

DLP Cinema® Projector

NEC

Installation Manual

DLP Cinema® Projector Head

NP-02HD

Light Module

NP-24LU01/NP-20LU01/NP-18LU01

NEC Display Solutions, Ltd.

Model No. NP-02HD NP-24LU01 / NP-20LU01 / NP-18LU01

Introduction

DLP Cinema Projector Installation and Adjustment NEC Display Solutions, Ltd. Manual (This document) describes the procedures to install, adjust and maintain the projector (NP-02HD). For safe and correct installation, adjustment and use of this projector, carefully read this document before location assessment and 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.

- NP-02HDProjector
- NP-90MS01/NP-90MS02.....Media block or IMB
- Digital Cinema Communicator v2.....DCC

Important Information

Precautions

Please read this manual carefully before using your **NP-02HD** and keep the manual handy for future reference. The NP-02HD (projector unit) is called the “projector”, and the NP-90MS01/NP-90MS02 (integrated media server) is called the “media block” or “IMB” in this manual.

- DLP (Digital Light Processing), DLP Cinema, DLP Cinema logo and CineLink are trademarks of Texas Instruments.
- CineLink is a trademark of Texas Instruments.
- Other product names and logos mentioned in the user’s manual may be the trademarks or registered trademarks of their respective holders.
- 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 REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION

TO PREVENT ELECTRIC SHOCK, DO NOT OPEN TOP COVER. NO USER SERVICEABLE PARTS INSIDE.



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. This product is classified as RG3 of IEC62471:2006 (for USA). 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.

- Hazardous optical radiation is emitted from this product, RG3 IEC 62471: 2006 (for USA).
- No direct exposure to the beam shall be permitted, RG3 IEC 62471-5: 2015.
- 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.

Machine Noise Information Regulation - 3. GPSGV,

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

Important Information

WARNING

This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

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.
MAINTENANCE 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. 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. To carry the projector, a minimum of six persons are required.
8. Do not hold the lens part with your hand. Otherwise the projector may tumble or drop, causing personal injury.
9. Do not place heavy objects on top of the projector.
10. Turn off the projector, and disconnect the power cable before moving the projector.
For C2 connection, turn off the projector, shut down the AC power to the projector and the light using a circuit breaker. Disconnect the cables between devices and the light before moving the projector.

11. Do not install and store the projector in the below circumstances. Failure to do so may cause of malfunction.
 - In powerful magnetic fields
 - In corrosive gas environment
 - Outdoors
12. If you wish to have the projector installed on the ceiling;
 - Do not attempt to install the projector yourself.
 - The projector must be installed by qualified technicians in order to ensure proper operation and reduce the risk of bodily injury.
 - Install the breaker in a location that is easy to reach by hand.
 - To prevent ceiling collapse, the ceiling should be able to support the combined weight (158 kg^{*1}) of the projector (150 kg^{*2}) and lens (8 kg) for an extended period of time, and the installation must be in accordance with any local building codes.

^{*1} When the light module NP-18LU01 is installed, the weight is about 149 kg.

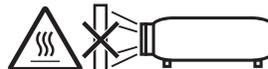
^{*2} When the light module NP-18LU01 is installed, the weight is about 141 kg.

- Please consult your dealer for more information.

Refer to “2-2-1. Installing the Projector on the Ceiling” (page 55) for details on the attachment positions when installing on the ceiling.

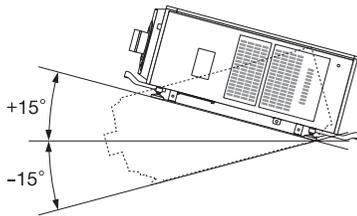
WARNING

1. Do not use the projector with the supplied lens cap or equivalent while the projector is operating. This may cause the lens cap to heat up and deform or melt.
2. Do not place any objects, which are easily affected by heat, in front of the projector lens. Doing so could lead to the object melting from the heat that is emitted from the light output.

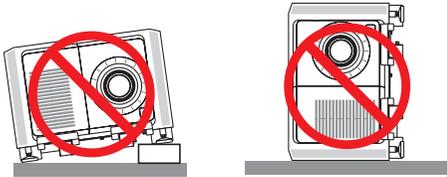


When using the projector tilted in the forward or backward direction, use it in the range of (+15° to -15°) from horizontal. If you tilt it outside of this range or tilt it to the left or right, it may become damaged.

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



CAUTION

This equipment is not suitable for use in locations where children are likely to be present

Power Supply

1. Consult your dealer for installing the power cable to the projector. DO NOT install the power cable by yourself. Doing so may cause a fire or electric shock.

The projector is so designed that it operates with the power supply voltage described below.

For C1 connection

(When the AC power to the projector power supply and the light power supply is provided by a single cable)

- AC 200V-240V single phase 50/60Hz

For C2 connection

(When the AC power to the projector power supply and the light power supply is provided by separate cables)

- AC 100V-240V single phase 50/60Hz (projector power supply)
- AC 200V-240V single phase 50/60Hz (light power supply)

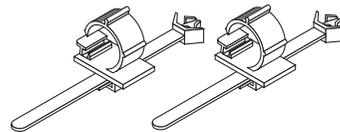
Ensure that your power supply fits this requirement before attempting to use your projector.

2. The power cable is not included with the projector. Use a power cable that meets the standards and power supply voltage of the country where you are using the projector. Refer to "2-3. Selecting the Power Cable for C2 Connection (English)" for details.
3. Handle the power cable carefully. A damaged or frayed power cable can cause electric shock or fire.
 - Do not bend or tug the power cable excessively.
 - Do not place the power cable under the projector, or any heavy object.
 - Do not cover the power cable with other soft materials such as rugs.
 - Do not heat the power cable.
4. Placing the power cable and the signal cable closely to each other can cause beat noise. If this happens, keep the two separated so that beat noise is not generated. Beat noise is corruption of the picture often seen as a rolling band moving through the image.
5. Do not touch the projector during a thunder storm. Doing so can cause electrical shock or fire.
6. When installed on the ceiling, install the breaker in a location that is easy to reach by hand.

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

1. Ensure that there is sufficient ventilation and that vents are unobstructed to prevent potentially dangerous concentrations of ozone and the build-up of heat inside your projector. Allow at least 24 inches (60 cm) of space between your projector and a wall. In particular, clear a space of 26.7 inches (70 cm) or more in front of the air outlet on the rear surface and 12 inches (30 cm) or more on the upper part of the projector body. (See page 39)

Important Information

- 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, shut down the AC power to the projector immediately and have the object removed by a qualified service person.
For C2 connection, turn off the projector, shut down the AC power to the projector and the light using a circuit breaker, and contact your dealer/distributor.
- Turn off the projector, shut down AC power by using a circuit breaker and contact qualified service personnel under the following conditions. For C2 connection, turn off the projector, shut down the AC power to the projector and the light using a circuit breaker, and contact your dealer/distributor for a repair.
 - 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.
- When using a LAN cable:
For safety, do not connect to the connector for peripheral device wiring that might have excessive voltage.

Cleaning

- Shut down AC power by using a circuit breaker before cleaning.
For C2 connection, turn off the projector, shut down the AC power to the projector and the light using a circuit breaker.
- 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.
- Use a blower or lens paper to clean the lens, and be careful not to scratch or mar the lens.
- Do not handle the projector and the power cable with wet hands. Doing so can cause electrical shock or fire.

CAUTION

- Do not shut down AC power to the projector under the following conditions.
Doing so can damage the projector.
 - While projecting images
 - While cooling after the power is turned off.
(The STATUS indicator LED blinks in orange while the fan is rotating, and "cooling..." is displayed on the LCD screen.)
 - When using the NP-90MS01/NP-90MS02: 100 seconds
 - During IMB Operation (if the projector is not in standby state)
- 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.
- Keep hands away from the lens mounting portion while the lens shift is in operation. Failure to do so could result in fingers being pinched between the cabinet and lens cover.
- When main body is damaged, cooling fluids may come out of internal part. DO NOT touch and drink the cooling fluid.
When the cooling fluids are swallowed or contacted with your eyes, please consult with doctors immediately.

Caution on Carrying the Projector/Handling the Optional Lens

When installing/removing a lens, shut down the AC power to the projector.

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.

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.
- 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.

Important Information

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
WEB Address: <https://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
WEB Address: <https://www.necdisplay.com/>

In China

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

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>

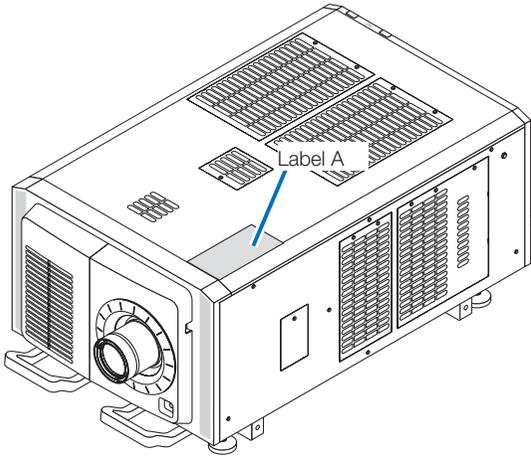
In Australia and New Zealand

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

Label Information



Label A: Lamp Warning Label

RISK GROUP 3
WARNING
 DO NOT LOOK INTO THE BEAM.
 NO DIRECT EYE EXPOSURE TO THE BEAM IS PERMITTED.
 HAZARD DISTANCE: REFER TO THE MANUAL.

GROUPE DE RISQUE 3
AVERTISSEMENT
 NE PAS REGARDER DIRECTEMENT DANS LE FAISCEAU.
 L'EXPOSITION DIRECTE DES YEUX AU FAISCEAU EST INTERDITE.
 DISTANCE A RISQUE: SE REPORTER AU MANUEL.

RISIKOGRUPPE 3
WARNUNG
 SCHAUEN SIE NICHT IN DEN STRAHL.
 DIREKTER AUGENKONTAKT MIT DEM STRAHL IST NICHT ERLAUBT.
 SICHERHEITSABSTAND: SIEHE HANDBUCH.

ГРУППА РИСКА 3
ПРЕДУПРЕЖДЕНИЕ
 НЕ СМОТРИТЕ НА ЛУЧ.
 ЗАПРЕЩАЕТСЯ ЛЮБОЕ ПРЯМОЕ ВОЗДЕЙСТВИЕ ЛУЧА НА ГЛАЗА.
 ОПАСНОЕ РАСТояНИЕ: СМ. РУКОВОДСТВО ПО ЭКСПЛУАТАЦИИ.

リスクグループ 3
警告
 ビームを見ないこと
 目へのビームの直接触れを禁止する。
 危険距離: 取扱説明書を参照。

위험 그룹 3
경고
 빔을 눈으로 보지 마십시오.
 빔을 직접 눈에 노출하는 것은 허용되지 않습니다.
 위험 거리:取扱서를 참조하십시오.

風險群組 3
警告
 勿直視光源。
 警告距離: 請參閱說明書。

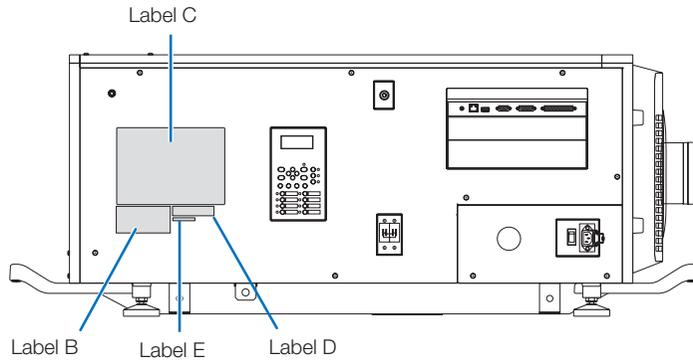
风险组别 3
警告
 请勿注视光源。
 不允许眼睛直接接触于光束中。
 有要距离: 请参閱手册。
 IECEN 62471-5:2015

FOR NORTH AMERICA
RISK GROUP 3
WARNING
 HAZARDOUS OPTICAL RADIATION EMITTED FROM THIS PRODUCT.
 DO NOT LOOK AT OPERATING LIGHT SOURCE.
 EYE INJURY MAY RESULT.
 HAZARD DISTANCE: REFER TO THE MANUAL.
 NO DIRECT EXPOSURE TO BEAM SHALL BE PERMITTED.
 NOT FOR HOUSEHOLD USE.

GROUPE DE RISQUE 3
AVERTISSEMENT
 RADIATIONS OPTIQUES DANGEREUSES EMISES PAR CE PRODUIT.
 NE REGARDEZ PAS DIRECTEMENT LA SOURCE LUMINEUSE.
 CELA POURRAIT ENTRAINER DES BLESSURES AUX YEUX.
 DISTANCE A RISQUE: SE REPORTER AU MANUEL.
 L'EXPOSITION DIRECTE AU RAYON DOIT ETRE AUTORISEE.
 NE CONVIENT PAS A UN USAGE DOMESTIQUE.

IEC/TR 62471-2:2009
 IEC 62471:2006/EN 62471:2008

Important Information



- Label B
Laser Explanatory Label



- Label C

NEC MODEL No. NP-02HD XXXX XXXX
3264857300

C1: 200-240V ~ 50/60Hz 18.1A
C2: 100-240V ~ 50/60Hz 6.0A for PJ POWER
200-240V ~ 50/60Hz 15.2A for LIGHT POWER

NEC Display Solutions, Ltd. Contact address for EMEA Tegangan dan Frekuensi:
 4-28, Mita 1-chome, Minato-ku, Tokyo, Japan NEC Display Solutions Europe GmbH C1: 200-240V ~ 50/60Hz
 Landshuter Allee 12-14 C2: 100-240V ~ 50/60Hz (PROVEKTOR CATU DAYA)
 80637 Munich, Germany 200-240V ~ 50/60Hz (CAHAYA CATU DAYA)
 Produkci China

THIS CABINET IS CONSTRUCTED OF METAL(AL)

警告 **高压注意**

サービスマン以外の方は外装/パネルを外さないでください。内部には高電圧部分が多くあり、万一さわると危険です。

使用上の注意

イ、通風孔をふさがないでください。内部温度の上昇を招き故障の原因になります。ロ、温度の高い場所や湿気の多い場所での使用はさけてください。

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT OPEN TOP COVER. NO USER-SERVICEABLE PARTS INSIDE.
ATTENTION: AFIN DE PREVENIR UN CHOC ELECTRIQUE NE PAS ENLEVER LE COUVERCLE S'ADRESSER A UN REPARATEUR COMPETENT.
ВНИМАНИЕ: ВО ИЗБЕЖАНИЕ УДАРА ЭЛЕКТРИЧЕСКИМ ТОКОМ НЕ ОТКРЫВАЙТЕ ВЕРХНЮЮ КРЫШКУ. ВНУТРИ НЕТ ДЕТАЛЕЙ, ОБСЛУЖИВАЕМЫХ ПОЛЬЗОВАТЕЛЕМ.

중요: 전기충격 방지를 위해 개비닛을 열지 마십시오. 내부에는 사용자를 위한 서비스가능 부품이 들어있지 않습니다.
ACHTUNG: Zur Vermeidung eines elektrischen Schlages, öffnen Sie das Gehäuse nicht selbst. In diesem Gerät sind keine Teile enthalten, die vom Nutzer erwartet werden können.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
AVERTISSEMENT: POUR EVITER UN FEU OU UN RISQUE D'ELECTROCUTION NE PAS EXPOSER CET ENSEMBLE A LA PLUIE OU A L'HUMIDITE.

この装置は、クラスA機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:
 (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
 (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.
 CAN ICES-3(A)/NMB-3(A)

Проектор
 Модель: NP-02HD
 C1: 200-240В ~ 50/60Гц 18.1А
 C2: 100-240В ~ 50/60Гц 6.0А Проектор Мощность
 200-240В ~ 50/60Гц 15.2А Света Мощность
 Сделано в Китае

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

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 IEC62471-5 First edition 2015.
- The below table describes the radiation range of emitted light by the projector that is classified as Risk Group 3 (RG3) of IEC62471:2006.(for USA).
- 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.

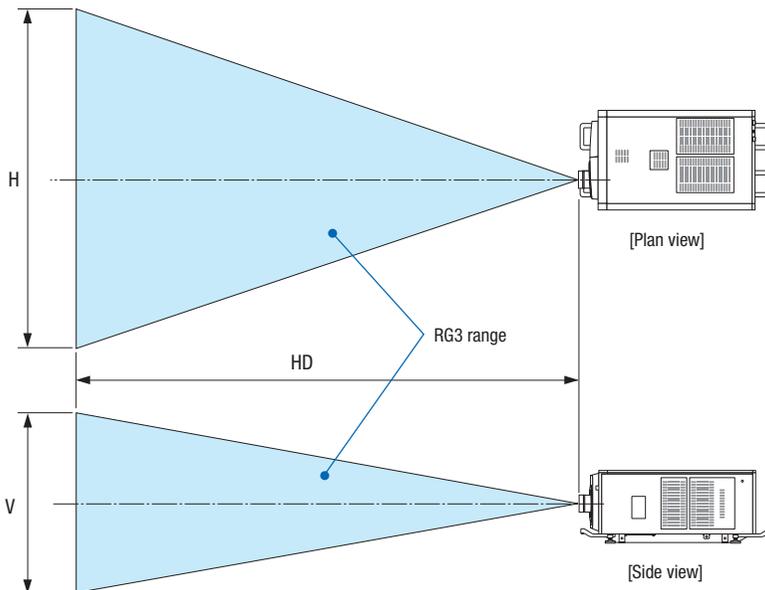
Operators shall control access to the beam within the hazard distance or install the product at the height that will prevent exposures of spectators' eyes within the hazard distance.

(IEC62471-5 First edition 2015)

Lens		RG3 HD(m)	Screen size(m)	
			H	V
NC-60LS12Z	Wide	5.0	4.2	2.2
	Tele	7.5	4.1	2.2
NC-60LS14Z	Wide	5.5	3.9	2.1
	Tele	8.0	3.9	2.1
NC-60LS16Z	Wide	6.0	3.8	2.0
	Tele	9.5	3.8	2.0
NC-60LS19Z	Wide	6.5	3.4	1.8
	Tele	11.0	3.4	1.8
NC-60LS24Z	Wide	9.0	3.8	2.0
	Tele	15.5	3.7	2.0
NC-60LS39Z	Wide	12.9	3.3	1.7
	Tele	21.5	3.3	1.7

(IEC62471:2006 (for USA))

Lens		RG3 HD(m)	Screen size(m)		EHv
			H	V	
NC-60LS12Z	Wide	5.0	4.2	2.2	2.8
	Tele	7.5	4.1	2.2	6.3
NC-60LS14Z	Wide	5.5	3.9	2.1	3.4
	Tele	8.0	3.9	2.1	7.2
NC-60LS16Z	Wide	6.0	3.8	2.0	3.1
	Tele	9.5	3.8	2.0	7.9
NC-60LS19Z	Wide	6.5	3.4	1.8	3.2
	Tele	11.0	3.4	1.8	9.4
NC-60LS24Z	Wide	9.0	3.8	2.0	5.9
	Tele	15.5	3.7	2.0	15.7
NC-60LS39Z	Wide	12.9	3.3	1.7	7.7
	Tele	21.5	3.3	1.7	21.4



* 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.

Wichtige Informationen

Vorsichtsmaßnahmen:

Lesen Sie sich dieses Handbuch bitte sorgfältig durch, bevor Sie den **NP-02HD** benutzen, und bewahren Sie das Bedienungshandbuch in reifbarer Nahe als spätere Referenz auf. In diesem Handbuch wird der NP-02HD (Projektoreinheit) „Projektor“ und das NP-90MS01/NP-90MS02 (integrierter Media-Server) „Media Block“ oder „IMB“ genannt.

- DLP (Digital Light Processing), DLP Cinema, DLP Cinema logo und CineLink sind Warenzeichen von Texas Instruments.
- CineLink ist ein Warenzeichen von Texas Instruments.
- Die anderen in diesem Bedienungshandbuch verwendeten Produktnamen und Logos können Warenzeichen oder eingetragene Warenzeichen der jeweiligen Inhaber sein.
- 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 VERRINGERUNG DES RISIKOS VON FEUER ODER EINES ELEKTRISCHEN SCHLAGS DARF DAS GERÄT WEDER REGEN NOCH FEUCHTIGKEIT AUSGESETZT WERDEN.

ACHTUNG

ZUR VERMEIDUNG EINES ELEKTRISCHEN SCHLAGS ÖFFNEN SIE NICHT DIE OBERE ABDECKUNG, IM INNEN GIBT ES KEINE ZU WARTENDEN TEILE.



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 beigefügt sind. um irgendwelche probleme zu vermeiden, sollten diese beschreibungen sorgfältig gelesen werden.

Vorsichtsmaßnahmen zur Lasersicherheit

Dieses Produkt ist gemas 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.

- Keine direkte Exposition gegenüber dem Strahl ist zulässig, RG3 IEC 62471-5: 2015.
- 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.

Maschinenlärminformations-Verordnung – 3. GPSGV,

Der höchste Schalldruckpegel beträgt 70 dB(A) oder weniger gemäß EN ISO 7779.

WARNUNG

Dieses Gerät entspricht Klasse A von CISPR 32. Dieses Produkt kann Funkstörungen in der häuslichen Umgebung verursachen.

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 NECAUTORISIERTE TECHNIKERN DURCHFÜHRT 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. Drehen Sie den Projektor nicht auf die Seite, wenn der Laser eingeschaltet ist. Anderenfalls kann es zur Beschädigung des Projektors kommen.
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. Zum Tragen des Projektors werden mindestens sechs Personen benötigt.
8. Halten Sie den Projektor nicht mit der Hand am Linsenbereich fest. Anderenfalls kann der Projektor umkippen oder herunterfallen und Verletzungen verursachen.
9. Legen Sie keine schweren Gegenstände auf den Projektor.
10. Schalten Sie den Projektor aus, und ziehen Sie das Netzkabel ab, bevor Sie den Projektor umsetzen.
Für Anschluss C2 schalten Sie den Projektor aus, und trennen Sie die Netzspannung zur Spannungsversorgung des Projektors und der Lichtquelle mithilfe eines Ausschalters. Trennen Sie die Kabel zwischen Geräten und der Lampe, bevor Sie den Projektor bewegen.
11. 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
12. Wenn der Projektor an der Decke installiert werden soll:
 - Versuchen Sie nicht, den Projektor selbst zu installieren.
 - Der Projektor muss von qualifiziertem Servicepersonal installiert werden, um einen ordnungsgemäßen Betrieb sicherzustellen und die Verletzungsgefahr zu reduzieren.
 - Installieren Sie den Leistungsschalter an einer Stelle, die von Hand leicht erreichbar ist.
 - To prevent ceiling collapse, the ceiling should be able to support the combined weight (158 kg^{*1}) of the projector (150 kg^{*2}) and lens (8 kg) for an extended period of time, and the installation must be in accordance with any local building codes.
 - ^{*1} When the light module NP-18LU01 is installed, the weight is about 149 kg.
 - ^{*2} When the light module NP-18LU01 is installed, the weight is about 141 kg.
 - Weitere Informationen erhalten Sie von Ihrem Fachhändler.

Einzelheiten zu den Befestigungspositionen bei Deckenmontage finden Sie unter „2-2-1. Installing the Projector on the Ceiling“ (Seite 55).

Wichtige Informationen

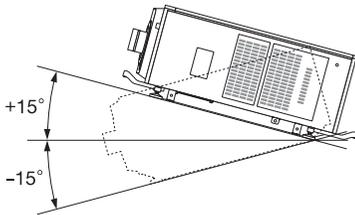
WARNUNG

1. Verwenden Sie den Projektor nicht, während die mitgelieferte Linsenkappe oder Ähnliches angebracht ist, und der Projektor in Betrieb ist. Andernfalls kann sich die Linsenkappe oder Glasschutzkappe erhitzen und sich verformen oder schmelzen.
2. Platzieren Sie keine hitzeempfindlichen Objekte vor der Projektorlinse. Dies könnte zum Schmelzen des Objekts durch die Hitze am Lichtausgang führen.

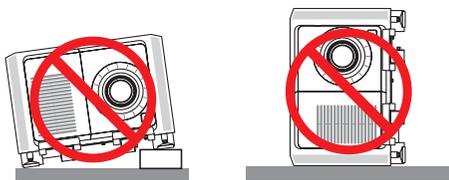


Wenn Sie den Projektor nach vorne oder hinten gekippt verwenden wollen, kippen Sie ihn in einem Bereich von $+15^\circ$ bis -15° von der Horizontalen. Wenn Sie ihn außerhalb dieses Bereichs oder nach links oder rechts kippen, kann es zu einer Beschädigung des Projektors kommen.

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



ACHTUNG

Dieses Gerät ist nicht für den Einsatz an Orten geeignet, an denen wahrscheinlich Kinder zugegen sind

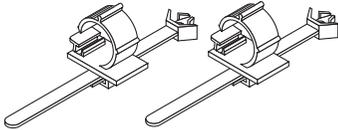
Spannungsversorgung

1. Zum Installieren des Netzkabels am Projektor wenden Sie sich bitte an Ihren Fachhändler. **UNTER KEINEN UMSTÄNDEN** versuchen, das Netzkabel selbst zu installieren. Brand- und Schlaggefahr.
Der Projektor wurde so konzipiert, dass er mit der unten aufgeführten Netzspannung läuft.
Für Anschluss C1
(Wenn die Netzspannung zur Spannungsversorgung des Projektors und der Lichtquelle über ein einzelnes Kabel zugeführt wird)
 - AC 200 V-240 V einphasig 50/60 HzFür Anschluss C2
(Wenn die Netzspannung zur Spannungsversorgung des Projektors und der Lichtquelle über getrennte Kabel zugeführt wird)
 - AC 100 V-240 V einphasig 50/60 Hz (Spannungsversorgung zum Projektor)
 - AC 200 V-240 V einphasig 50/60 Hz (Spannungsversorgung zur Lichtquelle)Stellen 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. Verwenden Sie ein Netzkabel, das die Normen und Netzspannung des Landes, in dem der Projektor verwendet wird, erfüllt. Siehe „2-4. Auswahl des Netzkabels für Anschluss C2 (Deutsch)“ betreffend den Einzelheiten.
3. Behandeln Sie das Netzkabel vorsichtig. Ein beschädigtes oder durchgeschauertes 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.
4. 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.
5. 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.
6. Wenn der Projektor an der Decke montiert wird, installieren Sie den Leistungsschalter an einer Stelle, die von Hand leicht erreichbar ist.

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.



Vorsichtsmaßnahmen zur Vermeidung von Bränden und elektrischen Schlägen

1. Sorgen Sie für ausreichende Belüftung und stellen Sie außerdem sicher, dass die Lüftungsschlitze frei bleiben, damit sich innerhalb des Projektors kein Hitzestau bilden kann. Lassen Sie mindestens 60 cm Abstand zwischen Ihrem Projektor und der Wand. Halten Sie insbesondere einen Freiraum von mindestens 70 cm vor dem Luftauslass auf der Rückseite und von mindestens 30 cm oberhalb des Projektorgehäuses. (Seite 41)
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. Wenn etwas in den Projektor gefallen ist, schalten Sie sofort die Stromversorgung des Projektors ab, und lassen Sie den Gegenstand von qualifiziertem Servicepersonal entfernen. Für Anschluss C2 schalten Sie den Projektor aus, trennen Sie die Netzspannung zur Spannungsversorgung des Projektors und der Lichtquelle mithilfe eines Ausschalters und wenden Sie sich an Ihren Handler/Lieferanten.
3. Schalten Sie den Projektor aus, ziehen Sie den Netzstecker und kontaktieren Sie unter den folgenden Bedingungen qualifiziertes Service-Personal.
Für Anschluss C2 schalten Sie den Projektor aus, trennen Sie die Netzspannung zur Spannungsversorgung des Projektors und der Lichtquelle mithilfe eines Ausschalters und wenden Sie sich für Reparaturarbeiten an Ihren Handler/Lieferanten.
 - Wenn das Netzkabel oder der Netzstecker beschädigt oder ausgefranst 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. 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.

Reinigung

1. Schalten Sie vor der Reinigung die Stromversorgung durch Herausdrehen der Sicherung ab.
Für Anschluss C2 schalten Sie den Projektor aus und trennen Sie die Netzspannung zur Spannungsversorgung des Projektors und der Lichtquelle mithilfe eines Ausschalters.
2. Reinigen Sie das Gehäuse regelmäßig mit einem Tuch. Bei starker Verschmutzung verwenden Sie ein mildes Reinigungsmittel. Reinigen Sie das Gerät niemals mit starken Reinigungs- oder Lösungsmitteln wie z.B. Alkohol oder Verdüner.
3. Reinigen Sie die Linse mit einer Blaseinrichtung oder einem Lintentuch. Beachten Sie dabei, dass die Linsenoberfläche weder zerkratzt noch auf andere Weise beschädigt wird.
4. Berühren Sie den Projektor oder das Netzkabel nicht mit nassen Händen. Andernfalls kann es zu elektrischen Schlägen oder zu einem Brand kommen.

ACHTUNG

1. In den folgenden Situationen darf die Netzspannung nicht getrennt werden. Der Projektor konnte sonst beschädigt werden.
Anderenfalls kann der Projektor beschädigt werden.
 - Während der Projektion von Bildern
 - Während des Abkühlens nach Ausschalten der Stromzufuhr.
(Die STATUS-Anzeige blinkt orange, während das Gebläse in Betrieb ist, und auf der LCD-Anzeige wird „cooling...“ angezeigt.)
 - Bei Verwendung des NP-90MS01/NP-90MS02: 90 Sekunden
 - Während des IMB-Betriebs (wenn sich der Projektor nicht im Standby-Modus befindet)
2. Schalten Sie den Wechselstrom 90 Sekunden lang nicht aus, nachdem der Laser eingeschaltet wurde und während die POWER-Anzeige grün blinkt. Anderenfalls könnte der Laser vorzeitig ausfallen.
3. Halten Sie die Hände fern vom Linsenmontageeteil, während der Linsenversatz in Betrieb ist. Anderenfalls könnten Finger zwischen Gehäuse und Linsendeckel eingeklemmt werden.
4. Wenn das Hauptteil beschädigt ist, kann Kühlungsflüssigkeit aus dem Inneren austreten. Berühren Sie die Flüssigkeit NICHT, und trinken Sie sie NICHT.
Wenn die Kühlungsflüssigkeit geschluckt wurde oder in Augenkontakt kam, rufen Sie bitte sofort einen Arzt.

Vorsicht beim Transportieren des Projektors/Umgang mit der optischen Linse

Wenn Sie ein Objektiv installieren/entfernen, schalten Sie die Stromversorgung des Projektors ab.

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.

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.
- 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 Verbindungskabel zwischen dem IMB mit Peripheriegeräten (GPI-, GPO-, AES-Kabel). Wenn Sie ein nicht abgeschirmtes Kabel verwenden, 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.

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 München, 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@necdisplay.com
Web-Adresse: <http://www.necdisplay.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>

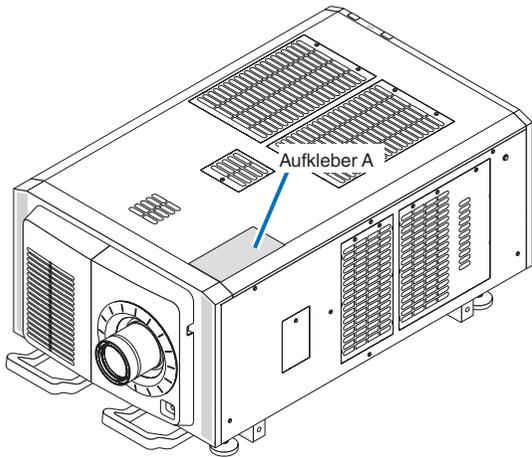
In Australien und Neuseeland

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,
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Laseraustrittsmodul



Aufkleber A: Lampenwarnschild



RISK GROUP 3
WARNING
 DO NOT LOOK INTO THE BEAM.
 NO DIRECT EYE EXPOSURE TO THE BEAM IS PERMITTED.
 HAZARD DISTANCE: REFER TO THE MANUAL.

GROUPE DE RISQUE 3
AVERTISSEMENT
 NE PAS REGARDER DIRECTEMENT DANS LE FAISCEAU.
 L'EXPOSITION DIRECTE DES YEUX AU FAISCEAU EST INTERDITE.
 DISTANCE A RISQUE: SE REPORTER AU MANUEL.

RISIKOGRUPPE 3
WARNUNG
 SCHAUEN SIE NICHT IN DEN STRAHL.
 DIREKTER AUGENKONTAKT MIT DEM STRAHL IST NICHT ERLAUBT.
 SICHERHEITSABSTAND: SIEHE HANDBUCH.

ГРУППА РИСКА 3
ПРЕДУПРЕЖДЕНИЕ
 НЕ СМОТРИТЕ НА ЛУЧ.
 ЗАПРЕЩАЕТСЯ ЛЮБОЕ ПРЯМОЕ ВОЗДЕЙСТВИЕ ЛУЧА НА ГЛАЗА.
 ОПАСНОЕ РАСТОЯНИЕ: СМ. РУКОВОДСТВО ПО ЭКСПЛУАТАЦИИ.

リスクグループ 3
警告
 ビームを見ないこと。
 目へのビームの直接接触はくを禁止する。
 危険距離：取扱説明書を参照。

위험 그룹 3
경고
 빔을 눈으로 보지 마십시오.
 빔을 직접 눈에 노출하는 것은 허용되지 않습니다.
 위험 거리:取扱서를 참조하십시오.

風險群組 3
警告
 勿直視光束。
 避免眼睛等受直接照射。
 危險距離：請參閱說明書。

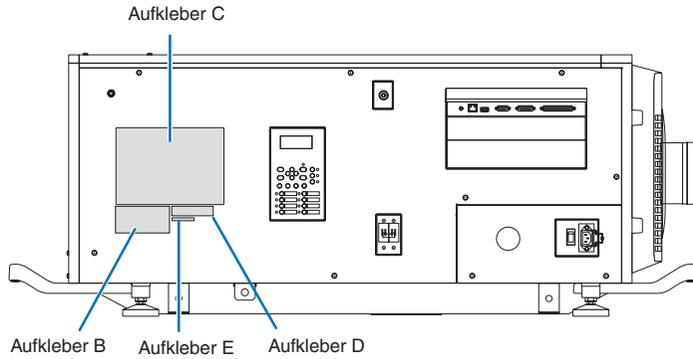
风险组别 3
警告
 请勿直视光束。
 不允许眼睛等暴露在光束中。
 有害距离：请参阅手册。
 IEC/EN 62471-5:2015



FOR NORTH AMERICA
RISK GROUP 3
WARNING
 HAZARDOUS OPTICAL RADIATION EMITTED FROM THIS PRODUCT.
 DO NOT LOOK AT OPERATING LIGHT SOURCE.
 EYE INJURY MAY RESULT.
 HAZARD DISTANCE: REFER TO THE MANUAL.
 NO DIRECT EXPOSURE TO BEAM SHALL BE PERMITTED.
 NOT FOR HOUSEHOLD USE.

GROUPE DE RISQUE 3
AVERTISSEMENT
 RADIATIONS OPTIQUES DANGEREUSES EMISES PAR CE PRODUIT.
 NE REGARDEZ PAS DIRECTEMENT LA SOURCE LUMINEUSE.
 CELA POURRAIT ENTRAINER DES BLESSURES AUX YEUX.
 DISTANCE A RISQUE: SE REPORTER AU MANUEL.
 L'EXPOSITION DIRECTE AU RAYON DOIT ÊTRE AUTORISÉE.
 NE CONVIENT PAS A UN USAGE DOMESTIQUE.
 IEC/TR 62471-2:2009
 IEC 62471:2006/EN 62471:2008





- Aufkleber B
Laser-Hinweisschild



- Aufkleber C

NEC MODEL No. NP-02HD

NEC Display Solutions, Ltd.
4-28, Mita 1-chome, Minato-ku, Tokyo, Japan

MADE IN CHINA

C1: 200-240V ~ 50/60Hz 18.1A
C2: 100-240V ~ 50/60Hz 6.0A for PJ POWER
200-240V ~ 50/60Hz 15.2A for LIGHT POWER

XXXX XXXX
3264857300

CONTACT ADDRESS FOR EMEA: NEC Display Solutions Europe GmbH, Landshtuter Allee 12-14, 80637 Munich, Germany

TEGANGAN DAN FREKUENSI: C1: 200-240V ~ 50/60Hz, C2: 100-240V ~ 50/60Hz (PROYEKTOR CATU DAYA), 200-240V ~ 50/60Hz (CAHAYA CATU DAYA), Produksi China

THIS CABINET IS CONSTRUCTED OF METAL(AL)

<p>警告 高压注意</p> <p>サービスマン以外の方は外装/パネルを外さないでください。内部には高電圧部分が多くあり、万一さわると危険です。</p>	<p>使用上の注意</p> <p>イ 通風孔をふさがないでください。内部温度の上昇を招き故障の原因になります。 ロ 温度の高い場所や湿気の多い場所での使用はさけてください。</p>	
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CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT OPEN TOP COVER. NO USER-SERVICEABLE PARTS INSIDE.
ATTENTION: AFIN DE PREVENIR UN CHOC ELECTRIQUE NE PAS ENLEVER LE COUVERCLE S'ADRESSER A UN REPARATEUR COMPETENT.
ВНИМАНИЕ: ВО ИЗБЕЖАНИЕ УДАРА ЭЛЕКТРИЧЕСКИМ ТОКОМ НЕ ОТКРЫВАЙТЕ ВЕРХНЮЮ КРЫШКУ. ВНУТРИ НЕТ ДЕТАЛЕЙ ОБСЛУЖИВАЕМЫХ ПОЛЬЗОВАТЕЛЕМ.

주의: 전기충격 방지를 위해 캐비닛을 열지 마십시오. 내부에는 사용자를 위한 서비스가능 부품이 들어있지 않습니다.
ACHTUNG: Zur Vermeidung eines elektrischen Schläges, öffnen Sie das Gehäuse nicht selbst. In diesem Gerät sind keine Teile enthalten, die vom Nutzer gewartet werden können.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
AVERTISSEMENT: POUR EVITER UN FEU OU UN RISQUE D'ELECTROCUTION NE PAS EXPOSER CET ENSEMBLE A LA PLUIE OU A L'HUMIDITE.

この装置は、クラスA機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A

<p>THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES, OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MUST NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRABLE OPERATION. CAN ICES-3(A)/NMB-3(A)</p>	<p>Проектор Модель NP-02HD C1: 200-240В ~ 50/60Гц 18.1А C2: 100-240В ~ 50/60Гц 6.0А Проектор Мощность 200-240В ~ 50/60Гц 15.2А Света Мощность Сделано в Китае</p>
--	---

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.

Wichtige Informationen

- Aufkleber D



MODEL NO. NP-XXXXXXX XXXXXXXX

- Aufkleber E

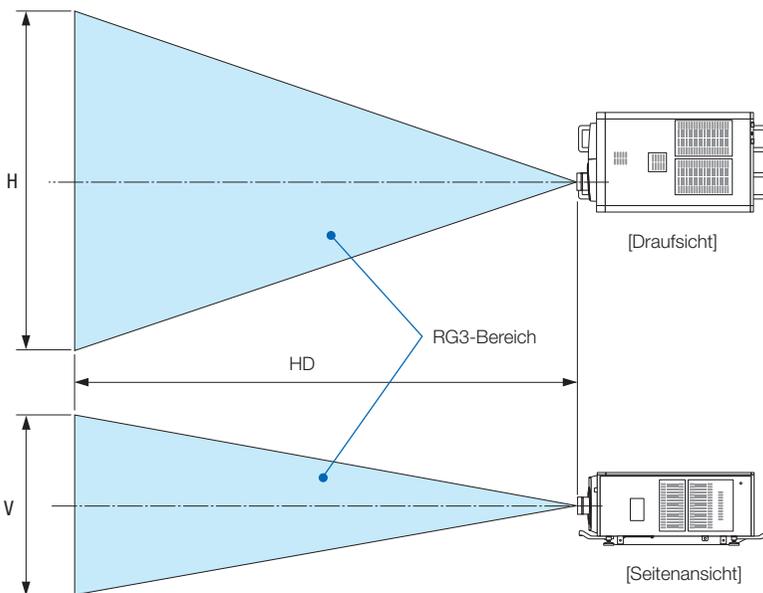
M/F Date : YYYY. MM. DD

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 IEC62471-5 Erste Ausgabe 2015 eingestuft.
- 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.
 Bediener müssen den Zugang zum Strahl innerhalb des Gefahrenabstands kontrollieren oder das Produkt so hoch installieren, dass die Augen der Zuschauer innerhalb des Gefahrenabstands nicht dem Strahl ausgesetzt werden können.

(IEC62471-5 First edition 2015)

Linse		RG3 HD(m)	Bildschirmgröße(m)	
			H	V
NC-60LS12Z	Breit	5,0	4,2	2,2
	Tele	7,5	4,1	2,2
NC-60LS14Z	Breit	5,5	3,9	2,1
	Tele	8,0	3,9	2,1
NC-60LS16Z	Breit	6,0	3,8	2,0
	Tele	9,5	3,8	2,0
NC-60LS19Z	Breit	6,5	3,4	1,8
	Tele	11,0	3,4	1,8
NC-60LS24Z	Breit	9,0	3,8	2,0
	Tele	15,5	3,7	2,0
NC-60LS39Z	Breit	12,9	3,3	1,7
	Tele	21,5	3,3	1,7



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



ACHTUNG:

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.

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Installation of the light module

The NP-24LU01, NP-20LU01 and NP-18LU01 light modules can be used in combination with the projector head (NP-02HD). Other light modules cannot be used in combination with the projector head.

The explanation on how to install the light module assumes the projector is as it was when shipped from the factory. In addition, in this explanation the projector head is referred to as the "main unit". To remove the light module, follow the procedure in reverse order.

NOTE

- No one other than a specialized service person should install the light module. Otherwise the equipment could be damaged or accidents could occur.
- The main unit weighs approximately 86 kg, the light module (NP-24LU01 and NP-20LU01)* approximately 65 kg. When moving the unit, use a cart or a simple crane and be careful not to bang the unit against other objects. The unit should only be lifted by multiple persons, being very careful not to get their fingers crushed. Attempting to lift the unit alone could cause injury or lower back pain.
* The NP-18LU01 weighs approximately 56 kg.
- Install the light module in a place with little dust. If not, dust may enter the optical unit and decrease image quality.
- Do not loosen any screws other than those specified, and do not disconnect any connectors other than those specified.

Preparation: Tools required for installation of the light module

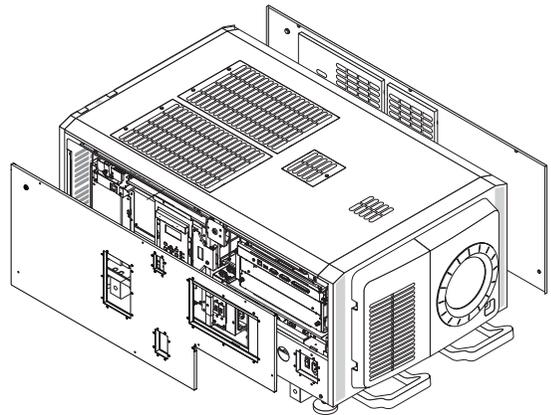
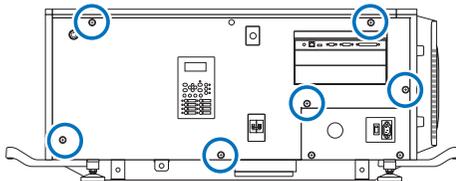
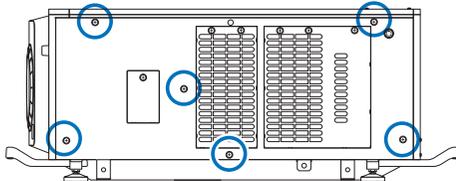
Long Phillips screwdriver (500 mm or longer, magnetized)

Dedicated positioning bars: 2 (Please contact NEC Display Solutions.)

1 Remove the shipping reinforcement brackets that are built into the main unit.

- (1) Remove the left and right side panels.

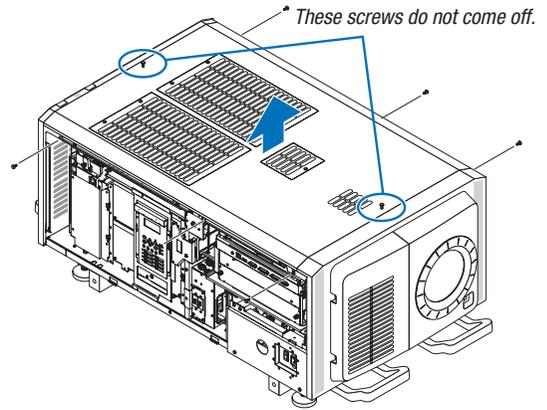
Turn each of the six M4 screws counterclockwise until they turn freely (they do not come off), open the panel a little, then lift the panel (to detach it from the hooks) and remove it.



Installation of the light module

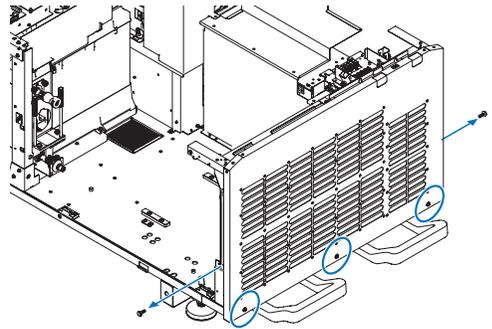
- (2) Remove the top panel.
- ① Remove the three M4 screws (silver) on the left and right sides respectively.
 - ② Turn the two M4 screws (black) at the front and back centers of the top panel until they turn freely (they do not come off), then lift the panel and remove it.

NOTE The six screws removed in (2) ① will be used in step 8 (4). Do not discard them.

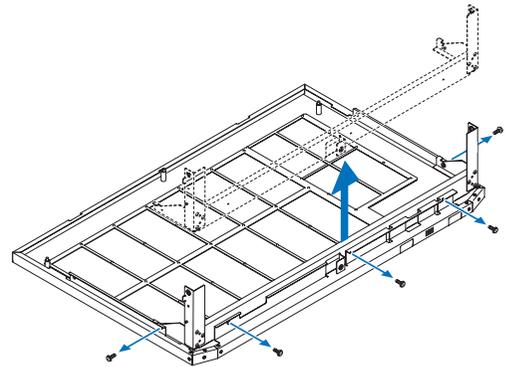


2 Remove the shipping reinforcement brackets that are built into the main unit.

- (1) Turn the M4 screws at the left and right sides near the bottom of the rear panel counterclockwise and remove them.
- Next, turn the three screws along the bottom edge counterclockwise until they turn freely (they do not come off) and remove.
- The rear panel detaches from the base.

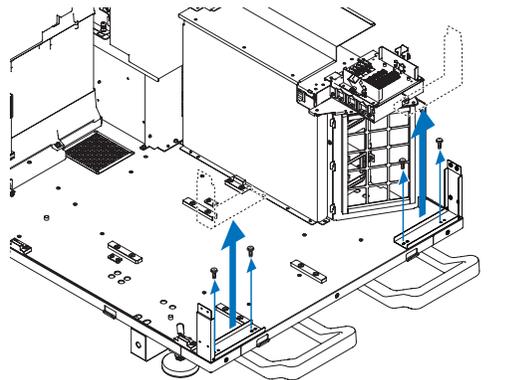


- (2) Remove the five M4 screws from the rear panel and remove the shipping reinforcement brackets.



- (3) Remove the M4 screws (two each) from the left and right shipping reinforcement brackets on the base, then remove the shipping reinforcement brackets.
- The removed rear panel will be mounted on the light module later.

NOTE The nine M4 screws removed in (2) and (3) will be used in step 8 (1) (seven screws) and step 8 (4) (two screws). Do not discard them.



3 Place the light module on the main unit.

⚠ CAUTION

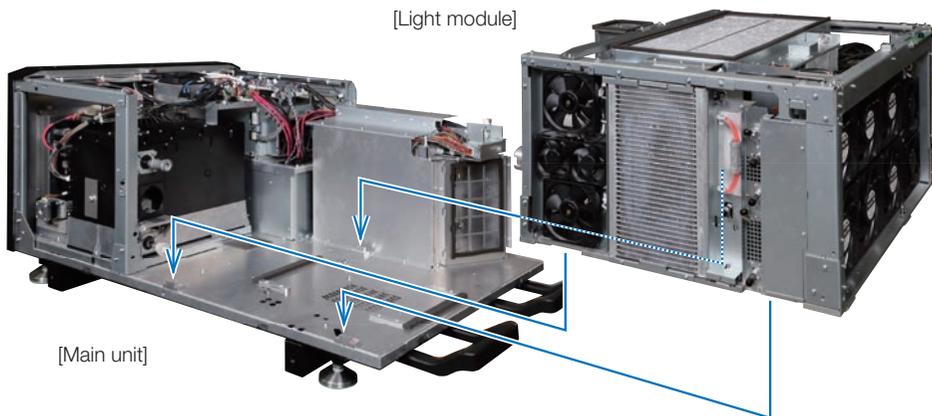
- The light module (NP-24LU01 and NP-20LU01)* weighs approximately 65 kg. To avoid lower back pain, it should only be installed by multiple people.
- * The NP-18LU01 weighs approximately 56 kg.
- When placing it on the main body, be careful not to crush your fingers.
- There are four mounting screw holes for eye bolts in the light module. Do not use them for anything other than suspending the light module. Otherwise the projector may be damaged.



- (1) Remove the dustproofing section of the light source socket.
- (2) Line up the notches in the light module's base with the three stoppers and place them over the inside of the stoppers.

NOTE Make sure that the light module's base is flush against the main unit.

If placing the light module on the main unit by hand, open the fan bracket and hold the upper part of the frame.

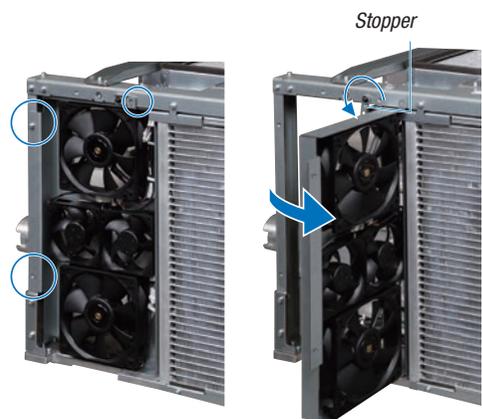


Opening the fan bracket

Remove the three M4 screws, open the fan bracket, then turn the stopper downward.

NOTE Be sure to apply the stopper to prevent crushing your fingers.

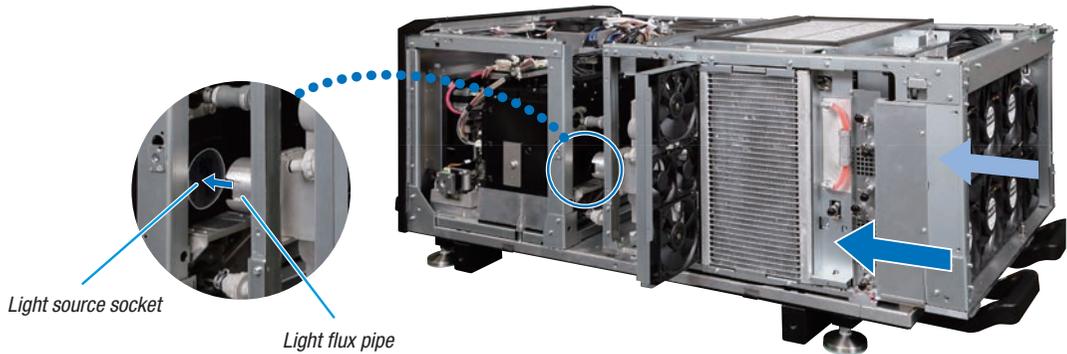
When closing the fan bracket, set the stopper back in its original position and tighten it together with the frame.



Installation of the light module

- (3) Slide the light module forward.

When this is done, the tip of the light module's light flux pipe is inserted into the light source socket of the main unit.



4 Fine-adjust the light module's mounting position.

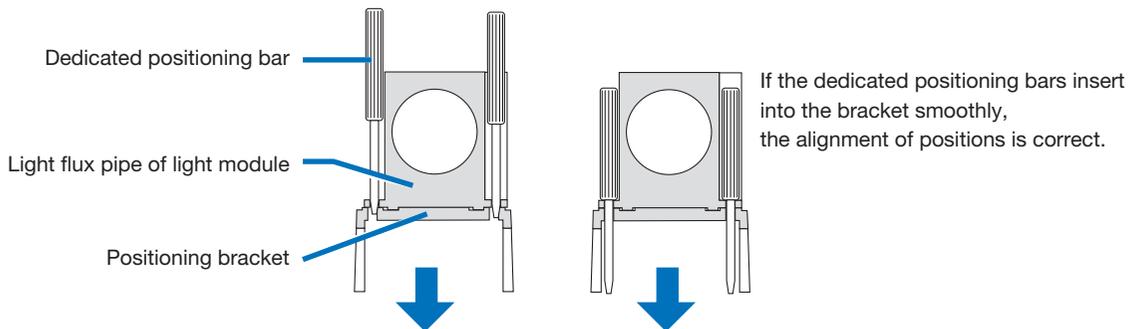
- (1) Insert the two dedicated positioning bars into the light module (see the figure).

If they enter up to the base, there is no need for the adjustment.

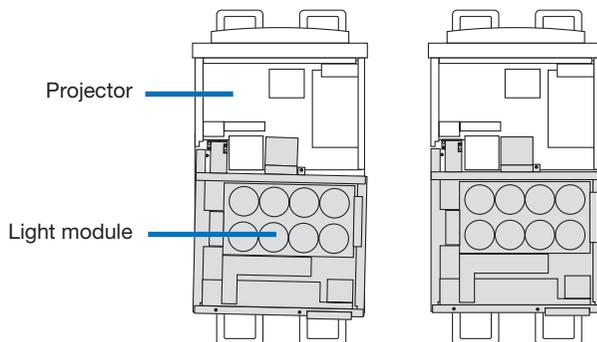
If the dedicated positioning bars do not fit into the bracket, move the light module a little and find the position at which they can be inserted.

NOTE To avoid bending the dedicated positioning bars, do not shake the light module left and right when lining up the bars with the holes.

If the dedicated positioning bars do not fit into the bracket,
the alignment of positions is not correct.

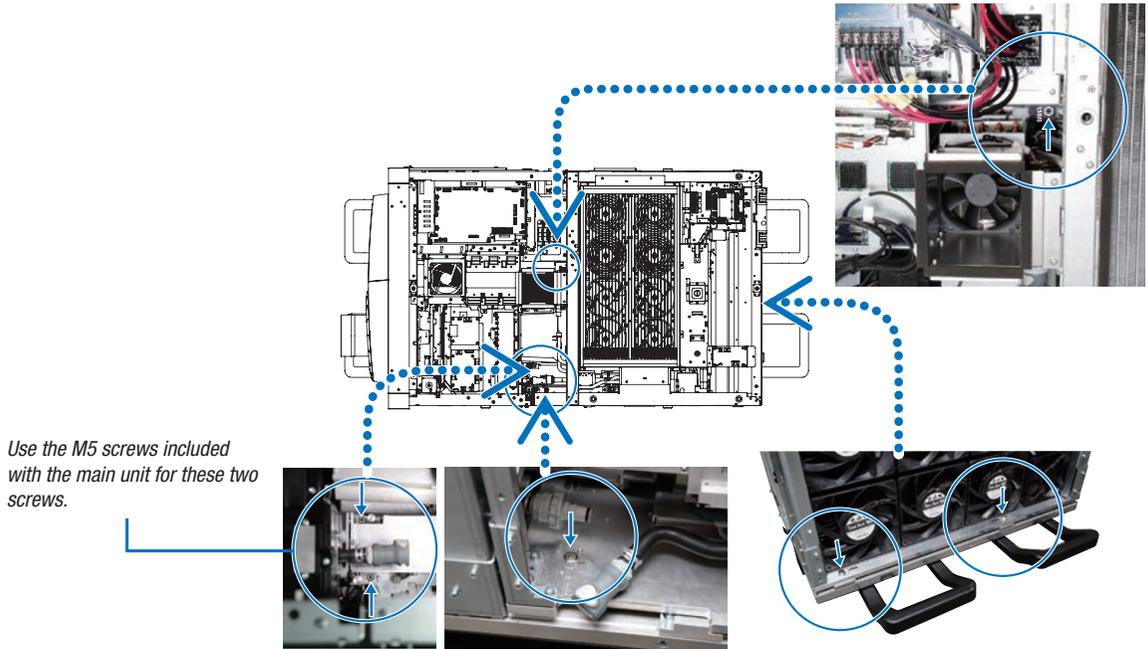


[Cross-section image view]



[Top image view]

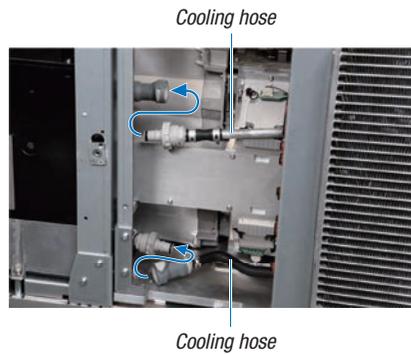
- (2) Once the position is set, tighten with the four M6 cross-slot upset screws (temporarily fixed to the light module base) and the two M5 cross-slot upset screws (included with the main unit).
- (3) Remove the dedicated positioning bars.



5 Connect the cooling hoses.

Press the joints of the two cooling hoses on the main unit and the light module in until they click into place. The joint locks when it is pressed in. Pull to check that the hoses do not disconnect.

- To disconnect, press in the white button and pull out.



Installation of the light module

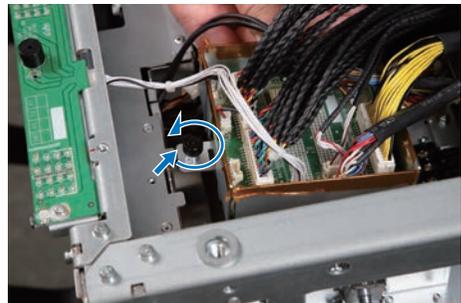
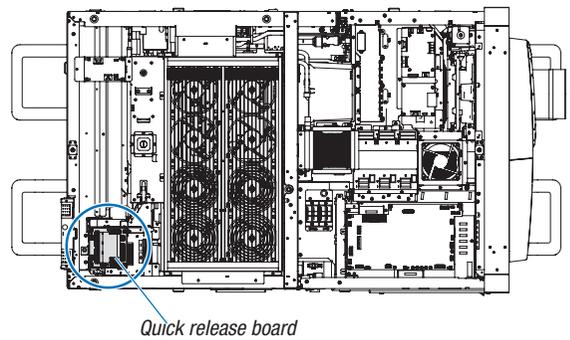
6 Close the fan bracket and fasten it.

- (1) Rotate the stopper clockwise and line it up with the screw hole.
- (2) Close the fan bracket and tighten it with the three M4 screws.

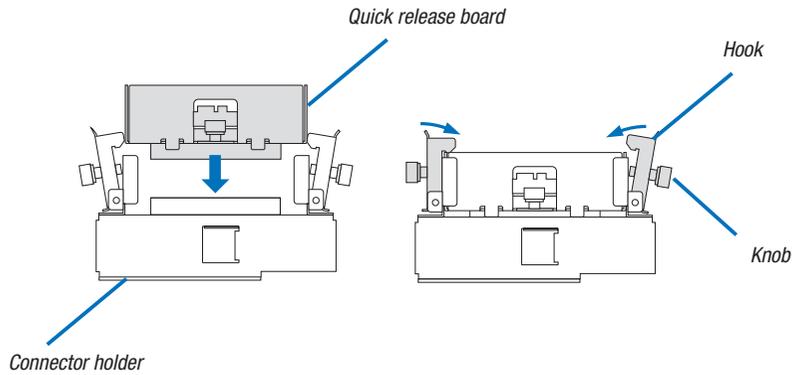


7 Mount the quick release board onto the light module's connector holder.

- (1) Turn the knobs of the quick release board that is temporarily fixed to the main unit's frame until they turn freely and remove the quick release board.

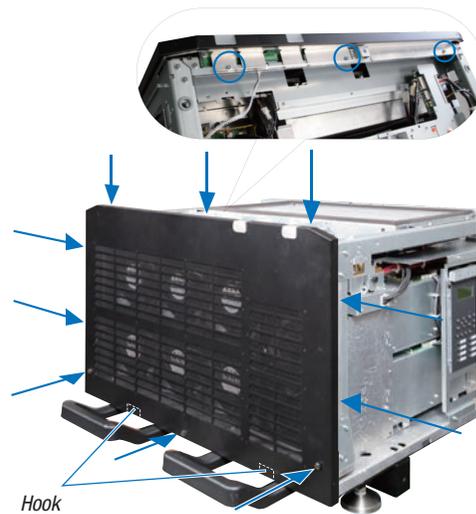


- (2) Now carefully insert the quick release board into light module's connector holder, attach the left and right hooks to the ends of the quick release board, then turn the knobs to fasten.

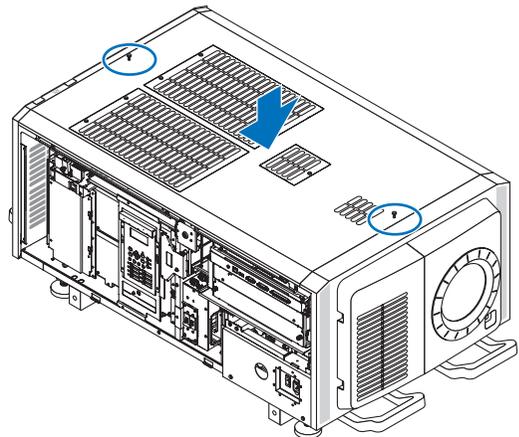


8 Mount the rear panel and the top panel.

- (1) Attach the two hooks on the main unit's base to the rear panel, then use the seven M4 screws removed in step 2 (three at the top, two at the right and two at the left) to fasten.
- (2) Tighten the three screws at the bottom of the rear panel.



- (3) Place the top panel on the main unit, then tighten the two screws at the front and back centers of the top panel.



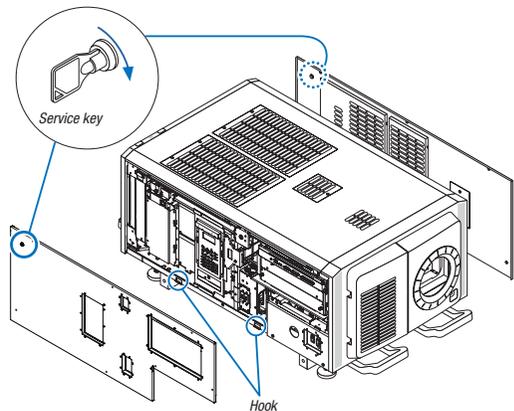
Installation of the light module

- (4) Use the six M4 screws (silver) removed in step 1 (2) and the two M4 screws removed in step 2 to fasten at four positions respectively on the left and right sides.
When doing this, tighten the screws in the notch-less screw holes on left and right sides.

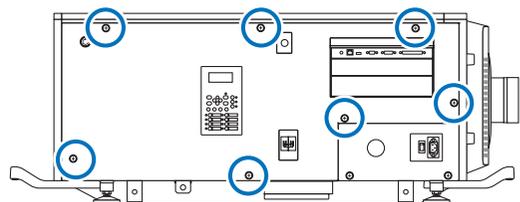
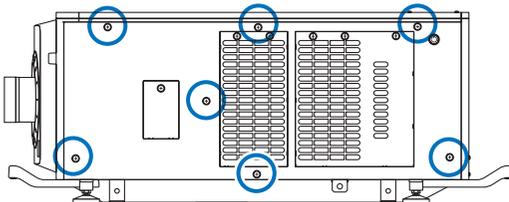


9 Mount the left and right side panels.

- (1) Insert the service key into the key in the panel and turn it clockwise to unlock.
When unlocked, the key cannot be removed.
- (2) Place the lower edges of the panel onto the two hooks on the main unit and close the panel.



- (3) Tighten the side panel's seven fixing screws.



- (4) Turn the service key counterclockwise to lock it.

Upon shipment from the factory, the notch filter kit (NFK-G24) for the NP-24LU01 and NP-20LU01 is installed on the main unit.

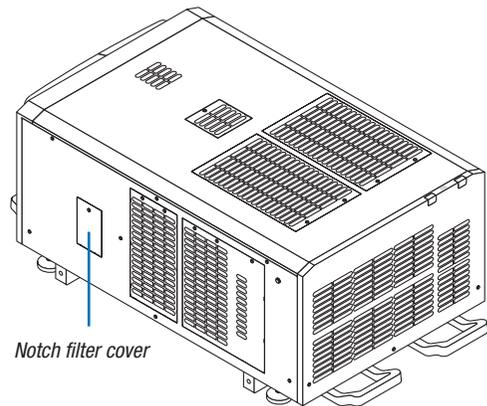
When using the main unit in combination with the NP-18LU01 light module, replace the notch filter kit with the NFK-G18 that is included with the main unit. For instructions on replacing the notch filter, see "Replacing the Notch Filter" on page 00.

Replacing the notch filter kit (for the NP-18LU01 light module)

Upon shipment from the factory, the notch filter kit (NFK-G24) for the NP-24LU01 and NP-20LU01 light modules is installed on the main unit. When using the main unit in combination with the NP-18LU01 light module, replace the notch filter kit with the NFK-G18 that is included with the main unit.

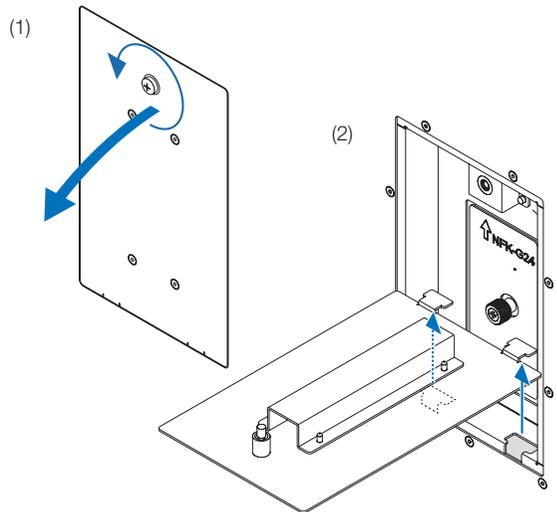
CAUTION

- Before replacing the notch filter, turn off the power, wait for the cooling fans to come to a complete stop, turn off the projector's power switch and the light source's power switch, shut off the AC power, then check to make sure that the main unit has cooled down sufficiently. Removing the notch filter kit while the unit is operating may cause burns or electric shock when inside parts are touched.
- Replace the notch filter kit in a place with little dust. Also be careful not to touch the filter or to get dust or the like on it.



1 Remove the notch filter cover.

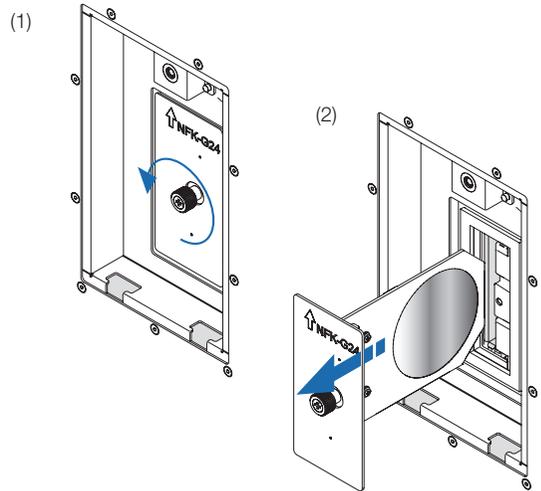
- (1) Turn the screw counterclockwise until it turns freely, then pull and open. The screw does not come off.
- (2) Lift the notch filter cover upward and remove it.



Installation of the light module

2 Take out the notch filter kit.

- (1) Turn the knob counterclockwise until it turns freely.
The knob does not come off.
- (2) Pull the notch filter kit straight out to remove it.



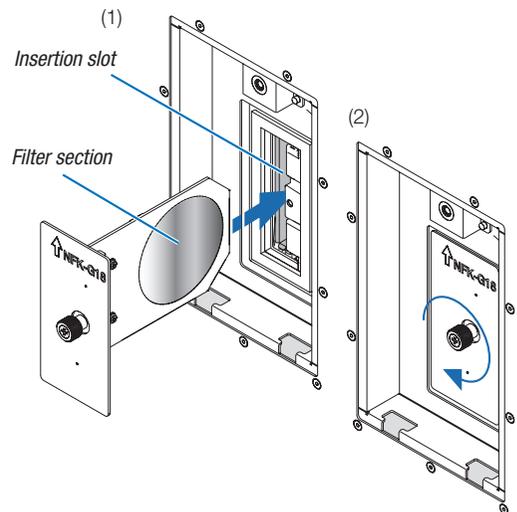
3 Install the new notch filter kit (NFK-G18).

- (1) Point the arrow upwards and slowly insert the notch filter kit into the insertion slot in the main unit, being careful not to hit the filter section.

NOTE

- Check the notch filter kit's model name.
- Do not touch or hit the filter section.

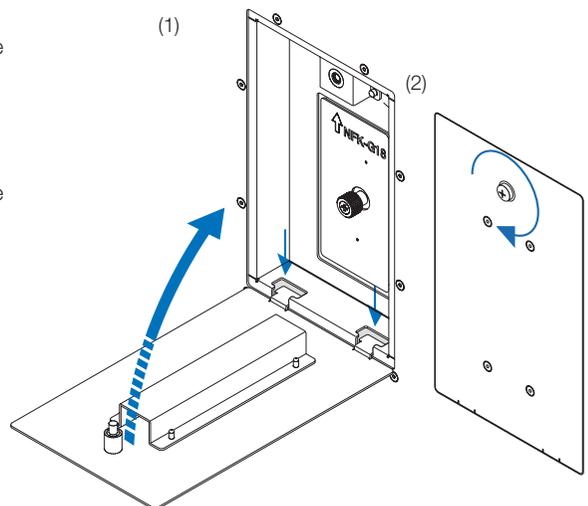
- (2) Turn the knob clockwise to tighten it.



4. Mount the notch filter cover.

- (1) Insert the two tabs on the notch filter cover into the grooves in the main unit, then close the cover.
- (2) Turn the screw clockwise to tighten it.

Store the notch filter kit that was removed in a safe place.



Maintaining the information of light module

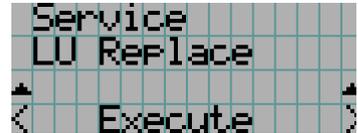
Store the various information and the initial adjustment data of the light module to the projector head.

To execute the following steps, first you need to log in the projector main unit as a serviceman.

To use the menu for Serviceman, refer to “4-1-1. Using the Menu for Serviceman” (page 121)

1 Store the various information of the light module.

- (1) Press the MENU operation button to display the adjustment menu on the LCD panel.
- (2) Select Configuration → Installation → Service → LU Replace and execute it.



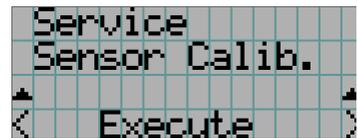
2 Measure the adjustment data on the light source of the light module and store them.

- (1) Press the MENU operation button to display the adjustment menu on the LCD panel.
- (2) Select Configuration → Installation → Service → LD Calibration and execute it.



3 Measure the initial brightness value of the light source of the light module and store them.

- (1) Press the MENU operation button to display the adjustment menu on the LCD panel.
- (2) Select Configuration → Installation → Service → Sensor Calibration and execute it.



Shadow adjustment

If the illumination position of the light source deviates, shadows will appear around the projection screen. Shadow adjustment consists of adjusting for this deviation. Perform shadow adjustment when replacing the light module.

WARNING

- No one other than a specialized service person should perform this adjustment. Doing so may result in electric shock or short circuits.
- Do not drop any screws, etc. Doing so may cause short circuits.
- Shadow adjustment is performed with the power turned on. Do not short-circuit the circuit boards with the tools.
- Before removing or mounting external panels and circuit boards, turn off the main unit's power, wait for the cooling fans to come to a complete stop, then shut off the supply of AC power to the projector and the light source with a circuit breaker, etc. After this, check that the main unit has cooled down sufficiently before performing the adjustment.

WARNING

- Do not look at the lens during projection. Doing so may damage your eyes.

Required tools: #2 Phillips screwdriver
5.5 mm nut driver

1 Remove the right side panel.

See page 53

2 Remove the IF board.

Remove the six M3 screws, then remove the IF board.

NOTE - Do not disconnect the board connector.

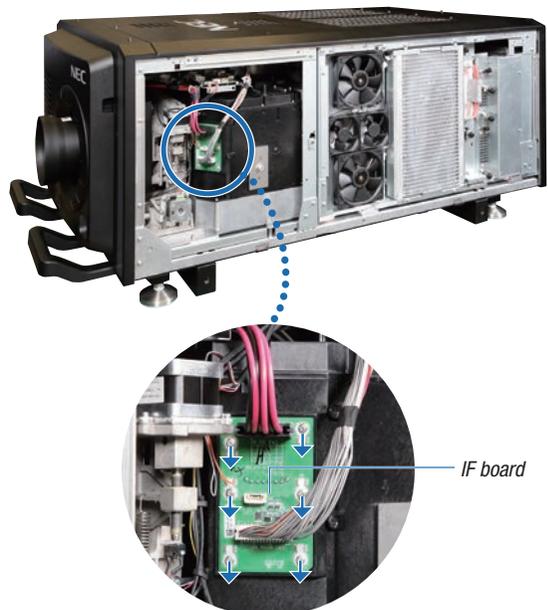
3 Turn on the projector's power.

Turn on the power of the projector and the light source and warm up for about 15 minutes.

Refer to page 106 for instructions on turning on the power.

4 Select the shadow adjustment mode from the adjustment menu.

- (1) Press the MENU operation button to display the adjustment menu on the LCD panel.
- (2) Select Installation → Service Adj. → Shadow Adj.
Note that you must log in to the projector with Advanced User privileges or higher in order to access "Service Adj."



5 Adjust the illumination position of the light source.

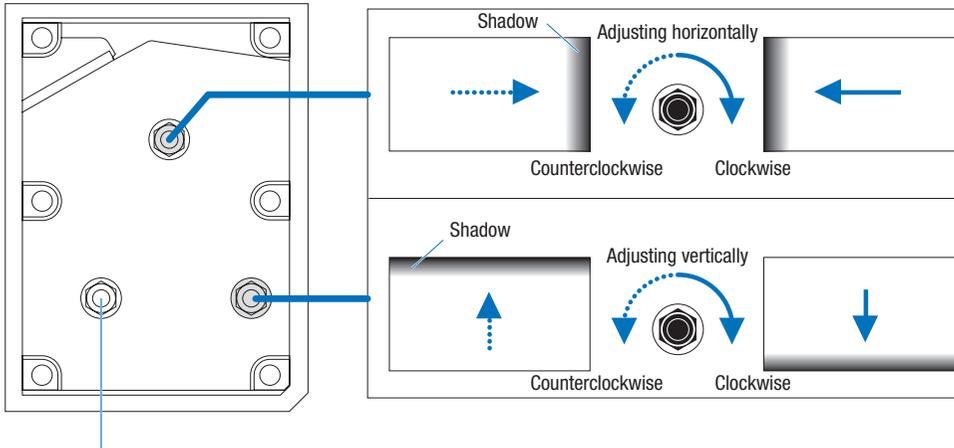
CAUTION

- Do not short-circuit the circuit boards with the tools.
- Do not touch anything other than the shadow adjustment nut.

CAUTION

- Strong light is projected during operation, so do not look into the lens. Doing so may cause damage to the eyes.

(1) Turn the nut to adjust so that no shadows are displayed on the projection screen.



Do not touch this nut.

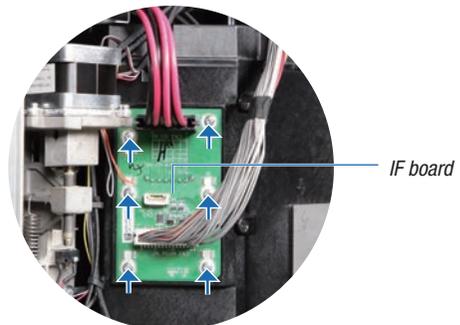
(2) Cancel the Shadow Adj menu.
Turn off the projector main unit.

6 Turn off the projector's power.

Turn off all power to the projector and shut off the AC power supply.

7 Mount the IF board.

Mount the IF board with the six M3 screws.



8 Mount the right side panel.

See page 52

This completes shadow adjustment.

1. Before Setting Up Your Projector

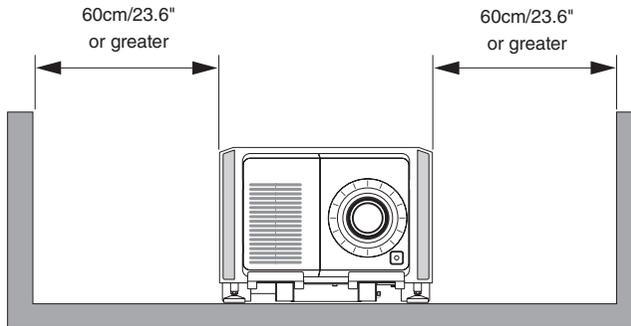
1-1. Clearance for Installing the Projector (English)

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 projector's power.

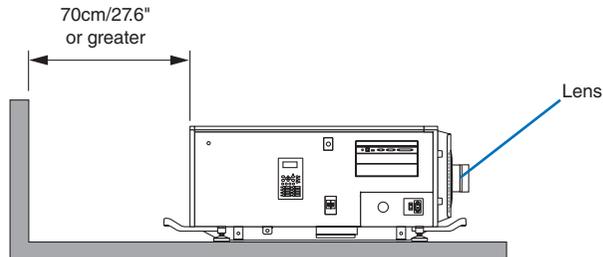
Example 1 – If there are walls on both sides of the projector.



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

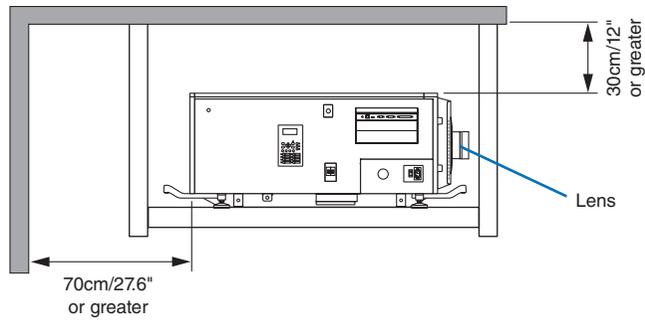
Example 2 – If there is a wall behind the projector.

(1) For floor installation:



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

(2) For ceiling mounting:



NOTE

- The drawing shows the proper clearance required for the front, sides, back and bottom of the projector.
- If suspending the projector 30 cm/12 inches away from the ceiling, allow ample clearance for all four sides and the under the projector.

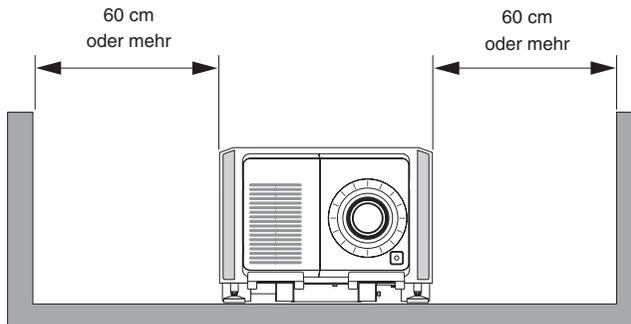
1-2. Freiraum bei der Projektorinstallation (Deutsch)

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 Klimaanlage 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.

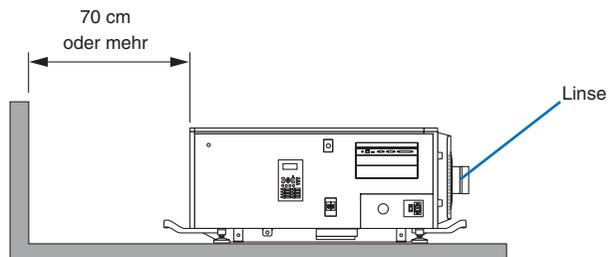
Beispiel 1 - Wenn sich Wände auf beiden Seiten des Projektors befinden.



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

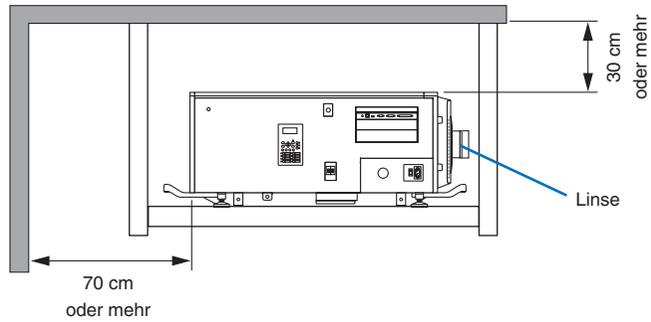
Beispiel 2 - Wenn sich eine Wand hinter dem Projektor befindet.

(1) Bei Installation auf einem flachen Untergrund:



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

(2) Bei der Deckenmontage:

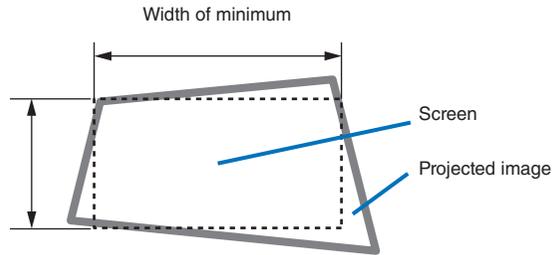


HINWEIS

- Die Abbildung zeigt den ordnungsgemäßen Abstand für die linke, rechte, Vorder-, Rück- und Unterseite des Projektors.
- Wenn Sie den Projektor 30 cm von der Decke entfernt installieren, achten Sie auf ausreichende Freiräume auf allen vier Seiten und unter dem Projektor.

1-3. Selecting the lens unit

This section provides guideline information on how to select the screen size, the projector mounting position, and the type of lens unit that is appropriate for your presentation purposes. Multiple lens units are sold separately as options for this projector. Select an appropriate lens unit according to the environment in which your projector is installed. Note that all descriptions given in this manual assume the angle of projection is zero degree. In the case of projection from an upper position or from the left or right, it is necessary to calculate the width for the minimum projected image at a size larger than the screen size.

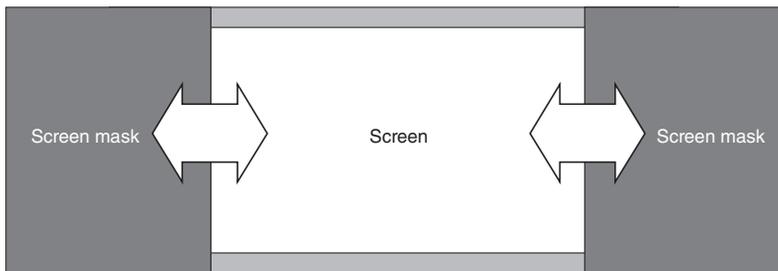


1-3-1. Screen Type

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.

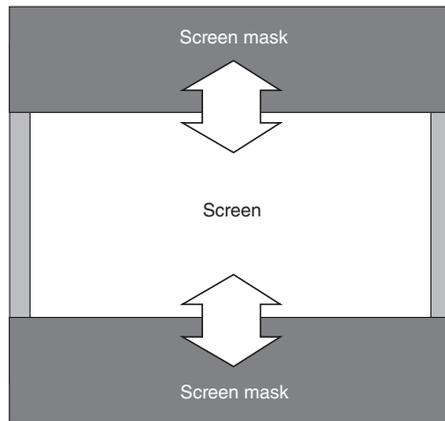
Horizontal moving screen mask

Screen masks move horizontally to adjust the screen.



Vertical moving screen mask

Screen masks move vertically to adjust the screen.



Before Setting Up Your Projector

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:

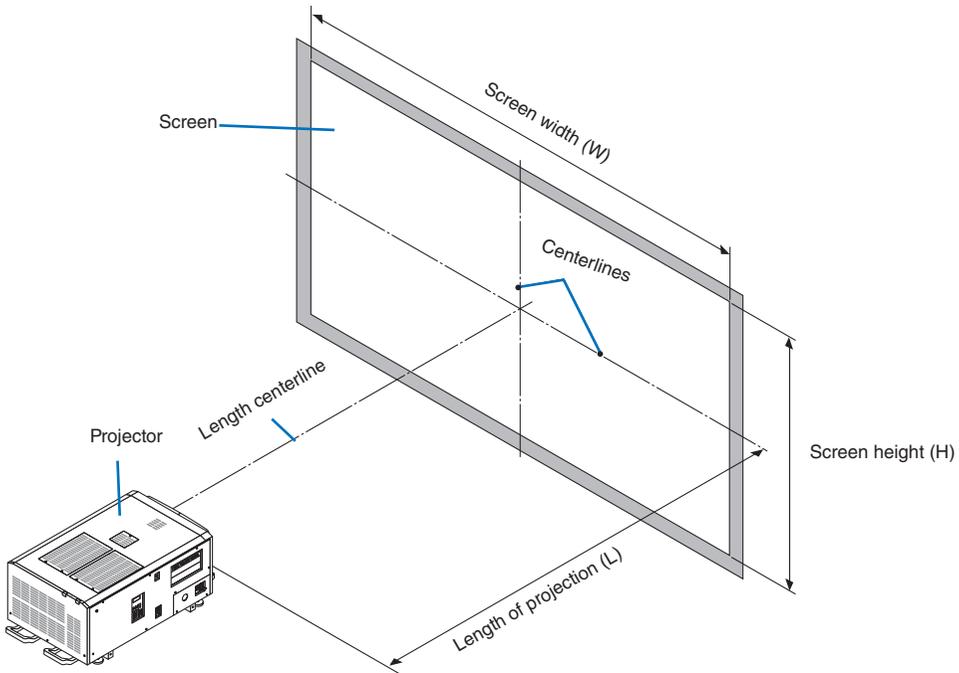
$$\text{Lens magnification} = \frac{\text{Length of projection (L)}}{\text{Screen width (W)}}$$

VISTA (FLAT)/HDTV projection:

$$\text{Lens magnification} = \frac{\text{Length of projection (L)}}{\text{Screen width (W)} \times (2048 \div (\text{Number of pixels per horizontal line} \times 2))}$$

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
NC-60LS12Z	1.20 - 1.81
NC-60LS14Z	1.40 - 2.05
NC-60LS16Z	1.59 - 2.53
NC-60LS19Z	1.90 - 3.25
NC-60LS24Z	2.40 - 3.90
NC-60LS39Z	3.90 - 6.52

Examples of selecting the lens unit

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

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

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

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

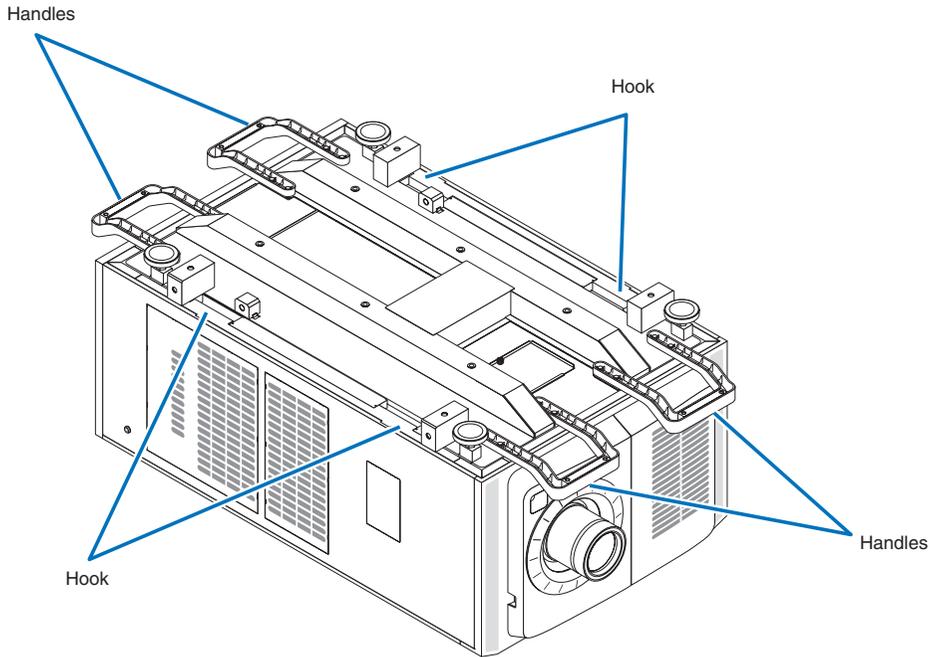
Therefore, the following lens units, which satisfy the magnifications in all of the above projections, are selected.

- NC-60LS16Z

1-4. Carrying the projector

WARNING

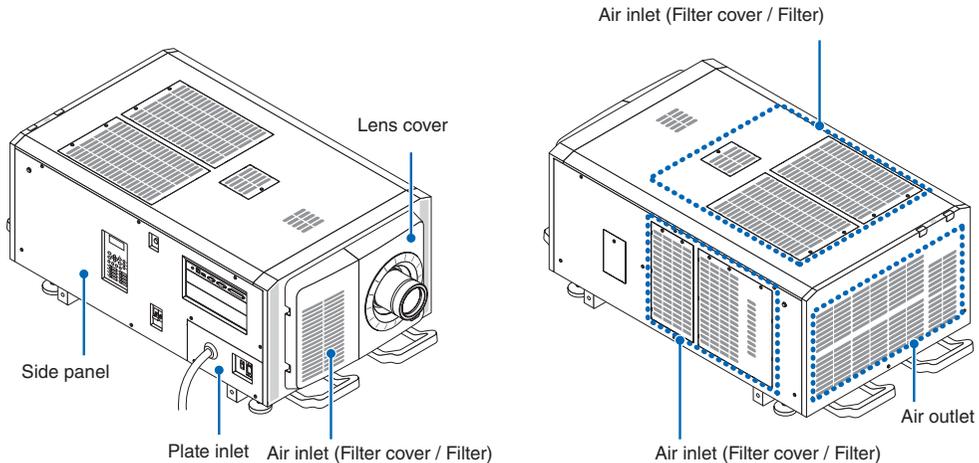
- When moving the projector, it should be carried by holding the handles or hook on the base of the unit by 6 or more people.
- When moving the projector, first turn off the power and always disconnect the power plug from the electrical outlet, and check that all of the connecting cables between equipment and the lenses have been removed.
- For C1 connection, turn off the projector, shut down AC power by using a circuit breaker.
- For C2 connection, turn off the projector, shut down the AC power to the projector and the light using a circuit breaker.



1-5. Removing the Projector Covers

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

Name of the cover



NOTE

- “Side panel” and “Lens cover” are equipped with key locks. Special keys (service key) are required to remove or mount them. Refer to “Position of the key locks on the covers” (page 50) for details.
- If you remove the lens cover or side panel, 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”
- Encrypted contents cannot be displayed while an error message is being displayed. Refer to “3-2. Recovering from Tamper Errors” (page 103) for details on how to clear the error message.
- Do not turn on the power when the lens cover and the side panel are removed.
- When removing the lens cover, return the lens shift to the center position before turning off the power.

Before Setting Up Your Projector

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 service key. The positions of the locks on each of the covers are as follows.

WARNING

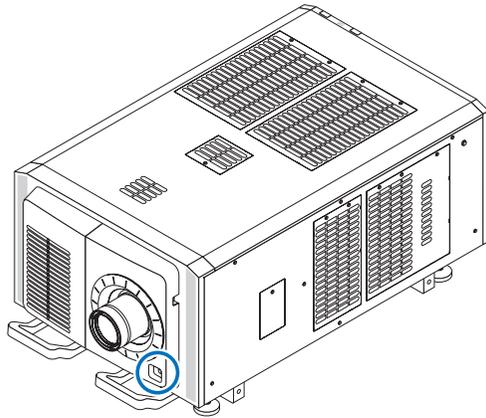
TO REDUCE THE RISK OF ELECTRIC SHOCK AND LASER RADIATION, DO NOT OPEN COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING AND INSTALLATION TO QUALIFIED SERVICE PERSONNEL AND INSTALLATION PERSONNEL.

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

Lens Cover

The lock is unlocked when attaching or removing lenses (page 51, 94).

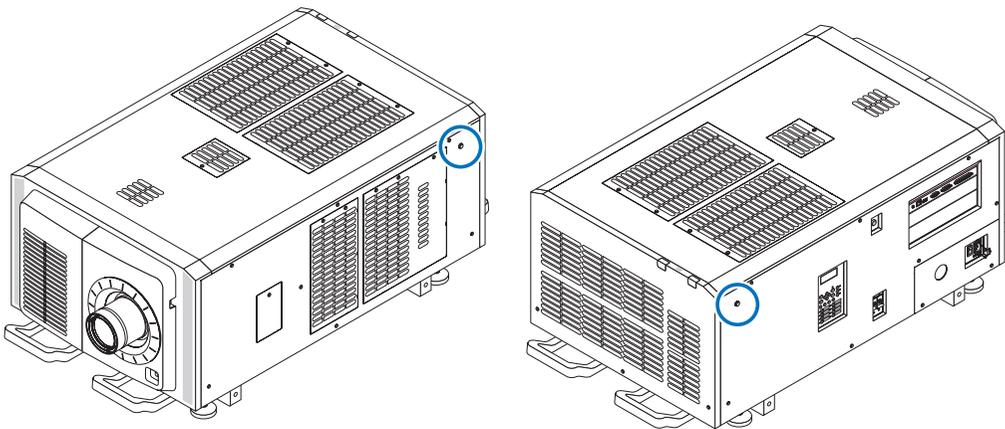
Just canceling the lock will not allow you to remove the service key.



Side Panel

The lock is unlocked when attaching or removing the option board (page 98).

Just canceling the lock will not allow you to remove the service key.

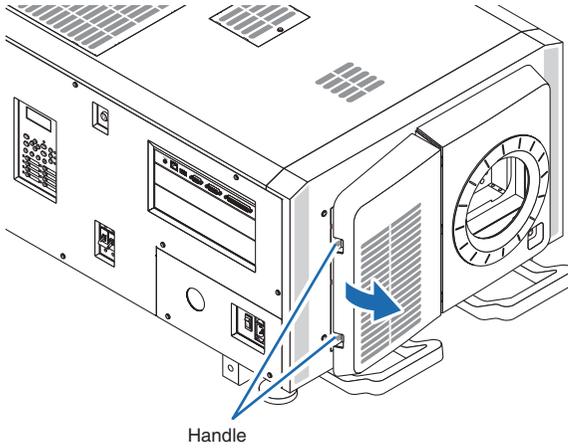


1-5-1. Removing and Mounting the Lens Cover

Preparation: Service key (attached goods)

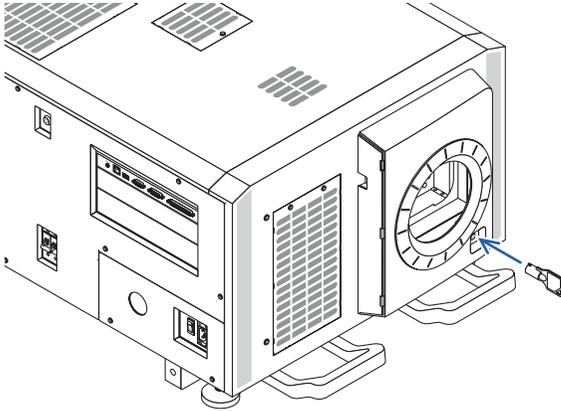
1 Remove the front filter cover.

Pull the filter cover in the direction of the arrow to remove it.



2 Unlock the lens cover.

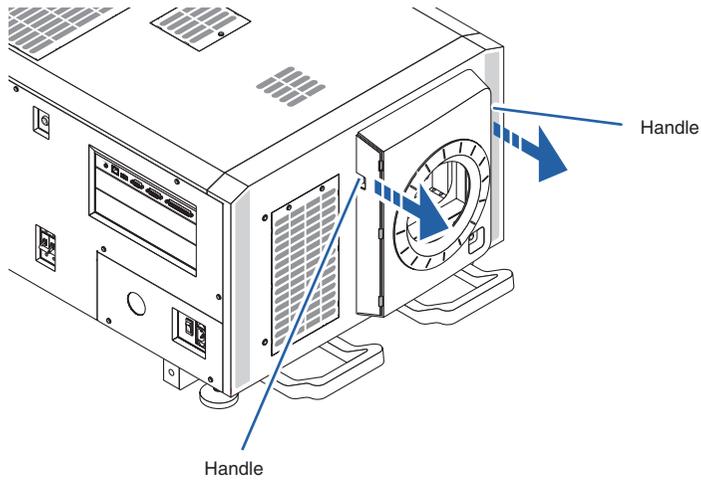
Unlock the cover using the service key.



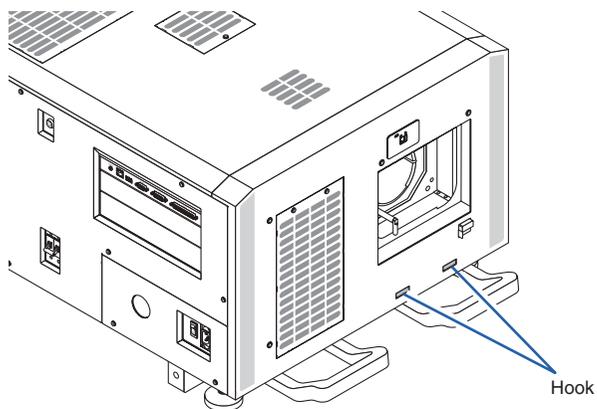
Before Setting Up Your Projector

3 Remove the lens cover.

The lens cover is secured to the projector body by two claws each at the cover top and bottom. Hold the cover sides and pull toward you.



- This completes removing the lens cover. To mount the cover, perform the removal procedure in reverse. Make sure to lock the key.



* Lens cover removed condition

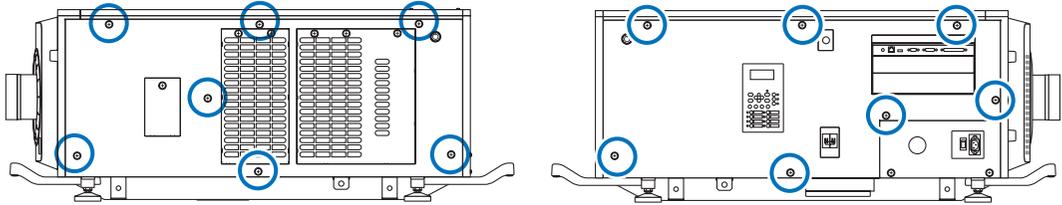
NOTE If the cover is not properly mounted, an error may occur. Securely push all claws into the position.

1-5-2. Removing and Mounting the Side Panel

Preparation: Phillips-head screwdriver (No.2), service key (attached goods)

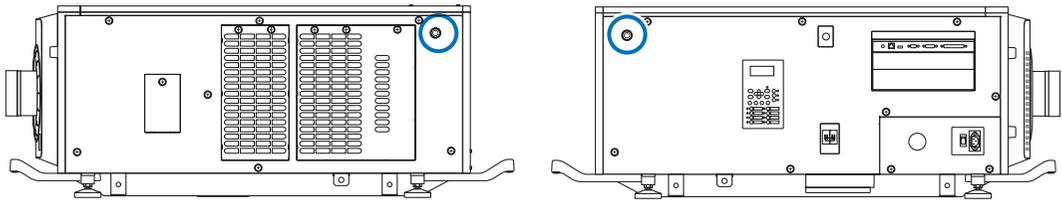
1 Loosen the seven fixing screws on the side panel.

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



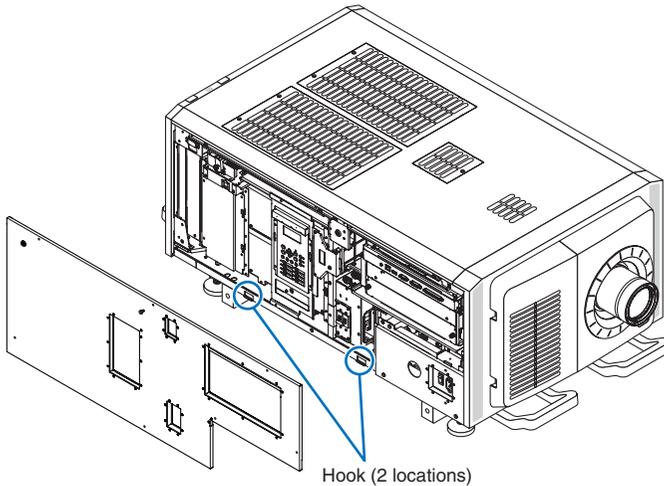
2 Unlock the lock on the side panel.

Use the service key to unlock the lock.



3 Remove the side panel.

The side panel is fixed in place by hooks at the bottom (in 2 locations). Tilt the side panel toward you and pull up to remove it. Do not use force when tilting the side panel.



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

1-5-3. Removing and Mounting the Filter Cover

Refer to the user's manual for details on how to remove and attach the filter cover.

2. Setting Up Your Projector

2-1. Setup Procedure

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

- **Step 1**
Projector Installation (See page [55](#)).
- **Step 2**
Selecting the Power Cable (See page [58](#)).
Connecting the Power Cable (See page [64](#)).
- **Step 3**
Mounting the Lens Unit (See page [94](#)).
- **Step 4**
Mounting the following optional parts as required.
 - Installing the Media Block (NP-90MS01/NP-90MS02) (See page [98](#)).

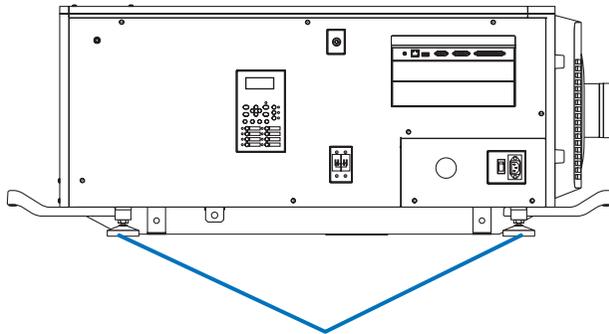
2-2. Projector Installation

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 10 mm at the maximum (Rotate it counterclockwise for extension).

CAUTION

- Do not extend the adjuster by more than 10 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.

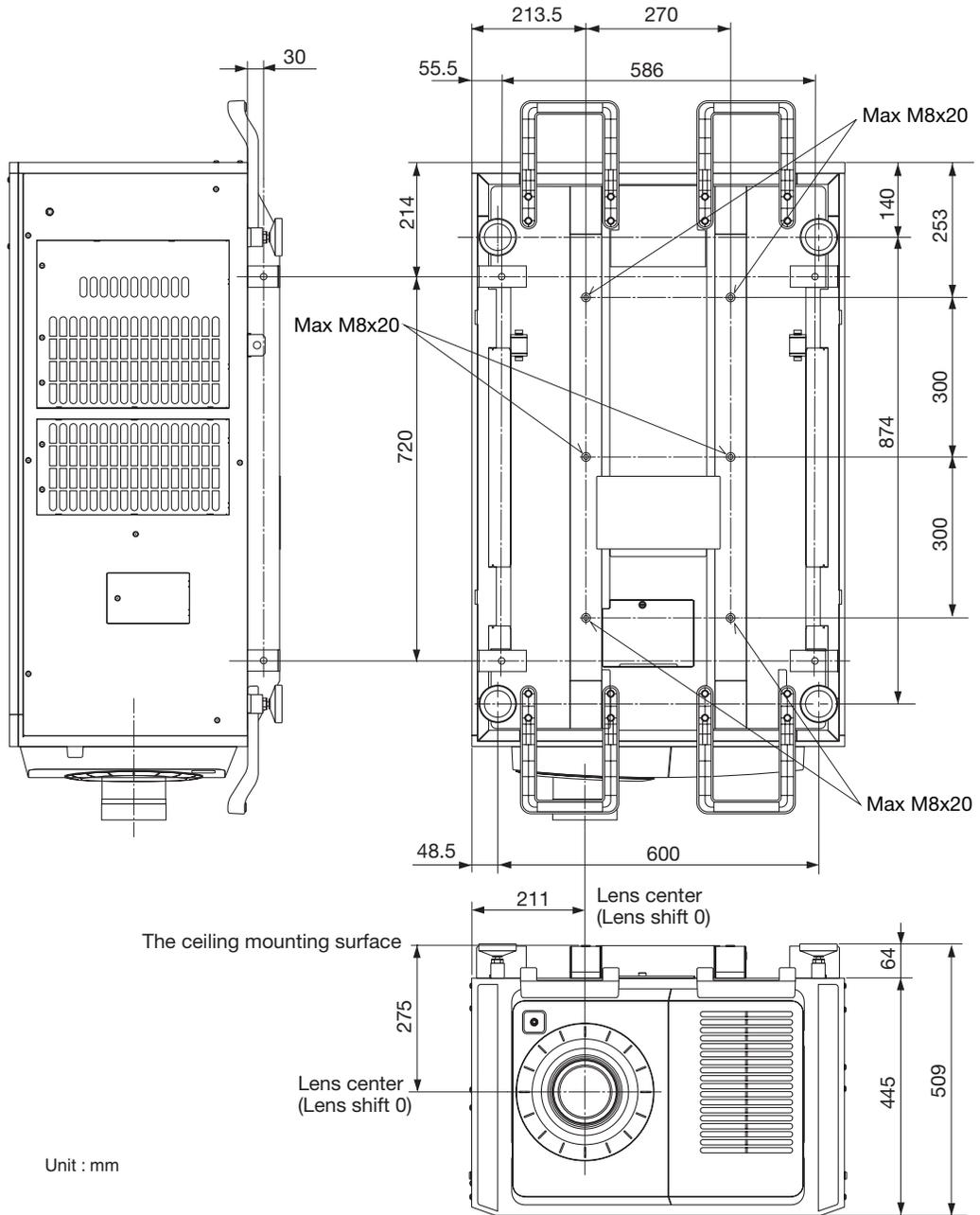


Level adjusters (in four positions)

Setting Up Your Projector

2-2-1. Installing the Projector on the Ceiling

To install the projector on the ceiling, install it by referring to the following specifications.



2-2-2. Terms for Preparation of Frames and Ceiling Hanging Brackets

Ask whoever is installing the projector to prepare a specifically designed frame and ceiling hanging brackets (Charged Service). Take note of the following upon its design.

- There are intake openings and exhaust openings on the side of the main unit, exhaust openings on the rear, intake openings on the front, intake openings on the top side. Make sure that the design does not obstruct these openings. Also make sure to secure enough space to allow easy removal of the filter cover for cleaning the filter.
- Remove the adjusters on the main unit if they will interfere with the frame. The adjusters can be removed by turning them.
- Attach the frame and ceiling hanging brackets to the screw holes (in four positions) provided on the bottom surface of the main unit for ceiling hanging installation.

Refer to the specification sheet for dimensions between the centers of the screw holes. Note that the screw holes on the main unit have the dimensions of an M8 thread and a maximum depth of 20 mm (the lengths of the bolts are to be calculated according to the design).

- Horizontal adjustment mechanism (for example, bolts and nuts in four positions)
- Design the frame so that it will not easily collapse.
- To prevent ceiling collapse, the ceiling should be able to support the combined weight (158 kg^{*1}) of the projector (150 kg^{*2}) and lens (8 kg) for an extended period of time, and the installation must be in accordance with any local building codes.

*1 When the light module NP-18LU01 is installed, the weight is about 149 kg.

*2 When the light module NP-18LU01 is installed, the weight is about 141 kg.

NOTE Make sure there are at least six people taking part when lifting this unit. Attempting to lift this unit alone may lead to injury or cause pain in the lower back.

2-3. Selecting the Power Cable for C2 Connection (English)

The power cable for C2 Connection is not included with the projector. Refer to “2-3-1. AC Power Work Specifications” (page 59) 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

- 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 59), 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.
- In order to prevent the power plug from being disconnected from the projector, fix the power cable by using the power cable stopper supplied with this unit. For how to use the power cable stopper, refer to “Attaching the power cable stopper” (page 59).

NOTE

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

2-3-1. AC Power Work Specifications

AC power supply equipment

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

For C2 connection (when using two different power cables to supply the AC power to the projector and the light source separately)

- AC100– 240 V single phase, 50/60Hz
(Power supply to the projector)
- AC200– 240 V single phase, 50/60Hz
(Power supply to the light source)

AC power supply cable for the projector

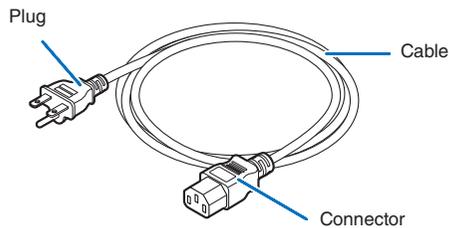
The projector is equipped with an IEC60320-C14 inlet to connect an AC power supply cable. Use an IEC60320-C13 compliant AC power cable connector and ensure that the connector meets the following current capacity specifications.

Power supply voltage	Projector input current	Power cable current capacity
AC 100V-240V	4.9 A	10A or higher

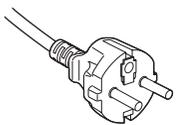
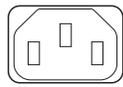
Furthermore, use plugs, cables, and connectors that are suitable for the regulations of the country of installation, as shown in the following table.

NOTE

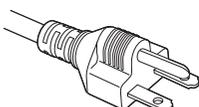
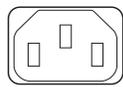
- For users in North America
Use a power cable no longer than 4.5m/14.76 ft according to National Electrical Code.
- For UK only: In UK, a BS approved power cable with moulded plug has a black (10 Amps) fuse installed for use with this equipment. If a power cable is not supplied with this equipment, please contact your supplier.



Germany

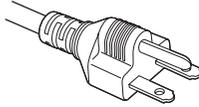
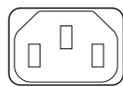
Plug	Cable	Connector
CEE 7 	H05VV-F 3x1mm ² 	IEC60320 C13 

USA

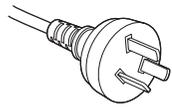
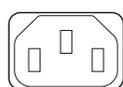
Plug	Cable	Connector
NEMA 6-15P 	SJT 3 x AWG 16 	IEC60320 C13 

Setting Up Your Projector

Japan

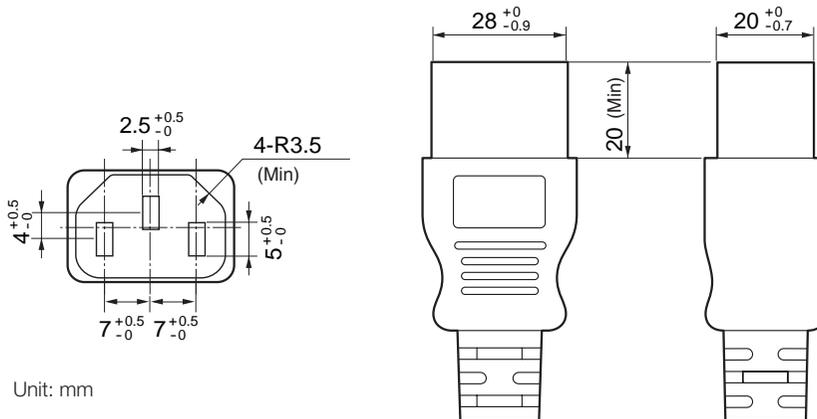
Plug	Cable	Connector
JIS C 8303 	HVCTF 3 x 1.25mm ² 	IEC60320 C13 

China

Plug	Cable	Connector
GB2099 	RWV 300/500 	GB17465.1 

Connector

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



2-4. Auswahl des Netzkabels für Anschluss C2 (Deutsch)

Es wird kein Netzkabel für Anschluss C2 mit dem Projektor geliefert. Nehmen Sie auf „2-4-1. Netzstrom-Spezifikationen“ (Seite 62) 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

- 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 62), 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.
- Um eine Trennung des Netzsteckers vom Projektor zu verhindern, fixieren Sie das Netzkabel, indem Sie den mit diesem Gerät gelieferten Netzkabelstopper verwenden. Die Verwendung des Netzkabelstoppers siehe 62.

HINWEIS

- Installieren Sie die Steckdose nahe beim Projektor, so dass Sie die Stromzufuhr unterbrechen können, indem Sie das Netzkabel abtrennen.
- Vergewissern Sie sich, dass der Hauptstromschalter auf der Position [O] steht, bevor Sie das Netzkabel anschließen oder abziehen. Anderenfalls kann es zu einer Beschädigung des Projektors kommen.
- Verwenden Sie keine Dreiphasen-Stromversorgung. Anderenfalls kann es zu einer Funktionsstörung kommen.

Setting Up Your Projector

2-4-1. Netzstrom-Spezifikationen

Netz kabel

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.

For C2 connection (when using two different power cables to supply the AC power to the projector and the light source separately)

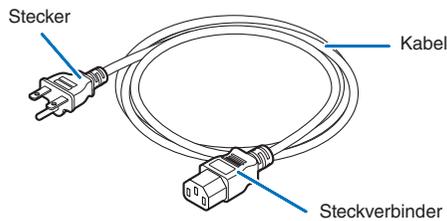
- AC100– 240 V single phase, 50/60Hz
(Power supply to the projector)
- AC200– 240 V single phase, 50/60Hz
(Power supply to the light source)

Netz kabel für den Projektor

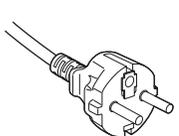
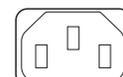
Der Projektor ist mit einem C14-Eingang gemäß IEC60320 zum Anschließen des Netzkabels ausgestattet. Verwenden Sie einen IEC60320 C13-kompatiblen Netzkabelanschluss und sorgen Sie dafür, dass der Anschluss über die unten angegebene Stromkapazität verfügt.

Netzspannung	Projektor-Eingangsstrom	Netzkabel-Stromkapazität
100 - 240V Wechselstrom	4,9 A	10 A oder höher

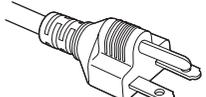
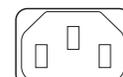
Furthermore, use plugs, cables, and connectors that are suitable for the regulations of the country of installation, as shown in the following table.



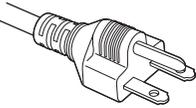
Deutschland

Stecker	Kabel	Steckverbinder
CEE 7 	H05VV-F 3x1mm ² 	IEC60320 C13 

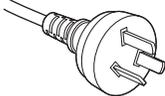
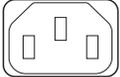
USA

Stecker	Kabel	Steckverbinder
NEMA 6-15P 	SJT 3 x AWG 16 	IEC60320 C13 

Japan

Stecker	Kabel	Steckverbinder
JIS C 8303	HVCTF 3 x 1.25mm ²	IEC60320 C13
		

China

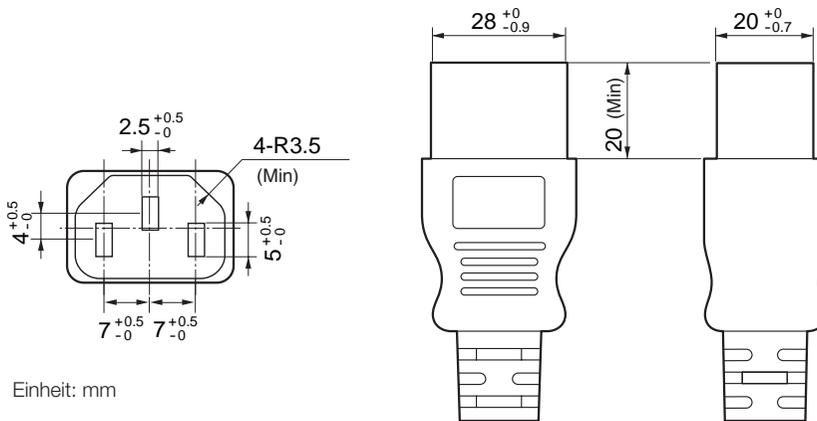
Stecker	Kabel	Steckverbinder
GB2099	RVV 300/500	GB17465.1
		

Für Benutzer in UK

Verwenden Sie ein Netzteil mit BS-Zulassung und 10A-Sicherung.

Steckverbinder

Die Abmessungen des Netzkabels sind unten angegeben.



2-5. Connecting the power cable (English)

Connect the power cable of the projector. The AC power cable is not attached as an accessory. Be sure to have professional technicians do any power supply construction.

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

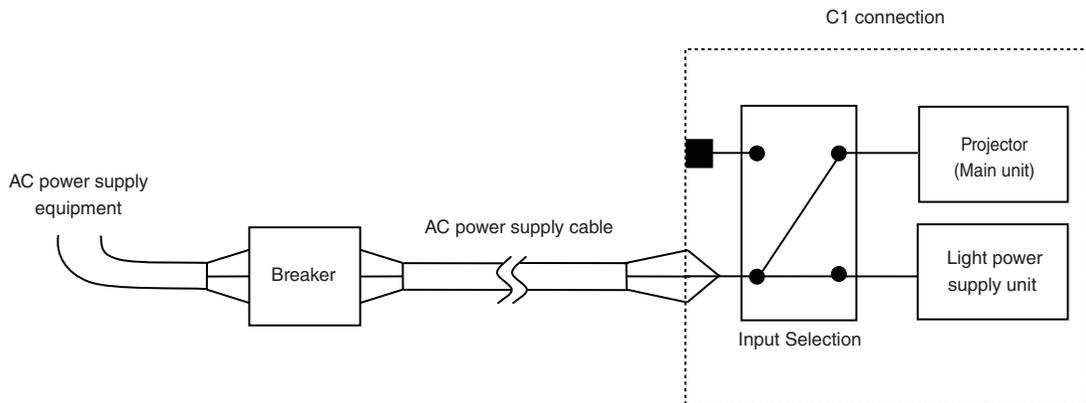
- Make sure that the AC power supply is disconnected before carrying out the work of connecting the power supply cable.
- Be sure to follow the contents described in this section.
- Entrust a specialist to carry out the power supply work from the power supply equipment of the building to the place of projector installation.
- Be sure to ground the equipment to ensure safety. To avoid electric shock, request a professional to carry out the grounding and related works. Make sure to ground the equipment before supply of the AC power.

2-5-1. Power supply construction specifications

There are two different ways to connect the power cables, the C1 connection and the C2 connection.

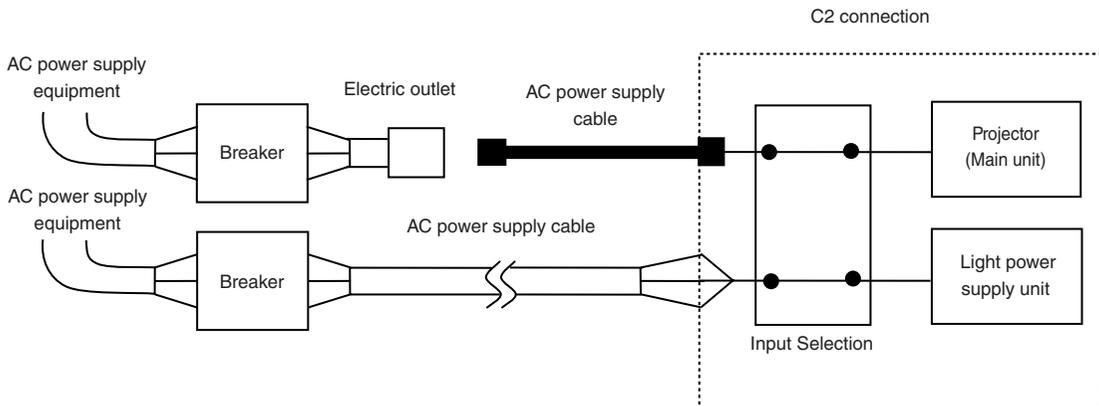
• C1 connection

AC power is provided to the projector power supply and the light power supply by a single cable.



• C2 connection

AC power is provided to the projector power supply and the light power supply by separate cables.



AC power supply equipment

Do not connect AC power supply voltages to the projector other than those indicated below.

When using with a C1 connection

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

When using with a C2 connection

- 100 - 240 V AC, single phase, 50/60 Hz (projector power supply)
- 200 - 240 V AC, single phase, 50/60 Hz (light power supply)

Breakers

When connecting the AC power supply from the power supply equipment of the building to the projector, be sure to connect it through a breaker. The capacity of the breaker must be as indicated below.

When using with a C1 connection

- Power supply for projector + power supply for light
200V-240 V AC: Input current 40A
Inrush current 150A or higher @10msec

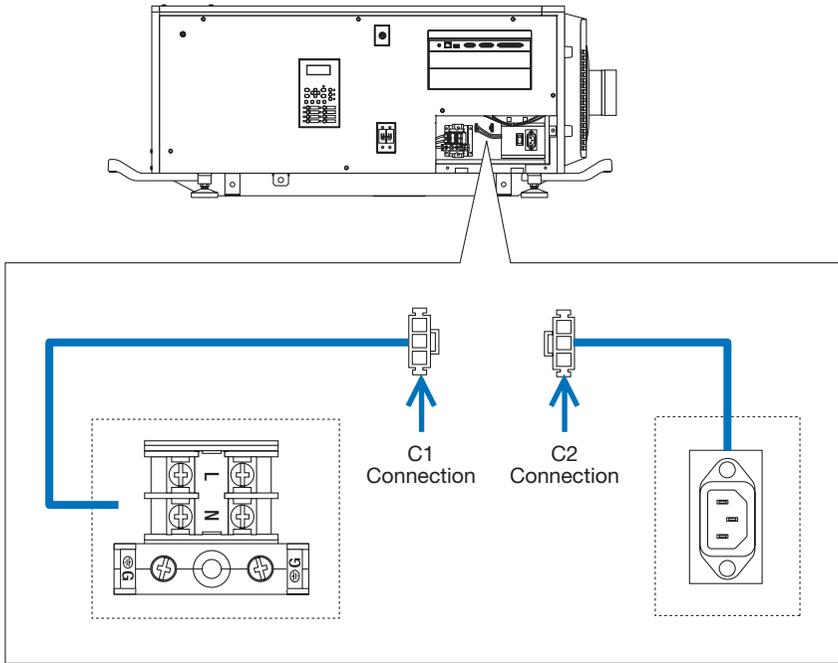
When using with a C2 connection

- Power supply for projector
100V-240 V AC: Input current 10A
Inrush current 60A or higher @10msec
- Power supply for light
200V-240 V AC: Input current 40A
Inrush current 150A or higher @10msec

Setting Up Your Projector

Input Selection

The power supply connection method is configured by the wiring to the input selection. The configurations are as follows.

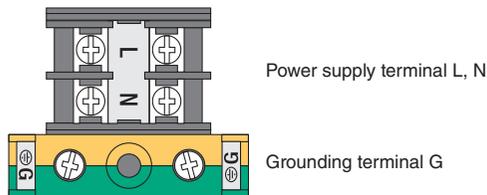


AC power supply cable

- For the AC power cable, use a cable of thickness as appropriate for the installation country and made of copper as shown below.
- Use a round type UL-listed solderless terminal for the section connected to the main unit. In addition, when clamping this terminal with the cable, use an UL listed tool.

Compatible Cables and Solderless Terminals

The specifications of the terminals for attaching the power cables are as follows.

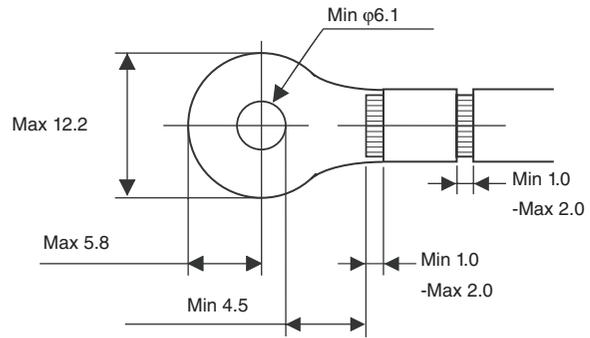


The size of the solderless terminal to use and the fastening torque of the screws varies depending on the type of terminal block. Use the cable and solderless terminal that is suitable for the specific type of terminal block as shown in the following table. This specifies the model name of the recommended 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.

WARNING

- The power supply unit handles large electrical currents. To maintain safety, use wires with the specifications as shown in the following table, and affix to the terminals at the designated attachment torque.
- 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 light power supply unit cannot be attached correctly.

• Power supply terminal L, N (Black)

	JIS	IEC/EN	UL	CSA
Thickness of compatible wiring (using solderless terminal)	14mm ²	14mm ²	AWG6 or AWG8	AWG6 or AWG8
Solderless terminal dimensions	M5 x 10			
Tightening torque	2.0 to 2.5N·m			
Solderless terminal dimensions	 <p>Unit: mm</p>			
Solderless terminal recommended part (J.S.T parts)	Model R8-5		When using AWG6: Model R14-5 When using AWG8: Model R8-5	

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

Setting Up Your Projector

- Ground terminal G (Green/Yellow)

	JIS	IEC/EN	UL	CSA
Thickness of compatible wiring (using solderless terminal)	14mm ²	14mm ²	AWG6 or AWG8	AWG6 or AWG8
Solderless terminal dimensions	M6 x 15			
Tightening torque	3.5 to 5.0N·m			
Solderless terminal dimensions	<p>Unit: mm</p>			
Solderless terminal recommended part (J.S.T parts)	Model 8-8NS		When using AWG6: Model R14-6 When using AWG8: Model 8-8NS	

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.

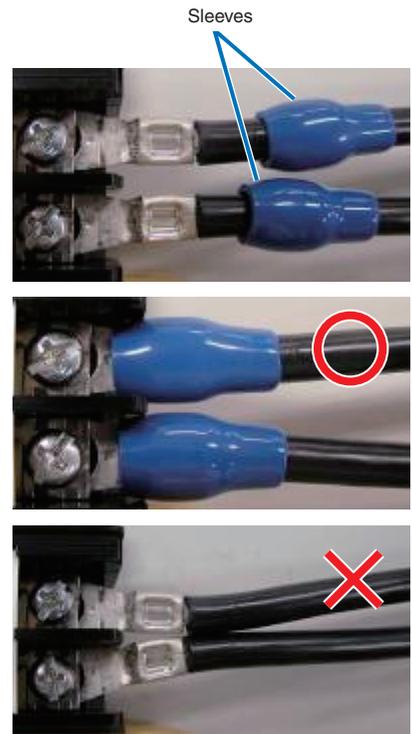
- 1 Remove the power cable sleeves from the terminals to ensure that the sleeves are not pinched by the terminal attachment screw.**

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.

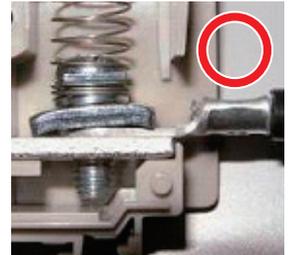


Setting Up Your Projector

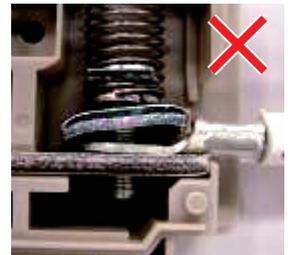
When connecting the cables to the ground terminal block, ensure that parts other than the solderless terminal (such as cable wires and fittings) are not pinched within the terminal fastening area.



When correctly fastened.



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



2-5-2. Procedure for connecting the power cable (C1 connection)

Preparation: Phillips-head screwdriver (No. 2), service key (projector accessory)

WARNING

- Before connecting the power cable, make sure that the AC power supply is disconnected. Otherwise a fire or electric shock may occur.
- High leakage current flows. Do NOT connect the power supply before grounding connection.

1 Remove the plate inlet.

Remove the plate inlet by loosening the fixing screws (at four points).

In Europe, replace it with the supplied $\phi 35$ plate inlet. Use the fixing screws that were used before the replacement of the plate inlet.

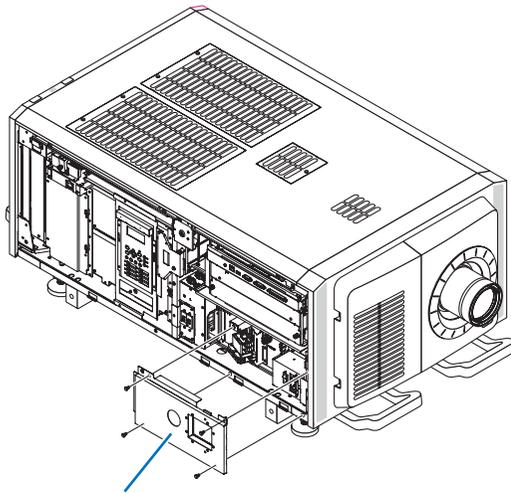
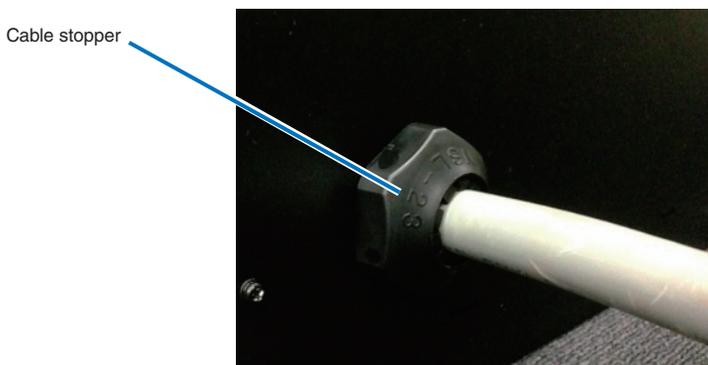


Plate Inlet

2 Pass the power cable through the cable hole of the plate.

If you use the supplied $\phi 35$ plate inlet, pass the power cable through a commercially available cable stopper and then insert it into the cable hole.



Cable stopper

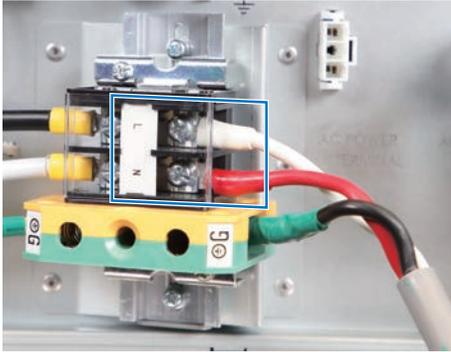
3 Remove the terminal cover of the power supply terminals.

Remove the terminal cover by pulling it upward.

Setting Up Your Projector

4 Insert the L/N lines of the AC power cable into the connection terminals, and tighten the screws.

Insert the crimping terminals of the AC power cable into the retaining holes of the connection terminals, and tighten the screws with the Phillips-head screwdriver.



⚠ WARNING

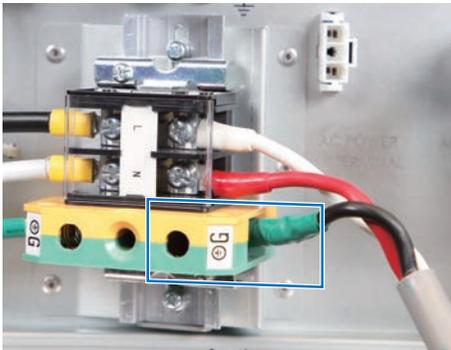
Securely screw the AC power cable to the connection terminals. Also, after tightening the screws, make sure that all the power cable lines are securely screwed. A failure to do this could result in an accident causing death, injury, etc.

5 Put the terminal cover on the power supply terminals.

Follow the reverse procedure to removal of the terminal cover.

6 Insert the grounding cable into the grounding terminal, and screw it.

Insert the crimping terminal of the grounding cable into the retaining hole of the connection terminal, and tighten the screw with the Phillips-head screwdriver.



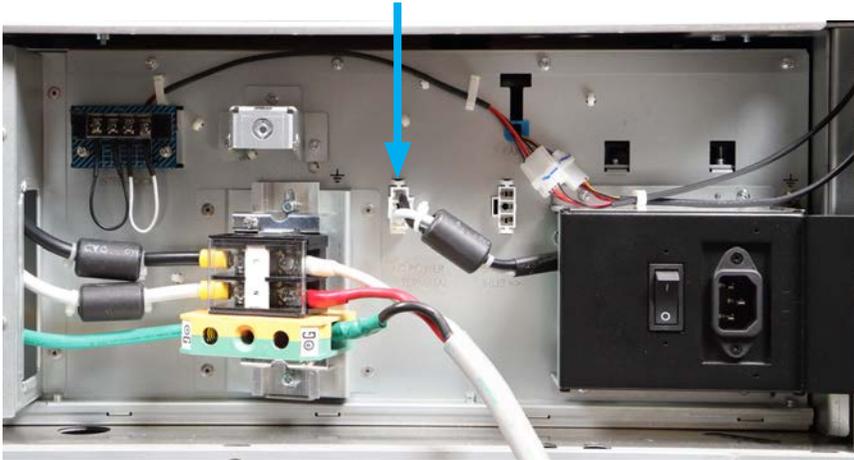
⚠ WARNING

Securely screw the grounding cable to the connection terminal. Also, after tightening the screw, make sure that the screw is securely tightened. A failure to do this could result in an accident causing death, injury, etc.

7 Configure the power supply for C1 connection.

For C1 connection, connect the left-side connector.

Connect the C1 connector.



8 Fix the plate inlet with the fixing screws (at four points).

In Europe, fix the supplied $\varnothing 35$ plate inlet.

Setting Up Your Projector

2-5-3. Procedure for connecting the power cable (C2 connection)

Preparation: Phillips-head screwdriver (No. 2), service key (projector accessory)

⚠ WARNING

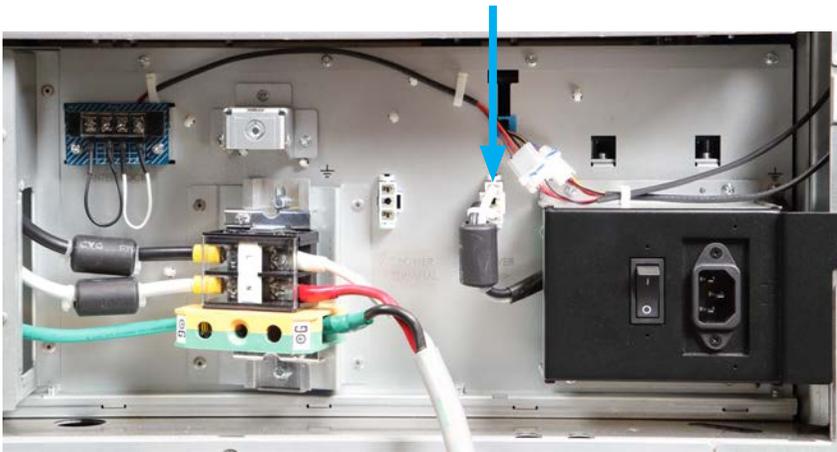
Before connecting the power cable, make sure that the AC power supply is disconnected. Otherwise a fire or electric shock may occur.

1 Follow steps **1** to **7** in “2-5-2. Procedure for connecting the power cable (C1 connection)” (page 71).

2 Configure the power supply for C2 connection.

For C2 connection, connect the right-side connector.

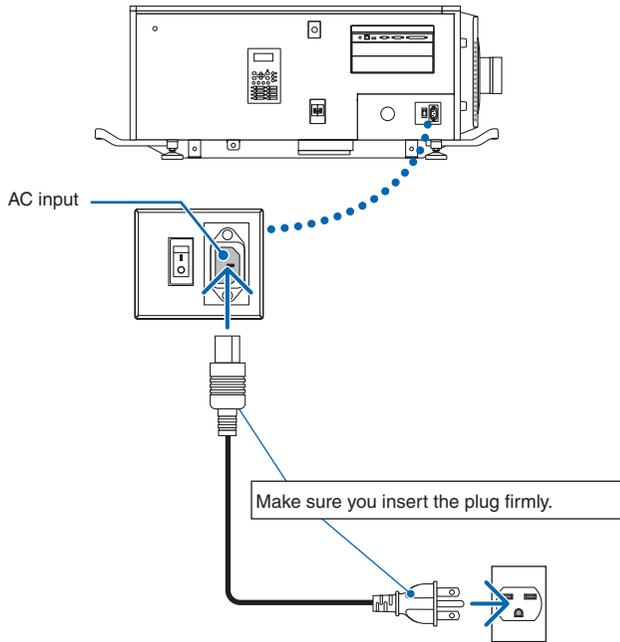
Connect the C2 connector.



3 Fix the plate inlet with the fixing screws (at four points).

4 Connect the AC power supply cable to the AC input of the projector.

Insert the plug firmly all the way into the AC input.



5 Connect the power plug to the electrical outlet.

This completes the connection of the AC power supply cable.

Setting Up Your Projector

Attaching the power cable stopper

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

CAUTION

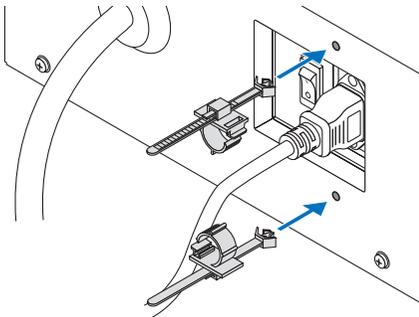
- To prevent the power cable from coming loose, make sure that all the prongs of the power cable are fully inserted into the AC IN terminal of the projector before using the power cable stopper to fix the power cable. A loose contact of the power cable may cause a fire or electric shock.
- Do not bundle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

NOTE

- Do not clamp the power cable with other cables. Doing so can generate noise, which can affect adversely the signal cable.
- Once the power cable stopper is attached, it cannot be removed.

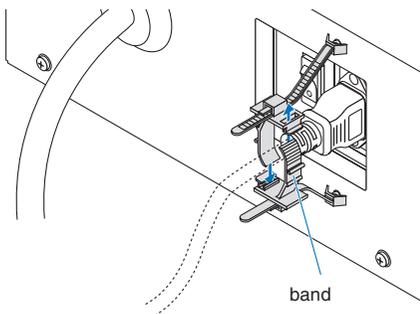
- 1** Set the clamber band to the power cable side, and insert the end of band of the power cable stopper into the slot next to the AC IN on the terminal panel.

Attach the power cable stopper to the other side in the same way.



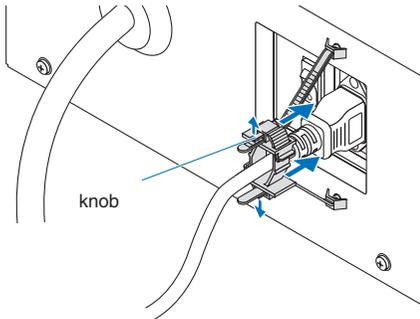
- 2** Pass each band through the slits in the power cable stopper.

Pass the bands through them so that the power cable will be sandwiched from left and right.



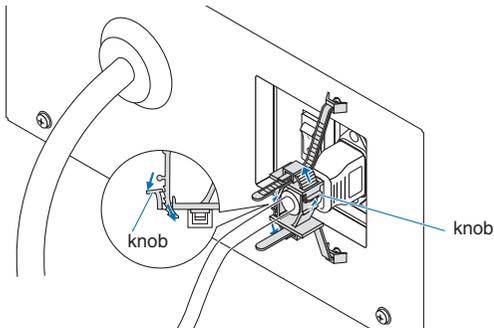
3 Slide the clamber to the hilt of the power cable.

Pulling the knob in the arrow direction allows you to adjust the clamber position. Once the clamber position is adjusted, release the knob to lock the clamber.



4 Pull the band to hold the power cable.

Pulling the knob in the arrow direction allows you to adjust the band position. Pull the top and bottom bands by keeping their balance. Once the band position is adjusted, release the knob to lock.

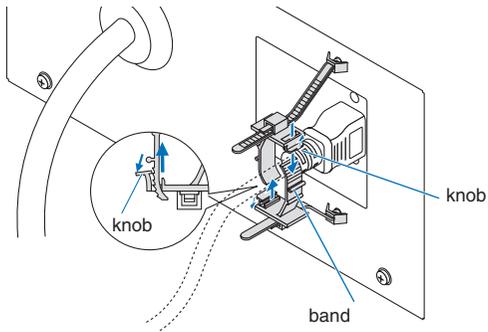


This completes the attachment of the power cable stopper.

Setting Up Your Projector

Removing the power cable from the power cable stopper

Pull the knob of the clammer and loosen the band.



CAUTION

The projector may become hot temporarily when the power is turned off or if the AC power is disconnected while the projector is projecting. Take care when handling the projector.

2-6. Anschließen des Netzkabels (Deutsch)

Schließen Sie das Netzkabel des Projektors an. Das Netzkabel ist nicht abziehbar sondern fest mit dem Gerät verbunden. Lassen Sie die Installation einer Netzstromversorgung unbedingt nur von professionellen Elektrikern durchführen.

WARNUNG

Lesen Sie diesen Abschnitt sorgfältig durch, bevor Sie die Kabel anschließen, und befolgen Sie beim Anschließen der Kabel die entsprechenden Anweisungen. Durch unsachgemäße Handhabung kann es infolge von Bränden oder elektrischen Schlägen zu tödlichen, schweren oder anderen Verletzungen kommen.

ACHTUNG

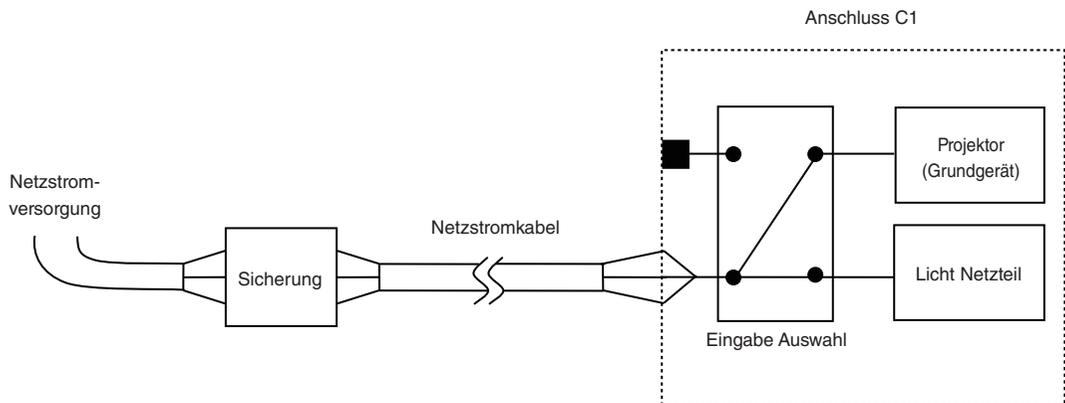
- Vergewissern Sie sich, dass das Gerät von der Stromversorgung getrennt ist, bevor Sie das Netzkabel anschließen.
- Befolgen Sie auf jeden Fall die Anweisungen in diesem Abschnitt.
- Beauftragen Sie einen Fachmann mit der Installation die Stromzufuhr von der Stromversorgungsanlage des Gebäudes zum Aufstellort des Projektors.
- Erden Sie das Gerät, um die Sicherheit zu gewährleisten. Um elektrische Schläge zu vermeiden beauftragen Sie einen Fachmann mit der Erdung und den damit verbundenen Arbeiten. Stellen Sie sicher, dass das Gerät geerdet ist, bevor Sie Strom zuführen.

2-6-1. Technische Daten zum Netzanschluss

Die Netzkabel können auf zweierlei Weise angeschlossen werden: zum einen über Anschluss C1 und zum anderen über Anschluss C2.

• Anschluss C1

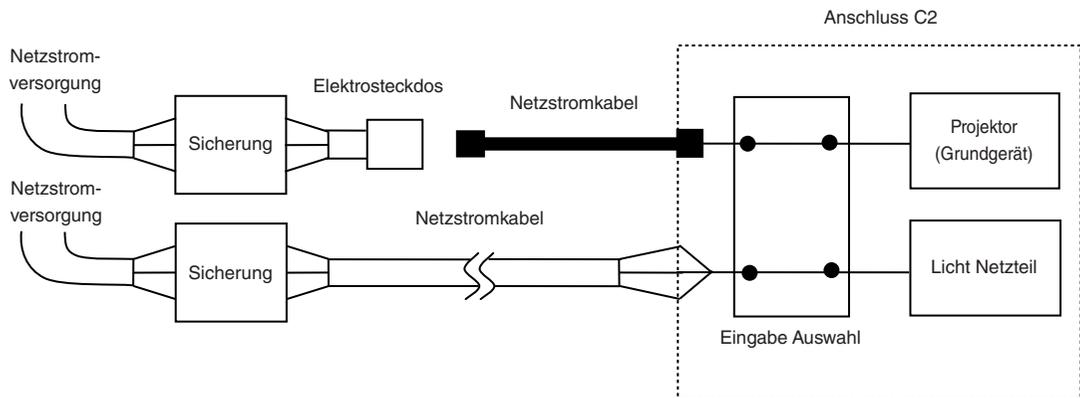
Die Stromversorgung zu den Netzteilen des Projektors und der Lichtquelle wird über ein einzelnes Kabel zugeführt.



Setting Up Your Projector

• Anschluss C2

Die Stromversorgung zu den Netzteilen des Projektors und der Lichtquelle wird über getrennte Kabel zugeführt.



Wechselstromversorgung

Betreiben Sie den Projektor nur mit den unten angegebenen Netzspannungen.

Bei Verwendung von Anschluss C1

- 200 – 240 V AC, einphasig, 50/60 Hz

Bei Verwendung von Anschluss C2

- 100 – 240 V AC, einphasig, 50/60 Hz (Stromversorgung des Projektors)
- 200 – 240 V AC, einphasig, 50/60 Hz (Stromversorgung der Lichtquelle)

Sicherungen

When connecting the AC power supply from the power supply equipment of the building to the projector, be sure to connect it through a breaker. The capacity of the breaker must be as indicated below.

Bei Verwendung von Anschluss C1

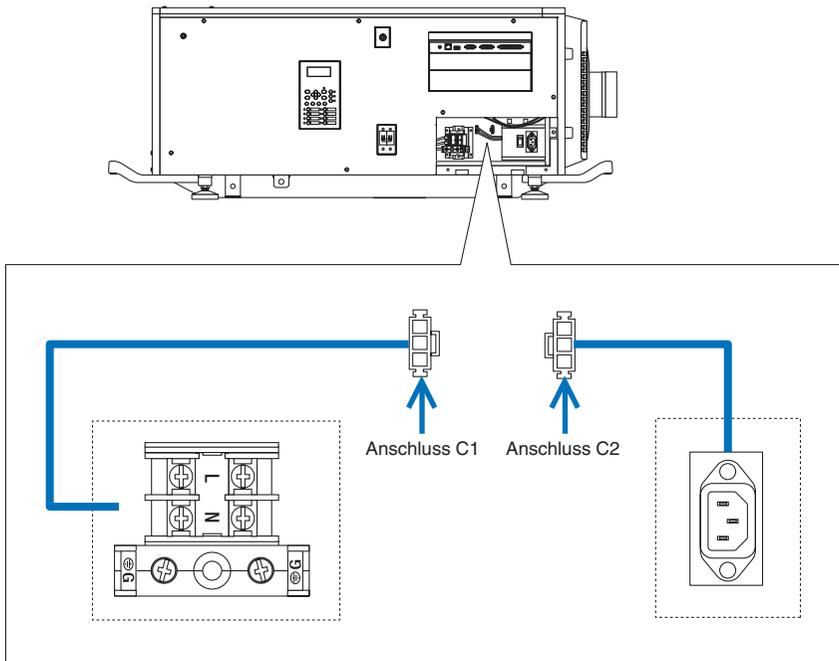
- Stromversorgung des Projektors + Stromversorgung der Lichtquelle
200V-240 V AC: Eingangsstrom 40A
Einschaltstrom 150A oder höher @10msec

Bei Verwendung von Anschluss C2

- Stromversorgung des Projektors
100V-240 V AC: Eingangsstrom 10A
Einschaltstrom 60A oder höher @10msec
- Stromversorgung der Lichtquelle
200V-240 V AC: Eingangsstrom 40A
Einschaltstrom 150A oder höher @10msec

Eingabe Auswahl

Die Netzanschluss Methode wird durch die Schaltung der Eingabe Auswahl festgelegt. Die Konfigurationsmöglichkeiten sind im Folgenden aufgeführt.

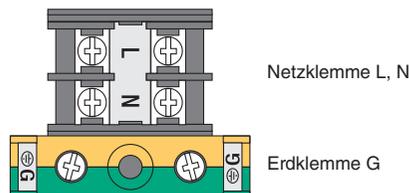


Netzkabel

- Verwenden Sie als Netzkabel ein Kabel mit einer Kabelader aus Kupfer und einem Leiterquerschnitt, der den Vorgaben des jeweiligen Landes entspricht (siehe folgende Abbildung).
- Verwenden Sie eine runde lötfreie Anschlussklemme mit dem UL Listing-Prüfzeichen für den an der Haupteinheit angeschlossenen Kabelabschnitt. Verwenden Sie darüber hinaus bei der Klemmung dieser Anschlussklemme ein Werkzeug mit dem UL Listing-Prüfzeichen.

Kompatible Kabel und lötfreie Anschlussklemmen

Die technischen Daten für die Anschlussklemmen zum Befestigen der Netzkabel sind im Folgenden aufgeführt.



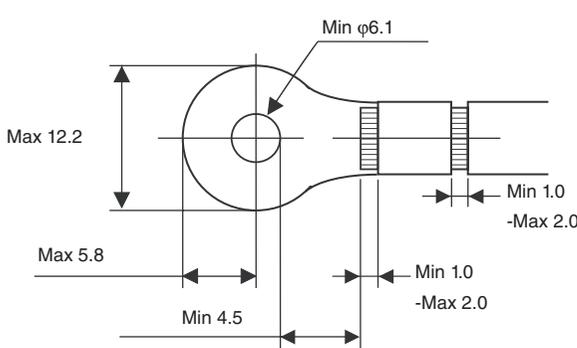
Die Größe der zu verwendenden lötfreien Anschlussklemme und das Anzugsmoment der Schrauben hängen von der Art des Klemmenblocks ab. Verwenden Sie das Kabel und die lötfreie Anschlussklemme, die jeweils für den entsprechenden Klemmenblock geeignet sind (siehe folgende Tabelle). In dieser Tabelle sind die Modellnamen der empfohlenen lötfreien Anschlussklemmen angegeben. Verwenden Sie die angegebenen oder gleichwertige Bauteile. Wenn Sie die empfohlenen lötfreien Anschlussklemmen nicht verwenden können, stellen Sie sicher, dass Sie Anschlussklemmen verwenden, deren Abmessungen den Angaben in der folgenden Tabelle entsprechen.

Setting Up Your Projector

WARNUNG

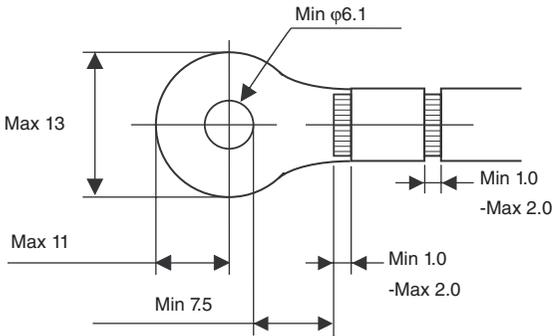
- Das Netzteil verarbeitet hohe elektrische Ströme. Verwenden Sie zur Gewährleistung der Sicherheit Kabeladern entsprechend den in der folgenden Tabelle aufgeführten Vorgaben, und befestigen Sie die Anschlussklemmen am angegebenen Klemmenblock.
- Verwenden Sie immer lötfreie Anschlussklemmen, deren Abmessungen den Angaben in der folgenden Abbildung entsprechen.
- Die Verwendung von Bauteilen mit abweichenden Abmessungen birgt die Gefahr eines Kurzschlusses des Netzteils aufgrund von Hitzeentwicklung und Schmelzen des Klemmenblocks, da der Klemmenblock für die Stromversorgung der Lichtquelle nicht ordnungsgemäß angebracht werden kann.

• Netzklemme L, N (Schwarz)

	JIS	IEC/EN	UL	CSA
Leiterquerschnitt kompatibler Kabel (bei Verwendung lötfreier Anschlussklemmen)	14mm ²	14mm ²	AWG6 oder AWG8	AWG6 oder AWG8
Abmessungen lötfreier Anschlussklemmen	M5 x 10			
Anzugsmoment	2,0 bis 2,5 N·m			
Abmessungen lötfreier Anschlussklemmen	 <p>Unit: mm</p>			
Empfohlene Modelle für lötfreie Anschlussklemmen (J.S.T.-Teile)	Modell R8-5		Bei AWG6: Modell R14-5 Bei AWG8: Modell R8-5	

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

• Erdungsklemme G (Grün/Gelb)

	JIS	IEC/EN	UL	CSA
Leiterquerschnitt kompatibler Kabel (bei Verwendung lötfreier Anschlussklemmen)	14mm ²	14mm ²	AWG6 bis AWG8	AWG6 oder AWG8
Abmessungen lötfreier Anschlussklemmen	M6 x 15			
Anzugsmoment	3,5 bis 5,0 N·m			
Abmessungen lötfreier Anschlussklemmen	 <p>Unit: mm</p>			
Empfohlene Modelle für lötfreie Anschlussklemmen (J.S.T.-Teile)	Modell 8-8NS		Bei AWG6: Modell R14-6 Bei AWG8: Modell 8-8NS	

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

Setting Up Your Projector

Anschließen des Kabels

Schließen Sie zum Befestigen des Netzkabels am Klemmenblock die Drähte entsprechend den folgenden Anweisungen an, sodass sich die einzelnen Drähte nicht direkt berühren können.

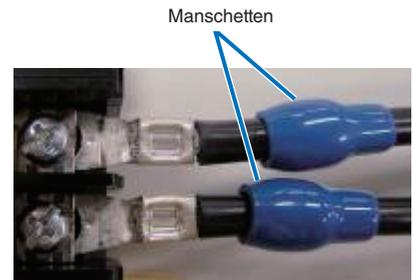
- 1** Ziehen Sie die Kabelmanschetten der Netzkabel von den Anschlussklemmen zurück, um sicherzustellen, dass diese nicht von der Schraube der Anschlussklemme eingeklemmt werden.

Ziehen Sie die Kabelmanschette von der Anschlussklemme zurück, bevor Sie die Schraube anziehen, damit die Kabelmanschette nicht eingeklemmt wird.

- 2** Schieben Sie die Manschetten nach dem Anziehen der Schraube wieder an ihre richtige Position.

Ziehen Sie die Befestigungsschraube mit dem angegebenen Drehmoment an.

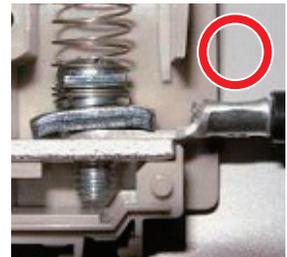
Verwenden Sie Kabelmanschetten und fixieren Sie das Isolationsmaterial, damit sich die Anschlussklemmen nicht berühren. Wenn die Kabel ohne Kabelmanschetten an der Netzklemme befestigt werden, besteht die Gefahr, dass sich die Anschlussklemmen wie in der Abbildung rechts berühren.



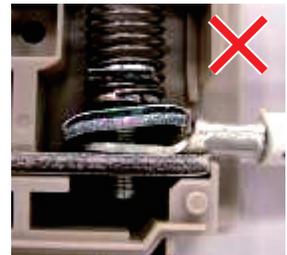
Achten Sie beim Anschließen der Kabel an die Masseanschlussklemme darauf, dass keine anderen Teile als der Quetschkabelschuh (z. B. Kabeladern und Verschraubungen) in der Klemmenbefestigung eingeklemmt werden.



Richtig befestigt.



Kabeldraht ist verkantet, da eine lötfreie Anschlussklemme mit Abmessungen verwendet wurde, die nicht den Vorgaben entsprechen.



2-6-2. Anschluss des Stromkabels (Anschluss C1)

Vorbereitung: Kreuzschraubenzieher (Nr. 2), Serviceschlüssel (Projektorzubehör)

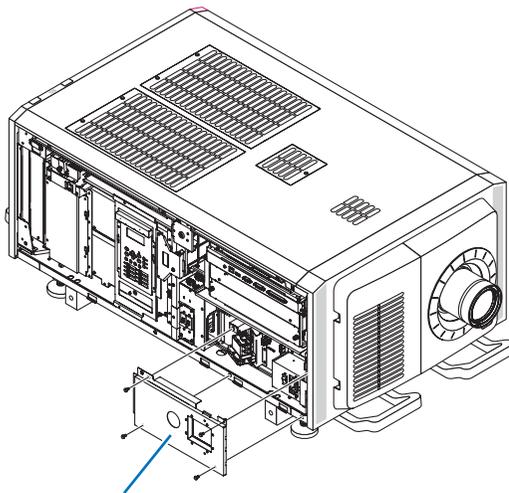
WARNUNG

- Stellen Sie sicher, dass die Stromversorgung unterbrochen ist, bevor Sie das Stromkabel anschließen. Es besteht Brand- und Stromschlaggefahr.
- Es entsteht viel Kriechstrom. Stellen Sie unbedingt sicher, die Stromversorgung nur anzuschließen, nachdem die Erdung angeschlossen ist.

1 Entfernen Sie die Platte Inlet.

Remove the plate inlet by loosening the fixing screws (at four points).

In Europe, replace it with the supplied $\varnothing 35$ plate inlet. Use the fixing screws that were used before the replacement of the plate inlet.

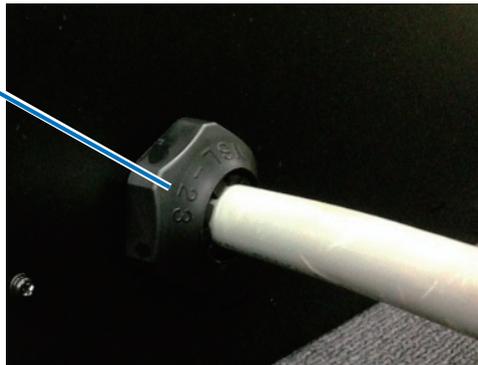


Platte Inlet

2 Vergewissern Sie sich, dass das Stromkabel durch die Kabelöffnung passieren kann, und ziehen Sie das Stromkabel durch die Kabelöffnung der Platte Inlet.

Wenn Sie die beigelegte 35mm-Platte Inlet benutzen, sichern Sie das Stromkabel mit einem handelsüblichen Kabelfixierer in der Kabelöffnung.

Kabelfixierer

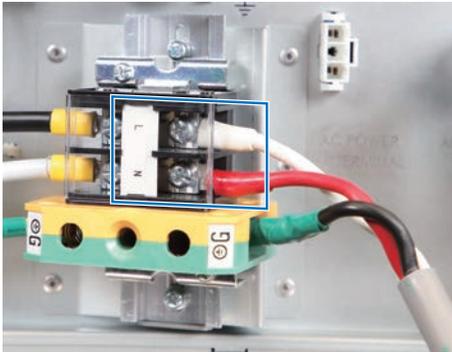


3 Entfernen Sie den Deckel der Strombuchse.

Ziehen Sie dazu den Deckel zu sich hin und heben Sie ihn nach oben.

4 Stecken Sie die L-Leitung und N-Leitung des Stromkabels in die Anschlussbuchse und schrauben Sie sie fest.

Stecken Sie den Crimpanschluss des Stromkabels in die Öffnung der Anschlussbuchse und schließen Sie die Schrauben mit einem Kreuzschraubenzieher.



⚠️ WARNUNG

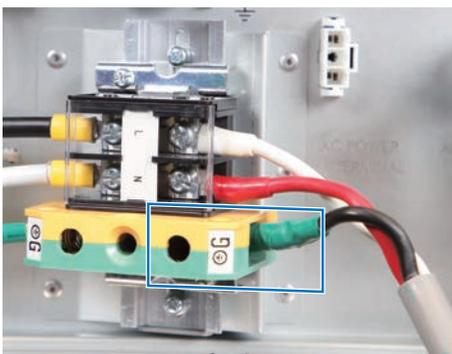
Verschrauben Sie das Stromkabel gut in der Anschlussbuchse. Vergewissern Sie sich nach dem Schließen der Schrauben, dass alle Stromkabel gut verschraubt sind. Wenn die Schrauben nicht richtig geschlossen sind, können Tod und schwere Verletzungen die Folge sein.

5 Befestigen Sie den Deckel der Strombuchse.

Gehen Sie dabei in umgekehrter Reihenfolge zum Entfernen vor.

6 Stecken Sie das Erdungskabel in die Anschlussbuchse und schrauben Sie es fest.

Stecken Sie den Crimpanschluss des Erdungskabels in die Öffnung der Anschlussbuchse, und schließen Sie die Schrauben mit einem Kreuzschraubenzieher.



⚠️ WARNUNG

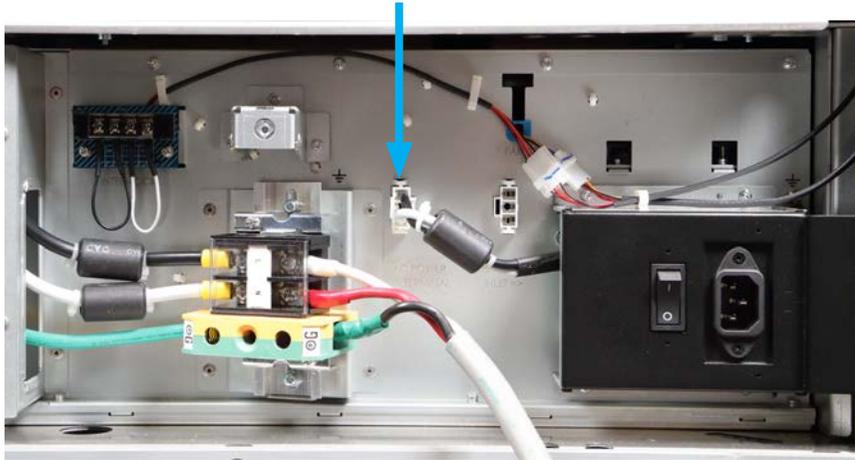
Verschrauben Sie das Erdungskabel gut in der Anschlussbuchse. Vergewissern Sie sich nach dem Schließen der Schrauben, dass das Erdungskabel gut verschraubt ist. Wenn die Schrauben nicht richtig geschlossen sind, können Tod und schwere Verletzungen die Folge sein.

Setting Up Your Projector

7 Configure the power supply for C1 connection.

For C1 connection, connect the left-side connector.

Connect the C1 connector.



8 Fix the plate inlet with the fixing screws (at four points).

EU-Region: Befestigen Sie die als Zubehör beigefügte 35mm-Platte Inlet.

2-6-3. Anschluss des Stromkabels (Anschluss C2)

Vorbereitung: Kreuzschraubenzieher (Nr. 2), Serviceschlüssel (Projektorzubehör)

WARNUNG

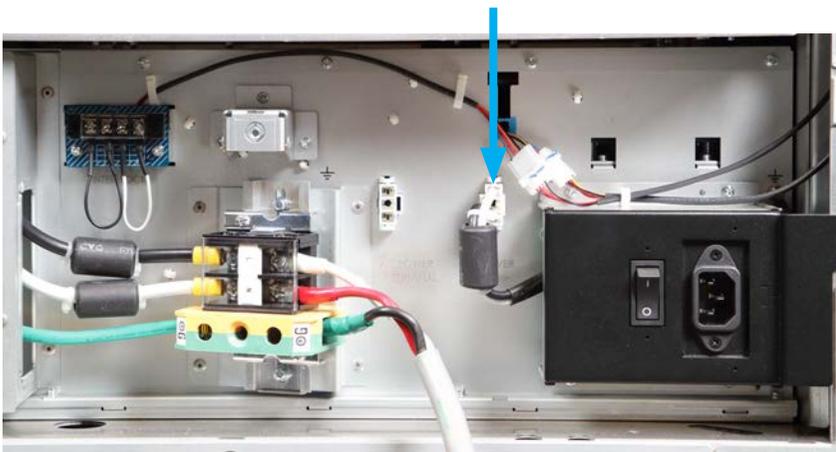
Stellen Sie sicher, dass die Stromversorgung unterbrochen ist, bevor Sie das Stromkabel anschließen. Es besteht Brand- und Stromschlaggefahr.

1 Führen Sie die Schritte **1** bis **7** unter „2-6-2. Anschluss des Stromkabels (Anschluss C1)“ (Seite 86) aus.

2 Configure the power supply for C2 connection.

For C2 connection, connect the right-side connector.

Connect the C2 connector.

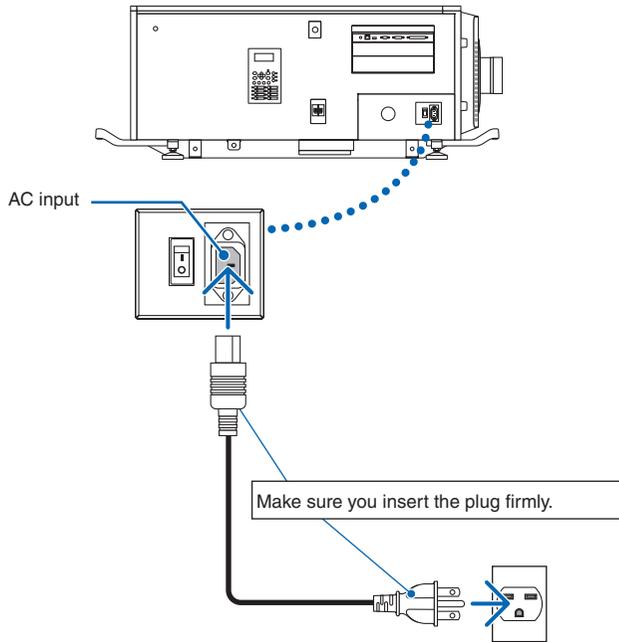


3 Fix the plate inlet with the fixing screws (at four points).

Setting Up Your Projector

4 Connect the AC power supply cable to the AC input of the projector.

Insert the plug firmly all the way into the AC input.



5 Connect the power plug to the electrical outlet.

Dadurch ist der Anschluss des Netzkabels abgeschlossen.

Anbringen des Netzkabelstoppers

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

CAUTION

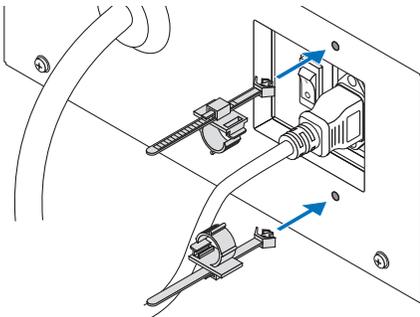
- To prevent the power cable from coming loose, make sure that all the prongs of the power cable are fully inserted into the AC IN terminal of the projector before using the power cable stopper to fix the power cable. A loose contact of the power cable may cause a fire or electric shock.
- Do not bundle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

NOTE

- Do not clamp the power cable with other cables. Doing so can generate noise, which can affect adversely the signal cable.
- Once the power cable stopper is attached, it cannot be removed.

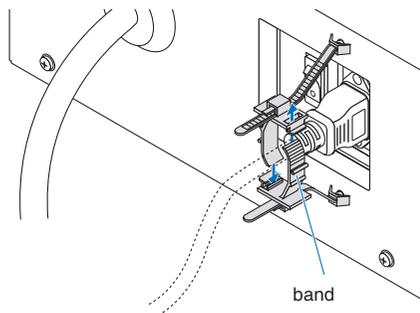
- 1** Set the clamber band to the power cable side, and insert the end of band of the power cable stopper into the slot next to the AC IN on the terminal panel.

Attach the power cable stopper to the other side in the same way.



- 2** Pass each band through the slits in the power cable stopper.

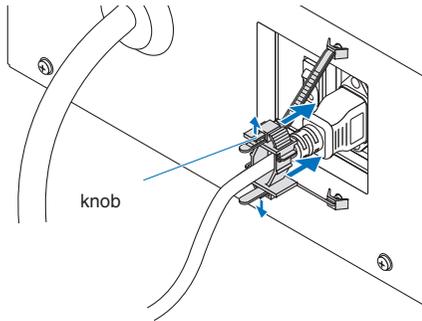
Pass the bands through them so that the power cable will be sandwiched from left and right.



Setting Up Your Projector

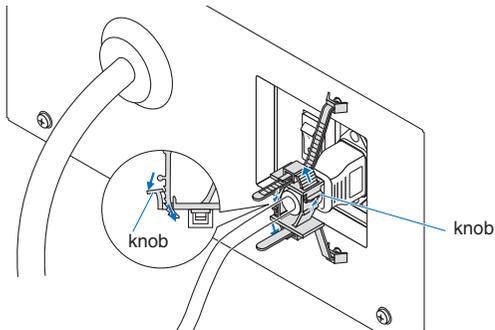
3 Slide the clamber to the hilt of the power cable.

Pulling the knob in the arrow direction allows you to adjust the clamber position. Once the clamber position is adjusted, release the knob to lock the clamber.



4 Pull the band to hold the power cable.

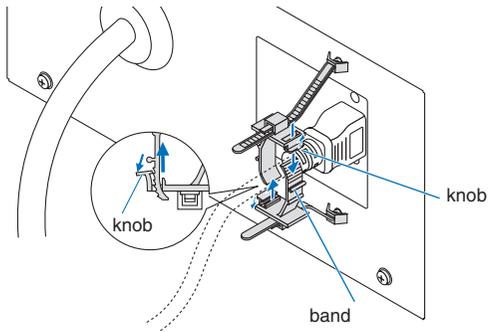
Pulling the knob in the arrow direction allows you to adjust the band position. Pull the top and bottom bands by keeping their balance. Once the band position is adjusted, release the knob to lock.



This completes the attachment of the power cable stopper.

Removing the power cable from the power cable stopper

Pull the knob of the clammer and loosen the band.



CAUTION

The projector may become hot temporarily when the power is turned off or if the AC power is disconnected while the projector is projecting. Take care when handling the projector.

2-7. Mounting the Lens Unit

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

MODEL	Magnifying
NC-60LS12Z	1.20 - 1.81
NC-60LS14Z	1.40 - 2.05
NC-60LS16Z	1.59 - 2.53
NC-60LS19Z	1.90 - 3.25
NC-60LS24Z	2.40 - 3.90
NC-60LS39Z	3.90 - 6.52

NOTE

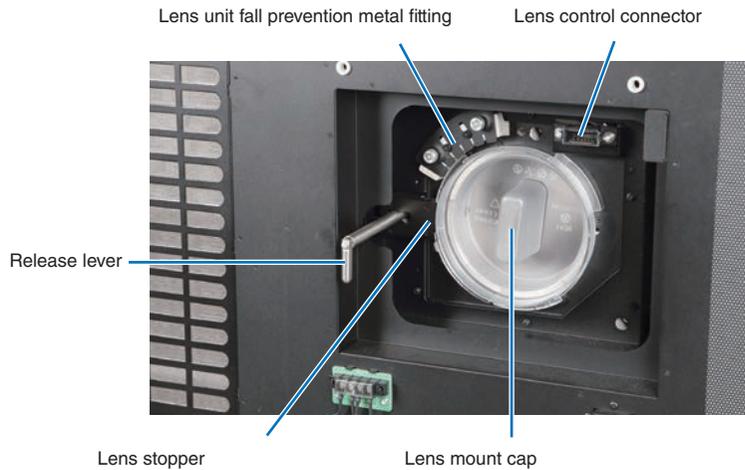
- The other NEC optional lenses are not available on this model.
- The projector and lenses are made of precision parts. Do not subject them to shock or excessive forces.
- Remove the lens unit when moving the projector. If not, the lens could be subject to shock while the projector is being moved, damaging the lens and the lens shift mechanism.
- When removing or installing the lens unit, return the position of the lens to the center before turning off the power to the projector. If the position of the lens is not returned to center, the front cover will interfere with the lens and the cover cannot be removed or installed.
- When installing or removing the lens unit, first confirm that the main power switch to the projector is off, and then disconnect the AC power supply. After the AC power supply has been disconnected, allow the projector to sufficiently cool before starting this work.
- 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 lens mount cap on the projector to prevent dust or dirt from getting inside.

NOTE

- If you remove the lens 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" (When NP-90MS01 mounted)
- Encrypted contents cannot be displayed while an error message is being displayed. Refer to "3-2. Recovering from Tamper Errors" (page 103) for details on how to clear the error message.

This chapter illustrates the factory default settings.

2-7-1. Part names of Lens Mount

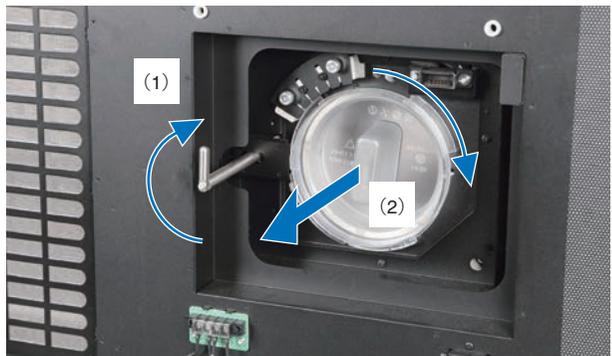


1 Remove the lens cover.

For removing the lens cover, refer to “1-5-1. Removing and Mounting the Lens Cover” on page 51.

2 Remove the lens mount cap.

- (1) Rotate the release lever clockwise in the upward direction.
The lens stopper will be released.
- (2) Rotate the lens mount cap counterclockwise and remove it.
Keep the lens mount cap in a safe place for later use.



3 Remove the lens cap from the rear end of the lens unit.

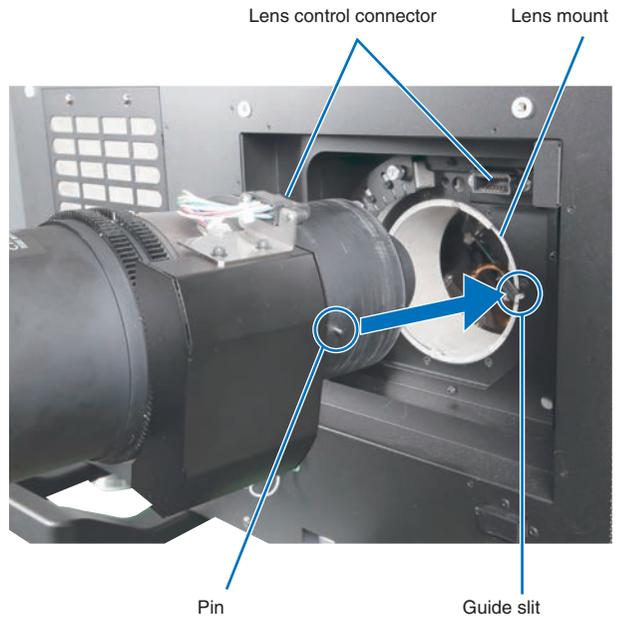
Keep the lens cap in a safe place for later use.



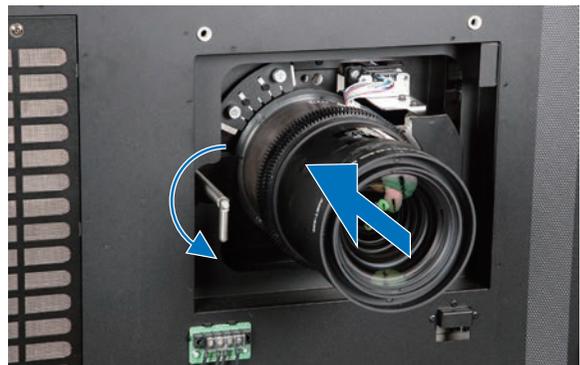
Setting Up Your Projector

4 Mount the lens unit to the lens mount of the projector.

- (1) Align the guide slit of the lens mount with the position of the pin on the lens unit.



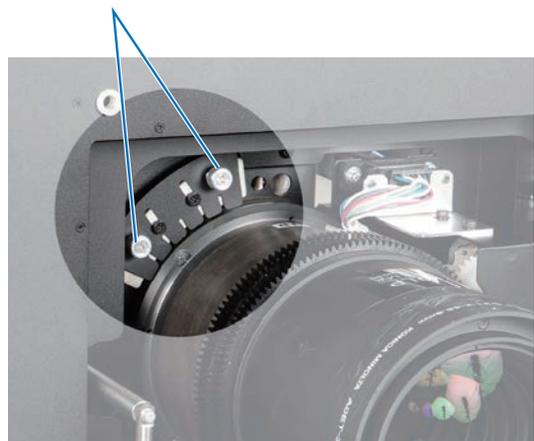
- (2) Slowly insert the lens unit into the lens mount. While doing this, try to connect the lens unit's connector with the lens mount's lens control connector.
- (3) Rotate the release lever counterclockwise in the downward direction to lock the lens unit.



5 Use the fall prevention metal fitting to fix the lens unit.

- (1) Tighten the screws (at two points).

Loosen these screws.



- (2) Slide the fall prevention metal fitting downward.
- (3) Tighten the two screws that were loosened.



6 Attach the lens cover.

For details on attaching the lens cover, refer to “1-4-1. Removing and Mounting the Lens Cover”. Make sure the release lever is set in the downward direction. If it is set in the upward direction, the lens cover can not be attached.

This completes the installation of the lens unit. Removal is done in reverse order of installation.

2-8. Mounting the Option Board

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

Name		Slot
IMB	NP-90MS01	*
	NP-90MS02	

Preparation:

Phillips-head screwdriver (No.2), service key (attached goods).

- **Step 1**
Remove Side Panel from the Projector (See page 53)
- **Step 2**
Mount the Option Board to the Projector (See this page)
- **Step 3**
Mount the Side Panel to the Projector (See page 53)
- **Step 4**
Clear the Tamper Error (See page 103)
Setting up the Projector (See page 100)

NOTE

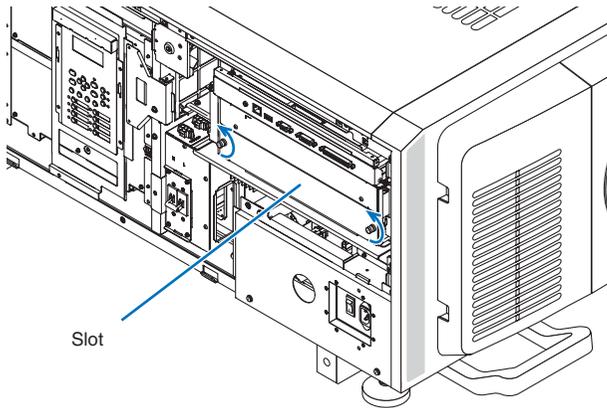
- If you remove the side panel, a tamper event is detected by the tamper detection circuit. When you start the projector after attaching the cover, the following error message is displayed on the LCD screen of the projector main unit.
 - "IMB: Service Door Tamper"
- If you remove the blocking panel or option board from a slot, a tamper event is detected by the tamper detection circuit. When you start the projector after attaching the option board, 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 103) for details on how to clear the error message.

1 Remove the side panel.

Side panel of the projector should be removed to mount the option board. For the procedure of removing the side panel, refer to “1-5-2. Removing and Mounting the Side Panel” (page 53).

2 Remove the blocking panel from slot.

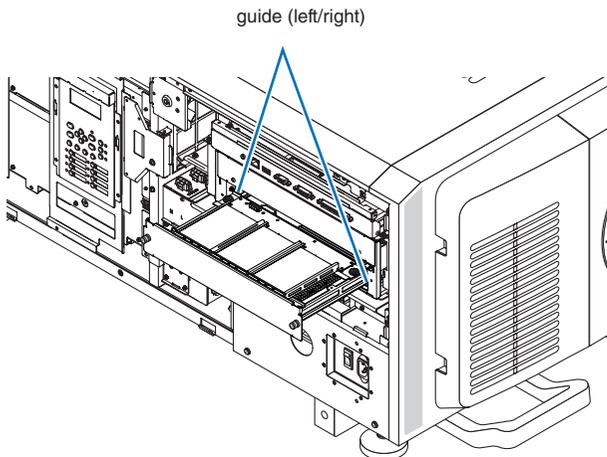
1. Loosen the knurled screws (2 places) of slot until their rotations become idle (①). Screws cannot be removed.
2. Remove the blocking panel (②).



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. While pushing up and holding the board, tighten up the knurled screws (2 places) until it fix.



4 Mount the side panel to the projector.

This completes the mounting of option board. Next, clear any tamper events. For details on how to clear tamper events, refer to “3-2. Recovering from Tamper Errors” (page 103). A setting to use option board is needed, after recovering from tamper error. For the procedure, refer to “2-8-1. Make the option board usable” (page 100).

Setting Up Your Projector

2-8-1. 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) is mounted to slot. For the operation of the projector, refer to projector's "User's Manual".

TIP DCC can be used to set up.

For the procedure by using DCC, refer to "Digital Cinema Communicator v2 Installation Manual".

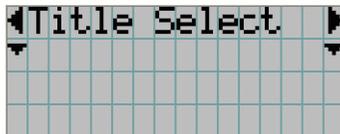
1 Set the projector in standby mode.

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 121) for the procedure.

3 Press the MENU button on the control panel.

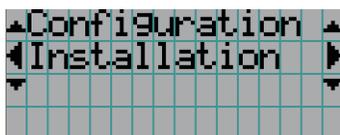
"Title Select" is displayed in the menu. From this procedure on, control panel of the projector will be used.



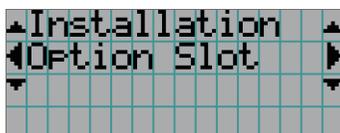
4 Press the LEFT/RIGHT button to display "Configuration" and press the DOWN button.



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.

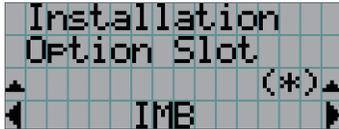


7 Press the LEFT/RIGHT button to display “IMB”.



8 Press the ENTER button.

(*) is displayed to the selected item.



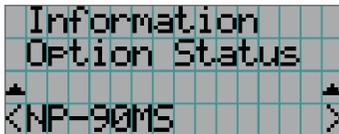
9 Press the EXIT button several times.

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] (page [138](#))



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 [106](#))
- **Step2**
Setting The Date and Time in the Projector (See page [107](#))
Setting the date of installation of the projector (See page [107](#))
- **Step3**
Setting the Projector Projection Method (See page [108](#))
- **Step4**
Adjusting the Lens (See page [109](#))
Display the test pattern to adjust the screen size, screen angle and focus.
- **Step5**
Connecting with the Image Input Port (See page [111](#))
- **Step6**
Connecting the Various Control Terminal (See page [112](#))

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 v2 Installation Manual” for the procedure.

3-2. Recovering from Tamper Errors

The projector is fitted with a tamper detection circuit. If the cover or a slot device is removed, a tamper event is detected by the tamper detection circuit. When the projector is started after a tamper event has been detected, an error message is displayed on the LCD screen of the projector. The actions that are detected as tamper events and the error messages that are displayed on the LCD screen are as follows.

Action	Error code	Error message
Cover removed <ul style="list-style-type: none"> • Lens cover • Side panel (left/right) 	586	IMB: Service Door Tamper
Slot device or blocking panel removed <ul style="list-style-type: none"> • Blocking panel • Media block 	582 584	IMB: Physical Marriage Tamper IMB: Marriage NOT Active

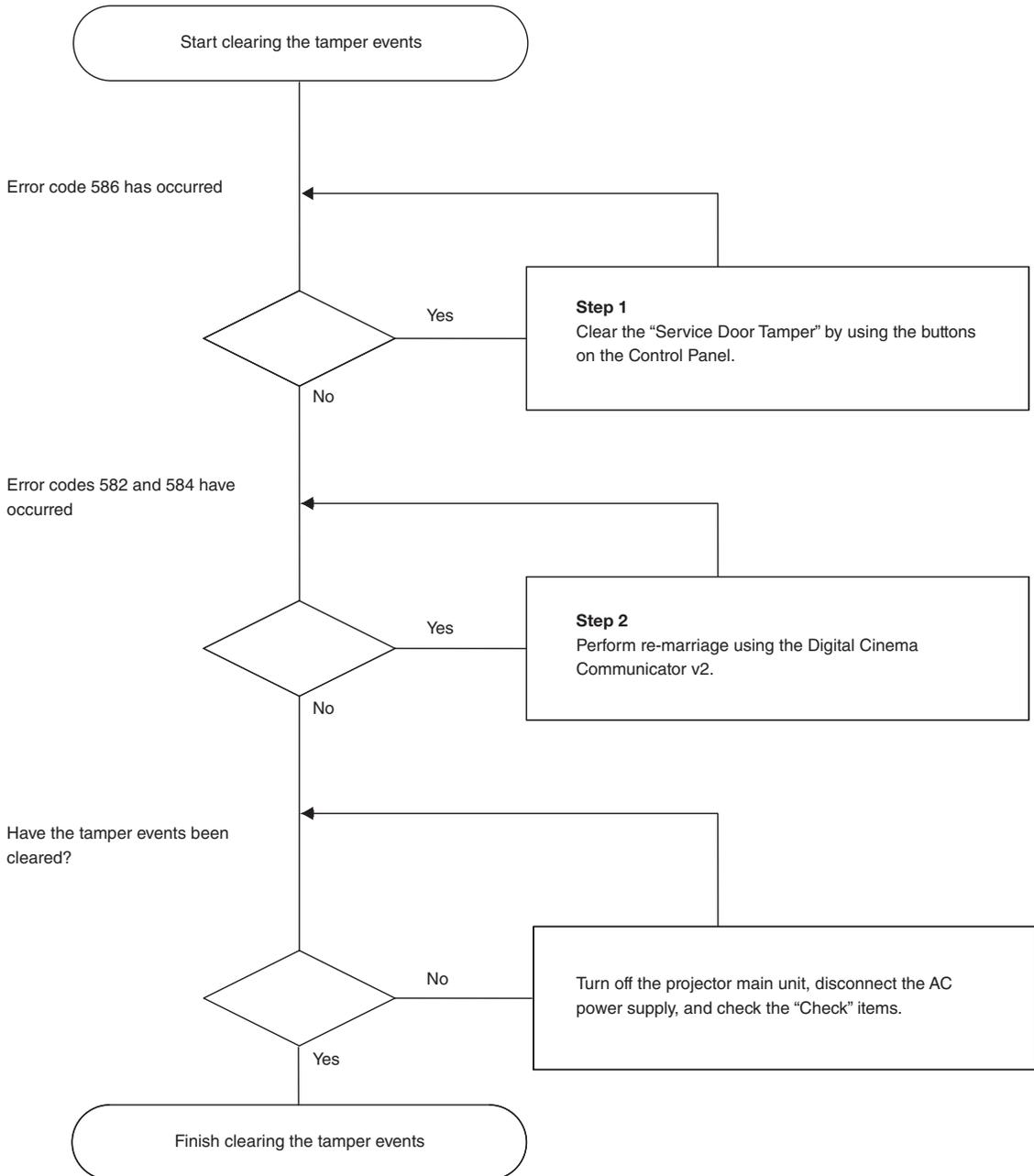
TIP Error codes can be checked when using the DCC.

While the above error messages are being displayed, encrypted contents cannot be displayed. Refer to “3-2-1. Clearing tamper events” (page 104) for details on how to clear the error message.

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 121) 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”.

If you are logged in to the projector with serviceman privileges, you can display the password entry screen from the Service Personnel Menu (page 121).

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 v2”

DCC is used to perform re-marriage. Refer to “Digital Cinema Communicator v2 Installation Manual” for details.

- Check

“Attach the lens cover, side panel (left/right)”

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 red 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.
- Supply AC power to the projector.

1 Insert the administrator key into the administrator switch horizontally and turn it clockwise to the vertical direction.

The administrator key can no longer be removed. The projector will not function unless the administrator key is inserted.

2 Turn on the light power switch then the projector power switch on the side of the projector.

A buzzer sounds and the software begins to start. While the software is starting, the POWER indicator is changed from lighting in blue to blinking in blue. After software startup is complete, the projector goes to a standby state. While the projector is in a standby state, the POWER, STATUS, SYSTEM status indicators light in orange. 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.

3 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.

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

Projector turns on.

The POWER indicator lights up green after the completion of activation.

5 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 indicator lights green). When the douser is open, the DOUSER 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.

When IMB is used, the date and time of IMB are automatically used as the date and time of the projector (UTC).

When IMB is not used, the use of DCC allows you to easily set the date and time of the projector by reading the date and time of the computer where DCC is installed.

To set the local time after selecting the Coordinated Universal Time as the date and time of the projector, use [Date/Time] (Page 130), or use DCC. Refer to “Digital Cinema Communicator v2 Installation Manual” for details.

Setting the date of installation of the projector

Set the date of installation of the projector (year/month/day). To set the date of installation, use DCC. Refer to “Digital Cinema Communicator v2 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 LEFT/RIGHT button to display “Configuration” and press the DOWN button.
- 2** Press the LEFT/RIGHT button to display “Installation” and press the DOWN button.
- 3** Press the LEFT/RIGHT button to display “Orientation” and press the DOWN button.
- 4** 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.

- 5** Press the ENTER button.

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

- 6** 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

Display the test pattern and adjust the screen size, focus and screen position with the lens unit.

3-6-1. 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.

3-6-2. 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 the LEFT/RIGHT buttons.
- [3] Press the DOWN button.
- [4] Select "Lens Control" using the LEFT/RIGHT buttons.
- [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 size so that the screen height and the image height are the same.

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

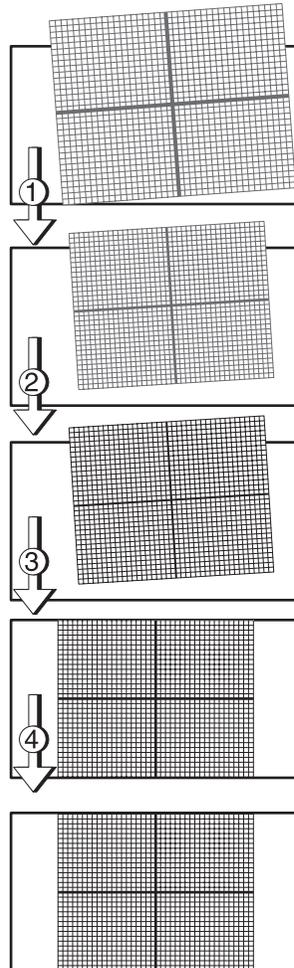
3 Adjust the surface on which the projector is set up and the level adjuster of the projector to adjust the setup position, height, and tilt (front-back and left right) of the projector so that the projected image is level at the screen center.

4 Use the LEFT/RIGHT buttons again to adjust the screen size 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.

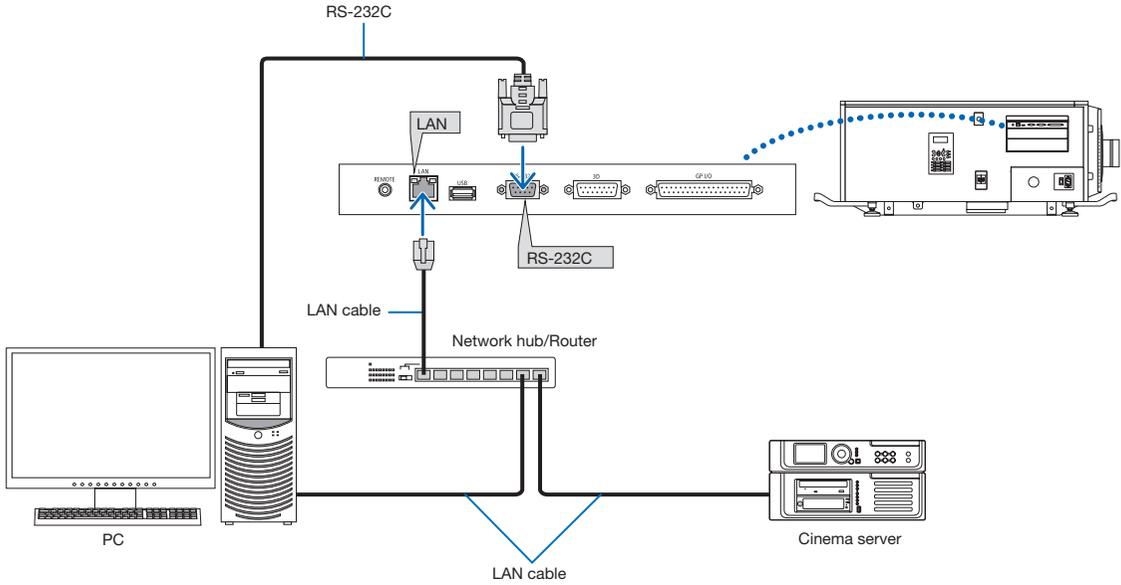
Option Board	Image Input Port
NP-90MS01/NP-90MS02 (Note)	HDMI input port x1 SDI input port x2

(Note) The NP-90MS01/NP-90MS02 video input ports do not support CineLink 2. The NP-90MS01/NP-90MS02 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 (10/100Base-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 v2 Installation Manual" for the procedure.

3-9. CG adjustments

Adjust for physical color shifting of the R, G and B colors.

WARNING

- No one other than a specialized service person should perform this adjustment. Doing so may result in electric shock or short circuits.
- Do not drop any screws, etc. Doing so may cause short circuits.
- CG adjustment is performed with the power turned on. Do not short-circuit the circuit boards with the tools.
- Before removing or mounting external panels and circuit boards, turn off the main unit's power, wait for the cooling fans to come to a complete stop, then shut off the supply of AC power to the projector and the light source with a circuit breaker, etc. After this, check that the main unit has cooled down sufficiently before performing the adjustment.

WARNING

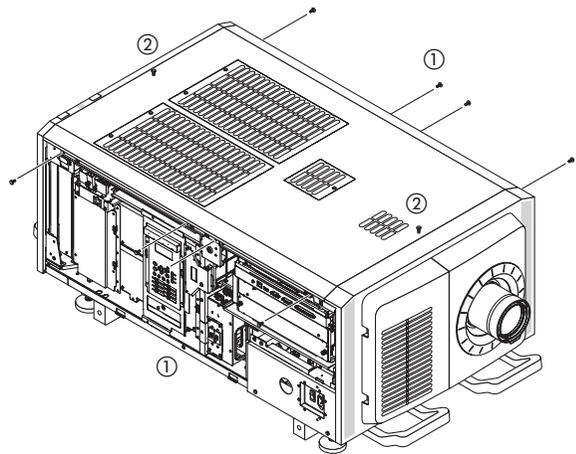
- Do not look at the lens during projection. Doing so may damage your eyes.

Required tools: Ballpoint drivers: 3 (length 80 to 90 mm, not including the grip), 2 mm across)
Phillips screwdriver No. 2

1 Preparations for adjustment

1-1. Remove the top panel.

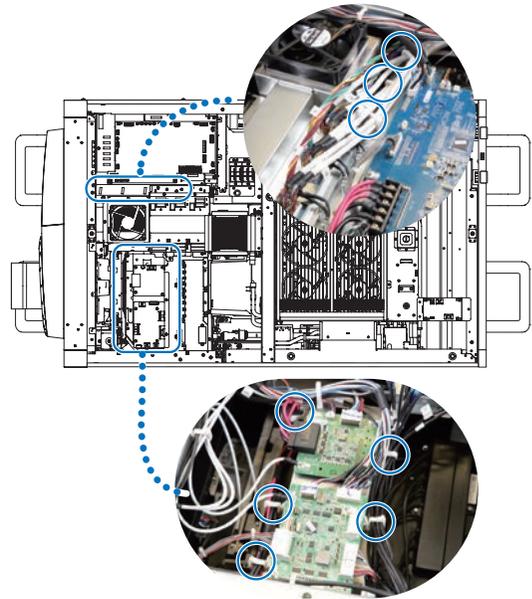
- (1) Turn off all power to the projector and shut off the AC power supply.
- (2) Remove the left and right side panels.
(→ page 53)
- (3) Remove the top panel.
 - ① Remove the four M4 screws (silver) on the right and left sides respectively.
 - ② Turn the two M4 screws (black) at the front and back centers of the top panel until they turn freely (they do not come off), then lift the panel and remove it.
- (3) Reinstall the left and right side panels.
(→ page 53)
 - For safety, adjust with the left and right side panels mounted.



Projector Adjustment and Connecting

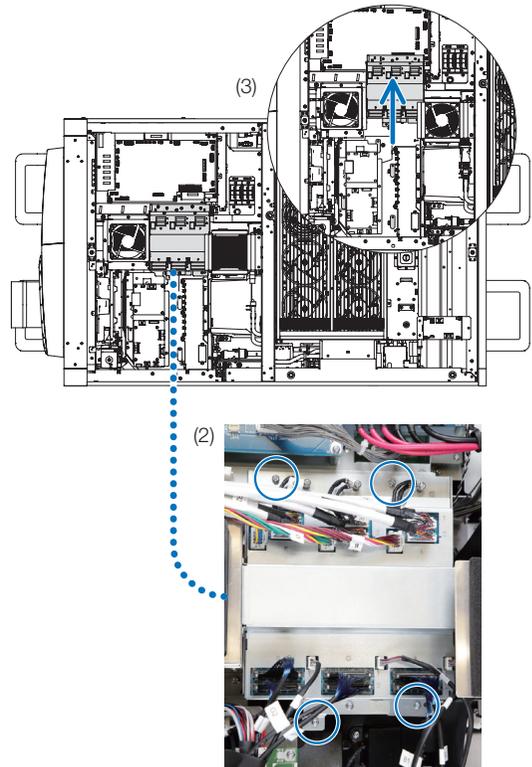
1-2. Remove the FMT board.

- (1) Remove the three clampers shown in the upper figure and the five clampers shown in the lower figure.



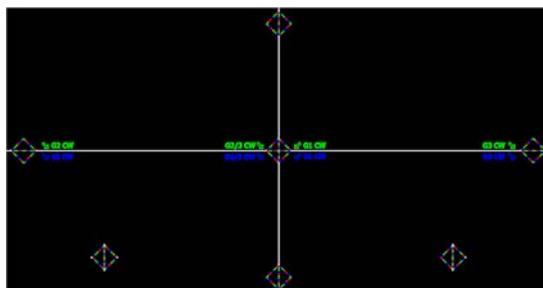
- (2) Remove the four M3 screws from the FMT board.
- (3) If the FMT board is lifted, it will hit the fan flange, so slide it first then remove it. Place the removed board on top of the fan.

NOTE - Do not disconnect the connector.
Do not place the board on the circuit board.



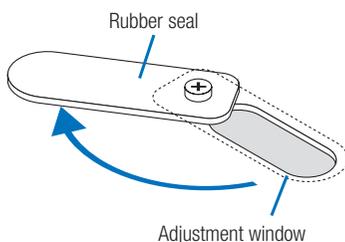
1-3. Project a test pattern.

- (1) Turn on the power of the projector and the light source and warm up for about 30 minutes. Refer to page 106 for instructions on turning on the power.
- (2) Operate the adjustment menu to set the Native Color mode.
- (3) Display the “MCG CG-TEST(2K)” test pattern. Refer to “4-2-2. Test Pattern” on page 122.

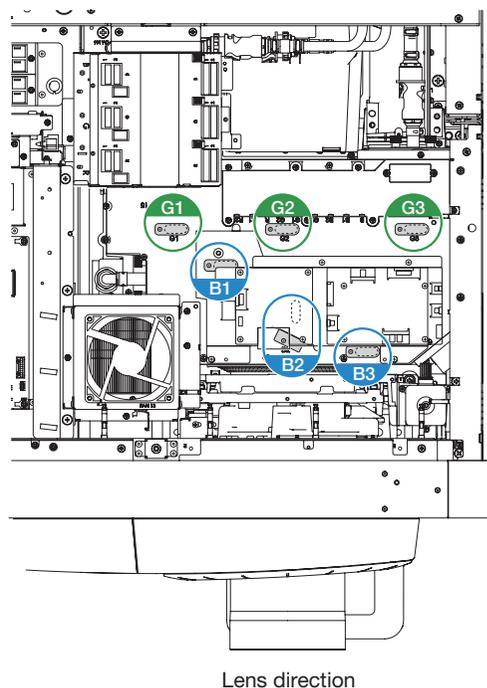


2 Make the CG adjustments.

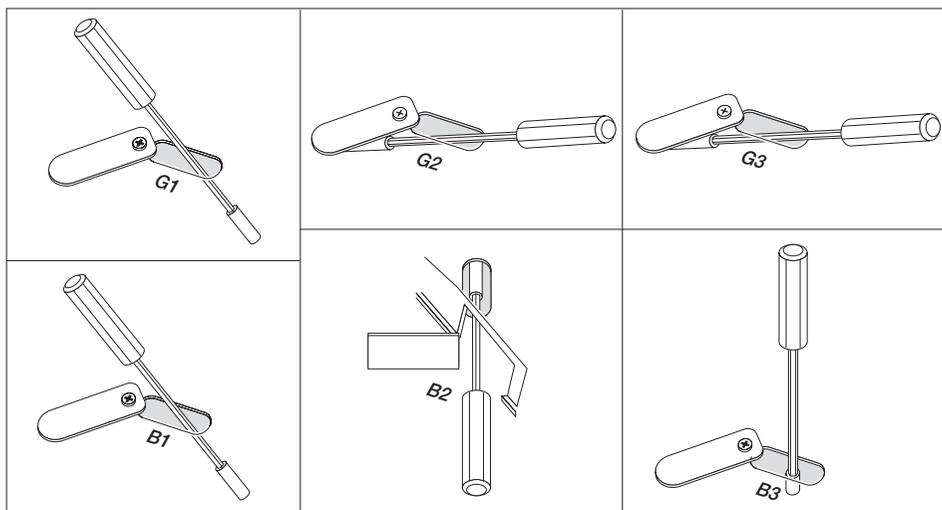
- (1) Turn the G1/G2/G3 and B1/B2/B3 rubber seals respectively to reveal the adjustment windows.
* B2 is L-shaped. The adjustment window is underneath.



- (2) Use the ballpoint drivers to adjust by turning the adjustment screws clockwise or counterclockwise.
 - For example, to adjust Green, it is easier to adjust from the right side by inserting the three ballpoint drivers into the G1, G2 and G3 adjustment screws beforehand.
 - The positions and directions of the adjustment screws differ, as shown in the figures below.

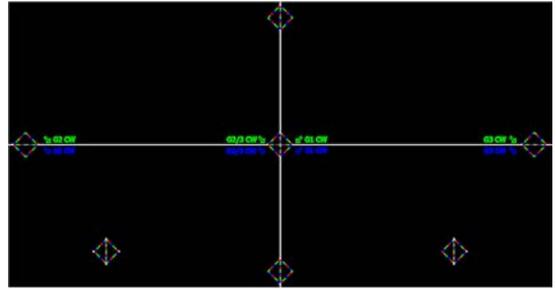


Locations and directions of the G1/G2/G3 and B1/B2/B3 adjustment screws



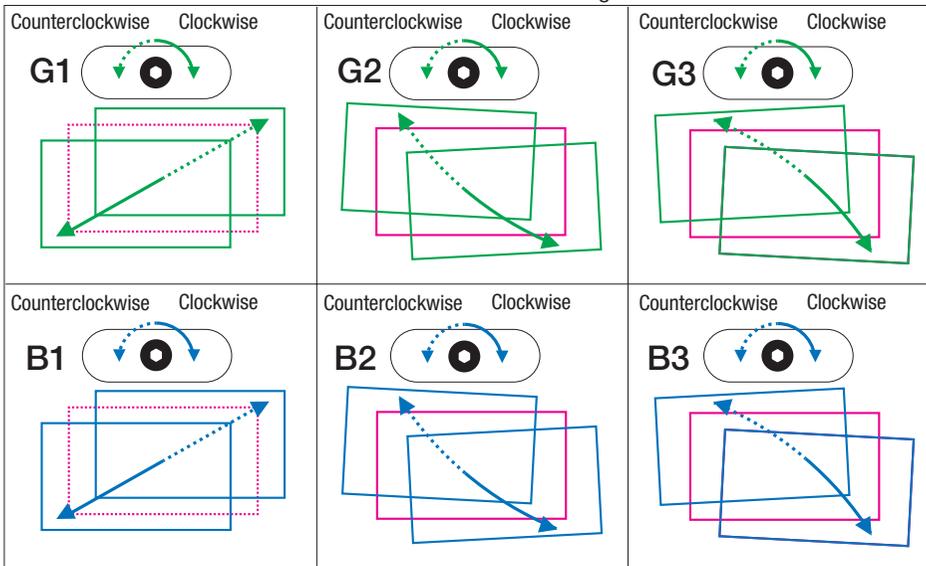
Projector Adjustment and Connecting

- (3) Turn the adjustment screw of the shifted color to match it to the red pattern.
The pattern moves in an arc for the G2/G3 and B2/B3 adjustment screws.
The pattern moves in a straight line for the G1 and B1 adjustment screws.



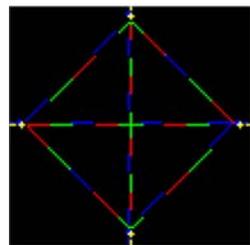
Movement of the adjustment screws and the green and blue screens

The rotation of the dotted and solid lines when the adjustment screws are turned corresponds to the direction of movement of the dotted and solid lines in the figures.

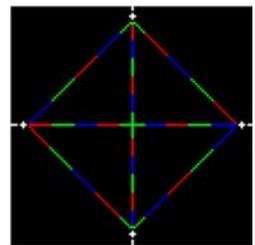


Adjustment example: In the figure to the right, the blue pattern is shifted to the upper left. Turn the B2 or B3 adjustment screw clockwise to move the blue lines to the lower right and line them up with the red lines.

* The inclination is the opposite when B2 and B3 are adjusted.



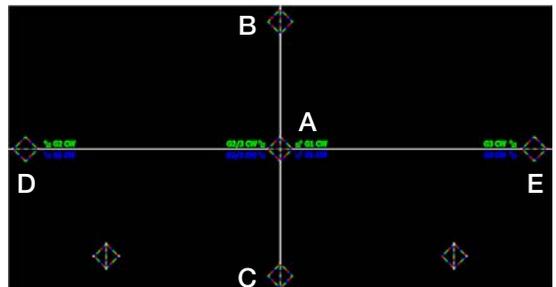
Blue color shift



Adjustment completed

Check the pixel gap.

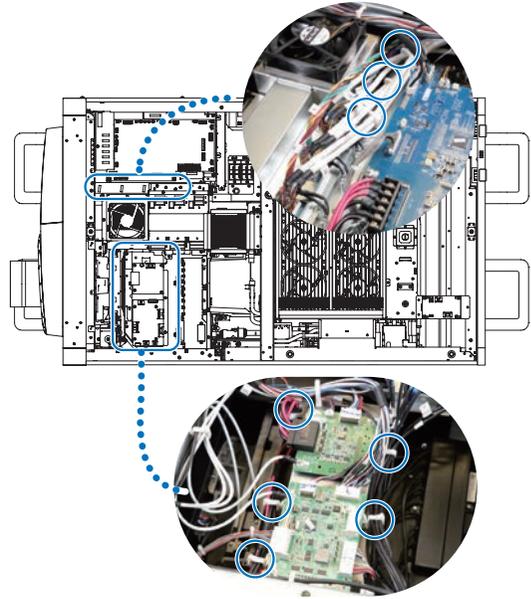
Check the pixel gap at A to E.



3 Mount the top panel.

- (1) Turn off all power to the projector and shut off the AC power supply.
- (2) Close the rubber seals that were opened.
- (3) Put the FMT board back in its original position and attach the four M3 screws.
- (4) Fix the FMT board's cables to their original positions with the claspers.
- (5) Remove the left and right side panels.
(→ page 53)
- (6) After mounting the top panel, mount the left and right side panels.
Refer to “2. Installation of the light module” step 8 (3) and (4) (→ page 34) and step 9 (→ page 35).

This completes the CG adjustments.



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.

Main menu	Submenu		Description	Reference page
Title Select	"Title Memory Name"		Selects the title of the signal to be projected.	122
	TEST Pattern		Selects the test pattern to be projected.	122
Configuration	Light Setup	Adjust	Adjusts light source brightness.	123
	Lens Control	Lens Position	Adjusts the position of the projected screen.	123
		Focus Zoom	Adjusts the size and focus of the projected screen.	123
	Reset	(Factory/Default)	Returns the settings to their default values. Selects between preset buttons and titles only, LAN settings only and all settings.	124
		Filter Cleaning	Initializes the air filter usage time (for confirming the filter cleaning time).	124
		(Fan Usage)	Initializes the usage time of the fan.	125
		(Light Usage)	Initializes the usage time of the light source.	125
		(Phosphor)	Initializes the usage time of the Phosphor.	125
		(Diffuser)	Initializes the usage time of the Diffuser.	125
		(Pump)	Resets the pump usage time.	125
		(Douser Count)	Resets the number of times the douser has been used.	125
	(Setup)	Douser Setup	Sets the douser open/close state.	126
		Panel Key Lock	Locks the buttons on the projector's control panel so that they cannot be operated.	126
		Auto Key Lock	Enables or disables Auto Key Lock.	127
		3D Reference	Sets the input terminal for 3D video system.	127
		Off Timer	Sets the time until the projector power is turned off automatically.	127
		Message	Sets the time to display the message indicating the air filter cleaning cycle.	127
		Silent Mode	Sets whether the rear (SYSTEM/LIGHT) status indicator, buzzer, indicators on the projector's control panel, illumination, and LCD screen backlight are enabled or disabled.	128
		Installation (Note)	(Option Slot)	Configures the device installed in slot (only when the projector is in standby mode).
	(Orientation)		Sets the projection method and cooling fan operating mode.	129
	Lens Type (Note)		Sets the type of lens (supports or does not support the lens memory function) attached to the projector.	129
	Lens Calibrate (Note)		Performs calibration on lens that support the lens memory function (only when the projector power is turned on).	129
	Lens Center (Note)		Moves the lens shift position to the center (only when the projector power is turned on).	129
	(Baudrate)		Sets the PC control terminal (RS-232) data transmission speed (bps).	129
	(Date/Time)		Sets the date and time on the projector.	130
	(Fan Speed Mode)		Sets the cooling fan operating mode.	130
	(Service)		Displays the Service man Menu.	131
(Memory)	Light	The content of the selected light memory (light output power value) can be overwritten with the current settings.	133	
	Lens	The content of the selected lens memory can be overwritten with the current settings.		
(Title Setup)	Preset Button	Preset Button 1-16	Sets the title to be assigned to the preset buttons (<1> to <10> buttons).	135

Main menu	Submenu		Description	Reference page
Information	Light	Light Output	Displays the light module's brightness (output) setting value.	135
		Model	Displays the light module's model name.	135
		S/N	Displays the serial number of the light module.	135
	Lens Type		Displays the light source output setting.	135
	Preset Button	Preset Button 1–16	Displays the titles which are assigned to the preset buttons (<1> to <8> buttons).	135
	Usage		Displays information related to projector usage.	136
	Error Code		Displays the currently occurring error.	136
	Version	System	Displays the model name and various version information about the projector.	137
		IMB	Displays the vendor name and version information about the media block (IMB).	137
	IP Address	System	Displays the IP address of the projector.	137
	Setup Date		Displays the date when the projector was set up (starting date of the warranty period).	138
	Option Status		Displays the link status of the device mounted in slot and projector.	138

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

TIP If you are logged in to the projector with Installation privileges, you cannot use the following items.

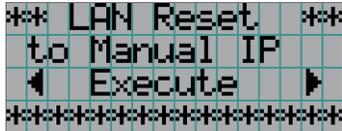
- [Factory Default]-[LAN] (Page [124](#))
- [Reset]-[Fan Usage] (Page [125](#))
- [Reset]-[Light Usage] (Page [125](#))
- [Reset]-[Phosphor] (Page [125](#))
- [Reset]-[Diffuser] (Page [125](#))
- [Configuration]-[Installation]-[Service] (Page [132](#))

Other menu functions

[LAN Reset to Manual IP]

Change the projector IP address assignment setting to "Manual".

Press the MENU and EXIT buttons simultaneously for three seconds. When the following screen appears, press the ENTER button for execution.



← Pressing the ENTER button executes this function.

[Save PJ Log]

Save a log of the projector into a USB flash drive. Press the UP and ENTER buttons simultaneously. When the following screen appears, specify the duration of the log to save using the LEFT/RIGHT buttons. Pressing the ENTER button displays the duration of the log to save. Check the duration and press the ENTER button to save the log into the USB flash drive. The log is saved into a file with the following name on the USB flash drive:

<projector-model-name> + <projector-serial-number> + <saving-date (year/month/day)>.txt

Example: Save PJ Log was executed on May 17, 2019, with a serial number of 012345:

NP-02HD_012345_20190507.txt



← Use the LEFT/RIGHT buttons to specify the duration of the log to save.

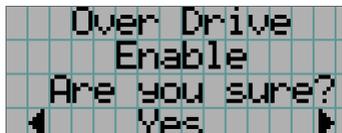
[Over Drive]

Switch to the Over Drive mode which allows you to turn on the light at higher power output than normal.

Press and hold the LIGHT button for 5 seconds. When the following screen appears, press the ENTER button to switch the modes.

If the function is used, the light source may not be able to maintain stable brightness.

If you wish to use the function, consult your dealer.



← Pressing the ENTER button executes this function.

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 Service 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 135)



← 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.

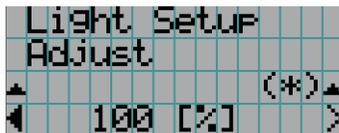
OFF, Alignment, Cross Hatch, Convergence, Red, Green, Blue, White, Black, White 50% [IRE], H-Ramp, Logo, **MCG CG-TES**

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 buttons.



Focus Zoom

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

Press the UP/DOWN buttons to adjust the focus.

Press the LEFT/RIGHT buttons 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 121) for details on how to use these.

Item	Service Personnel	User
FactoryDefault	○	—
Filter Cleaning	○	○
Fan Usage	○	—
Light Usage	○	—
Phosphor	○	—
Diffuser	○	—
Pump	○	—
Douser Court	○	—

NOTE When “Light Usage” 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.
LUT-SCC	Resets the LUT-SCC settings.

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

Filter Cleaning

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

Fan Usage

Resets the fan usage time. Select the fan. 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 Usage

Resets the light source usage time. Select the corresponding light source. 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.

NOTE Resetting Light Usage resets the usage time (Phosphor and Diffuser) of the phosphors and diffusers included in the corresponding light source.

Phosphor

Resets the Phosphor usage time. Select the corresponding phosphor. 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

Resets the Diffuser usage time. Select the corresponding diffuser. 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.

Pump

Resets the pump usage hours. Select the appropriate pump. Press the ENTER button, then select “Yes” in the displayed confirmation screen, and then press the ENTER button to reset the pump usage hours.



← 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

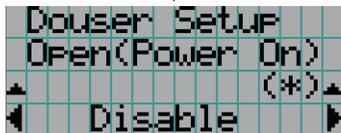
This menu is for service personnel. For the procedure to use it, refer to “4-1-1. When You Use the Service Personnel Menu” (page 121).

Douser Setup

Sets the douser open/close state.



← 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 (*).

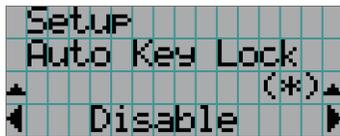
← Displays the setting.

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 Reference

Sets the input terminal for 3D video system.



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

Off Timer

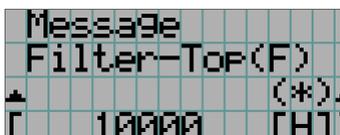
Automatically turns off the projector power once the configured time has elapsed. The time until the power is turned off can be set in steps of 1 hour (up to a maximum of 24 hours). The timer starts from when the setting is applied by pressing the ENTER button. While the timer is running, the remaining 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 air filter cleaning cycle (units: hours). Once the usage time of the air filter exceeds the configured time, the message ("Filter Time Over") is displayed on the LCD screen. The default setting is set to "0 (----) [H]". In this setting, "Message informing the air filter cleaning time" is not displayed.



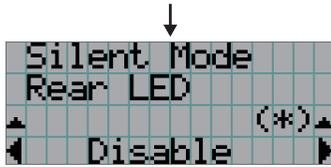
← The current setting value is displayed with an asterisk (*).
 ← Sets the time until the cleaning cycle (units: hours).

Silent Mode

Sets whether the rear (SYSTEM/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 rear (SYSTEM/LIGHT) status indicator. Enable: Use Disable: Not use (the rear (SYSTEM/LIGHT) 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)

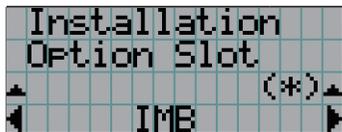
TIP When LCD Backlight is set to Disable, you can change the setting to Enable by long-pressing (3 seconds or more) the EXIT button and UP button.

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 121).

Option Slot

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



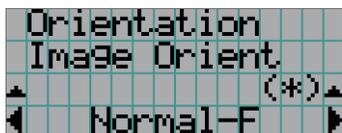
← Displays the currently selected item with asterisk (*).

← Displays the setting.

IMB	Media block (NP-90MS01/NP-90MS02)
No Board	No device mounted

Orientation

Set the projection method (Image Orient) to match the installation conditions of the projector and screen. Furthermore, set the cooling fan operation (Fan Tilt Setting) to match the installation conditions of the projector.



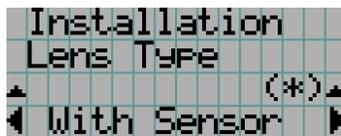
← Displays the currently selected item with asterisk (*).

← 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	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.

Lens Type

Sets the type of lens (supports or does not support the lens memory function) attached to the projector.



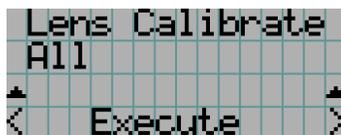
← Displays the currently selected item with asterisk (*).

← Displays the setting.

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

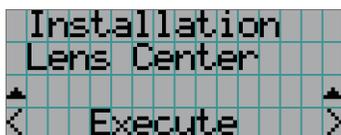


← Press the ENTER button to execute calibration.

All	Calibrates the Zoom, the Focus, and the Lens Shift.
Zoom&Focus	Calibrates the Zoom and the Focus.
Shift(H&V)	Calibrates the Lens Shift.

Lens Center

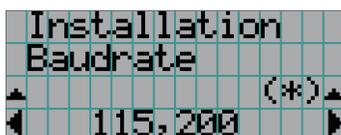
Shifts the lens position at the center. The center position may slightly shift depending upon mounting conditions of the lens. This menu item is available only when the projector power is turned on and you are logged into the projector with Advanced User or higher privileges.



← 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, 38400, 57600 and 115200. Select the transfer speed corresponding to the speed of the connected devices.



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

← Displays the setting.

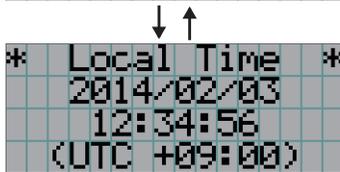
Date/Time

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.



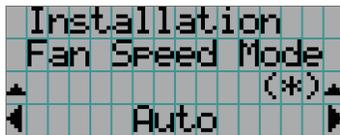
Press the ENTER button to check the time difference between the built-in projector clock and UTC.

TIP

When IMB is used, the date and time of IMB are automatically used as the date and time of the projector (UTC). When IMB is not used, the use of DCC allows you to easily set the date and time of the projector by reading the date and time of the computer where DCC is installed. To set the local time after selecting the Coordinated Universal Time as the date and time of the projector, use [Date/Time], or use DCC. Refer to "Digital Cinema Communicator v2 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.
Hight Altitude	Select the function when using the projector at an altitude of 1600 m (5250 ft.) or higher such as a place where atmospheric pressure is low. The fan always rotates at high speed.

NOTE

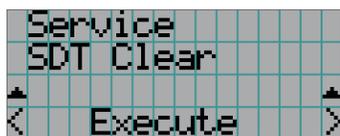
It is recommended that you select "High Speed" if you use the projector non-stop for consecutive days.

Service

Use buttons on the control panel of the projector to display the serviceman menu, which you can use after logging in with Service privilege.

[SDT Clear]

The password input screen to clear Service Door Tamper is displayed.



← Pressing the ENTER button displays the password input screen.



← Enter the password.

[Sensor Calibration]

When installing the projector, measure the initial brightness of the light source and save the measured value into the projector. Once it is saved, it is used as reference to display the current brightness as a percentage.

This function can be used when the projector is on standby.

Use this function only if necessary.



*The screen is an example of the screen of NC3541L.

← Pressing the ENTER button executes this function.

[S/N Maintenance]

Use the function to maintain the projector serial number when replacing a board in the projector during maintenance, etc.

This menu can be used only during standby.



← Pressing the ENTER button executes this function.

[PWB Replace]

Use the function to maintain the data of the projector after replacing a board in the projector during maintenance, etc.

This menu can be used only during standby.

For details, refer to the service manual.

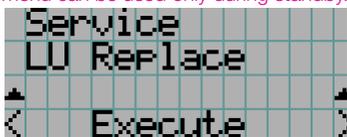


OPT MCU	Use the function when replacing the OPT MCU board.
LD IF	Use the function when replacing the LD IF board.
LU Info	Use the function when replacing the LU Info board.

[LU Replace]

Use the function to maintain various data of the projector and the light module after replacing the light module.

This menu can be used only during standby. For details, refer to the service manual.



[LD Calibration]

Calibrate the light source to save light source adjustment data into the projector.

This function can be used only when the projector is on standby.

Use this function only if necessary.



← Pressing the ENTER button executes this function.

[CG Adj.]

Use the function to adjust CG.

This menu can be used only during standby.

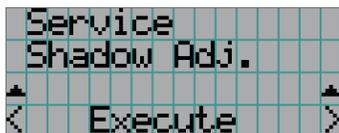
On the confirmation screen shown by pressing the ENTER button, selecting “Yes” and pressing the ENTER button automatically starts up the projector to project an image for the CG adjustment. During the use of this function, the pattern cannot be changed.



[Shadow Adj.]

Use the function to adjust shadow. This menu can be used only during standby.

On the confirmation screen shown by pressing the ENTER button, selecting “Yes” and pressing the ENTER button automatically starts up the projector to project an entirely white image. During the use of this function, the output of the light source cannot be adjusted (Light Setup).



← Pressing the ENTER button executes this function.

[Lens Mount Adj.]

Use the function to adjust the lens mount (focus balance adjustment).

This menu can be used only during standby.

On the confirmation screen shown by pressing the ENTER button, selecting “Yes” and pressing the ENTER button automatically starts up the projector to project a green cross-hatching image. During the use of this function, the output of the light source cannot be adjusted (Light Setup).



← Pressing the ENTER button executes this function.

[Demo]

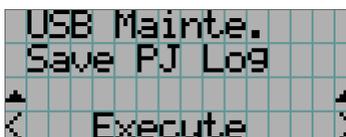
Use the function to switch to the special mode to increase the contrast ratio.

If you wish to use the function, consult your dealer.



[USB Maint]

Use the function to install software or data for the projector by using the USB flash drive in which a release package for updating the projector or a backup file for the projector is saved. For details, refer to the service manual.



← Pressing the ENTER button executes this function.

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 121).

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 v2 Installation Manual” for details registering the lens memory and light memory.



← 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 121).

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.

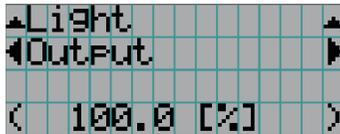
To clear assignment to preset buttons, select “---”.

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

Displays the light source information.

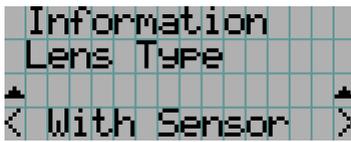


← Displays the current setting (%).

Output	Displays the output setting value (%).
Models	Displays the model name of the light module
S/N	Displays the serial number of the light module.

4-5-2. Lens Type

Displays the specified lens type.



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.

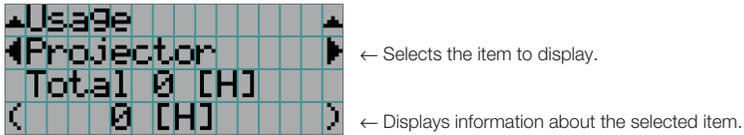
← Displays the assigned title numbers.

← Displays the registered names of the assigned titles.

TIP To select a title allocated to one of "Preset Button 9" to "Preset Button 16", 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

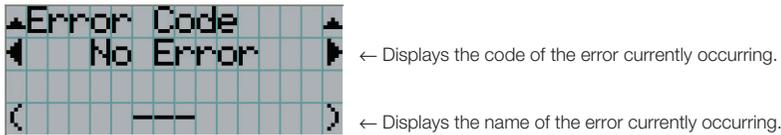
Displays information related to the projector usage, such as the usage time of the projector, light source, air filters, and fan.



Projector	Displays the usage time of the projector.
Filter Cleaning	Displays the usage time of the air filters (for confirming the filter cleaning time).
Fan Usage	Displays the usage time of the fan.
Light Usage	Displays the usage time of the light source.
Phosphor	Displays the usage time of the phosphor.
Diffuser	Displays the usage time of the diffuser.
Pump	Displays the usage time of the pump.
Douser count	Resets the number of times the douser has been used.

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.

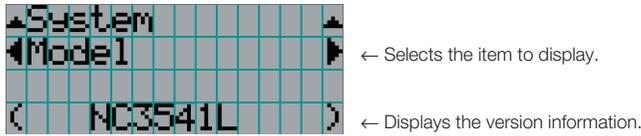


4-5-6. Version

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

System

Displays the version information of the projector.

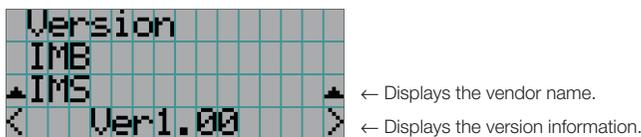


Display items are as follows.

- Model
- Serial No.
- Release Package
- Kernel
- U-Boot
- System Files
- CinemaFirmware
- Cinema Data
- ICP Firmware
- ICP ConfigFile
- FMT FPGA
- Secure Processor
- Slave BIOS
- Slave Firmware
- Opt MCUFirmware
- LD Interface
- LD Driver1
- LD Driver2
- LD Driver3
- LD Driver4
- LD Driver5
- LD Driver6
- LD Driver7
- LD Driver8
- Lens Firmware

IMB

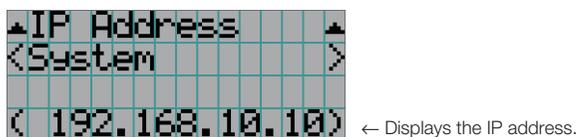
Displays the vendor name and version information about the media block (IMB). When the projector is in standby mode, the vendor name is blank and the version information displays "---". Displays "Not Use" when IMB is not mounted to the projector.



* When the NP-90MS01/NP-90MS02 is mounted, the vendor name displays "IMS".

4-5-7. IP Address

Displays the IP address set in the projector.



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).

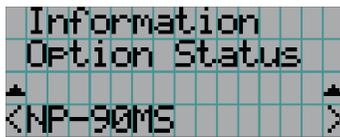
The setup date is configured by using DCC. Refer to "Digital Cinema Communicator v2 Installation Manual" for details.



← 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-90MS01/NP-90MS02
- <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							3D File	SCREEN	MCGD
				PCF			TOGD						
				FILE NAME	SOURCE	ASPECT RATIO	SAME FILE NAME	TOLERANCE BOX	WHITE CLIP				
1	001	IMS Auto	IMB	DCDM_XYZ_Auto	0x0	0	DC28_DCL_XYZE_314_351	Not Use	Use	Disable	2048x1080 No Crop	M101	
2	002	IMS 185	IMB	DCDM_XYZ_185	1999x1080	0	DC28_DCL_XYZE_314_351	Not Use	Use	Disable	2048x1080 No Crop	M101	
3	003	IMS 239	IMB	DCDM_XYZ_239	2048x858	0	DC28_DCL_XYZE_314_351	Not Use	Use	Disable	2048x1080 No Crop	M101	

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 Fail	Power supply is abnormal.
5	Light Unlit	The light source is not on.
12	EEPROM R Fail	E2PROM data read error.
13	Interlock	Interlock is activated.
15	EEPROM W Fail	E2PROM data write error.
120	DLP Ack Fail	Cinema circuit operation fail.
121	Lens Fail	Lens unit control error.
125	LPS Fail	Light Power Supply Switch is turned off. Light Power Supply Voltage is abnormal.
139	ICP PowerOn Fail	Cinema circuit system startup fail.
141	DLP CommE Fail	Communication error with cinema circuit.
165	GPI MACRO(n) Selection Invalid	Selection of preset button (n) through GPI is invalid because metadata is enabled. * This message would be shown on Log, not on LCD.
166	GPI Control Invalid	Projector control through GPI is invalid because projector is busy. * This message would be shown on Log, not on LCD.
174	LU Not Found	Light unit install switch is open
177	Tamper Fail	Projector service door tamper switch is open.
178	Marriage Tamper Fail	Projector marriage tamper switch 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 SN	There is a mismatch in the serial number of the main unit internally saved on the projector.
192	Model Code Mismatch	There is a mismatch in the model code of the main unit internally saved on the projector.
195	Exec LD CAL	Need to execute LD Calibration.
196	Exec SENS CAL	Need to execute Sensor Calibration.
271	IMB:SD Tamper Terminate	IMB service door tamper termination is executed. * This message will not show on LCD.
305	Key Error	Projector private key error.
306	Certificate Error	Projector certificate error.
329	Sequence Data File Mismatch	Cinema circuit status error.
330	FMT DMD Data File Mismatch	Cinema circuit status error.
331	Flash Checksum Error - Sequence Data	Cinema circuit status error.
332	FMT Flash Checksum Error - DMD Data	Cinema circuit status error.
333	Satellite Hardware Mismatch	Cinema circuit status error.
335	Red Satellite Reports Reset	Cinema circuit status error.
336	Red Satellite Serial Link Error	Cinema circuit status error.
337	Red Satellite Firmware Configuration Error	Cinema circuit status error.
338	Red DAD1000 Bias Under Voltage Error	Cinema circuit status error.
339	Red DAD1000 Reset Under Voltage Error	Cinema circuit status error.
340	Red DAD1000 Offset Under Voltage Error	Cinema circuit status error.
341	Red DAD1000 Thermal Shutdown Error	Cinema circuit status error.
342	Green Satellite Reports Reset	Cinema circuit status error.
343	Green Satellite Serial Link Error	Cinema circuit status error.
344	Green Satellite Firmware Configuration Error	Cinema circuit status error.
345	Green DAD1000 Bias Under Voltage Error	Cinema circuit status error.
346	Green DAD1000 Reset Under Voltage Error	Cinema circuit status error.

Error Code	Error message	Description
347	Green DAD1000 Offset Under Voltage Error	Cinema circuit status error.
348	Green DAD1000 Thermal Shutdown Error	Cinema circuit status error.
349	Blue Satellite Reports Reset	Cinema circuit status error.
350	Blue Satellite Serial Link Error	Cinema circuit status error.
351	Blue Satellite Firmware Configuration Error	Cinema circuit status error.
352	Blue DAD1000 Bias Under Voltage Error	Cinema circuit status error.
353	Blue DAD1000 Reset Under Voltage Error	Cinema circuit status error.
354	Blue DAD1000 Offset Under Voltage Error	Cinema circuit status error.
355	Blue DAD1000 Thermal Shutdown Error	Cinema circuit status error.
370	ICP Frame Memory Test Result Fail	Cinema circuit status error.
372	ICP Data Path Signature Test Result Fail	Cinema circuit status error.
380	DRS Error(Low Battery)	Projector battery is low. * 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 No Battery	Cinema circuit status error. * 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	Communication error 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 certificate or private key error.
520	IMB:ICP Communications Status	IMB can not connect the projector for logical marriage.
537	IMB:RTC Error	IMB Status error.
542	IMB:FPGA Configuration Error	IMB Status error.
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 event exists in IMB.
577	IMB:Security Battery Event	Battery tamper event exists in IMB.
581	IMB:Security Enclosure Not Armed	IMB security not armed.
582	IMB:Physical Marriage Tamper	Physical marriage tamper event exists in IMB.
583	IMB:Logical Marriage Tamper	Logical marriage tamper event exists in IMB.
584	IMB:Marriage NOT Active	IMB does not marriage with the projector yet.
586	IMB:Service Door Tamper	Service door tamper event exists in IMB.
588	IMB:Security Battery Low Warning	Reaching to "(577) IMB: Security Battery Event".
700	OPT Comm Fail	Communication error with the OPT CPU.
701	OPT Status Fail	OPT MCU is in unexpected status.
703	OPT Comm Ack Fail	OPT MCU fails to execute the command.
783	OPT-EEPROM Fail	OPT-E2PROM access error.
786	PreCooling Fail	Failed to precool during light on process.
791	FanInitError	Failed to initialize fans.
792	ExGpio Fail	Failed to control GPIO expander.
793	Notch Kit Error	Notch Kit installed switch is open.
913	TiltDegreeOver	Projector tilt degree is abnormal.
914	LowerTemp	Projector ambient temperature is low. (< -10degC)
982	ColorSensorFail	Color sensor in projector head is failed.
984	GSensorError	Failed to control G-sensor.
985	LD CommError	Failed to communicate with LD IF MCU.
994	LD IF Reports Reset	LD IF MCU has been reset.
1000	Slave Comm Fail	Communication error with the Slave CPU.
1003	Slave Ack Fail	Slave CPU command execution fail.
1004	Slave Not Ready	Slave CPU is not ready.

Appendix

Error Code	Error message	Description
1005	Slave No Notify	No message from Slave CPU to notify the command completion.
1111	Filter-Side(L) Cleaning Time	The time to clean air filter.
1112	Filter-Side(R) Cleaning Time	The time to clean air filter.
1113	Filter-Top(L) Cleaning Time	The time to clean air filter.
1114	Filter-Top(R) Cleaning Time	The time to clean air filter.
1115	Filter-Top(F) Cleaning Time	The time to clean air filter.
1200	Fan-ENG-IN1 Stop	Fan stop.
1201	Fan-ENG-IN2 Stop	Fan stop.
1202	Fan-RAD(PRSM)1 Stop	Fan stop.
1203	Fan-RAD(PRSM)2 Stop	Fan stop.
1204	Fan-RAD(BANK)1 Stop	Fan stop.
1205	Fan-RAD(BANK)2 Stop	Fan stop.
1206	Fan-RAD(BANK)3 Stop	Fan stop.
1207	Fan-RAD(BANK)4 Stop	Fan stop.
1208	Fan-RAD(BANK)5 Stop	Fan stop.
1209	Fan-RAD(BANK)6 Stop	Fan stop.
1210	Fan-PRISM3	Fan stop.
1212	Fan-OFFLIGHT(PRISM) Stop	Fan stop.
1213	Fan-PRISM1 Stop	Fan stop.
1214	Fan-PRISM2 Stop	Fan stop.
1215	Fan-PW-OUT1 Stop	Fan stop.
1216	Fan-PW-OUT2 Stop	Fan stop.
1217	Fan-PW-IN1 Stop	Fan stop.
1218	Fan-PW-IN2 Stop	Fan stop.
1219	Fan-PW-IN3 Stop	Fan stop.
1220	Fan-PW-IN4 Stop	Fan stop.
1221	Fan-LD-EX1 Stop	Fan stop.
1222	Fan-LD-EX2 Stop	Fan stop.
1223	Fan-LD-MID1 Stop	Fan stop.
1224	Fan-LD-MID2 Stop	Fan stop.
1225	Fan-LD-IN1 Stop	Fan stop.
1226	Fan-LD-IN2 Stop	Fan stop.
1227	Fan-PWR Stop	Fan stop.
1228	Fan-ELE1 Stop	Fan stop.
1229	Fan-ELE2 Stop	Fan stop.
1230	Fan-ELE3 Stop	Fan stop.
1231	Fan-ELE4 Stop	Fan stop.
1232	Fan-RAD(R)1 Stop	Fan stop.
1233	Fan-RAD(R)2 Stop	Fan stop.
1234	Fan-RAD(R)3 Stop	Fan stop.
1235	Fan-RAD(R)4 Stop	Fan stop.
1236	Fan-RAD(R)5 Stop	Fan stop.
1237	Fan-RAD(R)6 Stop	Fan stop.
1238	Fan-RAD(R)7 Stop	Fan stop.
1239	Fan-RAD(R)8 Stop	Fan stop.
1240	Fan-ENG-IN3 Stop	Fan stop.
1241	Fan-ENG-IN4 Stop	Fan stop.
1242	Fan-RAD(PRISM)3 Stop	Fan stop.
1243	Fan-RAD(PRISM)4 Stop	Fan stop.
1244	Fan-ELE-FR Stop	Fan stop.
1250	PW1 Stop	Phosphor Wheel has stopped.
1251	DF1 Motor Stop	Diffuser Motor has stopped.

Error Code	Error message	Description
1252	PW2 Stop	Phosphor Wheel has stopped.
1253	DF2 Motor Stop	Diffuser Motor has stopped.
1262	Pump-PRISM Stop	Pump error.
1263	Pump-BANK-U Stop	Pump error.
1264	Pump-BANK-D Stop	Pump error.
1265	Pump-RLCS Stop	Pump error.
1300	OverTemp.INTAKE	Set inside temperature is abnormal.
1301	OverTemp.LD1-B	Set inside temperature is abnormal.
1302	OverTemp.LD1-Y1	Set inside temperature is abnormal.
1303	OverTemp.LD1-Y2	Set inside temperature is abnormal.
1304	OverTemp.LD1-Y3	Set inside temperature is abnormal.
1305	OverTemp.LD1-Y4	Set inside temperature is abnormal.
1306	OverTemp.LD2-B	Set inside temperature is abnormal.
1307	OverTemp.LD2-Y1	Set inside temperature is abnormal.
1308	OverTemp.LD2-Y2	Set inside temperature is abnormal.
1309	OverTemp.LD2-Y3	Set inside temperature is abnormal.
1310	OverTemp.LD2-Y4	Set inside temperature is abnormal.
1311	OverTemp.PW1	Set inside temperature is abnormal.
1312	OverTemp.LD1-R	Set inside temperature is abnormal.
1313	OverTemp.LD2-R	Set inside temperature is abnormal.
1314	OverTemp.PW2	Set inside temperature is abnormal.
1319	OverTemp.DMD-R	Set inside temperature is abnormal.
1320	OverTemp.DMD-G	Set inside temperature is abnormal.
1321	OverTemp.DMD-B	Set inside temperature is abnormal.
1322	OverTemp.FIP AIR	Set inside temperature is abnormal.
1400	OverTemp.INTAKE Precaution	Set inside temperature is close to over temperature.
1401	OverTemp.LD1-B Precaution	Set inside temperature is close to over temperature.
1402	OverTemp.LD1-Y1 Precaution	Set inside temperature is close to over temperature.
1403	OverTemp.LD1-Y2 Precaution	Set inside temperature is close to over temperature.
1404	OverTemp.LD1-Y3 Precaution	Set inside temperature is close to over temperature.
1405	OverTemp.LD1-Y4 Precaution	Set inside temperature is close to over temperature.
1406	OverTemp.LD2-B Precaution	Set inside temperature is close to over temperature.
1407	OverTemp.LD2-Y1 Precaution	Set inside temperature is close to over temperature.
1408	OverTemp.LD2-Y2 Precaution	Set inside temperature is close to over temperature.
1409	OverTemp.LD2-Y3 Precaution	Set inside temperature is close to over temperature.
1410	OverTemp.LD2-Y4 Precaution	Set inside temperature is close to over temperature.
1411	OverTemp.PW1 Precaution	Set inside temperature is close to over temperature.
1412	OverTemp.LD1-R Precaution	Set inside temperature is close to over temperature.
1413	OverTemp.LD2-R Precaution	Set inside temperature is close to over temperature.
1414	OverTemp.PW2 Precaution	Set inside temperature is close to over temperature.
1419	OverTemp.DMD-R Precaution	Set inside temperature is close to over temperature.
1420	OverTemp.DMD-G Precaution	Set inside temperature is close to over temperature.
1421	OverTemp.DMD-B Precaution	Set inside temperature is close to over temperature.
1422	OverTemp.FIP AIR Precaution	Set inside temperature is close to over temperature.
1500	P3P3V SAT PGOOD Fail	Abnormal voltage.
1501	P2P5V SAT PGOOD Fail	Abnormal voltage.
1502	XVT PGOOD Fail	Abnormal voltage.
1503	P2P5V X PGOOD Fail	Abnormal voltage.
1504	P1P8V X PGOOD Fail	Abnormal voltage.
1505	P1V X PGOOD Fail	Abnormal voltage.
1506	FMT FPGA DONE Fail	Abnormal voltage.
1528	Lens Install SW Activation	Lens Install Switch is open.

Appendix

Error Code	Error message	Description
1600	Fan-ENG-IN1 Precaution	Fan Stop Precaution.
1601	Fan-ENG-IN2 Precaution	Fan Stop Precaution.
1602	Fan-RAD(PRSM)1 Precaution	Fan Stop Precaution.
1603	Fan-RAD(PRSM)2 Precaution	Fan Stop Precaution.
1604	Fan-RAD(BANK)1 Precaution	Fan Stop Precaution.
1605	Fan-RAD(BANK)2 Precaution	Fan Stop Precaution.
1606	Fan-RAD(BANK)3 Precaution	Fan Stop Precaution.
1607	Fan-RAD(BANK)4 Precaution	Fan Stop Precaution.
1608	Fan-RAD(BANK)5 Precaution	Fan Stop Precaution.
1609	Fan-RAD(BANK)6 Precaution	Fan Stop Precaution.
1610	Fan-PRISM3 Precaution	Fan Stop Precaution.
1612	Fan-OFFLIGHT(PRISM) Precaution	Fan Stop Precaution.
1613	Fan-PRISM1 Precaution	Fan Stop Precaution.
1614	Fan-PRISM2 Precaution	Fan Stop Precaution.
1615	Fan-PW-OUT1 Precaution	Fan Stop Precaution.
1616	Fan-PW-OUT2 Precaution	Fan Stop Precaution.
1617	Fan-PW-IN1 Precaution	Fan Stop Precaution.
1618	Fan-PW-IN2 Precaution	Fan Stop Precaution.
1619	Fan-PW-IN3 Precaution	Fan Stop Precaution.
1620	Fan-PW-IN4 Precaution	Fan Stop Precaution.
1621	Fan-LD-EX1 Precaution	Fan Stop Precaution.
1622	Fan-LD-EX2 Precaution	Fan Stop Precaution.
1623	Fan-LD-MID1 Precaution	Fan Stop Precaution.
1624	Fan-LD-MID2 Precaution	Fan Stop Precaution.
1625	Fan-LD-IN1 Precaution	Fan Stop Precaution.
1626	Fan-LD-IN2 Precaution	Fan Stop Precaution.
1627	Fan-PWR Precaution	Fan Stop Precaution.
1628	Fan-ELE1 Precaution	Fan Stop Precaution.
1629	Fan-ELE2 Precaution	Fan Stop Precaution.
1630	Fan-ELE3 Precaution	Fan Stop Precaution.
1631	Fan-ELE4 Precaution	Fan Stop Precaution.
1632	Fan-RAD(R)1 Precaution	Fan Stop Precaution.
1633	Fan-RAD(R)2 Precaution	Fan Stop Precaution.
1634	Fan-RAD(R)3 Precaution	Fan Stop Precaution.
1635	Fan-RAD(R)4 Precaution	Fan Stop Precaution.
1636	Fan-RAD(R)5 Precaution	Fan Stop Precaution.
1637	Fan-RAD(R)6 Precaution	Fan Stop Precaution.
1638	Fan-RAD(R)7 Precaution	Fan Stop Precaution.
1639	Fan-RAD(R)8 Precaution	Fan Stop Precaution.
1640	Fan-ENG-IN3 Precaution	Fan Stop Precaution.
1641	Fan-ENG-IN4 Precaution	Fan Stop Precaution.
1642	Fan-RAD(PRISM)3 Precaution	Fan Stop Precaution.
1643	Fan-RAD(PRISM)4 Precaution	Fan Stop Precaution.
1644	Fan-ELE-FR Precaution	Fan Stop Precaution.
1650	PW1 Precaution	Phosphor Wheel Stop Precaution.
1652	PW2 Precaution	Phosphor Wheel Stop Precaution.
1662	Pump-PRISM Precaution	Pump Stop Precaution.
1663	Pump-BANK-U Precaution	Pump Stop Precaution.
1664	Pump-BANK-D Precaution	Pump Stop Precaution.
1665	Pump-RLCS Precaution	Pump Stop Precaution.
1700	SensorFail INTAKE	Temperature sensor read error.
1701	SensorFail LD1-B	Temperature sensor read error.

Error Code	Error message	Description
1702	SensorFail LD1-Y1	Temperature sensor read error.
1703	SensorFail LD1-Y2	Temperature sensor read error.
1704	SensorFail LD1-Y3	Temperature sensor read error.
1705	SensorFail LD1-Y4	Temperature sensor read error.
1706	SensorFail LD2-B	Temperature sensor read error.
1707	SensorFail LD2-Y1	Temperature sensor read error.
1708	SensorFail LD2-Y2	Temperature sensor read error.
1709	SensorFail LD2-Y3	Temperature sensor read error.
1710	SensorFail LD2-Y4	Temperature sensor read error.
1711	SensorFail PW1	Temperature sensor read error.
1712	SensorFail LD1-R	Temperature sensor read error.
1713	SensorFail LD2-R	Temperature sensor read error.
1714	SensorFail PW2	Temperature sensor read error.
1719	SensorFail DMD-R	Temperature sensor read error.
1720	SensorFail DMD-G	Temperature sensor read error.
1721	SensorFail DMD-B	Temperature sensor read error.
1722	SensorFail FIP AIR	Temperature sensor read 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.
2001	LD Y Stop	The light source(Yellow) is not on.
2002	LD B Stop	The light source(Blue) is not on.
2004	LD R Stop	The light source(Red) is not on.
2010	Incorrect power-off	PowerOff was not performed correctly last time.
2015	Douser Open Fail	Douser open fail.
2017	Douser Close Fail	Douser close fail.
2217	TEC-R Fail	TEC(Thermoelectric Cooler) for Red is failed.
2219	TEC-G Fail	TEC(Thermoelectric Cooler) for Green is failed.
2221	TEC-B Fail	TEC(Thermoelectric Cooler) for Blue is failed.
2280	PW1 OverTemp	Light unit over temperature.
2281	PW2 OverTemp	Light unit over temperature.
2282	Admin. Key Off	The administrator key is turned off.
2283	BANK-U OverTemp	Light unit over temperature.
2284	BANK-D OverTemp	Light unit over temperature.
2285	RED-U OverTemp	Light unit over temperature.
2286	RED-D OverTemp	Light unit over temperature.
2301	LU Hardware Mismatch	Installed Light Unit id verification is failed.
2302	LU ColorSensor Fail	Color sensor in light unit is failed.
2304	OPT-EEPROM Warning	PWB maintenance data in EEPROM is precaution.
2305	OPT-EEPROM Comp.Fail	PWB maintenance data in EEPROM is mismatch.
2306	OPT-EEPROM Fail	PWB maintenance data in EEPROM is critical error.
2400	LU warranty temp over	Projector ambient temperature is beyond limitation for LU extend warranty plan.
2500	LU License has expired	LU License is expired.
2501	LU License will expire soon	LU License expired soon.
2502	LU License Auth Error	Installed LU License Authentication failed.
2503	LU License Brightness Warning	Brightness by guaranteed by LU License is precaution.
2504	LU License Brightness Low	Brightness is out of LU License guarantee.

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.

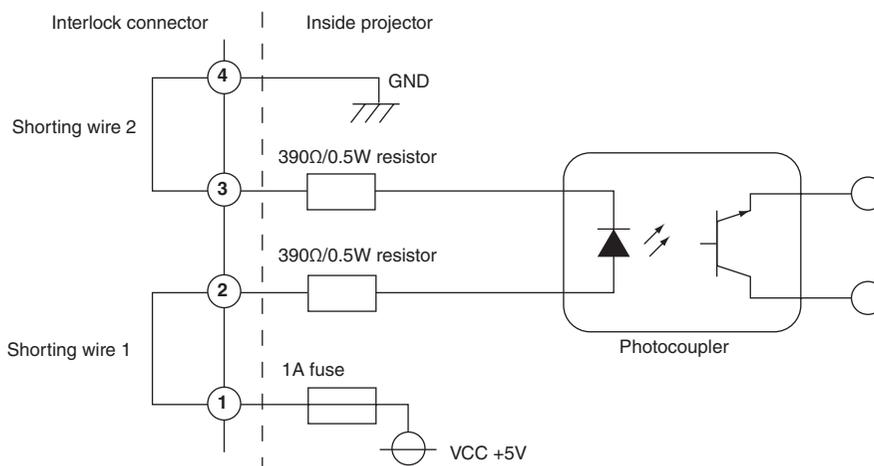
- 1** Disconnect the AC power supply to the projector body.
- 2** Remove the plate inlet or side panel (page 53).
- 3** Connect the contacts to the remote interlock connector and attach the plate inlet or side panel.
- 4** Connect the AC power supply to the projector body.

Remote interlock connector (exterior view)



- The remote interlock terminal is equipped on inside of the side cover. Remove the plate inlet or side panel for connection.
- Securely reinstall the plate inlet or side panel.

Circuit diagram



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

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

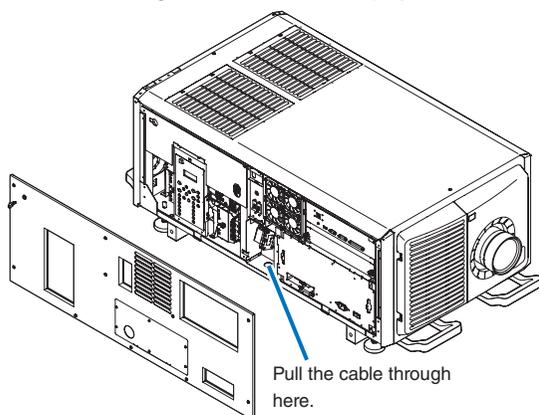
Remove shorting wire 1 or shorting wire 2 and connect the external contacts (switch) to the projector interlock terminal (① and ② or ③ and ④) by cable.

- 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 2mA.

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

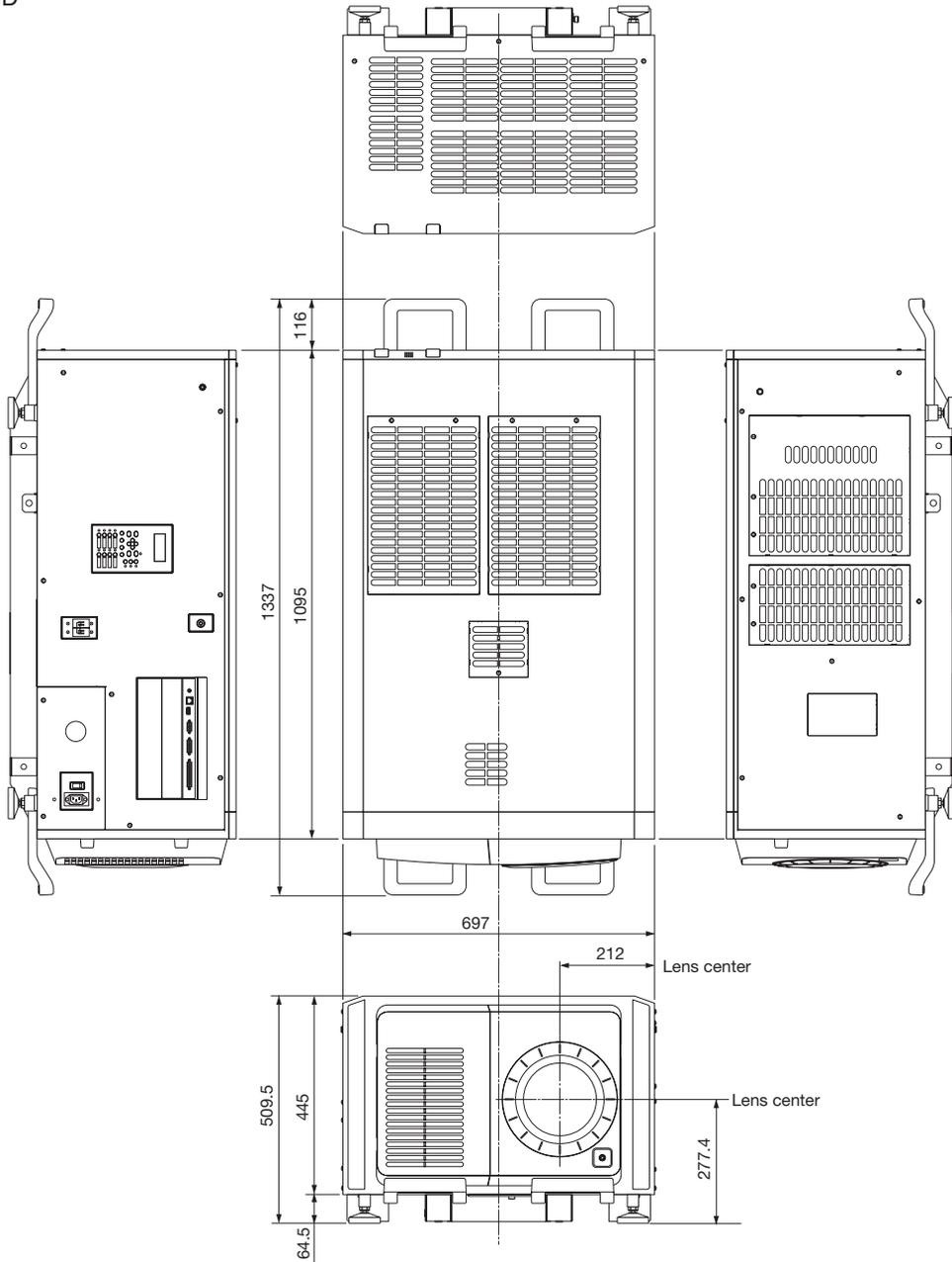
Remove shorting wire 1 and shorting wire 2 and connect the external device to the projector interlock terminals (② and ③) (do not use ① and ④).

- 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 side face of the projector.



5-4. Outline Drawing

NP-02HD



Units: mm

