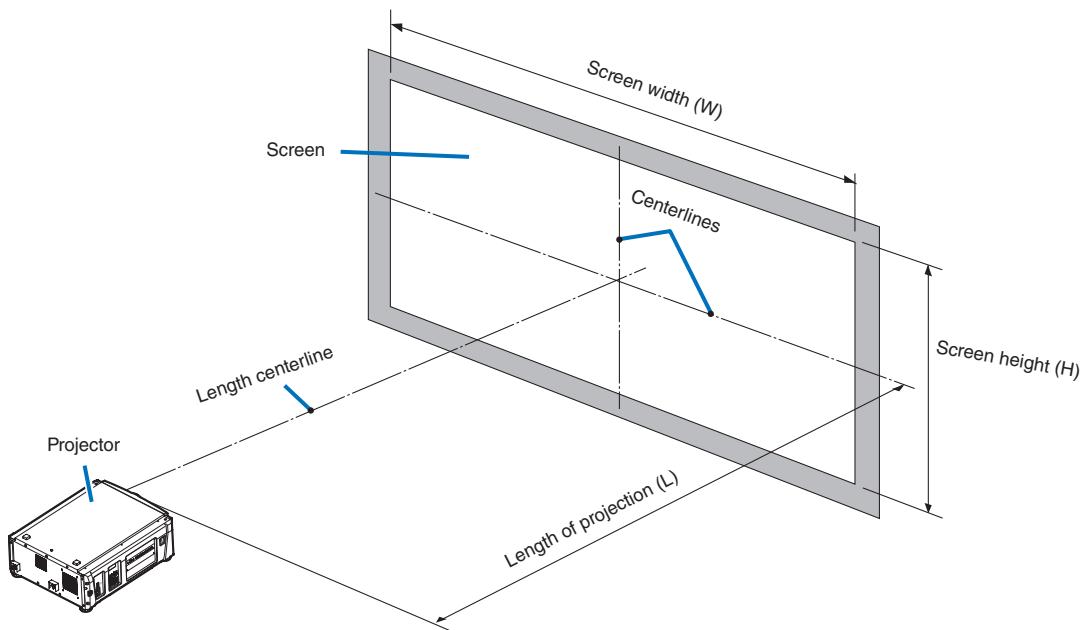
$$\text{Lens magnification} = \frac{\text{Length of projection (L)}}{\text{Screen width (W)}}$$

**VISTA (FLAT)/HDTV projection:**

$$\text{Lens magnification} = \frac{\text{Length of projection (L)}}{\text{Screen width (W)} \times (2048 \div \text{Number of pixels per horizontal line})}$$

Note: Number of pixels per horizontal line: 1998 for VISTA (FLAT); 1920 for HDTV

Select a lens that meets the magnification requirement for SCOPE, VISTA (FLAT), and HDTV screen types.



### Option lenses

The lens units that can be attached to this projector are shown in the following table.

MODEL	Magnifying	Lens memory support
NP-9LS16Z1	1.63–2.03	-
NP-9LS20Z1	2.03–2.72	-
NP-9LS12ZM1	1.2–1.72	○
NP-9LS13ZM1	1.33–2.1	○
NP-9LS16ZM1	1.62–2.7	○
NP-9LS20ZM1	2.09–3.9	○

### Examples of selecting the lens unit

If the "projection distance (L) = 30 m, the screen width (W) = 15 m":

$$\text{SCOPE projection} = \frac{30\text{m}}{15\text{m}} = 2.0x$$

$$\text{VISTA (FLAT) projection} = \frac{30\text{m}}{15\text{m} \times (2048 \div 1998)} = 1.95x$$

$$\text{HDTV projection} = \frac{30\text{m}}{15\text{m} \times (2048 \div 1920)} = 1.88x$$

Therefore, the following lens units, which satisfy the magnifications in all of the above projections, are selected.

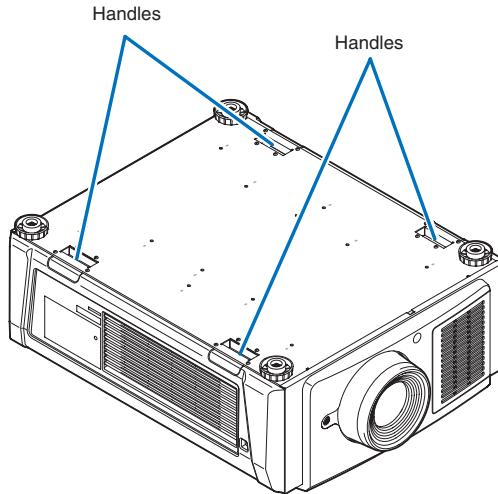
Not using the lens memory function	NP-9LS16Z1
Using the lens memory function	NP-9LS13ZM1 or NP-9LS16ZM1

## 1-4. Carrying the projector

When moving the projector, it should be carried by holding the handles on the base of the unit by 4 or more people.

### **WARNING**

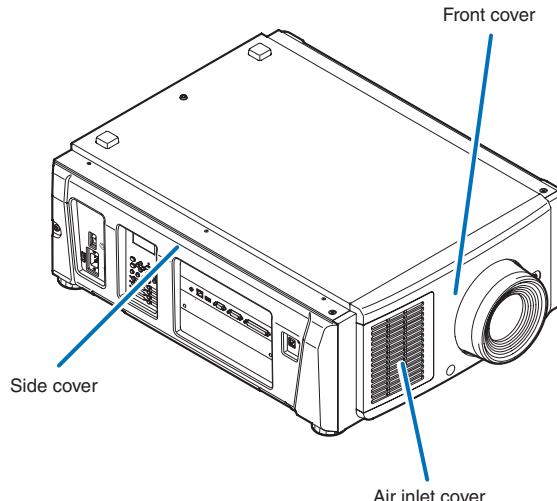
When moving the projector, first turn off the power and always disconnect the power plug from the electrical outlet, and check that all of the connecting cables between equipment and the lenses have been removed.



## 1-5. Removing the Projector Covers

This section provides guideline information on how to mount and remove covers on the projector.

### Name of the cover



#### NOTE

- "Side cover" and "Front cover" are equipped with key locks. Special keys (cover key) are required to mount or remove them. Refer to "Position of the key locks on the covers" (page 43) for details.
- If you remove the front cover or side cover, a tamper event is detected by the tamper detection circuit. When you start the projector after attaching the cover, the following error message is displayed on the LCD screen of the projector main unit.
  - "Tamper Fail"
  - "IMB: Service Door Tamper" (When NP-90MS02-4K mounted)
- Encrypted contents cannot be displayed while an error message is being displayed. Refer to "3-2. Recovering from Tamper Errors" (page 79) for details on how to clear the error message.

### Position of the key locks on the covers

When removing or attaching a cover of the projector main unit, the lock needs to be unlocked using the included cover key. The positions of the locks on each of the covers are as follows.

#### WARNING

TO REDUCE THE RISK OF ELECTRIC SHOCK AND LASER RADIATION, DO NOT OPEN COVER. NO User-SERVICEABLE PARTS INSIDE. REFER SERVICING AND INSTALLATION TO QUALIFIED SERVICE PERSONNEL AND INSTALLATION PERSONNEL.

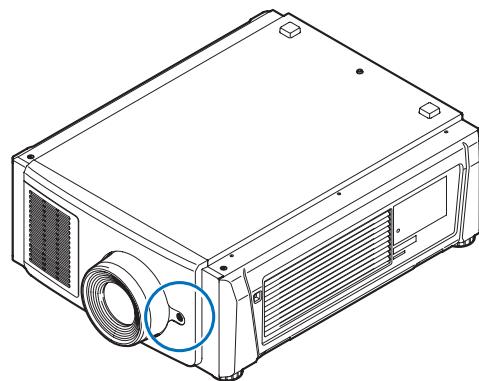
#### NOTE

When a cover is removed, the power to the unit is automatically turned off by the safety protection system.

## Before Setting Up Your Projector and the Chiller Unit

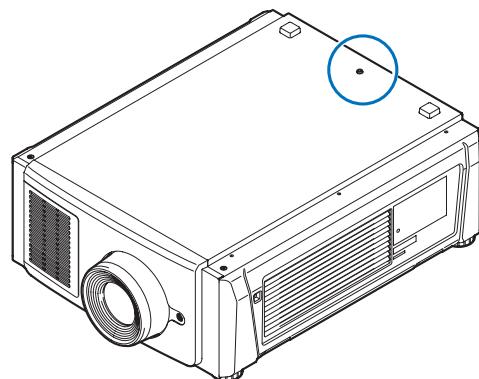
### **Front Cover**

The lock is unlocked when attaching or removing lenses (page 57).



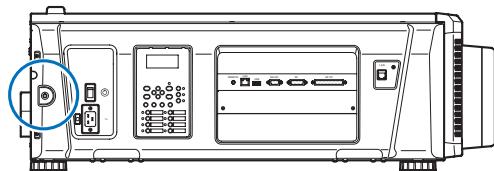
### **Top Cover**

Removing and attaching the cover is performed by a trained service engineer. The lock should only be unlocked by service engineers.



### **Side Cover**

The lock is unlocked when attaching or removing the option board (page 60).



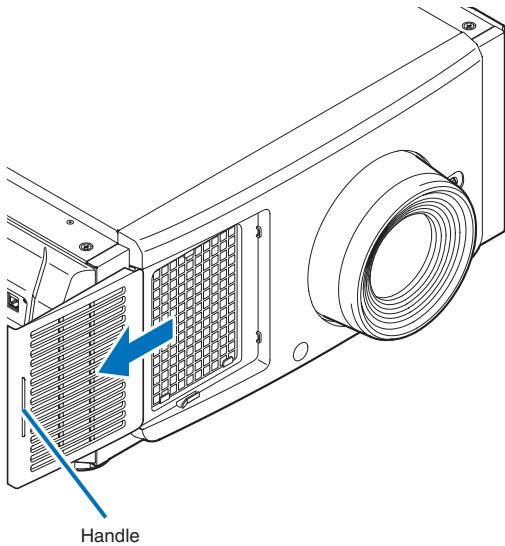
### 1-5-1. Removing and Mounting the Front Cover

**NOTE** When removing (mounting) the front cover, return the lens position to the center before turning off the projector power (page 100). If you do not return the lens position to the center, the lens may interfere and prevent you from removing (mounting) the front cover.

**Preparation:** Phillips head screwdriver (No.2) and cover key (attached goods)

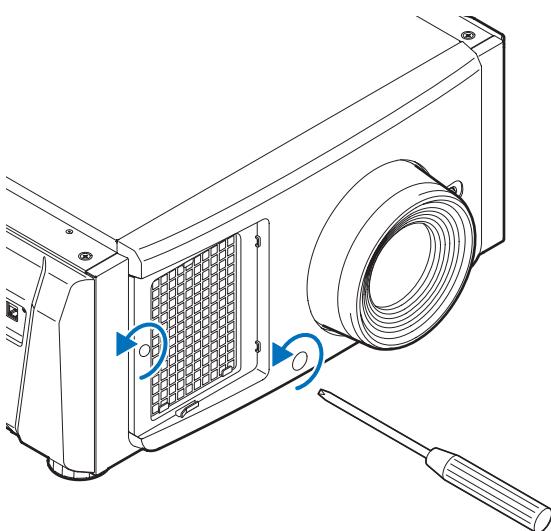
#### 1 Remove the Air inlet cover.

Slide the Air inlet cover in the direction of the arrow to remove.



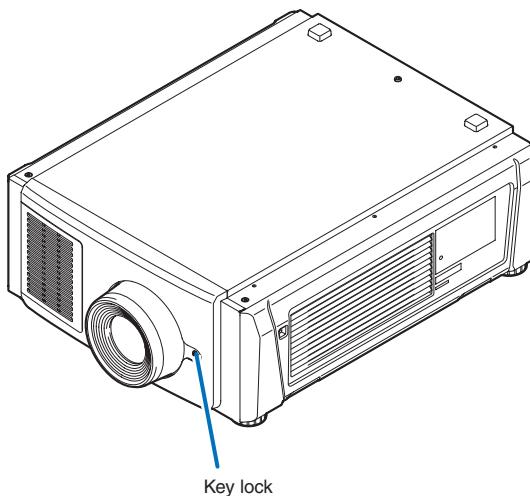
#### 2 Loosen two screws securing the front cover until the Phillips screwdriver goes into a freewheeling conditions.

The screw is not removable.



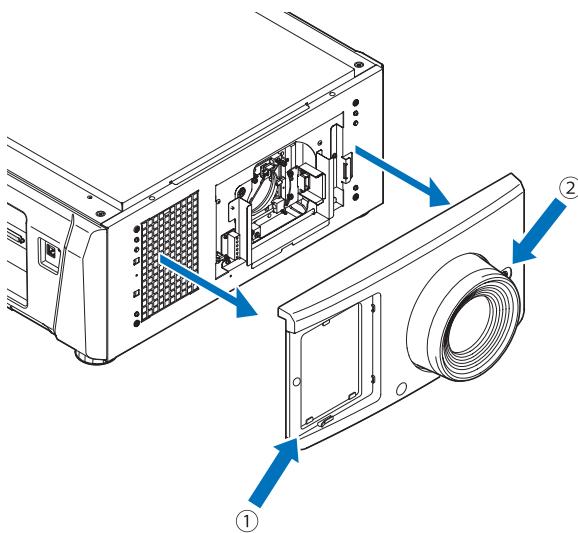
### 3 Unlock the front cover.

Unlock the cover using the cover key.



### 4 Remove the front cover.

Hold the bottom left of the cover (①) with your left hand and the base of the lens hood (②) with your right hand, and pull the cover directly towards you to remove it.



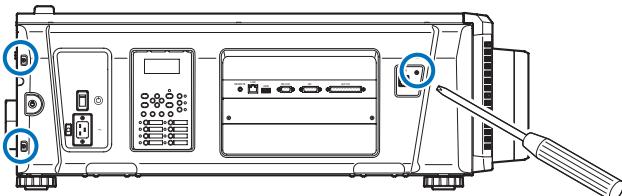
This completes removing the front cover. To mount the cover, perform the removal procedure in reverse. Make sure that you do not forget to tighten the screw or to lock the key lock.

### 1-5-2. Removing and Mounting the Side Cover

**Preparation:** Phillips head screwdriver (No.2) and cover key (attached goods)

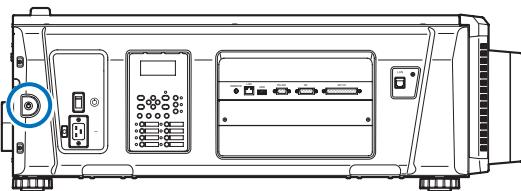
**1 Loosen the four fixing screws on the side cover.**

Loosen four screws on the side cover until they are free to spin. The screws do not detach from the cover.



**2 Unlock the side cover.**

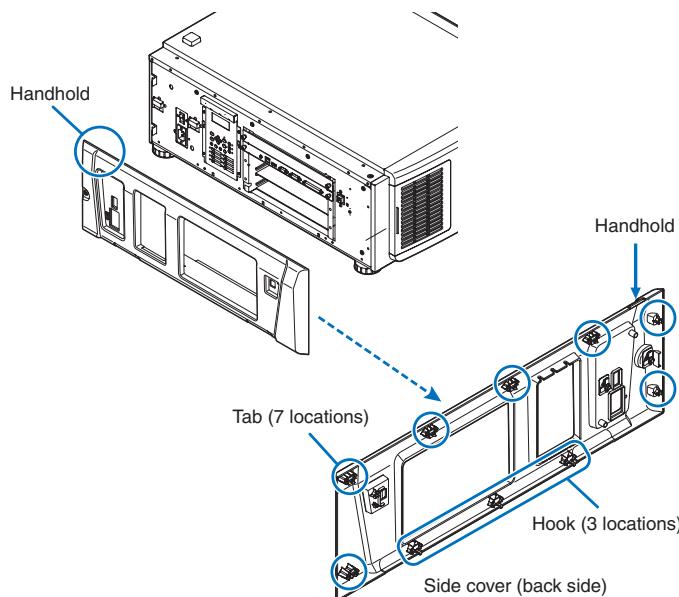
Unlock the cover using the cover key.



### ③ Remove the side cover.

The bottom part of the side cover is fixed in place by hooks (in 3 locations). Remove it by using the following procedure.

1. Hold the upper part and the left and right edges of the side cover and pull it towards you.  
There is a handhold on the left side of the side cover. The side cover is affixed to the projector by tabs (7 locations) and hooks (3 locations). When removing the cover, pull it out straight towards you so that the tabs do not get bent.
2. Using the bottom edge of the side cover as a pivot, pull the top side of the cover towards you.  
Since there are hooks at the bottom of the side cover, take care to avoid applying too much force when tilting the cover. Tilting the cover towards you will loosen the attachment between the hooks and the projector.
3. Once the hooks have come loose, remove the cover from the projector.



This completes removing the side cover. To mount the side cover, perform the removal procedure in reverse. Make sure that you do not forget to tighten the screws or to lock the key lock.

## 2. Setting Up Your Projector and Chiller Unit

### 2-1. Setup Procedure

Set up the projector and the chiller unit according to the procedure below. This chapter describes the installation procedure until turning on of the power.

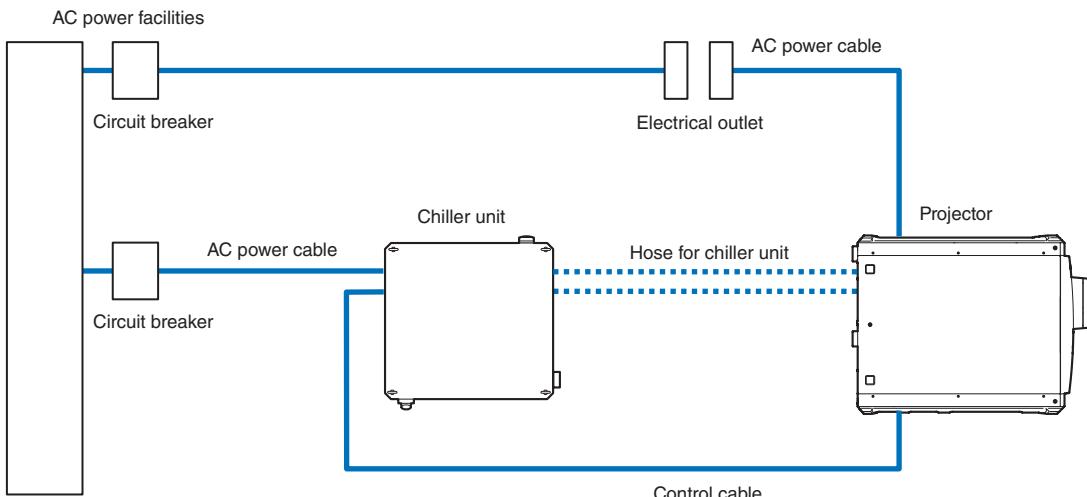
#### Projector

- **Step 1**  
Projector Installation (See page 50)
- **Step 2**  
Selecting the Power Cable (See page 51)  
Connecting the Power Cable (See Projector User's Manual)
- **Step 3**  
Mounting the Lens Unit (See page 57)
- **Step 4**  
Mounting the following optional parts as required.
  - Installing the Media Block (NP-90MS02-4K) (See page 60)

#### Chiller unit

- **Step 1**  
Connecting the Power Cable for the Chiller Unit (See page 64)
- **Step 2**  
Connecting the Hoses for the Chiller Unit (See page 71)  
Connecting the Control Cable (See page 73)
- **Step 3**  
Pouring the Coolant (See page 74)
- **Step 4**  
Setting the Chiller Unit (See page 76)

#### Connection schematic diagram



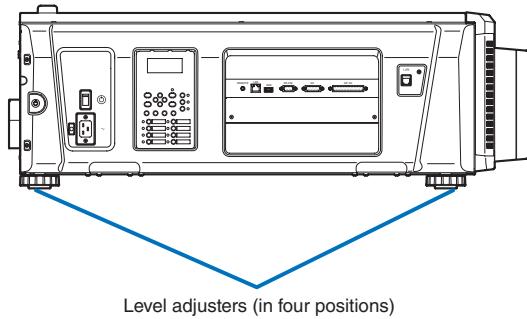
## 2-2. Projector Installation

Move the projector to the projection position and install it corresponding to the screen and projection conditions.

To correct the inclination to the right or left of the projector, use the level adjusters at 4 positions. You can extend the level adjuster to 35 mm at the maximum (Rotate it counterclockwise for extension).

### CAUTION

- Do not extend the adjuster by more than 35 mm. Rotating it forcefully may cause the adjuster to come off or be damaged.
- To adjust the level adjusters of the projector, extend the two level adjusters at the front and the back at the same time so that the weight is imposed to them equally. If you adjust only one adjuster, the weight is not imposed equally, which may result in level adjuster failure.



## 2-3. Selecting the Power Cable (Projector) (English)

The power cable is not included with the projector. Refer to "2-3-1. AC Power Work Specifications (Projector)" (page 52) and provide the necessary power cable.

### **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**

- For details on connecting the power cable, refer to the projector User's Manual.
- 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 52), 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.

## 2-3-1. AC Power Work Specifications (Projector)

### AC power supply equipment

Do not use any voltage other than those shown below for the AC power supply connected to the projector.

200–240V AC, single phase, power, 50/60Hz
---

### AC power supply cable for the projector

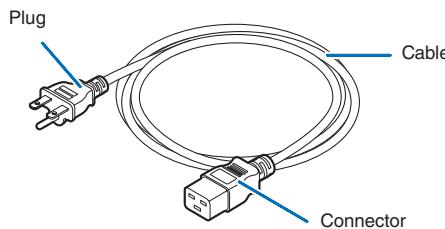
The projector is equipped with an IEC60320 C20 inlet to connect an AC power supply cable. Use an IEC60320 C19 compliant AC power cable connector and ensure that the connector meets the following current capacity specifications.

Power supply voltage	Projector input current	Power cable current capacity
AC 200–240V	10.7A (MAX)	250V 16A or higher

Furthermore, 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
	H05VV-F 3G1.5 	IEC 320 C19 

### USA

Plug	Cable	Connector
	SJT 3 x AWG 14 	IEC 320 C19 

### Japan

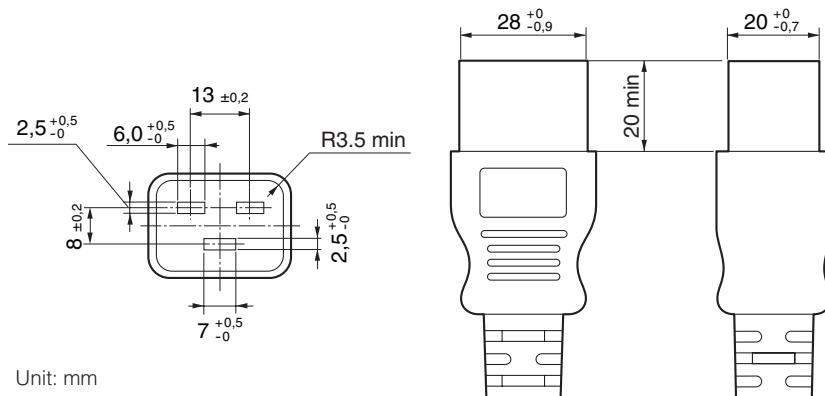
Plug	Cable	Connector
	VCTF 3 x 2.0mm 	IEC 320 C19 

**China**

Plug	Cable	Connector
GB2099	RVV 300/500	GB17465.1

**Connector**

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



## 2-4. Auswahl des Netzkabels (Projektor) (Deutsch)

Es wird kein Netzkabel mit dem Projektor geliefert. Nehmen Sie auf „2-4-1. Netzstrom-Spezifikationen (Projektor)“ (Seite 55) Bezug, und beschaffen Sie das notwendige Netzkabel.

### **WARNUNG**

Lesen Sie diesen Abschnitt vor dem Herstellen der Verbindungen sorgfältig durch, und schließen Sie die Kabel anhand der ordnungsgemäßen Verfahren an. Falsche Handhabung kann zu schweren oder sogar tödlichen Verletzungen durch Brand oder einen elektrischen Schlag führen.

### **ACHTUNG**

- Für Einzelheiten zum Anschließen des Netzkabels siehe des Projektors Bedienungshandbuch.
- Bevor Sie das Netzkabel anschließen, prüfen Sie, ob die Hauptstromschalter des Projektors ausgeschaltet ist. Stellen Sie die Verbindungen bei ausgeschaltetem Netzstrom her.
- Erden Sie das Gerät, um die Sicherheit zu gewährleisten. Verwenden Sie ein Netzkabel, das die Normen und Netzspannung des Landes, in dem der Projektor verwendet wird, erfüllt (Seite 55), und schließen Sie das Gerät stets an Erde an. Wenn keine Erde angeschlossen wird, kann es zu elektrischen Schlägen kommen.
- Führen Sie die Netzkabelstecker beim Anschließen bis zum Anschlag in den Netzeingang und die Netzsteckdose ein. Sitzt der Netzstecker nicht fest in der Netzsteckdose, kann Wärme im Steckerbereich erzeugt werden, die zu Verbrennungen und Unfällen führen kann.

## 2-4-1. Netzstrom-Spezifikationen (Projektor)

### Netzkabel

Der Projektor ist mit einem C19-Steckverbinder gemäß IEC60320 zum Anschließen des Netzkabels ausgestattet. Sorgen Sie dafür, dass die Netzkabel, die von den Steckverbindern am Projektor zum Netzanschluss führen, über die unten angegebenen Stromkapazitäten verfügen.

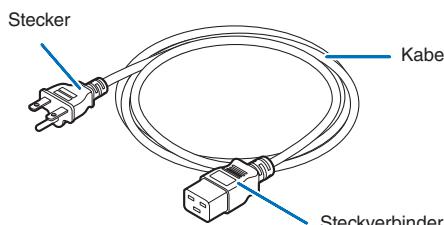
200–240 V AC, eiphasig, 50/60Hz

### Netzkabel für den Projektor

Der Projektor ist mit einem C20-Eingang gemäß IEC60320 zum Anschließen des Netzkabels ausgestattet. Verwenden Sie einen IEC60320 C19-kompatiblen Netzkabelanschluss und sorgen Sie dafür, dass der Anschluss über die unten angegebene Stromkapazität verfügt.

Netzspannung	Projektor-Eingangsstrom	Netzkabel-Stromkapazität
200–240 V Wechselstrom	10.7 A (MAX)	250 V 16 A oder höher

Verwenden Sie zudem Stecker, Kabel und Steckverbinder, die den Vorgaben des jeweiligen Landes entsprechen (siehe dazu folgende Tabelle).



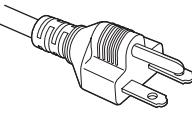
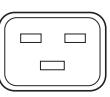
### Deutschland

Stecker	Kabel	Steckverbinder
	H05VV-F 3G1.5 	IEC 320 C19 

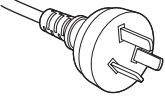
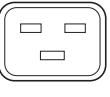
### USA

Stecker	Kabel	Steckverbinder
	SJT 3 x AWG 14 	IEC 320 C19 

### Japan

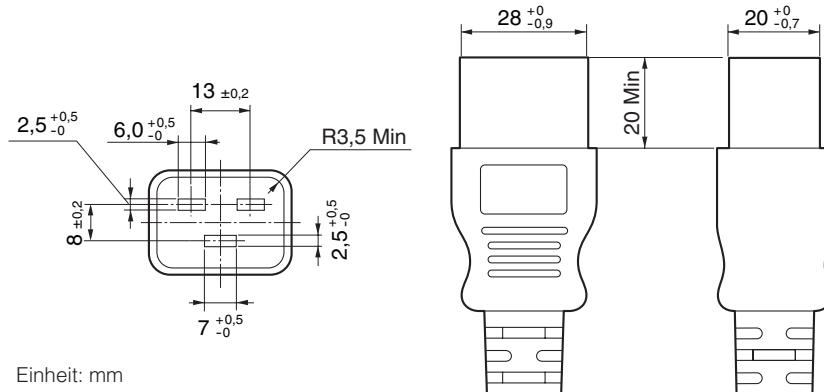
Stecker	Kabel	Steckverbinder
JIS C 8303 	VCTF 3 x 2.0mm 	IEC 320 C19 

### China

Stecker	Kabel	Steckverbinder
GB2099 	RVV 300/500 	GB17465.1 

### Steckverbinder

Die Abmessungen des Netzkabels sind unten angegeben.



## 2-5. Mounting the Lens Unit

This device can use the following types of lens units (sold separately).

MODEL	Magnifying	Lens memory support
NP-9LS16Z1	1.63–2.03	-
NP-9LS20Z1	2.03–2.72	-
NP-9LS40Z	4.07–6.34	-
NP-9LS12ZM1	1.2–1.72	○
NP-9LS13ZM1	1.33–2.1	○
NP-9LS16ZM1	1.62–2.7	○
NP-9LS20ZM1	2.09–3.9	○
NP-9LS40ZM1	4.07–6.34	○

**NOTE**

- The other NEC optional lenses are not available on this model.
- The projector and lenses are made of precision parts. Do not subject them to shock or excessive forces.
- Remove the lens unit when moving the projector. If not, the lens could be subject to shock while the projector is being moved, damaging the lens and the lens shift mechanism.
- When mounting (removing) the lens unit, return the lens position to the center before turning off the projector power. If you do not return the lens position to the center, the lens may interfere and prevent you from removing (mounting) the front cover.
- Turn off the power and wait for the cooling fan to stop and turn off the main power switch before mounting or removing the lens.
- Never touch the lens surface while the projector is operating.
- Be very careful not to let dirt, grease, etc., on the lens surface and not to scratch the lens surface.
- Perform these operations on a flat surface over a piece of cloth, etc., to prevent the lens from getting scratched.
- When leaving the lens off the projector for long periods of time, mount the dust cap on the projector to prevent dust or dirt from getting inside.

**Preparation:** Remove the front cover. (page 45)

**NOTE**

If you remove the front cover, the following error message is displayed on the LCD screen of the main unit operating panel by the tamper detection circuit.

"Tamper Fail", "IMB: Service Door Tamper"

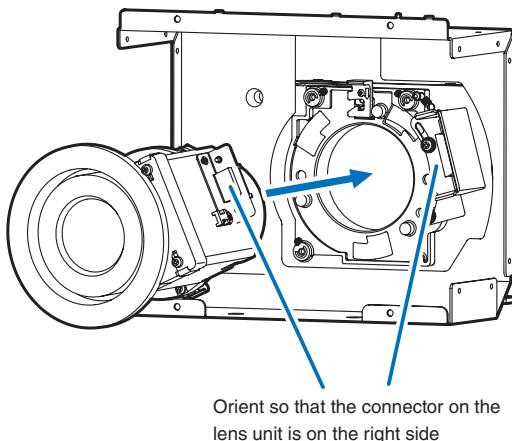
Encrypted contents cannot be displayed while an error message is being displayed. Refer to "3-2. Recovering from Tamper Errors" (page 79) for the recovery procedure.

**1** Remove the dust cap from the projector.

**2** Remove the lens cap on the back of lens.

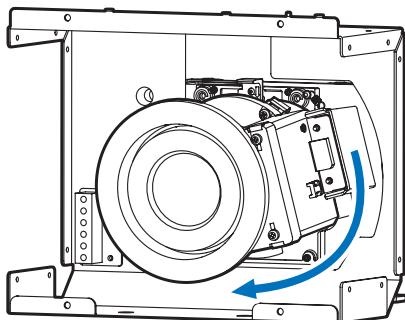
**NOTE** Mounting the lens with lens cap on its back to the projector can cause malfunction.

- 3** Orient so that the connector on the lens unit is on the right side, then insert the lens into the projector.



- 4** Turn the lens clockwise.

Rotate until it clicks to lock the lens unit into the projector.



- 5** Mount the front cover to the projector.

This completes the installation of the lens.

**NOTE** Perform the following steps before adjusting the lens.

- Common to all lens units
  - Configure the lens type setting and select the lens type that matches the lens unit that is attached (page 84).
- Lens units that support the lens memory function
  - Execute lens calibration after configuring the lens type setting (page 85).

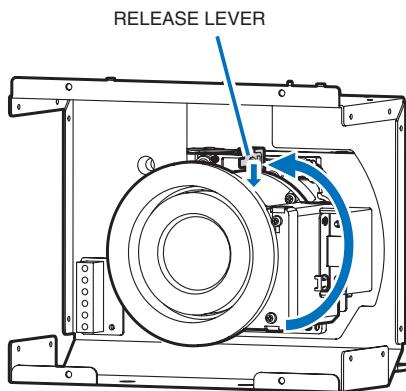
## 2-5-1. Removing the lens

**Preparation:**

- [1] Return to the center position. (page 100)
- [2] Turn off the main power and unplug the power cable.
- [3] Wait for the projector to cool sufficiently before removing the lens, before removing the front cover. (page 45)

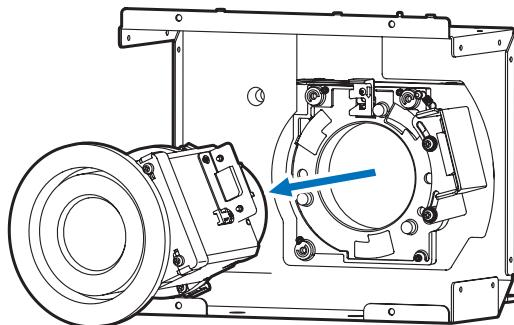
- 1** Rotate the lens counterclockwise while holding down the RELEASE LEVER.

The lens unit can be removed from the projector.



- 2** Slowly remove the lens from the projector by pulling it straight out.

After removing the lens, attach the lens cap to both the front and back of the lens for proper storage. If the projector is stored without the lens, attach the dust cover to the lens hood.



- 3** Mount the front cover to the projector.

This completes the remove of the lens.

## 2-6. Mounting the Option Board

This section describes the procedure of mounting the option board. The following option board can be mounted to the slot of the projector.

Name	Slot
IMB	NP-90MS02-4K *

**Preparation:** Phillips head screwdriver (No.2) and cover key (attached goods).

- **Step 1**  
Remove Side Cover from the Projector (See page 47)
- **Step 2**  
Mount the Option Board to the Projector (See this page)
- **Step 3**  
Mount the Cover to the Projector (See page 47)
- **Step 4**  
Restore the Tamper Error (See page 79)  
Setting up the Projector (See page 62)

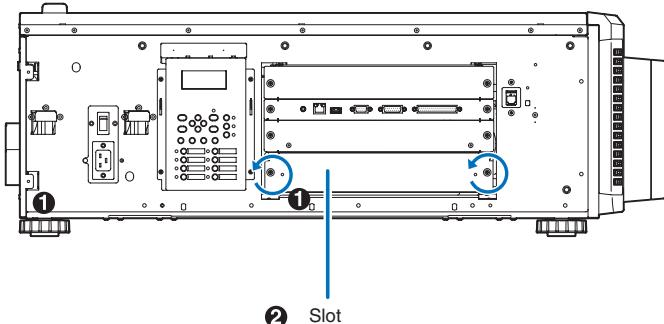
- [NOTE]**
- If you remove the side cover, a tamper event is detected by the tamper detection circuit. When you start the projector after attaching the cover, the following error message is displayed on the LCD screen of the projector main unit.
    - "IMB: Service Door Tamper"
  - If you remove the blocking panel or option board from a slot, a tamper event is detected by the tamper detection circuit. When you start the projector after attaching the cover, the following error message is displayed on the LCD screen of the projector main unit. Since the marriage is also cleared at the same time, re-marriage is necessary.
    - "IMB: Physical Marriage Tamper", "IMB: Marriage NOT Active"
  - Encrypted contents cannot be displayed while an error message is being displayed. Refer to "3-2. Recovering from Tamper Errors" (page 79) for details on how to clear the error message.

**1 Remove the side cover.**

Side cover of the projector should be removed to mount the option board. For the procedure of removing the side cover, refer to “1-5-2. Removing and Mounting the Side Cover” (page 47).

**2 Remove the blocking panel from slot.**

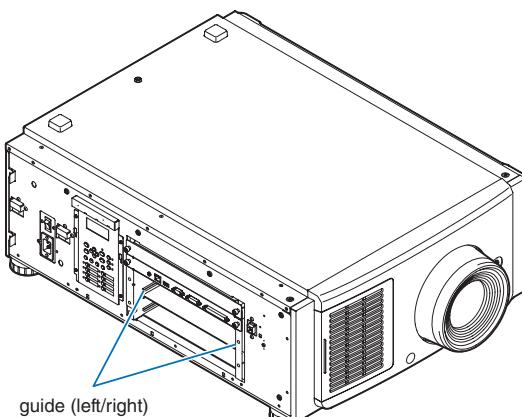
1. Loosen the knurled screws (2 places) of slot until their rotations become idle (①). Screws cannot be removed.
2. Remove the blocking panel (②).



**NOTE** Carefully store the blocking panel and screws that you removed.

**3 Mount the option board to the projector.**

1. Insert the board by following the guide on either side of the slot.
2. Tighten up the knurled screws (2 places) until it fix.



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

This completes the mounting of option board. Next, recover the tamper error. For the procedure of recovering, refer to “3-2. Recovering from Tamper Errors” (page 79). A setting to use option board is needed, after recovering from tamper error. For the procedure, refer to “2-6-1. Make the option board usable” (page 62).

### 2-6-1. Make the option board usable

By registering the mounted option board to the slot, you can use option board by setting up the projector. This procedure is described for the example, when IMB (NP-90MS02-4K) is mounted to slot. For the operation of the projector, refer to projector's "Users Manual".

**TIP** DCC can be used to set up.

For the procedure by using DCC, refer to "Digital Cinema Communicator Installation Manual".

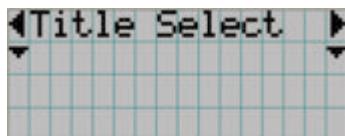
**1** Set the projector in standby mode.

**2** Enable the service personnel menu.

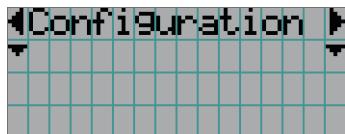
These settings are for our service personnel and cannot normally (user mode) be used. You need to enter a passcode to enable the service personnel menu. Refer to the "4-1-1. When You Use the Service Personnel Menu" (page 90) for the procedure.

**3** Press the MENU button on the control panel.

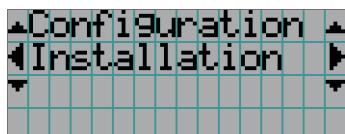
"Title Select" is displayed in the menu. From this procedure on, control panel of the projector will be used.



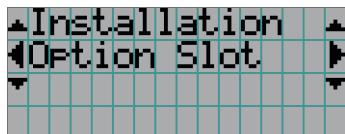
**4** Press the LEFT/RIGHT button to display "Configuration" and press the DOWN button.



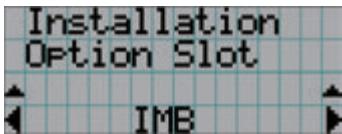
**5** Press the LEFT/RIGHT button to display "Installation" and press the DOWN button.



**6** Press the LEFT/RIGHT button to display "Option Slot" and press the DOWN button.

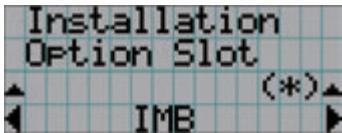


- 7 Press the LEFT/RIGHT button to display “IMB”.



- 8 Press the ENTER button.

(\*) is displayed to the selected item.



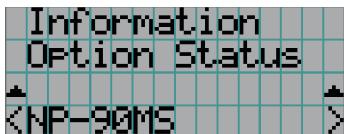
- 9 Press the EXIT button several times.

The projector exits the menu and goes back to the regular screen.

If you press the EXIT button and then select “Yes” and press the ENTER button on a regular screen, you will returned to user mode.

This completes the setting of the projector.

**TIP** Settings of slot can be confirmed at projector’s [Information] - [Option Status]



## 2-7. Connecting the Power Cable for the Chiller Unit

The power cable is not included with the chiller unit. Refer to “2-7-1. AC Power Work Specifications (Chiller Unit)” (page 65) and provide the necessary power cable.

### **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**

- When conducting the power work to connect the power cable, make sure that the main power switch to the projector and the chiller unit are turned off, and that the AC power supply has been disconnected.
- Contact a certified professional to perform the power work from the building power facilities to the installation location for the projector and the chiller unit.
- To ensure device safety, use the device only after ensuring it is properly grounded. Due to risk of shock, contact a certified professional to perform the ground work and ground connections. The ground connection must be established before supplying the AC power supply.

## 2-7-1. AC Power Work Specifications (Chiller Unit)

### AC power facilities

Do not use the AC power supply connected to the chiller unit outside of the voltage range illustrated below.

AC 200V-240V 50Hz Single phase
AC 220V-240V 60Hz Single phase

### Breaker

Connect the AC power supply from the power supply equipment of the building to the chiller unit via a breaker. The breaker capacity will be as follows depending on the power supply voltage.

AC power supply voltage used	Breaker current capacity
200V-240V	20A

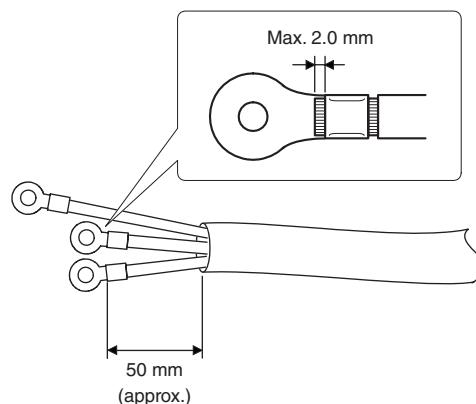
### AC Power Supply Cable

- Please use a central line that has a copper strand wire.

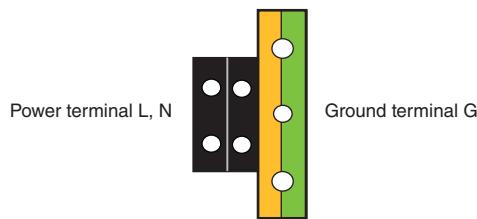
In Particular at the Europe market, any one type of the following wire shall be used for assembly:

H05VV-F(60227 IEC 53), H05V2V2-F(60227 IEC 57), H05RR-F(60245 IEC 53), H05RN-F(60245 IEC 57)

- Use a round type UL-listed solderless terminal for the section connected to the chiller unit. In addition, when clamping this terminal with the cable, use an UL listed tool.
- Refer to "Compatible Cables and Solderless Terminals" (page 66) on the following page for details on the solderless terminals to use.
- When crimping a solderless terminal onto the cable, ensure that the amount of exposed wire protruding from the crimped area is a maximum of 2.0 mm.
- Cut off approximately 50 mm of the outer cladding of the power cable from the area of the solderless terminals, and leave the wires separated. Use electrical tape to cover any exposed cable outside of the housing.



## Compatible Cables and Solderless Terminals



Solderless terminals and screw fastening torques compatible with the terminal block are specified below. This specifies the model name of the recommended solderless terminals. Use these parts or equivalent parts. If you are unable to use the recommended solderless terminals, ensure that you use terminals of the dimensions shown in the following diagram.

### **CAUTION**

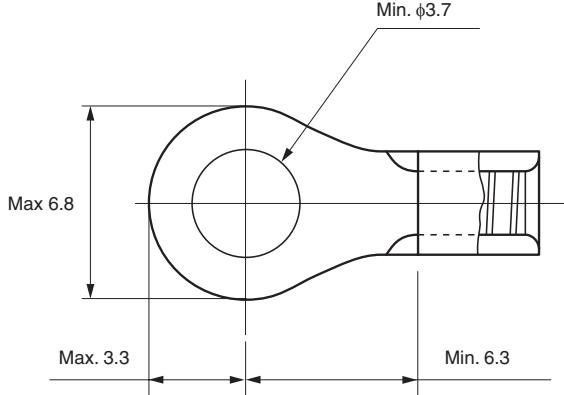
Always use solderless terminals with the dimensions as shown in the following diagram. The use of parts with dimensions other than as designated creates a risk of the AC power supply unit short circuiting due to the terminal block generating heat and melting because the terminal block of the chiller unit cannot be attached correctly.

- Power terminal (Black)

Item	Standards		
	IEC/EN	UL	CSA (C-UL)
Thickness of compatible wiring	2.0 mm <sup>2</sup>	AWG14	
Solderless terminal dimensions	M4		
Tightening torque	1.3 N•m	1.0 N•m	
Solderless terminal dimensions	 Units: mm		
Solderless terminal recommended part (J.S.T parts)	2-M4		

J.S.T: J.S.T Manufacturing Co, Ltd.

- Ground terminal (Green / Yellow)

Item	Standards		
	IEC/EN	UL	CSA (C-UL)
Thickness of compatible wiring	2.0 mm <sup>2</sup>	AWG14	
Solderless terminal dimensions	M3		
Tightening torque	0.6 to 0.8 N•m		
Solderless terminal dimensions	 Units: mm		
Solderless terminal recommended part (J.S.T parts)	2-M3		

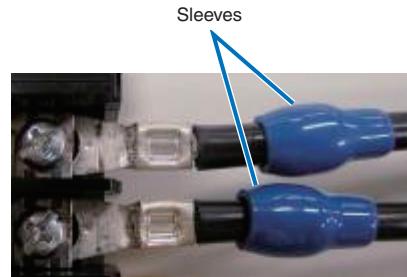
J.S.T: J.S.T Manufacturing Co, Ltd.

### Connecting the Cable

In order to attach the power cable to the connector block, connect the wires using the following procedure such that the individual wires cannot directly touch each other.

- 1 Remove the power cable sleeves from the terminals to ensure that the sleeves are not pinched by the terminal attachment screw.

Pull back the sleeves from the terminal area before fastening the screw to prevent the sleeves from being pinched.



- 2 Attach the sleeves after tightening the screw.

Tighten the fixing screw to the designated torque.

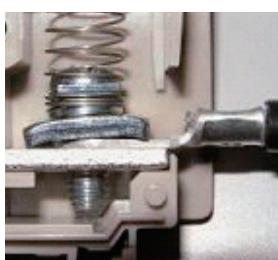


Use sleeves and secure the insulation to ensure that terminals do not touch each other. If the cables are attached to the power supply terminal without using sleeves, there is a risk of the terminals touching each other as shown in the photograph on the right.

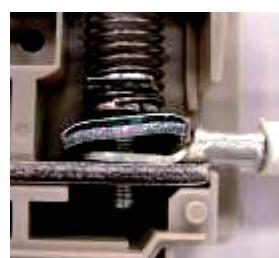


When connecting the cables to the ground terminal block, ensure that parts other than the solderless terminal (such as cable wires and fittings) are not pinched within the terminal fastening area.

When correctly fastened



When the cable wire has become pinched due to using a solderless terminal with dimensions other than as designated.



## 2-7-2. Connecting the AC Power Cable to the Chiller Unit

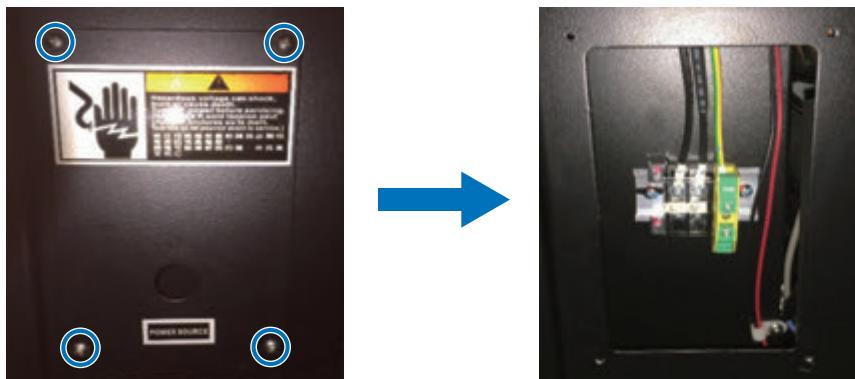
**Preparation:** Phillips head screwdriver, flatblade screwdriver (No.2)

### **WARNING**

Check that the AC power supply is disconnected before connecting the power cable to the chiller unit. If connected, this may cause fire or shock.

#### 1 Remove the cover plate of the chiller unit.

Remove the screws (four locations), and remove the cover.



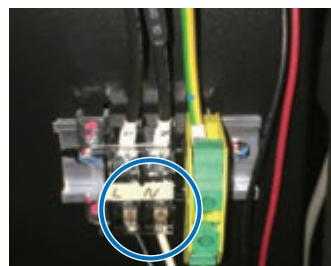
#### 2 Check that the AC power cable can fit through the cable holes.

Fit the power cable through the cable holes.

When the cable is too thick, replace the holding clip for AC power cable with that included in the accessories.

#### 3 Insert the L/N wire of the AC power cable into the connecting terminal, and tighten the screws.

Insert the AC power cable crimp terminals over the connecting terminal securement holes, and tighten the screws with a Phillips head screwdriver.

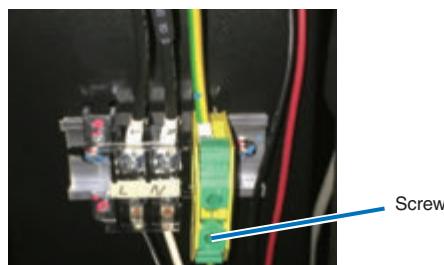


### **WARNING**

Firmly tighten the AC power cable to the connecting terminal. After tightening all screws, check that all power cables are properly tightened and in place. If the screws are not firmly tightened, this may cause serious personal injury or even death.

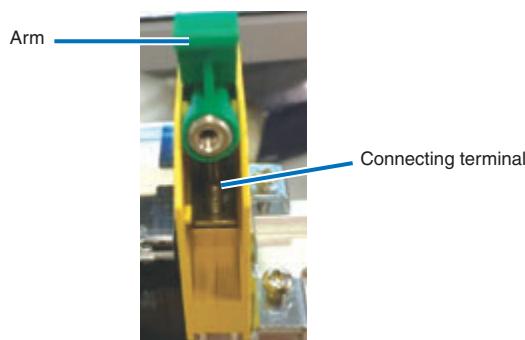
### 4 Raise the arm of the ground terminal.

Loosen the grounding terminal screw with a flathead screwdriver and lift the arm.



### 5 Insert the ground cable into the ground terminal.

Insert the crimp terminal of the ground cable to the connecting terminal of the ground terminal.



#### **WARNING**

Firmly tighten the ground cable to the connecting terminal. After tightening all screws, check that all power cables are properly tightened and in place. If the screws are not firmly tightened, this may cause serious personal injury or even death.

### 6 Return the arm in the reverse procedure, screw the ground terminal.

Return the arm and tighten the screw of the ground terminal with a flathead screwdriver.

### 7 Install the cover plate of the chiller unit.

Mount the cover plate, and secure with screws (four locations).

## 2-8. Connecting the Hoses for the Chiller Unit and Control Cable

Connect the hoses for the chiller unit between the projector and chiller unit. After connecting the hoses for the chiller unit, connect the control cable to monitor the state of the chiller unit and control ON/OFF of the unit from the projector.

### **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.

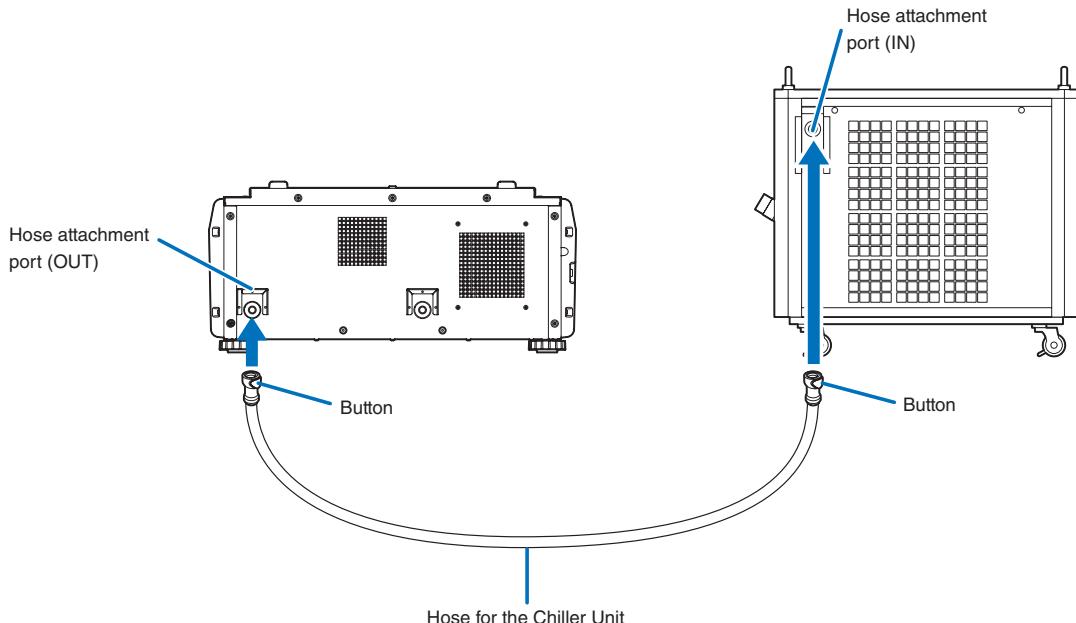
### **CAUTION**

Before connecting the Hoses for the Chiller Unit and Control Cable, check that the main power switch of the projector and the chiller unit is turned off. Implement the connection with AC power shut off.

### 2-8-1. Connecting the Hoses for the Chiller Unit

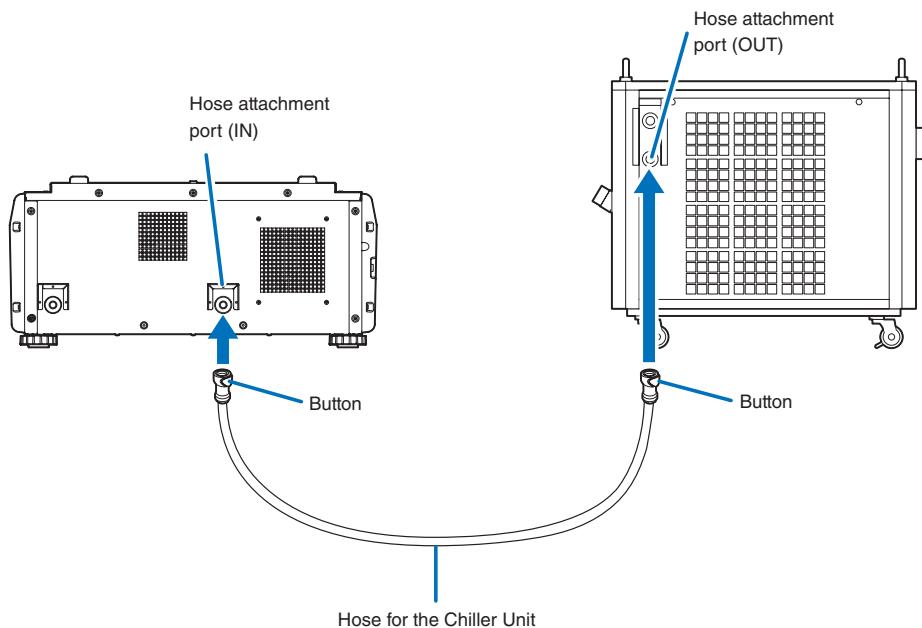
- 1 Connect the hose attachment port (OUT) on the projector and the coolant inlet of chiller (IN) on the chiller unit with a hose for the chiller unit supplied as an accessory.

Securely insert the hose all the way in. To disconnect the hose, push the button at each end of the hose and pull out the hose.



- 2 Connect the hose attachment port (IN) on the projector and the coolant outlet of chiller (OUT) on the chiller unit with a hose for the chiller unit supplied as an accessory.

Securely insert the hose all the way in. To disconnect the hose, push the button at each end of the hose and pull out the hose.



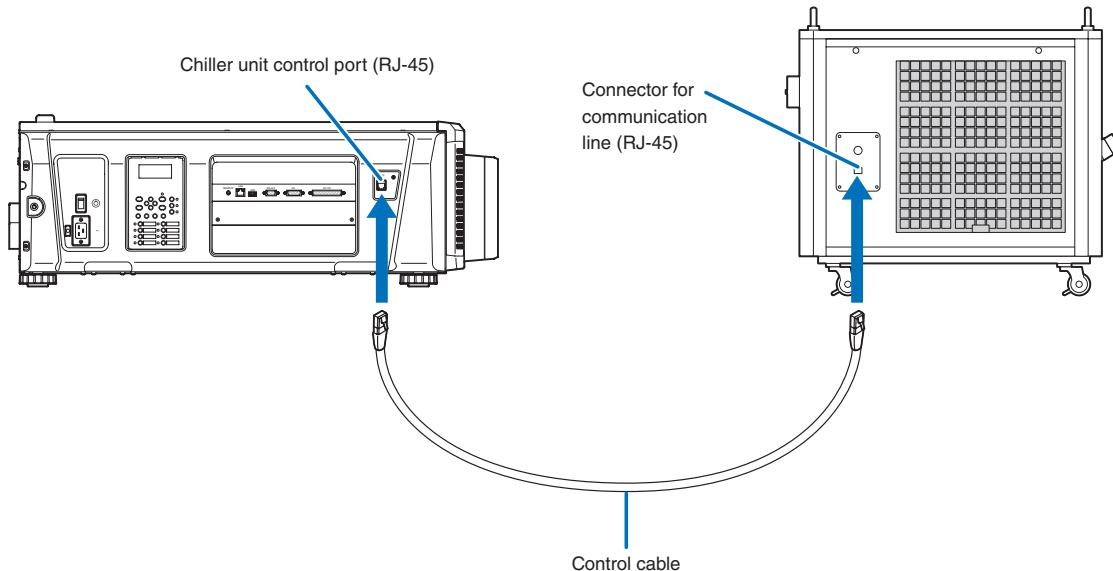
**CAUTION**

Incorrect connection of the hose may shorten the use period of the laser module.

## 2-8-2. Connecting the Control Cable

To monitor the state of the chiller unit and control ON/OFF of the unit from the projector, connect the control cable.

- 1 Connect the chiller unit control port (RJ-45) on the projector and the connector for communication line (RJ-45) on the chiller unit with the control cable supplied as an accessory.



## 2-9. Pouring and Draining the Coolant

Coolant uses a dedicated NP-17AL01 (option).

### **⚠️ WARNING**

- Before pouring or draining, check that the main power switches of the projector and chiller unit are turned off. Pour or drain the coolant with AC power shut off.
- Carefully read the contents described in this section before starting work and follow the proper procedure. Inappropriate handling may cause fatal, serious, or other bodily injuries due to fire or electric shock.

### **⚠️ CAUTION**

- After the work, be sure to cover the filler inlet for coolant with the cap. Starting operation with the filler inlet for coolant not covered with the cap may cause the coolant in the tank to spill from the filler inlet for coolant.
- If coolant decreases naturally, please refill pure water.
- Do not mix different brands of coolant.
- To replace the replenished coolant with new one, drain all old coolant and pour new one.
- Clean the tool used for replenishing the coolant thoroughly before using it so that no impurity is mixed in the coolant.
- Tighten the cap for the filler inlet for coolant by hand. Excessively tightening the cap using a tool may damage the filler inlet for coolant or cap.
- The coolant replacement period of the water cooling machine is 3 years. Please periodically replace.
- In case of unopened, coolant is kept for 3 years. Please open the coolant when injecting. Also please discard the surplus coolant after injection.
- Dispose of the coolant as industrial waste by a predetermined method by customers.

### 2-9-1. Pouring the Coolant

**Preparation:** NP-17AL01

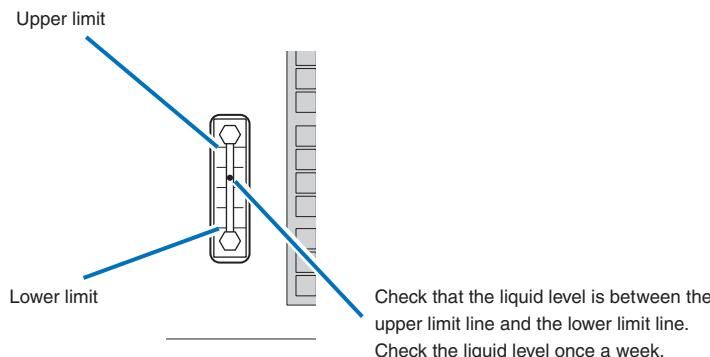
**Amount to coolant:** Approx. 12 liters for a 5 m hose  
Approx. 11 liters for a 2 m hose

**1** Check the coolant flow meter.

Drain all old coolant and pour new one.

**2** Remove the cap from the filler inlet for coolant and pour the coolant until the level reaches the upper limit line of the coolant flow meter.

If coolant remains, discard the coolant. (See page 75)



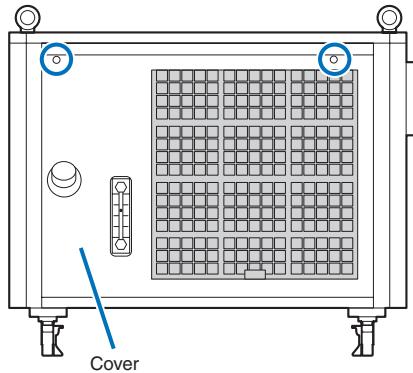
**3** Cover the filler inlet for coolant with the cap.

## 2-9-2. Draining the Coolant

**Preparation:** Phillips head screwdriver (No.2), container

- 1 Remove the screw for securing the cover with a Phillips head screwdriver and remove the cover.

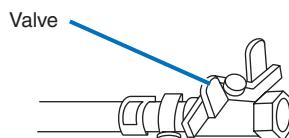
Pull out the drain port.



- 2 Place a container for receiving the coolant under the drain port.

(Amount of coolant: About 12 liters at maximum)

- 3 Open the valve of the drain port and drain the coolant in the tank.



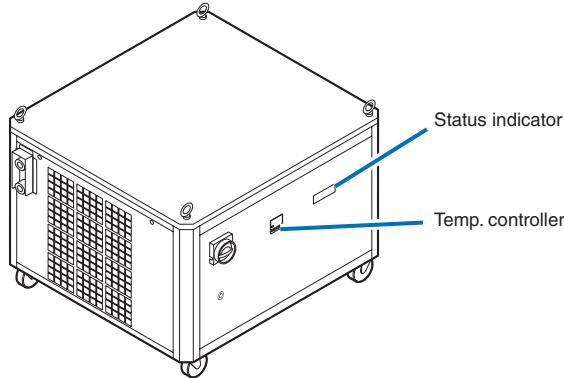
- 4 Close the valve of the drain port.

- 5 Put the drain port back in place and mount the cover by reversing the procedure for removing it.

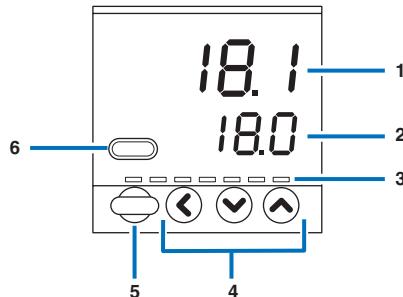
## 2-10. Setting the Chiller Unit

### 2-10-1. Setting the Temperature of the Coolant

To change the setting of the temperature of the coolant, use the Temp. controller on the chiller unit. The temperature is factory-set to 18°C. Normally, you do not need to adjust the temperature.



**Temp. controller**



#### 1. pv display

Shows the PV value (current temperature, etc.) or setting items.

#### 2. sp display

Shows the SP value (set temperature, etc.) or the set value of each setting item.

#### 3. Mode indicators

rdy : Lights in READY mode (control stop).

man : Lights in MANUAL mode (manual operation mode)

ev1 - ev3 : Lights when event relay output is ON.

ot1 - ot2 : Lights when control output is ON.

#### 4. Adjustment key

Press the (<) key for more than 5 seconds and change the value displayed on the sp display with the adjustment key.

It will be reflected automatically in about 3 seconds.

#### 5. [para] key

Changes the display.

#### 6. [mode] key

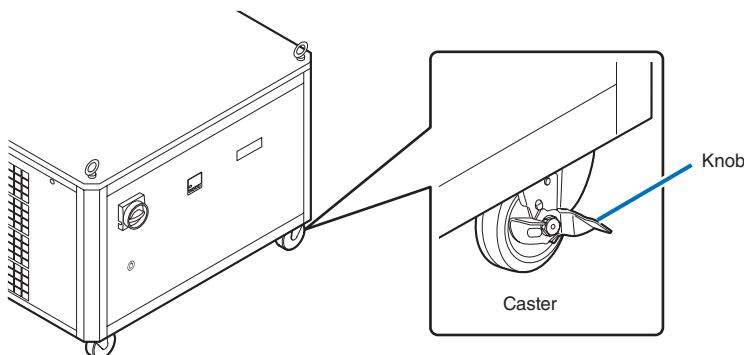
When this key is kept pressed for 1 second or longer, the operation which has been set previously can be performed.

**NOTE**

- If an error occurs in the chiller unit, one of the following error codes is displayed on the status display. Turn off the projector and the chiller unit, Inquire your dealer about action to be taken for each error code.
- E02: Chiller unit pump motor error
  - E03: Chiller unit pump compressor error
  - E04: Coolant pressure too high / Coolant is higher.
  - E06: Low coolant pressure
  - E07: Coolant flow rate error
  - E08: Heat sink system error

### 2-10-2. Fixing the Chiller Unit

After placing the chiller unit at a desired installation location (see page 33), push the knob of each caster and lock the caster to fix the chiller unit. To unlock each caster, push the knob again.



### **3. Projector Adjustment and Connecting**

---

#### **3-1. Flow of Adjustment and Connecting**

Adjustment and Connecting of the projector accord to the procedure below.

- **Step1**  
Turning Your Projector On (See page 82)
- **Step2**  
Setting The Date and Time in the Projector (See page 82)
- **Step3**  
Setting the Projector Projection Method (See page 83)
- **Step4**  
Adjusting the Lens (See page 84)  
Display the test pattern to adjust the screen size, screen angle and focus.
- **Step5**  
Connecting with the Image Input Port (See page 87)
- **Step6**  
Connecting the Various Control Terminal (See page 88)

This chapter explains the adjustment and connection of the projector with Steps 1 to 6.

Steps 1 to 6 complete the adjustment and connection of the projector. Next, carry out various settings such as color adjustment using DCC. Refer to the "Digital Cinema Communicator for S2 Installation Manual" for the procedure.

## 3-2. Recovering from Tamper Errors

The tamper detection circuit is fitted in the projector.

If any of the following actions is performed, an error message will be displayed on the LCD screen of the main unit control panel by tamper detection circuit.

Action	Error code	Error message
Cover removed • Front cover • Side cover	586	IMB: Service Door Tamper
Slot device or blocking panel removed • Blocking panel • Media block	582 584	(582) IMB: Physical Marriage Tamper (584) IMB: Marriage NOT Active

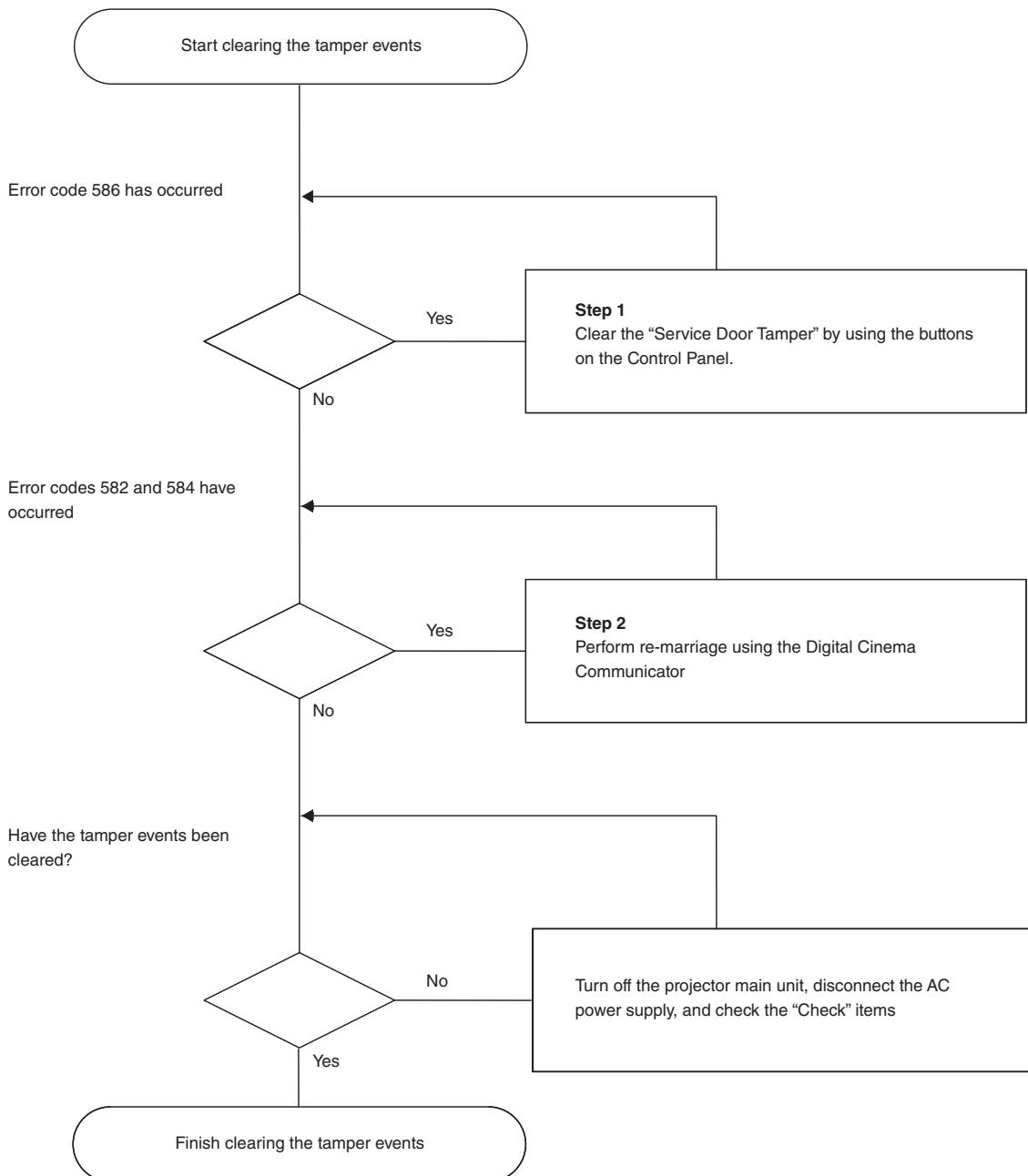
**TIP** Error codes can be checked when using the DCC.

While the above error messages are being displayed, encrypted contents cannot be displayed. Refer to "3-2-1. Clearing tamper events" (page 80) for details on how to recover from tamper errors.

### 3-2-1. Clearing tamper events

Be sure to do this while the power of the projector is on (when Power-ON).

If any tamper events have been detected by the tamper detection circuit of the projector main unit, clear the tamper events using the following procedure.



- Step 1

**“Clear the “Service Door Tamper” by using the buttons on the Control Panel.”**

Refer to “4-1-1. When You Use the Service Personnel Menu” (page 90) for details on logging into the projector with Advanced User or higher privileges using the buttons on the control panel.

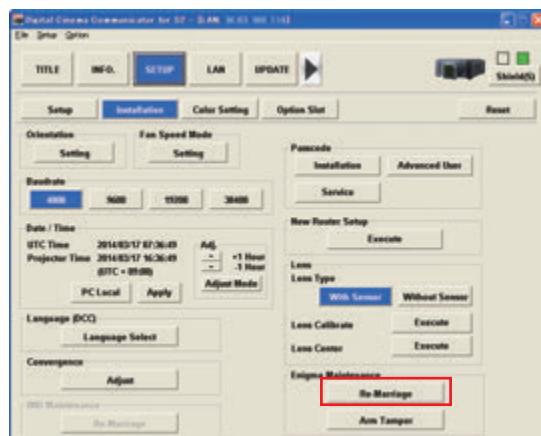
Press and hold the LEFT/RIGHT buttons simultaneously for 3 seconds or more to display the passcode entry screen. Enter your passcode and press the Enter button. If the right passcode is entered, the Clear SDT menu will be displayed. Press the Enter button to delete the “IMB:Service Door Tamper”.

**NOTE** When you enter the password, pay enough attention to people around for the password abuse prevention.  
Before entering the password, inspect the password entry device (such as remote controller and/or keypad on the projector) for any evidence of physical tampering. In the event that any suspicious markings are present (such as gouges, extraneous wiring, adhesive materials, etc.) “DO NOT” enter the password and consult with the distributor.  
Always store the password, remote controller, and projector in a safe place and never divulge the password to unauthorized entities.  
Entered password is indicated with \* on the LCD.  
In case entered password characters are indicated on the LCD, it is machine trouble. Consult with the distributor.

- Step 2

**“Perform Re-Marriage using the Digital Cinema Communicator”**

DCC is used to perform re-marriage. Refer to “Digital Cinema Communicator Installation Manual” for details.



- Check

**“Attach the front cover, side cover”**

If you have removed a cover, then attach the cover. Furthermore, if the covers are attached, check that they are attached correctly.

After attaching the cover, turn the main power switch of the projector on (with the AC power supply turned on), and check that “Tamper Fail” is not displayed on the LCD screen.

**“Check that the equipment is correctly attached to slot”**

If there are no devices mounted in slot, attach the blocking panel. Also, if a device is mounted in slot, check that it is securely pushed all the way into the slot.

After correctly mounting a device in the slot, turn the main power switch of the projector on (with the AC power supply turned on), and check that “Marriage Tamper Fail” is not displayed on the LCD screen.

## 3-3. Turning your Projector On

- NOTE**
- Do not use the projector with the lens cap left attached, and do not attach the lens cap while the projector is operating. The lens cap may become hot, causing them to deform or melt.
  - 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 SYSTEM status indicator is blinking without the light source 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.

**Preparation:**

- Connect the power cable to the projector (See Projector User's Manual).
- Connecting the Power Cable to the Chiller Unit (See page 64)
- Connecting the Hoses to the Chiller Unit (See page 71)
- Connecting the Control Cable (See page 73)
- Pouring the Coolant (See page 74)
- Supply AC power to the projector.

- 1** Remove the lens cap.
- 2** Turn ON the emergency stop switch (AC power switch) of chiller unit.
- 3** Insert the administrator key vertically and turn it to the horizontal direction. The administrator key can no longer be removed. The projector will not function unless the administrator key is inserted.
- 4** 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 SYSTEM 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.
- 5** 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.
- 6** Press the POWER button on the control panel of your projector three seconds or longer.
- 7** Press the LIGHT ON/OFF button on the control panel for three seconds or longer.  
The light source is turned on and the screen glows light about 15 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.

## 3-4. Setting the Date and Time in the Projector

The internal clock in the projector operates on coordinated universal time (UTC). You can set the internal projector time to the time in your region by setting the time difference between the standard time in your region and UTC.

If you are using DCC, you can easily set the date and time in the projector by reading the date and time settings of the computer where DCC is installed. Refer to "Digital Cinema Communicator for S2 Installation Manual" for details.

## 3-5. Setting the Projector Projection Method

The projection method can be changed in the projector menu. In the factory default settings, it is set to front (installed on a stand and projecting from the front of the screen).

**1 Press the MENU button for three seconds or longer.**

The Passcode input screen appears on the LCD screen at the projector's control panel.

Press the EXIT button to return to the original screen.

**2 Enter the passcode and press the ENTER button.**

If you make a mistake during input, you can move the cursor by pressing the LEFT/RIGHT buttons and overwrite the passcode.

If the passcode is correct, you can use the service personnel menu.

**3 Press the LEFT/RIGHT button to display “Configuration” and press the DOWN button.**

**4 Press the LEFT/RIGHT button to display “Installation” and press the DOWN button.**

**5 Press the LEFT/RIGHT button to display “Orientation” and press the DOWN button.**

**6 Check that “Image Orient” is properly selected and press the DOWN button.**

If “Image Orient” is not properly selected, press the LEFT/RIGHT buttons to select it.

**7 Press the LEFT/RIGHT buttons to select the projection method.**

When shipped from the factory, it is set to [Normal-F].

Normal-F	Front projection. With the projector installed on the pedestal, projection is executed from the front of the screen.
Normal-R	Rear projection. With the projector installed on the pedestal, projection is executed from the back of the screen.
UpsideDown-F	Ceiling front projection. With the projector installed on the ceiling, projection is executed from the front of the screen.
UpsideDown-R	Ceiling rear projection. With the projector installed on the ceiling, projection is executed from the back of the screen.

**8 Press the ENTER button.**

An (\*) will be put on the selected projection method.

**9 Press the EXIT button several times.**

The projector exits the menu and goes back to the regular screen.

If you press the EXIT button and then select “Yes” and press the ENTER button on a regular screen, you are returned to user mode.

## 3-6. Adjusting the Lens

After attaching the lens unit, check that the lens type is set correctly. Furthermore, if you have attached a lens unit that supports the lens memory function, always execute calibration before adjusting the lens. After this, display the test pattern and adjust the screen size, focus and screen position with the lens unit.

**Preparation:**

Enable the service personnel menu (page 90).

### 3-6-1. Set the Lens Type

- 1** Press the MENU button on the control panel.

“Title Select” is displayed in the menu.

- 2** Press the LEFT/RIGHT button to display “Configuration” and press the DOWN button.

- 3** Press the LEFT/RIGHT button to display “Installation” and press the DOWN button.

- 4** Press the LEFT/RIGHT button to display “Lens Type” and press the DOWN button.

- 5** Press the LEFT/RIGHT button to select the type of lens attached to the projector.

When shipped from the factory, it is set to [Without Sensor].

Without Sensor	Select when using a lens unit that does not support the lens memory function.
With Sensor	Select when using a lens unit that supports the lens memory function.

- 6** Press the ENTER button.

(\*) is displayed to the selected item.

- 7** Press the EXIT button several times.

The projector exits the menu and goes back to the regular screen.

### 3-6-2. Carry out Calibration of the Lens

If you have attached a lens unit that supports the lens memory function, always execute calibration before making adjustments.

#### Preparation:

- Check that the lens is attached correctly (page 57).
- Set the lens type (page 84).

**1** Press the MENU button on the control panel.

“Title Select” is displayed in the menu.

**2** Press the LEFT/RIGHT button to display “Configuration” and press the DOWN button.

**3** Press the LEFT/RIGHT button to display “Installation” and press the DOWN button.

**4** Press the LEFT/RIGHT button to display “Lens Calibrate” and press the DOWN button.

**5** Check that “Execute” is displayed and press the ENTER button.

The confirmation screen will appear.

**6** Select “Yes” in the confirmation screen, and then press the ENTER button.

Carry out calibration in the order of focus lens and zoom lens.

### 3-6-3. Display the Test Pattern

**1** Press the MENU button.

“Title Select” is displayed on the LCD screen at the projector’s control panel.

**2** Press the DOWN button.

**3** Press the LEFT/RIGHT buttons to select “TEST Pattern”

**4** Press the DOWN button.

**5** Press the LEFT/RIGHT buttons to select “Cross Hatch”

**6** Press the ENTER button.

An (\*) will be put on the selected test pattern.

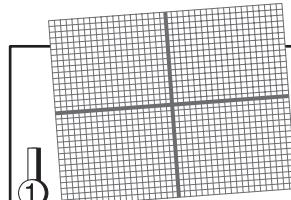
### 3-6-4. Adjusting the Screen Angle

**Preparation:** Display the zoom/focus adjustment screen by using the following procedure.

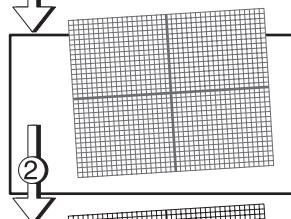
- [1] Press the MENU button on the projector's control panel.  
"Title Select" appears on the projector's LC display.
- [2] Select "Configuration" menu using LEFT the LEFT/RIGHT button.
- [3] Press the DOWN button.
- [4] Select "Lens Control" using the LEFT/RIGHT button.
- [5] Press the DOWN button.
- [6] Press the ENTER button.

"Focus Zoom" is displayed and you can adjust the focus/zoom.

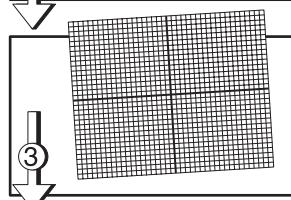
- 1** Press the LEFT/RIGHT buttons to roughly adjust the screen angle so that the screen height and the image height are the same.



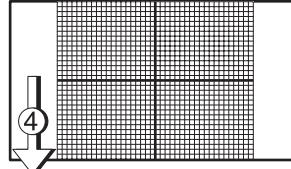
- 2** Press the UP/DOWN buttons to roughly adjust the focus.



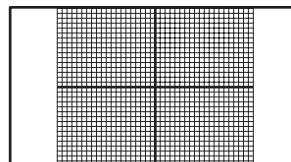
- 3** Adjust the surface on which the projector is set up and the level adjuster of the projector to adjust the setup position, height, and tile (front-back and left right) of the projector so that the projected image is level at the screen center.



- 4** Use the LEFT/RIGHT buttons again to adjust the screen angle so that the projected image is kept 0.5 to 1 crosshatch cell portions higher than the top edge of the screen.



- 5** Finally adjust the focus using the UP/DOWN buttons.



- 6** Press the EXIT button several times.

The projector exits the menu and goes back to the regular screen.

### 3-7. Connecting with the Image Input Port

By installing option board to projector, you can add input port. Input port which can add to option board is listed below. For the connection diagram of projector and peripheral equipment, refer to Installation manual of option board.

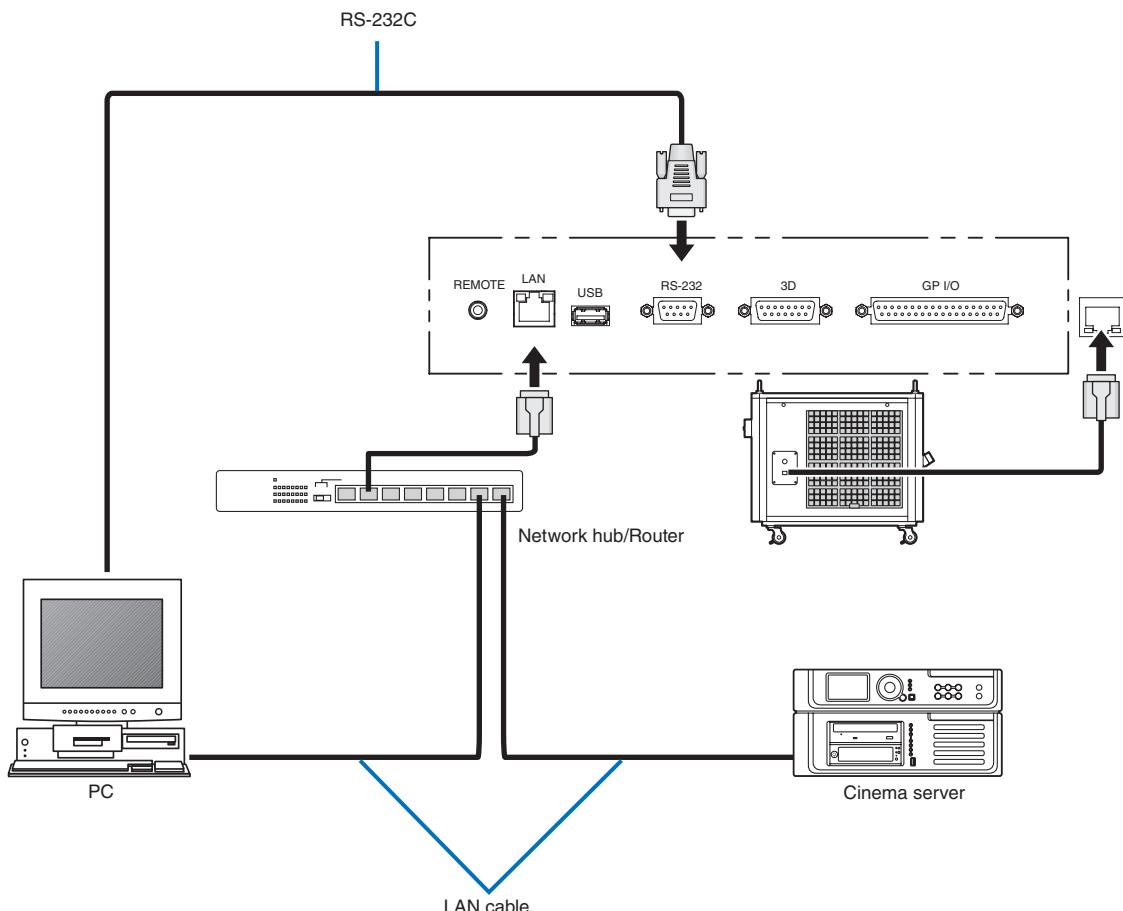
Option Board	Image Input Port
NP-90MS02-4K (Note)	HDMI input port x1 SDI input port x2

(Note) The NP-90MS02-4K video input ports do not support CineLink 2. The NP-90MS02-4K video input ports cannot display the encrypted contents.

## 3-8. 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. Use a retail RS-232C straight cable for the connection between the projector and the computer.
Ethernet port (LAN)	Use this port when controlling the projector in LAN connection from a PC or a cinema server. Use a retail LAN cable (10/100/1000Base-T) for the connection between the projector and the computer after checking with your network administrator.
Chiller unit control port	Use this port to control the chiller unit from the projector through a LAN connection. Use a retail Control cable (10/100/1000Base-T) for the connection between the projector and the computer after checking with your network administrator.



This completes the adjustment and connection of the projector. Next, set up the projector from the DCC. Refer to the "Digital Cinema Communicator for S2 Installation Manual" for the procedure.

# 4. LCD Menu

This chapter describes the menus displayed in the LCD screen on the projector's control panel and their functions. For basic operations of menus, refer to the projector's operation manual.

## 4-1. List of Menu

Menus in parentheses are menus for our service personnel. Normally, these menus cannot be used. If you are logged in to the projector with Installation privileges, you cannot use [FactoryDefault] - [LAN] (page 93).

Main menu	Submenu		Description	Reference page	
Title Select	"Title Memory Name"		Selects the title of the signal to be projected.	91	
	TEST Pattern		Selects the test pattern to be projected.	91	
Configuration	Light Setup	Adjust	Adjusts light brightness.	92	
	Lens Control	Lens Position	Adjusts the position of the projected screen.	92	
		Focus Zoom	Adjusts the size and focus of the projected screen.	92	
	Reset	(FactoryDefault)	Returns the settings to their default values. Selects between preset buttons and titles only, LAN settings only and all settings.	93	
		Filter Cleaning	Initializes the air filter usage time (for confirming the filter cleaning time).	93	
		(Fan Usage)	Initializes the usage time of the fan.	94	
		(Light)	Initializes the usage time of the light source.	94	
		(Phosphor)	Initializes the usage time of the phosphor.	94	
		(Diffuser)	Initializes the usage time of the diffuser.	94	
		(Chiller)	Initializes the usage time of the chiller unit.	94	
		(Chiller Fan)	Initializes the usage time of the chiller unit fan.	95	
		(Douser Count)	Resets the number of times the douser has been used.	95	
	(Setup)	Douser Setup	Sets the douser open/close state.	95	
		Panel Key Lock	Locks the buttons on the projector's control panel so that they cannot be operated.	96	
		Auto Key Lock	Enables or disables Auto Key Lock.	96	
		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.	96	
		Off Timer	Sets the time until the projector power is turned off automatically.	97	
		Message	Sets the time to display the message indicating the light replacement cycle.	97	
		Silent Mode	Selects whether to use the status indicator, buzzer, indicators on the control panel and backlight.	98	
Installation (Note)	(Option Slot)	Configures the device installed in slot (only when the projector is in standby mode).			99
	(Orientation)	Sets the projection method.			99
	Lens Type (Note)	Sets the type of lens (supports or does not support the lens memory function) attached to the projector.			100
	Lens Calibrate (Note)	Performs calibration on lens that support the lens memory function (only when the projector power is turned on).			100
	Lens Center (Note)	Moves the lens shift position to the center (only when the projector power is turned on).			100
	(Baudrate)	Sets the PC control connector (RS-232) data transmission speed (bps).			101
	(Date/Time)	Sets the date and time on the projector.			101
	(Fan Speed Mode)	Sets the cooling fan operating mode.			102
	(Service Adj.)	(Only when the projector is in standby mode) This is used during shadow adjustment and lens mount adjustment (focus balance adjustment).			102
	(LD Calibrate)	Performs calibration of the light module when the light module has been replaced (only when the projector power is turned on).			102

Main menu	Submenu		Description	Reference page
	Installation (Note)	(Sensor Calib.)	Calibrate the sensors upon installation.	102
Configuration	(Memory)	Light	The content of the selected light memory (light output power value) can be overwritten with the current settings.	103
		Lens	The content of the selected lens memory can be overwritten with the current settings.	103
(Title Setup)	Preset Button	Preset Button 1–16	Sets the title to be assigned to the preset buttons (<1> to <8> buttons).	104
Information	Light Output		Displays the light source output setting.	105
	Lens Type		Displays the lens type setting.	105
	Preset Button	Preset Button 1–16	Displays the titles which are assigned to the preset buttons (<1> to <8> buttons).	105
	Usage		Displays information related to projector usage.	106
	Error Code		Displays the currently occurring error.	106
	Version	System	Displays the model name and various version information about the projector.	107
		IMB	Displays the vendor name and version information about the media block (IMB).	107
	IP Address	System	Displays the IP address of the projector.	107
	Setup Date		Displays the date when the projector was set up (starting date of the warranty period).	108
	Option Status		Displays the link status of the device mounted in slot and projector.	108

(Note) Requires logging into the projector with Advanced User or higher privileges.

#### 4-1-1. When You Use the Service Personnel Menu

To use the menu for service personnel, you need to input the passcode. This section describes how to display the passcode entry screen and how to enter the passcode. Refer to the Projector Manual for details on how to enter text.

**1 Press the MENU button for three seconds or longer.**

The passcode input screen will be displayed on the LCD screen at the projector's control panel.

Press the EXIT button to return to the original screen.

**2 Enter the passcode and press the ENTER button.**

If you make a mistake during input, you can move the cursor by pressing the LEFT/RIGHT buttons and overwrite the passcode.

If the passcode is correct, you can use the menu for service personnel.

**NOTE** When you enter the password, pay enough attention to people around for the password abuse prevention.

If you have anxiety the password is cheated, change the password immediately.

Before entering the password, inspect the password entry device (such as remote controller and/or keypad on the projector) for any evidence of physical tampering. In the event that any suspicious markings are present (such as gouges, extraneous wiring, adhesive materials, etc.) "DO NOT" enter the password and consult with the distributor.

Always store the password, remote controller, and projector in a safe place and never divulge the password to unauthorized entities.

Entered password is indicated with \* on the LCD.

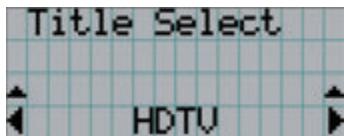
In case entered password characters are indicated on the LCD, it is machine trouble. Consult with the distributor.

## 4-2. Title Select

### 4-2-1. Title select (Title Memory)

Select 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> on the projector's control panel and call them up directly using those buttons. (See page 104)



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

← Selects the title to be projected.

### 4-2-2. Test Pattern

Selects the test pattern to be projected.



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

← Selects the test pattern to be projected.

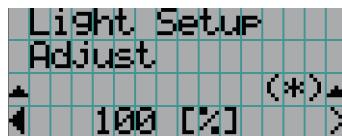
OFF, Alignment, Cross Hatch, Convergence, Red, Green, Blue, White, Black, White 50% [IRE], H-Ramp, Logo

## 4-3. Configuration

### 4-3-1. Light Setup

#### Adjust

Adjusts the light source brightness (output). This setting is the fraction based on taking the maximum value of light source brightness as 100%.



← Adjusts the output power value (%).

### 4-3-2. Lens Control

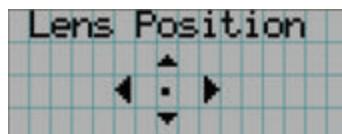
Adjust the position, size, and focus of the projected screen.

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.

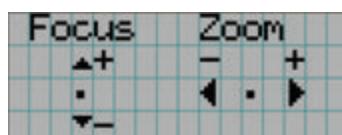


#### Focus Zoom

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.



### 4-3-3. Reset

Used when initializing settings and usage times. Some of the items are in the service personnel menu. Refer to “4-1-1. When You Use the Service Personnel Menu” (page 90) for details on how to use these.

Item	Service Personnel	User
FactoryDefault	○	—
FilterCleaning	○	○
Fan Usage	○	—
Light	○	—
Phosphor	○	—
Diffuser	○	—
Chiller	○	—
Chiller Fan	○	—
Douser Count	○	—

**NOTE** When “Light” is reset, “Phosphor” and “Diffuser” are also reset.

#### FactoryDefault

Returns the projector main unit settings to the factory default state. You can choose from the following three types of methods.

- Registered preset buttons and title settings
- Network settings
- All adjustment and setting values



← Select the item to be reset.



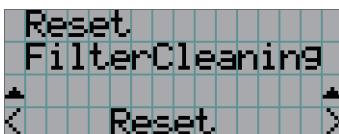
← Press the ENTER button to execute resetting.

P Button & Title	Resets the allocation of preset buttons and all registered titles.
LAN	Resets the network settings.
All	Resets all adjustment and setting values.

**NOTE** If you are logged in to the projector with Installation privileges, you cannot reset the network settings (LAN).

#### FilterCleaning

Reset the air filter usage time (for confirming the filter cleaning time). Press the ENTER button, then select “Yes” in the displayed confirmation screen, and then press the ENTER button to reset the air filter usage time (for confirming the filter cleaning time).



← Press the ENTER button to display the confirmation screen.

## LCD Menu

---

### Fan Usage

Resets the fan usage time. Press the ENTER button, then select “Yes” in the displayed confirmation screen, and then press the ENTER button to reset the fan usage time.



← Press the ENTER button to display the confirmation screen.

### Light

Reset the light source usage time. Press the ENTER button, then select “Yes” in the displayed confirmation screen, and then press the ENTER button to reset the light source usage time.



← Press the ENTER button to display the confirmation screen.

### Phosphor

Reset the Phosphor usage time. Press the ENTER button, then select “Yes” in the displayed confirmation screen, and then press the ENTER button to reset the Phosphor usage time.



← Press the ENTER button to display the confirmation screen.

### Diffuser

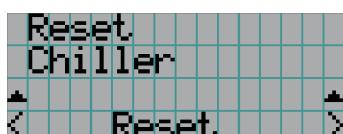
Reset the Diffuser usage time. Press the ENTER button, then select “Yes” in the displayed confirmation screen, and then press the ENTER button to reset the Diffuser usage time.



← Press the ENTER button to display the confirmation screen.

### Chiller

Reset the Chiller unit usage time. Press the ENTER button, then select “Yes” in the displayed confirmed screen, and then press the ENTER button to reset the Chiller unit usage time.



← Press the ENTER button to display the confirmation screen.

**Chiller Fan**

Resets the chiller unit fan usage time. Press the ENTER button, then select "Yes" in the displayed confirmation screen, and then press the ENTER button to reset the chiller unit fan usage time.



← Press the ENTER button to display the confirmation screen.

**Douser Count**

Resets the number of times the douser has been used. Press the ENTER button, then select "Yes" in the displayed confirmation screen, and then press the ENTER button to reset the number of times the douser has been used.



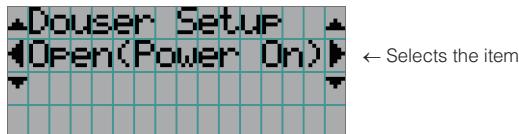
← Press the ENTER button to display the confirmation screen.

**4-3-4. Setup**

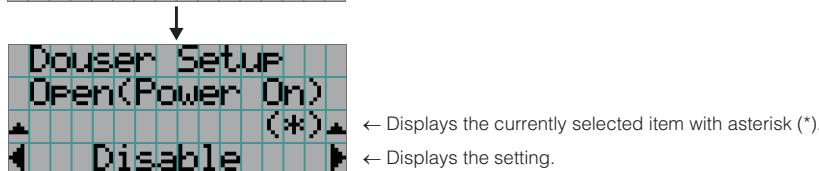
This menu is for service personnel. For the procedure to use it, refer to "4-1-1. When You Use the Service Personnel Menu" (page 90).

**Douser Setup**

Sets the douser open/close state. Request your dealer/distributor to perform the setting.



← Selects the item.



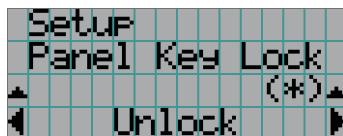
← Displays the currently selected item with asterisk (\*).

← Displays the setting.

Open(Power On)	When set to Enable, the douser opens after the projector starts up.
Light On	When set to Enable, the douser opens when the light source is turned on.
Title Select	When set to Enable, the douser opens when a title is selected.

### Panel Key Lock

The control buttons on your projector are locked to be inoperative.



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

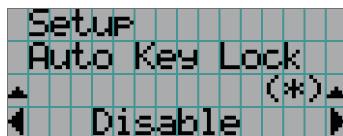
← Displays the setting.

Lock	Enable a lock on the control buttons on your projector.
Unlock	Disable the lock on the control buttons.

**[NOTE]** When the buttons on the projector's control panel are locked, press the EXIT button on the projector for about 10 sec. to unlock them (The key lock setting on the projector becomes Unlock).

### Auto Key Lock

Enables or disables Auto Key Lock.



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

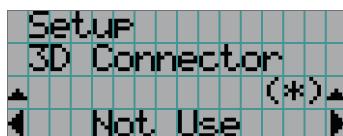
← Displays the setting.

Enable	Enables the auto key lock function. This applies the key lock automatically if you do not perform any operations from the main unit control panel for 30 seconds after entering the standby state. If you do not perform any operations for 30 seconds after releasing the key lock, the key lock is applied again.
Disable	Disables the auto key lock function. Although the key lock becomes active after entering the standby state, once you release the key lock it is not automatically applied.

### 3D Connector

Selects the port for 3D video systems used as the control signal input/output for the 3D video system.

If you select "Not Use", the GP I/O port is used as the control signal input/output for the 3D video system. If you select "Use", the 3D port is used as the signal input for the 3D video system.



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

← Displays the setting.

Not Use	Does not use the 3D port as the control signal input/output for the 3D video system (uses the GP I/O port).
Use	Uses the 3D port as the control signal input/output for the 3D video system.

### Off Timer

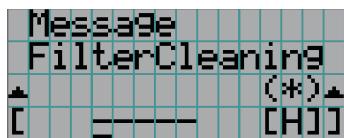
Automatically turns off the projector power once the configured time has elapsed. The time until the power is turned off can be set in steps of 1 hour (up to a maximum of 24 hours). The timer starts from when the setting is applied by pressing the ENTER button. While the timer is running, the remaining time is displayed in the format "Left \*\*.\* H". Set to "No Preset" to stop the timer.



← Displays the remaining time until the power is turned off.  
← Sets the time until the power is turned off. (No Preset: Timer off)

### Message

Sets the time until the replacement cycle (units: hours) of a part such as the light source. Once the usage time of the part exceeds the configured time, a message is displayed on the LCD screen. "0 (----) [H]" is set by default. With this setting, no message is displayed.



← The current setting value is displayed with an asterisk (\*).  
← Sets the time until the replacement cycle (units: hours).

### Silent Mode

Sets whether the status indicators (SYSTEM status indicator, LIGHT status indicator), buzzer, indicators on the projector's control panel, illumination, and LCD screen backlight are enabled or disabled.



← Selects the item.



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

← Displays the setting.

Rear LED	Sets whether to use or not use the SYSTEM status indicator. Enable: Use Disable: Not use (the SYSTEM status indicator does not light up)
Buzzer	Sets whether to use or not use the buzzer. Enable: Use Disable: Not use (the buzzer does not sound)
Control Button	Sets whether to use or not use the indicators on the projector's control panel. Enable: Use Disable: Not use (the LED next to the buttons do not light up)
LCD Backlight	Sets whether to use or not use the illumination and LCD screen backlight on the projector's control panel. Enable: Use Disable: Not use (turns off the illumination and LCD screen backlight on the projector's control panel)

**[TIP]** When LCD Backlight is set to Disable, you can change the setting to Enable by long-pressing (3 seconds or more) the EXIT button and UP button.

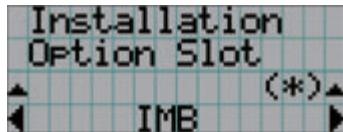
### 4-3-5. Installation

This menu is the service personnel menu. For the using service personnel menu, refer to “4-1-1. When You Use the Service Personnel Menu” (page 90).

#### Option Slot

Configures the devices mounted in slot. This menu is active in standby mode only.

Slot B is not available in this projector (displays as “Not Available”).

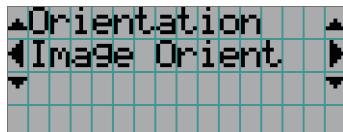


← Displays the currently selected item with asterisk (\*).  
← Displays the setting.

IMB	Media block (NP-90MS02-4K)
No Board	No device mounted

#### Orientation

Set the projection method (Image Orient) to match the installation conditions of the projector and screen.

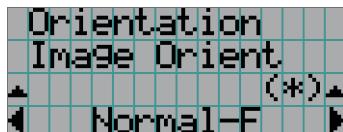


← Select the item and press the ENTER button to display the menu.

Image Orient	Set the projection method.
FanTiltSetting <small>(Note)</small>	Set the cooling method to match the projection method.

(Note) Upgrade function.

(If you selected “Image Orient”)



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

Normal-F	Front projection. With the projector installed on the pedestal, projection is executed from the front of the screen.
Normal-R	Rear projection. With the projector installed on the pedestal, projection is executed from the back of the screen.
UpsideDown-F <small>(Note)</small>	Ceiling front projection. With the projector installed on the ceiling, projection is executed from the front of the screen.
UpsideDown-R <small>(Note)</small>	Ceiling rear projection. With the projector installed on the ceiling, projection is executed from the back of the screen.

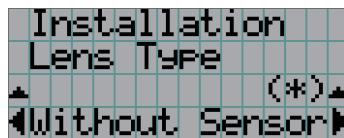
(Note) Upgrade function.

## LCD Menu

---

### Lens Type

Sets the type of lens (supports or does not support the lens memory function) attached to the projector. This menu item is available only when you are logged into the projector with Advanced User or higher privileges.



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

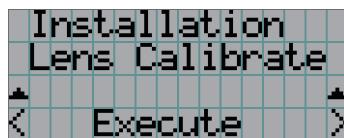
← Displays the setting.

Without Sensor	Selected when using a lens unit that does not support the lens memory function (default value).
With Sensor	Selected when using a lens unit that supports the lens memory function.

### Lens Calibrate

Performs calibration on lenses that support the lens memory function. Once you have attached a lens that supports the lens memory function, always execute calibration. This menu item is available only when the projector power is turned on and you are logged into the projector with Advanced User or higher privileges.

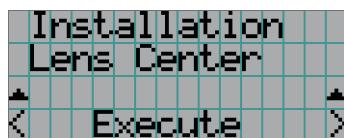
**[NOTE]** This items cannot be used if Lens Type is set to "Without Sensor".



← Press the ENTER button to execute calibration.

### Lens Center

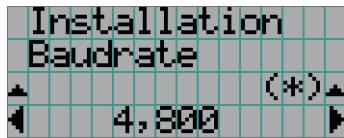
To move the lens shift to the center position. The center position may slightly shift depending upon mounting conditions of the lens. This menu item is available only when the projector power is turned on and you are logged into the projector with Advanced User or higher privileges.



← Press the ENTER button to execute moving.

**Baudrate**

To select the transmission speed (bps) for your projector (SYSTEM) and a PC when they are connected by a commercially available RS-232C straight cable. Select one from 4800, 9600, 19200 and 38400. Select the transfer speed corresponding to the speed of the connected devices.



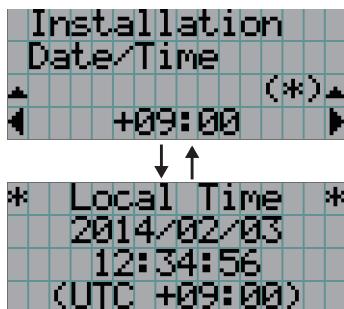
← Displays the currently selected item with asterisk (\*).

← Displays the setting.

**Date/Time**

Use this to set the date and time on the projector.

The internal clock in the projector uses coordinated universal time (UTC). This sets the time difference between the standard time in your region and UTC.



← Displays the currently setting with asterisk (\*).

← Sets the time difference between the standard time in your region and UTC.

↓ ↑  
\* Local Time \*  
2014/02/03  
12:34:56  
(UTC +09:00)

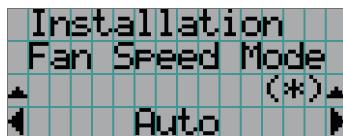
Press the ENTER button to check the time difference between the built-in projector clock and UTC.

**TIP**

If you are using DCC, you can set the date and time from your computer. Refer to "Digital Cinema Communicator for S2 Installation Manual" for details.

### Fan Speed Mode

It adjusts the rotation speed of the internal cooling fan.



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

← Displays the setting.

Auto	The fan rotates at the optimal speed according to the temperature sensor inside the projector.
High Speed	The fan always rotates at high speed.
High Altitude	Select when using the projector in locations with low air pressure, such as at high elevations of altitude approximately 5500 feet (1600 m) or higher. The fan always rotates at high speed.

**[NOTE]**

- It is recommended that you select "High Speed" if you use the projector non-stop for consecutive days.
- Set "Fan Speed Mode" to "High Altitude" when using the projector at altitudes approximately 5500 feet/1600 meters or higher.
- Using the projector at altitudes approximately 5500 feet/1600 meters or higher without setting to "High Altitude" can cause the projector to overheat and the projector could shut down. If this happens, wait a couple minutes and turn on the projector.
- Using the projector at altitudes approximately 5500 feet/1600 meters or higher can shorten the life of internal parts.

### Service Adj.

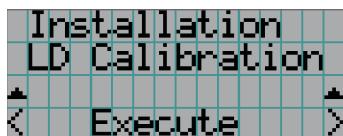
This is used during shadow adjustment and lens mount adjustment (focus balance adjustment). This menu item can only be used while in standby. If you press the <ENTER> button and then select "Yes" and press the <ENTER> button on the confirmation screen that is displayed, the projector starts automatically and a yellow colored light ring is projected. You can adjust the output level of the light source (Light Setup) even while using Service Adjustment.



← Press the ENTER button to display the confirmation screen.

### LD Calibrate

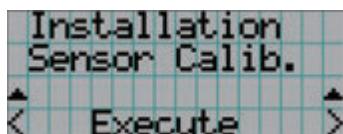
Calibrates the light source unit when it is replaced with a new one. This menu item is available only when the power to the projector is turned on.



← Press the ENTER button to display the confirmation screen.

### Sensor Calib.

Calibrate the sensors upon installation. Consult the dealer/distributor for how to use the unit.



### 4-3-6. Memory

This menu is the service personnel menu. For the using service personnel menu, refer to “4-1-1. When You Use the Service Personnel Menu” (page 90).

The selected lens memory (lens adjustment value) and the content of the light memory (light output power value) can be overwritten with the current settings. Press the LEFT/RIGHT buttons to select the light memory or the lens memory then press the “ENTER” button to display the confirmation screen. Select “Yes” in the confirmation screen, and then press the ENTER button. The selected memory (light memory or lens memory) is overwritten with the current settings.

**NOTE**

- Lens memory and light memory cannot be newly registered. Use DCC to register the lens memory and light memory in advance. Refer to “Digital Cinema Communicator for S2 Installation Manual” for details registering the lens memory and light memory.
- The lens memory function cannot be used when the lens type is set to “Without Sensor”.



← Select the Light memory or lens memory.



← Select the memory name of the setting to overwrite and press the ENTER button to display the confirmation screen.

Light	Select to change the values of the light memory settings.
Lens	Select to change the values of the lens memory settings.

## 4-4. Title Setup

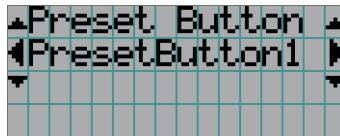
This menu is the service personnel menu. For the using service personnel menu, refer to "4-1-1. When You Use the Service Personnel Menu" (page 90).

### 4-4-1. Preset Button

Use this button to set the titles to be assigned to the preset buttons (<1> to <8> buttons).

You cannot assign the same title to several preset buttons. If you want to assign any title to another number, cancel the assignment once and then set it to any button again.

The "Preset Button 1 to Preset Button 8" settings correspond to buttons <1> to <8> on the control panel. To select the titles allocated to "Preset Button 9 to Preset Button 16", press the <1> to <8> button while holding down the <Up> button on the control panel.



← Select the preset button number (1 to 16).



← Display the selected number of the title.

← Select the titles to be assigned to the preset buttons.

Select the titles from those registered in advance.

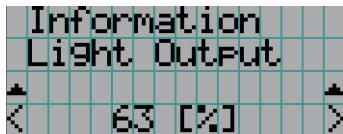
To clear assignment to preset buttons, select "---".

## 4-5. Information

Displays information relating to the light source, the usage time of the projector, the version information and error codes.

### 4-5-1. Light Output

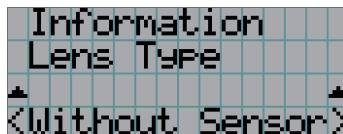
Displays the value of the light source output setting (%).



← Displays the current setting (%).

### 4-5-2. Lens Type

Displays the current lens type setting. The lens type setting is configured from "Lens Type" in the "Configuration" - "Installation" menu (page 100).



← Displays the current lens type setting.

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.

### 4-5-3. Preset Button

Displays the titles assigned to the preset buttons (<1> to <8> buttons) on the projector's control panel.



← Selects the preset button number whose contents you want to display.

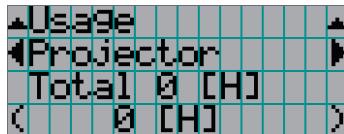
← Displays the assigned title numbers.

← Displays the registered names of the assigned titles.

**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.

#### 4-5-4. Usage

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



← Selects the item to display.

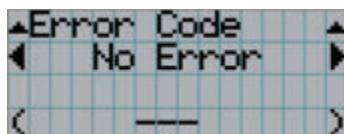
← Displays information about the selected item.

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.
Light	Display of the usage time of the light.
Light Strike	Displays the number of times the light has been turned on.
Phosphor	Display of the usage time of the phosphor and the value that is displayed is the amount of usage time remaining (approximate).
Diffuser	Display of the usage time of the diffuser and the value that is displayed is the amount of usage time remaining (approximate).
Chiller	Display of the usage time of Chiller unit and the value that is displayed is the amount of usage time remaining (approximate).
Chiller Fan	Displays the usage time of the Chiller unit fan.
Filter Cleaning	Displays the usage time of the air filter.
Fan Usage	Displays the usage time of the fan.
Douser Count	Displays the number of times the douser has been used.

**[TIP]** The remaining amount displayed in Light/Phosphor/Diffuser/Chiller is calculated from the current usage time with the unused state as 100% and time to replace as 0%.

#### 4-5-5. Error Code

Displays the error code when an error occurs. See the “Error Code List” in the Appendix for details on error codes. When multiple errors occur, you can display them by pressing the LEFT/RIGHT buttons.



← Displays the code of the error currently occurring.

← Displays the name of the error currently occurring.

## 4-5-6. Version

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

### System

Displays the version information of the projector.



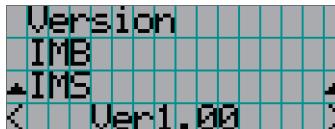
← Selects the item to display.

← Displays the version information.

- Model
- Release Package
- U-Boot
- Cinema Firmware
- ICP Firmware
- FMT FPGA
- Slave Firmware
- Secure Processor
- Laser Driver
- 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 “---”. “Not Use” when IMB is not mounted to the projector.



← Displays the vendor name.

← Displays the version information.

## 4-5-7. IP Address

Displays the IP address set in the projector.



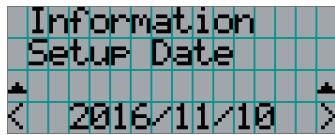
← Displays the IP address.

System	Displays the IP address set for the projector (System).
--------	---

#### 4-5-8. Setup Date

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

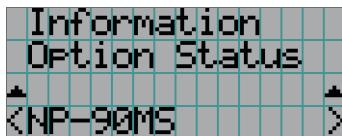
The setup date is configured by using DCC. Refer to “Digital Cinema Communicator for S2 Installation Manual” for details.



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

#### 4-5-9. 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-90MS02-4K
- <Vendor Name> IMB: Media block
- No Board: No device mounted

## 5. Appendix

### 5-1. List of Registered Titles (when shipped from the factory)

Preset Button	Title Number	TITLE NAME	INPUT	FILES						
				PCF			TCGD			
				SOURCE		SAME FILE NAME	Tolerance	SCREEN	MCGD	
FILE NAME	Input Size (HxV)	Aspect Ratio		Input Size (HxV)	Aspect Ratio	Box	White Clip	3D File		
1	001	IMS Auto	IMB	DCDM_XYZ_Auto	0x0	0	DC28_DC1_XYZE_314_351	Not Use	Use	2048x1080 No Crop
2	002	IMS 2K 185	IMB	DCDM_XYZ_185	1998x1080	0	DC28_DC1_XYZE_314_351	Not Use	Use	2048x1080 No Crop
3	003	IMS 2K 239	IMB	DCDM_XYZ_239	2048x858	0	DC28_DC1_XYZE_314_351	Not Use	Use	2048x1080 No Crop

## 5-2. Error Code List

Please inquire your dealer/distributor about action to be taken for each error code.

Error Code	Error message	Description
4	GPSU(12V) Fail	Power supply is abnormal.
5	Light Unlit	The light source is not on.
12	EEPROM R Fail	EEPROM data read error is detected.
15	EEPROM W Fail	EEPROM data write error is detected.
120	DLP Ack Fail	ICP Firm failed operation.
121	Lens Fail	Lens unit control error
138	ICP CriticalFail	ICP Firm Critical Error
139	ICP PowerOn Fail	ICP Firm Startup Error
141	DLP CommE Fail	Communication error with the ICP Firm
151	Fan1 Stop	Fan1 has stopped.
152	Fan2 Stop	Fan2 has stopped.
153	Fan3 Stop	Fan3 has stopped.
154	Fan4 Stop	Fan4 has stopped.
155	Fan5 Stop	Fan5 has stopped.
156	Fan6 Stop	Fan6 has stopped.
157	Fan7 Stop	Fan7 has stopped.
158	Fan8 Stop	Fan8 has stopped.
159	Fan9 Stop	Fan9 has stopped.
165	GPI MACRO(n) Selection Invalid	Selection of preset button (n) through GPI is invalid because metadata control is enabled. * This message would be shown on Log, not on LCD.
166	GPI Control Invalid	Projector control through GPI is invalid because metadata control is busy. * This message would be shown on Log, not on LCD.
177	Tamper Fail	Service door tamper switch of projector is open.
178	Marriage Tamper Fail	Marriage tamper switch of projector is open.
190	The Validity has expired.	The time limit for use of the projector has expired. * In cases when the validity setting has been configured with the projector
191	Different Serial Number	There is a mismatch in the serial number of the main unit internally saved on the projector.
192	Different Model Code	There is a mismatch in the model code of the main unit internally saved on the projector.
217	Chiller Filter Cleaning	The time to clean filter (Chiller).
245	Fan10 Stop	Fan10 has stopped.
246	Fan11 Stop	Fan11 has stopped.
247	Fan12 Stop	Fan12 has stopped.
248	Fan13 Stop	Fan13 has stopped.
249	Fan14 Stop	Fan14 has stopped.
251	Fan1 Stop Precaution	Fan1 Stop Precaution
252	Fan2 Stop Precaution	Fan2 Stop Precaution
253	Fan3 Stop Precaution	Fan3 Stop Precaution
254	Fan4 Stop Precaution	Fan4 Stop Precaution
255	Fan5 Stop Precaution	Fan5 Stop Precaution
256	Fan6 Stop Precaution	Fan6 Stop Precaution
257	Fan7 Stop Precaution	Fan7 Stop Precaution
258	Fan8 Stop Precaution	Fan8 Stop Precaution
259	Fan9 Stop Precaution	Fan9 Stop Precaution
264	Fan10 Stop Precaution	Fan10 Stop Precaution
265	Fan11 Stop Precaution	Fan11 Stop Precaution

Error Code	Error message	Description
266	Fan12 Stop Precaution	Fan12 Stop Precaution
267	Fan13 Stop Precaution	Fan13 Stop Precaution
268	Fan14 Stop Precaution	Fan14 Stop Precaution
271	IMB:SD Tamper Terminate	Terminated service door tamper event latched by IMB. * This message would be shown on Log, not on LCD.
301	System Error	ICP status error
302	Self Test Error	ICP status error
305	Key Error	ICP status error
306	Certificate Error	ICP status error
329	FMT Sequence Data File Mismatch	ICP status error
330	FMT DMD Data File Mismatch	ICP status error
333	Satellite Hardware Mismatch	ICP status error
335	Red Satellite Reports Reset	FSB status error
336	Red Satellite Serial Link Error	ICP or FSB status error
337	Red Satellite Firmware Configuration Error	ICP or FSB status error
338	Red DAD1000 Bias Under Voltage Error	FSB status error
339	Red DAD1000 Reset Under Voltage Error	FSB status error
340	Red DAD1000 Offset Under Voltage Error	FSB status error
341	Red DAD1000 Thermal Shutdown Error	FSB status error
342	Green Satellite Reports Reset	FSB status error
343	Green Satellite Serial Link Error	ICP or FSB status error
344	Green Satellite Firmware Configuration Error	ICP or FSB status error
345	Green DAD1000 Bias Under Voltage Error	FSB status error
346	Green DAD1000 Reset Under Voltage Error	FSB status error
347	Green DAD1000 Offset Under Voltage Error	FSB status error
348	Green DAD1000 Thermal Shutdown Error	FSB status error
349	Blue Satellite Reports Reset	FSB status error
350	Blue Satellite Serial Link Error	ICP or FSB status error
351	Blue Satellite Firmware Configuration Error	ICP or FSB status error
352	Blue DAD1000 Bias Under Voltage Error	FSB status error
353	Blue DAD1000 Reset Under Voltage Error	FSB status error
354	Blue DAD1000 Offset Under Voltage Error	FSB status error
355	Blue DAD1000 Thermal Shutdown Error	FSB status error
370	ICP Frame Memory Test Result Fail	ICP self test error due to "Frame memory error"
372	ICP Data Path Signature Test Result Fail	ICP self test error due to "Data Path Signature Test Result Fail"
380	DRS Error(Low Battery)	FMT board low battery *When this error has occurred, IMB can not Marriage with the projector. *After this error has occurred, Integrity Error will occur when you turn on the power again.
381	SEC Comm Fail	No communication with the secure processor. *When this error has occurred, IMB can not Marriage with the projector. *After this error has occurred, Integrity Error may occur when you turn on the power again.
500	IMB Comm Fail	No communication with the IMB.
510	IMB:System Error	IMB Status error
511	IMB:Self Test Error	IMB Status error
519	IMB:Certificate or Key Error	IMB Status error
520	IMB:ICP Communications Status	IMB fails to do logical marriage to projector.
537	IMB:RTC Error	IMB RTC is "invalid".
543	IMB:FPGA Temperature out of range	IMB Status error
550	IMB:Supply voltage out of range	IMB Status error
574	IMB:Security Tamper	Security tamper condition exists in IMB.

## Appendix

---

Error Code	Error message	Description
577	IMB:Security Battery Event	A Battery Tamper event has been detected with the IMB.
581	IMB:Security Enclosure Not Armed	IMB security not armed.
582	IMB:Physical Marriage Tamper	The IMB has detected a break of the Marriage with the projector.
583	IMB:Logical Marriage Tamper	The IMB has detected an error with the verification of the Marriage with the projector.
584	IMB:Marriage NOT Active	The IMB has not established a marriage with the projector
586	IMB:Service Door Tamper	Latched service door tamper condition on IMB
588	IMB:Security Battery Low Warning	Close to "(577) IMB: Security Battery Event".
700	OPT Comm Fail	Failed to communicate with slave MCU.
701	OPT Status Fail	Slave MCU is in unexpected status.
703	OPT Comm Ack Fail	Slave fails to execute the command.
740	SensorFail Inlet	Failed to read inlet sensor.
741	SensorFail DMD	Failed to read DMD sensor.
750	OverTemp.DMD Precaution	Set inside temperature (DMD) is close to over temperature.
751	OverTemp.Inlet Precaution	Set inside temperature (Inlet) is close to over temperature.
760	OverTemp.DMD	Set inside temperature (DMD) is abnormal.
761	OverTemp.Inlet	Set inside temperature (Inlet) is abnormal.
762	OverTemp.Light	Set inside temperature (Light) is abnormal.
783	EepromFail	Slave MCU failed to read back all of data from EEPROM on slave MCU board due to unexpected data or something. (Slave board internal abnormality)
791	FanInitError	Failed to initialize fans.
792	ExGpioFail	Failed to control the signal connecting to Ballast. (Slave board internal abnormality)
800	Fan15 Stop	Fan15 has stopped.
801	Fan16 Stop	Fan16 has stopped.
802	Pump Stop	Pump has stopped.
804	PhosphorWheel Stop	Phosphor Wheel has stopped.
805	Diffuser1 Wheel Stop	Diffuser1 Wheel has stopped.
806	Fan17 Stop	Fan17 has stopped.
810	Fan15 Stop Precaution	Fan15 Stop Precaution
811	Fan16 Stop Precaution	Fan16 Stop Precaution
812	Pump Stop Precaution	Pump Stop Precaution
814	PhosphorWheel Stop Precaution	Phosphor Wheel Stop Precaution
815	Diffuser1 Wheel Stop Precaution	Diffuser1 Wheel Stop Precaution
816	Fan17 Stop Precaution	Fan17 Stop Precaution
906	LD Version Read Fail	Failed to read Laser Driver Software version.
913	TiltDegreeOver	Projector tilt degree is out of spec. To clear this warning, turn off and AC-OFF the projector, then setup projector with proper tilt angle within the spec.
914	LowerTemp	Set inside temperature (Inlet) is lower temperature.
933	SensorFail PhosphorWheel	Set inside temperature (Phosphor Wheel) is abnormal.
953	OverTemp.PhosphorWheel Precaution	Set inside temperature (Phosphor Wheel) is close to over temperature.
973	OverTemp.PhosphorWheel	Set inside temperature (Phosphor Wheel) is abnormal.
982	ColorSensorFail	Failed to control color sensor.
984	GSensorError	Failed to control G-sensor.
985	LD CommError	In I2C communication between slave uC and LD (Laser Driver) uC, no ack from LD uC. (Slave uC: I2C slave, LD uC: I2C host)
988	LensInstallSWOpen	Lens install switch is open.
989	BrightnessLow	Brightness has lowered.

Error Code	Error message	Description
990	LaserBDEepromFail	Data check sum error in EEPROM on LD board.
992	LDMCULockUp	LD uC is locked up.
993	54VError	54V is abnormal.
995	LDEepromFail	Communication error with the EEPROM on LD board.
996	KEY Switch Off	The laser unit laser administrator switch is off.
1000	Slave Comm Fail	Failed to communicate with slave MCU.
1003	Slave Comm Ack Fail	Slave fails to execute the command.
1004	Slave Power Ready Fail	Slave Power Ready error
1005	Slave No Notify	Slave Power Notify error
1500	P3P3V SAT PGOOD Fail	Error detected with 3.3V power supply for FSB
1501	P2P5V SAT PGOOD Fail	Error detected with 2.5V power supply for FSB
1502	XVT PGOOD Fail	Error detected with DDR power supply for FMT FPGA
1503	P2P5V X PGOOD Fail	Error detected with 2.5V power supply for FMT FPGA
1504	P1P8V X PGOOD Fail	Error detected with 1.8V power supply for FMT FPGA
1505	P1V X PGOOD Fail	Error detected with 1V power supply for FMT FPGA
1506	FMT FPGA DONE Fail	FMT FPGA Configuration Error
1509	EXGPIO IC602 Fail	I2C Device Access Error
1510	EXGPIO IC603 Fail	I2C Device Access Error
1511	EXGPIO IC604 Fail	I2C Device Access Error
1512	EEPROM IC2800 Write Fail	I2C Device Access Error
1513	EEPROM IC601 Read Fail	I2C Device Access Error
1514	EEPROM IC601 Write Fail	I2C Device Access Error
1515	EEPROM IC601 Write Fail(Verify)	I2C Device Access Error
1538	EEPROM IC2800 Read Fail	I2C Device Access Error
1550	EEPROM IC2800 Write Fail Verify	I2C Device Access Error
2000	IntegrityFail	Integrity error with the internal software code of the projector. * When this error has occurred, the projector will not accept any external demands. Communication with external devices will not be performed either.
2010	Incorrect power-off	PowerOff was not performed correctly last time.
2100	Diffuser2 Wheel Stop	Diffuser2 Wheel has stopped.
2101	Diffuser2 Wheel Stop Precaution	Diffuser2 Wheel Stop Precaution
2110	OverTemp.LS_G1 Precaution	Set inside temperature (LS_G1) is close to over temperature.
2111	OverTemp.LS_G2 Precaution	Set inside temperature (LS_G2) is close to over temperature.
2112	OverTemp.LS_G3 Precaution	Set inside temperature (LS_G3) is close to over temperature.
2113	OverTemp.LS_G4 Precaution	Set inside temperature (LS_G4) is close to over temperature.
2114	OverTemp.LS_B Precaution	Set inside temperature (LS_B) is close to over temperature.
2115	OverTemp.LS_R Precaution	Set inside temperature (LS_R) is close to over temperature.
2120	OverTemp.LS_G1	Set inside temperature (LS_G1) is abnormal.
2121	OverTemp.LS_G2	Set inside temperature (LS_G2) is abnormal.
2122	OverTemp.LS_G3	Set inside temperature (LS_G3) is abnormal.
2123	OverTemp.LS_G4	Set inside temperature (LS_G4) is abnormal.
2124	OverTemp.LS_B	Set inside temperature (LS_B) is abnormal.
2125	OverTemp.LS_R	Set inside temperature (LS_R) is abnormal.
2130	SensorFail LS_G_Module1	Failed to read LS_G_Module1 sensor.
2131	SensorFail LS_G_Module2	Failed to read LS_G_Module2 sensor.
2132	SensorFail LS_G_Module3	Failed to read LS_G_Module3 sensor.
2133	SensorFail LS_G_Module4	Failed to read LS_G_Module4 sensor.

## Appendix

---

Error Code	Error message	Description
2134	SensorFail LS_B_Module	Failed to read LS_B_Module sensor.
2135	SensorFail LS_R_String	Failed to read LS_R_String sensor.
2140	Chiller On Fail	Failed to turn on chiller
2141	Chiller Pump over loading	Chiller Pump is abnormal.
2142	Chiller Compressor over loading	Chiller Compressor is abnormal.
2143	Chiller Refrigerant pressure too high	Chiller Refrigerant pressure too high
2144	Chiller Coolant pressure too low	Chiller Coolant pressure too low
2145	Chiller Refrigerant pressure too low	Chiller Refrigerant pressure too low
2146	Chiller Cooling liquid flowing error	Chiller Cooling liquid flowing is abnormal.
2147	Chiller Cooling Fan Error	Chiller Cooling Fan is abnormal.
2148	Chiller communication Fail	Communication error with Chiller

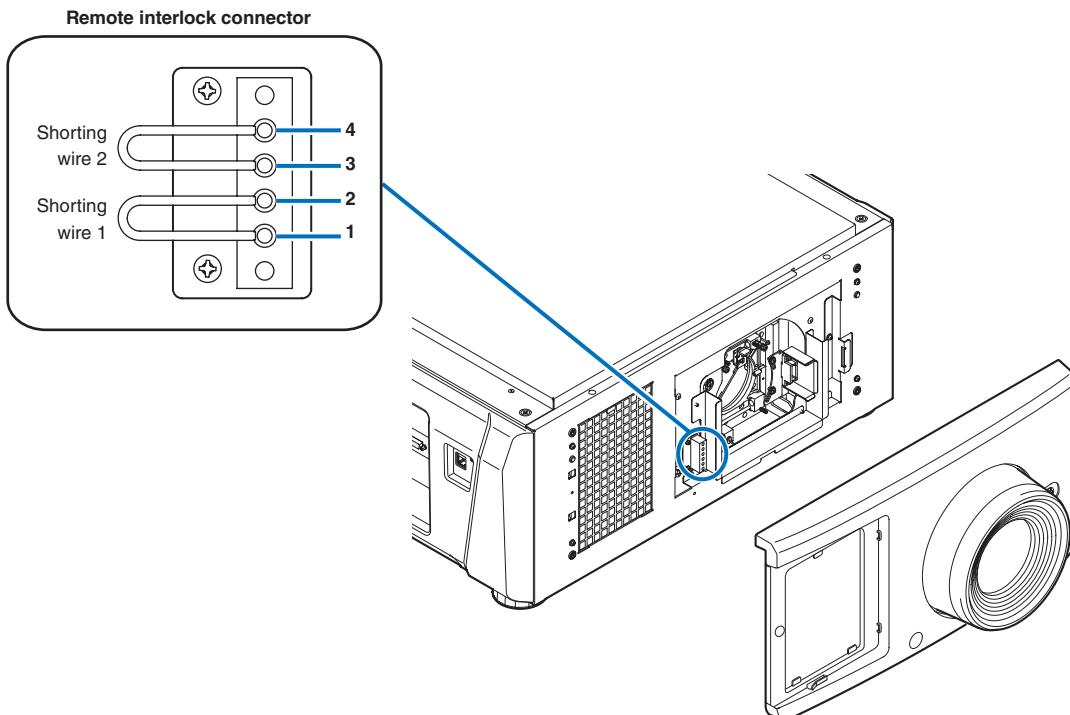
## 5-3. Remote Interlock Connector

This connector functions as safety device for the projector. The contacts are normally closed. When an abnormality occurs, the contacts open to immediately stop the projector (interlock state) (shipped with a shorting wire installed). By replacing the shorting wire with wiring and attaching it to the contacts, the projector can be immediately stopped remotely when an abnormality occurs in the projector.

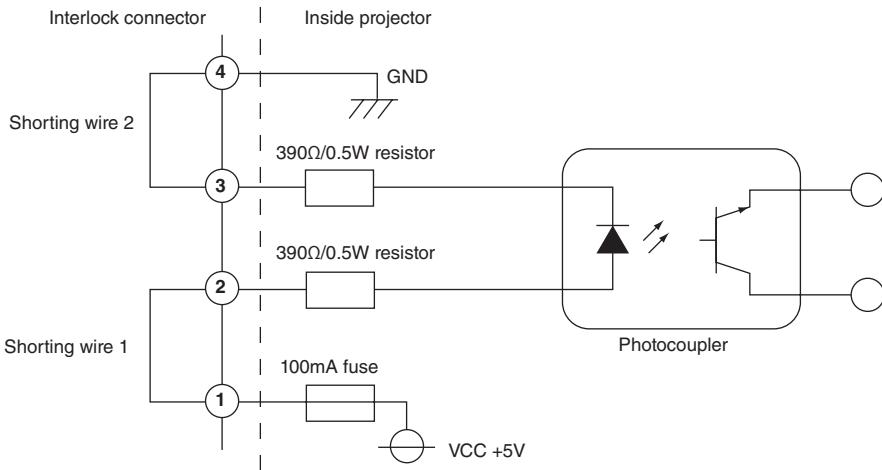
Follow the following procedure to recover from the interlock state.

- 1** Disconnect the AC power supply to the projector body.
- 2** Remove the front cover (page 45).
- 3** Connect the contacts to the remote interlock connector and attach the front cover.
- 4** Connect the AC power supply to the projector body.

Remote interlock connector (exterior view)



### Circuit diagram



Connector no.	Photocoupler ON/OFF	Description
①	—	+5V supply
②	ON/OFF	Connects to the photocoupler anode inside the projector
③		Connects to the photocoupler cathode inside the projector
④	—	Ground

- When the length of the wiring is less than 5 m (approximate)

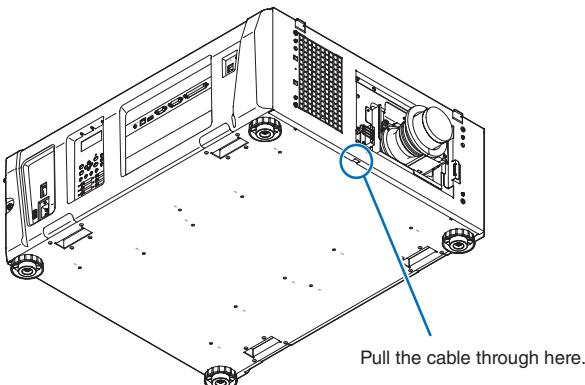
Remove shorting wire 1 or shorting wire 2 and connect the external contacts (switch) to the projector interlock terminal (① and ② or ③ and ④) by cable.

- The projector operates normally when the contacts are closed and the system shuts off when the contacts are open.
- A power supply external from the projector is not necessary.
- A maximum of 2 sets of external contacts can be connected. If you are only using a single set of external contacts, connecting the shorting wire to the interlock terminal you are not using.
- The minimum rating required of the external contacts is 5mA.

- When the length of the wiring is at least 5 m (approximate)

Remove shorting wire 1 and shorting wire 2 and connect the external device to the projector interlock terminals (② and ③) (do not use ① and ④).

- Connect terminal ② to the positive side of the external device and connect terminal ③ to the negative side.
- The projector operates normally when a voltage in the range of DC5 to 16V is applied between terminals ② and ③, and the system shuts off when the voltage is 0V.
- The minimum rated current required of the external device varies depending on the voltage applied between the terminals by the external device.
- When feeding the cable out from the projector, feed it so that it passes through the hole on the front face of the projector.



## 5-4. Index

### Numbers

3D Connector ..... 96

### A

Adjust ..... 92  
Auto Key Lock ..... 96

### B

Baudrate ..... 101

### C

Ceiling ..... 83, 99  
Chiller ..... 94  
Chiller Fan ..... 95  
Chiller Unit ..... 76  
Configuration ..... 92  
Connector ..... 53

### D

Date setting ..... 82  
Date/Time ..... 101  
Diffuser ..... 94  
Douser Count ..... 95  
Douser Setup ..... 95

### E

Error Code ..... 106, 110  
Ethernet port ..... 88

### F

FactoryDefault ..... 93  
Fan Speed Mode ..... 102  
Fan Usage ..... 94  
FilterCleaning ..... 93  
Focus ..... 84, 92  
Front cover ..... 43, 45

### I

Image Orient ..... 99  
IMB ..... 60, 99, 107, 108  
Information ..... 105  
Installation ..... 99  
IP Address ..... 107

### K

Key lock ..... 43

### L

LCD menu ..... 89  
LD Calibrate ..... 102  
Lens adjustment ..... 84  
Lens Calibrate ..... 100  
Lens Center ..... 100  
Lens Control ..... 92  
Lens Position ..... 92  
Lens Type ..... 100, 105  
Lens unit ..... 38, 57  
Lens zoom magnification ..... 40  
Level adjuster ..... 50  
Light ..... 94  
Light Output ..... 105  
List of titles ..... 109

### M

Media block ..... 60, 99, 107, 108  
Message ..... 97

### O

Off Timer ..... 97  
Option board ..... 60, 87, 99  
Option lens ..... 41, 57  
Option Slot ..... 99  
Option Status ..... 108  
Orientation ..... 99

### P

Panel Key Lock ..... 96  
PC control terminal ..... 88

## Appendix

---

Phosphor .....	94
Power cable .....	51
Power Cable for the Chiller Unit.....	64
Preset Button .....	104, 105
Projection method.....	83
Projector cover.....	43

### R

Remote interlock connector .....	115
Reset .....	93
RS-232 .....	88

### S

Sensor Calib. ....	102
Service Adj.....	102
Service personnel menu.....	90
Setup .....	95
Setup Date.....	108
Side cover.....	43, 47
Silent Mode.....	98
System.....	107

### T

Tamper error .....	79
Test Pattern.....	91
Time setting .....	82
Title Memory.....	91
Title Select.....	91
Title Setup .....	104

### U

Usage .....	106
-------------	-----

### V

Version.....	107
--------------	-----

### Z

Zoom .....	84, 92
------------	--------

