

DLP Cinema® Projector

NEC

Installation Manual

DLP Cinema® Projector

NC1000C

NEC Display Solutions, Ltd.

Model No. NP-NC1000C

Introduction

DLP Cinema Projector Installation and Adjustment NEC Display Solutions, Ltd. Manual (This document) describes the procedures to install, adjust and maintain the projector (NC1000C) and peripheral devices. For safe and correct installation, adjustment and use of the projector, carefully read this document before installation.

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

The product name used in this manual

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

- | | |
|-------------------------------|--------------------|
| • NC1000C | Projector |
| • NP-90MS02 | Media block or IMB |
| • Digital Cinema Communicator | DCC |

Important Information

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

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

- DLP, DLP Cinema and their respective logos are trademarks or registered trademarks of Texas Instruments.
- CineLink is a trademark of Texas Instruments.
- Other product names and manufacturer names described in this manual are the registered trademarks or trademarks of their respective companies.
- The display screens and illustrations shown in this manual may differ slightly from the actual ones.
- GPL/LGPL Software Licenses

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

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



WARNING:

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



CAUTION:

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



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



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

DOC compliance Notice

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

Machine Noise Information Regulation - 3. GPSGV,

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



WARNING:

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



CAUTION:

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

Important Safeguards

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

Installation

1. Consult your dealer for information about transporting and installing the projector. Do not attempt to transport and install the projector yourself.
The projector must be installed by qualified technicians in order to ensure proper operation and reduce the risk of bodily injury.
2. Place the projector on a flat, level surface in a dry area away from dust and moisture. Tilting the front of the projector up or down from level could reduce lamp life.
Do not put the projector on its side when the lamp is on. Doing so may cause damage to the projector.
3. Do not place the projector in direct sunlight, near heaters or heat radiating appliances.
4. Exposure to direct sunlight, smoke or steam could harm internal components.
5. Handle your projector carefully. Dropping or jarring your projector could damage internal components.
6. To carry the projector, a minimum of four persons are required.
7. Do not hold the lens part with your hand. Otherwise the projector may tumble or drop, causing personal injury.
8. Do not place heavy objects on top of the projector.

9. Turn off the projector, and disconnect the power cable before moving the projector.
10. The cooling fan settings need to be configured when using the projector in a location at an altitude of approximately 5500 feet/1600 meters or higher. Refer to "About High Altitude mode" (page 6) for details.
11. Do not install and store the projector in the below circumstances. Failure to do so may cause of malfunction.
 - In powerful magnetic fields
 - In corrosive gas environment
 - Outdoors
12. If you wish to have the projector installed on the ceiling;
 - Do not attempt to install the projector yourself.
 - The projector must be installed by qualified technicians in order to ensure proper operation and reduce the risk of bodily injury.
 - In addition, to prevent ceiling collapse, the ceiling should be able to support total weight of 50kg (projector weight of 44kg, lens weight of 3kg, IMS weight of 3kg) for an extended period of time, and the installation must be in accordance with any local building codes.
 - Please consult your dealer for more information.Refer to "2-2-1. Installing the Projector on the Ceiling" (page 32) for details on the attachment positions when installing on the ceiling.

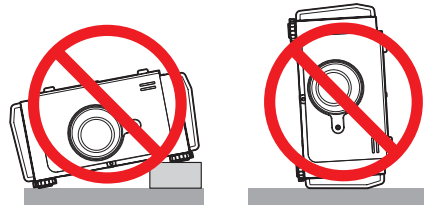
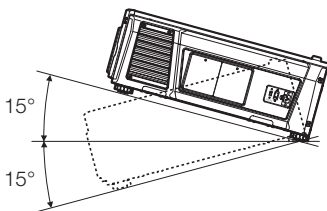


WARNING:

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



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



Power Supply

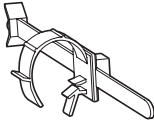
1. The projector is so designed that it operates with the power supply voltage described below.
 - AC100–130V 12.2 to 9.0 A 50/60Hz Single-phase
 - AC200–240V 5.8 to 4.8 A 50/60Hz Single-phaseEnsure that your power supply fits this requirement before attempting to use your projector.
2. The power cable 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 (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.

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

CAUTION:

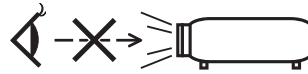
The power cable stopper (shown in below) is supplied with this projector.

To prevent the power cable from coming loose, make sure that all the prongs of the power cable are fully inserted into the AC IN terminal of the projector before using the power cable stopper to fix the power cable. A loose contact of the power cable may cause a fire or electric shock. For using the power cable stopper, refer to the user's manual.

**Fire and Shock Precautions**

1. Ensure that there is sufficient ventilation and that vents are unobstructed to prevent potentially dangerous concentrations of ozone and the build-up of heat inside your projector. Allow at least 12 inches (30cm) of space between your projector and a wall. In particular, clear a space of 27.6 inches (70 cm) or more in front of the air outlet on the rear surface and 19.8 inches (50 cm) or more in front of the air outlet on the lamp side. (See page 16)
2. Prevent foreign objects such as paper clips and bits of paper from falling into your projector. Do not attempt to retrieve any objects that might fall into your projector. Do not insert any metal objects such as a wire or screwdriver into your projector. If something should fall into your projector, disconnect it immediately and have the object removed by a qualified service person.
3. Turn off the projector, unplug the power cable and have the projector serviced by a qualified service personnel under the following conditions:
 - When the power cable or plug is damaged or frayed.
 - If liquid has been spilled into the projector, or if it has been exposed to rain or water.
 - If the projector does not operate normally when you follow the instructions described in this user's manual.
 - If the projector has been dropped or the cabinet has been damaged.
 - If the projector exhibits a distinct change in performance, indicating a need for service.
4. Keep any items such as magnifying glass out of the light path of the projector. The light being projected from the lens is extensive, therefore any kind of abnormal objects that can redirect light coming out of the lens, can cause unpredictable outcome such as fire or injury to the eyes.
5. When using a LAN cable:

For safety, do not connect to the connector for peripheral device wiring that might have excessive Voltage.
6. Do not look into the lens while the projector is on. Serious damage to your eyes could result.



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

Cleaning

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

CAUTION:

1. Do not unplug the power cable from the wall outlet or projector when the projector is powered on. Doing so can damage the projector.
 - While projecting images
 - While cooling after the 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-90MS02: 100 seconds
 - During IMB Operation (if the projector is not in standby state)
2. Do not turn off the AC power for 90 seconds after the lamp is turned on and while the POWER indicator is blinking green. Doing so could cause premature lamp failure.
3. Use of a wall outlet with a 20 A or more circuit breaker is recommended.
4. 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.

Caution on Carrying the Projector/Handling the Optional Lens

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

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

Note for US Residents

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

Lamp Replacement

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

A Lamp Characteristic

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

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



CAUTION:

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

About High Altitude mode

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

Using the projector at altitudes approximately 5500 feet/1600 meters or higher without setting to [High Altitude] can cause the projector to overheat and the projector could shut down. If this happens, wait a couple minutes and turn on the projector.
- Using the projector at altitudes less than approximately 5500 feet/1600 meters and setting to [High Altitude] can cause the lamp to overcool, causing the image to flicker. Switch [Fan Speed Mode] to [Auto].
- Using the projector at altitudes approximately 5500 feet/1600 meters or higher can shorten the life of internal parts such as the lamp.

Disposing of your used product



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

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

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

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

For questions relating to unclear points or repairs

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

In Europe

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

In North America

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

In China

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

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

Wichtige Informationen

Vorsichtsmaßnahmen: Lesen Sie sich dieses Handbuch bitte sorgfältig durch, bevor Sie den **NC1000C** benutzen, und bewahren Sie das Bedienungshandbuch in greifbarer Nähe als spätere Referenz auf.

In diesem Handbuch wird der NC1000C (Projektoreinheit) „Projektor“ und das NP-90MS02 (integrierter Media-Server) „Media Block“ oder „IMB“ genannt.

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

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

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



WARNUNG:

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



ACHTUNG:

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



Dieses symbol warnt den bediener, dass innerhalb des gerätes unisolierte teile vorhanden sind, die hochspannung führen und deren berührung einen elektrischen schlag verursachen kann.



Dieses symbol macht den bediener darauf aufmerksam, dass wichtige, den betrieb und die wartung des gerätes betreffende schriften beigefügt sind. um irgendwelche probleme zu vermeiden, sollten diese beschreibungen sorgfältig gelesen werden.

Maschinenlärminformations-Verordnung – 3. GPSGV,

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



WARNUNG:

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



ACHTUNG:

- Verwenden Sie ein Signalkabel mit Ferritkern, um Störungen beim Radio- und Fernsehempfang zu reduzieren. Die Verwendung eines Signalkabels ohne Ferritkern kann Störungen beim Radio- und Fernsehempfang verursachen.
- Durch Prüfung dieses Gerätes nach FCC, Part 15 wurde die Einhaltung der Grenzwerte für digitale „Class A“-Geräte bestätigt. Diese Grenzwerte gelten für einen wirksamen Schutz gegen Störungen in Gewerbegebieten. Dieses Gerät erzeugt und verwendet Funkfrequenzenergie und kann diese ausstrahlen und kann, wenn es nicht entsprechend dem Bedienungshandbuch aufgestellt und betrieben wird, Störungen beim Radio- und Fernsehempfang verursachen. Die Verwendung dieses Gerätes in Wohngebieten verursacht wahrscheinlich Störungen, die der Benutzer in eigener Verantwortung zu beseitigen hat.

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. 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.
2. Stellen Sie den Projektor auf eine flache, waagerechte Fläche in einer trockenen Umgebung; frei von Staub und Feuchtigkeit.
3. Stellen Sie den Projektor weder in direktes Sonnenlicht noch in die Nähe einer Heizung oder sonstiger Hitze abstrahlender Einrichtungen.

4. Wenn das Gerät direktem Sonnenlicht, Rauch oder Dampf ausgesetzt wird, können interne Komponenten beschädigt werden.
5. Behandeln Sie Ihren Projektor vorsichtig. Fallenlassen oder starkes Schütteln kann interne Komponenten beschädigen.
6. Zum Tragen des Projektors werden mindestens vier Personen benötigt.
7. Halten Sie den Projektor nicht mit der Hand am Linsenbereich fest. Anderenfalls kann der Projektor umkippen oder herunterfallen und Verletzungen verursachen.
8. Legen Sie keine schweren Gegenstände auf den Projektor.
9. Schalten Sie den Projektor aus, und ziehen Sie das Netzkabel ab, bevor Sie den Projektor umsetzen.
10. Die Einstellungen des Kühlgebläses müssen angepasst werden, wenn der Projektor in Höhenlagen von ca. 5500 Fuß / 1600 Meter oder höher verwendet wird. Einzelheiten dazu finden Sie unter „Über den Modus Große Höhe“ (Seite 12).
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.
 - Die Decke muss zudem wegen Einsturzgefahr für das Gesamtgewicht von 50 kg (Gewicht des Projektors von 44 kg, Objektivgewicht von 3 kg und IMS-Gewicht von 3 kg) dauerhaft eine ausreichende Festigkeit aufweisen und die Installation muss entsprechend den örtlichen Bauvorschriften ausgeführt werden.
 - Weitere Informationen erhalten Sie von Ihrem Fachhändler.

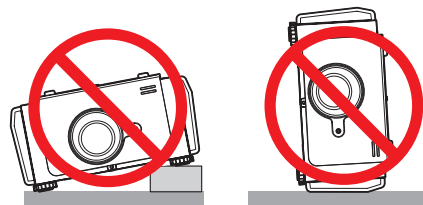
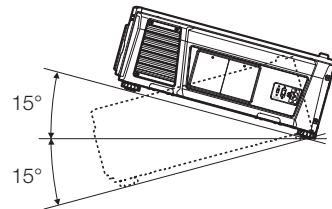
Einzelheiten zu den Befestigungspositionen bei Deckenmontage finden Sie unter „2-2-1. Installing the Projector on the Ceiling“ (Seite 32).

WARNUNG:

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



Kippen Sie den Projektor nicht mehr als 15° nach vorn oder hinten. Dies könnte zu Fehlfunktionen führen. Wählen Sie nach dem Anbringen des Projektors an der Decke eine geeignete Option für den [Fan Tile Setting].



Spannungsversorgung

1. Der Projektor wurde so konzipiert, dass er mit der unten aufgeführten Netzspannung läuft.
 - 100–130 V Wechselstrom 12,2 bis 9,0 A 50/60 Hz Einphasenstrom
 - 200–240 V Wechselstrom 5,8 bis 4,8 A 50/60 Hz Einphasenstrom

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 (Deutsch)“ betreffend den Einzelheiten.
3. Behandeln Sie das Netzkabel vorsichtig. Ein beschädigtes oder durchgeschauertes Netzkabel kann elektrische Schläge oder einen Brand verursachen.

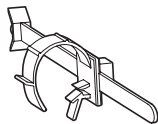
- Biegen oder ziehen Sie das Netzkabel nicht übermäßig.
 - Legen Sie das Netzkabel nicht unter den Projektor oder unter einen anderen schweren Gegenstand.
 - Bedecken Sie das Netzkabel auch nicht mit weichen Materialien, z. B. mit Teppichen.
 - Erhitzen Sie das Netzkabel nicht.
4. Wenn Sie das Netzkabel 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 Sie außerdem sicher, dass die Lüftungsschlitze frei bleiben, damit sich innerhalb des Projektors kein Hitzestau bilden kann. Lassen Sie mindestens 30 cm Abstand zwischen Ihrem Projektor und der Wand. Halten Sie insbesondere einen Freiraum von mindestens 70 cm vor dem Luftauslass auf der Rückseite und von mindestens 50 cm vor dem Luftauslass auf der Lampenseite ein. (Seite 18)
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, müssen Sie sofort den Netzstecker ziehen und den Gegenstand von qualifiziertem Servicepersonal entfernen lassen.

3. Schalten Sie den Projektor aus, ziehen Sie das Netzkabel ab und lassen Sie den ihn von einem qualifizierten Servicetechniker überprüfen, falls einer der folgenden Fälle zutrifft:
 - 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. Lichtkegel des Projektors fern. Da das von der Linse projizierte Licht umfassend ist, können alle abnormalen Gegenstände, die in der Lage sind, das aus der Linse austretende Licht umzulenken, unvorhersehbare Ereignisse wie z.B. einen Brand oder Augenverletzungen verursachen.
5. Wenn ein LAN-Kabel verwendet wird:
Schließen Sie es aus Sicherheitsgründen nicht an den Anschluss der Peripheriegeräte-Verbindung an, das sie eine zu hohe Spannung führen könnte.
6. Schauen Sie nicht in die Linse, wenn der Projektor eingeschaltet ist. Dies könnte schwere Augenverletzungen zur Folge haben.



7. Berühren Sie während des normalen Projektorbetriebs nicht den Luftauslass am Projektor, da dieser heiß ist.



WARNUNG:

Sehen Sie nicht direkt in den leuchtintensiven Lichtstrahl.

- Die in diesem Produkt befindliche Lampe ist eine intensive Licht- und Hitzequelle. Ultraviolettes Licht ist ein Bestandteil des von der Lampe abgestrahlten Lichts. Die Aufstellung und Inbetriebnahme dieses Produkts darf ausschliesslich durch lizenzierte Fachkräfte oder geschulte Benutzer erfolgen, die ausreichend über die möglichen Gefahren unterrichtet sind, die von der in diesem Gerät entstehenden Ultraviolett-Strahlung ausgehen können.

Reinigung

1. Schalten Sie den Projektor aus und trennen Sie das Netzkabel ab, bevor das Gehäuse gereinigt oder die Lampe ausgetauscht wird.

2. Reinigen Sie das Gehäuse regelmäßig mit einem Tuch. Bei starker Verschmutzung verwenden Sie ein mildes Reinigungsmittel. Reinigen Sie das Gerät niemals mit starken Reinigungsmitteln oder Lösungsmitteln wie z.B. Alkohol oder Verdünnern.
3. Reinigen Sie die Linse mit einer Blaseinrichtung oder einem Linsentuch. Beachten Sie dabei, dass die Linsenoberfläche weder zerkratzt noch auf andere Weise beschädigt wird.
4. Berühren Sie den Projektor oder den Netzstecker nicht mit nassen Händen. Andernfalls kann es zu elektrischen Schlägen oder zu einem Brand kommen.



ACHTUNG:

1. Ziehen Sie das Netzkabel nicht aus der Steckdose oder vom Projektor ab, während der Projektor mit Strom versorgt wird.
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-90MS02: 100 Sekunden
2. Schalten Sie den Wechselstrom 90 Sekunden lang nicht aus, nachdem die Lampe eingeschaltet wurde und während die POWER-Anzeige grün blinkt. Anderenfalls könnte die Lampe vorzeitig ausfallen.
3. Es wird empfohlen, eine Steckdose mit einem Schutzschalter von mindestens 20 A zu benutzen.
4. Halten Sie die Hände fern vom Linsenmontageteil, während der Linsenversatz in Betrieb ist. Anderenfalls könnten Finger zwischen Gehäuse und Linsendeckel eingeklemmt werden.

Vorsicht beim Transportieren des Projektors/Umgang mit der optischen Linse

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

Umgang mit der Batterie

- Seien Sie äußerst vorsichtig beim Hantieren der Batterie, um jedes Risiko von Brand, Verletzungen oder Beschädigungen anderer Objekte.
 - Nicht kurzschließen, auseinanderbauen oder Batterien ins Feuer legen.
- 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.

Austausch der Lampe

1. Verwenden Sie für Sicherheit und Leistung die angegebene Lampe.
2. Um die Lampe auszuwechseln, folgen Sie allen Anweisungen in der Bedienungsanleitung.
3. Aufgrund der unter Druck luftdicht verschlossenen Lampe besteht bei falscher Handhabung eine geringe Explosionsgefahr. Wenn sich das Gerät in einwandfreiem Zustand befindet, ist dieses Risiko minimal; die Explosionsgefahr erhöht sich jedoch im Falle einer Beschädigung oder bei einer Benutzung über die empfohlenen Betriebsstunden hinaus. Beachten Sie bitte, dass im Gerät ein Warnsystem integriert ist, das bei Erreichen der voreingestellten Betriebsdauer die nachfolgende Meldung anzeigt: „Lamp1 Over Time“ oder „Lamp2 Over Time“. Wenn Sie diese Meldung sehen, wechseln Sie bitte die Lampe 1 oder Lampe 2 aus.

Im Falle einer Lampenexplosion tritt aus den Lüftungsschlitzen der Rückseite des Gerätes Rauch aus. Stehen Sie nicht vor den Entlüftungsöffnungen während des Betriebes. Dieser Rauch besteht aus einer ganz besonderen Form von Glas und aus Quecksilbers. Solange dieser Rauch nicht in die Augen gelangt, bestehen keinerlei gesundheitliche Risiken.

Wenn Ihre Augen dem Gas ausgesetzt worden sind, spülen Sie die Augen bitte sofort mit Wasser aus und konsultieren Sie einen Arzt. Reiben Sie die Augen nicht!

Dies könnte ernsthafte Verletzungen zur Folge haben.

Eine Lampeneigenschaft:

Als Lichtquelle dient dem Projektor eine spezielle Entladungslampe.

Zu den Eigenschaften der Lampe gehört es, dass ihre Helligkeit mit zunehmendem Alter teilweise abnimmt. Auch ein wiederholtes Ein- und Ausschalten der Lampe erhöht die Wahrscheinlichkeit einer geringeren Helligkeit.



ACHTUNG:

- BERÜHREN SIE DIE LAMPE direkt nach der Benutzung NICHT. Sie ist dann noch immer extrem heiß. Schalten Sie den Projektor aus und trennen Sie anschließend das Netzkabel ab. Lassen Sie die Lampe für mindestens eine Stunde abkühlen, bevor Sie sie handhaben.
- Stellen Sie beim Entnehmen der Lampe aus einem an der Decke montierten Projektor sicher, dass sich keine Personen unter dem Projektor aufhalten. Bei einer ausgebrannten Lampe könnten Glassplitter herausfallen.

Über den Modus Große Höhe

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

Entsorgung Ihres benutzten Gerätes



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

Dies schließt Projektoren und deren elektrisches Zubehör oder ihre Lampen mit ein. Folgen Sie beim Entsorgen eines solchen Gerätes bitte den Anweisungen Ihrer örtliche 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 zu reduzieren sowie die negativen Auswirkungen beispielsweise des in der Lampe enthaltenen Quecksilbers auf die Gesundheit und die Umwelt möglichst gering zu halten.

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

Bei Fragen, die sich aus unklaren Punkten oder Reparaturarbeiten ergeben

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

In Europa

Firmenname: NEC Display Solutions Europe GmbH

Adresse: Landshuter Allee 12-14, D-80637 Munich, Germany

Telefon: +49 89 99699 0

Fax-Nummer: +49 89 99699 500

E-Mail-Adresse: info@nec-displays.com

Web-Adresse: <http://www.nec-display-solutions.com>

In Nordamerika

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

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Firmenname: Strong Westrex, Inc.
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In Südkorea

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

In Australien und Neuseeland

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

In Thailand, Singapur, Malaysia, Indonesien und Philippinen

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

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1. Before Setting Up Your Projector

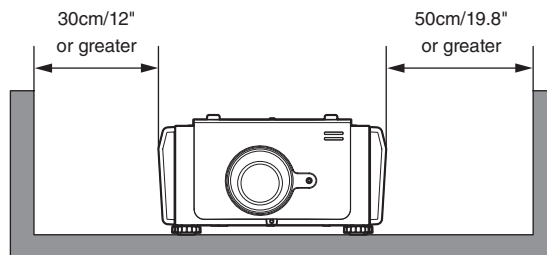
1-1. Clearance for Installing the Projector (English)

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 projectors power.

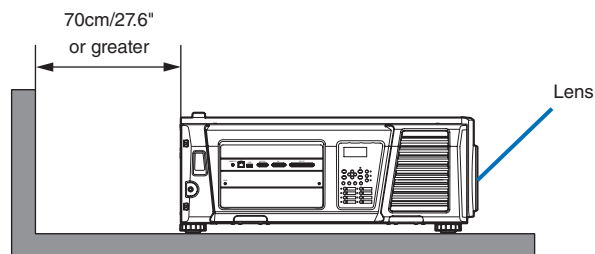
Example 1 – If there are walls on both sides of the projector.



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

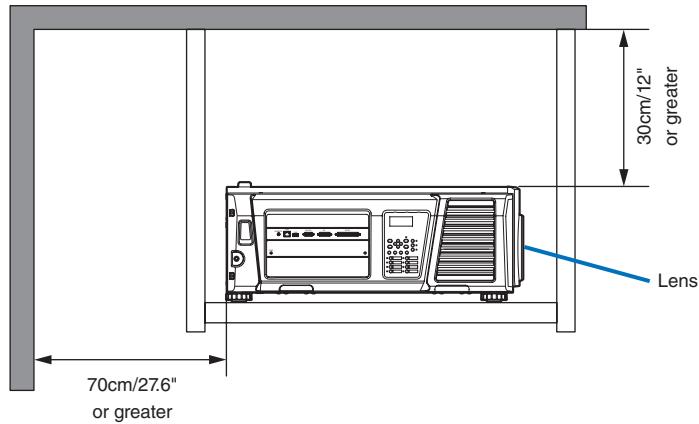
Example 2 – If there is a wall behind the projector.

(1) For floor installation:



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

(2) For ceiling mounting:



NOTE

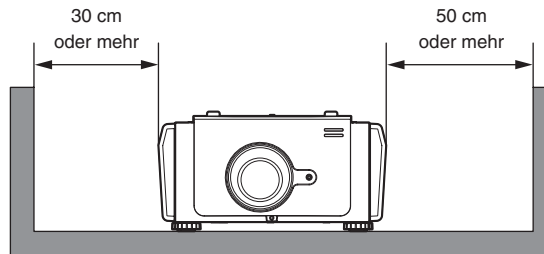
- The drawing shows the proper clearance required for the front, sides, back and bottom of the projector.
- If suspending the projector 30 cm/12 inches away from the ceiling, allow ample clearance for all four sides and the under the projector.

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.

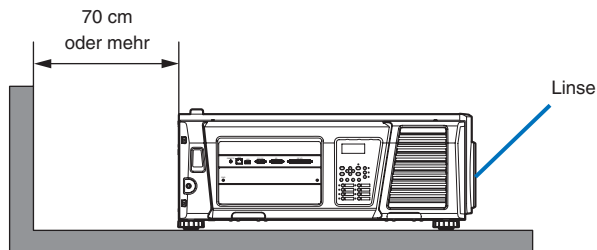
Beispiel 1 - Wenn sich Wände auf beiden Seiten des Projektors befinden.



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

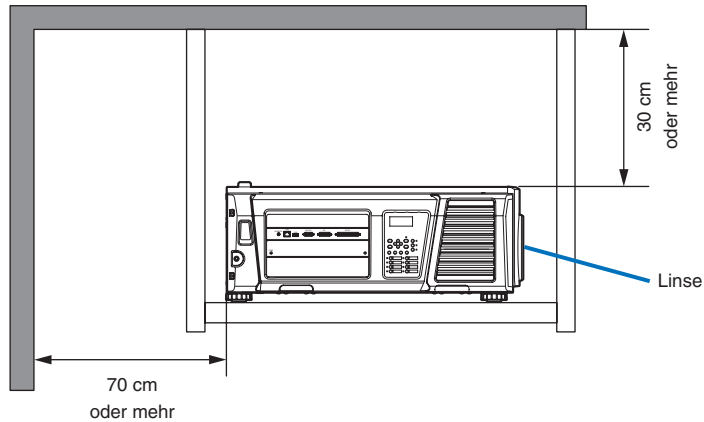
Beispiel 2 - Wenn sich eine Wand hinter dem Projektor befindet.

(1) Bei Installation auf einem flachen Untergrund:



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

(2) Bei der Deckenmontage:



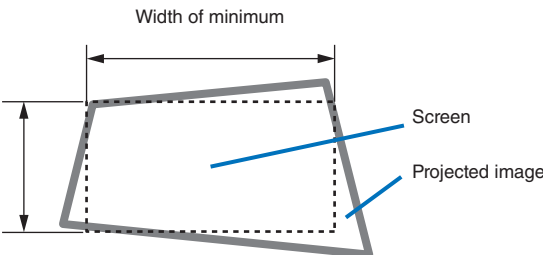
HINWEIS

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

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

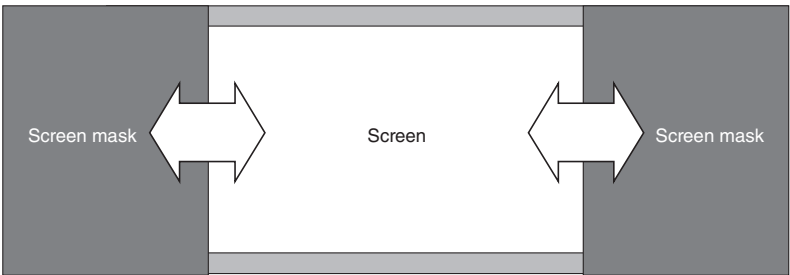


1-3-1. Screen Type

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

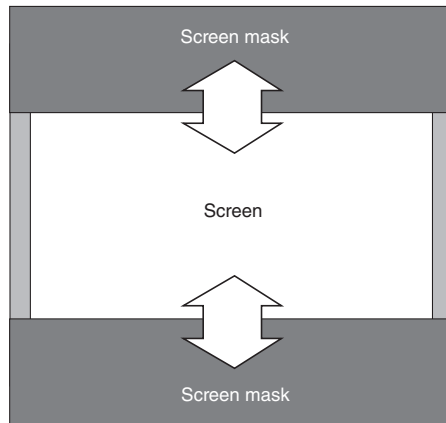
Horizontal moving screen mask

Screen masks move horizontally to adjust the screen.



Vertical moving screen mask

Screen masks move vertically to adjust the screen.



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

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

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

SCOPE projection:

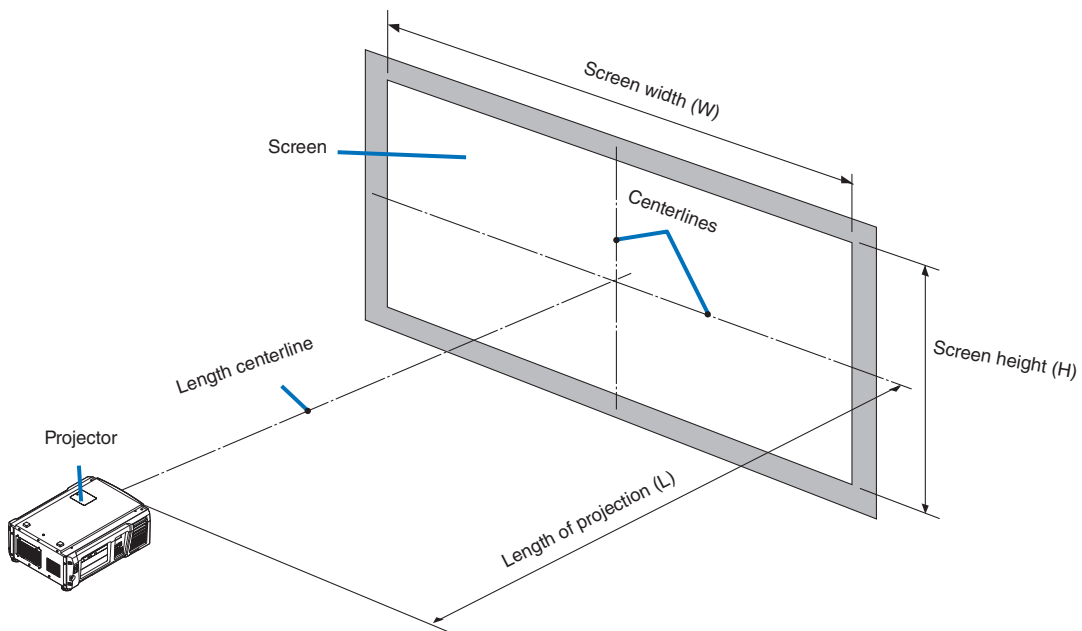
$$\text{Lens magnification} = \frac{\text{Length of projection (L)}}{\text{Screen width (W)}}$$

VISTA (FLAT)/HDTV projection:

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

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

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



Option lenses

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

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

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.

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

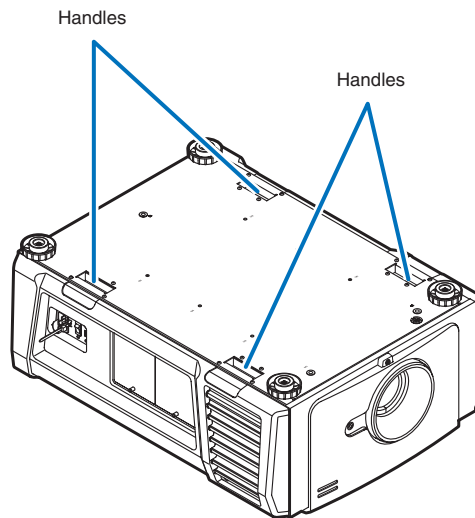
1-4. Carrying the projector

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



WARNING:

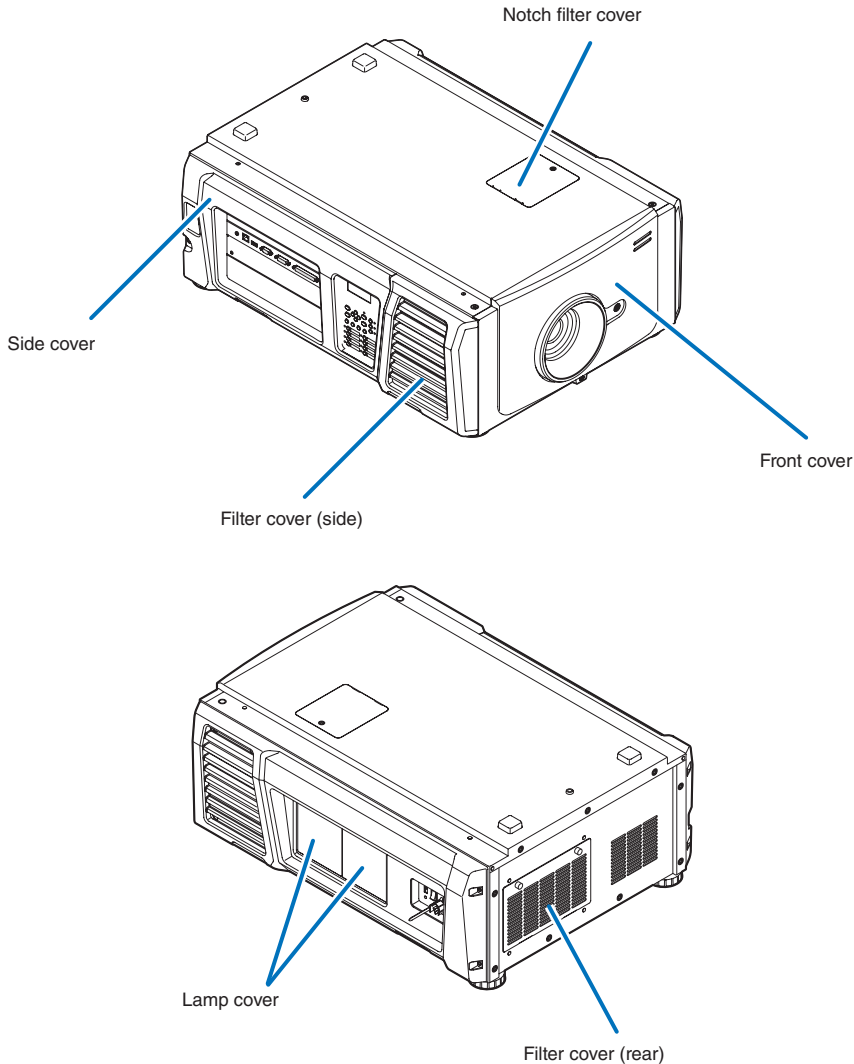
When moving the projector, first turn off the power and always disconnect the power plug from the electrical outlet, and check that all of the connecting cables between equipment and the lenses have been removed.



1-5. Removing the Projector Covers

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

Name of the cover



NOTE

- “Side cover” and “Front cover” are equipped with key locks. Special keys (cover key) are required to mount or remove them.
- To remove the side cover, the filter cover (side) needs to be removed.
- If you remove the front cover or side cover, the following error message is displayed on the LCD screen of the main unit operating panel by the tamper detection circuit.
“Tamper Fail”, “Service Door Tamper”

Encrypted contents cannot be displayed while an error message is being displayed. Refer to “3-2. Recovering from Tamper Errors” (page 49) for the recovery procedure.

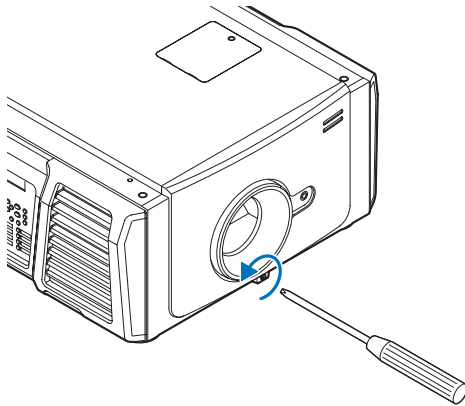
1-5-1. Removing and Mounting the Front Cover

NOTE When removing (mounting) the front cover, return the lens position to the center before turning off the projector power (page 78). If you do not return the lens position to the center, the lens may interfere and prevent you from removing (mounting) the front cover.

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

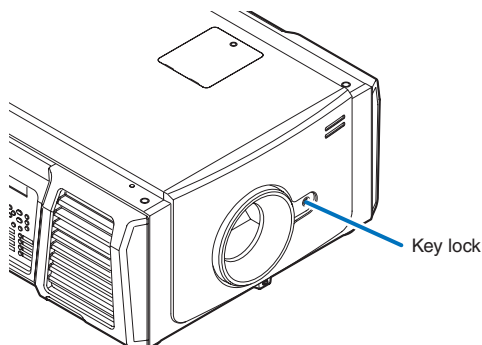
- 1** Loosen the screw securing the front cover until the Phillips screwdriver goes into a freewheeling conditions.

The screw is not removable.



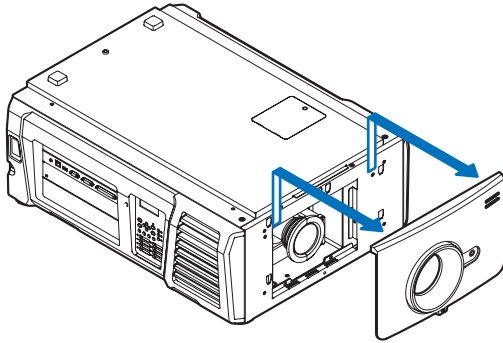
- 2** Unlock the front cover.

Unlock the cover using the cover key.



3 Remove the front cover.

Lift up the cover slightly and then pull it towards you to remove it.



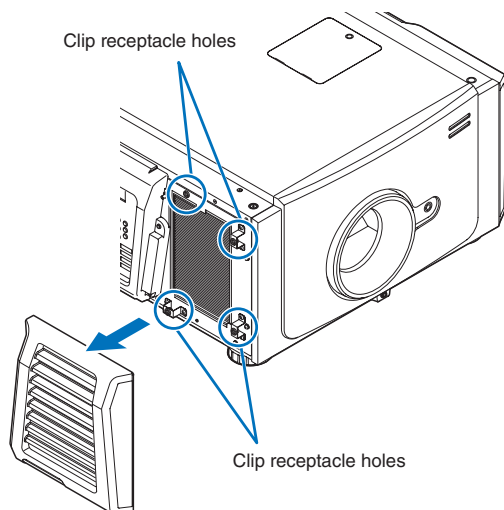
This completes removing the front cover. To mount the cover, perform the removal procedure in reverse. Make sure that you do not forget to tighten the screw or to lock the key lock.

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

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

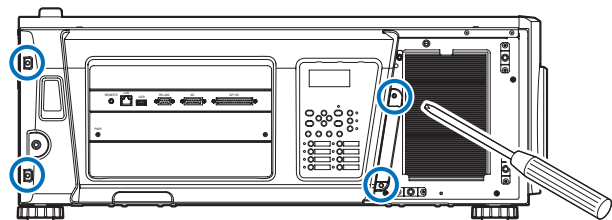
1 Remove the filter cover (side).

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



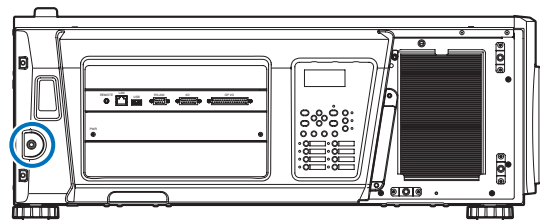
2 Loosen the four fixing screws on the side cover.

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



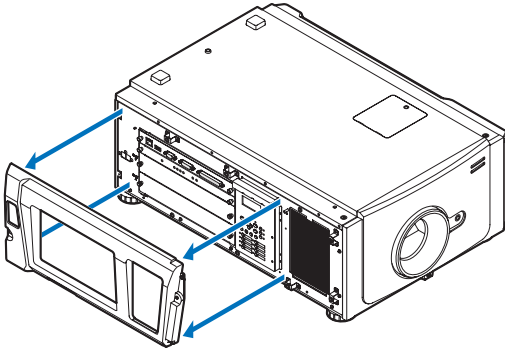
3 Unlock the side cover.

Unlock the cover using the cover key.



4 Remove the side cover.

Pull the cover directly towards you to remove it.



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

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

Refer to the projector User's Manual for details on how to remove and attach the lamp cover.

1-5-4. Removing and Mounting the Filter Cover

Refer to the projector User's Manual for details on how to remove and attach the filter cover.

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

Refer to "3-7. Replacing the Notch Filter" (page 59) for details on how to remove and attach the notch 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 32)
- **Step 2**
Selecting the Power Cable (See page 33)
Connecting the Power Cable (See Projector User's Manual)
- **Step 3**
Mounting the Lens Unit (See page 41)
- **Step 4**
Mounting the Lamp (See Projector User's Manual)
- **Step 5**
Mounting the following optional parts as required.
 - Installing the Media Block (NP-90MS02) (See page 44)

2-2. Projector Installation

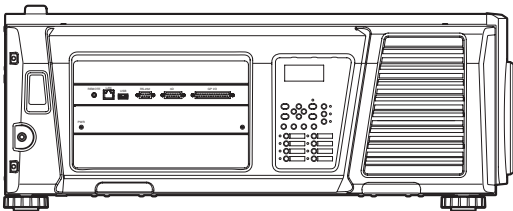
Move the projector to the projection position and install it corresponding to the screen and projection conditions.

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



CAUTION:

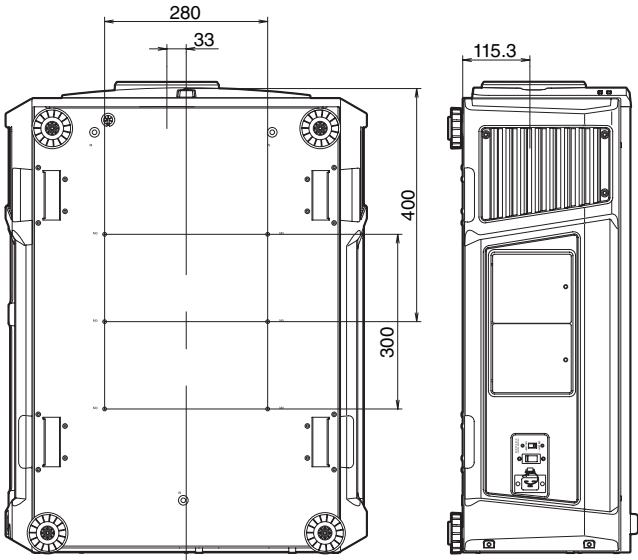
- Do not extend the adjuster by more than 35 mm. Rotating it forcefully may cause the adjuster to come off or be damaged.
- To adjust the level adjusters of the projector, extend the two level adjusters at the front and the back at the same time so that the weight is imposed to them equally. If you adjust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



Level adjusters (in four positions)

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

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



2-3. Selecting the Power Cable (English)

The power cable is not included with the projector. Refer to “2-3-1. AC Power Work Specifications” (page 34) and provide the necessary power cable.

**WARNING:**

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

**CAUTION:**

- For details on connecting the power cable, refer to the projector User's Manual.
- Before connecting the power cables, check that the main power switch of the projector is turned off. Implement the connection with AC power shut off.
- Be sure to ground the equipment to ensure safety. Use a power cable that meets the standards and power supply voltage of the country where you are using the projector (page 35), and always connect the equipment to the ground. If the ground is not connected, it may cause electrical shocks.
- When connecting the power cable plugs to the AC IN and the electrical outlet, securely insert the plugs all the way in. If the connection between the power cable plug and the electrical outlet is loose, the plug area may generate heat, causing burns and accidents.
- Switch the power cable and power supply voltage of the projector to match the projector to the voltage of the electrical outlet you are connecting to. If selected incorrectly, it may cause damage or fires.
- 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 the User's Manual of your projector.

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.

100–130V AC, single phase, power, 50/60Hz
200–240V AC, single phase, power, 50/60Hz

Breaker

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

AC power supply voltage used	Breaker current capacity
100–240V	20 A

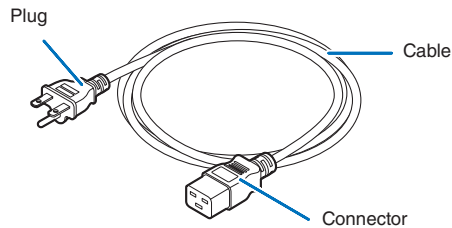
AC power supply cable for the projector

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

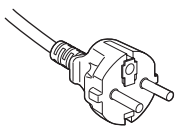
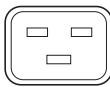
Power supply voltage	Projector input current	Power cable current capacity
AC 100–130V	12.2 to 9.0A	125V 15A or higher 250V 15A or higher
AC 200–240V	5.8 to 4.8A	250V 15A or higher

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

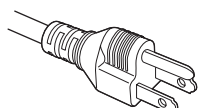
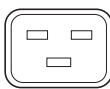
NOTE For users in North America
Use a power cable no longer than 4.5m/14.76 ft according to National Electrical Code.



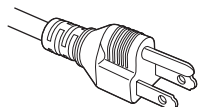
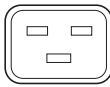
Germany

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

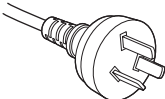
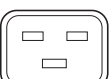
USA

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

Japan

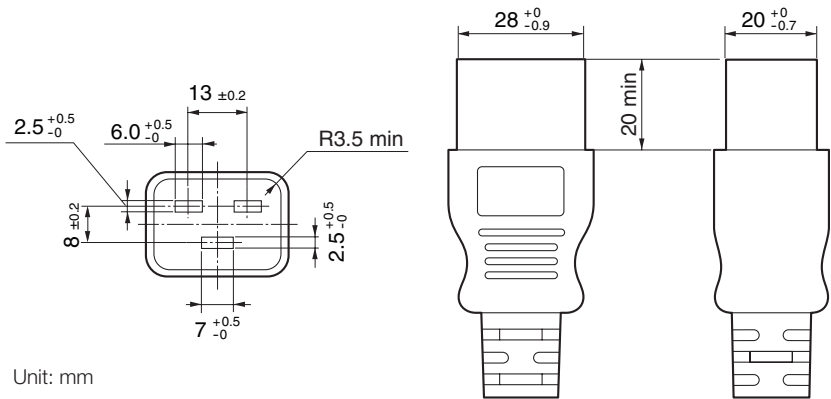
Plug	Cable	Connector
JIS C 8303 	VCTF 3 x 2.0mm 	IEC 320 C19 

China

Plug	Cable	Connector
GB2099	RVV 300/500	GB17465.1
		

Connector

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



2-4. Auswahl des Netzkabels (Deutsch)

Es wird kein Netzkabel mit dem Projektor geliefert. Nehmen Sie auf „2-4-1. Netzstrom-Spezifikationen“ (Seite 38) Bezug, und beschaffen Sie das notwendige Netzkabel.



WARNUNG:

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



ACHTUNG:

- Für Einzelheiten zum Anschließen des Netzkabels siehe des Projektors Bedienungshandbuch.
- Bevor Sie das Netzkabel anschließen, prüfen Sie, ob die Hauptstromschalter des Projektors ausgeschaltet ist. Stellen Sie die Verbindungen bei ausgeschaltetem Netzstrom her.
- Erden Sie das Gerät, um die Sicherheit zu gewährleisten. Verwenden Sie ein Netzkabel, das die Normen und Netzspannung des Landes, in dem der Projektor verwendet wird, erfüllt (Seite 39), 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.
- Wechseln Sie das Netzkabel und die Versorgungsspannung des Projektors, um den Projektor an die Spannung der verwendeten Netzsteckdose anzupassen. Eine falsche Einstellung kann zu Beschädigung oder Bränden führen.
- 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 finden Sie im Benutzerhandbuch Ihres Projektors erläutert.

2-4-1. Netzstrom-Spezifikationen

Netzkabel

Verwenden Sie für die Netzspannungsversorgung, die an den Projektorkopf angeschlossen ist, nur die unten angegebene Spannung.

100–130 V AC, eiphasig, 50/60Hz
200–240 V AC, eiphasig, 50/60Hz

Ausschalter

Verbinden Sie das Netzkabel mit der Netzversorgung via einen Abschalter.

Die Ausschalterleistung hat abhängig von der Versorgungsspannung folgende Werte.

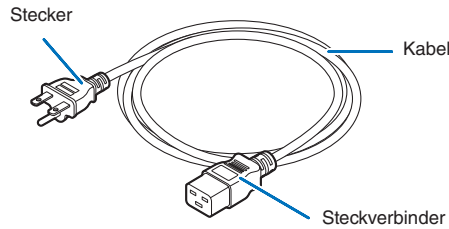
Verwendete Netzspannung	Ausschalterleistung
100–240 V	20 A

Netzkabel für den Projektor

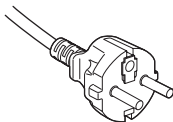
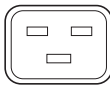
Der Projektor ist mit einem C19-Steckverbinder gemäß IEC60320 zum Anschließen des Netzkabels ausgestattet. Sorgen Sie dafür, dass die Netzkabel, die von den Steckverbindern am Projektor zum Netzanschluss führen, über die unten angegebenen Stromkapazitäten verfügen.

Netzspannung	Projektor-Eingangsstrom	Netzkabel-Stromkapazität
100–130 V Wechselstrom	12,2 bis 9,0A	125 V 15 A oder höher 250 V 15 A oder höher
200–240 V Wechselstrom	5,8 bis 4,8A	250 V 15 A oder höher

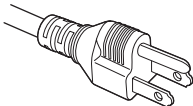
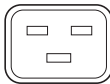
Verwenden Sie zudem Stecker, Kabel und Steckverbinder, die den Vorgaben des jeweiligen Landes entsprechen (siehe dazu folgende Tabelle).



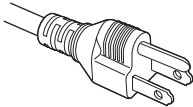
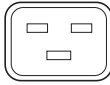
Deutschland

Stecker	Kabel	Steckverbinder
CEE 7 	H05VV-F 3G1.5 	IEC 320 C19 

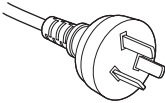
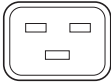
USA

Stecker	Kabel	Steckverbinder
NEMA 5-15P 	SJT 3 x AWG 14 	IEC 320 C19 

Japan

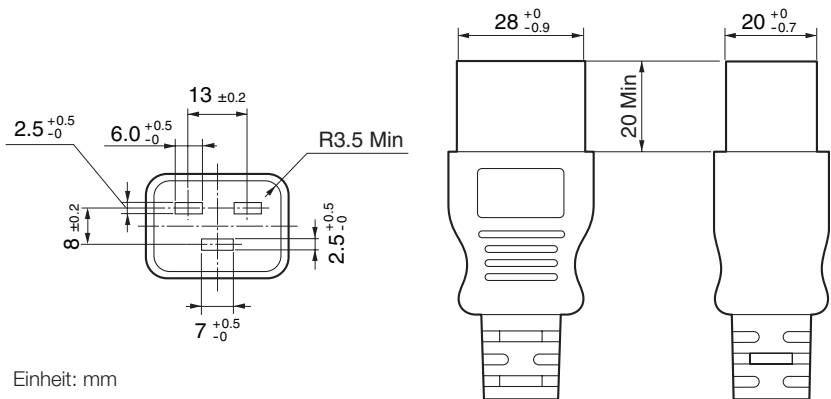
Stecker	Kabel	Steckverbinder
JIS C 8303 	VCTF 3 x 2.0mm 	IEC 320 C19 

China

Stecker	Kabel	Steckverbinder
GB2099 	RVV 300/500 	GB17465.1 

Steckverbinder

Die Abmessungen des Netzkabels sind unten angegeben.



2-5. Mounting the Lens Unit

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

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

NOTE

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

Preparation: Remove the front cover. (page 26)

NOTE

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

“Tamper Fail”, “Service Door Tamper”

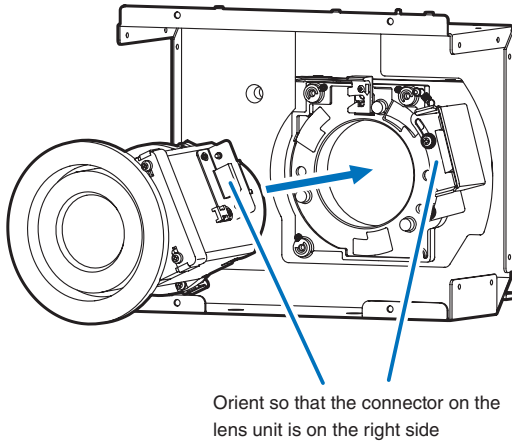
Encrypted contents cannot be displayed while an error message is being displayed. Refer to “3-2. Recovering from Tamper Errors” (page 49) for the recovery procedure.

- 1** Remove the dust cap from the projector.
- 2** Remove the lens cap on the back of lens.

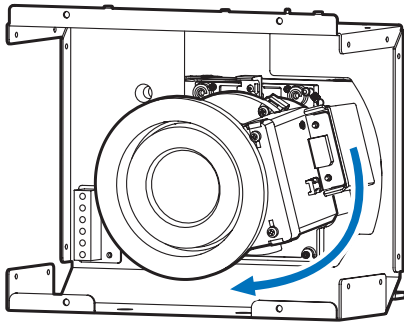
NOTE

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

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



- 4** Turn the lens clockwise.
Rotate until it clicks to lock the lens unit into the projector.



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

This completes the installation of the lens.

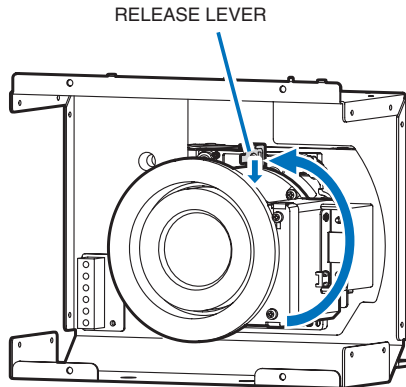
- NOTE** Perform the following steps before adjusting the lens.
- Common to all lens units
Configure the lens type setting and select the lens type that matches the lens unit that is attached (page 56).
 - Lens units that support the lens memory function
Execute lens calibration after configuring the lens type setting (page 57).

2-5-1. Removing the lens

- Preparation:**
- [1] Return to the center position. (page 78)
 - [2] Turn off the main power and unplug the power cable.
 - [3] Wait for the projector to cool sufficiently before removing the lens, before removing the front cover. (page 26)

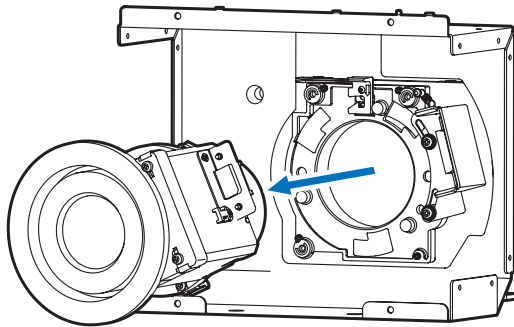
1 Rotate the lens counterclockwise while holding down the RELEASE LEVER.

The lens unit can be removed from the projector.



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

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



3 Mount the front cover to the projector.

This completes the remove of the lens.

2-6. Mounting the Lamp

Refer to the projector User's Manual for details on how to remove and attach the lamp. It is recommended that the lamps be replaced such that the difference between the lamp usage times is less than 2,000 hours because the brightness and color tone balance between the left and right sides of the screen will be lost if the difference between the lamp usage times exceeds 2,000 hours.

2-7. Mounting the Option Board

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

Name		Slot
IMB	NP-90MS02	*

Preparation:

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

- **Step 1**
Remove Side Cover from the Projector (See page 28)
- **Step 2**
Mount the Option Board to the Projector (See this page)
- **Step 3**
Mount the Cover to the Projector (See page 28)
- **Step 4**
Restore the Tamper Error (See page 49)
Setting up the Projector (See page 46)

NOTE

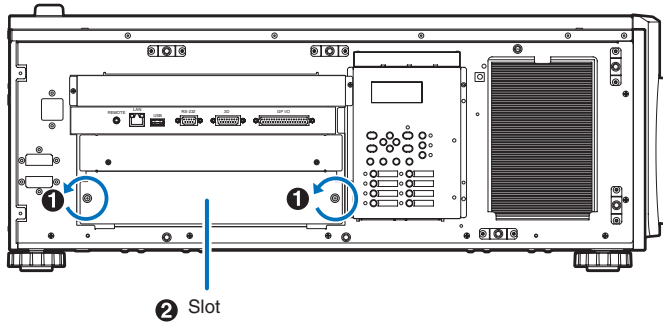
- If you remove the side cover, a tamper event is detected by the tamper detection circuit. When you start the projector after attaching the cover, the following error message is displayed on the LCD screen of the projector main unit.
 - "IMB: Service Door Tamper"
- If you remove the blocking panel or option board from a slot, a tamper event is detected by the tamper detection circuit. When you start the projector after attaching the cover, the following error message is displayed on the LCD screen of the projector main unit. Since the marriage is also cleared at the same time, re-marriage is necessary.
 - "IMB: Physical Marriage Tamper", "IMB: Marriage NOT Active"
- Encrypted contents cannot be displayed while an error message is being displayed. Refer to "3-2. Recovering from Tamper Errors" (page 49) for details on how to clear the error message.

1 Remove the side cover.

Side cover of the projector should be removed to mount the option board. For the procedure of removing the side cover, refer to “1-5-2. Removing and Mounting the Side Cover” (page 28).

2 Remove the blocking panel from slot.

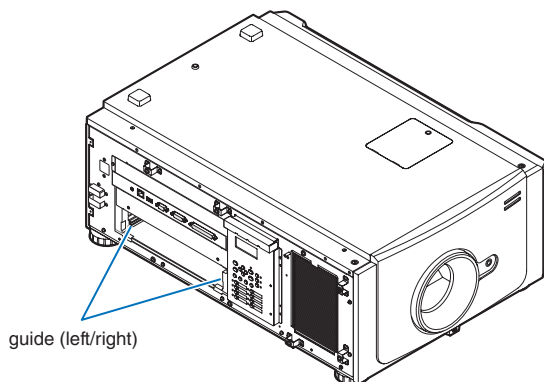
1. Loosen the knurled screws (2 places) of slot until their rotations become idle (❶). Screws cannot be removed.
2. Remove the blocking panel (❷).



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

3 Mount the option board to the projector.

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

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

This completes the mounting of option board. Next, recover the tamper error. For the procedure of recovering, refer to “3-2. Recovering from Tamper Errors” (page 49). A setting to use option board is needed, after recovering from tamper error. For the procedure, refer to “2-7-1. Make the option board usable” (page 46).

2-7-1. 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 "Users Manual".

TIP DCC can be used to set up.
For the procedure by using DCC, refer to "Digital Cinema Communicator Installation Manual".

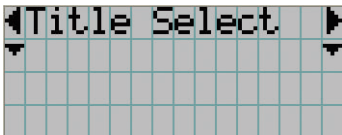
1 Set the projector in standby mode.

2 Enable the service personnel menu.

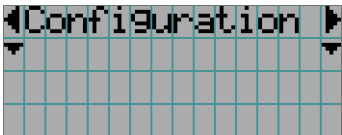
These settings are for our service personnel and cannot normally (user mode) be used. You need to enter a passcode to enable the service personnel menu. Refer to the "4-1-1. When You Use the Service Personnel Menu" (page 66) for the procedure.

3 Press the MENU button on the control panel.

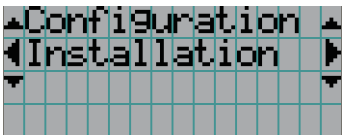
"Title Select" is displayed in the menu. From this procedure on, control panel of the projector will be used.



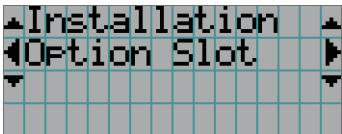
4 Press the LEFT/RIGHT button to display "Configuration" and press the DOWN button.



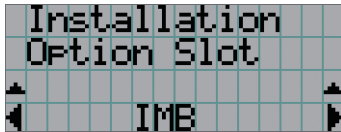
5 Press the LEFT/RIGHT button to display "Installation" and press the DOWN button.



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

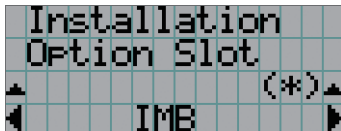


- 7** Press the LEFT/RIGHT button to display “IMB”:



- 8** Press the ENTER button.

(*) is displayed to the selected item.



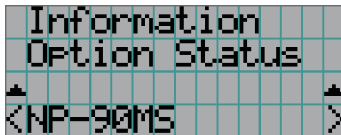
- 9** Press the EXIT button several times.

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]



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 52)
- **Step2**
Setting The Date and Time in the Projector (See page 53)
- **Step3**
Setting the Projector Projection Method (See page 54)
- **Step4**
Adjusting the Lens (See page 56)
Display the test pattern to adjust the screen size, screen angle and focus.
- **Step5**
Replacing the notch filter (See page 59)
- **Step6**
Connecting with the Image Input Port (See page 62)
- **Step7**
Connecting the Various Control Terminal (See page 63)

This chapter explains the adjustment and connection of the projector with Steps 1 to 7.

Steps 1 to 7 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 Installation Manual" for the procedure.

3-2. Recovering from Tamper Errors

The tamper detection circuit is fitted in the projector.

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

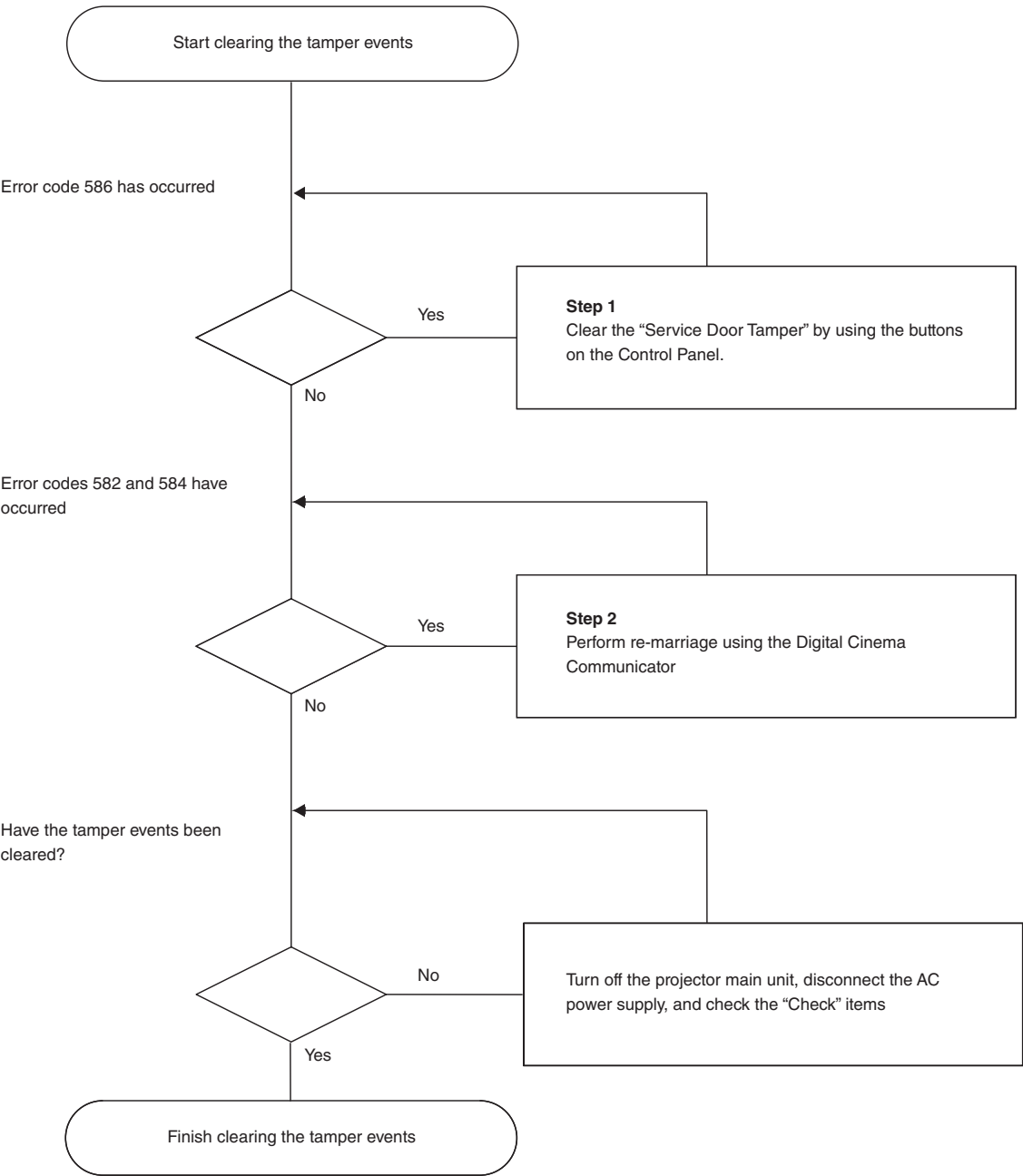
Action	Error code	Error message
Cover removed • Front cover • Side cover	586	IMB: Service Door Tamper
Slot device or blocking panel removed • Blocking panel • Media block	582 584	(582) IMB: Physical Marriage Tamper (584) IMB: Marriage NOT Active

TIP Error codes can be checked when using the DCC.

While the above error messages are being displayed, encrypted contents cannot be displayed. Refer to "3-2-1. Clearing tamper events" (page 50) for details on how to recover from tamper errors.

3-2-1. Clearing tamper events

Be sure to do this while the power of the projector is on (when Power-ON).
If any tamper events have been detected by the tamper detection circuit of the projector main unit, clear the tamper events using the following procedure.



• Step 1

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

Refer to “4-1-1. When You Use the Service Personnel Menu” (page 66) for details on logging into the projector with Advanced User or higher privileges using the buttons on the control panel.

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

NOTE

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

Before entering the password, inspect the password entry device (such as remote controller and/or keypad on the projector) for any evidence of physical tampering. In the event that any suspicious markings are present (such as gouges, extraneous wiring, adhesive materials, etc.) “DO NOT” enter the password and consult with the distributor. Always store the password, remote controller, and projector in a safe place and never divulge the password to unauthorized entities.

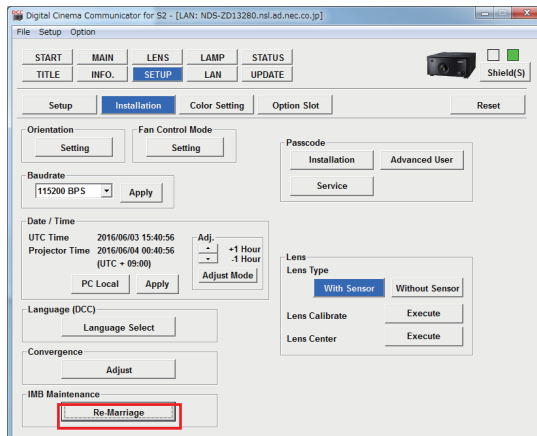
Entered password is indicated with * on the LCD.

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

• Step 2

“Perform Re-Marriage using the Digital Cinema Communicator”

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



• Check

“Attach the front cover, side cover”

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

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

“Check that the equipment is correctly attached to slot”

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

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

3-3. Turning your Projector On

NOTE

- Do not use the projector with the lens cap left attached, and do not attach the lens cap while the projector is operating. The lens cap may become hot, causing them to deform or melt.
- In the following instances, the power to your projector cannot be turned on even if you press the POWER button.
 - When the inside temperature is abnormally high. The protective function prevents power from turning on. Wait some time (until the projector inside cools down) and then turn on the power.
 - When the rear status indicator is blinking red without the lamp lighting up after power-on. Your projector may be in trouble. Check the error display on the LCD screen and contact your dealer/distributor for instructions.

Preparation:

- Connect the power cable to the projector (See Projector User's Manual).
- Supply AC power to the projector.

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

 CAUTION:

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

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

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

The light source is turned off, the POWER indicator blinks green, and the rear status indicator blinks orange (cooling state). The fan will continue to rotate while cooling, and the amount of time remaining for cooling is displayed on the LCD screen. 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.
- 4 If KEY LOCK is on, press the KEY LOCK button for one second or longer.

KEY LOCK becomes off. The KEY LOCK button indicator turns off and buttons on the control panel become operable.

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

Projector turns on.

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

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

The lamp is turned on and the screen glows light about 15 seconds later. The LAMP ON/OFF button indicator brinks in cycles of 2 (and changes to steady green light 90 seconds later). The douser is closed until the screen glows light (the DOUSER button indicator lights green). When the douser is open, the DOUSER button indicator turns off.

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

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

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

NOTE When installed on the ceiling, always set “Fan Tilt Setting” (page 77) correctly.

1 Press the MENU button for three seconds or longer.

The Passcode input screen appears on the LCD screen at the projector's control panel.
Press the EXIT button to return to the original screen.

2 Enter the passcode and press the ENTER button.

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

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

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

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

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

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

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

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

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

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

8 Press the ENTER button.

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

9 Press the EXIT button.

Returns to the “Orientation” screen. Next, set the installation method.

10 Press the LEFT/RIGHT button to display “Fan Tilt Setting” and press the DOWN button.

11 Press the LEFT/RIGHT buttons to select the projection method.

When shipped from the factory, it is set to [Floor].

Floor	Select when the projector is installed on a desktop.
Ceiling	Select when the projector is installed on the ceiling.

12 Press the ENTER button.

An (*) will be put on the selected fan operating mode.

13 Press the EXIT button several times.

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

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

3-6. Adjusting the Lens

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

Preparation:

Enable the service personnel menu (page 66).

3-6-1. Set the Lens Type

- 1** Press the MENU button on the control panel.
“Title Select” is displayed in the menu.
- 2** Press the LEFT/RIGHT button to display “Configuration” and press the DOWN button.
- 3** Press the LEFT/RIGHT button to display “Installation” and press the DOWN button.
- 4** Press the LEFT/RIGHT button to display “Lens Type” and press the DOWN button.
- 5** Press the LEFT/RIGHT button to select the type of lens attached to the projector.

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

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

- 6** Press the ENTER button.
(*) is displayed to the selected item.
- 7** Press the EXIT button several times.
The projector exits the menu and goes back to the regular screen.

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

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

Preparation:

- Check that the lens is attached correctly (page 41).
- Set the lens type (page 56).

1 Press the MENU button on the control panel.

"Title Select" is displayed in the menu.

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

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

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

5 Check that "Execute" is displayed and press the ENTER button.

The confirmation screen will appear.

6 Select "Yes" in the confirmation screen, and then press the ENTER button.

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

3-6-3. Display the Test Pattern

1 Press the MENU button.

"Title Select" is displayed on the LCD screen at the projector's control panel.

2 Press the DOWN button.

3 Press the LEFT/RIGHT buttons to select "TEST Pattern."

4 Press the DOWN button.

5 Press the LEFT/RIGHT buttons to select "Cross Hatch."

6 Press the ENTER button.

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

3-6-4. Adjusting the Screen Angle

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

- [1] Press the MENU button on the projector's control panel.
"Title Select" appears on the projector's LC display.
- [2] Select "Configuration" menu using LEFT the LEFT/RIGHT button.
- [3] Press the DOWN button.
- [4] Select "Lens Control" using the LEFT/RIGHT button.
- [5] Press the DOWN button.
- [6] Press the ENTER button.
"Focus Zoom" is displayed and you can adjust the focus/zoom.

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

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

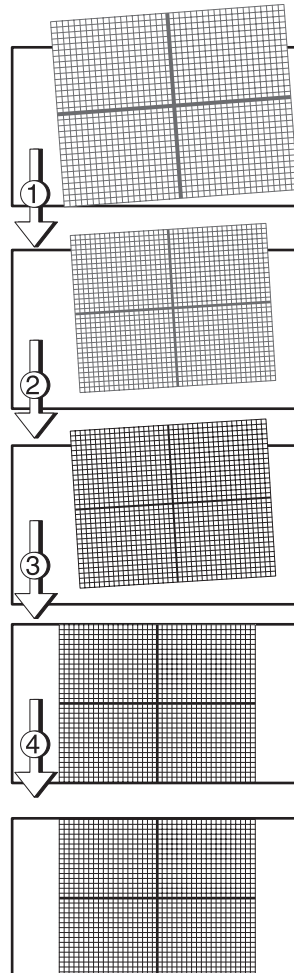
- 3** Adjust the surface on which the projector is set up and the level adjuster of the projector to adjust the setup position, height, and tilt (front-back and left right) of the projector so that the projected image is level at the screen center.

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

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

- 6** Press the EXIT button several times.

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



3-7. Replacing the Notch Filter

This projector is equipped with a notch filter that has been optimized for projection in a movie theater. The image can be made brighter by removing the notch filter. Note that the projector does not comply with the Color Gamut in the DCI standards in that case.

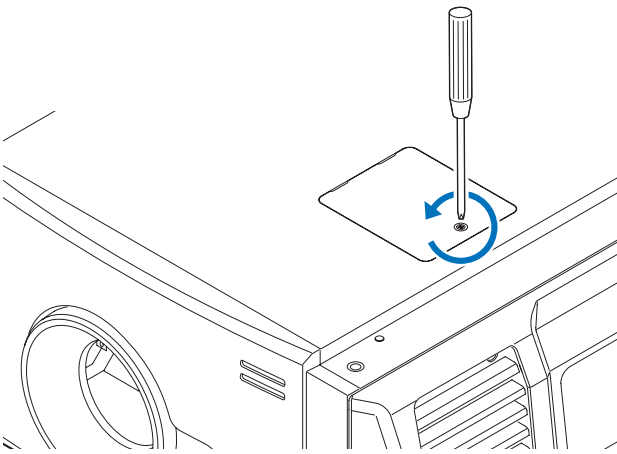
NOTE If you remove the notch filter, always attach the dummy bracket.

Preparation:

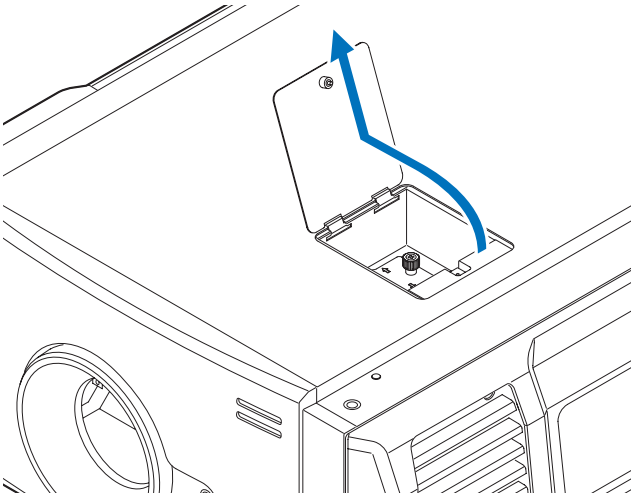
- Phillips head screwdriver (No.2).
- Turn off the projector and disconnect it from the electrical outlet.

1 Remove the notch filter cover.

1. Loosen the screw. The screw cannot be removed.

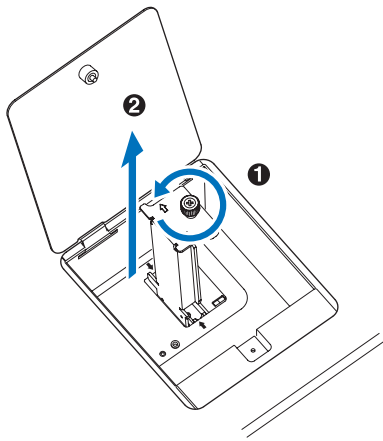


2. Open the notch filter cover, and then pull it up and remove it.



2 Remove the notch filter.

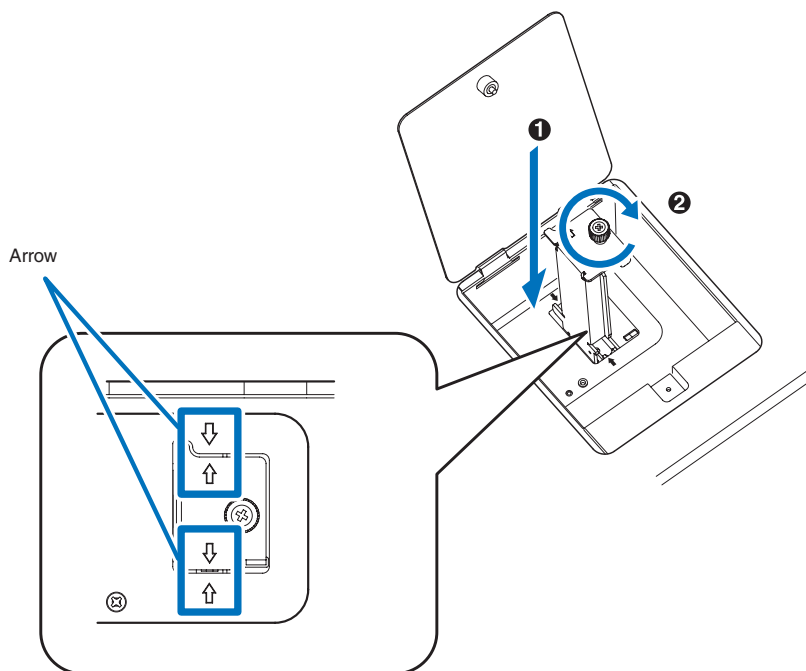
1. Loosen the screw on the notch filter until it is free to spin (1). The screw does not detach from the notch filter.
2. Gently pull up the notch filter and remove it (2).



3 Take the dummy bracket from the accessory box.

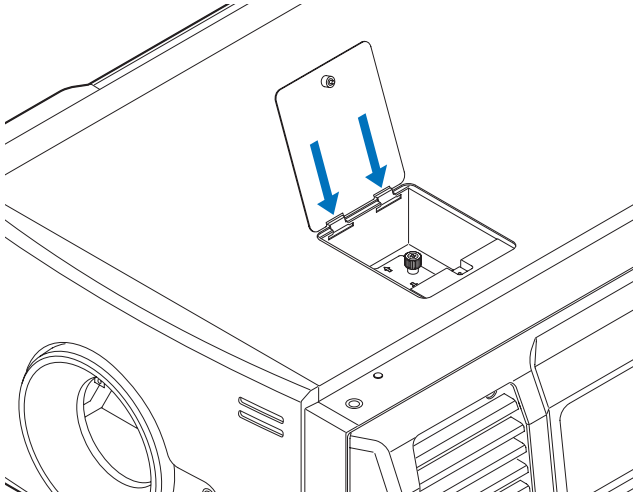
4 Attach the dummy bracket.

1. Gently attach along the guides on the projector (1).
Check that the position of the arrow on the dummy bracket is aligned with the arrow on the projector.
2. Fasten the locking screws to affix the dummy bracket (2).

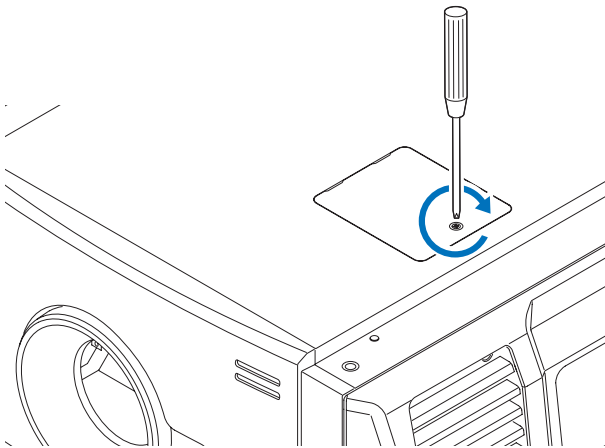


5 Mount the notch filter cover to the projector.

1. Attach with the protrusions in the notch filter cover aligned with the holes in the projector.



2. Tighten the screw on the notch filter cover clockwise to fasten.



This completes replacing the notch filter.

3-8. Connecting with the Image Input Port

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

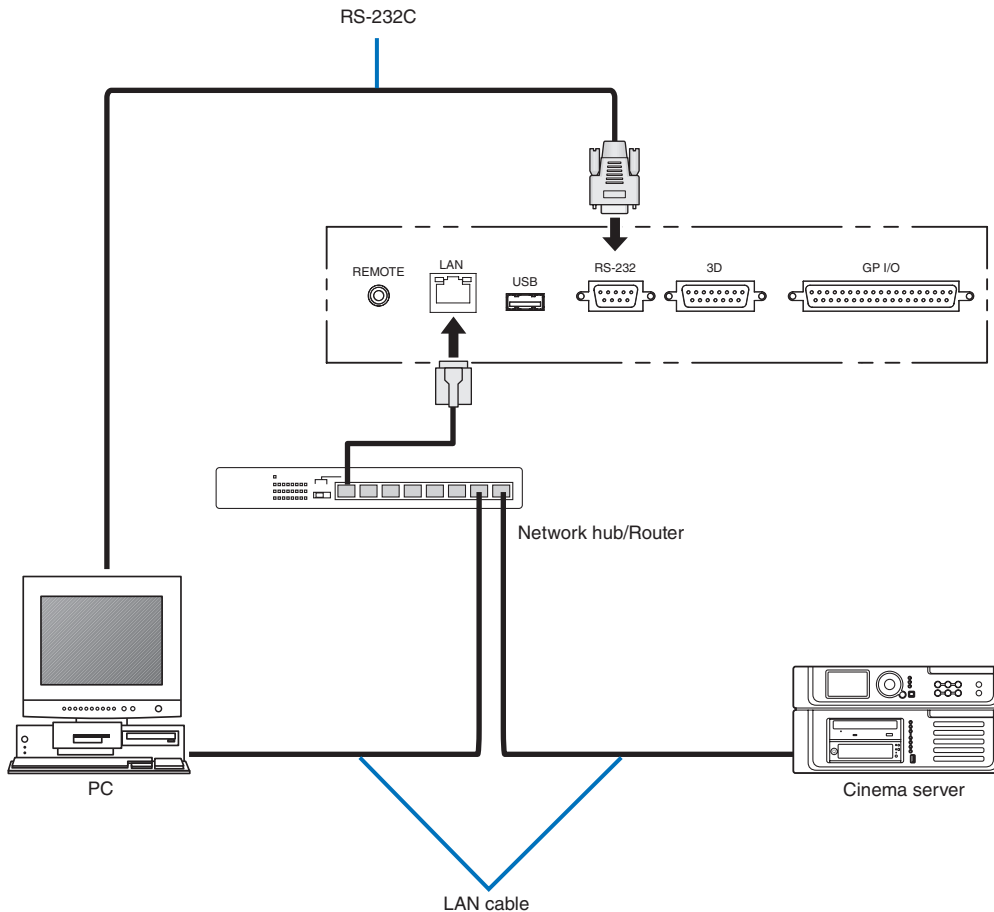
Option Board	Image Input Port
NP-90MS02 (Note)	HDMI input port x1 SDI input port x2

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

3-9. 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 Installation Manual" for the procedure.

4. LCD Menu

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

4-1. List of Menu

Menus in parentheses are menus for our service personnel. Normally, these menus cannot be used. If you are logged in to the projector with Installation privileges, you cannot use [FactoryDefault] - [LAN] (page 69).

Main menu	Submenu		Description	Reference page
Title Select	"Title Memory Name"		Selects the title of the signal to be projected.	66
	TEST Pattern		Selects the test pattern to be projected.	66
Configuration	Lamp Setup	Adjust	Adjusts lamp brightness.	67
		Lamp Mode	Selects the lamp to use.	67
	Lens Control	Lens Position	Adjusts the position of the projected screen.	68
		Focus Zoom	Adjusts the size and focus of the projected screen.	68
	Reset	(FactoryDefault)	Returns the settings to their default values. Selects between preset buttons and titles only, LAN settings only and all settings.	69
		Lamp Usage	Initializes the usage time of the lamp.	70
		Filter Usage	Initializes the usage time of the air filter.	70
		Filter Cleaning	Initializes the air filter usage time (for confirming the filter cleaning time).	70
		(Fan Usage)	Initializes the usage time of the fan.	71
		(Douser Count)	Resets the number of times the douser has been used.	71
	(Setup)	Douser Setup	Sets the douser open/close state.	72
		Panel Key Lock	Locks the buttons on the projector's control panel so that they cannot be operated.	72
		Auto Key Lock	Enables or disables Auto Key Lock.	73
		3D Connector	Sets the signal input terminal for a 3D image system (3D terminal or GPI/O terminal).	73
		Unlit Mode	Sets the projector operation when the lamp does not turn on.	73
		Off Timer	Sets the time until the projector power is turned off automatically.	74
		Message	Sets the time to display the message indicating the air filter replacement cycle.	74
		Silent Mode	Selects whether to use the status indicator, buzzer, indicators on the control panel and backlight.	74
	(Installation)	Option Slot	Configures the device installed in slot (only when the projector is in standby mode).	76
		Orientation	Sets the projection method and cooling fan operating mode.	76
		Lens Type	Sets the type of lens (supports or does not support the lens memory function) attached to the projector.	77
		Lens Calibrate	Performs calibration on lens units that support the lens memory function (only when the projector power is turned on).	78
		Lens Center	Moves the lens shift position to the center.	78
		Baudrate	Sets the PC control connector (RS-232) data transmission speed (bps).	78
		Date/Time	Sets the date and time on the projector.	79
		Fan Speed Mode	Sets the cooling fan operating mode.	79
		Fan Noise Reduction	Sets the silent mode of the cooling fan.	80
	(Memory)	Lamp	The content of the selected lamp memory (lamp mode and lamp output power value) can be overwritten with the current settings.	81
		Lens	The content of the selected lens memory can be overwritten with the current settings.	

Main menu	Submenu		Description	Reference page
(Title Setup)	Preset Button	Preset Button 1–16	Sets the title to be assigned to the preset buttons (<1> to <8> buttons).	82
Information	Lamp	Output	Displays the lamp output setting.	83
		Voltage	Displays the lamp voltage value.	83
		Serial	Displays the serial number of the lamp.	83
	Lens Type		Displays the lens type setting.	83
	Preset Button	Preset Button 1–16	Displays the titles which are assigned to the preset buttons (<1> to <8> buttons).	84
	Usage		Displays information related to projector usage.	84
	Error Code		Displays the currently occurring error.	84
	Version	System	Displays the model name and various version information about the projector.	85
		IMB	Displays the vendor name and version information about the media block (IMB).	85
	IP Address	System	Displays the IP address of the projector.	85
	Setup Date		Displays the date when the projector was set up (starting date of the warranty period).	86
	Option Status		Displays the link status of the device mounted in slot and projector.	86

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

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

1 Press the MENU button for three seconds or longer.

The passcode input screen will be displayed on the LCD screen at the projector's control panel.
Press the EXIT button to return to the original screen.

2 Enter the passcode and press the ENTER button.

If you make a mistake during input, you can move the cursor by pressing the LEFT/RIGHT buttons and overwrite the passcode.
If the passcode is correct, you can use the menu for service personnel.

NOTE

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

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

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

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

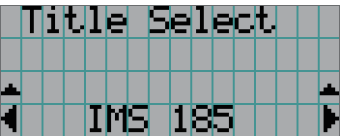
Entered password is indicated with * on the LCD.

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

4-2. Title Select

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

Select the title of the signal to be projected.
You can register up to 100 titles. You can also assign registered titles to the preset buttons <1> to <8> on the projector's control panel and call them up directly using those buttons. (See page 84)

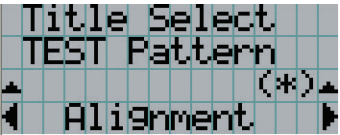


← Displays the currently selected item with asterisk (*).

← Selects the title to be projected.

4-2-2. Test Pattern

Selects the test pattern to be projected.



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

← Selects the test pattern to be projected.

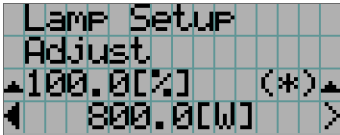
OFF, Alignment, Cross Hatch, Convergence, Red, Green, Blue, White, Black, White 50% [IRE], H-Ramp, Logo

4-3. Configuration

4-3-1. Lamp Setup

Adjust

Adjust the lamp output (brightness).

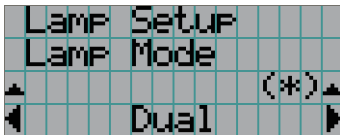


← Displays the current output power value (%) when the lamp rated output is 100%.
← Displays the current power value (W).

NOTE You cannot set the lamp output to below 80.5%.

Lamp Mode

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



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

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

TIP

- If you change the lamp mode while the lamp is on, the changed settings are applied immediately.
- If you change the lamp mode while the lamp is off, the changed settings are applied the next time the lamp is turned on.
- The LCD screen displays “Lamp Lit Change” if any of the following events occurs when the lamp mode is set to “Dual”.
 - One of the lamps has failed to turn on when you turn the lamps on
 - One of the lamps has extinguished while the lamps are onTo once again light a lamp which has failed to turn on or extinguished, press both the LAMP ON/OFF button and the MENU button three seconds or longer. However, the lamp cannot be turned on again while the LAMP ON/OFF button indicator is blinking.

NOTE

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

4-3-2. Lens Control

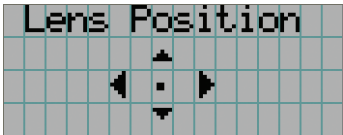
Adjust the position, size, and focus of the projected screen.

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

Lens Position

Adjusts the position of the projected screen.

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

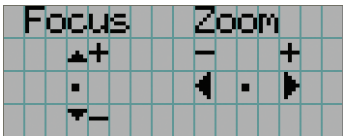


Focus Zoom

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

Press the UP/DOWN button to adjust the focus.

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



4-3-3. Reset

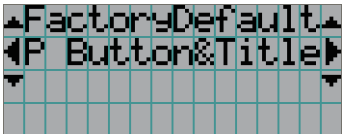
Used when initializing settings and usage times. Some of the items are in the service personnel menu. Refer to “4-1-1. When You Use the Service Personnel Menu” (page 66) for details on how to use these.

Item	Service Personnel	User
FactoryDefalut	○	—
Lamp Usage	○	○
Filter Usage	○	○
Filter Cleaning	○	○
Fan Usage	○	—
Douser Count	○	—

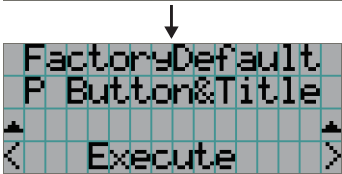
FactoryDefault

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

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



← Select the item to be reset.



← Press the ENTER button to execute resetting.

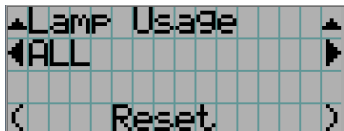
P Button & Title	Resets the allocation of preset buttons and all registered titles.
LAN	Resets the network settings.
All	Resets all adjustment and setting values.

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

Lamp Usage

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

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



← Selects the lamp to reset the usage time of.

← Press the ENTER button to display the confirmation screen.

Filter Usage

Resets the air filter usage time.

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



← Selects the filter to reset the usage time of.

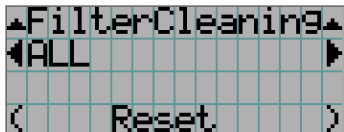
← Press the ENTER button to display the confirmation screen.

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

Filter Cleaning

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

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



← Selects the filter to reset the usage time of.

← Press the ENTER button to display the confirmation screen.

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

Fan Usage

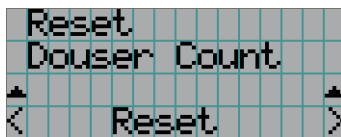
Resets the fan usage time. Press the ENTER button, then select "Yes" in the displayed confirmation screen, and then press the ENTER button to reset the fan usage time.



← Press the ENTER button to display the confirmation screen.

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 66).

Douser Setup

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

▲Douser Setup▲

◀Open(Power On)▶

▼

← Selects the item.

Douser Setup

Open(Power On)

(*)

◀ Disable ▶

← 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.
Lamp On	When set to Enable, the douser opens when the lamp 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.

Setup

Panel Key Lock

(*)

◀ Unlock ▶

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

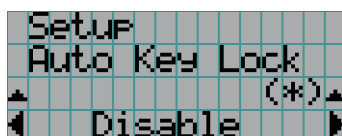
← Displays the setting.

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

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

Auto Key Lock

Enables or disables Auto Key Lock.



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

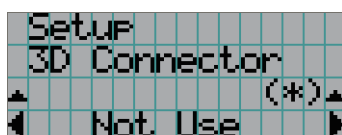
← Displays the setting.

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

3D Connector

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

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



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

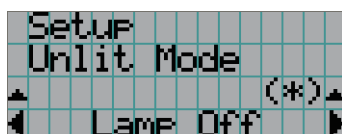
← Displays the setting.

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

Unlit Mode

When lamp is unlit, sets whether to shut down the projector or transit to lamp-off state. The default setting is set to "Lamp Off".

For this menu, the new setting is applied immediately when the setting is changed.



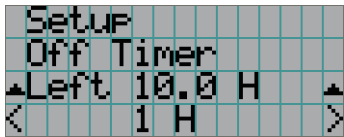
← Displays the currently selected item with asterisk (*).

← Displays the setting.

Lamp Off	In case the lamp did not turn on for some reason, the projector will transit to lamp-off state (the power remains turned on).
Cooling	In case the lamp did not turn on for some reason, the projector shuts down (powers off). (Before shutting down, the fan operates for 90 seconds (cool off time).)

Off Timer

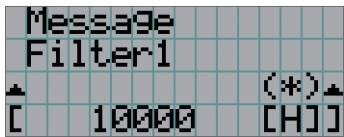
Automatically turns off the projector power once the configured time has elapsed. The time until the power is turned off can be set in steps of 1 hour (up to a maximum of 24 hours). The timer starts from when the setting is applied by pressing the ENTER button. While the timer is running, the remaining 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

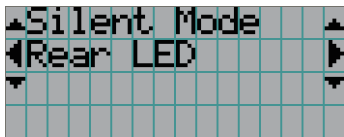
Sets the time until the air filter replacement cycle (units: hours). Once the usage time of the air filter exceeds the configured time, the message ("Filter Time Over") is displayed on the LCD screen. The default setting is set to "0 (----) [H]". In this setting, "Filter Time Over" is not displayed.



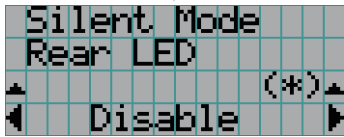
← The current setting value is displayed with an asterisk (*).
← Sets the time until the replacement cycle (units: hours).

Silent Mode

Sets whether the status indicators, 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 status indicators. Enable: Use Disable: Not use (the status indicators do 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.

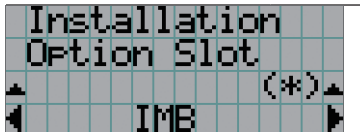
4-3-5. Installation

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 66).

Option Slot

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

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



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

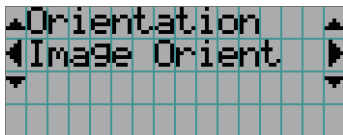
← Displays the setting.

IMB	Media block (NP-90MS02)
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.

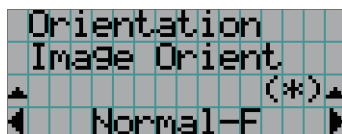
NOTE When you change the installation method, always check that “Fan Tilt Setting” is set correctly (the factory default settings are Image Orient: Normal-F and Fan Tilt Setting: Floor). If “Fan Tilt Setting” is not set correctly, the lamp may heat up causing it to shatter or become damaged.



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

Image Orient	Set the projection method.
Fan Tilt Setting	Set the cooling method to match the projection method.

(If you selected Image Orient)



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

← Displays the setting.

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

(If you selected Fan Tilt Setting)



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

← Displays the setting.

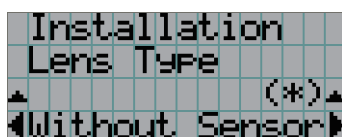
Floor	Select when the projector is installed on a desktop.
Ceiling	Select when the projector is installed on the ceiling.

Lens Type

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

NOTE The lens memory function is supported by the following system firmware and lens firmware versions of the projector.

- Version 2.000 or later of the system firmware of the projector
- Version MRN_D01 or later of the lens firmware



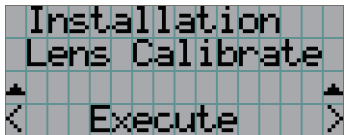
← Displays the currently selected item with asterisk (*).

← Displays the setting.

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

Lens Calibrate

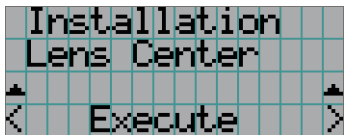
Performs calibration on lenses that support the lens memory function. Once you have attached a lens that supports the lens memory function, always execute calibration. This menu item is available only when the projector power is turned on.



← Press the ENTER button to execute calibration.

Lens Center

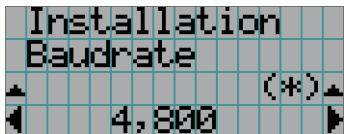
To move the lens shift to the center position. The center position may slightly shift depending upon mounting conditions of the lens.



← 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.

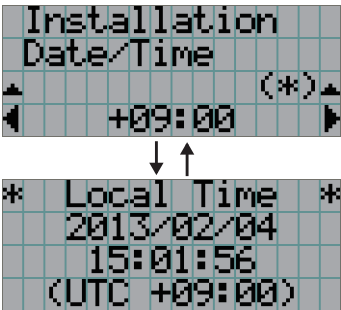


← Displays the currently selected item with asterisk (*).

← 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.



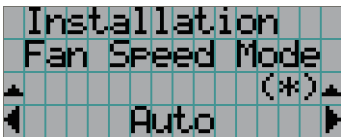
← Displays the currently setting with asterisk (*).
← Sets the time difference between the standard time in your region and UTC.

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

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

Fan Speed Mode

It adjusts the rotation speed of the internal cooling fan.



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

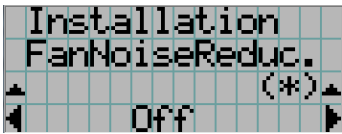
Auto	The fan rotates at the optimal speed according to the temperature sensor inside the projector.
High Speed	The fan always rotates at high speed.
High Altitude	Select when using the projector in locations with low air pressure, such as at high elevations of altitude approximately 5500 feet (1600 m)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

NOTE

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

Fan Noise Reduction

Sets the cooling fan quiet mode.



Off	Quiet mode off (default value)
On	Quiet mode on

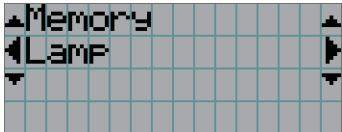
NOTE When turning quiet mode on, consult your dealer.

4-3-6. Memory

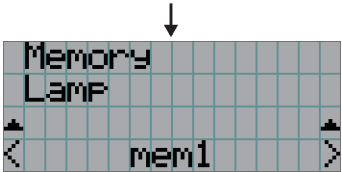
This menu is the service personnel menu. For the using service personnel menu, refer to “4-1-1. When You Use the Service Personnel Menu” (page 66).

The selected lens memory (lens adjustment value) and the content of the lamp memory (lamp mode and lamp output power value) can be overwritten with the current settings. Press the LEFT/RIGHT buttons to select the lamp 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 (lamp memory or lens memory) is overwritten with the current settings.

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



← Select the lamp memory or lens memory.



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

Lamp	Select to change the values of the lamp 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 66).

4-4-1. Preset Button

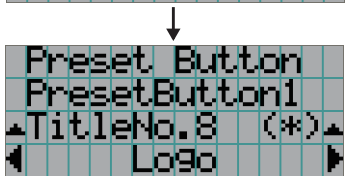
Use this button to set the titles to be assigned to the preset buttons (<1> to <8> buttons).

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

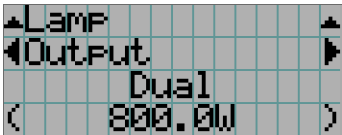
Displays the hours of lamp use, the version information and error codes.

4-5-1. Lamp

Displays information relating to the lamp.

Output

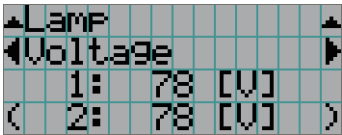
Displays the lamp mode and lamp output power value (W).



- ← Selects the item to display.
- ← Displays the lamp mode.
- ← Displays the current power value (W).

Voltage

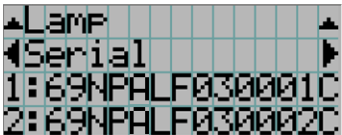
Displays the voltage value (V) of the currently used lamp.



- ← Selects the item to display.
- ← Displays the voltage value (V) of lamp 1.
- ← Displays the voltage value (V) of lamp 2.

Serial

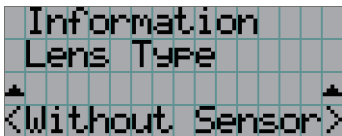
Displays the serial number of the currently used lamp.



- ← Selects the item to display.
- ← Displays the serial number of lamp 1.
- ← Displays the serial number of lamp 2.

4-5-2. Lens Type

Displays the current lens type setting. The lens type setting is configured from "Lens Type" in the "Configuration" - "Installation" menu (page 77).

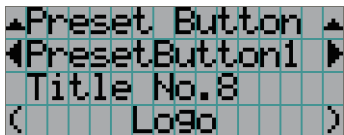


- ← Displays the current lens type setting.

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

4-5-3. Preset Button

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



The LCD screen displays the 'Preset Button' menu. The first line shows 'Preset Button' with left and right arrow icons. The second line shows 'PresetButton1' with left and right arrow icons. The third line shows 'Title No.8'. The fourth line shows 'Logo' in parentheses. The screen is overlaid with a green grid.

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

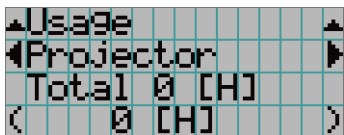
← Displays the assigned title numbers.

← Displays the registered names of the assigned titles.

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

4-5-4. Usage

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



The LCD screen displays the 'Usage' menu. The first line shows 'Usage' with left and right arrow icons. The second line shows 'Projector' with left and right arrow icons. The third line shows 'Total 0 [H]'. The fourth line shows '0 [H]' in parentheses. The screen is overlaid with a green grid.

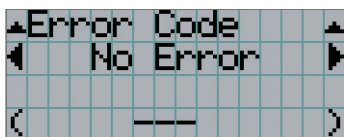
← Selects the item to display.

← Displays information about the selected item.

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

4-5-5. 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.



The LCD screen displays the 'Error Code' menu. The first line shows 'Error Code' with left and right arrow icons. The second line shows 'No Error' with left and right arrow icons. The third line shows a horizontal line in parentheses. The screen is overlaid with a green grid.

← Displays the code of the error currently occurring.

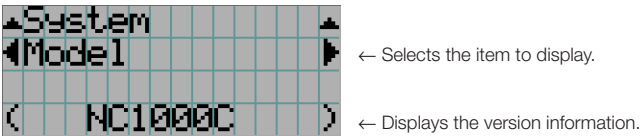
← Displays the name of the error currently occurring.

4-5-6. Version

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

System

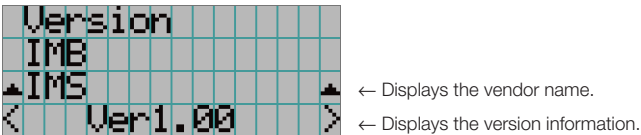
Displays the version information of the projector.



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

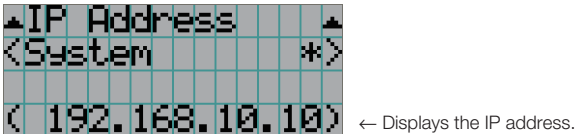
IMB

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



4-5-7. IP Address

Displays the IP address set in the projector.

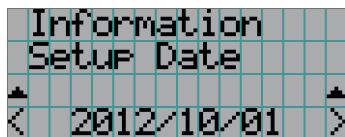


System	Displays the IP address set for the projector (System).
--------	---

4-5-8. Setup Date

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

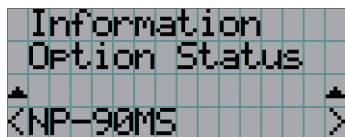
The setup date is configured by using DCC. Refer to "Digital Cinema Communicator Installation Manual" for details.



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

4-5-9. Option Status

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



← Displays the link status of the device in slot.

- NP-90MS: NP-90MS02
- <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					TCGD							
				FILE NAME	SOURCE		Aspect Ratio	SAME FILE NAME	Tolerance Box	White Clip						
					Input Size (HxV)	0										
1	001	IMS Auto	IMB	DCDM_XYZ_Auto	0x0		0	DC28_DCL_XYZE_314_351	Not Use	Use	Disable	2048x1080 No Crop	M10I			
2	002	IMS 2K 185	IMB	DCDM_XYZ_185	1998x1080		0	DC28_DCL_XYZE_314_351	Not Use	Use	Disable	2048x1080 No Crop	M10I			
3	003	IMS 2K 239	IMB	DCDM_XYZ_239	2048x858		0	DC28_DCL_XYZE_314_351	Not Use	Use	Disable	2048x1080 No Crop	M10I			

5-2. Error Code List

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

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

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

Error Code	Error message	Description
574	IMB:Security Tamper	Security tamper condition exists in IMB.
577	IMB:Security Battery Event	A Battery Tamper event has been detected with the IMB.
581	IMB:Security Enclosure Not Armed	IMB security not armed.
582	IMB:Physical Marriage Tamper	The IMB has detected a break of the Marriage with the projector.
583	IMB:Logical Marriage Tamper	The IMB has detected an error with the verification of the Marriage with the projector.
584	IMB:Marriage NOT Active	The IMB has not established a marriage with the projector
586	IMB:Service Door Tamper	Latched service door tamper condition on IMB
588	IMB:Security Battery Low Warning	Close to "(577) IMB: Security Battery Event".
700	OPT Comm Fail	Failed to communicate with Opt CPU
701	OPT Status Fail	Opt CPU is in unexpected status.
702	Lamp Lit Change	Any one Lamp of the two Lamps is off.
703	OPT Comm Ack Fail	Opt CPU fails to execute the command.
704	LampOff Fail	Failed to lamp off
710	Lamp1 OverTime	Lamp1 cumulative time is over.
711	Lamp2 OverTime	Lamp2 cumulative time is over.
720	Lamp1 Door Open(Warning)	Lamp1 door (cover) is open while HotSwap is enabled.
721	Lamp2 Door Open(Warning)	Lamp2 door (cover) is open while HotSwap is enabled.
740	SensorFail Inlet1	Failed to read inlet sensor 1.
741	SensorFail DMD	Failed to read DMD sensor.
750	OverTemp.DMD Precaution	Set inside temperature (DMD) is close to over temperature.
751	OverTemp.Inlet1 Precaution	Set inside temperature (Inlet) is close to over temperature.
752	Down Lamp Power Activated	Down lamp power to decrease set inside temperature.
753	OverTemp.Ballast1 Precaution	Set inside temperature (Ballast1) is close to over temperature.
754	OverTemp.Ballast2 Precaution	Set inside temperature (Ballast2) is close to over temperature.
760	OverTemp.DMD	Set inside temperature (DMD) is abnormal.
761	OverTemp.Inlet1	Set inside temperature (Inlet) is abnormal.
762	OverTemp.Lamp	Set inside temperature (Lamp) is abnormal.
764	OverTemp.Ballast1	Set inside temperature (Ballast1) is abnormal.
765	OverTemp.Ballast2	Set inside temperature (Ballast2) is abnormal.
781	Interlock Open	Interlock is open.
782	SystemI2cFail	Failed to control sensors connecting to GPIO chip. (Slave board internal abnormality)
783	EepromFail	Slave MCU failed to read back all of data from EEPROM on slave MCU board due to unexpected data or something. (Slave board internal abnormality)
785	SoftwareI2cFail	I2C/UART conversion chip control failed on slave board. (Slave board internal abnormality)
786	PreCooling	Failed to precool.
787	Lamp1 Door Open	Lamp1 door (cover) is open.
788	Lamp2 Door Open	Lamp2 door (cover) is open.
789	Ballast1UartError	Communication error between slave MCU and ballast1.
790	Ballast2UartError	Communication error between slave MCU and ballast2.
791	FanInitError	Failed to initialize fans.
792	ExGpioFail	Failed to control the signal connecting to Ballast. (Slave board internal abnormality)
793	Notch Filter Open	Notch Filter Cover is open.
794	Inlet2 Sensor	Failed to read inlet sensor 2.
800	Fan15 Stop	Fan15 has stopped.
801	Fan16 Stop	Fan16 has stopped.

Error Code	Error message	Description
806	Fan17 Stop	Fan17 has stopped.
807	Fan18 Stop	Fan18 has stopped.
808	Fan19 Stop	Fan19 has stopped.
809	Fan20 Stop	Fan20 has stopped.
810	Fan15 Stop Precaution	Fan15 Stop Precaution
811	Fan16 Stop Precaution	Fan16 Stop Precaution
816	Fan17 Stop Precaution	Fan17 Stop Precaution
817	Fan18 Stop Precaution	Fan18 Stop Precaution
818	Fan19 Stop Precaution	Fan19 Stop Precaution
819	Fan20 Stop Precaution	Fan20 Stop Precaution
830	Fan21 Stop	Fan21 has stopped.
850	Fan21 Stop Precaution	Fan21 Stop Precaution
1000	Slave Comm Fail	Failed to communicate with slave MCU.
1003	Slave Comm Ack Fail	Slave fails to execute the command.
1004	Slave Power Ready Fail	Slave Power Ready error
1005	Slave No Notify	Slave Power Notify error
1111	Filter1 Cleaning Time	The time to clean filter1 (filter(L)).
1112	Filter2 Cleaning Time	The time to clean filter2 (filter(DMD)).
1121	Filter1 Time Over	The time to exchange filter1 (filter(L)).
1122	Filter2 Time Over	The time to exchange filter2 (filter(DMD)).
1500	P3P3V SAT PGOOD Fail	Error detected with 3.3V power supply for FSB
1501	P2P5V SAT PGOOD Fail	Error detected with 2.5V power supply for FSB
1502	XVT PGOOD Fail	Error detected with DDR power supply for FMT FPGA
1503	P2P5V X PGOOD Fail	Error detected with 2.5V power supply for FMT FPGA
1504	P1P8V X PGOOD Fail	Error detected with 1.8V power supply for FMT FPGA
1505	P1V X PGOOD Fail	Error detected with 1V power supply for FMT FPGA
1506	FMT FPGA DONE Fail	FMT FPGA Configuration Error
1509	EXGPIO IC602 Fail	I2C Device Access Error
1510	EXGPIO IC603 Fail	I2C Device Access Error
1511	EXGPIO IC604 Fail	I2C Device Access Error
1512	EEPROM IC2800 Write Fail	I2C Device Access Error
1513	EEPROM IC601 Read Fail	I2C Device Access Error
1514	EEPROM IC601 Write Fail	I2C Device Access Error
1515	EEPROM IC601 Write Fail(Verify)	I2C Device Access Error
1538	EEPROM IC2800 Read Fail	I2C Device Access Error
1550	EEPROM IC2800 Write Fail Verify	I2C Device Access Error
2000	IntegrityFail	Integrity error with the internal software code of the projector. * When this error has occurred, the projector will not accept any external demands. Communication with external devices will not be performed either.
2010	Incorrect power-off	PowerOff was not performed correctly last time.
2011	No Lamp Serial Number	The lamp serial number is not set.
2012	Input Lamp S/N	Update the lamp serial number and clear the lamp usage time (after using the hot swap function).

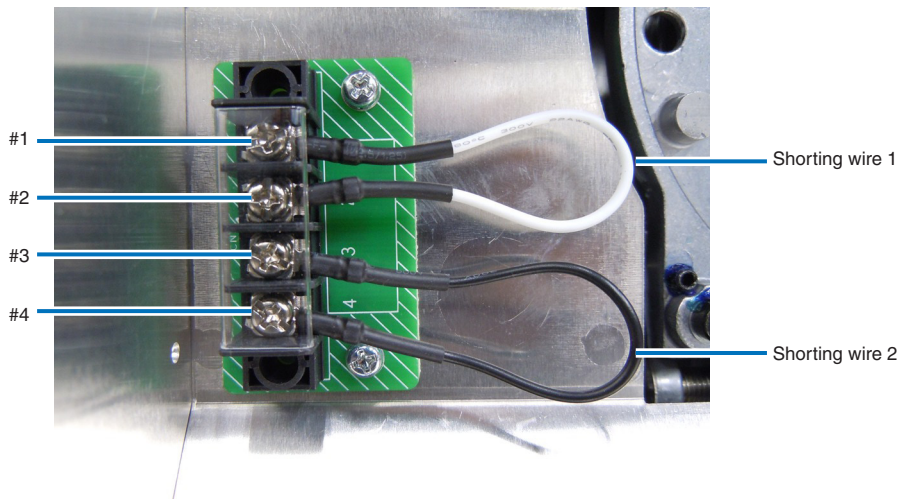
5-3. Remote Interlock Connector

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

Follow the following procedure to recover from the interlock state.

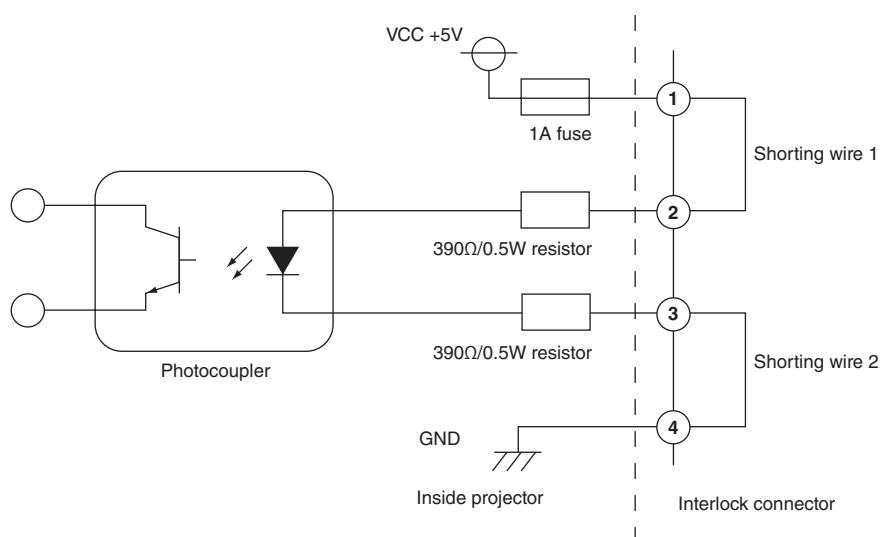
- 1** Disconnect the AC power supply to the projector body.
- 2** Remove the front cover (page 26).
- 3** Connect the contacts to the remote interlock connector and attach the front cover.
- 4** Connect the AC power supply to the projector body.

Remote interlock connector (exterior view)



- The remote interlock terminal is equipped on inside of the front cover.
Remove the front cover for connection.
- Securely reinstall the front cover.

Circuit diagram



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

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

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

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

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(MEMO)

