DLP Cinema® Projector Installation manual

NC1600C

Important Information

Precautions: Please read this prior to setup to use your **NC1600C** safely. To use this projector safely, always observe the following precautions when setting up the projector. There is the possibility of serious accidents that can lead to death or serious injuries if the projector is handled improperly because these precautions were ignored. Handle this projector only after you completely understand these precautions.

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.

⚡ **WARNING**
TO PREVENT FIRE, SHOCK, OR OTHER 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.

CAUTION

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

WARNING

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.

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.

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 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.

⚠ WARNING ⚠

Always connect to a ground prior to connecting to the AC power supply.

• A very high, leaked current will flow to the projector. Therefore, always connect to a ground prior to connecting to the AC power supply.

Connect the projector to exhaust equipment.

• Use a duct, etc., to connect the projector's air outlet to exhaust equipment that can handle flow amounts of at least 16 m^3/min. See the section about "Mounting Exhaust Equipment" in this manual to mount it correctly.

Equipment Installation and Transport

• Be very careful not to allow the projector head to be shocked or excessively shaken when installing or transporting the projector. The internal components of the projector head can be damaged if they are excessively shocked or shaken.

When opening the lamp door

• There is a high voltage lamp inside the projector. There is the danger of cracking the lamp, so never open this door unless absolutely necessary. Also, when opening the lamp door, use the prescribed procedures to ensure that you do it safely.

Connecting the AC power supply

• Be sure that the AC power supply equipment of the building to which the AC power supply is connected goes through a breaker with a maximum rating of 30 A.
• Be sure that the cable used to connect the main unit with the AC power supply equipment of the building has a core thickness of 6 AWG, 8 AWG or 14 mm^2 according to the requirements of the country where the unit is installed, and that the cable core is made of copper.
• Use a round type UL-listed solderless terminal for the section connected to the main unit with the AC power supply, and that it is connected according to the procedures described in this manual.

Insert the handle holding pins when using the shipment handle

• Make sure that the handle holding pins are inserted when using the shipment handle. If the handle is used without inserting the handle holding pins, the handle may come off during shipment causing the unit to fall, and thereby lead to injury.

Use the handle attached to the unit when moving it

• Be sure to attach the handle included with the unit and use it when moving the unit. Holding the lens or the anamorphic lens stand may damage the lens or lens bracket or may lead to dropping the unit, and thereby lead to injury.

Installation and transport

- Continual 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 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.
- Do not place the projector in direct sunlight, near heaters or heat radiating appliances.
- Exposure to direct sunlight, smoke or steam could harm internal components.
- Handle your projector carefully. Dropping or jarring your projector could damage internal components.
- To carry the projector, a minimum of five persons are required.
  Hold the handle attached to the main unit when moving the projector.
  Do not hold the lens part and the anamorphic lens parts with your hand. Otherwise the projector may tumble or drop, causing personal injury.
- Do not place heavy objects on top of the projector.

Power Supply

- The projector is so designed that it operates with the power supply voltage described below.
  - AC 200-240V 50/60 Hz
  Ensure that your power supply fits this requirement before attempting to use your projector.
- Handle the power cable carefully and avoid excessive bending. Do not place any heavy objects on the power cable. A damaged cable can cause electric shock or fire.
- If the projector will not be used for an extended period of time, shut down AC power.
- Placing the power cable and the signal cable closely to each other can cause beat noise. Beat noise is corruption of the picture often seen as a rolling band moving through the image. Keep the two separated, to ensure beat noise is not generated.

Fire and Shock Precautions

- 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 personnel.
- Do not place any liquids on top of your projector. Refer servicing to qualified service personnel if liquid has been spilled.
- 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.

⚠ CAUTION ⚠

- High Pressure Lamp May Explode if Improperly Handled.
- Do not look into the lens while the projector is on. Serious damage to your eyes could result.
- Do not touch the projector during a thunder storm. Doing so can cause electrical shock or fire.
- Do not cover the lens with the supplied lens cap or equivalent while the projector is on. Doing so can lead to melting of the cap and possibly burning your hands due to the heat emitted from the light output.
- 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 8 inches (20 cm) of space between your projector and a wall. Allow at least 20 inches (50 cm) of space between the ventilation outlet of the projector and an object.
  Connect the projector exhaust outlet with the exhaust equipment having a capacity of 16 m^3/min or more.
- Do not handle the projector and the power cable with wet hands. Doing so can cause electrical shock or fire.

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• Shut down AC power to the projector and disconnect all the cables before moving the projector to another place.
• Consult your dealer for installing the power cable to the projector. DO NOT install the power cable by yourself.
  Doing so may cause a fire or electric shock.
• To carry the projector, a minimum of five persons are required. Remove the lens and the lamp before carrying the projector. Do not apply a strong shock to the projector. Do not hold the lens part and the anamorphic lens part with your hand. Otherwise the projector may tumble or drop, causing personal injury.
• If the projector will not be used for an extended period of time, shut down AC power.
• Shut down AC power by using a circuit breaker before cleaning.
• Do not try to touch the ventilation outlet as it can become heated while the projector is turned on. Doing so can lead to burning your hands due to the emitted heat.
• When main body is damaged, cooling fluids may come out of internal part. DO NOT touch and drink the cooling fluid. When the cooling fluids are swallowed or contacted with your eyes, please consult with doctors immediately.
• When using a LAN cable:
  For safety, do not connect to the connector for peripheral device wiring that might have excessive Voltage.

Remote Control Precautions
• Handle the remote control carefully.
• If the remote control gets wet, wipe it dry immediately.
• Avoid excessive heat and humidity.
• Do not heat, take apart, or throw batteries into fire.
• If you will not be using the remote control for a long time, remove the batteries.
• Ensure that you have the batteries' polarity (+/-) aligned correctly.
• Do not use new and old batteries together, or use different types of batteries together.
• Dispose of used batteries according to your local regulations

Installation
• Do not put the projector on its side when the lamp is on. Doing so may cause damage to the projector.
• Controlled ambient light environments will allow for an image of higher contrast and depth to be displayed.
• Screens with a soiled, scratched, or discolored area will not produce a clean image. Care should be used in the handling of the screen.
• To carry the projector, a minimum of five persons are required.
• Keep finger prints or dust off the lens surface. Leaving finger prints or dust can cause unwanted shadows on the screen. Cover the lens with the supplied lens cap if the projector is not to be used for an extended period of time.

Lamp Caution: Please read before operation
• 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 "Bulb Over Time". When you see this message please contact your dealer for a replacement. 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 Xenon 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.
• Do not shut down AC power to the projector under the following conditions. Doing so can damage the projector:
  - While projecting images
  - While cooling after the lamp has been turned off. (The POWER indicator blinks in orange while the fan is rotating, and the LCD screen is displaying "cooling...". The cooling fun continues to work for 5 minutes).

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For questions relating to unclear points or repairs

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

In Europe

NEC Europe, Ltd. / European Technical Centre
Address: Unit G, Stafford Park 12, Telford TF3 3BJ, U.K.
Telephone: +44 1952 237000
Fax Line: +44 1952 237006

In North America

NEC Corporation of America
Digital Cinema Division
Address: 4111 West Alameda Avenue Suite 412 Burbank, CA 91505
Telephone: 818 557 2500
*If the above line is busy, please dial as below;
Telephone: 866 632 6431

Table of Contents

1.

Before Setting Up Your Projector

## 1.1 Exhaust equipment specifications

It is necessary to connect the air outlet of the projector to the exhaust equipment. The accessory protective sheet should also be mounted because the area around the air outlet can become very hot. For Exhaust equipment Installation, see "2.7. Mounting the exhaust equipment" (Page D-37).

Exhaust	16m³/min. or more
Air outlet size (external diameter)	about 200 mm

Exhaust hose

protective sheet
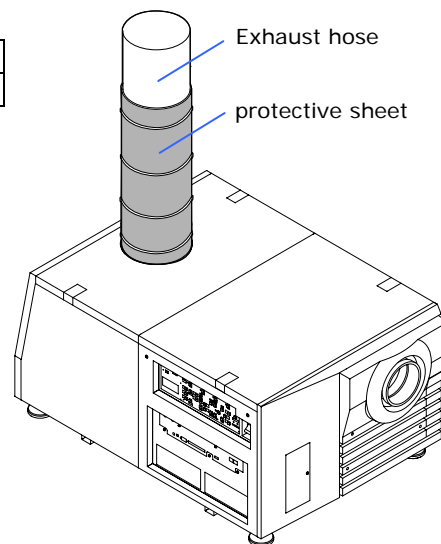
1.2   Selecting Primary/Anamorphic Lenses for Your Projector

This section provides guideline information on how to select a screen size and projector mounting position appropriate for your presentation purposes and about selection of types of lenses as well. Select primary/anamorphic lenses 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.
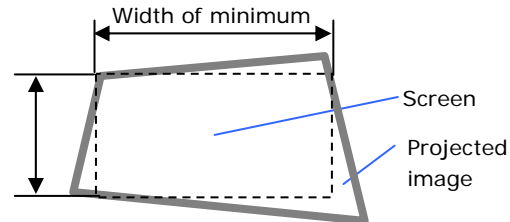

1.2.1   Screen Type

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 lenses because types of primary/anamorphic lenses to be used on the projector and its settings depend upon the type of screen mask you use.
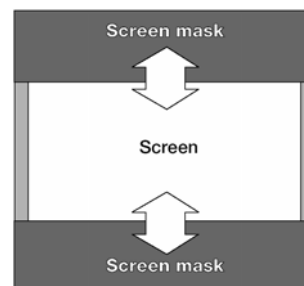
Horizontal moving screen mask

Screen masks move horizontally to adjust the screen.
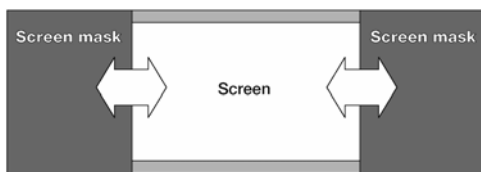
Vertical moving screen mask

Screen masks move vertically to adjust the screen.

### 1.2.2   Selection of Anamorphic Lens

An anamorphic lens is required when you use a wide screen for projection. Because a different type of anamorphic lens should be used according to the type of projector and screen, determine an appropriate anamorphic lens in consultation with the end user, considering its application purpose. See the table below for available anamorphic lenses.

Available Anamorphic Lenses

Screen mask type	Screen Type	Projected area	Anamorphic lens
Horizontal moving	SCOPE	2048 x 1080	x1.25
	VISTA (FLAT)	1998 x 1080	-
	HDTV	1920 x 1080	-
Vertical moving	SCOPE	2048 x 1080	x1.25 or None
	VISTA (FLAT)	1998 x 1080	-
	HDTV	1920 x 1080	-

Projected Images

The anamorphic lens works to magnify projected images horizontally when you use a wide screen for projection (SCOPE).
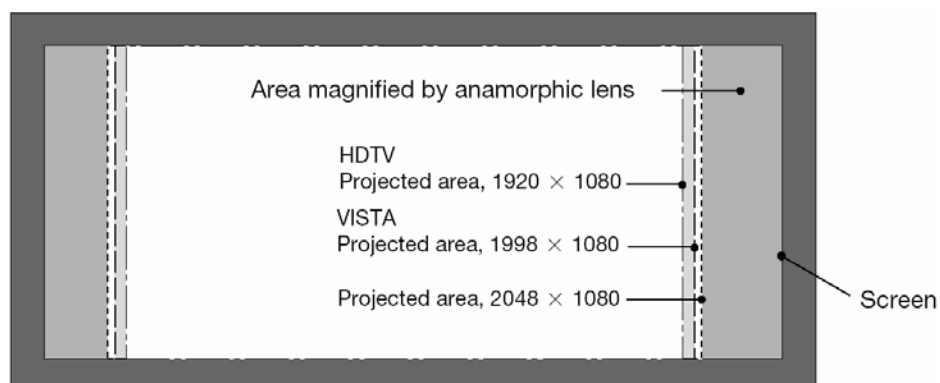
1.2.3 Selection of Primary Lens
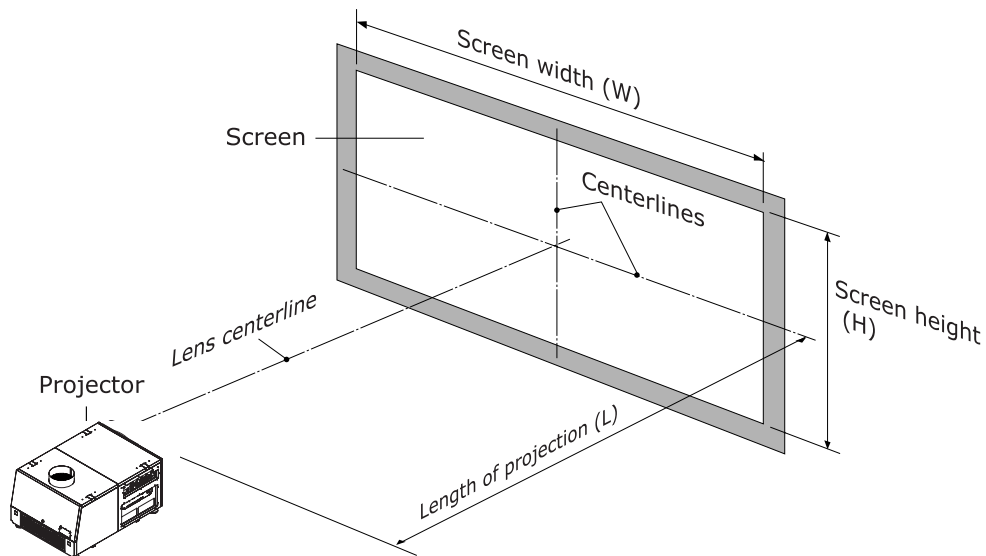
Option lenses

MODEL	Magnifying
NC-60LS13Z	1.3 – 1.75
NC-60LS17Z	1.75 - 2.4
NC-60LS24Z	2.4 - 3.9

How to Calculate the Magnification of Primary Lens

SCOPE projection:

$$\text{Primary lens magnification} = \frac{\text{Length of projection (L)}}{\text{Screen width (W)} \div \text{Anamorphic lens magnification}}$$

Use 1x for anamorphic lens magnification if this lens is not in use.

VISTA(FLAT)/HDTV projection:

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

* Number of pixels per horizontal line: 1998 for VISTA(FLAT); 1920 for HDTV
* Select a lens that meets the magnification requirement for both SCOPE and VISTA(FLAT)/HDTV screen types.

Example of Primary Lens Calculation

If the projection distance (L) = 32 m, the screen width (W) = 16 m and the anamorphic lens is not used:

$$\text{SCOPE projection} = \frac{32\text{m}}{16\text{m} \div 1} = 2.0\text{x}$$

$$\text{VISTA (FLAT) projection} = \frac{32\text{m}}{16\text{m} \times (2048 \div 1998)} = 1.95\text{x}$$

$$\text{HDTV projection} = \frac{32\text{m}}{16\text{m} \times (2048 \div 1920)} = 1.88\text{x}$$

Therefore, "NC-60LS17Z", which satisfies the magnifications in all of the above projections, is selected as the primary lens.

1.3   List of Tools Used

The tools used for NC1600C installation are as follows:

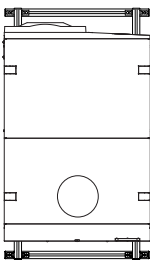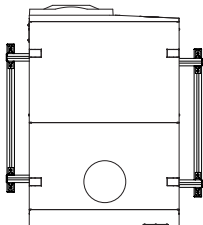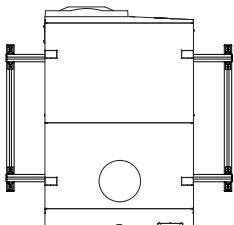| Item	Tool	Quantity	Major Application
Projector (NC1600C)	Phillips head screwdriver (No.2)	1	Outer panel, Covers
	Hexagonal wrench (Width across flats: 3 mm)	1	Outer panel
	Hexagonal wrench (Width across flats: 5 mm)	1	Lamp Bulb
	Hexagonal wrench (Width across flats: 6 mm)	1	Lens fix
	Spanner (Width across flats: 19 mm)	1	Level adjuster
Anamorphic motor-operated turret 02 (NC-AT02)	Phillips head screwdriver (No. 2)	1	-
	Hexagonal wrench (Width across flats: 5 mm)	1	Front bracket, Lens holder
	Hexagonal wrench (Width across flats: 6 mm)	1	Shaft L/R
	Spanner (Width across flats: 10 mm)	1	Adjust stopper bolt
Touch panel controller (NC-TP6402/ NC-TP6401) Holder arm (NC-TH6402/ NC-TH6401)	Phillips head screwdriver (No. 2)	1	-
	Flat head screwdriver (3 mm)	1	Connector
	Hexagonal wrench (Width across flats: 3 mm)	1	Outer panel of the projector

1.4   Moving the projector

The shipment handle is attached to the projector when it is shipped from the factory.
Be sure to use this shipment handle when moving the projector.
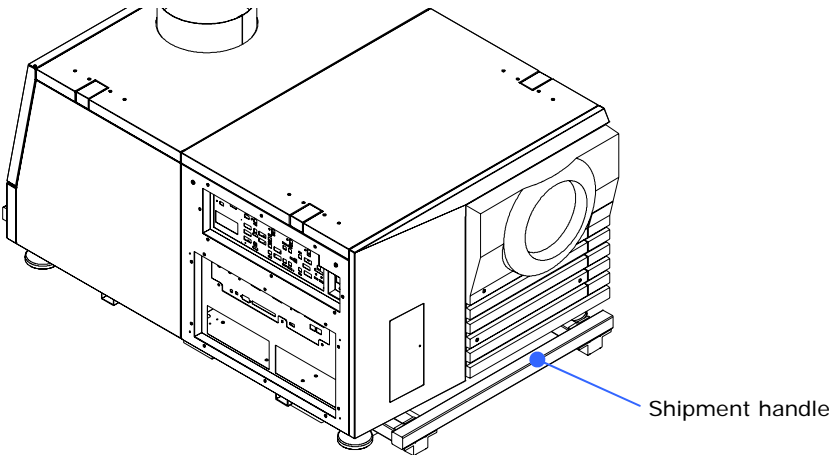
Shipment handle

1.4.1   Shipment handle installation locations

The shipment handle can be installed in one of the three locations shown below.

Front/Back installation (When shipped from the factory)	Left/Right installation	
	Push the handle all the way in to use	Pull the handle to use

When installing the shipment handle to the front and back, insert the handle all the way in (factory shipment condition) to use it. Do not pull the handle out to use the handle when it is in the front and back position.
The shipment handle can be installed and removed with the procedures described below.

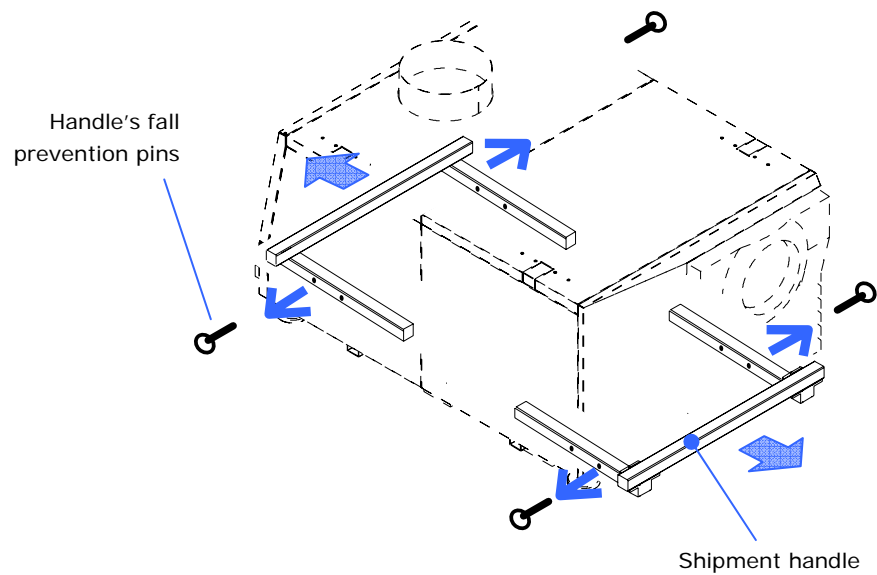## 1.4.2 Installing and removing the shipment handle

⚠️ Warning	• Make sure that the handle's fall prevention pins are inserted when using the shipment handle. If the handle is used without inserting the handle's fall prevention pins, the handle may come off during shipment causing the unit to fall, and thereby lead to injury.

Removing the shipment handle

Remove the handle's fall prevention pins (4) and pull out the handle.

Handle's fall prevention pins

Shipment handle
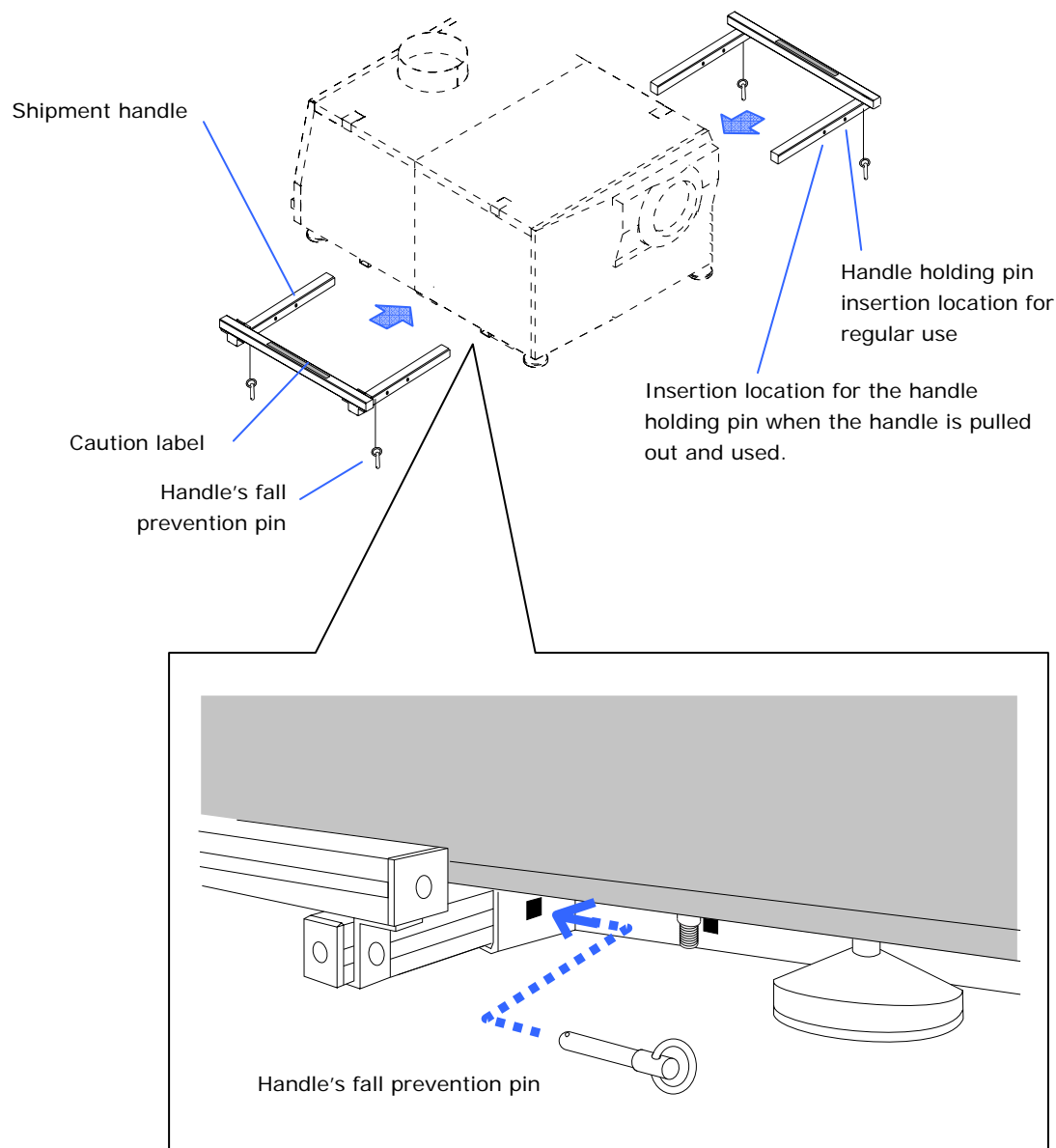
Installing the shipment handle

Insert the shipment handle into the desired location, then attach it with the handle's fall prevention pins (4).

See section "1.4.1 Handle Installation Locations" (See page D-15) for the handle installation locations.

This shows an example of left and right installation.

Note • When installing the shipment handle, be sure that the caution label on the handle faces up.

Shipment handle

Caution label

Handle's fall prevention pin

Handle holding pin insertion location for regular use

Insertion location for the handle holding pin when the handle is pulled out and used.

Handle's fall prevention pin

1.5   Removing the projector covers

When the cover fixing screws are loosened, the internal sensor will be activated, so that when the projector is restarted it will require the specified initialization process.
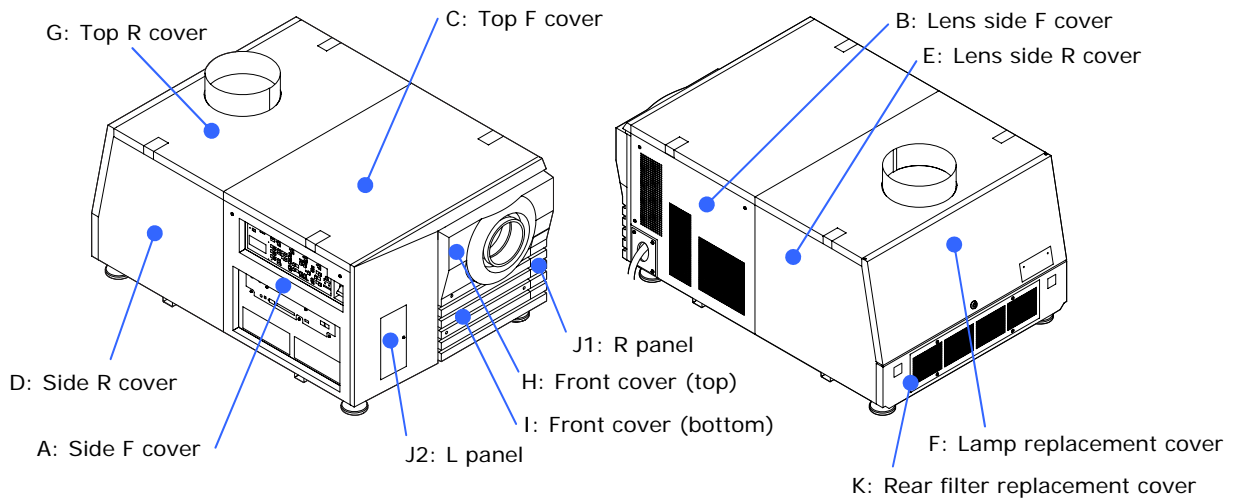Refer to the "Service Manual" for the internal sensor inspection method and initialization procedure.

⚠ Caution	• Make sure that the main power switch of the projector unit is OFF and that the AC power supply is cut before removing the cover. Otherwise, electric shock may result.

Name of the cover

G: Top R cover
C: Top F cover
B: Lens side F cover
E: Lens side R cover
D: Side R cover
J1: R panel
H: Front cover (top)
A: Side F cover
I: Front cover (bottom)
J2: L panel
F: Lamp replacement cover
K: Rear filter replacement cover

Remarks for cover removal

- The "C: Top F cover" cannot be removed unless "A" and "B" are removed first.
- The "D: Side R cover" cannot be removed unless "A" is removed first, and the "E: Lens side R cover" cannot be removed unless "B" is removed first.
- The "G: Top R cover" cannot be removed unless "A" through "F" are removed first.
- The "F: Lamp replacement cover" must be opened or closed with the lamp replacement cover key.
- The "K: Rear filter replacement cover" cannot be removed unless "A," "B," "D," and "E" are removed first.
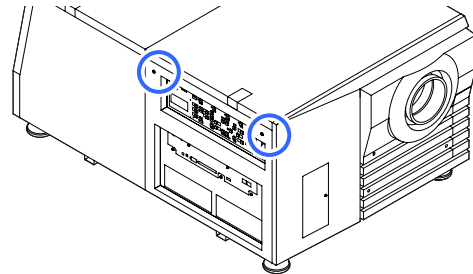
1.5.1   Side F cover removal procedure

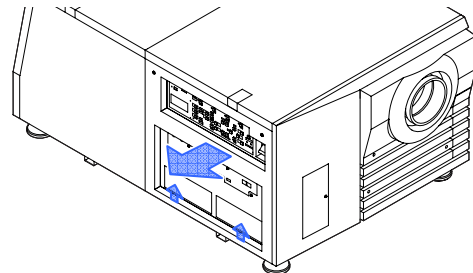**[1]** Remove the four fixing screws of the connection terminals.
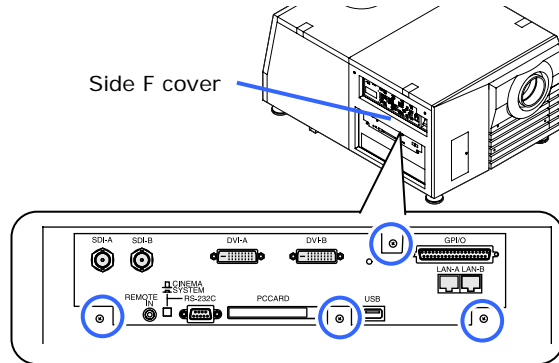
Side F cover

[2] Remove the two fixing screws of the Side F cover.

Loosen two screws of the Side F cover until their rotations become idle.   The screws are not removed.
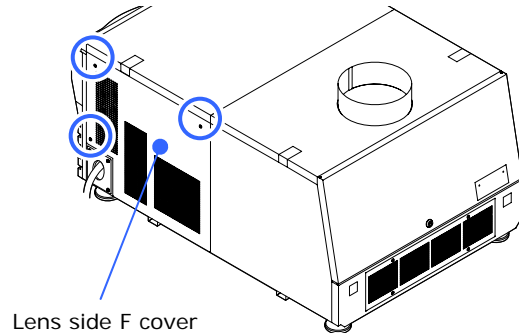
[3] Remove the Side F cover.

Remove the Side F cover by pulling up the covers.
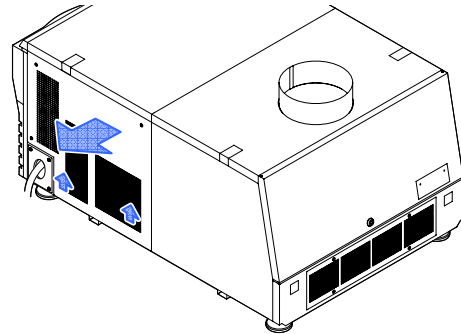
1.5.2   Lens side F cover removal procedure

[1] Remove the three fixing screws of the connection terminals.

Loosen two screws of the Lens side F cover until their rotations become idle.   The screws are not removed.

Lens side F cover

[2]   Remove the Lens side F cover.

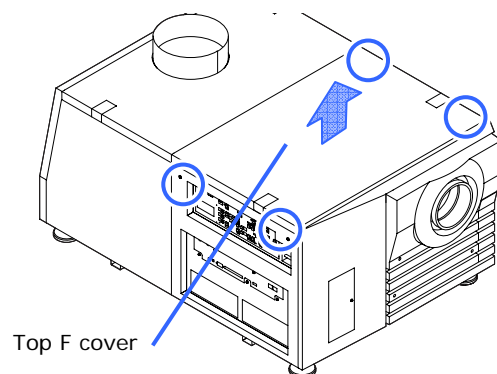Remove the Side F cover by pulling up the covers.

1.5.3   Top F cover removal procedure

Before removing the top F cover, the side F cover and lens side F cover must be removed first.

[1] Remove the two mounting screws of the lens side F cover.

[2] Remove the two mounting screws of the side F cover.

[3] Remove the top F cover.

Top F cover

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2.

Setting Up Your Projector

2.1   Setup procedure

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

- STEP1

Projector installation (See page D-22)

- STEP 2

Connecting the power cable (See page D-23)

- STEP3

Mounting the primary lens (See page D-26)

- STEP4

Mounting the anamorphic lens motorized turret (See page D-28)

- STEP5

Installation of Small Iris (Information for Service Personnel) (See page D-29)

- STEP6

Mounting Exhaust equipment (See page D-37)

- STEP7

Mounting the lamp bulb (See page D-38)

- STEP8

Mount the following optional parts as required.

Install a touch panel (See "Touch Panel Section").

Install a multimedia switcher (See "Multimedia Switcher Section")

2.2   Projector installation

Move the projector to the projection position and install it corresponding to the screen and projection conditions.
To correct the inclination to the right or left of the projector, use the level adjusters at 4 positions.   You can extend the level adjuster to 10 mm at the maximum (Rotate it counterclockwise for extension).

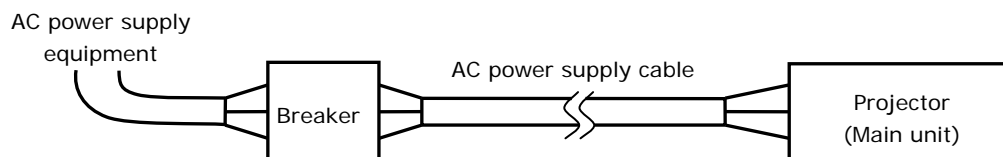| ⚠ Caution	• To adjust the level adjusters of the projector, extend the two level adjusters at the front and the back at the same time so that the weight is imposed to them equally. If you adjust only one adjuster, the weight is not imposed equally, which may result in level adjuster failure.
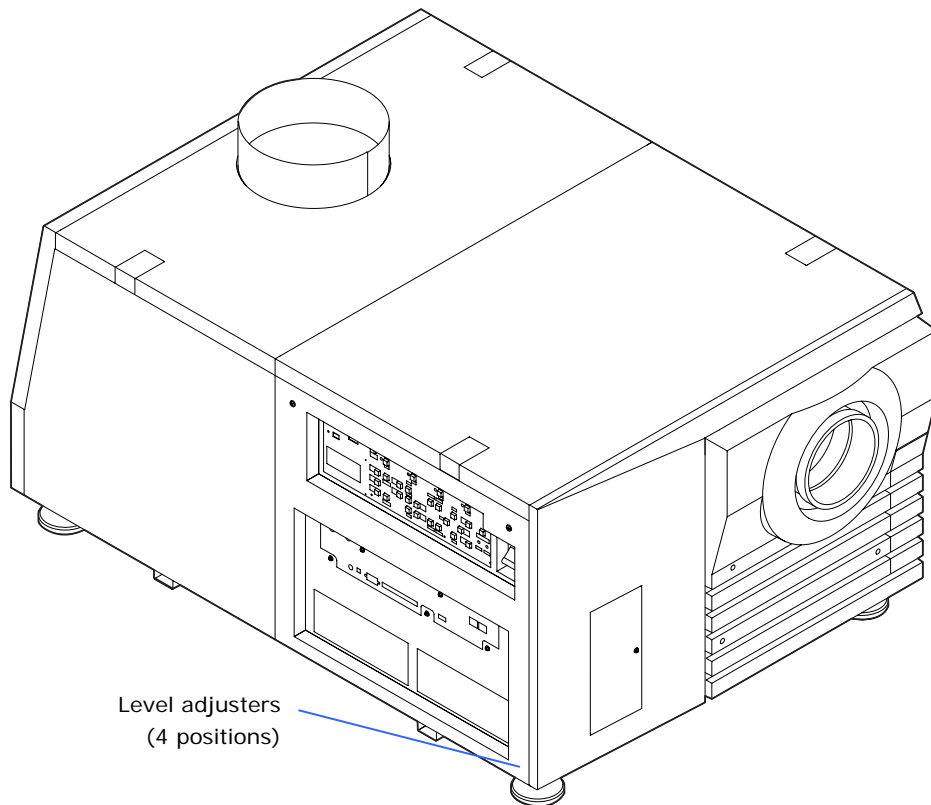
Level adjusters
(4 positions)

2.3   Connecting the power cable

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

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

⚠ Caution	• Before connecting the power cables, check that the main power switches of the projector is turned off. Implement the connection with AC power shut off. • Entrust a specialist to carry out the power supply work from the power supply equipment of the building to the place of projector installation. • Be sure to ground the equipment to ensure safety. To avoid electric shock, request a professional to carry out the grounding and related works. Make sure to ground the equipment before supply of the AC power.

2.3.1   Power supply construction specifications

⚠ Caution	• Be sure to follow the contents described in this section. • Be sure to have professional technicians do any power supply construction from the power supply equipment of the building to the projection installation location.

AC power supply equipment

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

200 - 240 Vac, single phase, 50/60 Hz

Breakers

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

30A

AC power supply cable

- Be sure that the cable used to connect the main unit with the AC power supply equipment of the building has a core thickness of 6 AWG, 8 AWG or 14 mm^2 according to the requirements of the country where the unit is installed, and that the cable core is made of copper.
- Use a round type UL-listed solderless terminal for the section connected to the main unit. In addition, when clamping this terminal with the cable, use an UL listed tool.

Mounting terminals

The specifications of the cable installation terminal is indicated below.

Power terminal

	JIS	IEC/EN	UL	CSA
Complying wire (using solderless terminal)	14 mm^2	14 mm^2	AWG 6 or AWG 8	AWG 6 or AWG 8
Terminal screw	M6 x 15			
Tightening torque	2.5 to 3.5 Nm			

Grounding terminal

|	JIS	IEC/EN	UL	CSA
Complying wire (using solderless terminal)	14 mm^2	14 mm^2	AWG 6 or AWG 8	AWG 6 or AWG 8
Terminal screw	M6 x 15			
Tightening torque	2.5 to 3.5 Nm			

Crimping terminals

The size of the crimping terminals that are suitable for the AC power supply cable attachment points of the projector are as indicated below.

MIN ⌀ 6.1
MAX 13
MAX 11
MIN 9.5
Unit: mm
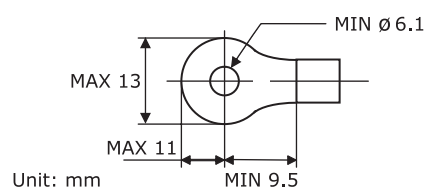
2.3.2   Power cable connecting procedure

[1] Remove the Front cover
(bottom) of the projector.

Remove the hexagonal fasteners (at 2
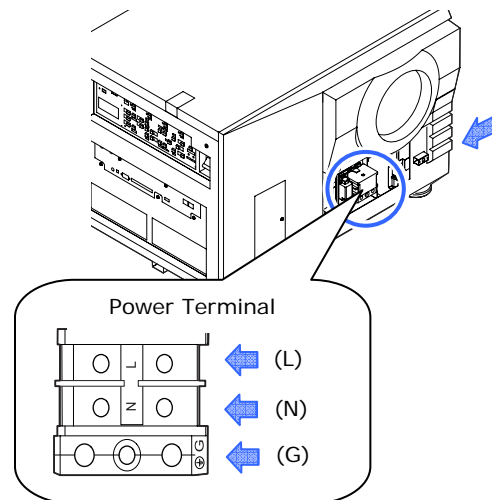places) and remove the Front cover
(bottom).

Front cover (bottom)
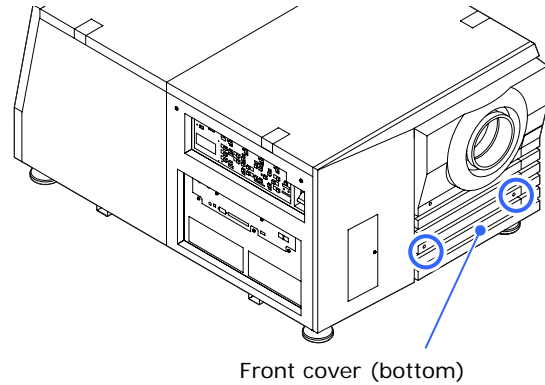
[2] Connect the power cable to
the power supply terminal.
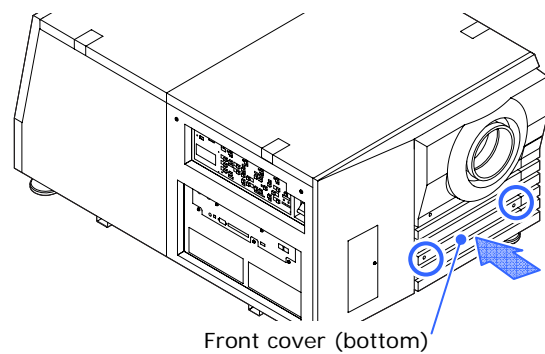
(L) AC〜(Live)

(N) AC〜(Neutral)

(G) GND(Earth)

The screws for the terminals do not come
off. (They have a jump-up structure.)
Upon connection completion, close the
terminal cover of the power supply
terminal.

Power Terminal

(L)

(N)

(G)

[3] Mount the Front cover
(bottom) of the projector.

Close the hexagonal fasteners (2 places) at
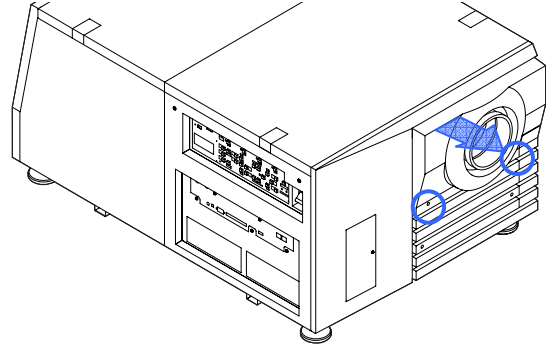the Front cover (bottom).

Front cover (bottom)

This completes the connection of the power cable. Next, mount a primary lens.

2.4   Mounting the primary lens

**[1]**   Remove the front cover
(top) of the projector.

[2]   Remove the lens cap.

If the lens has a lens cap, remove the lens

cap here.

[3]   Place the side with the lens
insertion guide hole face up,
then insert the lens all the
way to the back.

Align the lens ring with the control

connector position, and insert it straight in.

The lens cannot be inserted all the way

back if the lens fixing lever is on Lock.   In

this case, use a 6 mm Allen wrench to turn

the lens fixing lever clockwise to Unlock,

then insert the lens.

Control connector

LENS
UNLOCK
↕
LOCK

Lens fixing lever

--
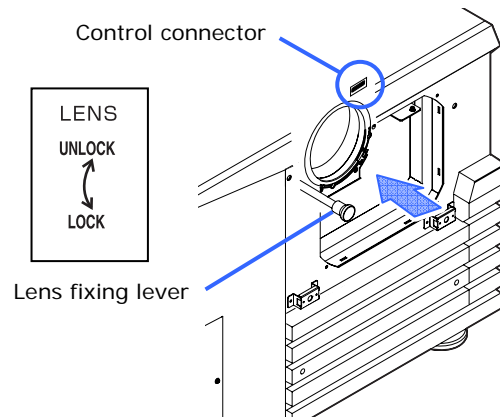
Tips   • Use a 6 mm Allen wrench to lock/unlock the lens fixing cover.   If turned by hand, the lever
will only spin freely and cannot be locked or unlocked.

----

[4]   Turn the lens fixing lever
counterclockwise to fix the
lens.

Lock the lens by turning the lens fixing

lever counterclockwise with a 6 mm Allen

wrench.

LENS
UNLOCK
↕
LOCK

Lens fixing lever

D-26
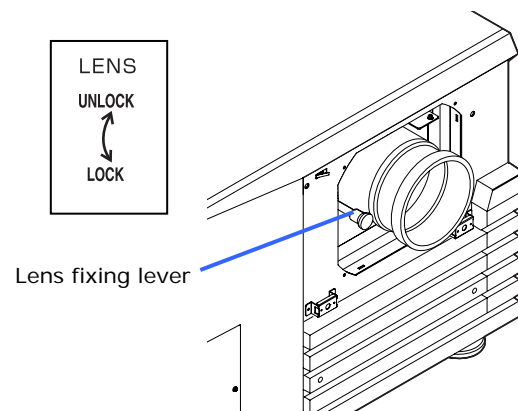
[5] Mount the front covers (top and bottom) of the projector.
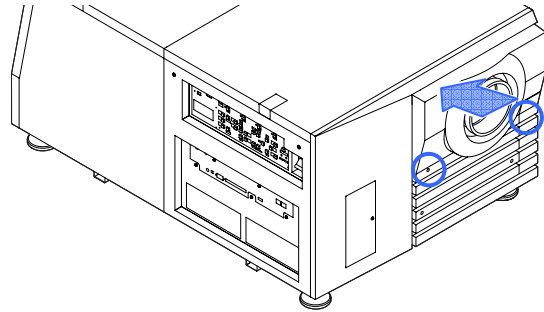
This completes the installation of the primary lens.

2.5   Mounting the anamorphic lens motorized turret

Use an optional anamorphic lens for projection of cinemascope size.

Anamorphic lens motorized turret (separately sold: NC-AT02/NC-AT01) is required for mounting of the anamorphic lens.

⚠ **Caution**	• Before transporting this unit from one place to another, be sure to remove the anamorphic lens from the unit and lock all adjusting parts of the unit up. • If you need to move the projector from one place to another, be sure to detach this lens unit from the projector before moving. • Be sure to faithfully follow the instructions given in this manual. • This unit should be attached to or detached from the projector without anamorphic lens installed.

2.5.1   List of accessories attached to turret

- Anamorphic lens motorized turret
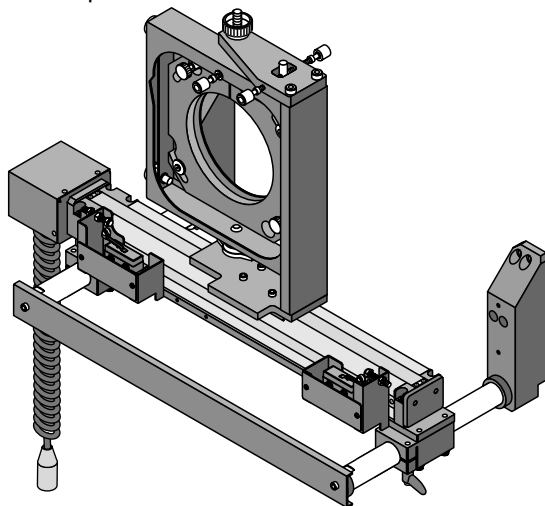
- Allen screws (hexagonal socket head screws) (M8x25): 8
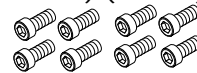
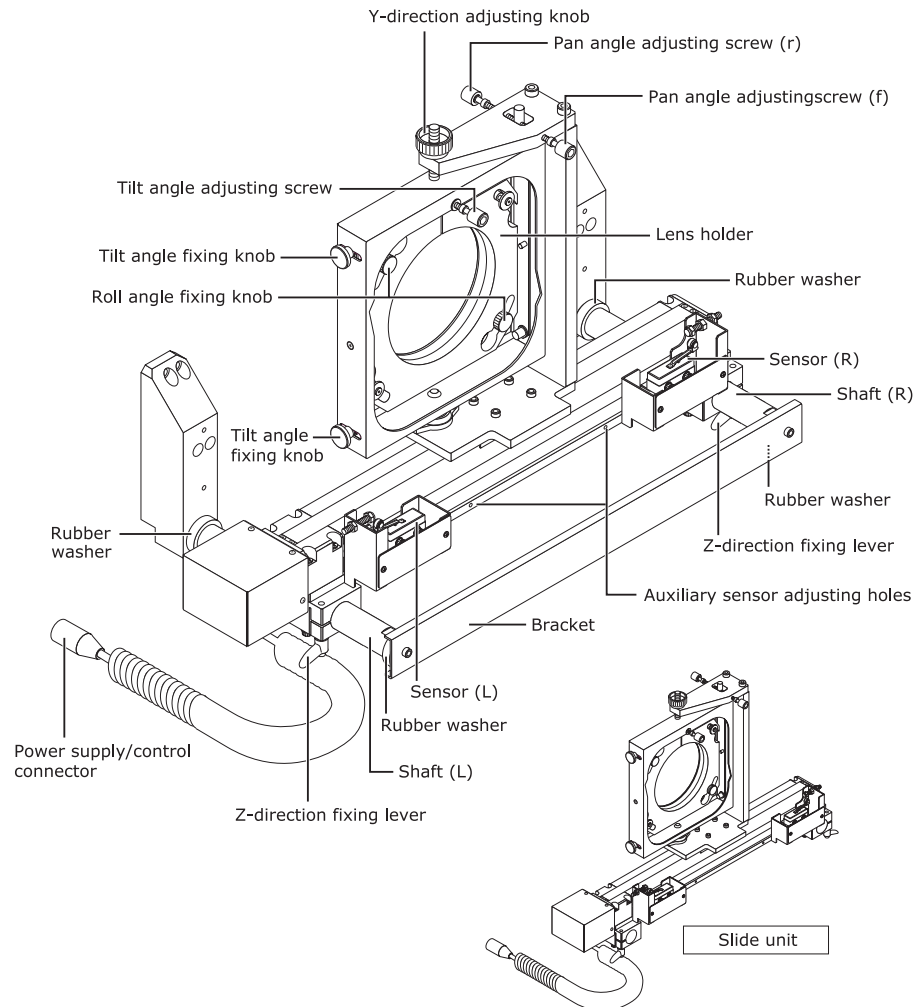- Allen screws (hexagonal socket head screws) (M6x12): 2

- Rubber washers: 4

2.5.2   Descriptions of the parts in turret

Y-direction adjusting knob
Pan angle adjusting screw (r)
Pan angle adjustingscrew (f)
Tilt angle adjusting screw
Lens holder
Tilt angle fixing knob
Rubber washer
Roll angle fixing knob
Sensor (R)
Shaft (R)
Tilt angle fixing knob
Rubber washer
Z-direction fixing lever
Rubber washer
Auxiliary sensor adjusting holes
Bracket
Sensor (L)
Rubber washer
Power supply/control connector
Shaft (L)
Z-direction fixing lever
Slide unit

2.5.3   Mount the turret

Below, the anamorphic lens stand may be referred to simply as "the stand", the anamorphic lens as "the anamo-lens".

Preparations:

Prepare Allen keys (for M8 and M6 screws) and a Phillips screwdriver (also tools for adjustments)

⚠️ **Caution**	• In the mounting steps below, DO NOT remove screws other than those indicated in each step; otherwise it could lead to injury.

[1] Remove the left and right panels from the front panel of the projector.

The panels and screws that are removed will be used when mounting the stand, so be sure to put them in a safe place.
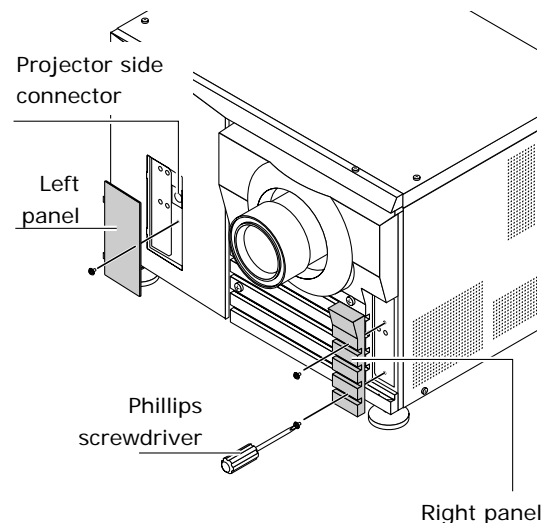
[2] Fix shaft (L) and shaft (R) to the projector using the eight included M8 Allen screws.
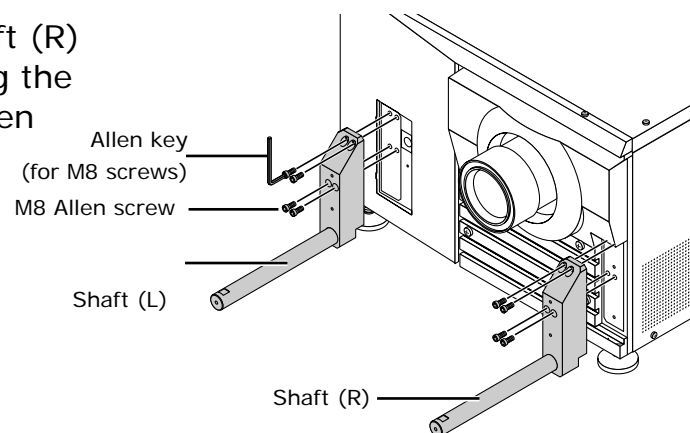
[3]   Fix the slide unit to the shafts.

Mount the four included rubber washers and slide unit on shaft (L) and shaft (R), then tighten the Z-direction fixing levers on the sides to fasten.

Check that the slide unit slides smoothly in the Z direction.

Z-direction Fixing lever

Slide unit

Rubber washer

Z-direction fixing lever
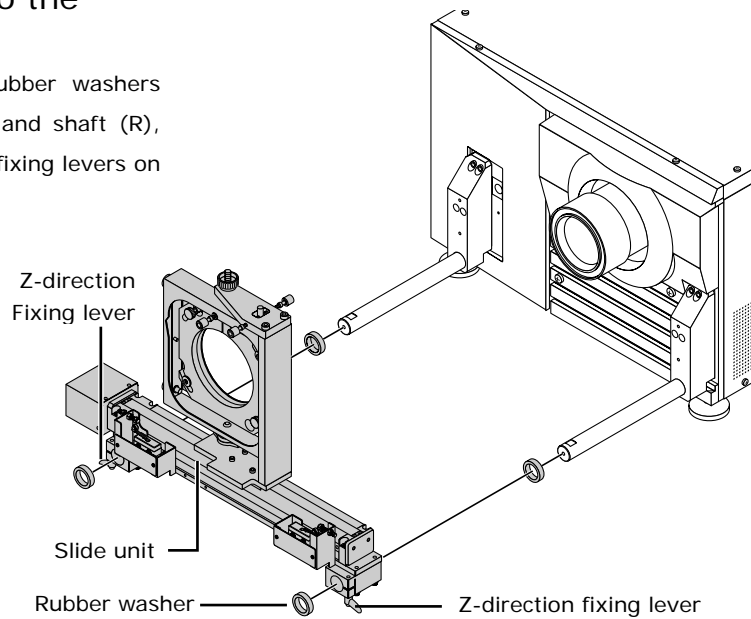
[4]   Mount the bracket with using two included M6 hexagonal socket head bolts.

M6 Allen screw

Bracket

Allen key (for M6 screws)
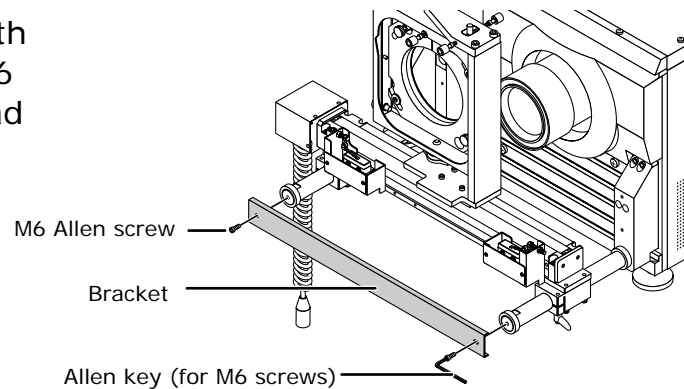
This completes the mounting of the anamo-lens motorized turret. Next, mount the anamo-lens.

2.5.4   Mounting of the anamorphic lens

[1] Loosen the two roll angle fixing knobs, then turn the lens holder counterclockwise and remove it from the slide unit.

| ⚠️ **Caution** | • Pay attention not to have the finger caught when rotating the lens holder. |

Turn the lens holder's knob hole to the position of the roll angle fixing knobs and pull the lens holder towards you.

Lens Holder

Roll angle fixing knobs

[2] Mount the lens holder onto the anamo-lens.

<1> Loosen the lens holder's lens fixing bolt.

<2> Line up the lens holder with the anamo-lens (perpendicularly) and mount it on the anamo-lens. (Be careful not to touch the lens.)

<3> Tighten the lens holder's lens fixing bolt.
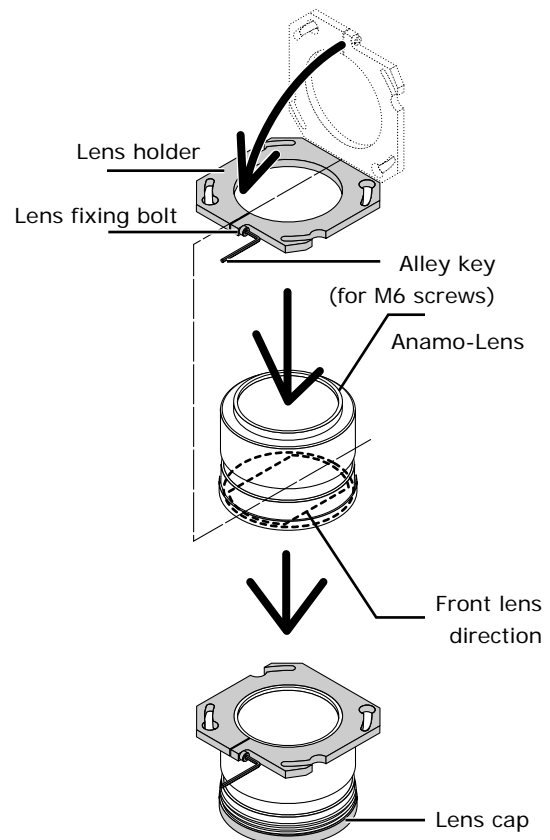
| ⚠️ **Caution** | • To prevent damaging the lens, be sure to attach the lens cap over the lens when performing this operation. |

Lens holder

Lens fixing bolt

Alley key (for M6 screws)

Anamo-Lens

Front lens direction

Lens cap

[3] Mount the lens holder onto which the anamo-lens is mounted to the slide unit.

Roll angle fixing knobs

<1> Turn the lens holder's knob hole to the position of the roll angle fixing knobs, insert, then turn clockwise.

<2> Tighten the two roll angle fixing knobs and tighten the lens holder.

<3> Remove the lens cap.
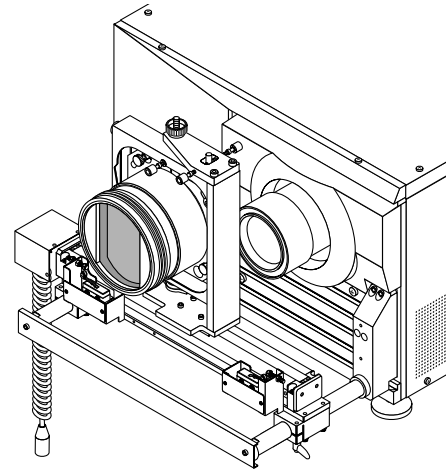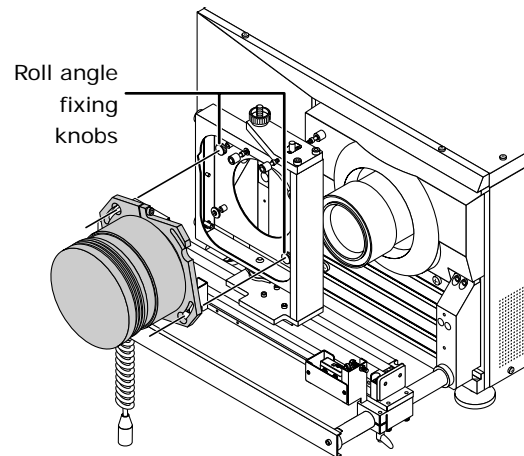
[4] Insert the power supply/ control connector into the projector side connector.

Power supply/ Control connector
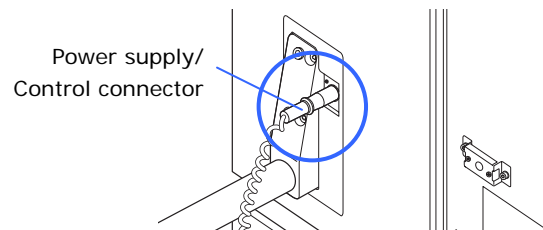
This completes the mounting of the anamo-lens in case of the stand NC-AT02. Adjust the anamo-lens after completion of the primary lens adjustment. For details, refer to "3.6 Adjusting the anamorphic lens" (Page D-46).

2.6   Installation of Small Iris

If it is requested by the customer to reduce the projector's lamp luminance because it is too bright even when set to the minimum level, you may reduce it as follows. This operation will also improve the contrast ratio.

Preparatory operation:
• Make sure that the main power switch of the customer's projector is turned off.
• Get the supplied small iris ready. (Included in the standard set of accessories)

Installation step

[1] Remove the three fixing screws of the connection terminals.

> Loosen two screws of the Lens side F cover until their rotations become idle.   The screws are not removed.
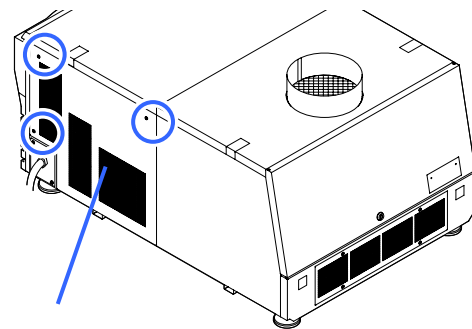
Lens side F cover

[2] Remove the Lens side F cover.

> Remove the Side F cover by pulling up the covers.
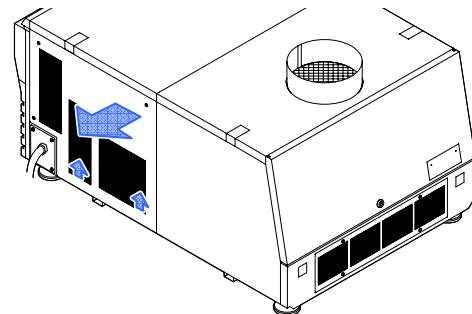
[3] Remove the coolant tank.

The coolant tank can be removed by pushing open the acrylic levers (four locations).

The removed coolant tank is inserted in the insertion opening as shown in the figure on the right.

Coolant tank

acrylic levers

Insertion opening
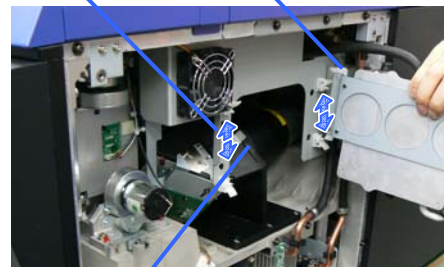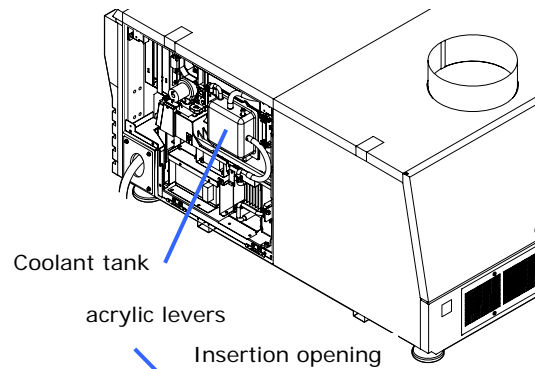
Engine section

[4] Remove the engine plate from the engine section.

Remove the single screw, then remove the engine plate.
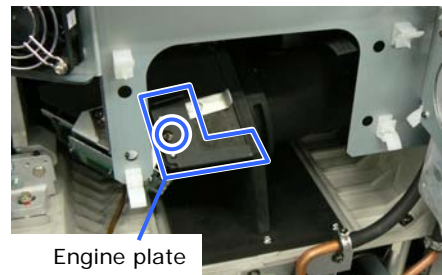
Engine plate

[5] Install the small iris.

Insert the attached small iris.
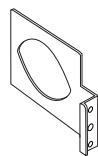
(Small iris)

Small iris

[6] Install the engine plate in the engine section.

Install the engine plate removed in step [4], then fasten with the single screw.
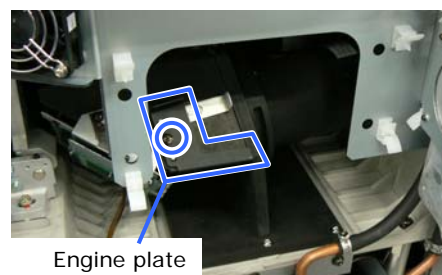
Engine plate

[7] Attach the coolant tank.

Install the coolant tank at the position of the acrylic levers (four locations).

Coolant tank
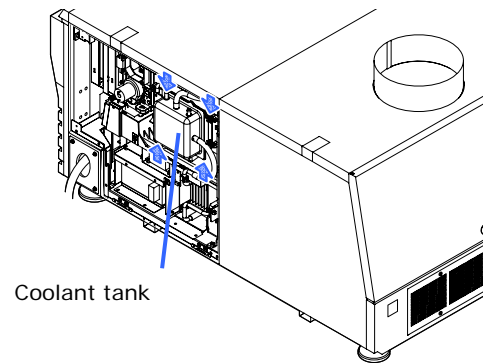
[8] Attach the lens side F cover, then fasten the fixing screws (3).

Insert the nails on the bottom of the cover into the guide slots at the bottom of the main unit (two locations), then fasten the cover with the three fixing screws.

Lens side F cover
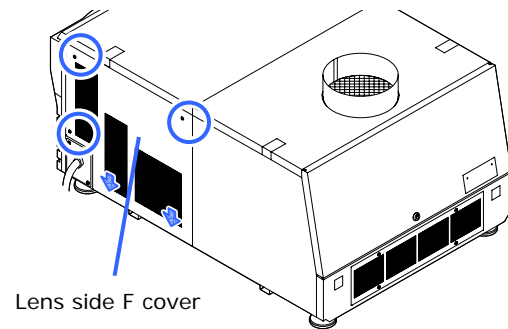
This completes the Installation of the Small Iris.

2.7   Mounting the exhaust equipment

It is necessary to connect the air outlet of the projector to the exhaust equipment. The accessory protective sheet should also be mounted because the area around the air outlet can become very hot.

[1] Mount an exhaust hose to the air outlet.

Mount the hose for connection to the exhaust equipment to the air outlet.
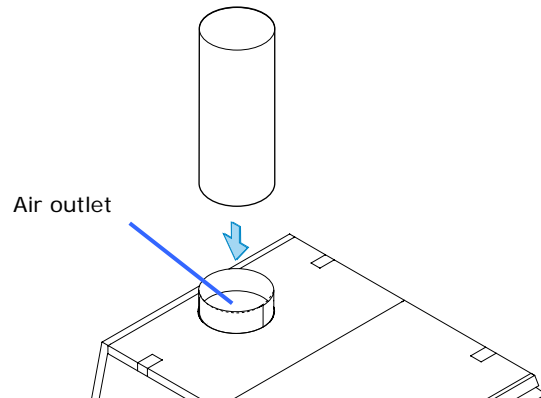
Air outlet

[2] Wrap the protective sheet around the exhaust hose.

Wrap the protective sheet to cover the connection of the air outlet and hose.
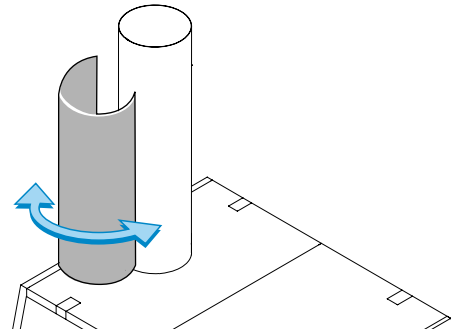
[3] Use the accessory protective sheet bands (4 bands) to fasten the protective sheet.

D-37
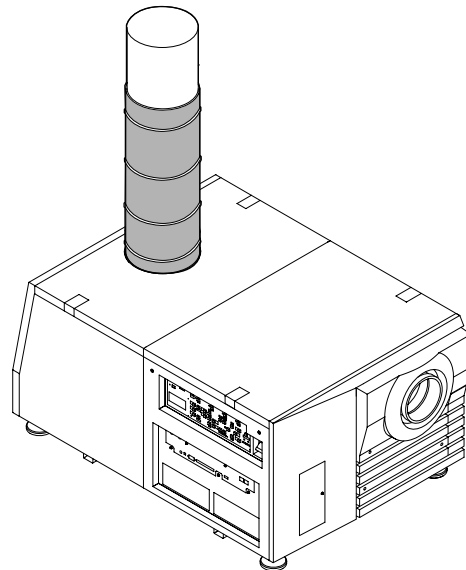
2.8   Mounting the lamp bulb

Mount the lamp bulb to the projector here.

Ask a service personnel to mount the lamp bulb.

It is necessary to adjust the lamp bulb shaft for mounting and replacement of the lamp bulb.

For the adjustment procedures, refer to "3.4   Adjusting the lamp bulb shaft" (Page D-42).

⚠️ **Caution**	• It is concerned that the lamp bulb would burst under shock or vibration. Make sure to move the projector to the installation position before mounting the bulb. In addition, make sure to remove the lamp bulb before moving the projector to another place.

3.

Projector Adjustment and Connecting

3.1　Flow of Adjustment and Connecting

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

- STEP 1

Turning your projector on (See page D-40)

- STEP 2

Setting the projector projection method (See page D-41)

- STEP 3

Adjusting the lamp bulb shaft (See page D-42)

- STEP 4

Adjusting the primary lens (See page D-44)

Display the test pattern to adjust the screen size, screen ratio and focus.

- STEP 5

Adjusting the anamorphic (See page D-46)

- STEP 6

Connecting the image input (See page D-52)

- STEP 7

Connecting the various control terminal (See page D-53)

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, set up the projector from the touch panel. Refer to the "Touch Panel Section" for the procedure.

3.2   Turning your projector on

Preparation: Supply AC power to the projector head.

Note
- While your projector is on, be sure to have the lens cap removed from the lens. Otherwise, the lens cap may get deformed due to a heat buildup.
- In the following instances, the power to your projector cannot be turned on even if you press the POWER button.
  - When the inside temperature is abnormally high. The protective function prevents power from turning on. Wait some time   (until the projector inside cools down) and then turn on the power.
  - When the STATUS indicator is blinking without the lamp lighting up after power-on. Your projector may be in trouble. Check the error display on the LCD screen and contact your dealer/distributor for instructions.
- Note that the image may sometimes flicker until the lamp has stabilized (3 to 5 minutes) after power-on. This is due to the characteristics of the lamp and is not trouble of your projector.

[1]   Remove the lens cap.

[2]   Turn the main power switch on the front of your projector head to on.

A buzzer will ring on the projector. The POWER indicator and rear STATUS indicator light up orange (standby state)
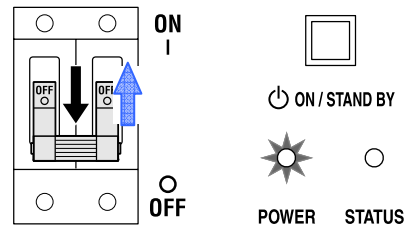
[3]   Press the POWER button on the control panel of your projector three seconds or longer.

Your projector is turn on, and the screen glows light about 30 seconds later. The POWER indicator of the projector lights up green.

When controlling with the remote control, press the POWER ON button three seconds or longer.
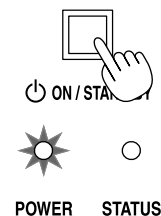
3.3   Setting the projector projection method

When the projector is shipped from the factory, the projection method is set to the front mode (projection from the front of the screen with the projector installed on the pedestal).
It is necessary to use the remote controller for change of the projection method. Refer to the operation manual for remote controller operation

[1]   Press the "TEST" button while holding down the "CTL" button on the remote control panel.

> The Passcode input screen appears on the LC display located on the projector's side panel.

[2]   Enter your passcode using the numeric character keys of the remote control.

> After authentication of your passcode, the Configuration menu will become active.

[3]   Use the arrow buttons "◀/▶" to select "Configuration" and press the "▼" button.

[4]   Use the arrow buttons "◀/▶" to select "Installation" and press the "▼" button..

[5]   Check that "Image Orient" is selected and press the "▼" button.

> If "Image Orient" is not selected, press the "◀/▶" buttons to select it

[6]   Press the "◀/▶" buttons to select the projection method (Image Orientation).

> 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.

[7]   Press the "ENTER" button.

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

[8]   Press the "EXIT" button several times.

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

3.4   Adjusting the lamp bulb shaft

It is necessary to adjust the lamp bulb shaft for mounting and replacement of the lamp bulb.

Preparation:

Adjustment should be made with the projection status.   Turn on the projector and the lamp power supply unit.   In addition, prepare gloves, a Phillips head screwdriver and hexagonal wrench (5 mm).

[1] Remove the bulb adjustment panel at the rear of the projector.

Loosen two screws until their rotations become idle and remove the bulb adjustment panel.

Bulb adjustment panel
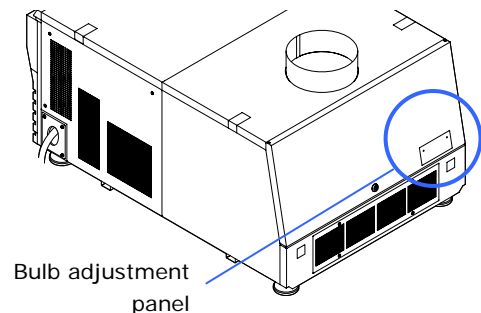
[2] Call "Bulb Alignment" from the menu.

From the LCD menu of the projector (Configuration > Installation > Bulb Alignment) or from the touch panel controller (LAMP > Setup > Bulb Alignment), call the "Bulb Alignment" screen.

(LCD menu display)

Installation
Bulb Alignment
Peakhold   183
Average   131

(Touch panel display)

Bulb Alignment

Peakhold   183

Average   131

Peakhold Reset   Exit
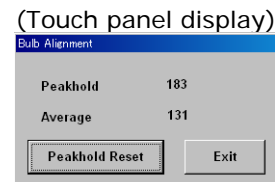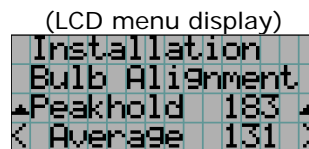
[3] Adjust the Z-axis adjustment screw to have the maximum bulb alignment.

With rotating the adjustment screw using a 5-mm hexagonal wrench, set the Peak hold value in the "Bulb Alignment" screen to the maximum.   Average shows the average value in the adjustment.

Z-axis adjustment screw

D-42
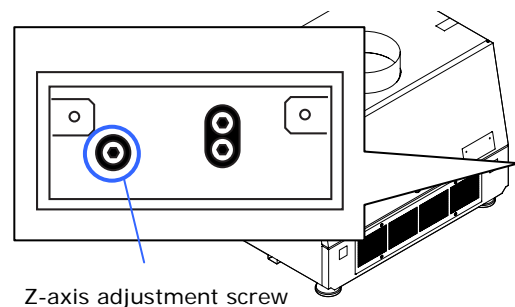
[4] Adjust the X-axis adjustment screw to have the maximum bulb alignment.

With rotating the adjustment screw using a 5-mm hexagonal wrench, set the Peak hold value in the "Bulb Alignment" screen to the maximum. Average shows the average value in the adjustment.

X-axis adjustment screw
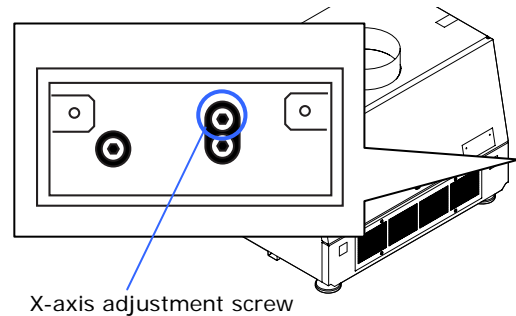
[5] Adjust the Y-axis adjustment screw to have the maximum bulb alignment.

With rotating the adjustment screw using a 5-mm hexagonal wrench, set the Peak hold value in the "Bulb Alignment" screen to the maximum. Average shows the average value in the adjustment.

Y-axis adjustment screw
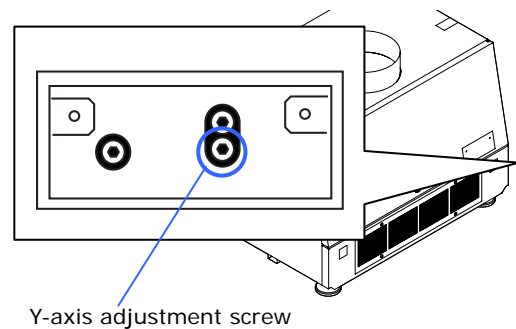
[6] Mount the bulb adjustment panel at the rear of the projector.

Loosen two screws to mount the bulb adjustment panel.

Bulb adjustment panel

This completes the adjustment of the lamp bulb shaft.

3.5   Adjusting the primary lens

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

3.5.1   Display the test pattern

[1]   Press the MENU button of the remote controller.

"TITLE SELECT" is displayed on the LCD screen at the projector side.

[2]   Press "▼" button.

[3]   Press the "◀/▶" buttons to select "TEST PATTERN".

[4]   Press the "◀/▶" buttons to select "Cross Hatch".

[5]   Press "▼" button.

[6]   Press "ENTER" button.
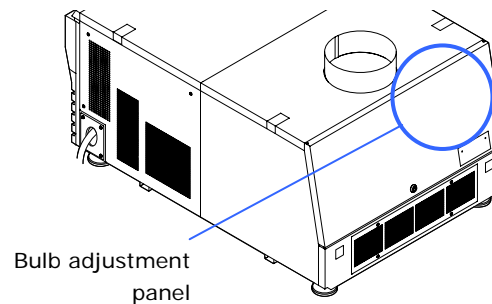
An (*) will be put on the selected test pattern.

3.5.2   Adjusting the screen ratio

Adjust the screen ratio of the primary lens here.

Adjust the screen ratio of the anamorphic lens after adjusting the primary lens screen ratio and mounting the anamorphic lens (See D-46).

When an anamorphic lens is used, distortions will be produced on the projection screen. To prevent the image from being cut off due to these distortions, the image size should be made larger than the screen size beforehand.

To minimize potential distortions of the anamorphic lens, it is recommended that the lens shift not be used as much as you can and that projection be kept at lens center.

Memo • How to Call the Lens Center
   [1]Press the "MENU" button on the remote control panel.
      "Title SELECT" appears on the projector's LC display.
   [2]the Configuration menu using the arrow buttons "◀/▶".
   [3]Press the "▼" button.
   [4]Select "Installation" using the "◀/▶" buttons.
   [5]Press the "▼" button.
   [6 Select "Lens Center" using the "◀/▶" buttons.
   [7]Press the "▼" button.
   [8]When "Move" appears on the display, press the "ENTER" button.
      The lens will begin to move.

----

[1] Press the "ZOOM+-" buttons on the remote control panel or of the projector to roughly adjust the screen size so that the screen height and the image height are the same.

[2] Press the "FOCUS+-" buttons of the remote control or the projector to roughly adjust the focus.

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

[4] Use the "ZOOM+-" buttons again to adjust the screen size so that the projected image is kept 0.5 to 1 crosshatch cell portions higher than the top edge of the screen.

[5] Finally adjust the focus using the "FOCUS+-" buttons either of the remote control or the projector.
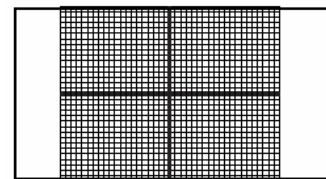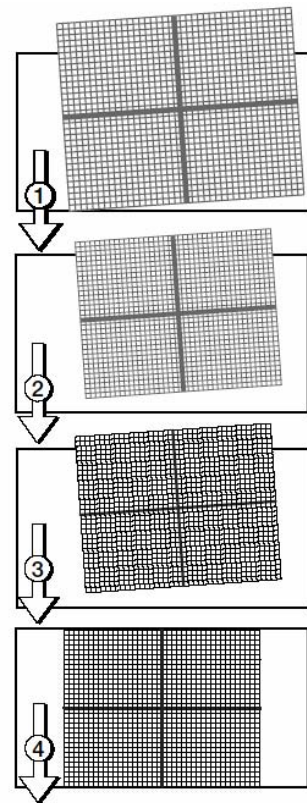
Note • If you use the lens memory for adjustment of the focus, first move the ▼ key (Focus Down) almost to the limit and then make adjustments so that you can finish the adjustment on the ▲ (Focus Up) side.

3.6   Adjusting the anamorphic lens

Here, you will adjust the positions (vertical and horizontal positions and depth) of the anamorphic lens, and its rotation, tilt/pan angles and focusing as well.

Adjust the anamorphic lens position so that it becomes parallel with the primary lens in horizontal and vertical directions.   In addition, rotate the lens to adjust it so that the projection screen enlarged by the anamorphic lens becomes horizontal.

Indication of Adjustment Directions

In this section, the moving direction and the rotation angle are indicated as shown below.
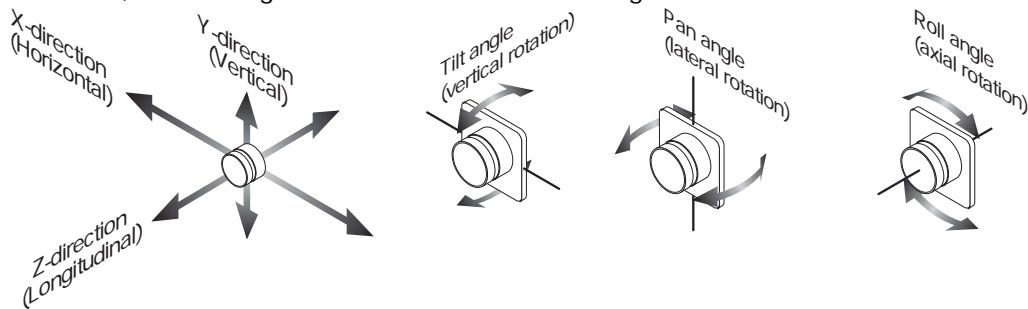
3.6.1   Z-direction adjustment

Move the anamorphic lens in the Z-direction and adjust it so that the distance between the primary lens and the anamorphic lens becomes as small as possible.

[1]   Loosen the two Z-direction fixing levers.
[2]   Hold the slide unit with both hands and slide it manually.
[3]   After adjusting, tighten the two Z-direction fixing levers to fasten.

Note	• Check that the slide unit does not touch the primary lens.

Z-direction fixing
lever
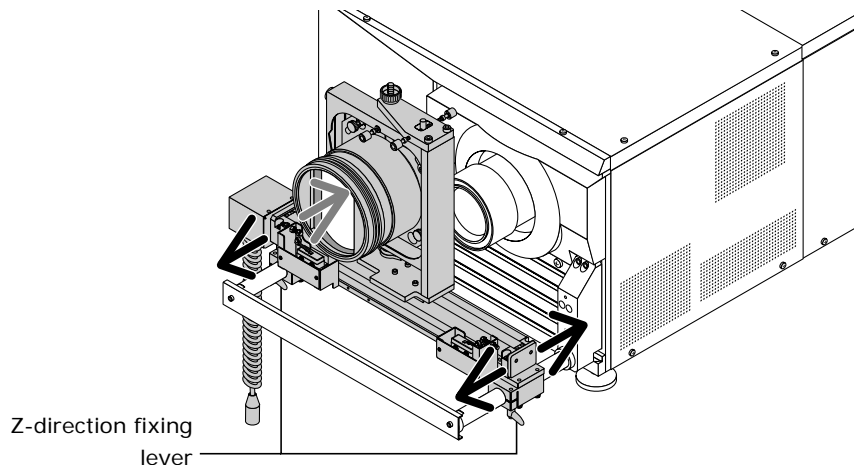
3.6.2 X-direction adjustment

For the X-direction, the anamorphic lens is set (on) and reset (off) electrically. For this reason it is necessary to properly adjust the sensor position for the set position.

Sensor
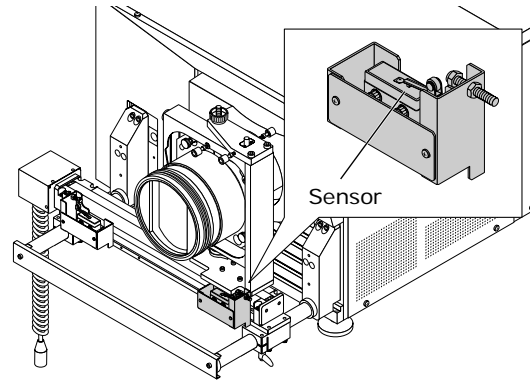
⚠️ **Caution**	• Pay attention not to have the finger caught by the movable section in adjustment.

Note	• Make the X-direction adjustment with the power supply/control connector disconnected.

Tips	• It is not possible to adjust in the X-direction electrically.

Anamorphic lens set position adjustment

[1] Loosen the two M4 screws fixing sensor (R), then slide in the direction of arrow A.

Sensor（R）

A
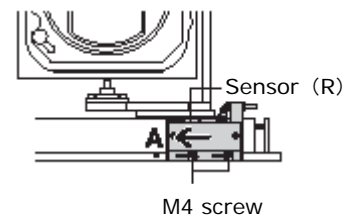
M4 screw

[2] Line up the top of the slide unit with the projector side lens position.

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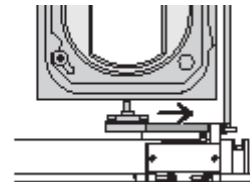
[3]   Slide sensor (R) in the
direction of arrow B and
fasten it in the position
where the sensor switches
from "off" to "on" by
tightening the two M4
screws.

   * If necessary, use the auxiliary sensor
   adjusting holes.

Off
On

M4 screw

Auxiliary sensor
adjusting holes
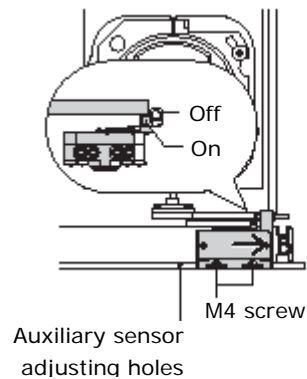
3.6.3   Y-direction adjustment

[1]   Loosen pan angle adjusting
screws (f) and (r) a little.
[2]   Turn the Y-direction
adjusting knob to adjust.
[3]   After adjusting, tighten pan
angle adjusting screws (f)
and (r) to fasten.

Y-direction
adjusting
knob

pan angle adjusting screws (f) and (r)
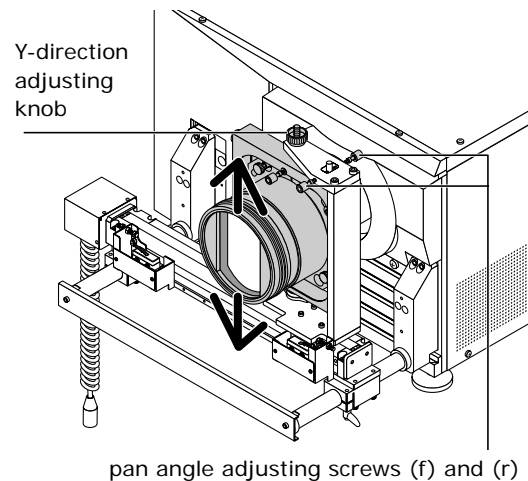
3.6.4 Adjusting the roll angle

Rotate the anamorphic lens so that the vertical lines and the horizontal lines at the center of the image projected to the screen become horizontal and vertical.
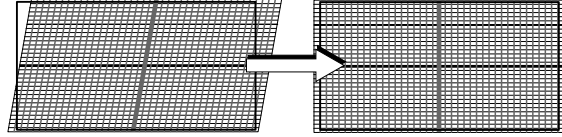
[1] Loosen the two roll angle fixing knobs.

[2] Grasp the anamorphic lens firmly by hand and turn it along the guide to adjust.

[3] After adjusting, tighten the two roll angle fixing knobs to fasten.

Roll angle fixing knob
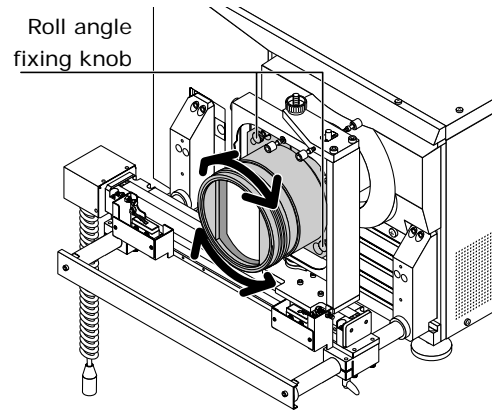
Note	• Be careful not to turn too far counterclockwise or the lens holder will come off.

3.6.5   Adjusting the tilt angle

Adjust the tilt angle so that the distortions at the top and the bottom of the image become equivalent.

Set the anamorphic lens upward.

Set the anamorphic lens downward.
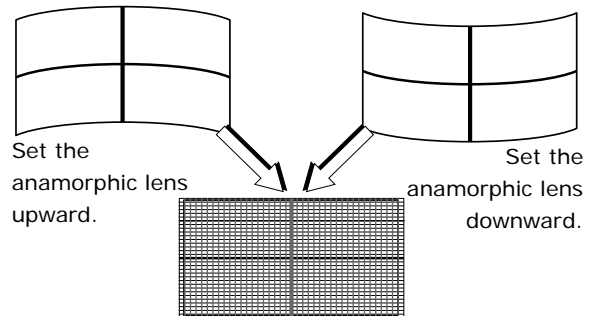
Note   • When you adjust the tilt angle, pay attention so that the anamorphic lens does not contact the primary lens.   If the anamorphic lens is touch the primary lens, repeat the steps in "3.6.1 Z-direction adjustment" (Page D-46).

[1]   Loosen the two tilt angle fixing knobs.

[2]   Loosen the tilt angle adjusting screw to adjust in the C-direction, tighten it to adjust in the D-direction.

[3]   After adjusting, tighten the two tilt angle fixing knobs to fasten.

Tilt angle adjusting screw

Tilt angle fixing knobs
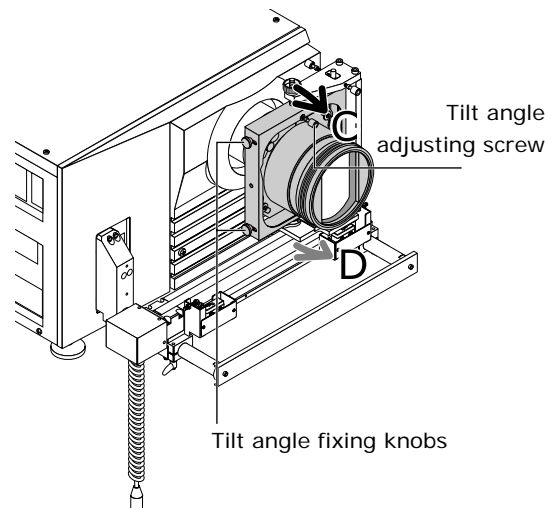
3.6.6   Adjusting the pan angle

Adjust the pan angle so that the heights on the right and left of the image become equivalent.

Direct the anamorphic lens to the right

Direct the anamorphic lens to the left
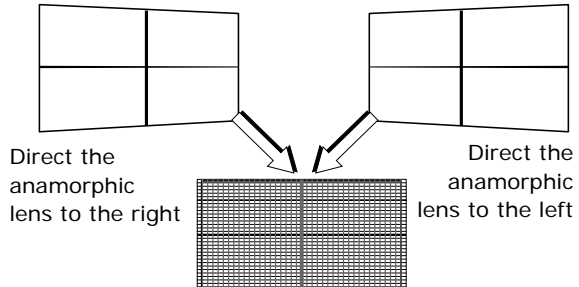
[1]   Loosen the two pan angle adjusting screws (f) and (r).

[2]   Tighten pan angle adjusting screw (f) to adjust in the E-direction, tighten pan angle adjusting screw (r) to adjust in the F-direction.

[3]   After adjusting, tighten the pan angle adjusting screw on the side opposite the one adjusted in step <2> to fasten.

Pan angle adjusting screw (f)

Pan angle adjusting screw (r)
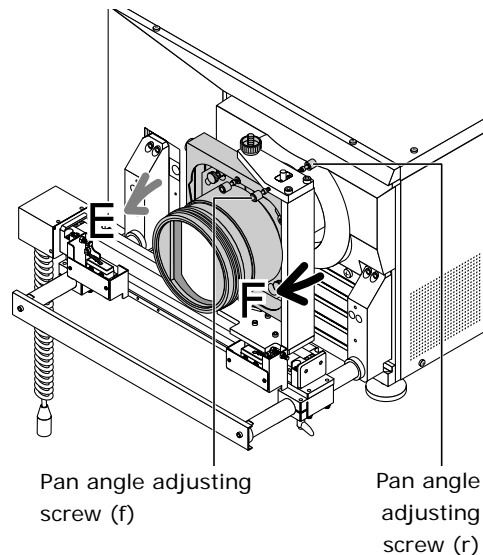
3.6.7   Checking the Adjustment Results

This completes the adjustment of the anamorphic lens. Check that the projected image is substantially at the center of the anamorphic lens and that four corners of the projected image are not eliminated by the anamorphic lens (check whether the image has a notch or not).

If the image is not fully given, repeat the steps in "3.6   Adjusting the anamorphic lens" (Page D-46).

3.7   Connecting the image input

Your projector has four image input terminals, namely, the HDSDI A input terminal, the HDSDI B input terminal, the DVI-D A input terminal, and the DVI-D B input terminal.

HDSDI A/B input terminal (SDI A/SDI B)	Inputs serial digital images from a Video Server or Video source.
DVI-D A/B input terminal (DVI A/DVI B)	Inputs digital RGB signals from a PC.
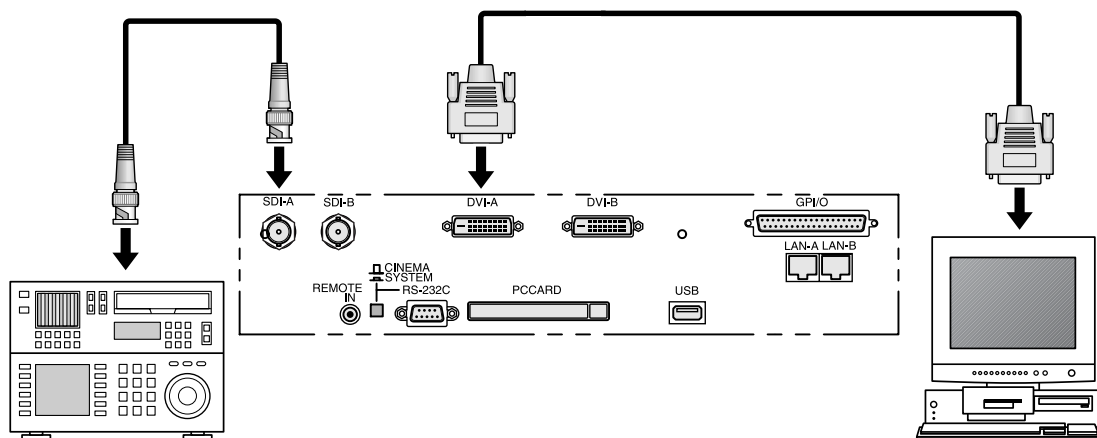
3.8   Connecting the various control terminal

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

PC control terminal (PC CONTROL)	Use this terminal when controlling the projector in serial connection from a PC.
Ethernet port (LAN-A/LAN-B)	Use this port when controlling the projector in LAN connection from a PC.
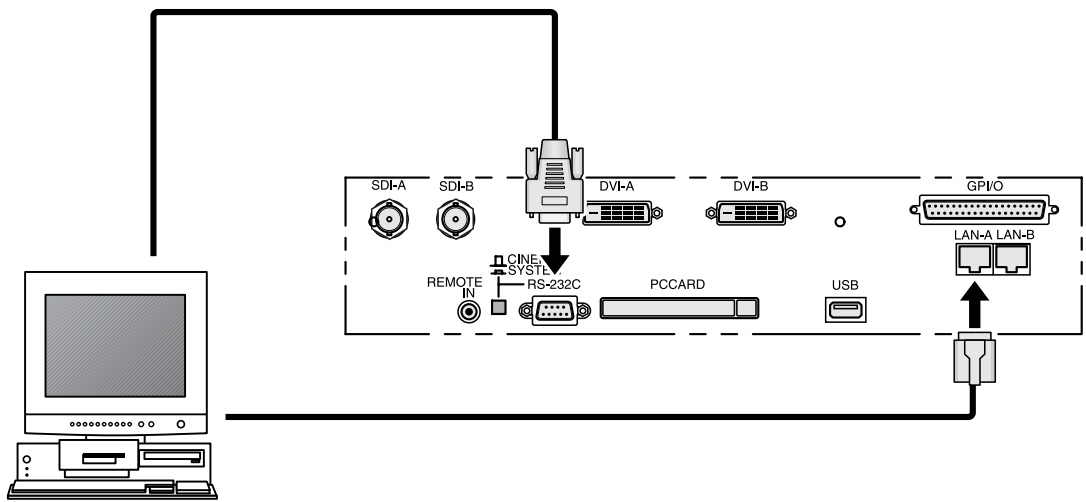
This completes the adjustment and connection of the projector.   Next, set up the projector from the touch panel. Refer to the "Touch Panel Section" for the procedure.

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3.9   Controlling Your Projector Using a Wireless LAN Card

When using a wireless LAN to control the projector, please insert a wireless LAN card (available separately) into the Connection terminal PC Card slot located at the projector side.
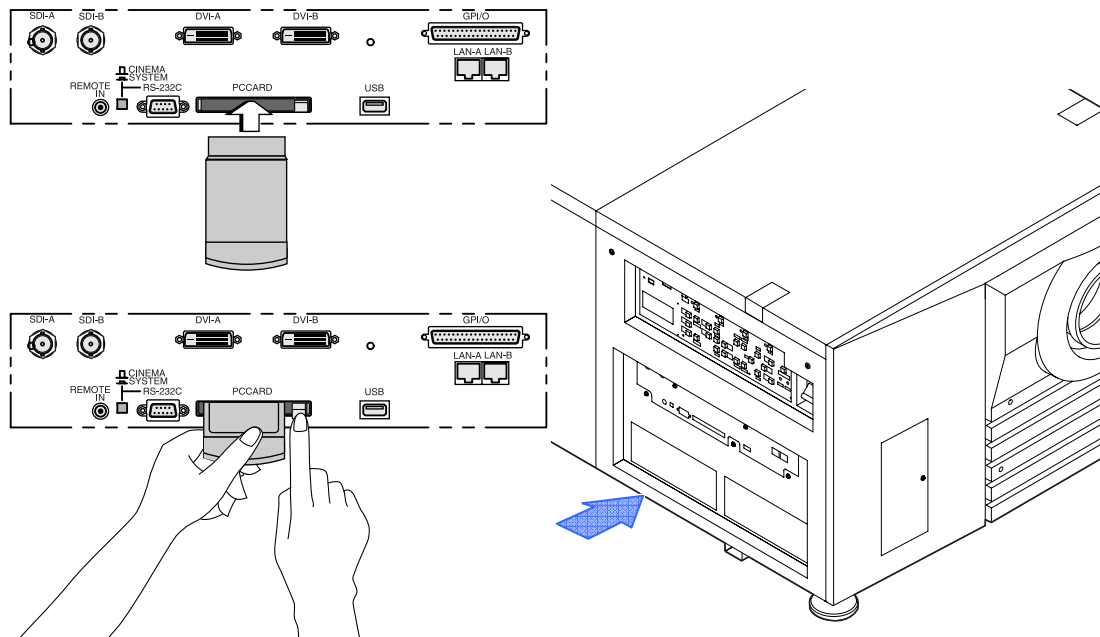
Note	• Be careful of the following when using a wireless LAN.
	- The unit cannot be connected to the same network group (*) of the NIC (Network Interface Card).
	- Use the wireless LAN in the ad hoc mode.
	* The same network group is one in which the AND value of the IP address and subnet mask are the same.
	• If the wireless LAN card is in use, NC1600C cannot be controlled from the incorporated LAN port (LAN A/LAN B). The Cinema circuit can be controlled even if the wireless LAN is in use.
	• Be sure to set or remove your wireless LAN card only when the power to your projector is off. Insertion or removal of a wireless LAN card when power to your projector is on may result in a destruction of the wireless LAN card.

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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 operation manual.

4.1 List of menu

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

Main menu	Submenu		Description	Ref. page
Title Select	"Title Memory name"		Selects the title of the signal to be projected.	D-57
	TEST Pattern		Selects the test pattern to be projected.	D-57
Configuration	Lamp Setup	Adjust	Adjusts lamp brightness.	D-58
		Feedback	Sets the lamp brightness constant mode that uses a brightness sensor.	
	(Setup)	Douser Mode	Selects whether to use the douser (screen mute) when switching signals.	D-58
		Turret	Controls the turret mounted with an anamorphic lens.	
		Ext. MMS Link	Sets whether to connect an external multi-media switcher (MMS).	
		Panel Key Lock	Locks the buttons on the projector's control panel so that they cannot be operated.	
		FactoryDefault	Returns the settings to their default values (only macro keys and titles, or all settings).	
	(Installation)	Image Orient	Selects the projection method (front/rear).	D-60
		Lens Center	Moves the lens shift position to the center.	
		MMS Select	Selects the multi-media switcher (MMS) to connect.	
		Baudrate	Sets the PC control connector (RS-232C) data transmission speed (bps).	
		Date/Time	Sets the date and time on the projector.	
		New Bulb	Resets the lamp bulb usage time and selects or edits new entries (only when the projector is in standby mode).	

		Bulb Warning	Sets the lamp bulb warning time (only when the projector is in standby mode).	
		New Lamp House	Resets the lamp house usage time, and makes settings or selects modes (only when the projector is in standby mode).	
		Bulb Alignment	Sets the lamp bulb alignment.	
		Security Key	Registers the certification file to USB memory. Do not use usually.	-
	(Memory)	Lamp	Saves the current lamp setting.	D-64
		Lens	Saves the current lens setting.	
(Title Setup)	Macro Key	Macro Key No. 1 to 8	Sets the titles to be assigned to the macro keys of 1 to 8.	D-65
Information	Lamp	Output	Displays the lamp output setting.	D-66
		Bulb Type [A]	Displays the registered name and the maximum/minimum current setting of the currently used lamp bulb.	
		Bulb Type [W]	Displays the registered name and the lamp rated output (kW) of the currently used lamp bulb.	
		Bulb Type [H]	Displays the registered name and the lamp bulb warning time (Bulb Warning Time) setting of the currently used lamp bulb.	
	Macro Key	Macro Key No. 1 to 8	Displays the titles assigned to the macro keys of 1 to 8.	D-67
	Usage		Displays the usage times of the projector, lamp bulb, lamp house and bulb warning.	D-67
	Error Code		Displays the currently occurring error.	D-67
	Version	System	Displays the version of the projector head. (BIOS, Firmware, Data, and Serial No.)	D-68
		MMS (Built-in)	Displays the version of the built-in multi-media switcher (MMS). (BIOS, Firmware, Data, FPGA, and Serial No.)	D-69
	IP Address	System	Displays the SYSTEM IP address.	D-69
		Cinema	Displays the CINEMA IP address.	
		PC Card	Display the IP address for wireless LAN (when wireless LAN card is inserted).	
	MMS Status		Displays the status information of the connected multi-media switcher (MMS).	D-69

4.1.1   When you use the service personnel menu

To use the menu for service personnel, you need to input the pass code from the remote controller.

[1]   Press the TEST button while holding down the CTL button of the remote controller.

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

[2]   Enter your pass code using the numeric character keys of the remote controller.

After authentication of your pass code, the service personnel menu will become active.

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 99 titles. You can also assign registered titles to the macro keys 1 to 8 on the projector's control panel and call them up directly using those buttons.

```
Title Select

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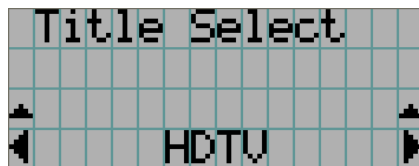
← Displays the currently selected item with asterisk (*).

← Selects the title to be projected.

4.2.2   Test Pattern

Selects the test pattern to be projected.

```
Title Select
TEST Pattern
            (*)
   Alignment
```

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

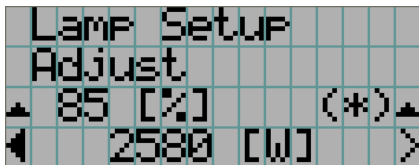← Selects the test pattern to be projected.

OFF, Alignment, Convergence, H-Ramp, RGB-Black, RGB-Blue, RGB-Green, RGB-Red, RGB-White, Y-Color Bars, YCbCr-Blue, YCbCr-Green, YCbCr-Red, YCbCr-White, RGB-CROSS, RGB-50%-White

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4.3   Configuration

4.3.1   Lamp Setup

Adjust

Adjusts the lamp output (brightness). Control the output at 10W increments.

```
Lamp Setup
Adjust
  85 [%]      (*)
     2580 [W]      >
```
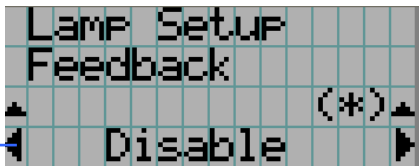
← Displays the lamp output (%) with regard to the setting.

← Adjusts the lamp brightness.

Note • Arrange the setting so that the lamp output becomes 70% at least. Lamp output below 70% will cause an error.

Feedback

Sets the lamp brightness constant mode that uses a brightness sensor.

```
Lamp Setup
Feedback
            (*)
    Disable      ▶
```

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

← Displays the setting.

Disable	Disables the lamp brightness constant mode.
Enable	Enables the lamp brightness constant mode.

4.3.2   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 D-56).

Douser Mode

The douser function will be activated when signals are switched. Request your dealer/distributor to perform the setting.
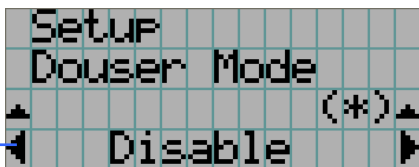
```
Setup
Douser Mode
            (*)
    Disable      ▶
```
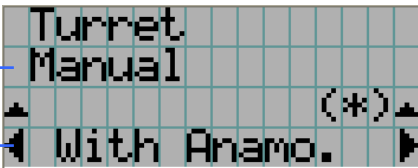
← Displays the currently selected item with asterisk (*).

← Displays the setting

Disable	Disables the douser mode.
Enable	Enables the douser mode.

Turret

Controls the turret on which the anamorphic lens is mounted.

```
Turret
Manual
              (*)
  With Anamo.
```
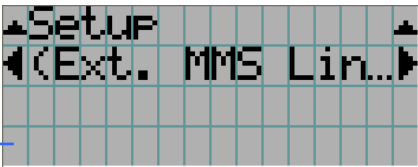
← Displays the control item

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

← Displays the setting

Manual	Manually control the turret.
	- Without Anamo: Disables anamorphic lens.
	- With Anamo: Enables anamorphic lens.
Auto	The anamorphic lens selected at Title switches automatically when the title is switched.
	- Disable : Lens switching does not take place in conjunction with the title.
	- Enable : Lens switching takes place in conjunction with the title.
Ref. Select	Specify whether to enable or disable the anamorphic lens for the selected title.
	- Without Anamo: Disables anamorphic lens.
	- With Anamo: Enables anamorphic lens.

Ext. MMS Link

Connect an external multimedia switcher (MMS) to control the input signal. While the incorporated MMS is selected, the settings are not displayed.
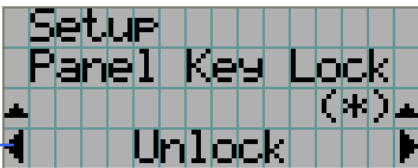
```
Setup
(Ext. MMS Lin...
```

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

← Displays the setting

Connect	To enable connection with external MMS
Disconnect	To disable connection with external MMS

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.

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> **Note**
> - Even if the buttons on the projector's control panel are locked, remote controller buttons are available.
> - When the buttons on the projector's control panel are locked, press the CANCEL button on the projector for about 10 sec. to unlock them (The key lock setting on the projector becomes Unlock).

FactoryDefault

Used to select factory default values for the projector settings.
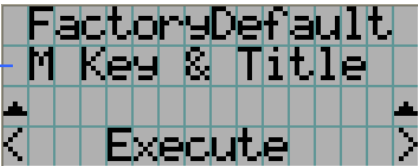
```
FactoryDefault
M Key & Title
                        ▲        ← Select the item to be reset.
< ▲   Execute    >      ← Press the ENTER button to execute resetting.
```

| M Key & Title	Titles are set to factory default ones. (Tiles you have created are deleted, but files are not.)
All	All the settings of your projector are set to factory default values except for files.

> **Note**
> - Files previously deleted or rewritten cannot be restored.

4.3.3   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 D-56).

Image Orient

Make a selection according to the setup position of your projector and screen.
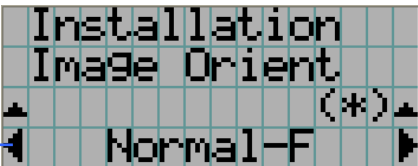
```
Installation
Image Orient
                 (*)▲    ← Displays the currently selected item with asterisk (*).
◄   Normal-F    ►        ← Displays the setting
```
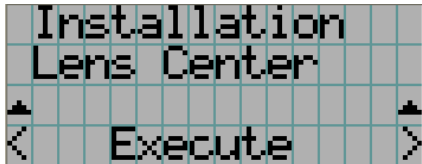
Normal-F	Projection is made from front of the screen.
Normal-R	Projection is made from behind the screen

D-60

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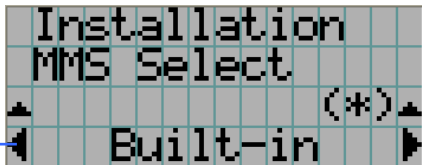
To move the lens shift to the center position. The center position may slightly shift depending upon mounting conditions of the lens.

```
Installation
Lens Center

<    Execute    >        ← Press the ENTER button to execute moving.
```

MMS Select

Select the MMS for operation when you use a multimedia switcher (MMS) separately sold. You can connect only one MMS.

```
Installation
MMS Select
            (*)         ← Displays the currently selected item with asterisk (*).
◀   Built-in   ▶        ← Displays the setting
```

Built-in	To use the incorporated MMS (optional)
External	To use the externally connected MMS (optional)
Not Use	Not to use MMS

Baudrate
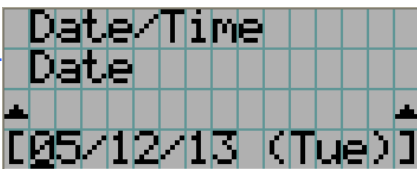
To select the transmission speed (bps) for your projector (SYSTEM) and a PC when they are connected by a commercially available RS-232C straight cable. Select one from 4800, 9600, 192000 and 38400. Select the transfer speed corresponding to the speed of the connected devices.
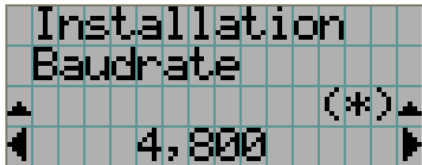
```
Installation
Baudrate
            (*)         ← Displays the currently selected item with asterisk (*).
◀   4,800   ▶           ← Displays the setting
```

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Date/Time

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

```
Date/Time
Date

[05/12/13 (Tue)]
```

←Select the item to be set

←Input numeric values

Use the remote controller to input numeric values. For the procedure to input alphanumeric characters, refer to "Users Manual".
Use the SELECT <Left/Right> buttons to move the cursor (under bar).

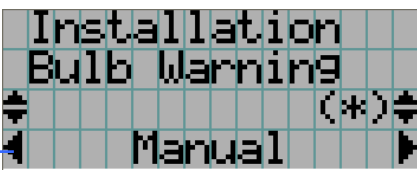| Date	Set the date here (Year, month, day).
Time	Set the time here (Hour, minute, second).

New Bulb

When the lamp bulb is replaced, reset the lamp time and select the lamp bulb type. This menu is active in standby mode only.

```
Installation
(New Bulb)
```
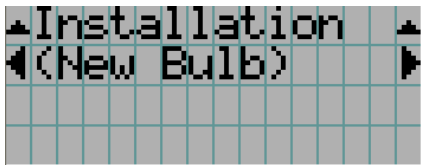
Bulb Warning

To set the time for display of lamp bulb warning. This menu is active in standby mode only.

```
Installation
Bulb Warning
             (*)
     Manual
```

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

← Displays the setting

Manual	Manually specify the warning time (H). Press the SELECT ▲ key to display the numeric input line (input the value using the remote controller).
Use Bulb Entry	Warning time set by Bulb Entry is used.

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New Lamp house

When the lamp house is replaced, reset the lamp house time and select the lamp house. This menu is active in standby mode only.

```
New Lamp house
Usage Clear
            (*)
    House 1
```

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

← Displays the setting

←Select the items for which the usage times are cleared.

```
New Lamp house
Usage Mode
            (*)
    Multi
```

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

← Displays the setting

←Select the mode for lamp house usage time.

Single	To set the mode in which lamp house is not replaced (Single mode)
Multi	To set the mode in which the lamp houses are alternately replaced for use (Multi-mode). - Lamp house 1: To use the lamp house 1 - Lamp house 2: To use the lamp house 2

House	To set the mode in which lamp house is not replaced (Single mode)
House1	When multi-mode lamp 1 is used
House2	When multi-mode lamp 2 is used

Usage Clear	Reset the lamp house usage time.
Usage Mode	Set the mode for lamp house usage time.

Bulb Alignment

Use this for lamp bulb alignment adjustment.

Press [LAMP-] in [LAMP CTL] to clear the maximum value of Peakhold.

```
Installation
Bulb Alignment
Peakhold   103
Average    103
```

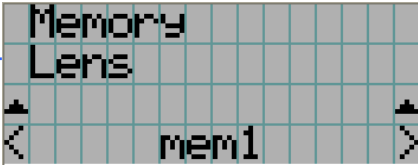←Display the maximum value of the lamp light quantity input.

←Display the current input for lamp light quantity.

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4.3.4   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 D-56).

Save the current status of lamp and lens to the memory in the projector (lens memory function and lamp memory function).

The saved contents are assigned to the titles for use.

← Select the saving item

← Display the registered memory name

Press the ENTER button to display the confirmation message asking you whether this memory can be overwritten or not.

| Lamp	To save the current lamp status
Lens	To save the current lens status

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 D-56).

4.4.1   Macro Key

Use this key to set the titles to be assigned to the macro keys.
You cannot assign the same title to several macro keys. If you want to assign any title to another number, cancel the assignment once and then set it to any key again.
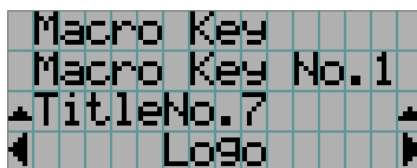
```
Macro Key
Macro Key No.1        ← Select the macro key number (1 to 8)
TitleNo.7             ← Display the selected number of the title
      Logo            ←Select the titles to be assigned to the macro keys
```

Select the titles from those registered in advance.
To clear assignment to macro keys, select "---".
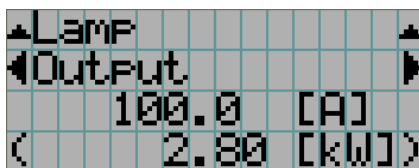
4.5   Information

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

4.5.1   Lamp

Displays information relating to the lamp. (Such as lamp output and the type of lamp bulb.)

Output

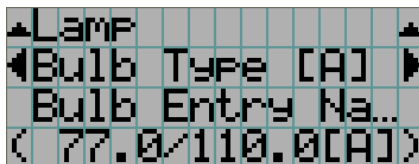Displays the lamp brightness (output) setting.

```
▲Lamp                ▲
◄Output              ►
        100.0   [A]        ← Displays the set current (A).
(        2.80  [kW])       ← Displays the power consumption (kW).
```

Bulb Type [A]

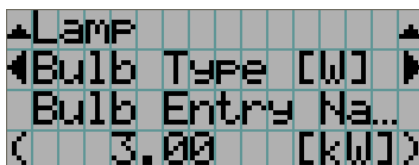Displays the hours of lamp bulb use, the version information and error codes.

```
▲Lamp                ▲
◄Bulb Type [A]       ►
 Bulb Entry Na...          ← Displays Bulb Entry registered name.
( 77.0/110.0[A])           ← Displays Bulb Entry maximum/minimum currents (A).
```

Bulb Type [W]

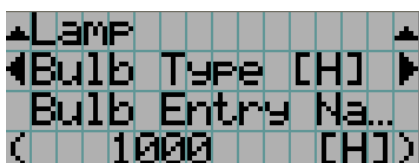Displays the registered name and the lamp rated output (kW) of the currently used lamp bulb.

```
▲Lamp                ▲
◄Bulb Type [W]       ►
 Bulb Entry Na...          ← Displays Bulb Entry registered name.
(       3.00   [kW])       ← Displays Bulb Entry lamp rated output (kW).
```

Bulb Type [H]

Displays the registered name and the lamp bulb warning time (Bulb Warning Time) and setting of the currently used lamp bulb.
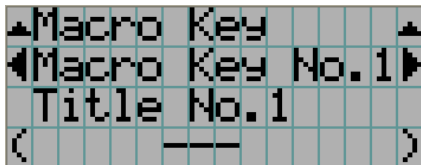
```
▲Lamp                ▲
◄Bulb Type [H]       ►
 Bulb Entry Na...          ← Displays Bulb Entry registered name.
(      1000    [H])        ← Displays Bulb Warning Time setting (H).
```

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4.5.2 Macro Key

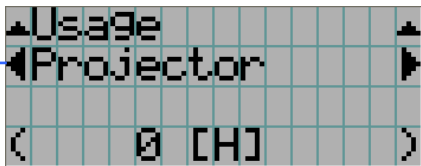Displays the titles assigned to the macro keys of 1 to 8 on the projector's control panel.

←Selects the macro key whose contents you want to display.

←Displays the assigned title numbers.

←Displays the registered names of the assigned titles.

4.5.3 Usage

Displays the hours of projector head, lamp, and lamp house usage, and warning display time of the lamp bulb.
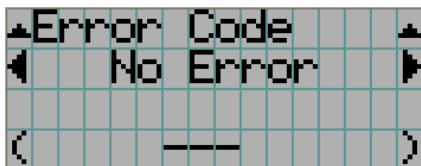

←Selects the item to display.

←Displays the hours of use (H).

Projector	Displays the hours of projector head use.
Bulb	Displays the hours of use of the current lamp bulb.
Lamphouse	Displays the hours of use of the current lamp house.
BulbWarning	Displays the currently enabled warning time. The following is displayed depending on the item set by the Bulb Warning setting.
	- When Use Bulb Entry is enabled: Displays the Bulb Entry value.
	- When in Manual setting: Displays the value set using Manual.

4.5.4 Error Code

Displays the error code when an error occurs. See the "Error Code List" in the Appendix for details on error codes.

←Displays the code of the error currently occurring.

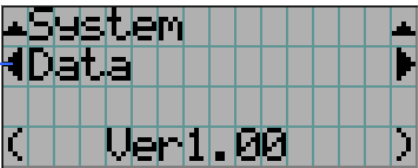←Displays the name of the error currently occurring.

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

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4.5.5   Version

Displays the versions of the projector head, and the multi-media switcher (MMS) (optional)。

System

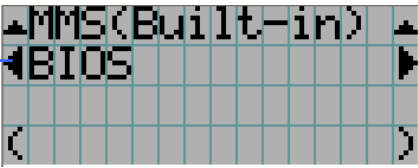Displays the version information of the projector head.

 ←Selects the item to display.

←Displays the version information.

BIOS	Displays the BIOS version of the projector head.
Firmware	Displays the firmware version of the projector head.
Data	Displays the data version of the projector head.
Serial No.	Displays the serial number of the projector head.

MMS (Built-in)

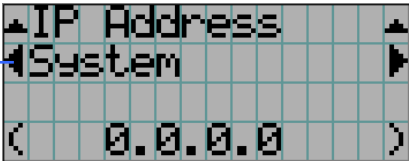Displays the version of the multi-media switcher (MMS) connected to the projector head.

 ←Selects the item to display.

←Displays the version information.

BIOS	Displays the BIOS version of the built-in MMS.
Firmware	Displays the firmware version of the built-in MMS.
Data	Displays the data version of the built-in MMS.
FPGA	Displays the FPGA version of the built-in MMS.
Serial No.	Displays the serial number of the built-in MMS.

4.5.6 IP Address

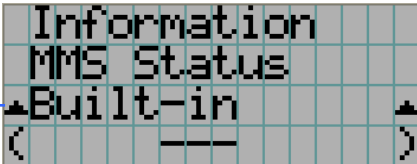Displays the IP address set in the projector head.

```
IP Address
System                    ►    ←Selects the item to display the IP address.

(     0.0.0.0     )             ←Displays the IP address.
```

System	Displays the IP address set for the projector head (System).
Cinema	Displays the IP address set for the projector head (Cinema).

4.5.7 MMS Status

Indicates the status of the multi-media switcher (MMS) connected to your projector.

```
Information
MMS Status
Built-in                       ←Displays the status information of MMS linked operations.
(     ---     )                 ←Displays the IP address of MMS.
```

Built-in	Built-in multi-media switcher (MMS) is linked.
External	External multi-media switcher (MMS) is linked.
Not Use	There is no link established.

5.

Appendix

5.1 List of registered titles (when shipped from the factory)

The data listed below have been cataloged in your projector before shipping from our factory.

List of default Titles

Macro Key No.	TITLE	入力	FILES		source		TCGD	Anamor- phic Lens
			PCF	SCREEN	active	aspect		
1	DCDM XYZ 239	SDI-A,B	DCDM_XYZ_239	DC2K SCOPE	2048x858	0	—	none
2	DCDM XYZ 185	SDI-A,B	DCDM_XYZ_185	DC2K VISTA	1998x1080	0	—	none
3	DCDM RGB 239	SDI-A,B	DCDM_RGB_239	DC2K SCOPE	2048x858	0	—	none
4	DCDM RGB 185	SDI-A,B	DCDM_RGB_185	DC2K VISTA	1998x1080	0	—	none
5	MXFI 239	SDI-A	MXFI_239	DC2K SCOPE	1920x804	0	—	none
6	MXFI 185	SDI-B	MXFI_185	DC2K VISTA	1920x1038	0	—	none
7	DVI-A	DVI-A	DVI 2048x1080	DC2K DVI	2048x1080	0	P7v2 theatre	none
8	DVI-B	DVI-B	DVI 2048x1080	DC2K DVI	2048x1080	0	P7v2 theatre	none

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