NEC

MODEL NC1600C

DLP Cinema® Projector

SERVICE MANUAL

PART No. 3N9911137

Better Service

Better Reputation

Better Profit

SAFETY CAUTION:
Before servicing this chassis, it is important that the service technician read and follow the “Safety Precautions” and “Product Safety Notice” in this Service Manual.

WARNING:
SHOCK HAZARD - Use an isolation transformer when servicing.

NEC

NEC DISPLAY SOLUTIONS, LTD.

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CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE 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.

ATTENTION

RISQUE D'ELECTROCUTION
NE PAS OUVRIR

MISE EN GARDE: AFIN DE REDUIRE LES RISQUES D' ELECTROCUTION, NE PAS DEPOSER LE COUVERCLE, IL N'Y A AUCUNE PIECE UTILISABLE A L'INTERIEUR DE CET APPAREIL. NE CONFIER LES TRAVAUX D'ENTRETIEN QU'A UN PERSONNEL QUALIFIE.

Ce symbole a pour but de prévenir l' utilisateur de la présence d' une tension dangereuse, non isolée se trouvant à l' intérieur de l' appareil. Elle est d' une intensité suffisante pour constituer un risque d' électrocution. Eviter le contact avec les pièces à l' intérieur de cet appareil.

Ce symbole a pour but de prévenir l' utilisateur de la présence d' importantes instructions concernant l' entretien et le fonctionnement de cet appareil. Par conséquent, elles doivent être lues attentivement afin d' éviter des problèmes.

WARNING

HEATSINK MAY BE ENERGIZED.
TEST BEFORE TOUCHING.
Heat sink located on the power board, is electrified.
⚠ mark is putted on the primary heat sink.
Pay attention to this area.

During servicing carefully observe the following.

1. OBSERVE ALL PRECAUTIONS

Items and locations that require special care during servicing, such as the cabinet, chassis, and parts are labelled with individual safety instructions. Carefully comply with these instructions and all precautions in the instruction manual.

2. BE CAREFUL OF ELECTRIC SHOCK

The chassis carries an AC voltage. If you touch the chassis while it is still alive, you will get a severe shock. If you think the chassis is alive, use an isolating transformer or gloves, or pull out the plug before replacing any parts.

3. USE SPECIFIED PARTS

The components have been chosen for minimum flammability and for specific levels of resistance value and withstand voltage. Replacement parts must match these original specifications. Parts whose specifications are particularly vital to safe use and maintenance of the set are marked ⚠ on the circuit diagrams and parts list. Substitution of these parts can be dangerous for you and the customer, so use only specified parts.

4. REMOUNT ALL PARTS AND RECONNECT ALL WIRES AS ORIGINALLY INSTALLED

For safety, insulating tape and tubes are used throughout, but some lift-off parts on the printed wiring board require special attention.

All wires are positioned away from high-temperature and high-voltage parts, and, if removed for servicing, they must be retuned precisely to their original positions.

5. LAMP

Be very careful of the lamp because it generates high heat while it is used at high voltage. When replacing the bulb, make sure it is cool enough.

6. LENS

Do not look into the lens during projection. This important to avoid damage to the eyes.

7. SERVICING

At the time of repair or inspection services, use an earth band (wrist band), without fail.

8. RUN A COMPLETE SAFETY CHECK AT THE COMPLETION OF SERVICING

After completion of servicing, confirm that all screws, parts, and wiring, removed or disconnected for servicing, have been returned to their original positions. Also examine if the serviced sections and peripheral areas have suffered from any deterioration as a result of servicing. In addition, check insulation between external metallic parts and blades of wall-outlet plugs. This examination is indispensable in confirming complete establishment of safety.

(Insulation check)

Pull out a plug from a wall outlet to disconnect the connection cable. Then turn on the POWER switch. Use a 500V megger (Note 2) and confirm that the insulation resistance is 1MΩ or more between each terminal of the plug and exposed external metal (Note 1). If the measured value is below the specified level, then it is necessary to inspect and fix the set.

(Note 1)

Exposed external metal....RGB input terminals, control terminals, etc.

(Note 2)

If a 500V megger is not available for an unavoidable reason, then use a circuit tester or the like for inspection.

DLP Cinema® Projector

NEC

NC1600C

User's Manual

NEC Display Solutions, Ltd.

Important Information

Precautions:

Please read this manual carefully before using your NC1600C and keep the manual handy for future reference.

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

CAUTION

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

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

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

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 instruction 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 or her 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

Installation and transport

Consult your dealer for installing and transporting the projector. DO NOT install or transport the projector by non-professional person. Doing so may cause the lamp to break or may cause personal injury.

- Power Supply
  - Consult your dealer for installing the power cable to the projector. DO NOT install the power cable by yourself. Doing so may cause a fire or electric shock.
  - The projector is so designed that it operates with the power supply voltage described below.
    - AC200-240V 50/60Hz

    Ensure that your power supply fits this requirement before attempting to use your projector.
  - Handle the power cable carefully. A damaged or frayed power cable can cause electric shock or fire.
    - Do not bend or tug the power cable excessively.
    - Do not place the power cable under the projector, or any heavy object.
    - Do not cover the power cable with other soft materials such as rugs.
    - Do not heat the power cable.
- Turn off the projector, shut down AC power by using a circuit breaker and contact qualified service personnel under the following conditions:
  - When the power cable is damaged or frayed.
  - If liquid has been spilled into the projector, or if it has been exposed to rain or water.
  - If the projector does not operate normally when you follow the instructions described in this user's manual.
  - If the projector has been dropped or the cabinet has been damaged.
  - If the projector exhibits a distinct change in performance, indicating a need for service.
- Do not place the projector in the following conditions:
  - near water, baths or damp rooms.
  - on an unstable cart, stand, or table.
  - in direct sunlight, near heaters or heat radiating appliances.

- in a dusty, smoky or steamy environment.
- on a sheet of paper or cloth, rugs or carpets.

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

CAUTION

- High Pressure Lamp May Explode if Improperly Handled. Only service personnel should open the lamp door. Refer Servicing to Qualified Service Personnel.
- 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.
- 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.
- 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.
- Handle your projector carefully. Dropping or jarring your projector could damage internal components.
- 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. Remove the lens and the lamp before carrying the projector. Do not apply a strong shock to the projector.
- 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.
- Consult qualified service personnel for cleaning the inside of the projector or lamp replacement. Do not try to clean the inside of the projector or replace the lamp by yourself.
- 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 projector has been turned off. (The POWER indicator blinks in orange while the fan is rotating, and the LCD screen is displaying "Cooling...". The cooling fan continues to work for 5 minutes.)

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

1-1. Features

- DLP Cinema® dedicated projector that supports large screen needs

NEC has applied its mounting technology and leading imaging technology to newly develop lamp and optical systems as well as a cooling system to support large screen needs.

- Equipped with easy to use functions

(1) Lens memory function that can be operated with one touch, and lamp power memory function
The DLP Cinema® projector is provided with a lens memory function for storing lens zoom positions and shift positions to set screens sizes for each input signal. It is also provided with a lamp power memory function for storing the brightness of the images on the screen for each input signal.
Even if you are projecting multiple images that have different settings for image sizes and brightness, you can project them with the conditions pre-registered for each signal, simply by selecting the corresponding signal.

(2) Equipped with a lamp output control function
You can set to any brightness setting, from low brightness to high brightness. This function makes it possible to minimize the fluctuation (*) in brightness as brightness of the lamp decreases as a result of long-term lamp usage.
* The time for maintaining fluctuations in brightness depends on the setting value for brightness.

(3) Easy lamp replacement
The lamp can be replaced from the backside of the projector, so the lamp can be easily replaced even in narrow locations when a film projector is setup on the side and there is not much space on the projector side.

(4) Registered signal selection buttons
The projector has been equipped with new 8 signal selection buttons that make it easy to select registered signals. To this projector, 100 titles at most can be registered (input signal registration). Among the registered titles, any 8 titles can be assigned to the buttons <1> to <8>.

(5) Touch panel (Optional)
An optional touch panel is available to enable easy operation of all projector functions.

(6) Supports various contents and types of usage by applying a separately-sold multimedia switch.
By connecting an optional multi-media switcher (MMS), you can input RGB/VIDEO analog signals, and digital signals in formats not supported by the projector.

- DMD Face Dust Protection Structure

A dust contral shield is arranged between each DMD chip of R, G and B, and the spectroscopic/condenser prism to prevent dust and dirt in the air, and oily particles in smoke associated with event halls from coming into contact with the face of the DMD and causing operating problems.

- Efficient cooling of the heat from the DMD unit by the cooling structure

The DMD unit uses a highly efficient liquid cooling method. This efficiently eliminates heat applied to the DMD by the complete dust contral structure and high light output, thereby ensuring the reliability of the projector.

- Up-to-date functions of DLP Cinema® available

This projector supports CineLink™, CineCanvas™, CinePallette™ and CineBlack™ which are the new functions for security, subtitles, etc., developed by Texas Instruments Incorporated.

(1) CineLink™: Security management
This function supports encryption of the local link between server and projector, adds a "watermark" to enable the tracing of pirated films (illegal copying), and provides other functions.

(2) CineCanvas™: Image management
This function enables insertion of subtitles and captions, correction of distortion, changing of resolution, etc.

(3) CinePallette™: Color management
This function allows extension of color range, correction of color, etc.

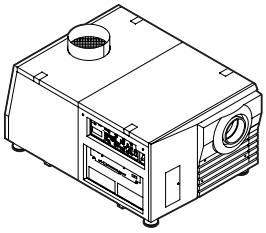
(4) CineBlack™: Contrast management
This function realizes a color tone scale from pitch black to pure white.

- DLP, DLP Cinema and their respective logos are trademarks or registered trademarks of Texas Instruments.
- CineLink, CineCanvas, CinePallette, and CineBlack are trademarks of Texas Instruments.

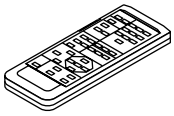
1-2. What's in the Box?

Check the content of the accessories.

☐ NC1600C projector



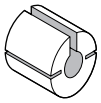
☐ Remote control (RD-371E)



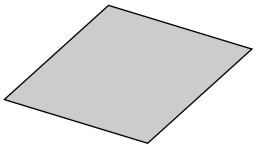
☐ UM-3 AA size battery (for the remote control) x 2

☐ Remote cable (16 m) x 1

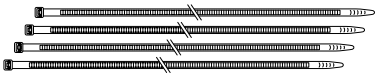
☐ Attachment for lamp x 1



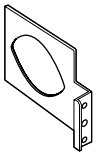
☐ Exhaust outlet protective sheet x 1



☐ Exhaust outlet protective sheet fastening band x 4

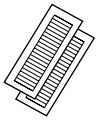


☐ Small iris x 1

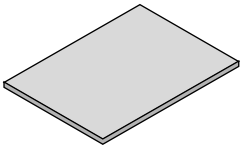


☐ Lamp door key x 2

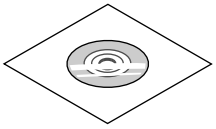
☐ Sheet of title labels (for 20 labels) x 2



☐ Important Information x1



☐ CD-ROM (User's Manual)

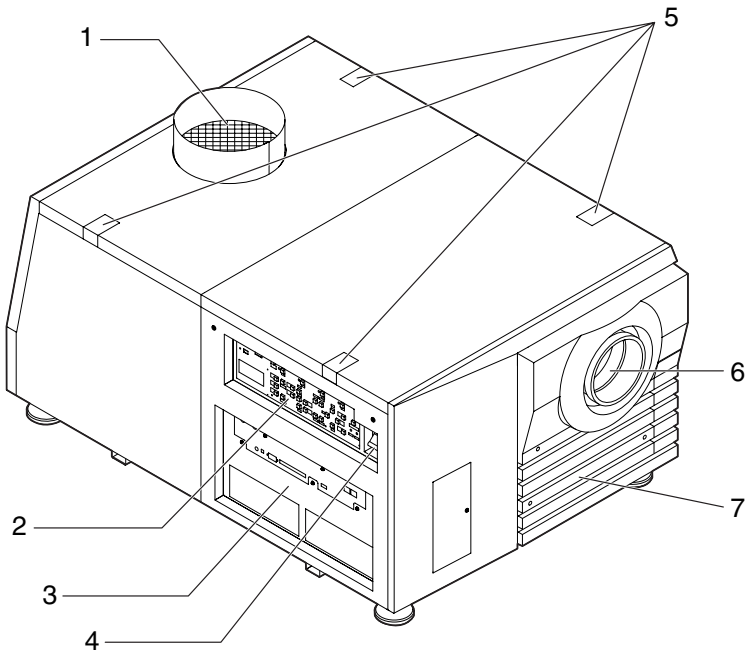


TIP

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

1-3. Names of the Projector Parts

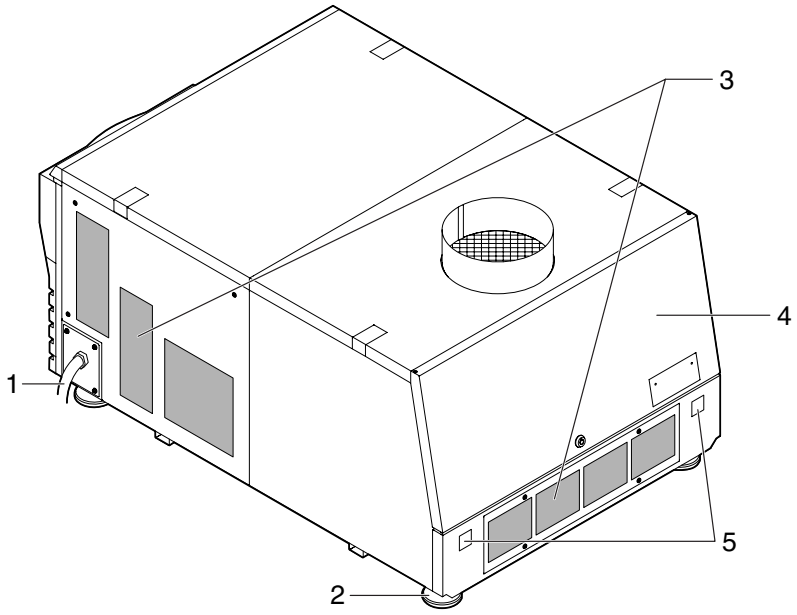
1-3-1. Front of the Projector



1. Air outlet
   Connects to an exhaust device to exhaust heat from the lamp. Please contact your dealer/distributor to install the exhaust device.
2. Control panel
   On the control panel, power to your projector is turned on or off, titles are selected, and various adjustments are made of projected screen. (See page 12)
3. Connection terminals
   Various image signal cable are to be connected here. (See page 11)
   You can expand signal input terminals by installing an optional multi-media switcher (MMS).
4. Main power switch
   While AC power is being supplied, set the main power switch to ON, then your projector will enter a standby state.
5. Touch panel mounting opening (four position on top)
   Use the holder arm for the touch panel to attach the touch panel (optional).
6. Lens (optional)
   Images are projected from the lens. Request your dealer/distributor to install or replace the lens.
7. Interlock connector (Inside front of projector)
   This is the connector for the projector safety device. This is used to control the projector from an external source. Consult with your dealer/distributor about using this.

NOTE Do not touch the air outlet and backside of the main unit when your projector is operating. Otherwise, the high temperature may cause burns.

1-3-2. Rear of the projector



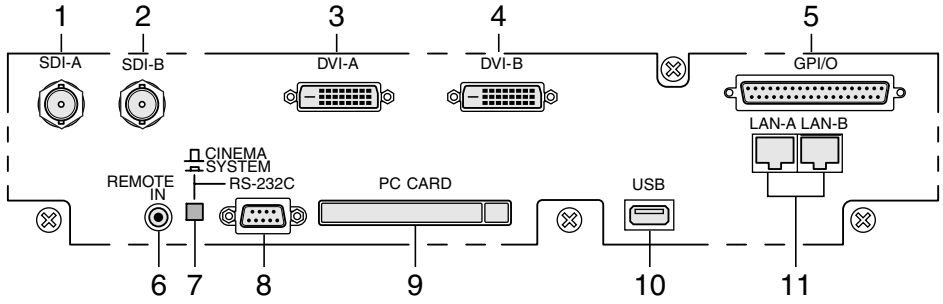
1. AC power cable
   This is the cable that supplies AC power to the projector head. The AC power cable is not an accessory. Consult with your dealer/distributor about the AC power cable.
2. Level adjusters (in four positions on bottom)
   In the ordinary installation, you can adjust the projector inclination at 4 positions.
3. Air inlet
   Air is taken in here to provide cooling of the projector. Do not cover the air inlet.
4. Lamp door
   This opens to allow the lamp to be replaced. Please contact your dealer/distributor to install and to replace the lamp bulb and lamp house.
5. Rear status indicator
   These indicate the status of the projector. When the projector is operating normally, these light/blink in green or orange. When an error occurs, they light/blink in red. When an error occurs, check the contents of the display on the LCD screen. (See page 42)

NOTE Do not cover the air inlet during operation. Inadequate air intake may lead to a rise in inside temperature, thus causing a free or serious projector failure.

⚠ CAUTION:

Only service personnel should open the lamp door.

1-3-3. Connection terminals



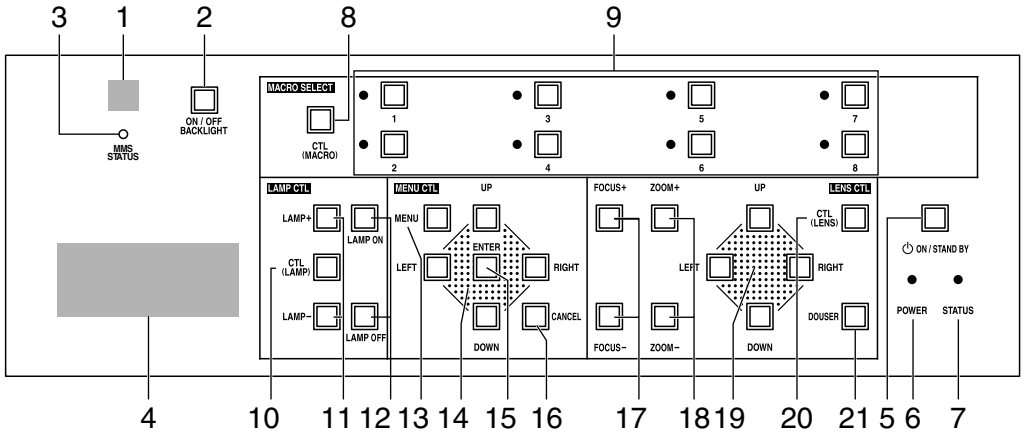
1. HDSDI A input terminal (SDI-A) (BNC)
   Connect a Video Server of Video source to this terminal. Use a 75Ω coaxial cable.
2. HDSDI B input terminal (SDI-B) (BNC)
   Connect a Video Server or Video source to this terminal. Use a 75Ω coaxial cable.
3. DVI-D A input terminal (DVI-A) (DVI-D 24P)
   Connect the DVI-D output terminal of a PC to this terminal. Use a commercially available DVI-D signal cable (Single Link).
4. DVI-D B input terminal (DVI-B) (DVI-D 24P)
   Connect the DVI-D output terminal of a PC to this terminal. Use a commercially available DVI-D signal cable (Single Link).
5. External control terminal (GPI/O) (D-Sub 37P)
   Use this terminal when controlling your projector from an external switcher. (See page 51)
6. Remote control input terminal (REMOTE IN) (Stereo mini)
   Connect the remote control of the projector, using the supplied remote control cable.

Memo

- The projector's remote control can be used by connecting with the remote control cable. (See page 16)

7. PC control signal switch (CINEMA/SYSTEM)
   Use this to set data on the projector.
8. PC control terminal (RS-232C) (D-Sub 9P)
   This is used when the service personnel sets the data for the projector or operates the projector from PC via RS-232C. Use a commercially available RS-232C straight cable to connect the projector to the PC.
9. PC card slot
   - Set a wireless LAN card, and you can control the projector from a PC, using a wireless LAN.
     Please inquire your dealer/distributor about a wireless LAN card that can be used.
   - Use this slot when doing maintenance on your projector.
10. USB port (USB) (type A)
    Use this port when doing maintenance on your projector.
11. Ethernet port (LAN-A, LAN-B) (RJ-45)
    Use this port when controlling your projector in LAN connection from a PC. Use a commercially available LAN cable (10Base-T/100Base-T) to connect the projector to the PC.

1-3-4. Control panel



1. Remote control light reception unit

   This receives signals from the remote control.

2. BACKLIGHT button

   Operate this button to turn on/off the back light of the LCD screen and operation panel.

3. MMS STATUS indicator

   This indicates the link status of the optional multi-media switcher (MMS).

Off	When not using multi-media switcher.
Green lighting	When linked to built-in multi-media switcher.
Orange lighting	When linked to external multi-media switcher.
Green or Orange blinking	Preparing link with multi-media switcher.
Red blinking	When a link error occurs.

4. LCD screen

   The liquid crystal display screen shows menus and setting values for the operation of your projector.

5. POWER button

   Press this button to turn on or off (standby) the power to your projector. Press this for more than three seconds.

   When turning on the power to the projector, first set the main power switch to the main unit to ON, thereby setting the projector in a standby state. (See page 21)

6. POWER indicator

Green lighting	When power is on.
Green blinking	When the douser is closed.
Orange lighting	When the power is off (in standby state).
Orange blinking	When the cooling fan(s) is running immediately after power-off.

7. STATUS indicator

Off	When the projector is operating normally.
Red blinking	When an error has occurred. An error code is displayed on the LCD screen.

8. CTL (MACRO) button

   Press the CTL (MACRO) button together with MACRO SELECT 1 to 8 buttons.

   MACRO SELECT<1> to <8> button does not work individually.

9. 1 to 8 buttons

Press the 1 to 8 buttons while depressing the CTL (MACRO) button to select titles (input signals) assigned to each button. To this projector, 100 titles at most can be registered (input signal registration). Among the registered titles, any 8 titles can be assigned to the buttons <1> to <8>.

The indicator to the left of the buttons show the assigned/selected status of titles.

Green lighting	When any title is assigned to the button.
Orange lighting	When title is selected.
Off	When any title is not assigned to the button.

10. CTL (LAMP) button

Press the CTL (LAMP) button together with the LAMP +/- buttons and the LAMP ON/OFF buttons.
<LAMP +/-> button and <LAMP ON/OFF> button do not work individually.

11. LAMP +/- buttons

Press the LAMP +/- buttons while depressing the CTL (LAMP) button to adjust the output (brightness) of the lamp. (See page 25)

12 <LAMP OFF/LAMP ON> button

If you press the <LAMP OFF> button with pressing the <CTL (LAMP)> button, the lamp goes off with the power turned on. To turn on the lamp, press the <LAMP ON> button with pressing the <CTL (LAMP)> button. (See page 26)

13. MENU button

Press this button, and menus for various settings and adjustments will be displayed. (See page 29)

14. [MENU CTL] UP/DOWN/LEFT/RIGHT buttons

Press the [MENU CTL] UP/DOWN/LEFT/RIGHT buttons when the menu is displayed to select menu items.

15. CANCEL button

Press the CANCEL button to return to previous menu item.

16. ENTER button

Press the ENTER button, and the displayed menu item is actioned.

17. FOCUS +/- buttons

Press the FOCUS +/- buttons while depressing the CTL (LENS) button to adjust the focus of the projected image. (See page 25)

18. ZOOM +/- buttons

Press these buttons while depressing the CTL (LENS) button, for fine adjustment of the size of projected image. (See page 25)

19. [LENS CTL] UP/DOWN/LEFT/RIGHT buttons

Press the [LENS CTL] UP/DOWN/LEFT/RIGHT buttons while depressing the CTL (LENS) button to move (lens shift) the position of the projected image up, down, left and right. (See page 24)

20. CTL (LENS) button

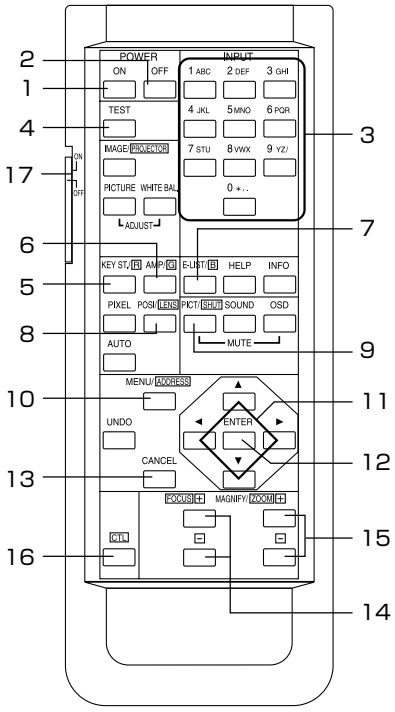
Press the CTL (LENS) button together with the FOCUS +/- button, the ZOOM +/- button, the [LENS CTL] UP/DOWN/LEFT/RIGHT button and the DOUSER button.

The FOCUS +/-, ZOOM +/- [LENS CTL] UP/DOWN/LEFT/RIGHT and DOUSER buttons do not function when pressed alone.

21. DOUSER button

Press the DOUSER button while depressing the CTL (LENS) button to open and close the douser.

1-4. Names on the Remote Control



1. POWER ON button

   Operate this button to turn on the power to your projector. Press it three seconds or longer.

   When turning on the power to your projector, first set the main power switch to the main unit to ON, which puts your projector on standby. (See page 21)

2. POWER OFF button

   Operate this button to turn off (standby) the power to your projector. Press it three seconds or longer.

3. Numeric buttons (1 to 0 buttons)

   Use these buttons to enter alphanumeric characters. (See page 31)

4. TEST button

   - Press this button, and a test pattern will be displayed. Check the test pattern on the LCD screen by pressing the SELECT ◄/► button, then press ENTER to set your selection.

     To cancel the test pattern display, reselect the signal to project.

5. KEYSTONE / R button

   Press the KEYSTONE(R) button while depressing the CTL button, then the red (R signal) of the test pattern will be turned off temporarily. Press this button again while depressing the CTL button, and the red (R signal) will be projected again.

6. AMPLITUDE / G button

   Press the AMPLITUDE (G) button while depressing the CTL button, then the green (G signal) of the test pattern will be turned off temporarily.

   Press this button again while depressing the CTL button, and the green (G signal) will be projected again.

7. ENTRYLIST / B button

   Press the ENTRYLIST (B) button while depressing the CTL button, then the blue (B signal) of the test pattern will be turned off temporarily.

   Press this button again while depressing the CTL button, and the blue (B signal) will be projected again.

8. POSI / LENS button

   Press the POSI/LENS button while depressing the CTL button, to adjust the position of projected screen (Lens Shift Mode). (See page 24)

9. PICT / SHUT button

   - Press this button to turn off image projection temporarily. Press it again, and the image will be projected again.
   - Press the PICT / SHUT button while depressing the CTL button, then the douser sill operate to shut off the light for projection. The POWER indicator blinks in green while the douser is operating. Press this button again while depressing the CTL button to cancel the operation of the douser.

NOTE When GPIO Control is set to "Enable", it is not possible to turn the power on/off and the douser function.

10. MENU button

    Operate this button, and menus for various settings and adjustments will be displayed on the LCD screen. (See page 29)

11. SELECT ▼▲◀▶ buttons

- Press the SELECT ◀/▶ button when the menu is displayed, and a menu item can be selected.
- Press the SELECT ▼ button when the menu is displayed, and a submenu will be displayed.
- Press the SELECT ▲ button when the menu is displayed, and a menu one level above will be displayed.
- During character entry, press the SELECT ◀ button while depressing the CTL button, then one character will be deleted.

12. ENTER button

Press the ENTER button, and the displayed menu item is actioned.

13. CANCEL button

Press the CANCEL button to return to the previous menu item.

14. FOCUS +/- buttons

Press the FOCUS +/- button while depressing the CTL button, to make lens focus adjustment. (See page 25)

15. ZOOM +/- buttons

Press the ZOOM +/- button while depressing the CTL button, to make lens zoom adjustment. (See page 25)

16. CTL button

The CTL button is a shift function used to access alternative functions on other buttons.

17. Back light switch

When this is turned "ON," the characters on the remote controller will light up.

- When using the remote control with infrared ray signals
  If the remote control device is not operated for 30 seconds after turning "ON" the back light switch, the back light switch will automatically extinguish itself. Thereafter, it will light again when the remote control buttons are operated.
- When using the remote control connected to the remote control cable
  The back light will constantly light when the power to the projector is turned on and when the projector is in standby status.

NOTE The following buttons cannot be used with this projector:
WHITE BAL., ADJUST PICTURE, IMAGE, INFO., PIXEL., MUTE SOUND, MUTE OSD, HELP, AUTO, UNDO

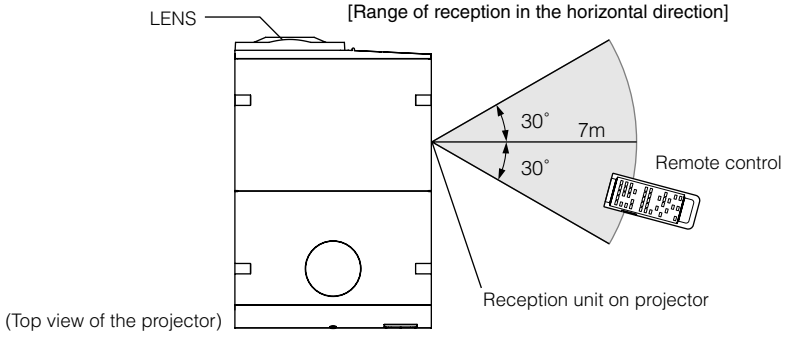
Inserting the batteries

[1] Remove the battery case cover on the backside of the remote control.
[2] Insert the UM-3 size AA batteries into the case. Be careful of the direction poles on the batteries.
[3] Restore the cover.

NOTE When replacing the batteries, always purchase two of the same type of UM-3 size AA batteries.

Effective range of the remote control

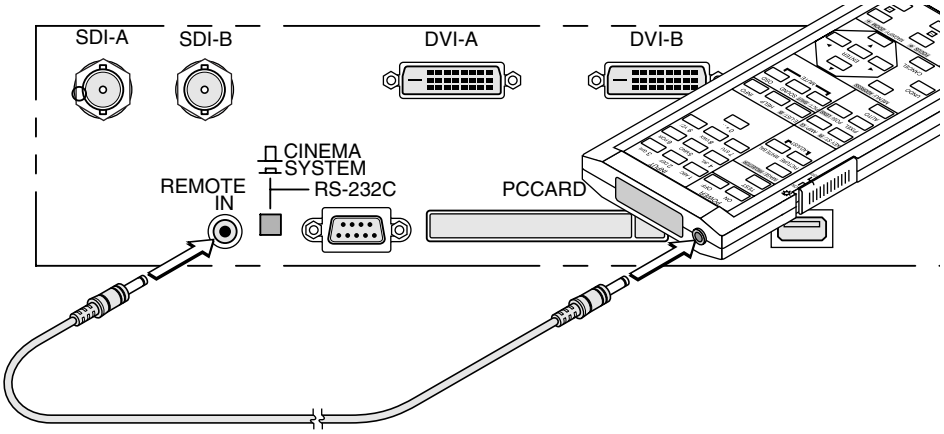
To operate the remote control using infrared rays, and not using the remote control cable, point the remote control transmission unit toward the remote control reception unit on the projector. Signals from the remote control can generally be received within the range shown in the figure below.



(Note) The effective range depicted in the figure may differ slightly in actual use.

Using the remote control cable

Use the remote control cable when there are objects that interrupt or obstruct the space between the remote control reception unit on the projector and the remote control, or when you are using the remote control beyond its effective range.
Note that the remote control cable is connected first to the remote control, then to the projector head.



Notes for use of the remote control

- Do not drop or handle the remote control in a careless manner.
- Do not allow the remote control to be splashed with water or any other liquid. If the remote control should get wet accidentally, wipe the liquid off immediately.
- Be sure to use the remote control in a place free from heat or dampness as far as is practicable.
- The remote cable is connected first to the remote control, then to the projector head. The leading end of the remote cable is the power supply unit, so be careful not to touch the other end of the remote cable to the projector head or other devices while only the remote cable is connected to the projector.

2. Installation and Connection

2-1. Steps for setting up and connecting

Use the following steps for setting up your projector:

- Step 1

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

- Step 2

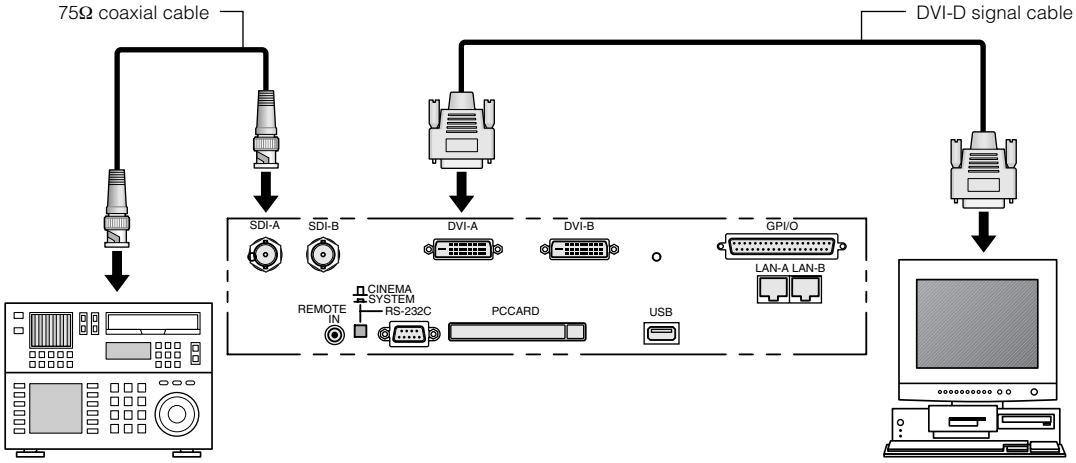
Connect cables to the image input terminals. (See page 18)

Connect cables to the various control terminals. (See page 19)

2-2. Connecting the image input terminals

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.

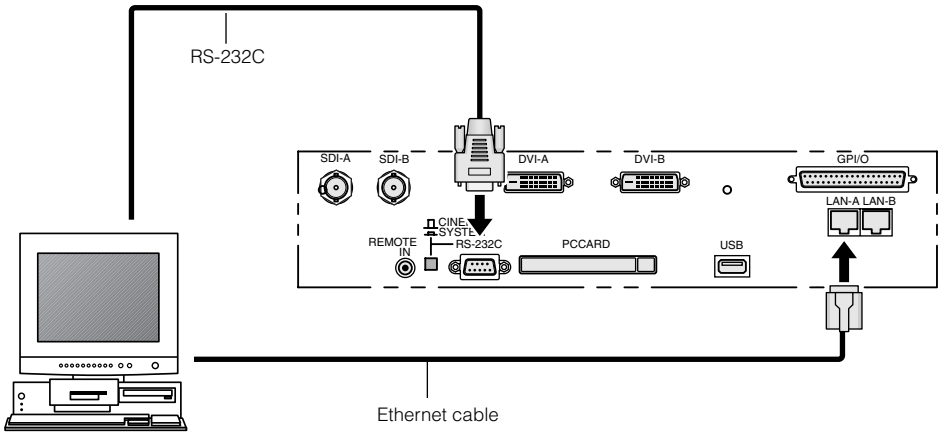
- HDSDI A/B input terminal (SDI A/SDI B) ---------- Inputs serial digital images from a Video Server or Video source.
- DVI-D A/B input terminal (DVI A/DVI B) ---------- Inputs digital RGB signals from a PC.



2-3. 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 1/LAN 2) ---------- Use this port when controlling the projector in LAN connection from a PC.



3. Projection of Images (Basic Operation)

3-1. Steps of projecting images

- Step 1

Turn on the power to the projector. (See page 21)

- Step 2

Select the title of input signal. (See page 23)

- Step 3

Adjust the position and size of the projected screen. (See page 24)

- Step 4

Turn off the power to the projector. (See page 27)

3-2. Turning your projector on

Preparation: Supply AC power to the projector head.
Please contact your dealer/distributor to connect the power cable.

NOTE
- Turn off the main power switch to the projector head when supplying or cutting AC power to the projector. If power is supplied or cut while the main power switch is turned on, the projector will be damaged.
- Be sure to turn your projector on or off in two steps of operation with the “main power switch” and the “POWER button” (“POWER ON/OFF button” on the remote control).
- Turning power on (See this page)

[1] Turn the “main power switch” on the projector head to on.
Your projector is set in a standby state.
[2] Press the POWER button (POWER ON button on the remote control) three seconds or longer.
Your projector is turn on.

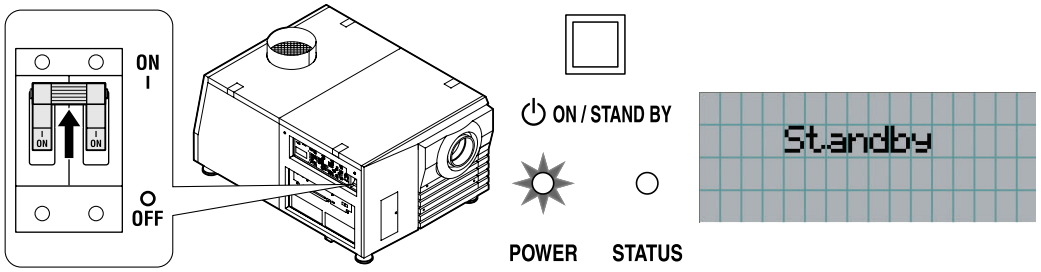
- Turning power off (See page 27)

[1] Press the POWER button (POWER OFF button on the remote control) three seconds or longer.
Your projector is set in a standby state.
[2] When the fan has stopped running, set the “main power switch” on the projector head to OFF.
Your projector is turned off.

1 Remove the lens cap.

2 Turn the main power switch on the side of your projector head to on.

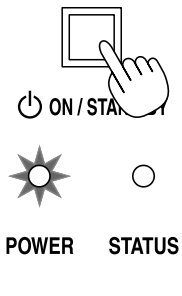
A buzzer will ring on the projector. The POWER indicator and rear STATUS indicator light up orange (standby state).

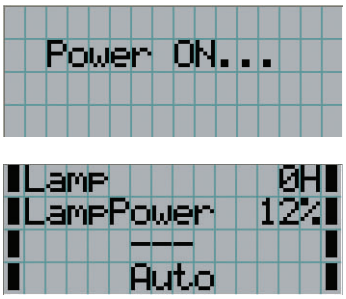


3 Press the POWER button on the control panel of your projector three seconds or longer.

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.





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 (5 to 10 minutes) after power-on. This is due to the characteristics of the lamp and is not trouble of your projector.

3-3. Selecting the title of input signal

This projector allows you to select pre-registered signals using the signal selection buttons on the control panel (up to 8 signals). Request your dealer/distributor for details on registering and changing titles. This section explains the steps for selecting registered signals.

1 Turn on the power to the image devices connected to the projector.

2 Press the MENU button.

3 Press the [MENU CTL] LEFT/RIGHT button to display “Title Select” on the LCD screen.

At each press of the [MENU CTL] LEFT/RIGHT buttons, the display will cycle as “Title Select” ←→ “Configuration” ←→ “(Title Setup)” ←→ “Information.”

4 Press the [MENU CTL] DOWN button.

The title of the input signal is displayed.

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

5 Press the [MENU CTL] LEFT/RIGHT buttons to display “Title of Signal to be Projected” on the LCD screen.

6 Press the ENTER button.

The title of the signal to be projected is selected.

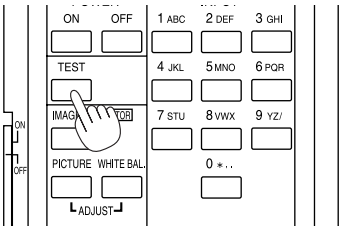
- The (*) mark on the LCD indicates that this is the currently selected item.

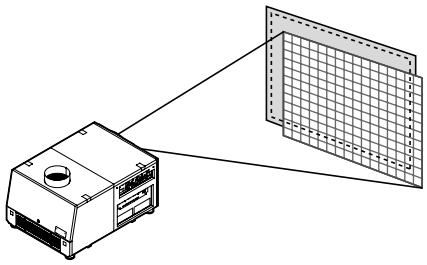
3-4. Adjusting the position and the size of projected screen

3-4-1. Displaying the test pattern

1 Press the TEST button on the remote control. Alternatively, select the test pattern from the signal selection button.

If you register the test patterns to the signal selection buttons (<1> to <8> buttons), select the test pattern according to "3-3. Selecting the title of input signal (See page 23)".
The mode for selecting the test pattern is set.



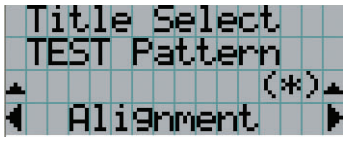


2 Press the SELECT ◀/▶ button.

The display of the test pattern name on the LCD switches.

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

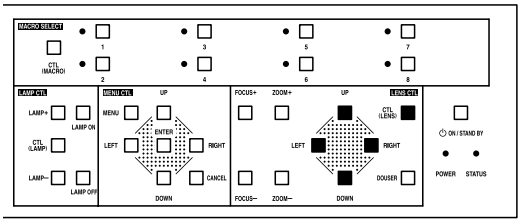
The test pattern is displayed.
• To cancel the test pattern display, reselect the signal to be project.

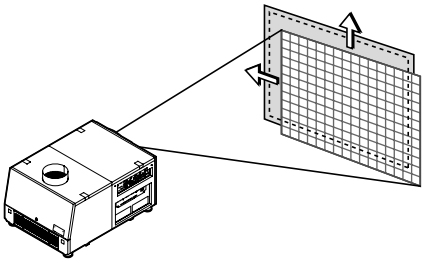


3-4-2. Adjusting the position of the projected screen (Lens shift)

1 Press the [LENS CTL] UP/DOWN/LEFT/RIGHT buttons while depressing the CTL (LENS) button, on the control panel of your projector as required.

The position of the projected screen will move upward, downward, left or right.
• When controlling with the remote control, press the POSI/LENS button while depressing the CTL button.

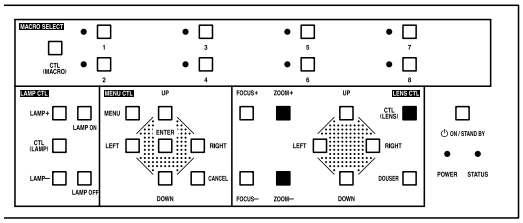


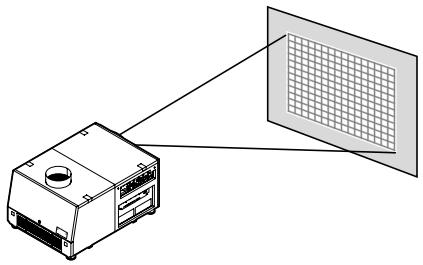


3-4-3. Fine adjustment of the size of the projected screen (Zoom)

1 Press the ZOOM +/- buttons while depressing the CTL (LENS) button on the control panel of your projector as required.

- When controlling with the remote control, press the ZOOM +/- button while depressing the CTL (LENS) button.

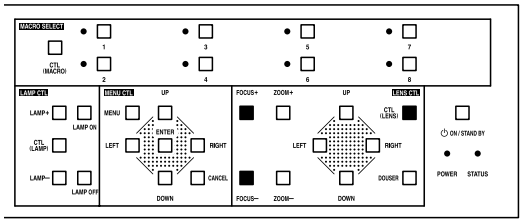


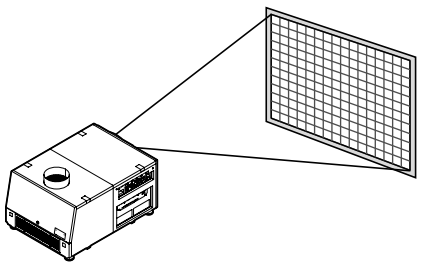


3-4-4. Focusing the projected screen (Focus)

1 Press the FOCUS +/- buttons while depressing the CTL (LENS) button, on the control panel of your projector as required.

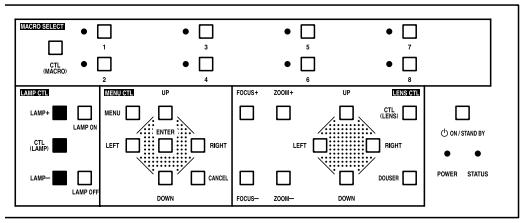
- When controlling with the remote control, press the FOCUS +/- button while depressing the CTL (LENS) button.

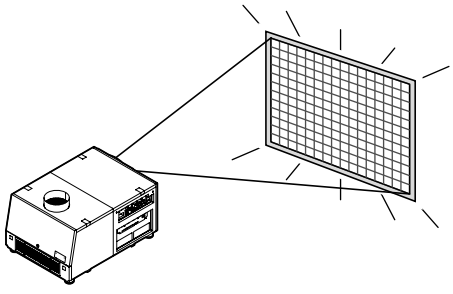




3-4-5. Adjusting the brightness of the projected screen (Lamp output)

1 Press the LAMP +/- buttons while depressing the CTL (LAMP) button, on the control panel of your projector as required.





3-5. Turning on/off the lamp with the projector turned on

3-5-1. Turning off the lamp

1. Press the LAMP OFF button while depressing the CTL (LAMP) button, on the control panel of your projector as required.

3-5-2. Turning on the lamp

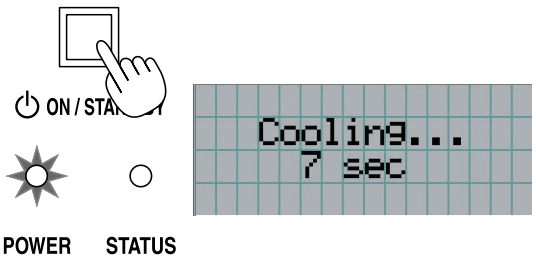
1. Press the LAMP ON button while depressing the CTL (LAMP) button, on the control panel of your projector as required.

3-6. Turning your projector off

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

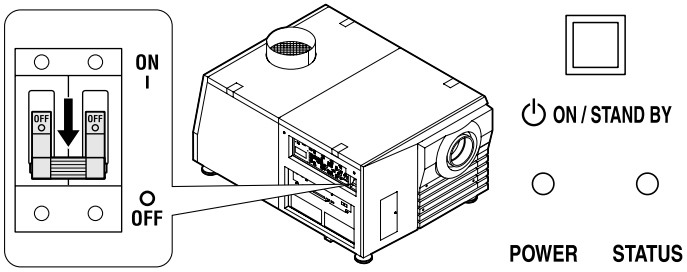
The power to the projector is turned off. The POWER indicator and rear STATUS indicator will blink in orange (cooling state).
The fan will continue to rotate while cooling, and the amount of time remaining for cooling is displayed on the LCD screen. The cooling-off time is 5 minutes.
When cooling has ended, the POWER indicator and the rear STATUS indicator light in orange (Standby).

• When controlling with the remote control, press the POWER OFF button for three seconds or longer.



2 When the projector has entered the standby state, turn the main power switch on the projector head to off.

The projector POWER indicator will extinguish and the main power will turn off.



3 Turn off the AC power to the projector head.

NOTE • In the following instances, do not turn off the main power switch or disconnect the AC power. Doing so can damage the projector.
- While projecting images
- While the fan is running after the power is turned off (The cooling-off time is 5 minutes)

4. Using Menus

4-1. Basic operation with adjustment menus

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

4-1-1. Screen display

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

← Displays the main menu or submenus.
← Displays submenus or selection items.
← Displays settings and selection status.
← Displays settings, selected items and information on selected menus.

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

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

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

When in standby

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

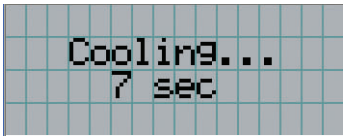
When power is turned on

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

← Displays the hours of lamp bulb use.
← Displays the lamp output (%).
← Displays the selected title.
← Displays the selected port.

When the power is turned off

The amount of time remaining for cooling is displayed as shown below, when the power to the projector head is turned off.



4-1-2. Operating menus

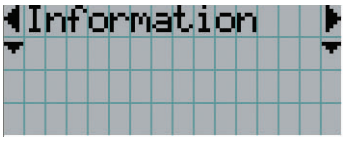
Preparation: Turn your projector on. (See page 21)

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

The menu is displayed in the LCD screen.

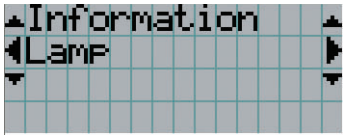
2 Press the [MENU CTL] LEFT/RIGHT buttons to display “Information.”

At each press of the [MENU CTL] LEFT/RIGHT buttons, the display will cycle as “Title Select” ←→ “Configuration” ←→ “(Title Setup)” ←→ “Information.”



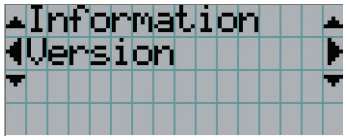
3 Press the [MENU CTL] DOWN button.

The submenu “Lamp” of “Information” is displayed.
The menu item can be selected by pressing the ENTER button instead of the SELECT DOWN button
To return to the previous state, press the [MENU CTL] UP button, or the CANCEL button.



4 Press the [MENU CTL] LEFT/RIGHT button to select the submenu “Version.”

At each press of the [MENU CTL] LEFT/RIGHT button, the display will cycle as “Lamp” ←→ “Macro Key” ←→ “Usage” ←→ “Error Code” ←→ “Version” ←→ “IP Address” ←→ “MMS Status.”

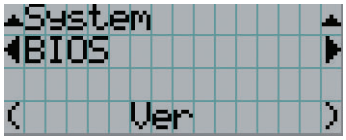


5 Press the [MENU CTL] DOWN button.

The submenu “System” another rank lower than “Version” is displayed.

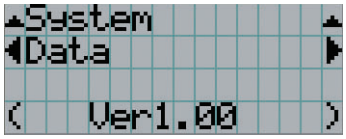
6 Press the [MENU CTL] DOWN button.

The submenu “BIOS” another rank lower than “System” is displayed.



7 Press the [MENU CTL] LEFT/RIGHT button to select the submenu “Data.”

At each press of the [MENU CTL] LEFT/RIGHT button, the display will cycle as “BIOS” ←→ “Firmware” ←→ “Data” ←→ “Serial No.,” and each version information is displayed.

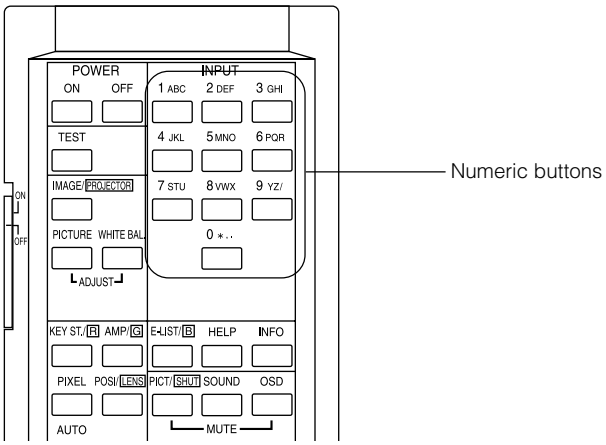


8 Press the [MENU CTL] UP button several times.

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

4-1-3. How to enter alphanumeric characters

Alphanumeric characters are entered for items, such as the title of input signal.
With this projector, the characters are inputted by pressing numeric buttons on the remote control.



By pressing the numeric buttons, the characters can be inputted as shown in the table below.

• To delete a character during entry, press the SELECT ◀ button while depressing the CTL button.

[Example of Entry]

To enter “XGA” for example, use the following procedure:

(1) Press the 8 button three times.
V → W → X

(2) Press the SELECT ▶ button.

(3) Press the “3” button.
XG

(4) Press the SELECT ▶ button.

(5) Press the “1” button.
XGA

Numeric button	Press directly	While depressing CTL button
1	A → B → C → 1 →	a → b → c → ! →
2	D → E → F → 2 →	d → e → f → î →
3	G → H → I → 3 →	g → h → i → # →
4	J → K → L → 4 →	j → k → l → $ →
5	M → N → O → 5 →	m → n → o → % →
6	P → Q → R → 6 →	p → q → r → & →
7	S → T → U → 7 →	s → t → u → í →
8	V → W → X → 8 →	v → w → x → (→
9	Y → Z → / → 9 →	y → z → ? →) →
0	* → . → . → 0 →	; → : → + → _ →

NOTE • To input characters using the remote control, only numbers can be entered with [password] and the security [keyword].

4-2. Table of adjustment menus

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

Main menu	Submenu		Description	Reference page
Title Select	"Title Memory Name"		Selects the title of the signal to be projected.	33
	TEST Pattern		Selects the test pattern to be projected.	33
Configuration	Lamp Setup	Adjust	Adjusts lamp brightness.	34
		Feedback	Sets the lamp brightness constant mode that uses a brightness sensor.	34
	(Setup)	Douser Mode	Selects whether to use the douser (screen mute) when switching signals.	-
		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).	-
		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.	-
	(Memory)	Lamp	Saves the current lamp setting.	-
		Lens	Saves the current lens setting.	-
(Title Setup)	Macro Key	Macro Key No.1-8	Sets the titles to be assigned to the macro keys of 1 to 8.	34
Information	Lamp	Output	Displays the lamp output setting.	35
		Bulb Type [A]	Displays the registered name and the maximum/minimum current setting of the currently used lamp bulb.	35
		Bulb Type [W]	Displays the registered name and the lamp rated output (kW) of the currently used lamp bulb.	35
		Bulb Type [H]	Displays the registered name and the lamp bulb warning time (Bulb Warning Time) setting of the currently used lamp bulb.	35
	Macro Key	Macro Key No.1-8	Displays the titles assigned to the macro keys of 1 to 8.	35
	Usage		Displays the usage times of the projector, lamp bulb, lamp house and bulb warning.	36
	Error Code		Displays the currently occurring error.	36
	Version	System	Displays the version of the projector head. (BIOS, Firmware, Data, and Serial No.)	36
		MMS(Built-in)	Displays the version of the built-in multi-media switcher (MMS). (BIOS, Firmware, Data, FPGA, and Serial No.)	37
	IP Address	System	Displays the SYSTEM IP address.	37
		Cinema	Displays the CINEMA IP address.	37
		PC Card	To display the IP address when a wireless LAN card is set.	37
	MMS Status		Displays the link-status of the connected multi-media switcher (MMS).	37

4-3. Title Select

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

Selects the title of the signal to be projected.
You can register up to 100 titles. You can also assign registered titles to the Macro keys of 1 to 8 on the projector's control panel and call them up directly using those buttons.
Request your dealer/distributor for details on registering and changing titles.

← Displays the currently selected item with asterisk (*).
← Selects the title to be projected.

4-3-2. Test Pattern

Selects the test pattern to be projected.

← Displays the currently selected item with asterisk (*).
← Selects the test pattern to be projected.

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

4-4. Configuration

Please request your dealer/distributor to perform the settings.

4-4-1. Lamp Setup

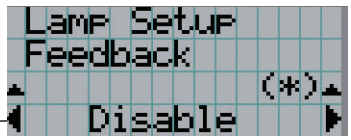
Adjust

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

← Displays the lamp output (%) with regard to the setting.
← Adjusts the lamp brightness.

Feedback

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



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

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

4-5. Title Setup

Sets the titles to be assigned to the macro keys.
Request your dealer/distributor to perform the settings.

4-6. Information

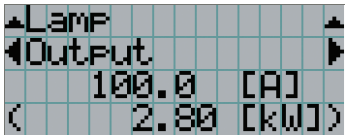
Displays the hours of lamp bulb use, the version information and error codes.

4-6-1. Lamp

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

Output

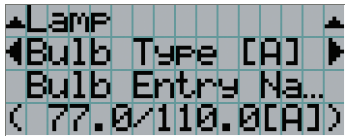
Displays the lamp brightness (output) setting.



← Displays the set current (A).
← Displays the power consumption (kW).

Bulb Type [A]

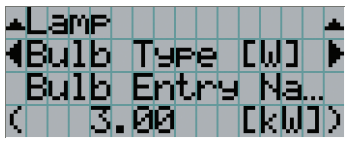
Displays the registered name and the maximum/minimum current setting of the currently used lamp bulb.



← Displays Bulb Entry registered name.
← Displays Bulb Entry maximum/minimum currents (A).

Bulb Type [W]

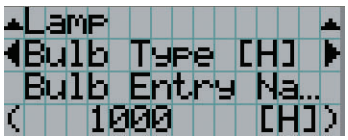
Displays the registered name and the lamp rated output (kW) of the currently used lamp bulb.



← Displays Bulb Entry registered name.
← Displays Bulb Entry lamp rated output (kW).

Bulb Type [H]

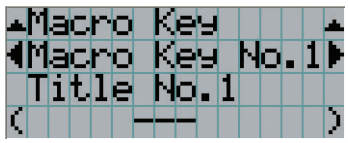
Displays the registered name and the lamp bulb warning time (Bulb Warning Time) and setting of the currently used lamp bulb.



← Displays Bulb Entry registered name.
← Displays Bulb Warning Time setting (H).

4-6-2. Macro Key

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



← Selects the macro key number whose contents you want to display.
← Displays the assigned title numbers.
← Displays the registered names of the assigned titles.

4-6-3. Usage

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

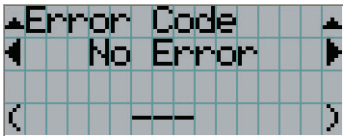
← Selects the item to display.

← 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 (Lamp utilization time).
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.

4-6-4. 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.

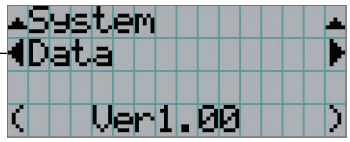
When multiple errors occur, you can display them by pressing the [MENU CTL] LEFT/RIGHT buttons.

4-6-5. Version

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

System

Displays the version information of the projector head.



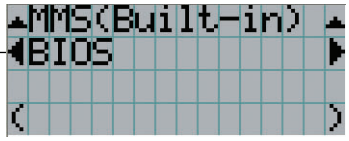
← Selects the item to display.

← 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 multi-media switcher (MMS).
Firmware	Displays the firmware version of the built-in multi-media switcher (MMS).
Data	Displays the data version of the built-in multi-media switcher (MMS).
FPGA	Displays the FPGA version of the built-in multi-media switcher (MMS).
Serial No.	Displays the serial number of the built-in multi-media switcher (MMS).

4-6-6. IP Address

Displays the IP address set in the projector head.

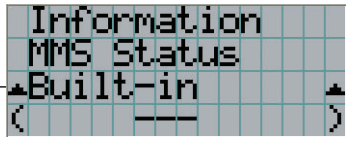
← Selects the item to display the IP address.

← 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).
PC Card	To display the IP address when a wireless LAN card is set.

4-6-7. MMS Status

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



← Displays the status information of MMS linked operations.

← Displays the IP address.

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. Maintenance of Your Projector

NOTE Please request your dealer to perform lamp replacement, filter replacement and cleaning of the projector inside.

5-1. Cleaning the Cabinet

Be sure to always check that the AC power supply of the projector head is disconnected before carrying out maintenance of your projector.

- Wipe with a dry, soft cloth without nap.
  When the cabinet is excessively dirty, wipe with cloth well wrung after being dampened with a neutral detergent diluted with water and then finish up with a dry cloth.
  When you use a chemical dust cloth, follow the instructions in the manual attached to it.
- Do not use a solvent, such as thinner or benzene. The coating may deteriorate or peel off.
- When removing dust on the ventilation opening, suck it off using an adapter with a brush on a vacuum cleaner. Never allow the cleaner without an adapter to come into direct contact or use a nozzles adapter in cleaning.
- Clean the ventilation opening at regular intervals. Dust, if allowed to accumulate there, may cause heating inside, which leads to functional trouble. The interval, which can vary with the location of your projector, is about 100 hours.
- Do not damage the cabinet by scratching it or allowing hard objects to hit it. This can scratch the projector.
- Consult your dealer/distributor about cleaning the inside of the projector.

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

5-2. Cleaning the Lens

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

6. Appendix

6-1. Troubleshooting

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

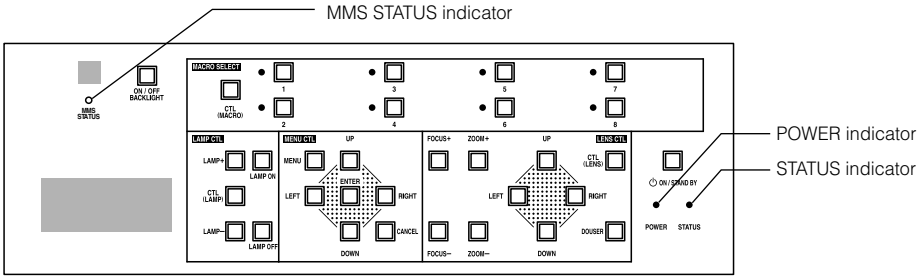
6-1-1. Problems and where to check

Problem	Check these items
The projector cannot be turned on.	Check to see if AC power is supplied to the projector.
	Make certain that the main power switch is ON.
	Check to see whether the panel key lock function is activated. If so, the main unit's control buttons are locked and do not work, but the projector can be controlled using the remote control unit.
	Is the temperature inside the projector too high? When the inside temperature is too high, the protective function does not allow your projector to be turned on. Wait some time and then turn it on.
The image cannot be projected.	Check to see if the connected input has been selected.
	Check to see if a cable is properly connected to the input terminal.
	Check to see whether the douser is closed.
	Check to see if the settings are all adjusted properly.
The image is distorted.	Check to see if the protractor is properly set up.
The image is blurred.	Make certain that the lens is properly focused.
	Check to see if the screen and a projector are installed at correct angles.
	The projection distance may be larger than the focusing range.
	See if the lens and other parts have condensation on them. If the projector is turned on in a warm place after storage in a cold place, the lens and other optical components inside may develop condensation. In such a case, please wait several minutes until the comdensation disappears.
Video image is disturbed	Check whether the signal cable connected to the projector is disconnected.

Problem	Check these items
The projector cannot be operated with the remote control.	Make sure the remote control transmission unit is facing the light reception unit on the projector.
	Check whether the batteries are still good. Replace with new batteries.
	Check whether there is any obstructing object between the remote control and the light reception unit on the projector.
	Check whether you are outside of the remote control's effective range (7m).
	Check whether the remote control cable has become disconnected, if you are using the remote control by connecting with the remote control cable.
The STATUS indicator blinks in red.	Your projector may have trouble. Please contact your dealer/distributor for instructions.
An error code is displayed.	See the "Error Code List" (page 43).

6-2. Indicator display list

See the descriptions below when the blinking or lighting of the two indicators on the projector's control panel and the rear STATUS indicator on the backside of the projector is observed. The projector also has a warning function that uses a buzzer.



6-2-1. POWER indicator

Indicator condition		Projector condition	Note
Off		The main power is off.	-
Blinking light	Green	The projector is getting ready to turn on. The douser is closed.	Wait for a moment.
	Orange	The projector is cooling down.	Wait for a moment.
Steady light	Green	The projector is turned on.	-
	Orange	The projector is in standby.	-

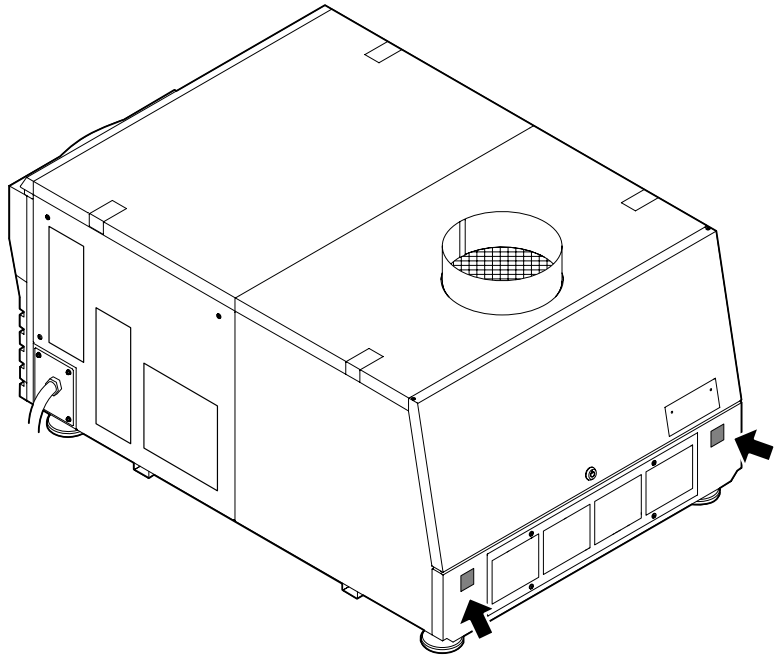
6-2-2. STATUS indicator

Indicator condition	Projector condition	Note
Off	Normal	-
Blinking light (Red)	Error	An error message is displayed in the LCD screen. Check the content of the error.

6-2-3. MMS STATUS indicator

Indicator condition		Projector condition	Note
Off		Multi-media switcher (MMS) not in use.	-
Blinking light	Red	Link error	Link error. An error message is displayed in the LCD screen. Check the content of the error.
	Green	Preparing link with Built-in multi-media switcher (MMS).	Wait for a moment.
	Orange	Preparing link with External multi-media switcher (MMS).	Wait for a moment.
Steady light	Green	Built-in multi-media switcher (MMS) is linked.	-
	Orange	External multi-media switcher (MMS) is linked.	-

6-2-4. Rear STATUS indicator



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

6-3. Error code list

Please inquire your dealer/distributor about action to be taken for each error code.
Description is omitted for error codes 20 to 92.

Error code	Error message	Desctiption
1	Lamp Door Open	Lamp door is open.
2	Lamp OverTemp	Temperature (lamp temperature) is abnoramal.
4	GPSU Fail	Power supply is abnormal.
5	Lamp Unlit	Lamp doesn't light up.
6	House OverTime	Lamp house cumulative time is over.
8	LPSU OverTemp	Temperature (lamp power inside temperature) is abnormal.
10	DLP PGOOD Fail	Engine power is abnormal.
12	E2PROM R Fail	E2PROM data read error is detected.
13	Interlock Fail	Interlock error is detected.
15	E2PROM W Fail	E2PROM data write error is detected.
17	Pump Stop	Stopped for pump error.
20	System Fail	-
21	Self Test Fail	-
22	ARM Fail	-
23	DSP Fail	-
24	Interface FPGA Fail	-
25	Processor FPGA Fail	-
30	IB Diag Not Performed	-
31	IB FPGA Code Invalid	-
32	IB FPGA INITZ Fail	-
33	IB FPGA No-Load Set	-
34	IB FPGA DONE Fail	-
35	IB FPGA Reg R/W Fail	-
36	IB Framestore Test Fail	-
37	IB ANC FIFO Test Fail	-
38	IB RTC Serial # Fail	-
39	IB UART0 Fail	-
40	IB UART1 Fail	-
41	IB IIC Fail	-
42	IB Ethernet Fail	-
43	IB Sync-Serial Fail	-
44	IB File System Fail	-
45	IB Formatter Fail	-
46	IB Flash Protect Fail	-
47	IB GPI Macro Fail	-
48	IB A/D Macro Fail	-
60	PB Diag Not Performed	-
61	PB FPGA Code Invalid	-
62	PB FPGA INITZ Fail	-
63	PB McBSP XRDY Fail	-
64	PB FPGA Done Fail	-

Error code	Error message	Desctiption
65	PB FPGA Reg R/W Fail	-
66	PB Serial-ID Chip Fail	-
67	PB CLUT-SRAM Fail	-
68	PB OvFS-SDRAM Fail	-
69	PB Resizer FIR Fail	-
70	PB Resizer FIFO Fail	-
71	PB Other Fail	-
90	FB Red RDRAM Signature Fail	-
91	FB Green RDRAM Signature Fail	-
92	FB Blue RDRAM Signature Fail	-
123	Bulb OverTime	Lamp bulb cumulative time is over.
125	LPSU Fail	Lamp power supply is abnormal.
130	MMS Comm Fail	Built in MMS communication error is detected.
131	MMS Fan Stop	Built-in MMS fan has stopped
132	MMS Fail	Error occurred inside built-in MMS.
150-158	Fan0 Stop-Fan8 Stop	Fan has stopped.
160	GPSU Fan Stop	Fan has stopped.
161	AC Fan Stop	Fan has stopped.
170	OverTemp.Out	Set inside temperature (Outside Air) is abnormal.
171	OverTemp.In	Set inside temperature (Inside Air) is abnormal.
172	OverTemp.Chest	Set inside temperature (TI Chest) is abnormal.
173	OverTemp.DMD	Set inside temperature (DMD) is abnormal.

6-4. Operation using an HTTP browser

6-4-1. Overview

The use of HTTP server functions will allow control of the projector from a web browser. Please be sure to use " Microsoft Internet Explorer 4.x" or a higher version for the web browser.
This device uses "JavaScript" and "Cookies" and the browser should be set to accept these functions. The setting method will vary depending on the version of the browser. Please refer to the help files and the other information provided in your software.

NOTE

The display's or button's response can be slowed down or operation may not be accepted depending on the settings of your network.
Should this happen, consult your network administrator.
The projector may not respond if its buttons are repeatedly pressed in rapid intervals. Should this happen, wait a moment and repeat. If you still cannot get any response, pull out and then reinsert the LAN card on the projector.
Access is gained to the HTTP server functions by and specifying
http://<the projector's IP address>/index.html
in the entry column of the URL.

6-4-2. Preparation before use

Make network connections and set up the projector and confirm that it is complete before engaging in browser operations.
Operations with a browser that uses a proxy server may not be possible depending on the type of proxy server and the setting method. Although the type of proxy server will be a factor, it is possible that items that have actually been set will not be displayed depending on the effectiveness of the cache, and the contents set from a browser not be reflected in operation. It is recommended that a proxy server not be used unless it is unavoidable.

6-4-3. Handling of the address for operation via a browser

Regarding the actual address that is entered for the address or entered to the URL column when operation of the projector is via a browser, the host name can be used as it is with the host name corresponding to the IP address of the projector has been registered in the domain name server by a network administrator, or the host name corresponding to the IP address of the projector has been set in the "HOSTS" file of the computer being used.

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

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

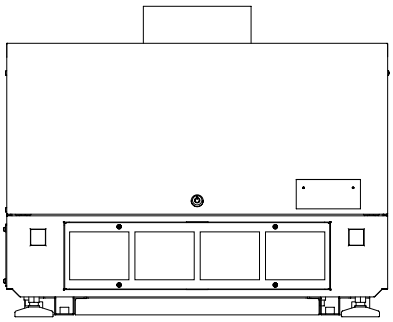
(Example 2) When the IP address of the projector is "192.168.10.10"

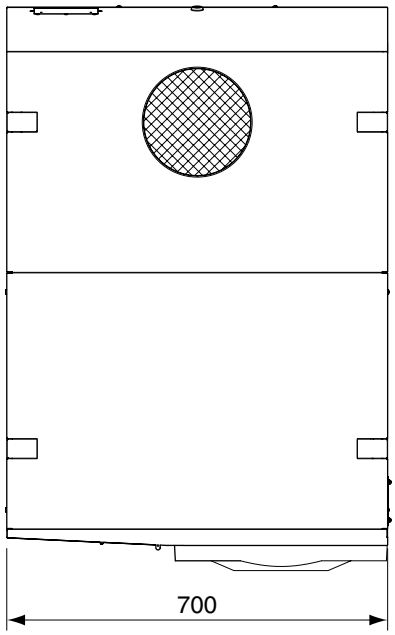
http://192.168.10.10/index.html is specified for the address or the entry column of the URL to access HTTP server functions.

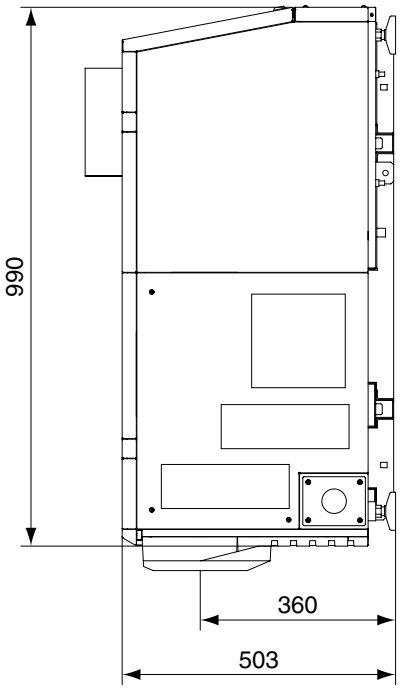
6-4-4. Structure of the HTTP server

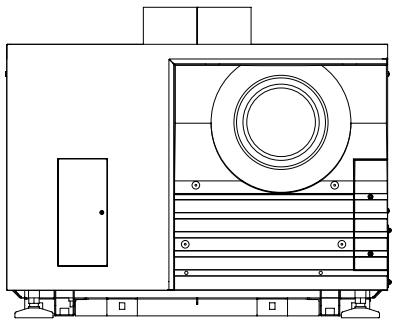
Power		Controls the power to your projector. • On: Turns the power on. • Off: Turns the power off.
Title List		Displays titles set in the projector (such as input port, screen type, and title). Check, and the title will be changed.
Basic Control		Displays the basic control items.
Lens		Controls the lens operation.
	Shift	▲ : Shifts the projected screen upward. ▼ : Shifts the projected screen downward. ◀ : Shifts the projected screen leftward. ▶ : Shifts the projected screen rightward. ■: Stops the shifting. Shifting can also be stopped by clicking the same button one more time.
	Zoom	▲ : Zooms up the lens. ▼ : Zooms down the lens. ■: Stops the zooming. Zooming the can also be stopped by clicking the same button one more time.
	Focus	▲ : Focuses up the lens. ▼ : Focuses down the lens. ■: Stops the focusing. Focusing can also be stopped by clicking the same button one more time.
Mute	Picture	Click and the douser closes and the projected picture disappears. Click once again and the picture will be projected again.
Projector Status		Displays the condition of the projector. • Port: Displays the input port of the selected title. • Lamp Usage: Displays the hours of lamp use. • Lamp Power: Displays lamp output (%). • Error Status: Displays the status of errors occurring within the projector. • Refresh: Updates the display of the following conditions.

6-5. Outline Drawing









Units: mm

6-6. Specifications

Model No.	NC1600C		
Projection method	3 chip DLP Cinema® method		
Panel resolution	2048 x 1080		
Lamp type	4.0 kW xenon lamp (Note)		
Screen sizes	5 m to 20 m (Width) (Depends on setup conditions)		
Contrast ratio	2200:1 or above		
Lens adjustment function	Motorized lens shift (vertical/horizontal), motorized zoom, motorized focus, douser		
Signal input terminal	RGB DIGITAL (2) DVI-D 24pin (TMDS specification) SDI (2) BNC (SMPTE 292M)		
External Control	RS232C (1) D-sub 9 pin Remote control LAN port (RJ-45) x 2 USB port (type A) GPIO port (D-sub 37 pin) PC card slot (1) PCMCIA type II, card bus Interlock terminal		
Power supply voltage	AC200 to 240V, 50/60 Hz		
Input current	30A		
Power consumption	5500W		
Cooling method	Cooling fluid system, Cooling air system (includes dust filter)		
Noise level	Less than 63 dB		
Installation	Orientation:Desktop/front, Desktop/rear		
Dimensions	700 mm (W) x 990 mm (D) x 503 mm (H) (Does not include protruding portions Includes foot)		
Net weight	99 kg (Excluding lens)		
Environment	Operating temperature: 5 to 35˚C Operating humidity: 10 to 85% (non-condensing) Storage temperature: -10 to 50˚C Storage humidity: 10 to 85% (non-condensing)		
Regulations		<Safety>	<EMC>
	USA	UL60950-1	FCC Class A
	Canada	CSA60950-1	ICES-003 Class A
	Europe	EN60950-1	EN55022 Class A
			EN55024
	Oceania	IEC60950-1	
		AS/NZS CISPR. 22	Class A
	Japan	J60950	VCCI Class A
	Asia	IEC60950-1	CISPR. 22

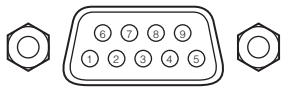
(Note) Using any lamp other than NEC's optional lamps will result in lower brightness compared to NEC optional lamps. If brightness is important to you, it is recommended that you use NEC's optional lamps.
NEC will post information on its homepage regarding installable lamps, other than NEC's optional lamps. Note that NEC does not guarantee performance and reliability when lamps other than NEC's optional lamps are installed.

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

6-7. Pin Assignment and Functions of Terminal

6-7-1. PC CONTROL connector (D-Sub 9 pin)

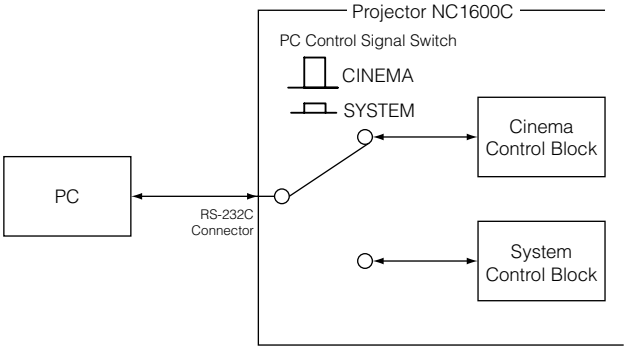
This is an RS-232C interface for controlling the projector head from a PC. The projector operates as a DCE (Data Communication Equipment), so use a straight cable when connecting to a PC.



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

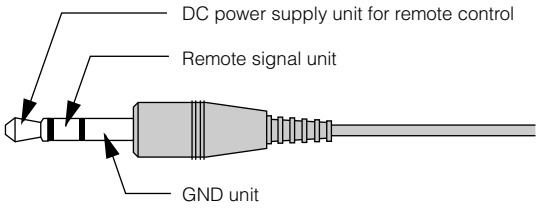
Note 1: Do not use DTR and DSR signals when communicating.
Note 2: Connector operations vary according to the PC control signal switch (CINEMA/SYSTEM). (When in SYSTEM, do not use RTS and CTS signals.)

Internal Configuration Diagram of RS-232C Communication System



6-7-2. Remote control input connector (REMOTE IN) (Stereo mini)

Connected with the projector's remote control the accessory remote cable.
When the remote cable is connected to this connector, the remote cable connector operates with the following functions.



The DC voltage supplied from the projector to the remote control is approximately +4.0 V.

NOTE

The remote control cable is connected first to the remote control, then to the projector head.
The leading end of the remote control cable is the power supply unit, so be careful not to touch the other end of the remote cable to the projector head or other devices while only the remote control cable is connected to the projector.

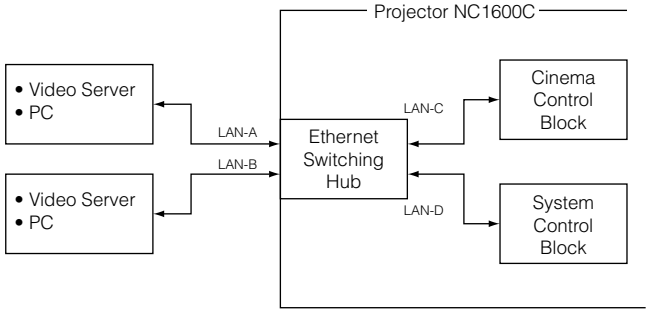
TIP

Even if the remote cable power supply unit and GND unit (such as the projector head) should short, the protective function inside the projector will activate to prevent the shorted cable from damaging the projector.

6-7-3. LAN port (LAN-A, LAN-B) (RJ-45)

Use Ethernet 10Base-T/100Base-TX UTP (Unshielded Twist Pair cable) to connect with a video server or a PC.
A switching hub exists inside, so there are no functional differences of either the LAN-A or LAN-B ports.

Internal Configuration Diagram of LAN Port



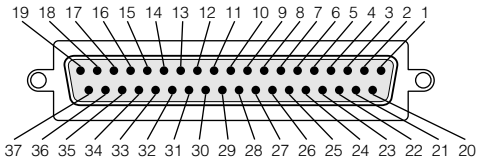
6-7-4. PC card slot

Set a wireless LAN card to control the projector from a PC using wireless LAN. When you use wireless LAN, pay attention to the following points:

- Connection cannot be established with an NIC (Network Interface Card) of the same network group.
- Use the wireless LAN in ad hoc mode.
  * The cards in the same network group have the same AND value for the IP address and the subnet mask.

6-7-5. External control connector (GPI/O) (D-Sub 37 pin)

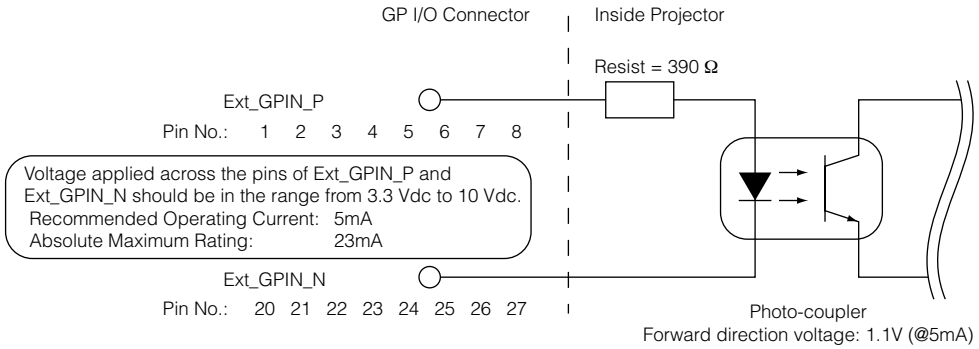
It is possible to control the projector with an external device and to control the external device from the projector using an external control connector (GPIO: General Purpose I/O Ports). Each pin is electrically separated from the projector internal circuits by a photo-coupler. 8 port input and 8 port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



Pin view of female connector

Pin No.	Signal Name	I/O	Pin No.	Signal Name	I/O
1	Ext_GPIN_1_P	Input	20	Ext_GPIN_1_N	Input
2	Ext_GPIN_2_P	Input	21	Ext_GPIN_2_N	Input
3	Ext_GPIN_3_P	Input	22	Ext_GPIN_3_N	Input
4	Ext_GPIN_4_P	Input	23	Ext_GPIN_4_N	Input
5	Ext_GPIN_5_P	Input	24	Ext_GPIN_5_N	Input
6	Ext_GPIN_6_P	Input	25	Ext_GPIN_6_N	Input
7	Ext_GPIN_7_P	Input	26	Ext_GPIN_7_N	Input
8	Ext_GPIN_8_P	Input	27	Ext_GPIN_8_N	Input
9	Ext_GPOUT_1_P	Output	28	Ext_GPOUT_1_N	Output
10	Ext_GPOUT_2_P	Output	29	Ext_GPOUT_2_N	Output
11	Ext_GPOUT_3_P	Output	30	Ext_GPOUT_3_N	Output
12	Ext_GPOUT_4_P	Output	31	Ext_GPOUT_4_N	Output
13	Ext_GPOUT_5_P	Output	32	Ext_GPOUT_5_N	Output
14	Ext_GPOUT_6_P	Output	33	Ext_GPOUT_6_N	Output
15	Ext_GPOUT_7_P	Output	34	Ext_GPOUT_7_N	Output
16	Ext_PROJ_GOOD_P	Output	35	Ext_PROJ_GOOD_N	Output
17	NC	-	36	NC	-
18	Reserve	-	37	Reserve	-
19	Reserve	-	-	-	-

Input Connector



• Using GPIO Control

Momentary “ON” pulse enables you to control projector. To enable “ON” pulse, hold it for at least 500 ms. Hold “OFF” for at least 500 ms before “ON”. (See page 53)

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

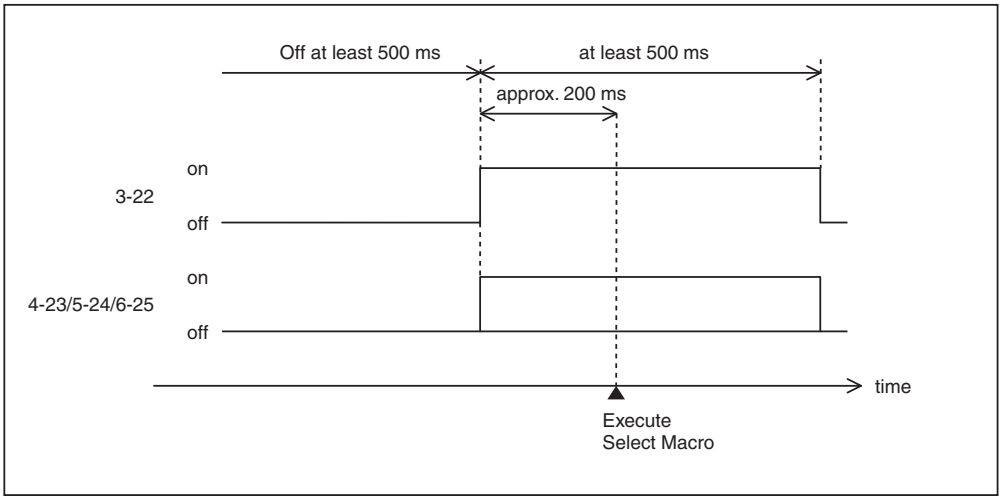
Pin No.	Photo-coupler ON/OFF				Function
1-20	ON				Lamp on
2-21	ON				Lamp off
3-22	4-23		3-22		-
4-23	ON		OFF		Image doused
3-22	5-24		3-22		-
5-24	ON		OFF		Image un-doused
3-22	6-25	5-24	4-23	3-22	-
4-23	OFF	OFF	OFF	ON	Selects title registered to MACRO 1
5-24	OFF	OFF	ON	ON	Selects title registered to MACRO 2
6-25	OFF	ON	OFF	ON	Selects title registered to MACRO 3
	OFF	ON	ON	ON	Selects title registered to MACRO 4
	ON	OFF	OFF	ON	Selects title registered to MACRO 5
	ON	OFF	ON	ON	Selects title registered to MACRO 6
	ON	ON	OFF	ON	Selects title registered to MACRO 7
	ON	ON	ON	ON	Selects title registered to MACRO 8

Example for dousing image: 4-23 is pulsed with keeping 3-22 off.
Example for selecting Macro 2: 3-22 and 4-23 are pulsed simultaneously with keeping 6-25 and 5-24 off.

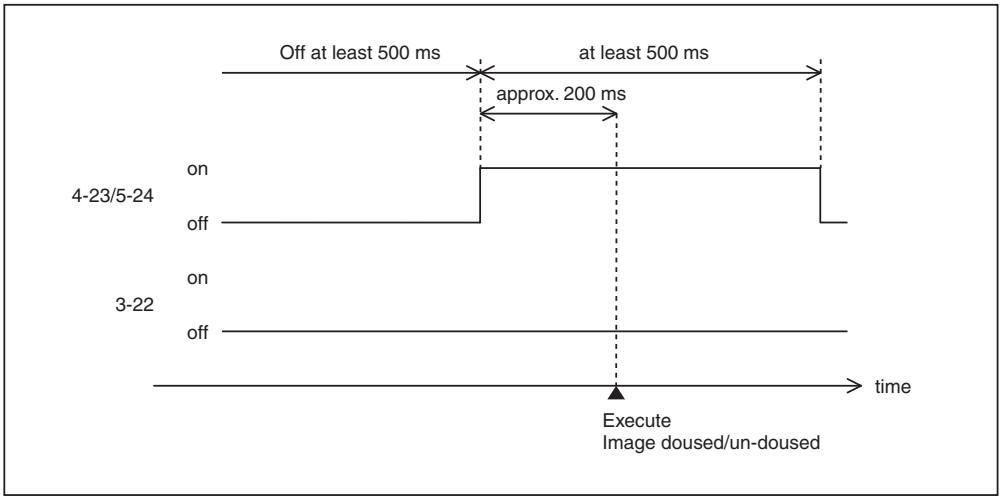
NOTE
- The operation command coming from GPI/O port will be canceled when the projector is processing other tasks, such as lamp cooling and switching title.
- Set all other pins than those in use to “OFF”.
- The operation command is executed upon continuous input of the “ON” pulse for approximately 200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

• Timing chart of GPIO control

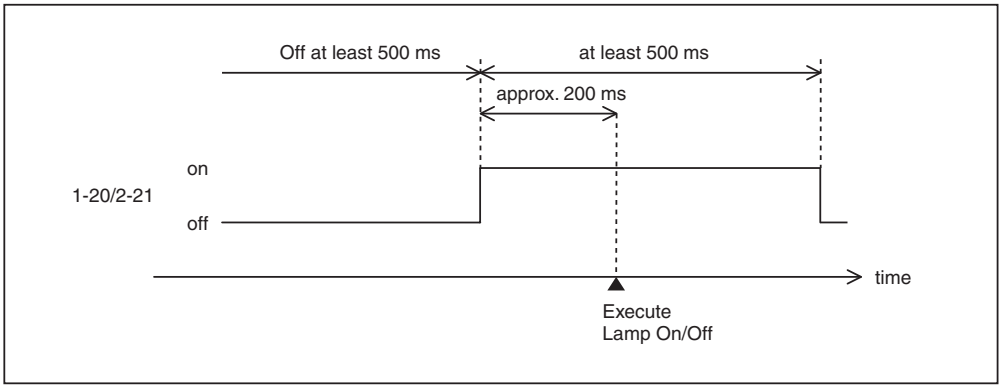
Example of Select Macro



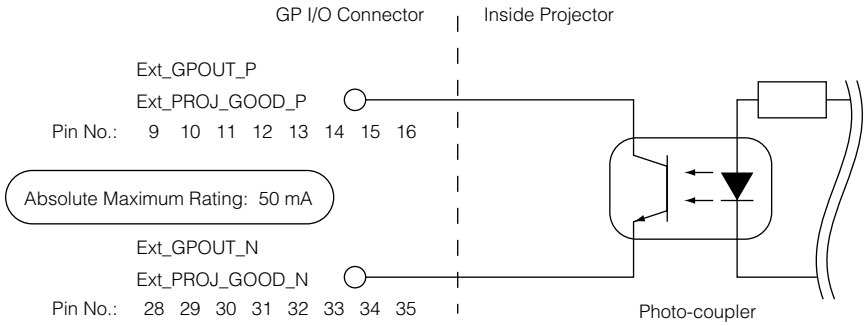
Example of Image doused/un-doused



Example of Lamp On/Off

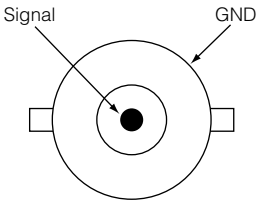


Output Connector



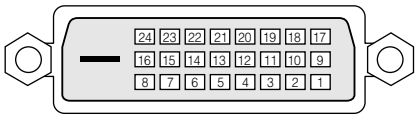
6-7-6. SDI-A, SDI-B (HD-SDI input connector) (BNC)

This is a signal input connector (SMPTE 292/HDSDI) for CINEMA.
The SMPTE 292/HD-SDI transfers HDTV signals with 1.5 GHz digital serial signals, so use a 75 Ω coaxial cable having a thickness and characteristics higher than 5C-FB, and use a BNC for the connector.



6-7-7. DVI-A, DVI-B (DVI digital Input connector) (DVI-D 24 pin)

This is a single link DVI input connector that is compliant with hot plug detect (HPD). Use a single link cable. Noise may be generated in the video if you use a dual link cable.
EDID is available even when the projector is switched off.



Pin view of female connector

Pin No.	Signal Name	Pin No.	Signal Name
1	TMDS Data 2-	13	unused
2	TMDS Data 2+	14	+5V Power
3	TMDS Data 2 Shield	15	Ground
4	Unused	16	Hot Plug Detect*
5	Unused	17	TMDS Data 0-
6	DDC Clock	18	TMDS Data 0+
7	DDC Data	19	TMDS Data 0 Shield
8	Unused	20	unused
9	TMDS Data 1-	21	unused
10	TMDS Data 1+	22	TMDS Clock Shield
11	TMDS Data 1 Shield	23	TMDS Clock+
12	Unused	24	TMDS Clock-

6-8. Related products list

Product name		Model name
Lens	Zoom Lens 1.3 to 1.75:1	NC-60LS13Z
	Zoom Lens 1.75 to 2.4:1	NC-60LS17Z
	Zoom Lens 2.4 to 3.9:1	NC-60LS24Z
Anamorphic lens	Anamorphic lens 1.25	AL 1.25
Anamorphic lens motorized turret	Anamorphic turret	NC-AT02
Lamp	4.0kW Lamp	NC-16LP401
	4.0kW Lamp (Long life type)	NC-16LP402
Power cable kit	Power Cable kit	(Note)
Dedicated base	Pedestal	NC-PD01
Wireless LAN card	Wireless LAN Card NWL-100 Series	(Note)
Touch panel	Touch Panel Controler	(Note)
Holder arm for touch panel	Touch Panel Holder Arm	(Note)
Replacement air filter	Air Filter	NC-16AF01
Built-in type multi-media switcher	Built-in type Multi-Media Switcher	MM2000B
Interface board (DVI)	DVI Input Board	MM-DVI
Interface board (SDI)	SDI Input Board	MM-SDI
Interface board (RGB)	Analog RGB Input Board	MM-RGB
Interface board (VIDEO)	VIDEO Input Board	MM-VIDEO

(Note) Please contact your dealer/distributor for details on product and model names .

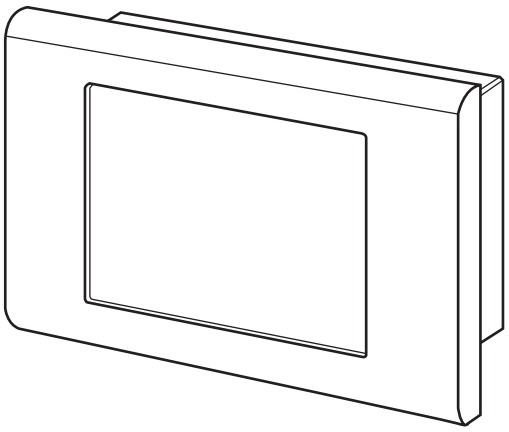
Ver.2 07/07

Touch Panel Controller

NEC

NC-TP6402/NC-TP6401

User's Manual



NEC Viewtechnology, Ltd.

Important Information

Precautions
Please read this manual carefully before using your NC-TP6402/NC-TP6401 Touch Panel Controller and keep the manual handy for future reference.
Your serial number is located on the rear of your NC-TP6402/ NC-TP6401 Touch Panel Controller. Record it here:

CAUTION
 To turn off main power, be sure to remove the plug from power outlet. The power outlet socket should be installed as near to the equipment as possible, and should be easily accessible.

CAUTION
 TO PREVENT SHOCK, DO NOT OPEN THE CABINET. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.


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


This symbol alerts the user that important information concerning the operation and maintenance of this unit has been provided. The information should be read carefully to avoid problems.

WARNING

TO PREVENT FIRE OR SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.
DO NOT USE THIS UNIT'S GROUNDED PLUG WITH AN EXTENSION CORD OR IN AN OUTLET UNLESS ALL THREE PRONGS CAN BE FULLY INSERTED.
DO NOT OPEN THE CABINET. THERE ARE HIGH-VOLTAGE COMPONENTS INSIDE. ALL SERVICING MUST BE DONE BY QUALIFIED SERVICE PERSONNEL.

DOC Compliance Notice for Europe

This Class B 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.

AC power cable (NC-TH6403 accessory) for UK

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

- Windows is registered trademarks or trademarks of Microsoft Corporation in the U.S. and/or other countries.
- Other product and company names mentioned in this user's manual may be the trademarks of their respective holders.

NC-TP6402
RF Interference (for USA only)

WARNING

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

CAUTION

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

NC-TP6401
RF Interference (for USA only)

WARNING

The Federal Communications Commission does not allow any modifications or changes to the unit EXCEPT those specified by NEC Corporation of America in this manual. Failure to comply with this government regulation could void your right to operate this equipment.
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

Important Safeguards

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

Installation

1. Do not place your Touch panel in direct sunlight, near heaters or heat radiating appliances.
2. Exposure to direct sunlight, smoke or steam can harm internal components.
3. Handle your Touch panel carefully. Dropping or jarring can damage internal components.
4. Do not place heavy objects on top of your Touch panel.

Power Supply

1. Handle the power cable* carefully and avoid excessive bending. A damaged cord can cause electric shock or fire.
   * The following outlines the power cables described in this document.
     - If using the NC2500/NC1500 projector series:
       DC power cable packaged with the holder arm
     - If using the NC800 projector series:
       AC power adapter and AC power cable packaged with the holder arm
2. If the Touch panel is not to be used for an extended period of time, disconnect the plug from the power outlet.
3. Do not touch the power plug with wet hand. Doing so can cause electrical shock or fire.
4. Do not touch the power plug during a thunder storm. Doing so can cause electrical shock or fire.

Cleaning

1. Cut the power to all connected devices before cleaning.
2. Wipe it with a soft lint-free cloth. In doing so, do not strain the liquid crystal panel; it may cause a damage.
3. When the panel is badly stained, soak a cloth in neutral detergent deluted with water, wring it out, and wipe the stain off. As a finishing touch, wipe the panel with a dry cloth.

   When using a chemical dustcloth, follow its instructions.

CAUTION

- Do not have the liquid crystal panel touched with a sharp-pointed tool such as a mechanical pencil or a screwdriver. Do not press firmly the surface of the liquid crystal panel or the frame of the touch panel; they may be scratched or break down.
- Should the liquid crystal panel be damaged, do not put the internal liquid into your mouth or touch it. If the liquid gets in your mouth, gargle at once. If the liquid comes in contact with your skin or it gets in your eye, first rinse your skin or eye with running water for more than 15 minutes and then see the doctor immediately.
- This machine is designed to monitor and control the projector. Do not use the machine for other than intended use. Particularly, never use this machine to make a device which may affect people's lives (such as an emergency stop switch).
- To prevent mis-operation, observe the following precautions.
  - Do not cut the power to the touch panel while the projector head is running.
  - When performing maintenance, cut the power to all connected devices.

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.

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: +01 818 557 2500
*If the above line is busy, please dial as below:
Telephone: +01 866 632 6431

Fire and Shock Precautions

Prevent foreign objects such as paper clips and bits of paper from falling into your Touch panel. Do not attempt to retrieve any objects that might fall into your Touch panel. Do not insert any metal objects such as a wire or screwdriver into your Touch panel. If something should fall into your Touch panel, disconnect it immediately and have the object removed by a qualified service personnel.

Précautions

Veuillez lire ce manuel attentivement avant d'utiliser le panneau de commande tactile NC-TP6402/NC-TP6401 et le conserver pour vous y reporter ultérieurement.
Votre numéro de série est situé à l'arrière du panneau de commande tactile NC-TP6402/NC-TP6401. Notez-le ici :

ATTENTION

Pour couper complètement l'alimentation, retirez la prise du secteur.
La prise du secteur doit être accessible et installée le plus près possible de l'appareil.

ATTENTION

POUR ÉVITER TOUT CHOC ÉLECTRIQUE, N'OUVREZ PAS LE BOÎTIER. LES PIÈCES INTERNES NE SONT PAS RÉPARABLES PAR L'UTILISATEUR. POUR TOUTE RÉPARATION, ADRESSEZ-VOUS À UN RÉPARATEUR AGRÉE.

Ce symbole avertit l'utilisateur que le contact avec certaines parties non isolées à l'intérieur de l'appareil risque de causer une électrocution. Il est donc dangereux de toucher quoi que ce soit à l'intérieur de l'appareil.

Ce symbole avertit l'utilisateur que d'importantes informations sont fournies sur le fonctionnement ou l'entretien de cet appareil. Ces informations doivent être lues attentivement pour éviter tout problème.

AVERTISSEMENT

AFIN DE PREVENIR TOUT RISQUE D'INCENDIE OU DE CHOC ELECTRIQUE, N'EXPOSEZ PAS CET APPAREIL A LA PLUIE OU À L'HUMIDITÉ. N'UTILISEZ PAS LA PRISE DE TERRE DE L'APPAREIL AVEC UNE RALLONGE OU UNE AUTRE PRISE, A MOINS QUE LES TROIS BROCHES PUISSENT ETRE COMPLETEMENT INSÉRÉES. N'OUVREZ PAS LE BOÎTIER. A L'INTÉRIEUR SE TROUVENT DES COMPOSANTS À HAUTE TENSION. TOUTE RÉPARATION DOIT ÊTRE FAITE PAR DU PERSONNEL AGRÉE.

Avis de compatibilité DOC pour l'Europe

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le Matériel Brouilleur du Canada.

Règlement De l'Information De Bruit De Machine - 3. GPSGV,

le niveau le plus élevé de pression acoustique est conforme moins de 70dB (A) à EN ISO 7779.

- Windows est une marque commerciale ou une marque commerciale déposée de Microsoft Corporation aux Etats-Unis et/ou dans d'autres pays.
- Les autres noms de produits et de sociétés mentionnés dans ce mode d'emploi peuvent être des marques commerciales de leur propriétaire respectif.

Cordon d'alimentation CA (accessoire NC-TH6403) pour le RU

Au RU, un cordon d'alimentation approuvé par BS avec prise moulée est équipé d'un fusible Noir (5A) pour l'utilisation avec cet équipement. Si un cordon d'alimentation n'est pas fourni avec cet équipement, veuillez contacter votre revendeur.

Mesures de sécurité importantes

Ces instructions de sécurité garantissent la longévité de votre panneau de commande tactile et préviennent les risques d'incendie et de décharge électrique. Lisez-les et respectez les conseils.

Installation

1. Ne placez pas votre panneau de commande tactile en plein soleil, à côté d'appareils de chauffage ou d'appareils dégageant de la chaleur.
2. L'exposition en plein soleil, la fumée ou la vapeur peuvent endommager des composants internes.
3. Manipulez votre panneau de commande tactile avec précaution. Une chute ou un choc peuvent endommager des composants internes.
4. Ne placez pas d'objet lourd sur le panneau de commande tactile.

Alimentation

1. Manipulez le câble* d'alimentation avec précaution et évitez de l'entortiller. Tout câble endommagé peut provoquer une électrocution ou un incendie.
   * La section suivante concerne les câbles d'alimentation décrits dans ce document.
     - Si vous utilisez un projecteur de la série NC2500/ NC1500 :
       Câble d'alimentation CC emballé avec le bras de support
     - Si vous utilisez un projecteur de la série NC800 :
       Câble d'alimentation CA et câble d'alimentation CA emballé avec le bras de support
2. Si le panneau de commande tactile ne doit pas être utilisé pendant longtemps, débranchez la prise de la source d'alimentation.
3. Ne touchez pas la prise d'alimentation avec les mains mouillées. Ceci peut causer une électrocution ou un incendie.
4. Ne touchez pas la prise d'alimentation pendant les orages. Ceci peut causer une électrocution ou un incendie.

Nettoyage

1. Coupez l'alimentation de tous les appareils connectés avant de commencer le nettoyage.
2. Essuyez-le avec un chiffon doux non pelucheux. En nettoyant, n'appuyez pas sur le panneau à cristaux liquides; cela pourrait l'endommager.
3. Lorsque le panneau est très sale, humidifiez un chiffon avec une solution de détergent neutre, essorez-le, puis nettoyez la saleté. Pour terminer, essuyez le panneau à l'aide d'un chiffon sec.
   Lorsque vous utilisez un chiffon de nettoyage imprégné chimiquement, suivez ses instructions.

ATTENTION

- Ne touchez pas le panneau à cristaux liquides avec un objet pointu comme par exemple un portemine ou un tournevis. N'appuyez pas trop fort sur la surface du panneau à cristaux liquides ou sur le cadre du panneau tactile ; cela pourrait les égratigner ou les casser.
- Si le panneau à cristaux liquides est endommagé, ne touchez pas et ne mettez pas à la bouche le liquide interne. Si du liquide pénètre dans votre bouche, effectuez un gargarisme. Si du liquide rentre en contact avec votre peau ou vos yeux, rincez abondamment votre peau ou vos yeux avec de l'eau pendant 15 minutes puis consultez immédiatement un médecin.
- Cette machine est conçue pour contrôler et commander le projecteur. N'utilisez pas cette machine dans un autre but. En particulier, n'utilisez jamais cette machine pour fabriquer un appareil qui dont le fonctionnement engage la vie d'autres personne (par exemple un commutateur d'arrêt d'urgence).
- Afin d'éviter un dysfonctionnement, respectez les précautions suivantes.
  - Ne pas couper l'alimentation du panneau tactile lorsque la tête du projecteur est en marche.
  - Pendant l'entretien, coupez l'alimentation de tous les appareils connectés.

Précautions contre les risques d'incendie et d'électrocution

Empêchez tout corps étranger (comme des trombones ou des bouts de papier) de tomber à l'intérieur de votre panneau tactile. Ne tentez pas de retirer un objet qui est tombé par mégarde dans le panneau tactile. N'insérez pas d'objet métallique, tel qu'un fil ou un tournevis, à l'intérieur de votre panneau tactile. Si un objet tombe à l'intérieur du panneau tactile, débranchez immédiatement ce dernier et demandez à un technicien qualifié de retirer l'objet.

Mise au rebut du produit usagé

La législation européenne, appliquée dans tous les Etats membres, exige que les produits électriques et électroniques portant la marque (à gauche) doivent être mis au rebut séparément des autres ordures ménagères. Ceci inclus les projecteurs et leurs accessoires électriques ou lampes. Lorsque vous mettez au rebut ces produits, veuillez suivre les recommandations des autorités locales et/ou demandez conseil au magasin qui vous a vendu le produit.
Une fois ces produits mis au rebut, ils sont recycles et de manière appropriée. Cet effort nous aidera à réduire les déchets et à maintenir au niveau minimum leurs conséquences négatives sur la santé humaine et sur l'environnement. La marque figurant sur les produits électriques et électroniques ne s'applique qu'aux Etats members actuels de l'Union Européenne.

Si vous avez des questions concernant des points peu clairs ou des réparations

Contacter votre distributeur ou les branches d'assistance suivantes si vous avez des questions concernant des points à éclaircir, des défauts et des réparations du produit.

En Europe

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

En Amérique du Nord

NEC Corporation of America
Division Cinéma Numérique
Adresse : 4111 West Alameda Avenue Suite 412 Burbank, CA 91505
Téléphone : +01 818 557 2500
*Si la ligne ci-dessus est occupée, essayer le numéro suivant ;
Téléphone : +01 866 632 6431

Vorsichtsmaßnahmen

Lesen Sie diese Bedienungsanleitung vor Verwendung Ihrer Touch-Panel-Steuerung NC-TP6402/NC-TP6401 sorgfältig durch und bewahren Sie diese Anleitung an einem Ort auf, wo Sie schnell auf sie zugreifen können.
Ihre Seriennummer befindet sich auf der Rückseite Ihrer Touch-Panel-Steuerung NC-TP6402/NC-TP6401. Im Folgenden protokolliert:

VORSICHT
 Zum Ausschalten der Hauptspannung müssen Sie unbedingt den Netzstecker von der Netzsteckdose abziehen. Die Netzsteckdose sollte so nahe wie möglich am Gerät installiert werden und jederzeit leicht zugänglich sein.

VORSICHT
 UM EINEN ELEKTRISCHEN SCHLAG ZU VERMEIDEN, SOLLTEN SIE DAS GEHÄUSE NICHT ÖFFNEN. IM INNEREN DES GERÄTES BEFINDEN SICH KEINE BAUTEILE, DIE VOM BENUTZER SELBST GEWARTET WERDEN KÖNNTEN. ÜBERLASSEN SIE SÄMTLICHE SERVICEARBEITEN QUALIFIZIERTEM SERVICEPERSONAL.

Dieses Symbol warnt den Benutzer vor unisolierter Spannung im Inneren des Gerätes, die einen elektrischen Schlag verursachen kann. Daher ist der Kontakt mit sämtlichen inneren Geräte-Bauteilen gefährlich.

Dieses Symbol macht den enutzer darauf aufmerksam, dass wichtige den Betrieb und die Wartung betreffende Informationen beigefügt sind.
Diese Informationen sollten zur Vermeidung von Störungen unbedingt sorgfältig gelesen und beachtet werden.

WARNUNG

UM EINE BRANDGEFAHR BZW. DIE GEFAHR EINES ELEKTRISCHEN SCHLAGES ZU VERMEIDEN, DARF DIESES GERÄT WEDER REGEN NOCH FEUCHTIGKEIT AUSGESETZT WERDEN. VERWENDEN SIE NICHT DEN GEERDETEN STECKER DIESER EINHEIT MIT EINEM VERLÄNGERUNGSKABEL ODER EINER STECKDOSE, IN DIE NICHT ALLE DREI STIFTE VOLLSTÄNDIG EINGESTECKT WERDEN KÖNNEN. ÖFFNEN SIE NICHT DAS GEHÄUSE. IM INNEREN BEFINDEN SICH HOCHSPANNUNGSFÜHRENDE BAUTEILE.
ÜBERLASSEN SIE SÄMTLICHE SERVICEARBEITEN QUALIFIZIERTEM SERVICEPERSONAL.

- Windows ist ein eingetragenes Warenzeichen oder Warenzeichen der Microsoft Corporation in den USA und/oder anderen Ländern.
- Andere Produkt- oder Firmennamen, die in dieser Bedienungsanleitung erwähnt werden, können Warenzeichen ihrer jeweiligen Eigentümer sein.

DOC-Übereinstimmungshinweis für Europa

Dieses Digitalgerät der Klasse B entspricht sämtlichen Anforderungen der kanadischen Regelungen für Funkstrahl-Geräte „Canadian Interference-Causing Equipment Regulations“.

Maschinenlärminformations-Verordnung – 3. GPSGV,

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

Wechselstrom-Netzkabel (Zubehör des NC-TH6403) für Großbritannien

In Großbritannien ist ein BS-geprüftes Netzkabel mit einem eingekerbten Stecker mit einer schwarzen Sicherung (mit fünf Ampere) für die Verwendung dieses Gerätes vorhanden. Falls kein Netzkabel im Lieferumfang dieses Gerätes enthalten ist, kontaktieren Sie bitte Ihren Händler.

Wichtige Sicherheitshinweise

Diese Sicherheitshinweise sollen eine lange Lebensdauer Ihrer Touch-Panel-Steuerung sicherstellen und vor Feuer und elektrischen Schlägen schützen. Lesen Sie diese Hinweise sorgfältig durch und beachten Sie alle Warnungen.

Installation

1. Stellen Sie den Touch-Panel-Steuerung weder in direktes Sonnenlicht noch in die Nähe einer Heizung oder sonstiger Hitze abstrahlender Einrichtungen.
2. Wenn das Gerät direktem Sonnenlicht, Rauch oder Dampf ausgesetzt wird, können interne Komponenten beschädigt werden.
3. Behandeln Sie Ihren Touch-Panel-Steuerung vorsichtig. Fallenlassen oder starkes Schütteln kann interne Komponenten beschädigen.
4. Legen Sie keine schweren Gegenstände auf den Touch-Panel-Steuerung.

Spannungsversorgung

1. Behandeln Sie das Netzkabel* vorsichtig und vermeiden Sie Knicke. Ein beschädigtes Netzkabel kann elektrische Schläge oder einen Brand verursachen.
   * Die folgenden Informationen beziehen sich auf die Stromkabel, die in diesem Dokument beschrieben werden.
     - Bei Verwendung eines Projektors der Reihe NC2500/NC1500: Gleichstromkabel, das mit dem Halterarm verpackt ist
     - Bei Verwendung eines Projektors der Reihe NC800: Wechselstromkabel und Wechselstromkabel, das mit dem Halterarm verpackt ist
2. Wenn der Touch-Panel-Steuerung über eine längere Zeit nicht benutzt wird, ziehen Sie den Stecker aus der Netzsteckdose.
3. Berühren Sie nicht den Netzstecker mit feuchten Händen. Die Nichtbeachtung dessen könnte einen Stromschlag oder einen Brand zur Folge haben.
4. Berühren Sie den Netzstecker nicht während eines Gewitters. Die Nichtbeachtung dessen könnte einen Stromschlag oder einen Brand zur Folge haben.

Reinigung

1. Trennen Sie vor der Reinigung den Strom von allen angeschlossenen Teilen ab.
2. Wischen Sie das Gerät mit einem weichen fusselfreien Tuch ab. Üben Sie dabei keinerlei Druck auf das Flüssigkristall-Bedienfeld aus; ansonsten könnte es beschädigt werden.
3. Wenn das Bedienfeld extrem verunreinigt ist, tränken Sie bitte ein Tuch in Wasser, in dem etwas Neutralreiniger aufgelöst wurde, wringen Sie das Tuch aus und wischen Sie die Verunreinigungen ab. Wischen Sie das Bedienfeld anschließend mit einem trocken Tuch ab. Folgen Sie bei Verwendung eines chemischen Staubtuches den im Lieferumfang enthaltenen Anweisungen.

ACHTUNG

- Achten Sie darauf, dass das Flüssigkristall-Bedienfeld mit keinem spitzen Gegenstand wie beispielsweise einem Kugelschreiber oder einem Schraubendreher in Berührung kommt. Üben Sie keinen Druck auf die Oberfläche des Flüssigkristall-Bedienfeldes oder den Rahmen des Touchpanels aus; dies könnte zu Kratzern oder Fehlfunktionen führen.
- Falls das Flüssigkristall-Bedienfeld beschädigt wurde, achten Sie bitte darauf, dass keine Flüssigkeit in Ihren Mund gelangt und dass Sie die Flüssigkeit nicht berühren. Sollte dennoch Flüssigkeit in Ihren Mund gelangt sein, spülen Sie den Mund bitte sofort aus. Falls Ihre Haut oder Ihre Augen mit der Flüssigkeit in Berührung gekommen sein sollten, spülen Sie die Haut oder die Augen zuerst etwa 15 Minuten lang unter fließendem Wasser ab bzw. aus und suchen Sie anschließend sofort einen Arzt auf.
- Dieses Gerät wurde für die Überwachung und Steuerung des Projektors konzipiert. Verwenden Sie das Gerät für keinen anderen als den dafür vorgesehenen Zweck. Verwenden Sie dieses Gerät insbesondere auf keinen Fall im Zusammenhang mit Geräten, die menschliches Leben beeinflussen könnten (wie beispielsweise als Notausschalter).
- Um eine falsche Bedienung zu vermeiden, beachten Sie die folgenden Vorsichtsmaßnahmen.
  - Trennen Sie den Strom nicht vom Touch-Panel ab während der Projektorkopf läuft.
  - Trennen Sie bei der Wartung der angeschlossenen Geräte den Strom ab.

Vorkehrungen gegen Feuer und elektrische Schläge

Achten Sie darauf, dass keinerlei fremden Gegenstände wie beispielsweise Büroklammern oder Papierschnipsel in Ihr Touchpanel geraten. Versuchen Sie nicht, in das Touchpanel hineingeratene Gegenstände zu beseitigen. Führen Sie keinerlei Metallgegenstände wie beispielsweise einen Draht oder einen Schraubendreher in das Touchpanel ein. Sollte trotz aller Vorsicht ein Gegenstand in das Touchpanel hineingeraten sein, trennen Sie es bitte sofort von der Stromversorgung ab und lassen Sie den betreffenden Gegenstand von einem dafür qualifizierten Techniker beseitigen.

Entsorgung Ihres benutzten Gerätes

Die EU-weite Gesetzgebung, wie sie in jedem einzelnen Mitgliedstaat gilt, bestimmt, dass benutzte
elektrische und elektronische Geräte mit dieser Markierung (links) getrennt vom normalen Haushaltsabfall entsorgt werden müssen. Dies schließt Projektoren und deren elektrisches Zubehör oder ihre Lampen mit ein. Folgen Sie beim Entsorgen eines solchen Gerätes bitte den Anweisungen Ihrer örtliche Behörde und/oder konsultieren Sie den Händler, bei dem Sie das Gerät erworben haben.
Nach der Sammlung benutzter Geräte werden diese erneut verwendet und entsprechend den Umweltbestimmungen recycelt. Das trägt dazu bei, die Abfallmenge zu reduzieren sowie die negativen Auswirkungen auf die menschliche Gesundheit und die Umwelt möglichst gering zu halten. Die Markierung auf elektrischen und elektronischen Geräten gilt nur für die gegenwärtigen Mitgliedsstaaten der Europäischen Union.

Bei Fragen, die sich aus unklaren Punkten oder Reparaturarbeiten ergeben

Bei Fragen, die sich aus unklaren Punkten, Fehlfunktionen oder Reparaturarbeiten am Produkt ergeben, wenden Sie sich an Ihren Händler oder an eine der folgenden Niederlassungen.

In Europa

NEC Europe, Ltd. / European Technical Centre
Addresse: Unit G, Stafford Park 12, Telford TF3 3BJ, U.K.
Telefon: +44 1952 237000
Fax-Nummer: +44 1952 237006

In Nordamerika

NEC Corporation of America
Digital-Cinema-Abteilung
Adresse : 4111 West Alameda Avenue Suite 412 Burbank, CA 91505
Telefon : +01 818 557 2500
*Falls die oben aufgeführte Leitung besetzt sein sollte, wählen Sie bitte die folgende Nummer ;
Telefon : +01 866 632 6431

(MEMO)

Table of Contents

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

1-1. What's in the Box?

Check the accessory contents as follows:

- Touch Panel and Controller (This Device)
- User's Manual (This document)

TIP

- The LAN cable and AC power cable, etc. are accessories to the holder arm (optional). Should any of the items delivered to you in the package be missing or damaged, please contact your dealer/distributor (from whom you have purchased your projector) immediately with the information.
- Use a holder arm (optional) that your projector supports. The following are supported holder arm model names.

Your projector	Supported touch panel model name	Supported holder arm model name
NC2500/NC1500 series	NC-TP6401	NC-TH6401
	NC-TP6402 (Supports RoHS)	NC-TH6402
NC800 series	NC-TP6402 (Supports RoHS)	NC-TH6403

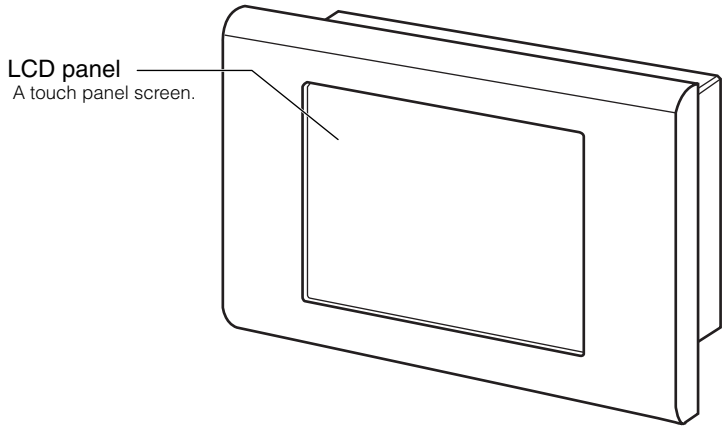
- The following outlines accessories of the holder arm (optional).

Holder arm model name	Accessory
NC-TH6401	• Holder arm (For NC-TH6401) • LAN cable • DC power cable • Mounting screws (4 pcs.)
NC-TH6402	• Holder arm (For NC-TH6402) • LAN cable • DC power cable • Mounting screws (4 pcs.)
NC-TH6403	• Holder arm (For NC-TH6403) • LAN cable • AC power cable • Mounting screws (4 pcs.) • AC power adapter • AC adapter mounting screws

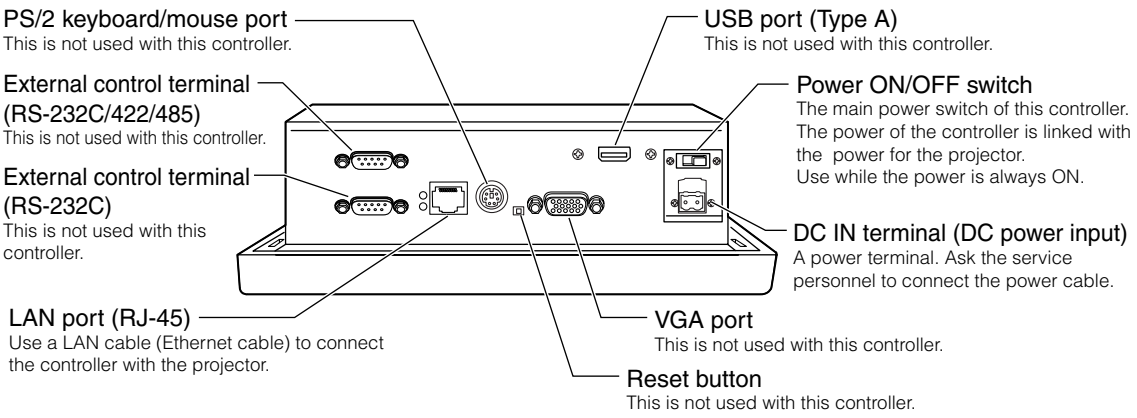
- The following outlines the power cords described in this document.
  - If using the NC2500/NC1500 projector series: DC power cord packaged with the holder arm
  - If using the NC800 projector series: AC power adapter and AC power cord packaged with the holder arm

1-2. Description of the Touch Panel Sections

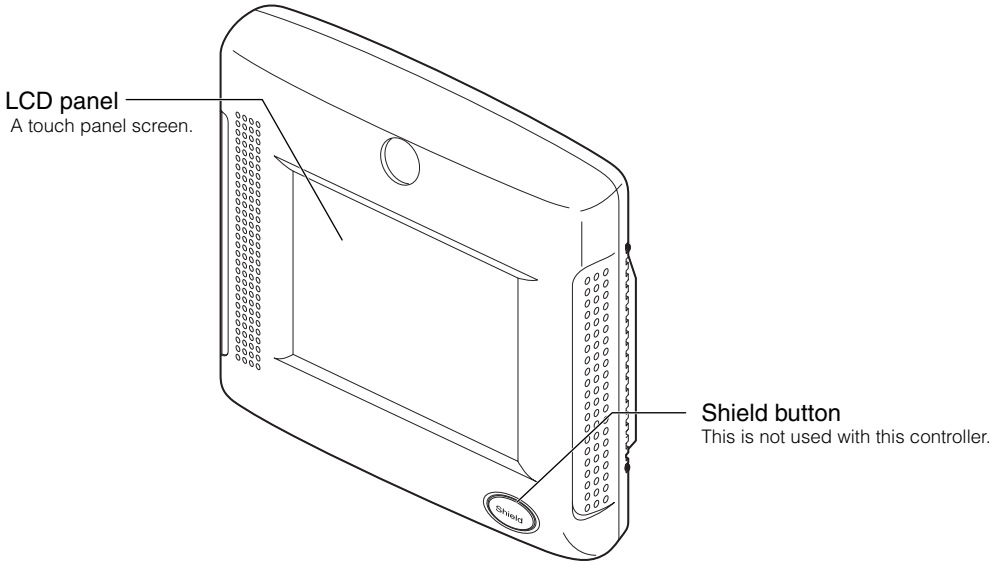
1-2-1. Front Section of the touch panel NC-TP6402



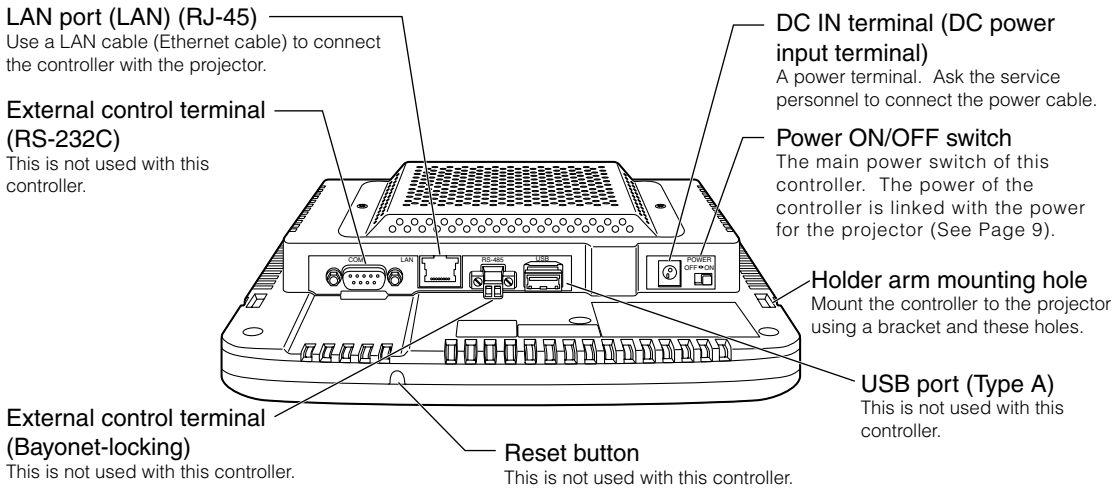
1-2-2. Rear Section of the touch panel NC-TP6402 (down ward)



1-2-3. Front Section of the Touch Panel NC-TP6401



1-2-4. Rear of the Touch Panel NC-TP6401 (down ward)



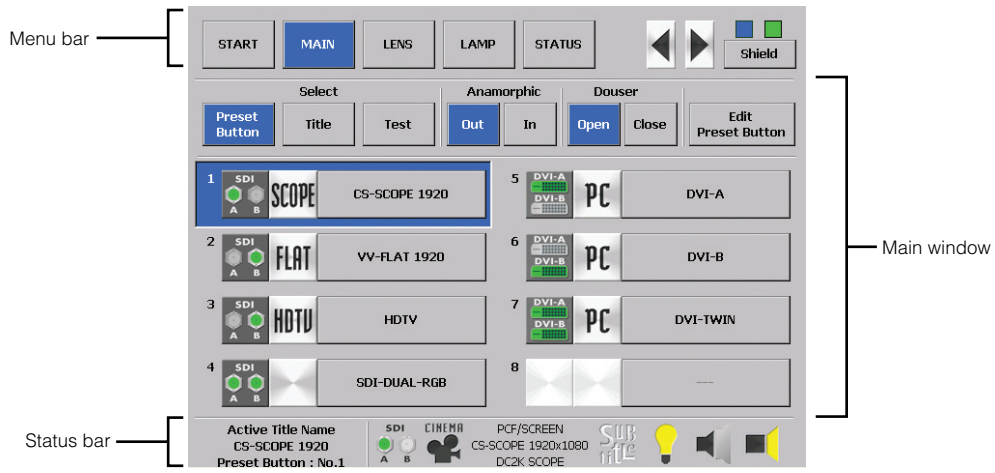
2.
Operating the Projector Using the Touch Panel

2-1. Overview of the Touch Panel

You can change the quality of images projected by the projector and switch the operation mode of the controller from the menus displayed on the touch panel. Press the applicable on-screen buttons by the finger.
This chapter explains the basic menu operations. For details of the menus, refer to “Menu List” (See Page 8).

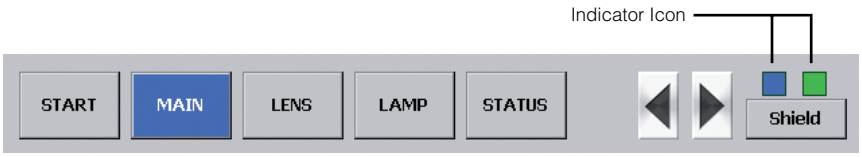
2-1-1. Description of the Sections in the Menu Screen

The menu screen of this controller consists of three sections below.
The selected (active) button is displayed in blue.



Menu bar

Menu buttons are displayed here. The menu selected here is displayed in the main window below.
There are two indicator icons on the top of the [Shield] button.



1 Indicator Icon (Left)

Shows the poling mode (ON/OFF). When the poling mode is ON, the projector's status information is automatically updated every three seconds (default setting).
The poling mode is enabled in the START screen and MAIN screen.

Lights (Blue)	When the poling mode is ON
Off	When the poling mode is OFF

2 Indicator Icon (Right)

This shows the status of the projector.

Lights (Green)	The projector is operating normally.
Lights (Red)	The projector is experiencing and error.

Main window

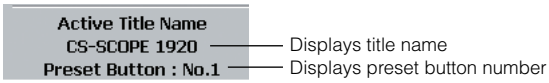
The menu selected from the menu bar is displayed here.

Status bar

The status of the controller is displayed with icons.

1 Title Display

Displays the selected title name and preset button number.



2 Signal Input icon

Shows the input signal terminal selected.

Input for DVI-A terminals

Input for DVI-B terminals

Dual/Twin input for DVI-A and DVI-B terminals

Input for SDI-A terminals

Input for SDI-B terminals

Dual input for SDI-A and SDI-B terminals

Input for the multi-media switcher (MMS) terminal

TWIN Input for the multi-media switcher (MMS) terminal


Displaying test patterns

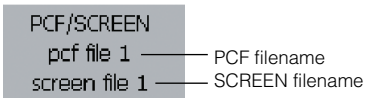
3 Cinema Mode icon

Shows the status of the Cinema mode (ON/OFF).

	When the Cinema mode is turned on
	When the Cinema mode is turned off (Non-cinema)

4 PCF/SCREEN File Display

Displays the selected PCF filename and SCREEN filename.



5 Subtitle icon

Shows the status of the subtitle (ON/OFF).

 (red)	When the subtitle is turned ON
 (white)	When the subtitle is turned OFF

6 Lamp icon

Shows the status of the lamp (ON/OFF).

 (yellow)	Lamp ON
 (black)	Lamp OFF

7 Anamorphic Lens Icon

Shows the anamorphic lens (In/Out).

 (red)	Using the anamorphic lens (in)
 (gray)	Not using the anamorphic lens (out)

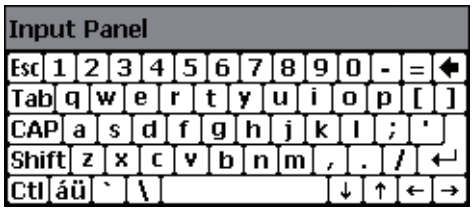
8 Douser icon

Displays the status of the douser (open/closed).

 (yellow)	Douser is open.
 (black)	Douser is closed.

2-1-2. Inputting Alphanumeric Characters

Type alphanumeric characters to enter data such as “Title” or “Memory Name”. When an input box is selected from the touch panel, the input panel as shown below is displayed on this controller.



2-2. Menu List

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

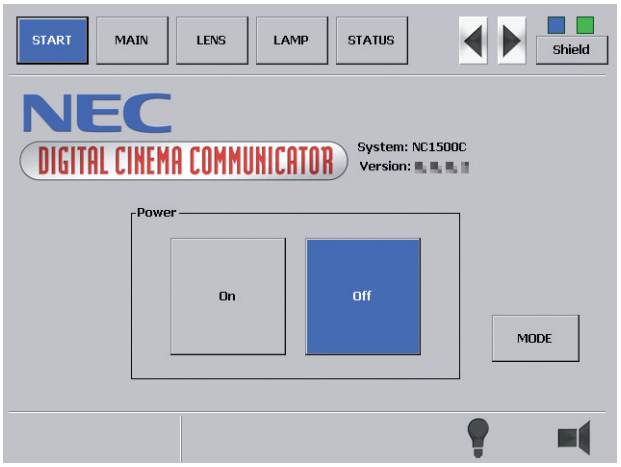
Main menu	Displayed items	Explanation	Reference page
START		This screen is displayed when the controller is started.	9
	POWER	To turn on and off the projector.	
	MODE button	Button to change the menu mode.	
MAIN		Select the input signal from this screen.	11
	Preset button	To display the titles assigned to preset buttons. (*Note)	
	Title	Displays the title list registered in the projector.	
	Test	To display the list of test putterns.	
	Anamorphic Out/In	To control the anamorphic lens.	
	Douser Open/Close	To control the Douser function.	
	(Edit Preset Button)	To set the titles assigned to preset buttons. (*Note)	
	Display of input signal	A list of input signals selected by the Select field (Preset button/Title/Test) is displayed.	
LENS		Control the lens from this screen.	13
	Fine-adjust Mode	Set to operate only while pressing the Lens Shift, Zoom, or Focus buttons.	
	Shift	To shift the lens.	
	Zoom	To zoom in and zoom out.	
	Focus	To adjust focus.	
	Lens Memory	To save the current lens settings and call the saved settings.	
LAMP		Screen for various settings and display for the lamp.	15
	Adjust	To adjust the lamp brightness.	
	Lamp Output	To adjust the lamp output.	
	FeedBack	To set the lamp brightness constant mode that uses a brightness sensor.	
	Lamp Memory	To save the current lamp settings, and call the saved settings.	
	Information	To display the lamp information.	
	(Setup)	To set the lamp data.	
STATUS		Projector setting status is displayed in this screen.	17
(TITLE)		Set titles and display the list in this screen. This is used by the service personnel.	18
INFO.		Screen for display of various information about the projector.	
(SETUP)		Screen for initial setting upon installation. This is used by the service personnel.	
(LAN)		Screen for LAN setting of SYSTEM and CINEMA. This is used by the service personnel.	
◀▶ buttons		Buttons to switch between pages of the main menu bar.	
Sheild Button		Button that disables/enables operations from the touch panel screen.	

(*Note) : Preset buttons 1 to 8 correspond to macro keys 1 to 8 on the projector.

NOTE If the projector head is being used with the NC800 series, the functions below are unavailable.
- Anamorphic lens control (The [Anamorphic Out/In] button on the Main Screen)
- Lamp information display (The [Information] button on the LAMP Screen
- Lamp setting (The [Setup] button on the LAMP Screen)

2-3. START Screen

When the touch panel is activated or when you press the [START] button from the menu bar, the START screen is displayed. With the START menu, you can switch the projector head power ON/OFF (Standby), and the menu mode.



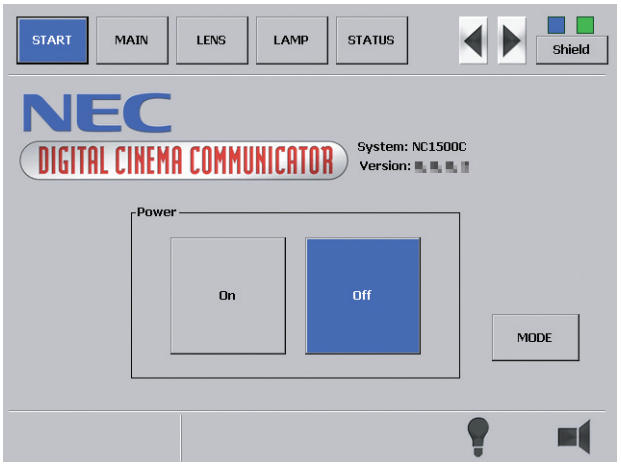
2-3-1. Turning on the Projector

Preparation: Check that there is AC power being supplied to the lamp power unit (only on the NC2500 series) and the projector head.
If you are using the projector head with the NC800 series, check that the touch panel and AC power adapter are connected.

1 Turn on the main power switch of the lamp power unit (NC2500 series only).

2 Turn on the main power switch of the projector.

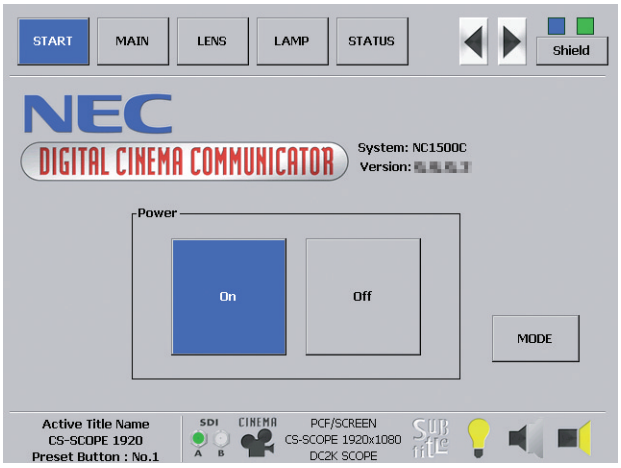
If using a NC2500/NC1500 series projector, the power to the touch panel will turn on by turning on the main power switch (standby) to the projector head.
If using a NC800 series projector, the power to the touch panel will turn on by turning on the main power switch (standby) to the projector head and supplying power to the AC power adapter.
After a while, the software is started and the START screen below is displayed.



3 Press the [ON] button in the “POWER” area of the START screen.

4 Press the [Yes] button in the confirmation window.

The projector is turned on and starts the starting process. The progress bar is displayed during the starting process (for about 40 sec.).
Upon completion of the starting process, the screen below is displayed ([ON] button in the “POWER” area becomes active).



2-3-2. Turning off the Projector

1 Display the START screen.

When the START screen is not displayed, press the [START] button from the menu bar.

2 Press the [OFF] button in the “POWER” area of the START screen.

3 Press [Yes] button in the confirmation window.

The progress bar is displayed and the ending process is executed.

4 When the projector head has entered the standby state, turn the main power switch on the projector to off.

If you are using the projector head with the NC2500/NC1500 series, the touch panel screen is cleared and the main power for the projector is turned off.
If you are using the projector head with the NC800 series, turn off the power to the AC power adapter for the touch panel after shifting the projector to standby.

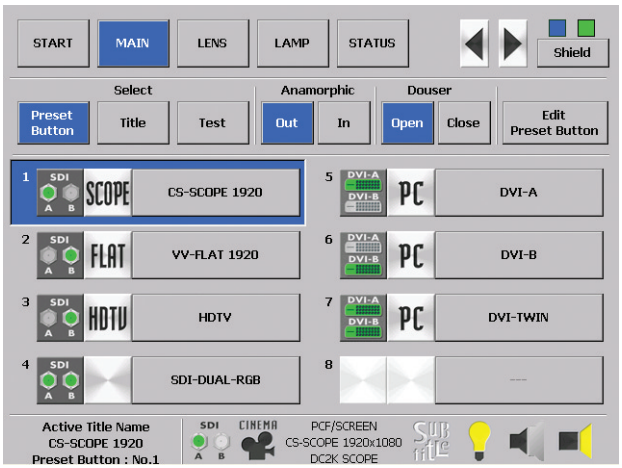
2-3-3. Switching the Menu Mode (Handled by Our Service Personnel)

When you press [MODE] on the START screen, you can switch the menu mode. There are three menu modes available.

User	To display the basic menu items only.
Installation	Menu for installation. Input of the pass code is required to use this mode.
Service	Menu for the service personnel. Input of the pass code is required to use this mode.

2-4. MAIN Screen

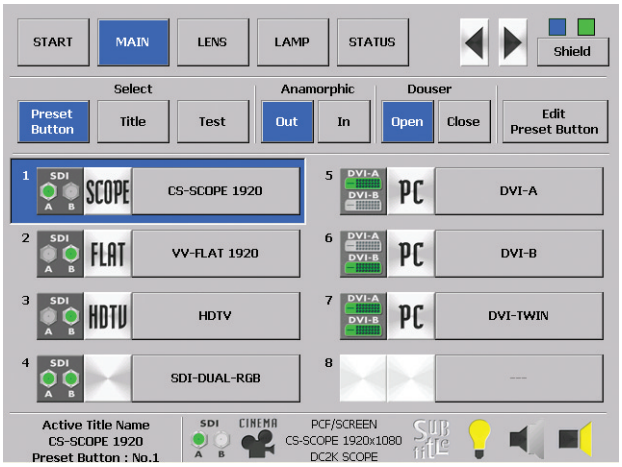
Press the [MAIN] button from the menu bar to display the MAIN screen.
From the MAIN screen, you can select title and control anamorphic lens and douser.



NOTE If the projector head is being used with the NC800 series, the Anamorphic lens control ([Anamorphic Out/In] button] is unavailable.

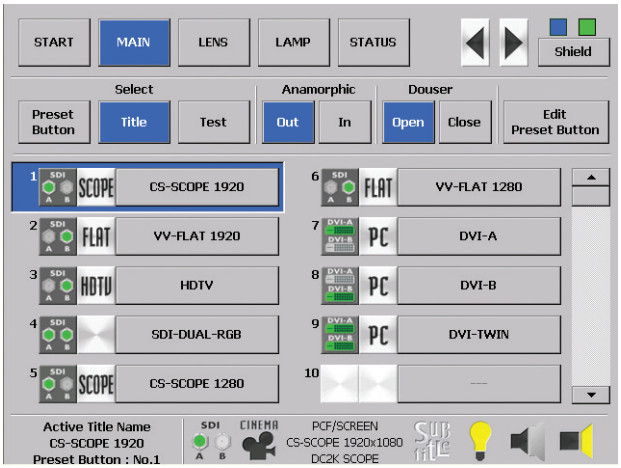
2-4-1. Selecting the Title of Input Signal (Preset Button Display)

When you press [Preset button] on the MAIN screen, titles registered to the preset buttons 1 to 8 are displayed. Select the title of the input signal to be projected, from the title list.
Note that the preset buttons 1 to 8 correspond to macro keys 1 to 8 on the projector.
Request your dealer/distributor for details on the preset registering and changing titles.



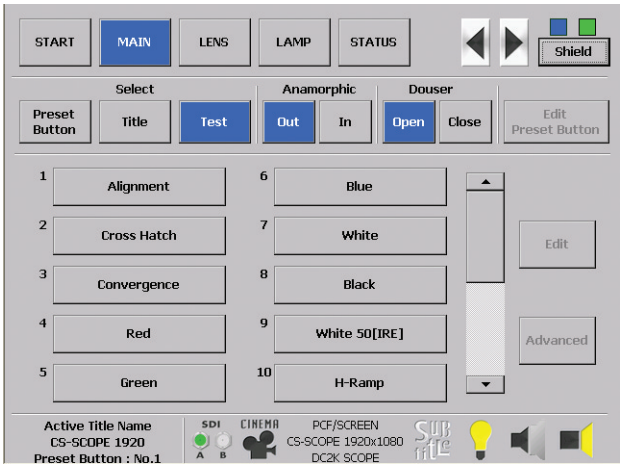
2-4-2. Selecting the Input Signal (Title Display)

When you press [Title] on the MAIN screen, a title list registered to the projector is displayed.
Select the title of the input signal to be projected, from the title list.
Request your dealer/distributor for details on registering and changing titles.



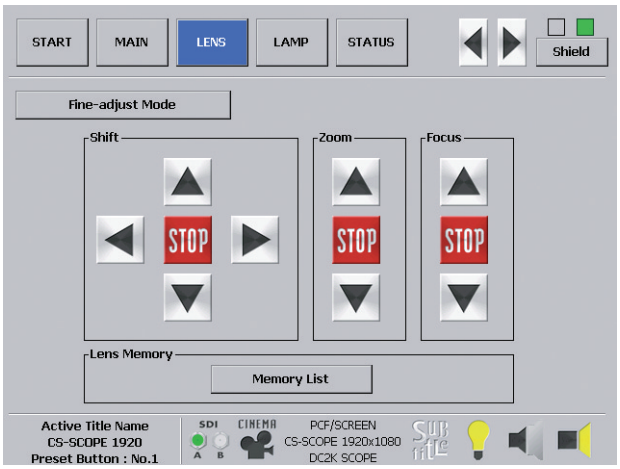
2-4-3. Selecting the Test Pattern

When you press [Test] on the MAIN screen, a list of test patterns is displayed.
Selects the test pattern to be projected, from the list of test patterns.



2-5. LENS Screen

Press the [LENS] button from the menu bar to display the LENS screen.
From the LENS screen, you can perform lens controls such as lens shifting, zoom adjustment, and focus adjustment.



2-5-1. Adjusting the Projection Screen Position (Lens Shift)

Move the projection screen vertically and horizontally.

Shift

[▲] button: To move the projection position upward.
[▼] button: To move the projection position downward.
[◀] button: To move the projection position to the left.
[▶] button: To move the projection position to the right.
[STOP] button: To stop the lens shifting.

- Press the [▲], [▼], [◀] or [▶] buttons again during moving to stop the moving.
- Press the [Fine-adjust Mode] button for fine adjustment.

2-5-2. Finely Adjusting the Projection Screen Size (Zoom)

Zoom in and zoom out the projection screen.

Zoom

[▲] button: To zoom in.
[▼] button: To zoom out.
[STOP] button: To stop zooming in or out.

- Press the [▲] or [▼] button again during zooming in or out to stop the zoom-in or zoom-out operation.
- Press the [Fine-adjust Mode] button for fine adjustment.

2-5-3. Adjusting the Focus of the Projection Screen (Focus)

Adjust the focus of the projection screen.

Focus

[▲] button: To set the focus distance longer.
[▼] button: To set the focus distance shorter.
[STOP] button: To stop focus moving.

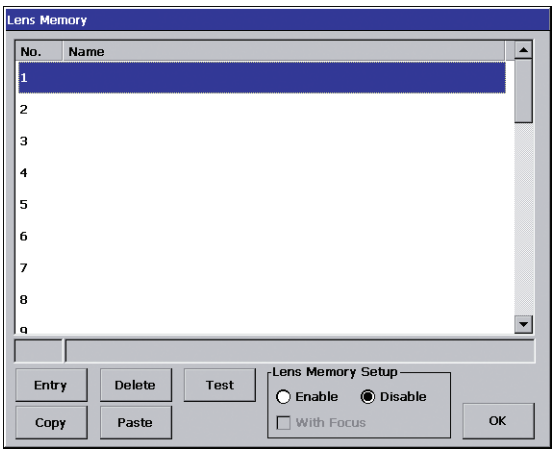
- Press the [▲] and [▼] button again during a moving focus to stop the focus moving.
- Press the [Fine-adjust Mode] button for fine adjustment.

2-5-4. Saving the Lens Adjustment Data (Lens Memory)

The values after adjustment through the LENS screen (Adjustment values for lens shift, zoom, and focus) can be saved to the memory in the projector.
With the lens memory, it is not necessary to readjust lens shift, zoom, and focus for each work.

Lens Memory

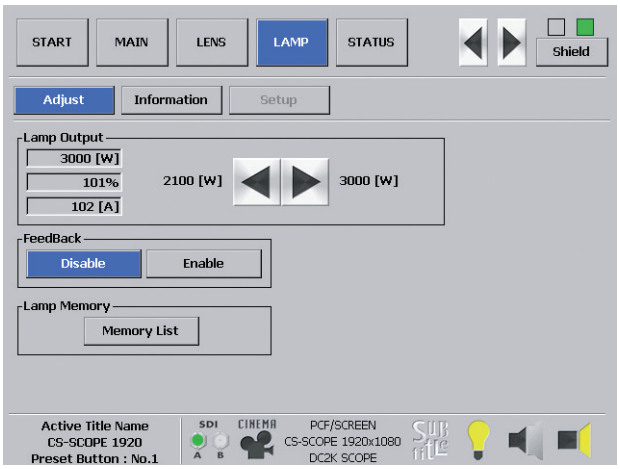
Press the [Memory List] on the LENS window to display the Lens Memory window.



[Entry] button	Saves the current adjustment value to the memory.
[Delete] button	Deletes the memory selected in the list from the Lens Memory.
[Test] button	Tests the adjustment value of the memory selected in the list.
[Copy] button	Copies the memory selected in the list.
[Paste] button	Saves the copied memory to any location.
Lens Memory Setup	Enables/disables the memory selected in the list. • Enable: Enables memory call-up. • Disable: Disables memory call-up. • With Focus: Apply a check mark here to turn it on to also call up focus adjustment values (only when the setting is "Enable").
[OK] button	Closes the Lens Memory window and returns to the LENS window.

2-6. LAMP Screen

Press the [LAMP] button from the menu bar to go to the LAMP screen.
From the LAMP screen, you can adjust the lamp output and display the lamp information.



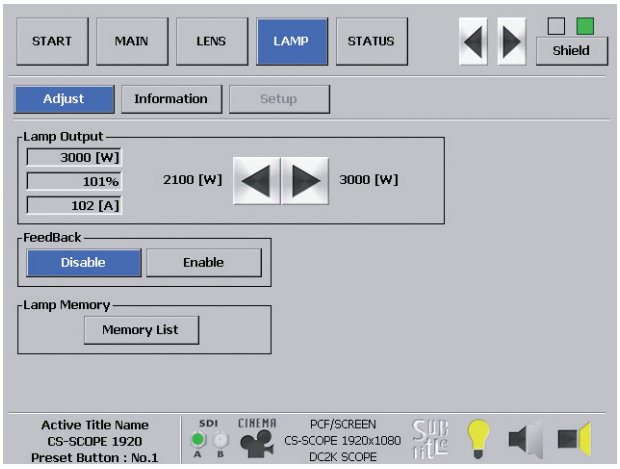
TIP

[Setup] button cannot be used (This button is used by the service personnel).

2-6-1. Adjusting the Lamp Output

1 Press the [Adjust] button from the LAMP screen.

The LAMP screen gets ready for adjustment.



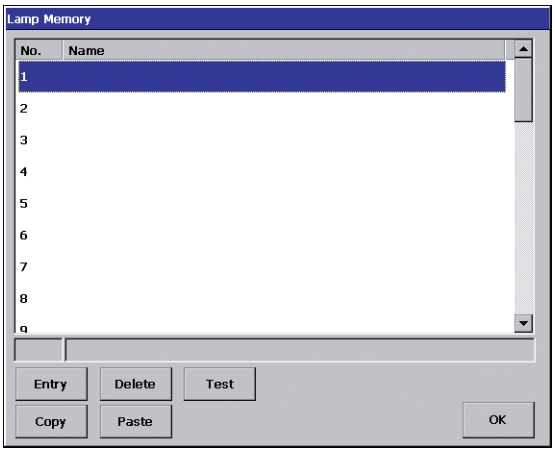
2 Press the [◀] / [▶] buttons to adjust the output value.

2-6-2. Saving the Lamp Output Adjustment Data (Lamp Memory)

The lamp output values after adjustment through the LAMP screen can be saved to the memory in the projector. With the lamp memory, it is not necessary to readjust the image brightness (lamp output adjustment) for each work.

Lamp Memory

Press the [Memory List] on the LAMP window to display the Lamp Memory window.



[Entry] button	Saves the current adjustment value to the memory.
[Delete] button	Deletes the memory selected in the list from the Lamp Memory.
[Test] button	Tests the adjustment value of the memory selected in the list.
[Copy] button	Copies the memory selected in the list.
[Paste] button	Saves the copied memory to any location.
[OK] button	Closes the Lamp Memory window and returns to the LENS window.

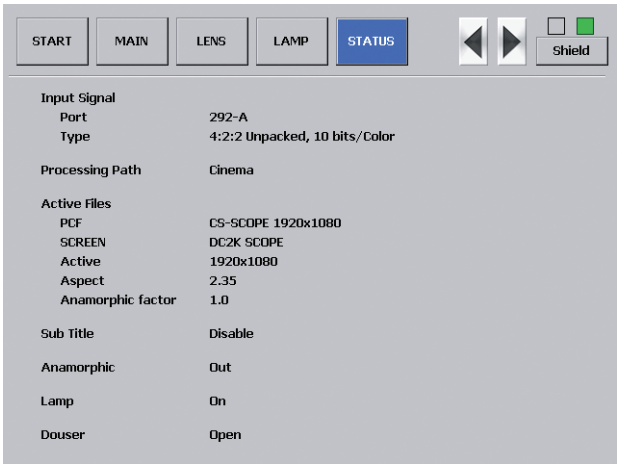
2-6-3. Displaying Lamp Information

Press the [Information] button in the LAMP screen to display the information. In the information display, you can learn the current lamp type, output, lamp bulb information, and the bulb and lamp house utilization time.

NOTE If the projector head is being used with the NC800 series, the Lamp information display (The [Information] button) is unavailable.

2-7. STATUS Screen

Press the [STATUS] button from the menu bar to display the STATUS screen.
From the STATUS screen, you can display various setting status of the projector.



2-8. Other Menus

Press the [▶] button from the menu bar to display the menu bar of the next page (Press the [◀] button from the menu bar to go back to the menu bar of the previous page).

TITLE : Screen used by the service personnel. This is not available in regular operation (Used when generating titles.).

INFO. : Screen that displays version of the projector and various log information.
When you press [Error Log], an error log information screen is displayed.
When you press [System Log], a system log information screen is displayed.

SETUP : Screen used by the service personnel. This is not available in regular operation (Used when making default settings at setup.).

LAN : Screen used by the service personnel. This is not available in regular operation (Used when making LAN settings of SYSTEM and CINEMA.).

Shield button : Button that temporarily disables operations from the touch panel screen. Press again to enable operations.

Shield (Gray)	Screen operations are enabled. (Shield button is OFF.)
Shield (Red)	Screen operations are disabled. (Shield button is ON.)

3. Appendix

3-1. Troubleshooting

Before calling the service, check the controller again to see whether the settings and operations are appropriate. If you still cannot solve the problem, contact the shop you bought the controller.

3-1-1. Phenomena and Check Points

Phenomenon	Checkpoint	Reference page
Power cannot be turned on.	Check if the power switch of the touch panel is set to “ON”.	3,4
	Is the power cable disconnected from the DC IN terminal on the touch panel?	3,4
	When the projector head is the NC800 series: Is the AC power cable disconnected from the AC power cable?	3,4
Abnormal operation of touch panel.	Check if the screen is not contaminated.	-
	Is the LAN cable that connects the touch panel to the projector head disconnected?	3,4
	Check if the shield button is set to "ON"	18

3-2. Specifications

Model Number		NC-TP6402	NC-TP6401
LCD panel	Panel Type	TFT color LCD (Backlight)	
	Screen size	6.4 inch	
	Display dots	VGA (640 (H) x 480(W))	
	Display colors	262K colors	4096 colors
OS		Microsoft Windows CE	
Input / Output terminal		LAN port (RJ-45) USB port (Type A) PS/2 keyboard/mouse port RS-232C port RS-232C/422/485 port VGA port	LAN port (RJ-45) USB port (Type A)
Utilization environment		Operation temperature: 5 to 35 ˚C; Operation humidity: 10 to 85 % (No dew condensation is allowed) Storage temperature: - 10 to 50 ˚C; Storage humidity: 10 to 85% (No dewing is allowed)	
Power supply		DC12-24V (When DC power cable is used) AC100 V 50/60Hz (When AC adapter is used)	DC 19-24V
Power consumption		36W	48W
Rated input current		3.0A Max.	2.0A Max.
External dimensions		218 (width) x 151 (height) x 74.2 (length) mm (not including protrusions and a holder arm)	220 (width) x 190 (height) x 47.8 (length) mm (not including protrusions and a holder arm)
Weight		1.8kg	1.4kg

Caractéristiques techniques

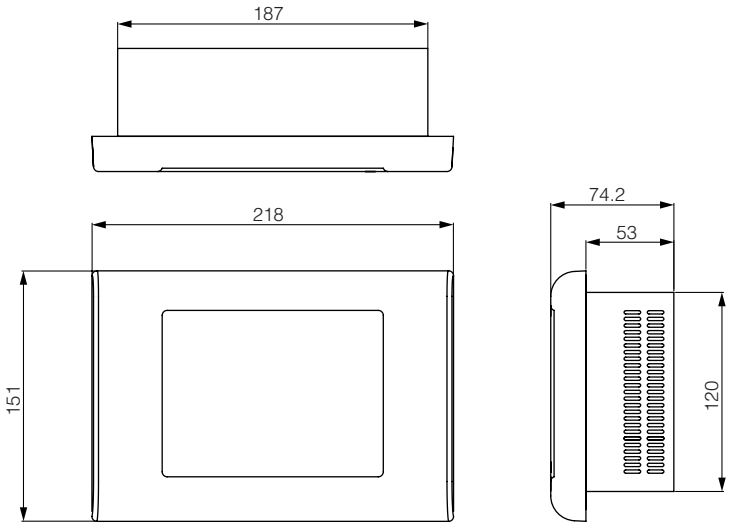
Numéro de modèle		NC-TP6402	NC-TP6401
Panneau ACL	Type de panneau	ACL couleur TFT (Rétroéclairage)	
	Taille de l'écran	6,4 pouces	
	Points de l'affichage	VGA (640 (H) x 480 (L))	
	Couleurs de l'affichage	262K couleurs	4096 couleurs
SE		Microsoft Windows CE	
Borne d'entrée / sortie		Port LAN (RJ-45), port USB (Type A), port de clavier/souris PS/2, port RS-232C, port RS-232C/422/485, port VGA	Port LAN (RJ-45), port USB (Type A),
Environnement d'utilisation		Température de fonctionnement : de 5 à 35°C ; Humidité de fonctionnement : de 10 à 85% (sans condensation). Température de stockage : de -10 à 50°C ; Humidité de stockage : de 10 à 85% (sans condensation)	
Alimentation électrique		12-24 V CC (lorsque le câble CC est utilisé) 100 V CA, 50/60 Hz (lorsque l'adaptateur CA est utilisé)	19-24 V CC
Puissance absorbée		36W	48W
Rated input current		3,0 A max.	2,0 A max.
Dimensions externes		218 (largeur) x 151 (hauteur) x 74,2 (longueur) mm (sans les protubérances et le bras support)	220 (largeur) x 190 (hauteur) x 47,8 (longueur) mm (sans les protubérances et le bras support)
Poids		1,8 kg	1,4 kg

Technische Daten

Modellnummer		NC-TP6402	NC-TP6401
LCD-Feld	Bedienfeld-Typ	TFT-Farb-LCD (Hintergrundbeleuchtung)	
	Bildschirmgröße	6,4 Zoll	
	Anzeigepunkte	VGA (640 (H) x 480 (B))	
	Anzeigefarben	262.000 Farben	4096 Farben
Betriebssystem		Microsoft Windows CE	
Eingangs-/Ausgangsanschluss		LAN-Port (RJ-45), USB-Port (Typ A), PS/2-Tastatur-/Maus-Port, RS-232C-Port, RS-232C/422/485-Port, VGA-Port	LAN-Port (RJ-45), USB-Port (Typ A)
Betriebsumgebung		Betriebstemperatur: 5 bis 35 °C; Betriebsluftfeuchtigkeit: 10 bis 85 % (keine Kondensation zulässig) Aufbewahrungstemperatur: -10 bis 50 °C; Aufbewahrungsluftfeuchtigkeit: 10 bis 85 % (keine Kondensation zulässig)	
Stromversorgung		Gleichstrom 12-24 V (bei Verwendung des Gleichstrom-Netzkabels) Wechselstrom 100 V, 50/60Hz (bei Verwendung des Wechselstrom-Adapters)	Gleichstrom 19-24 V
Leistungsaufnahme		36W	48W
Nenneingangsleistung		max. 3,0 A	max. 2,0 A
Außenabmessungen		218 (Breite) x 151 (Höhe) x 74,2 (Länge) mm (ohne Vorsprünge und Haltearm)	220 (Breite) x 190 (Höhe) x 47,8 (Länge) mm (ohne Vorsprünge und Haltearm)
Gewicht		1,8 kg	1,4 kg

3-3. Appearance

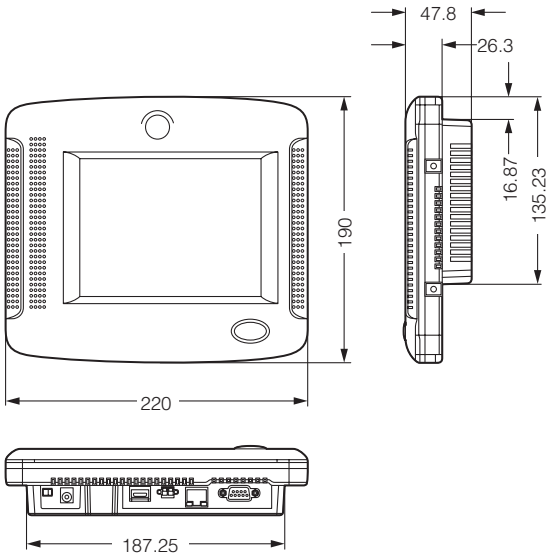
3-3-1. NC-TP6402



unit:mm

The dimensions above do not include protrusions and the holder arm.

3-3-2. NC-TP6401



unit:mm

The dimensions above do not include protrusions and the holder arm.

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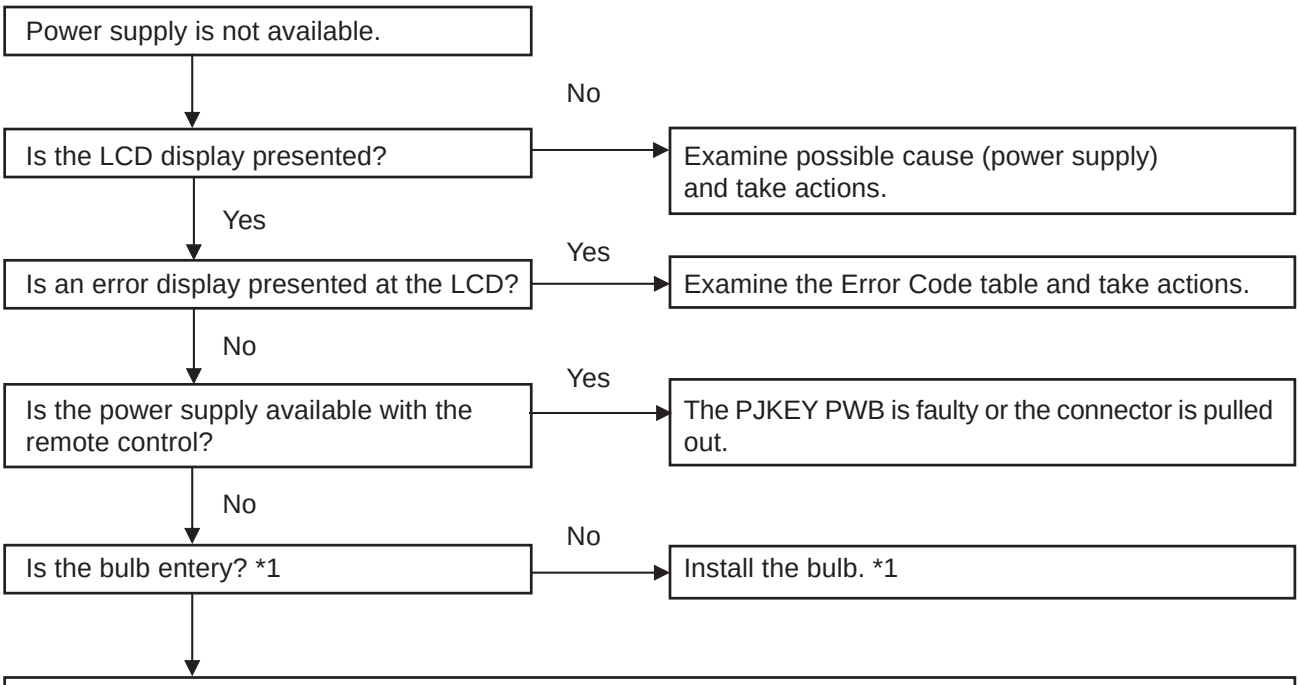


The following possibility can be considered for the standing fault:

- Check POPS#5 of the PJDIV PWB. (DC power start control line)
  When Standby is changed over to Power ON in normal operation, this line is maintained at the GND potential.
  If this GND condition is maintained in both Standby and Power ON modes, this error is considered attributable to connector disconnection including the AC PWB of the connected party, or to AC PWB fault.
  Similarly, if this GND condition is maintained in both Standby and Power ON modes, this error is considered attributable to connector disconnection of POCE and POCS between PJDIV PWB and CPU PWB.
  According to the symptom, take adequate measures such as replacement of the PWB or the like.
- Check POSTA of the PJDIV PWB.
  (This is the connector that must be disconnected without fail when the top panel is removed at the time of the installation.)
  If the power supply is not turned on even when the connector is pulled out, check the POSTA connector pin of the PJDIV PWB. If it is found broken, replace the PJDIV PWB.
  If the connector is pulled out and the power supply is turned on, check the POSTA connector cable and examine if wires are pinched by the metallic plate. As required, replace the connector cable.
- The connector is disconnected between the PJDIV PWB and the DC power supply.
- A fault in PJDIV PWB, CPU PWB, DC power supply, or AC PWB.

Possible causes (Power supply)
The following causes can be anticipated:

Confirm that 5V is applied to POPSS#7 of the PJDIV PWB.

When 5V output is not available:

Measure the resistance value between POPSS#7 and GND.

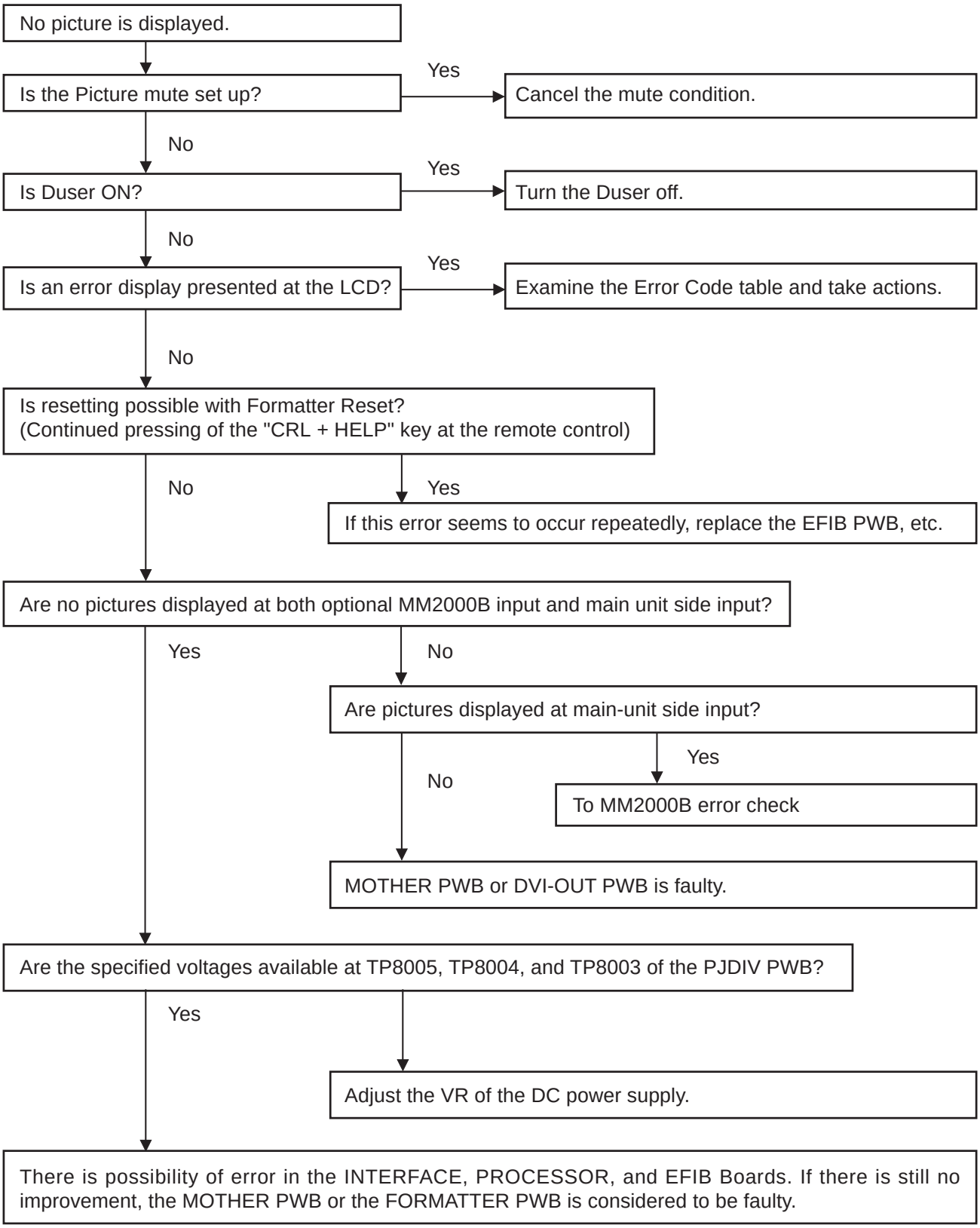
If there is no short-circuiting, this error is resulting from a fault in the DC power supply or a connector disconnection between the DC power supply and the PJDIV PWB.

If there is short-circuiting, this error seems to be resulting from a fault in the DC power supply and the CPU PWB.

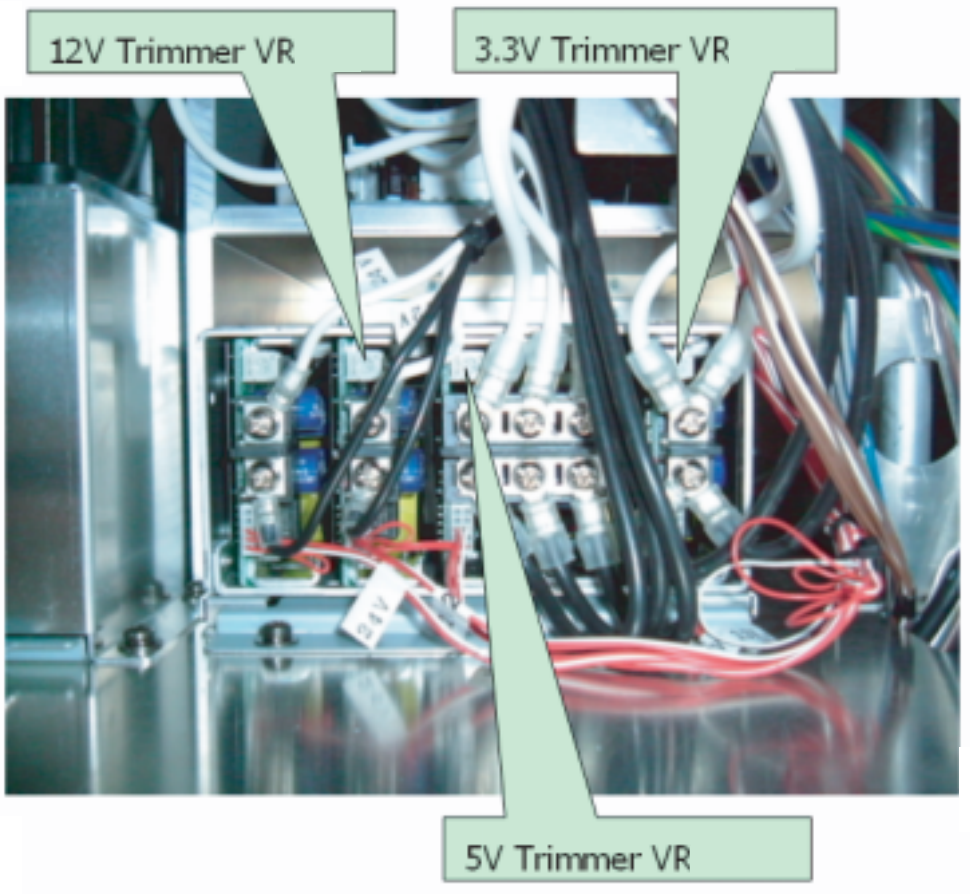
When 5V output is available:

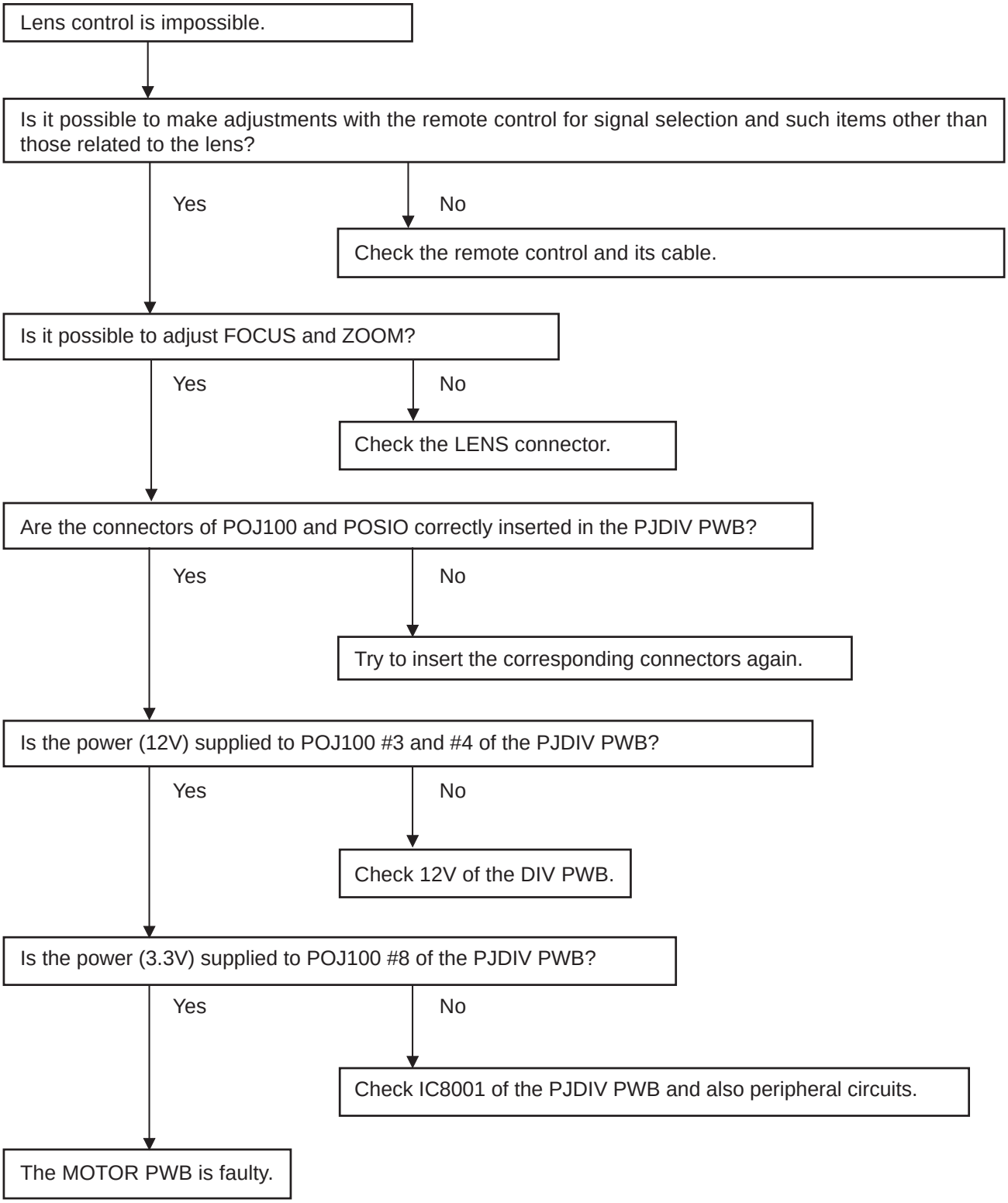
This error is supposed to have occurred from a connector disconnection between the CPU PWB and the PJDIV PWB or between the CPU PWB and the PJKEY PWB.

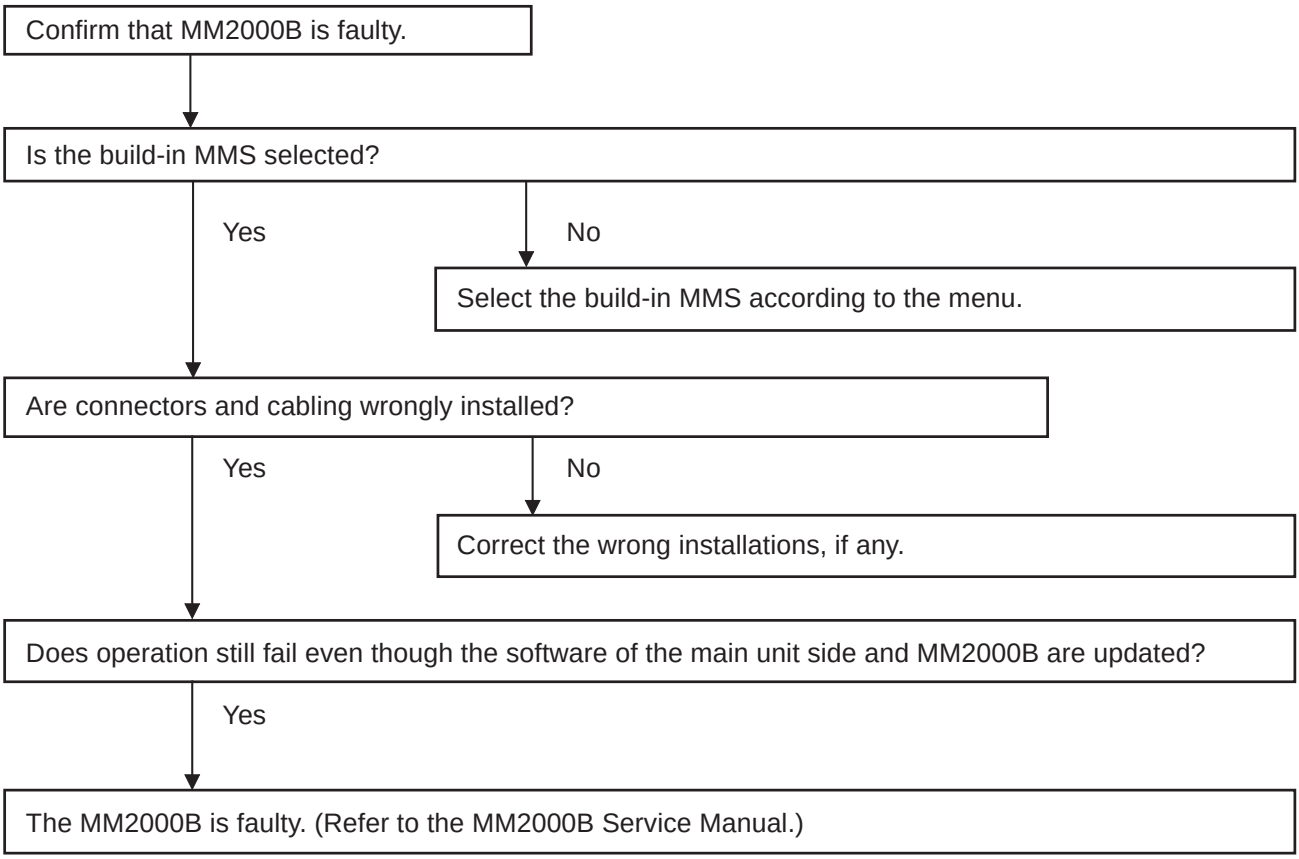
*1: A 4kW bulb is loaded at the time of shipment from the factory.



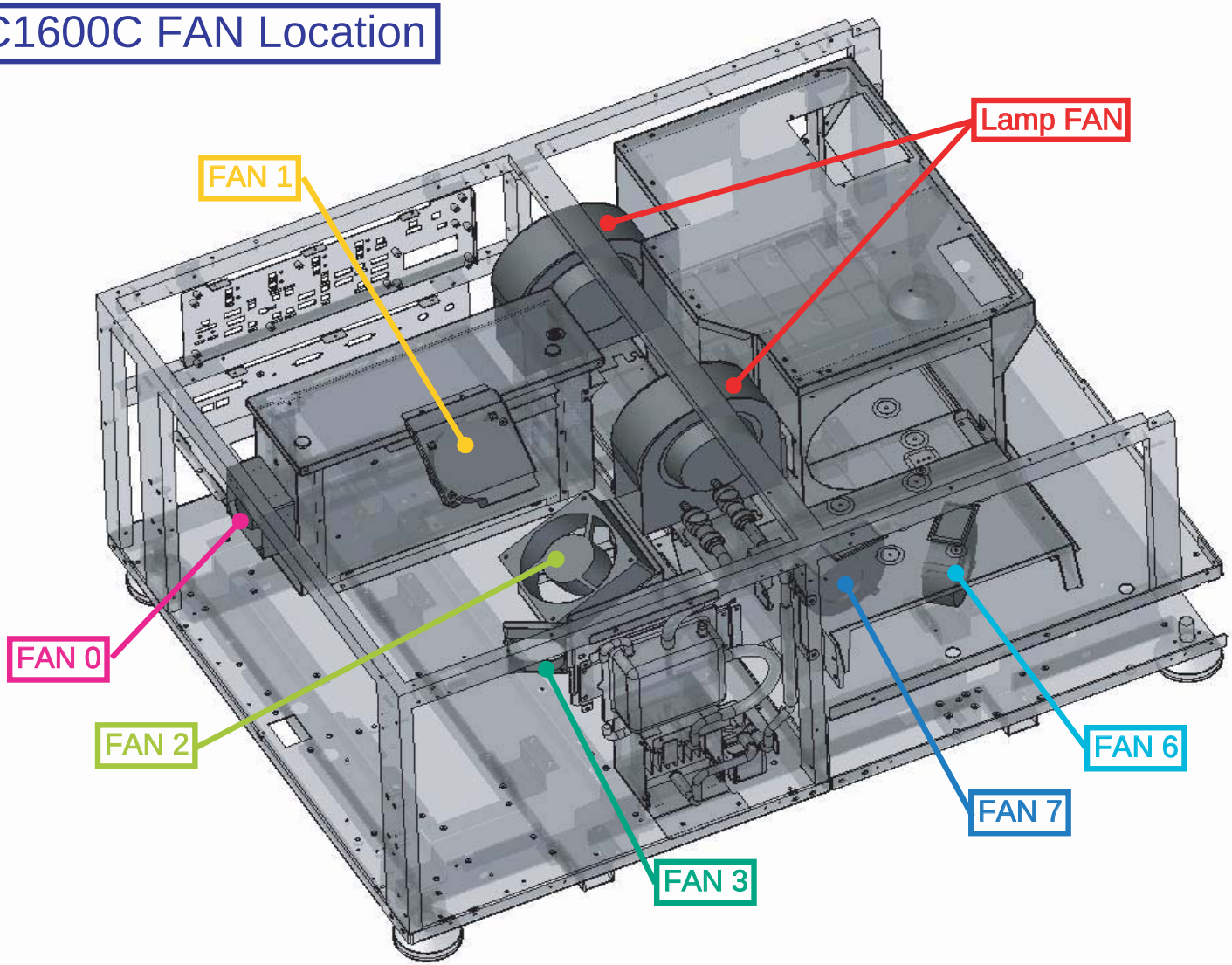
Specified values
TP8005 3.40±0.05[VDC]
TP8004 5.10±0.1-0.0[VDC]
TP8003 12.00±0.1[VDC]

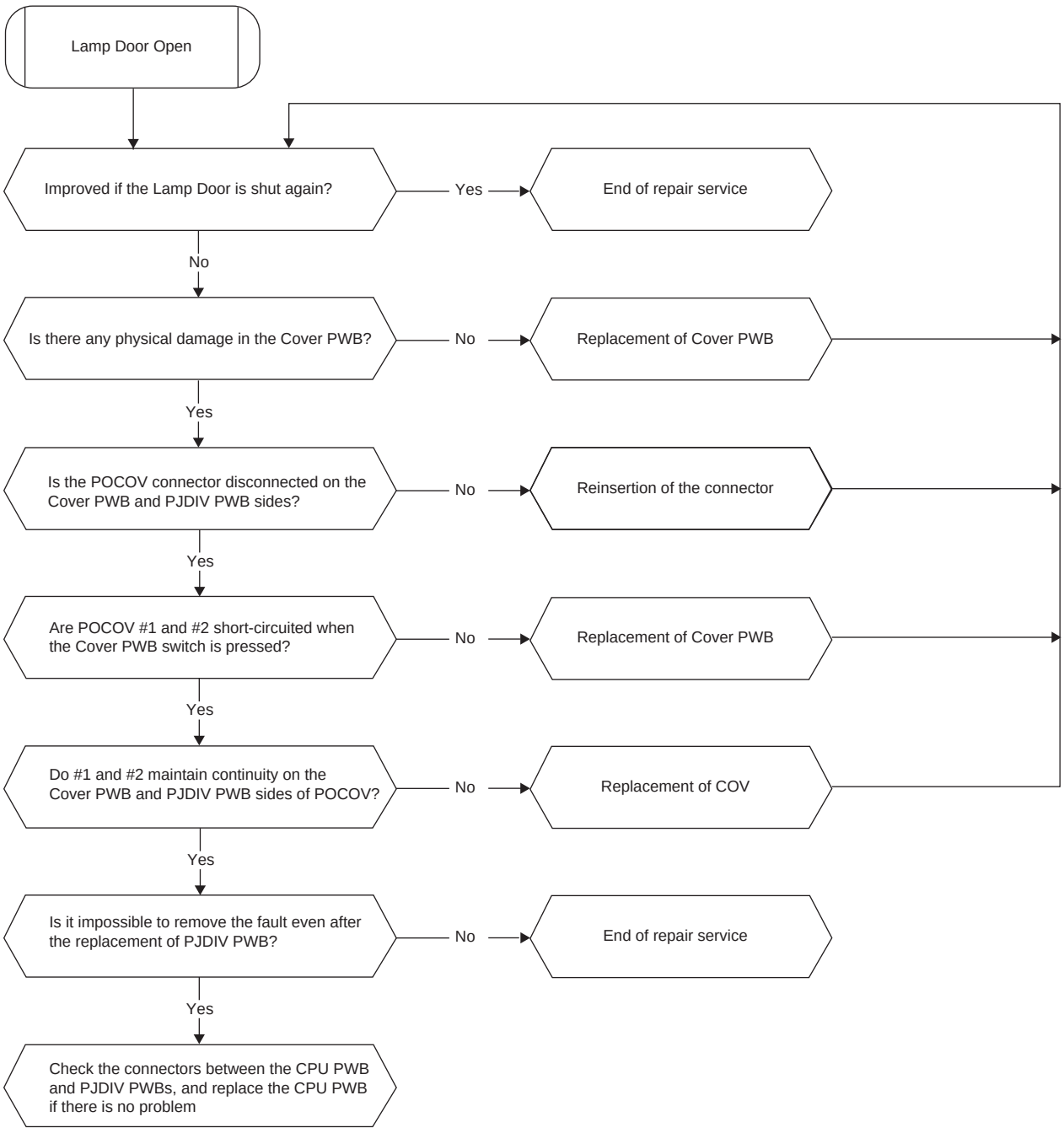


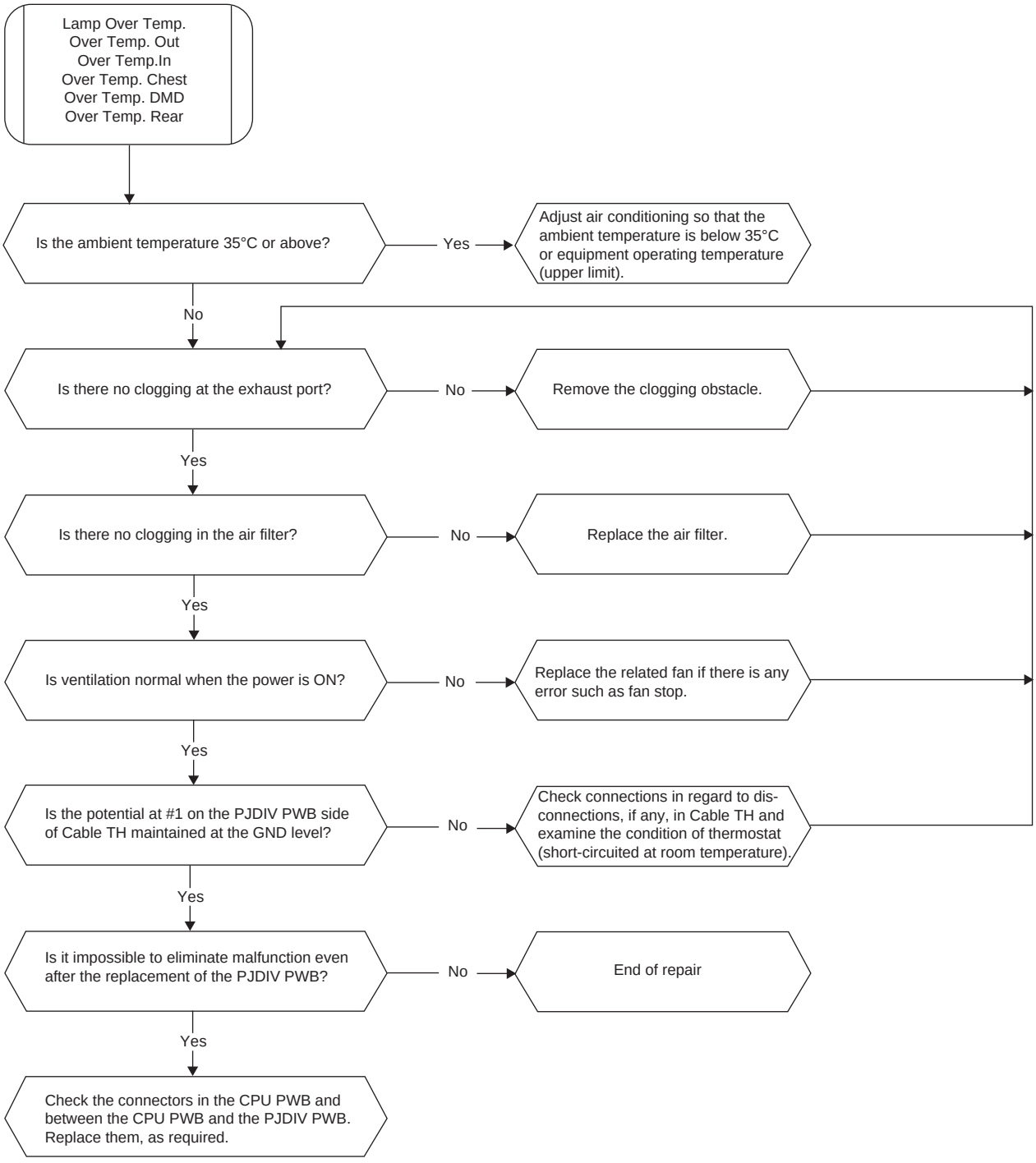


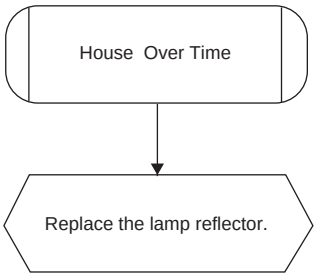


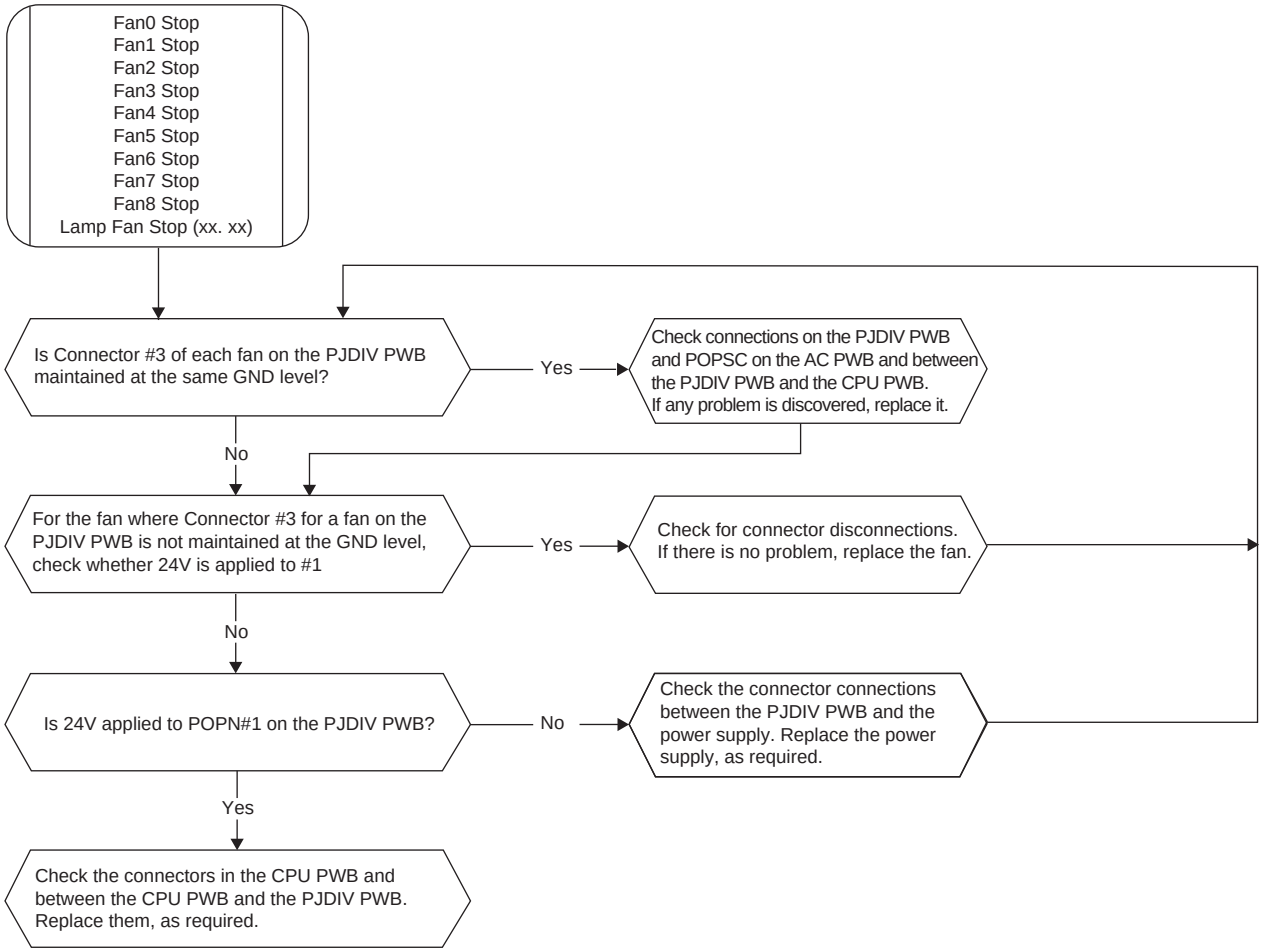
NC1600C FAN Location

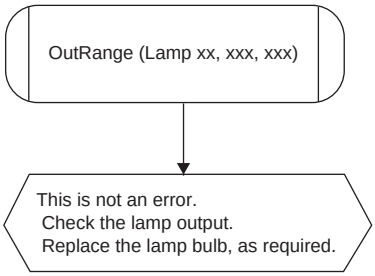


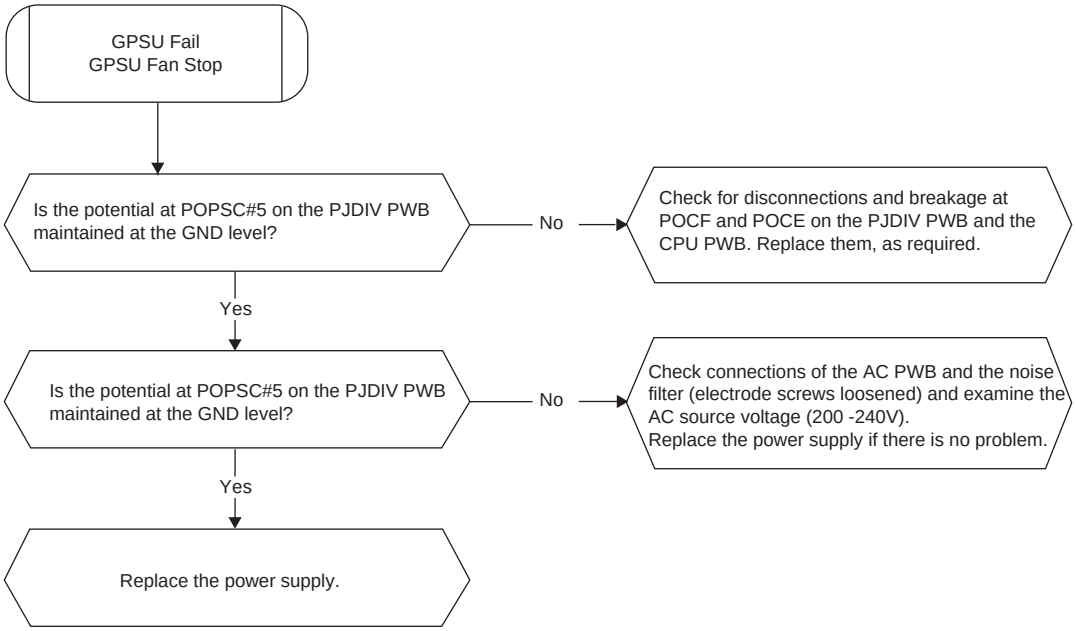


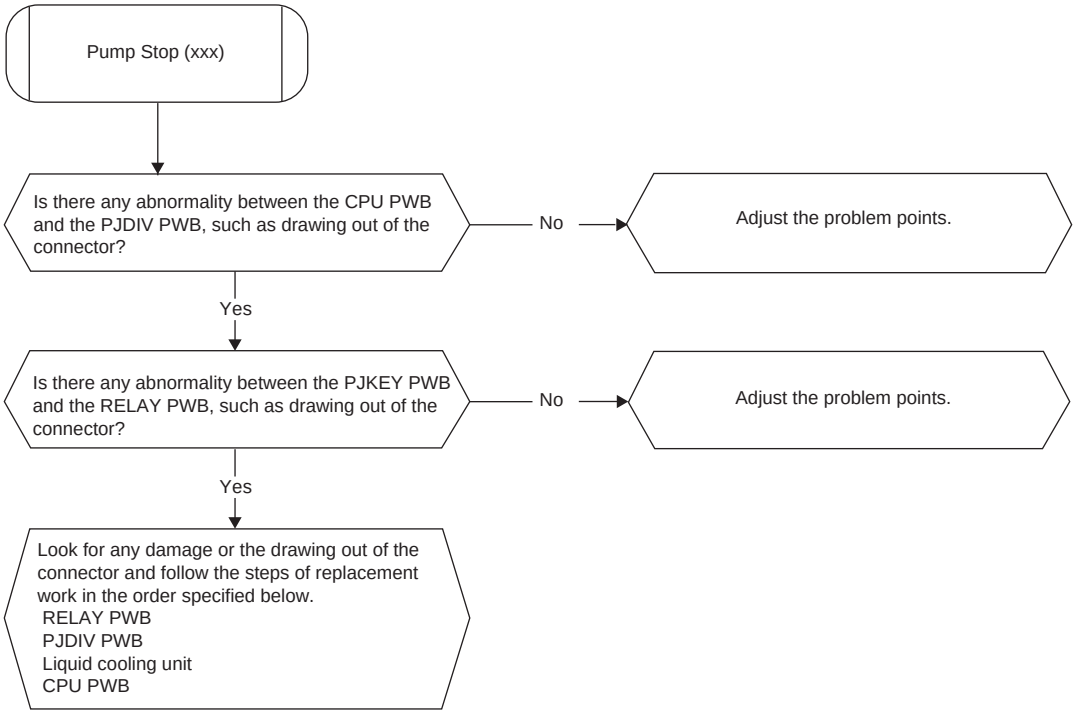


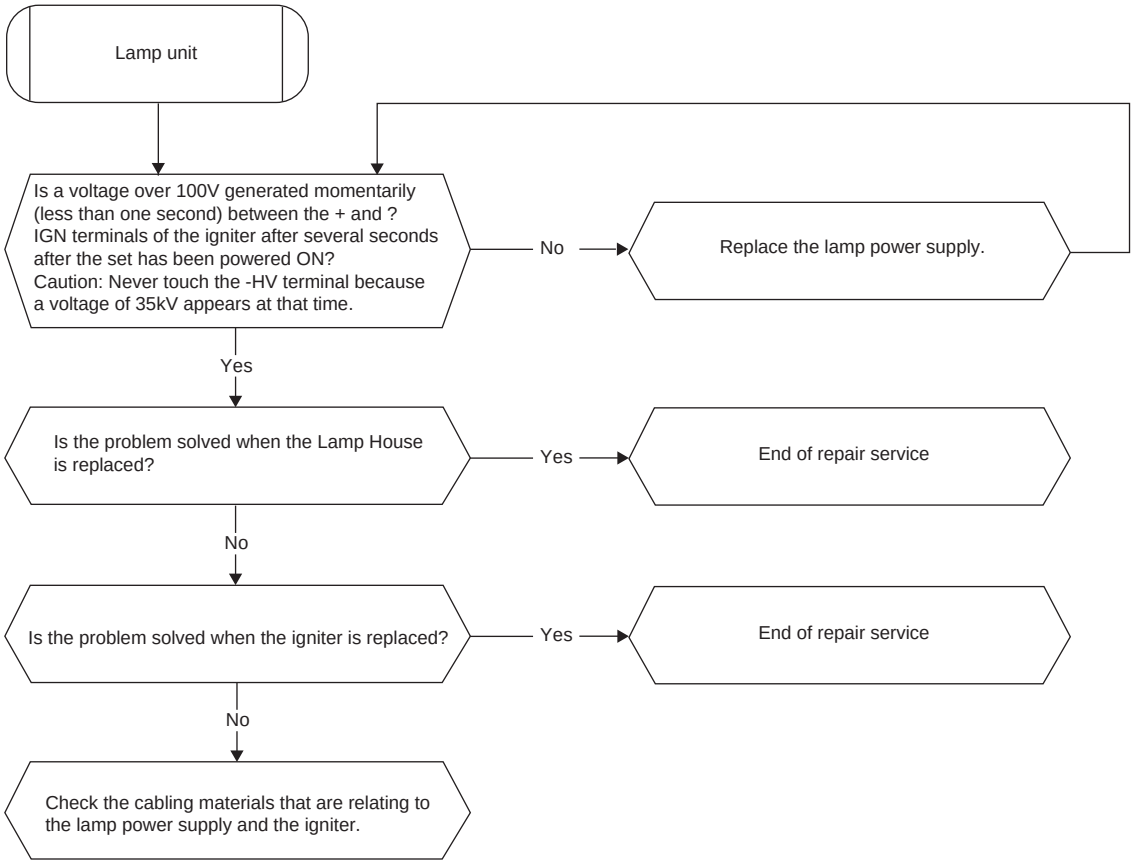


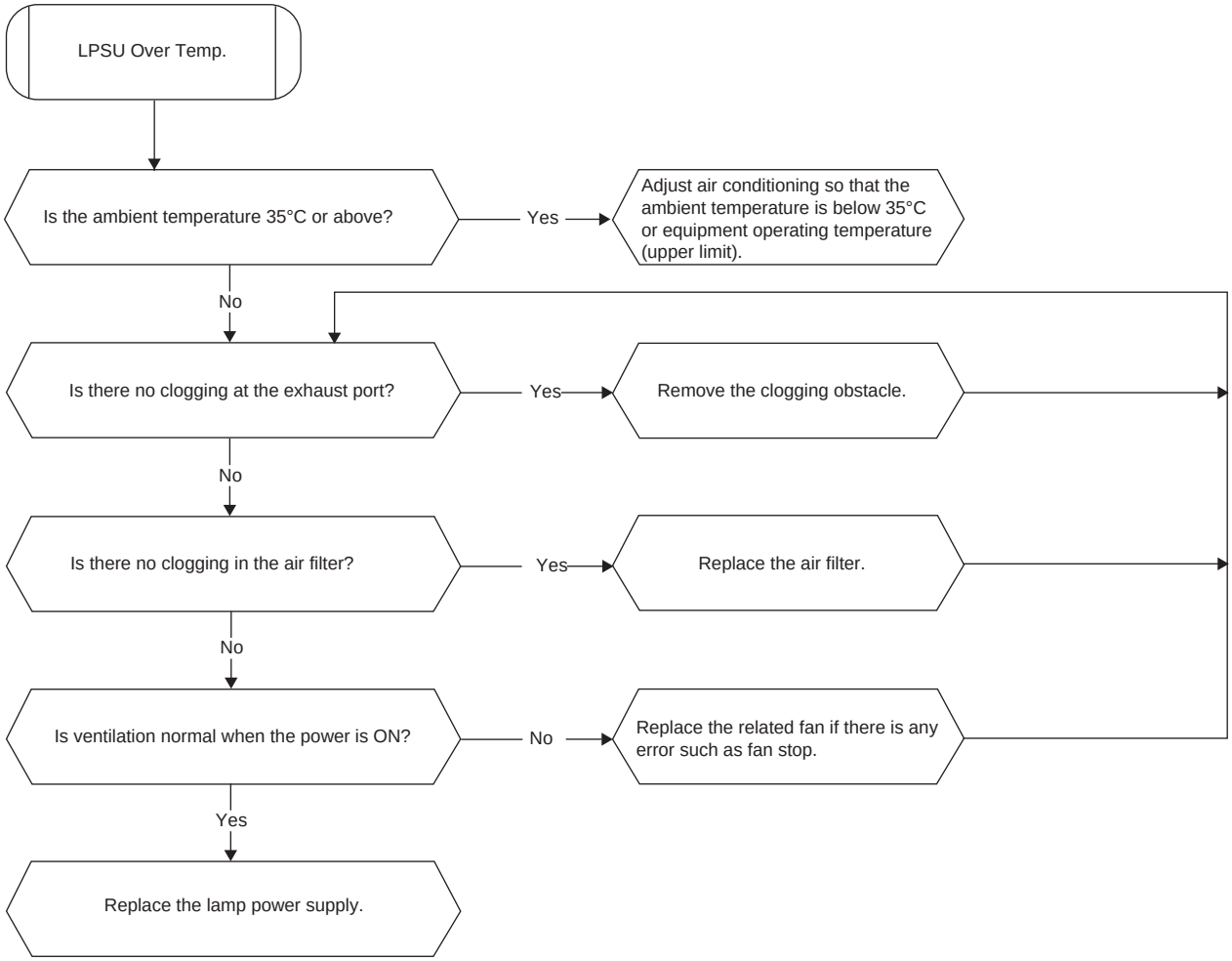


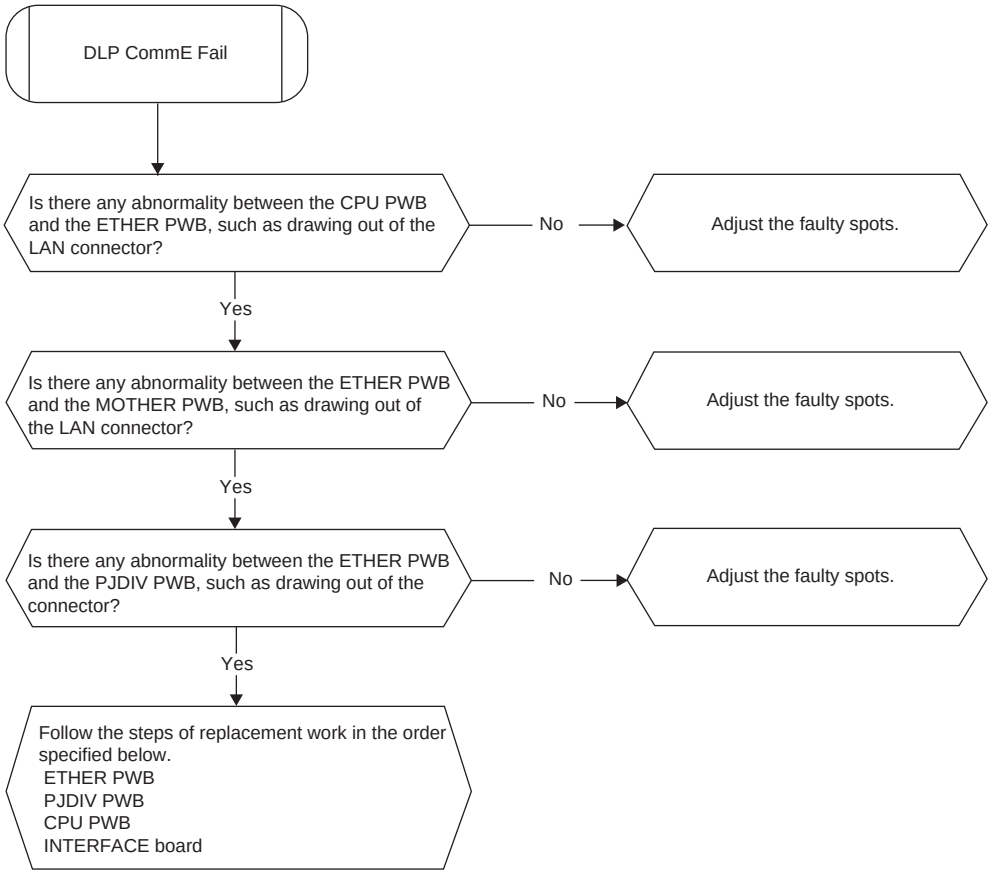


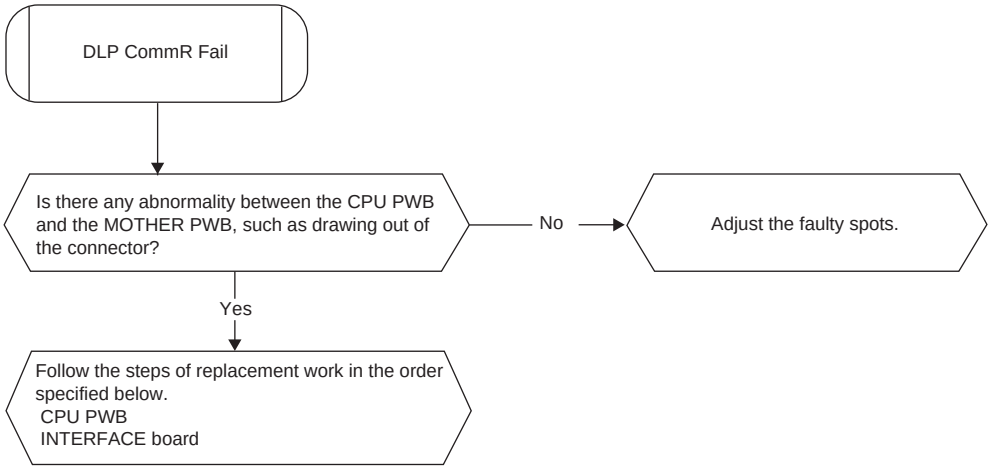


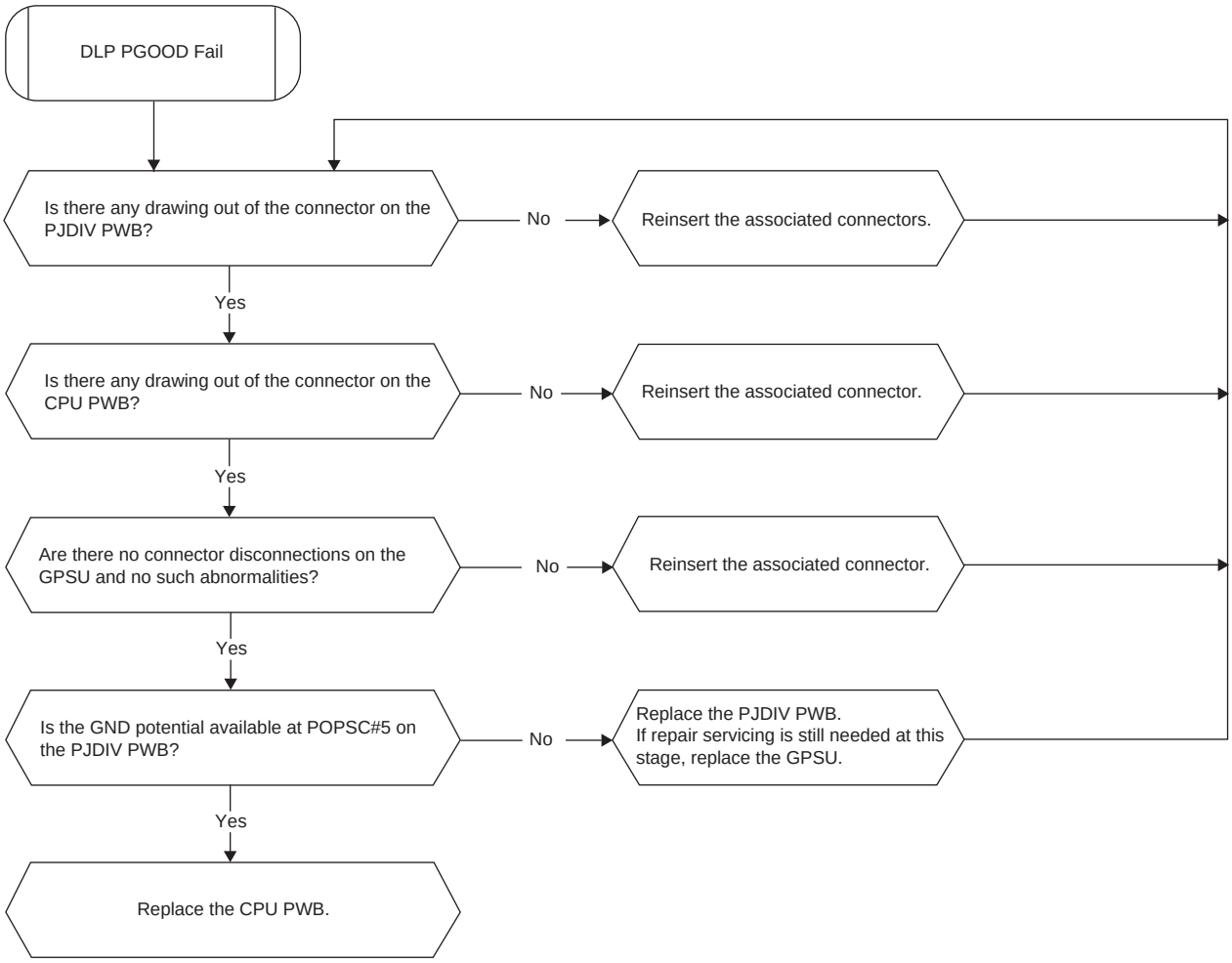


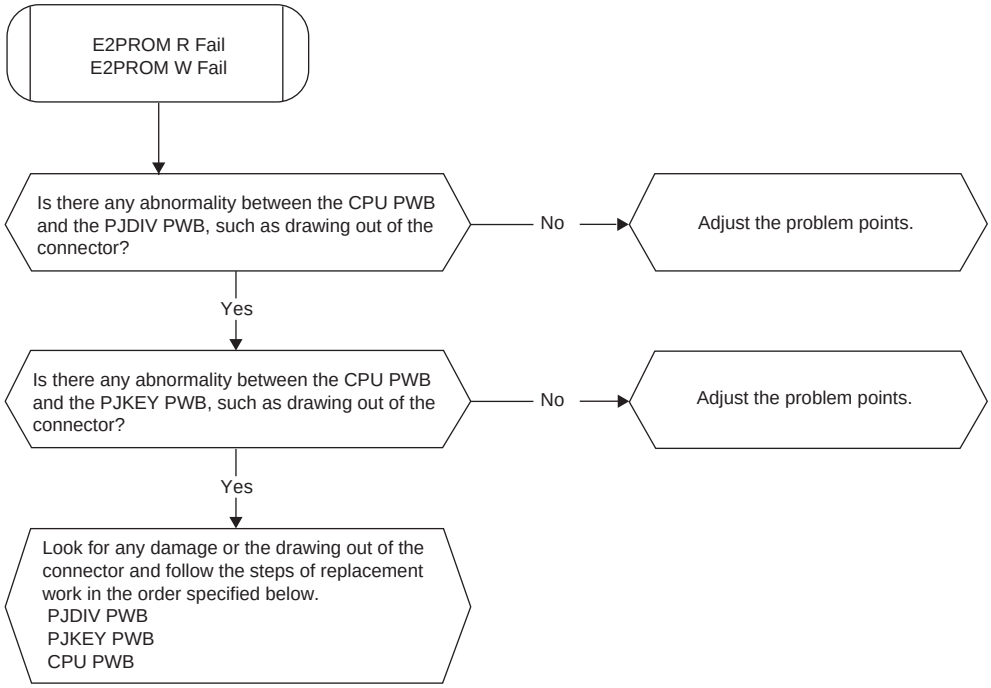


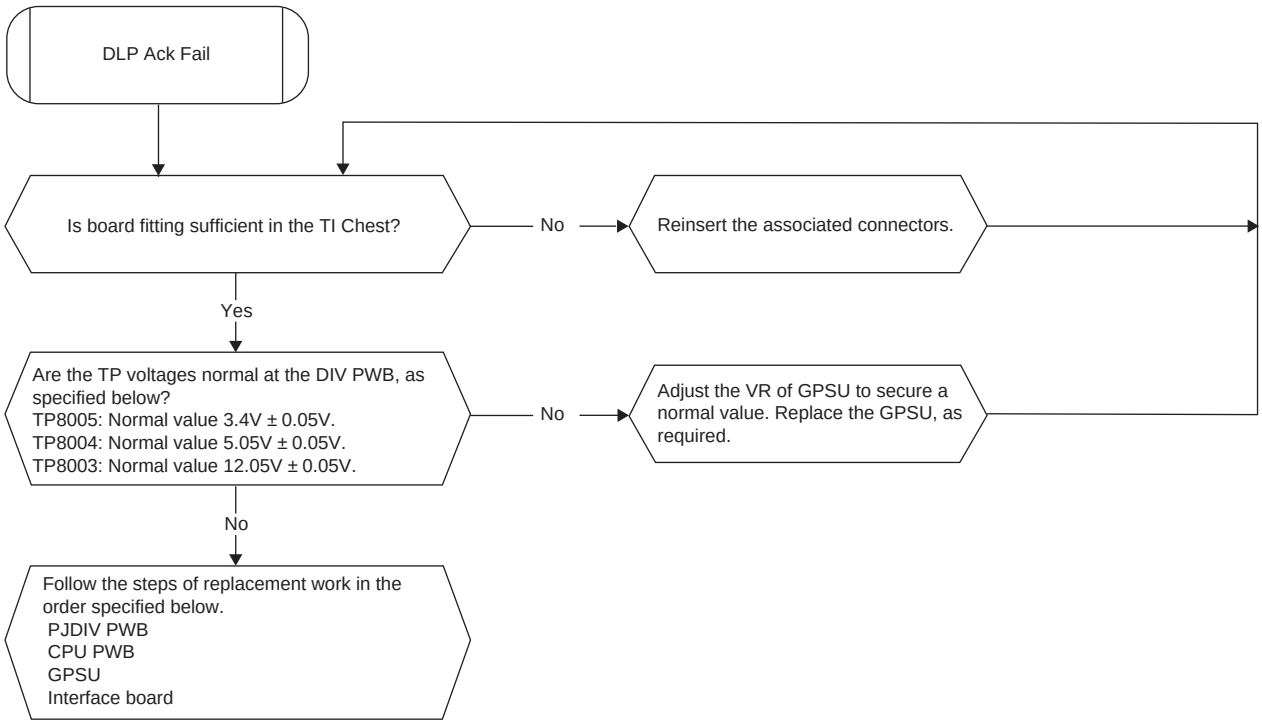


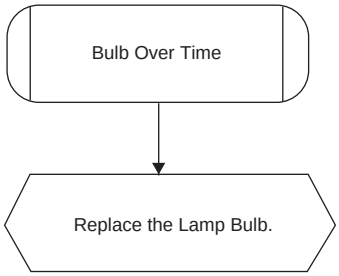


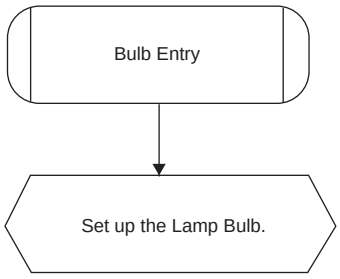


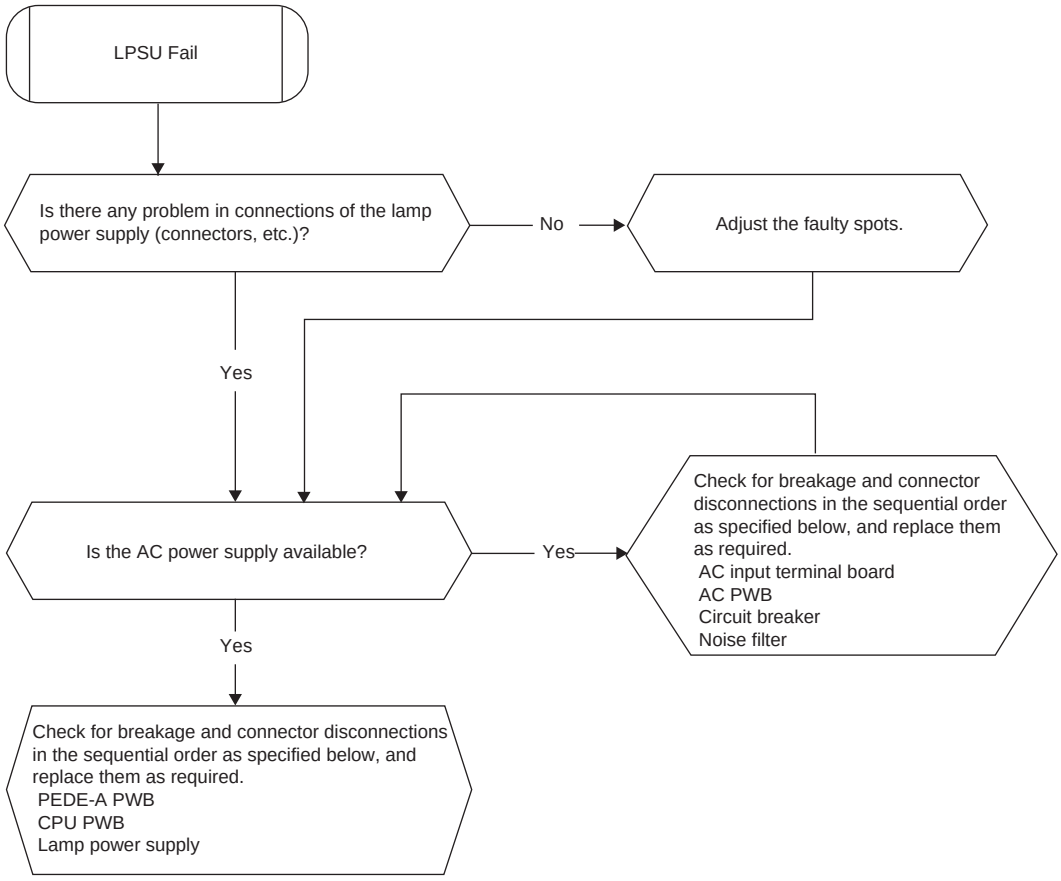


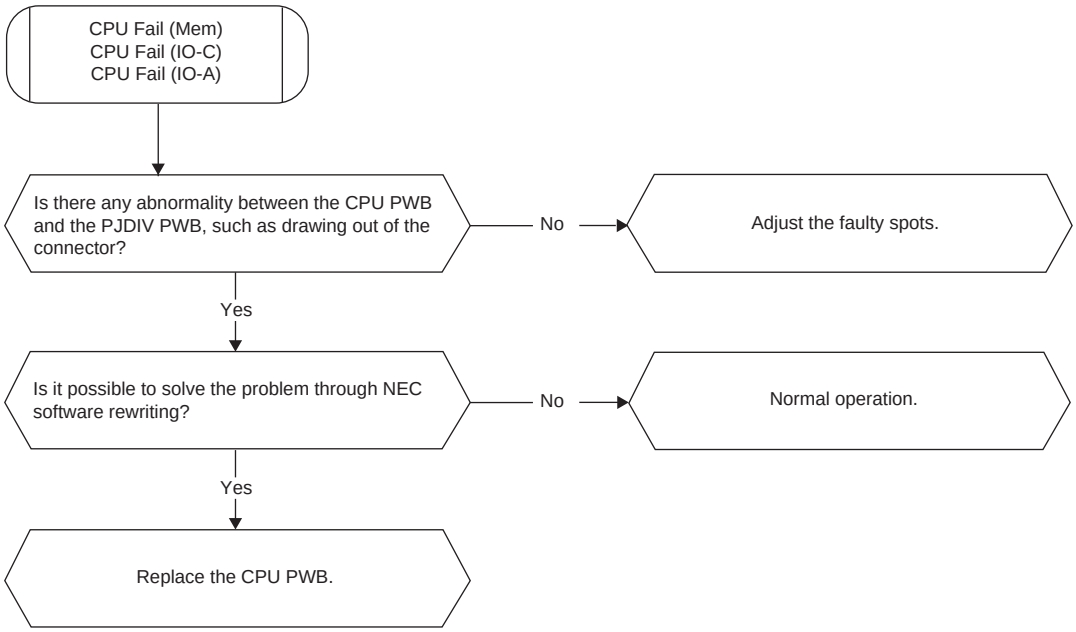


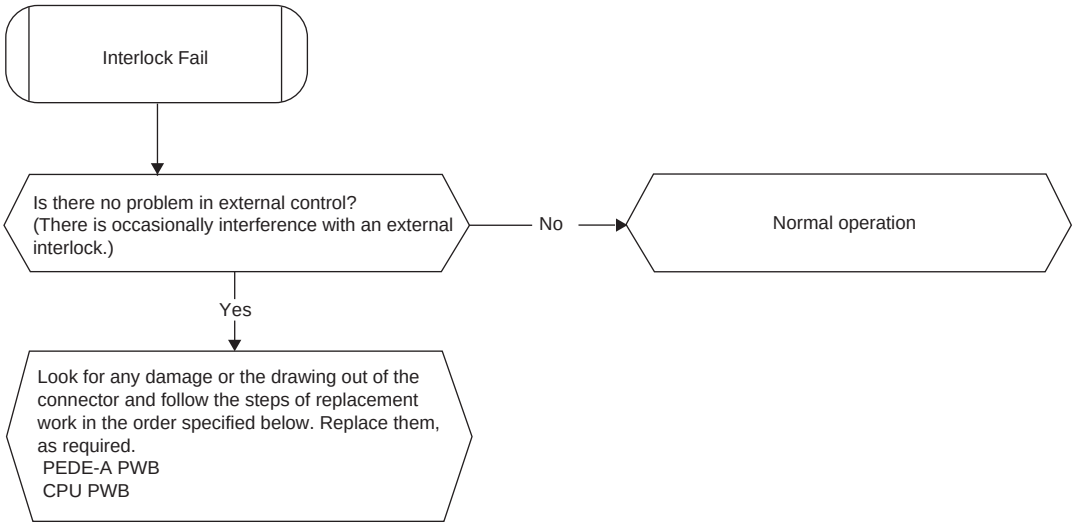


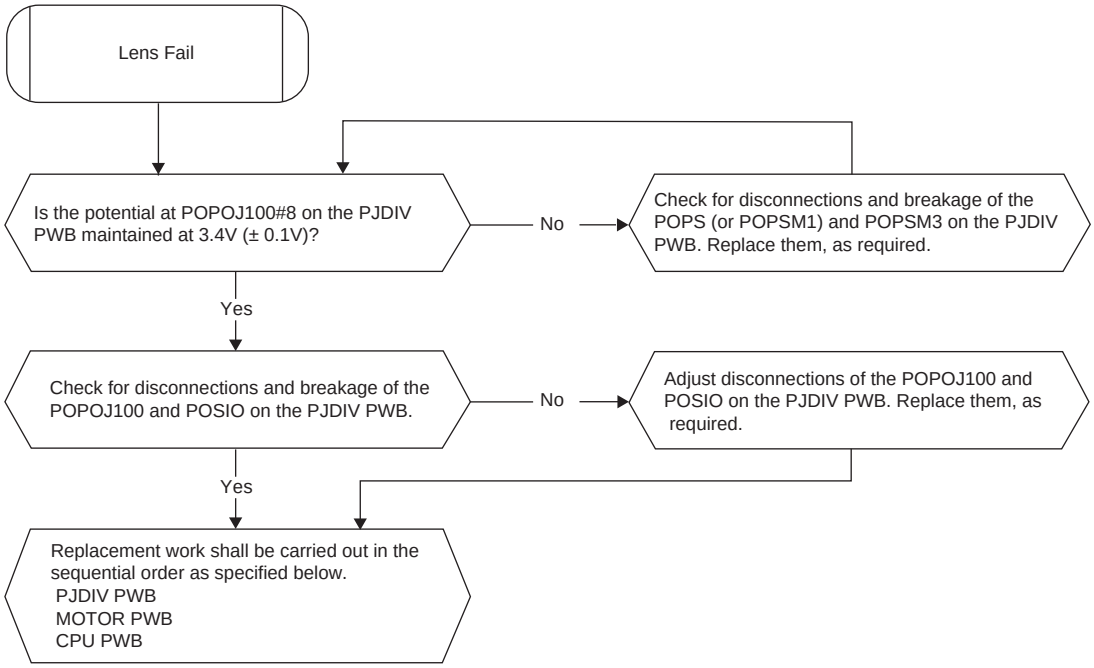


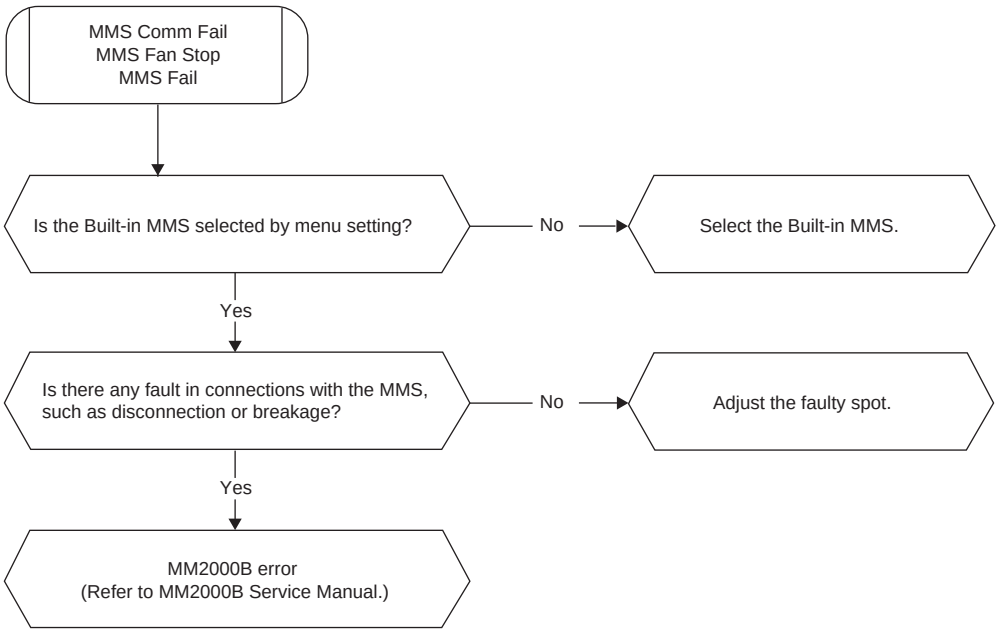


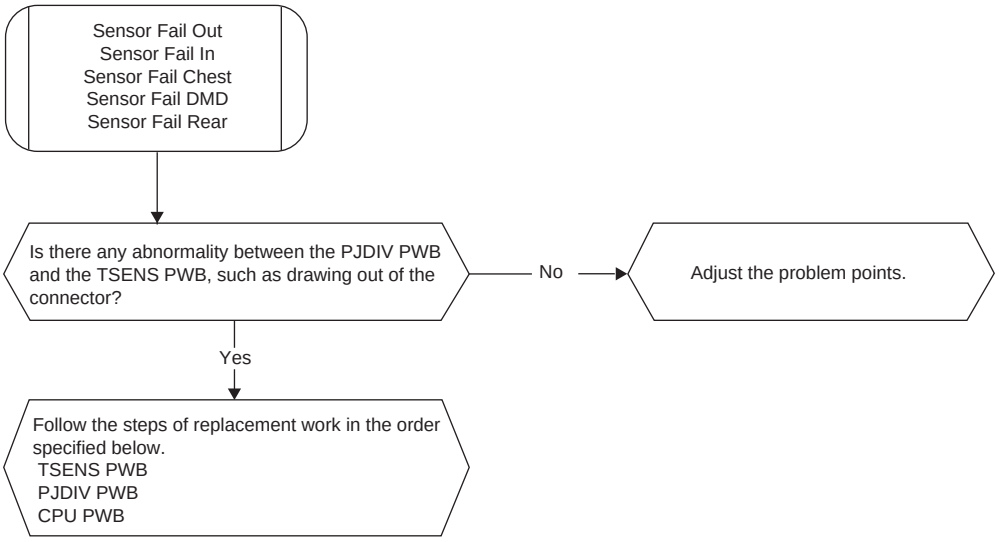


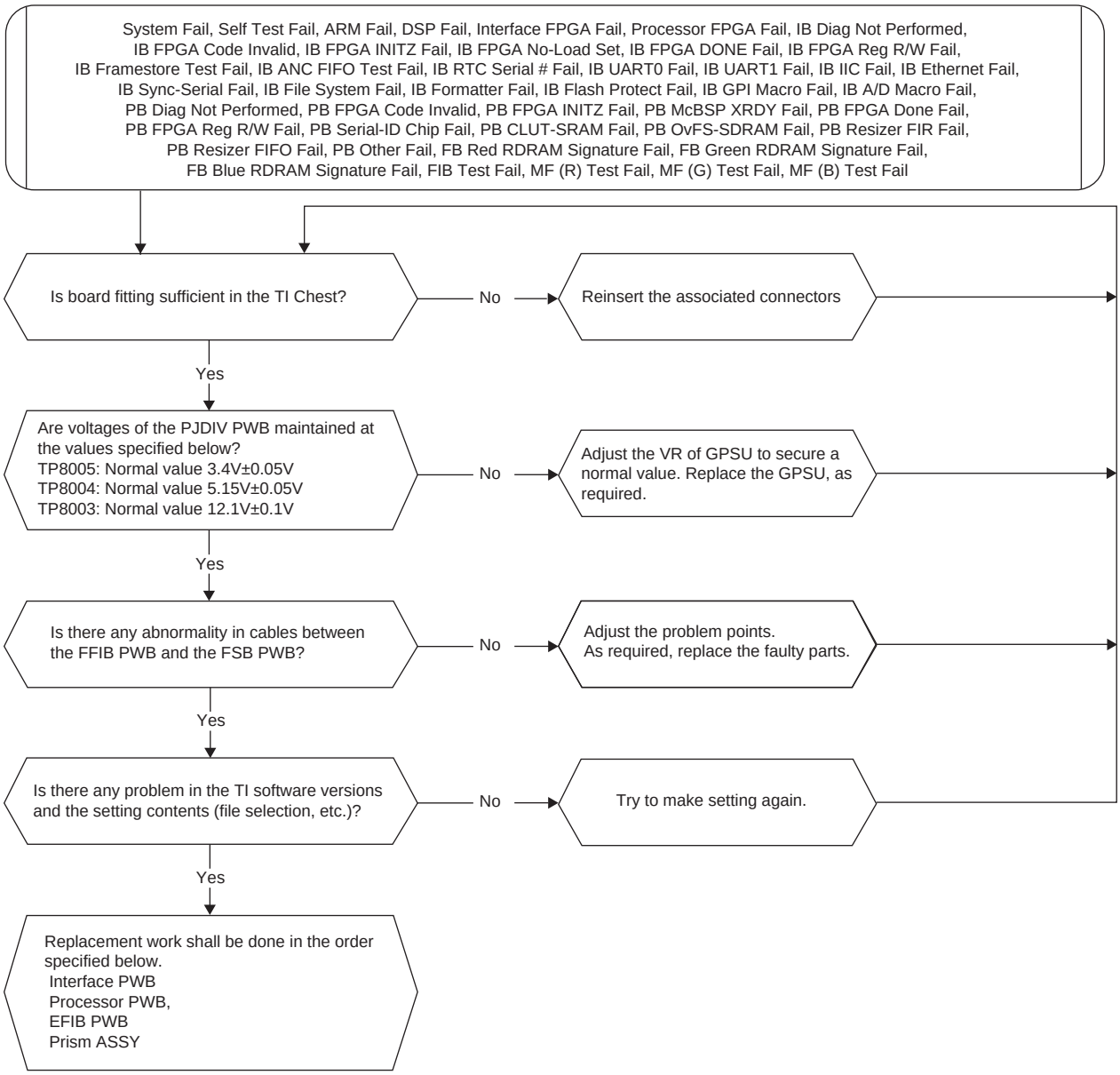


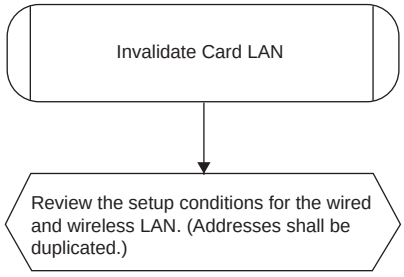


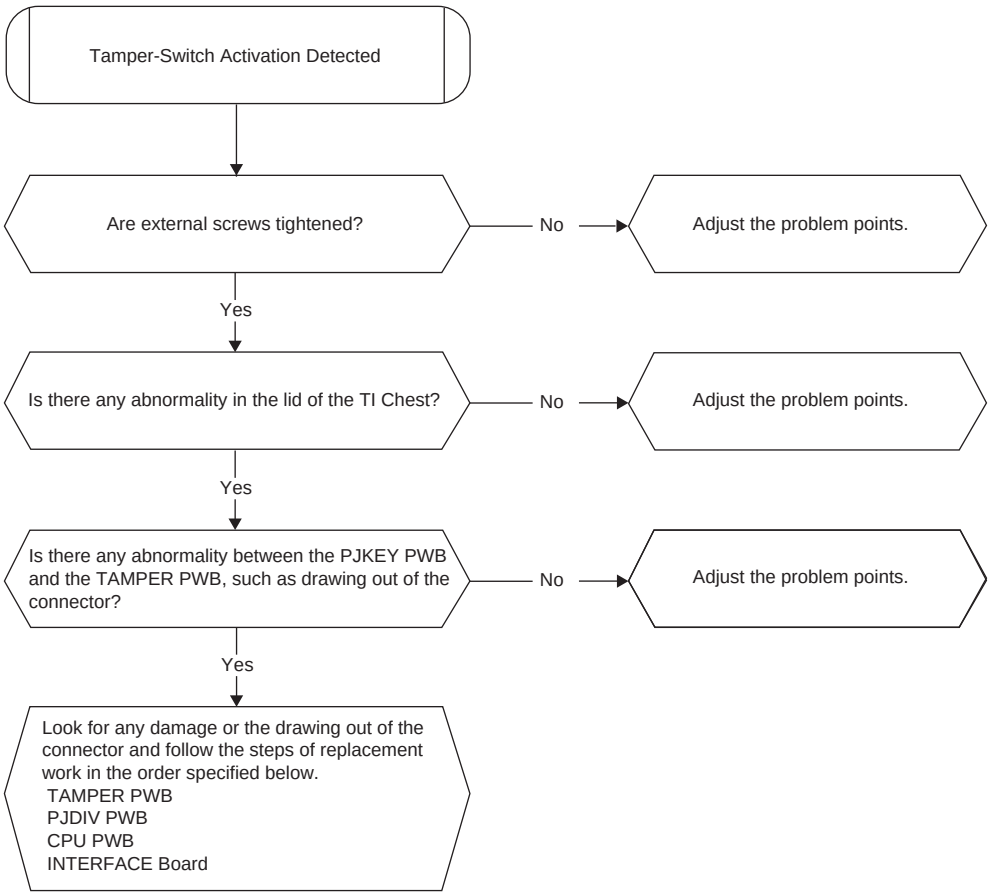


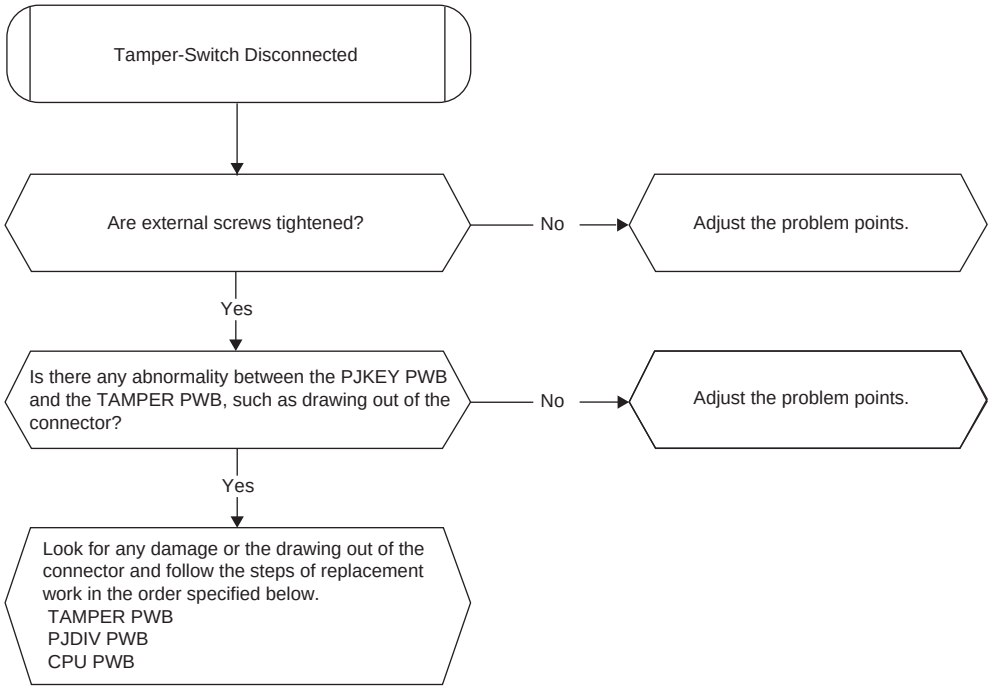


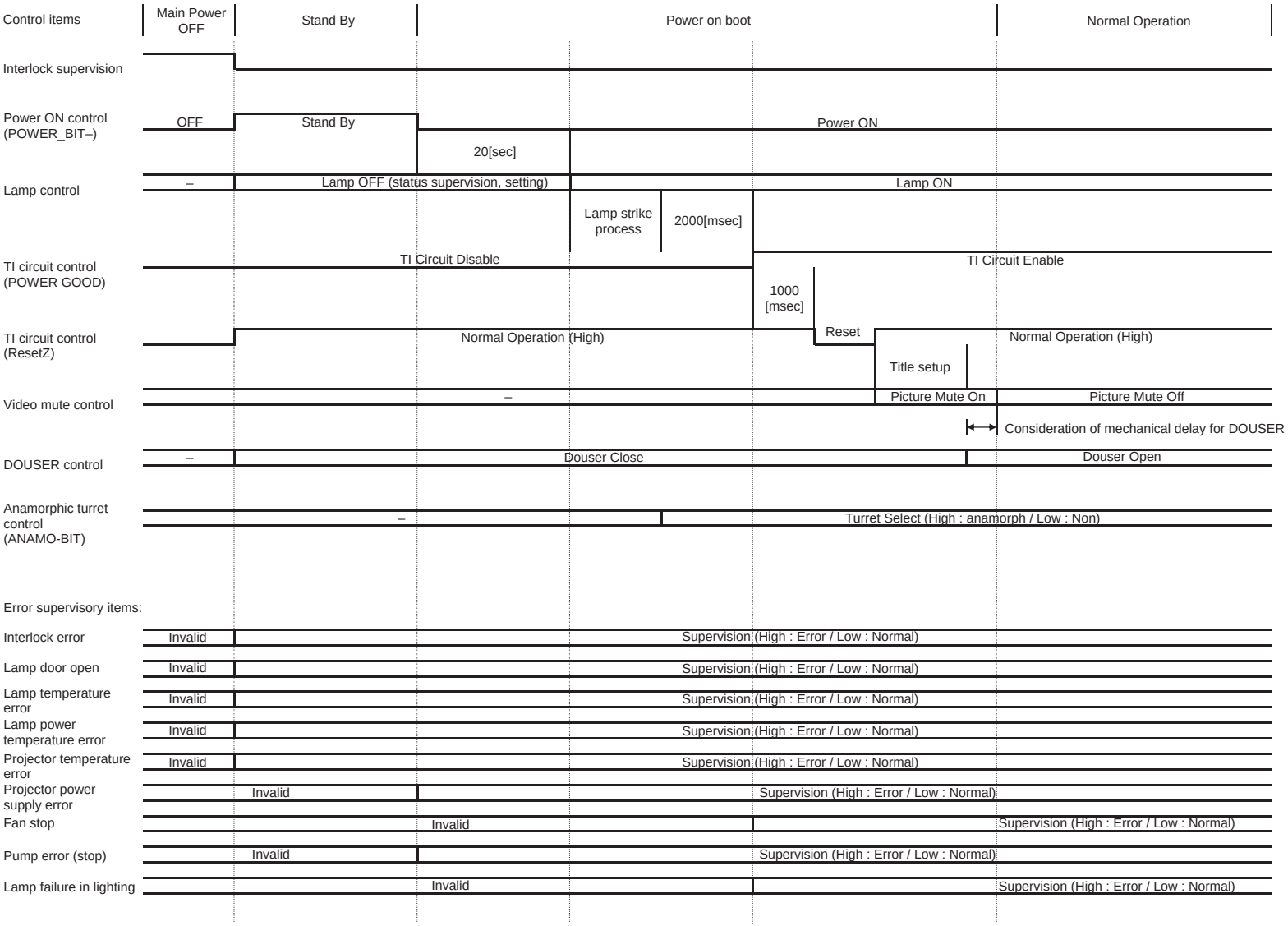


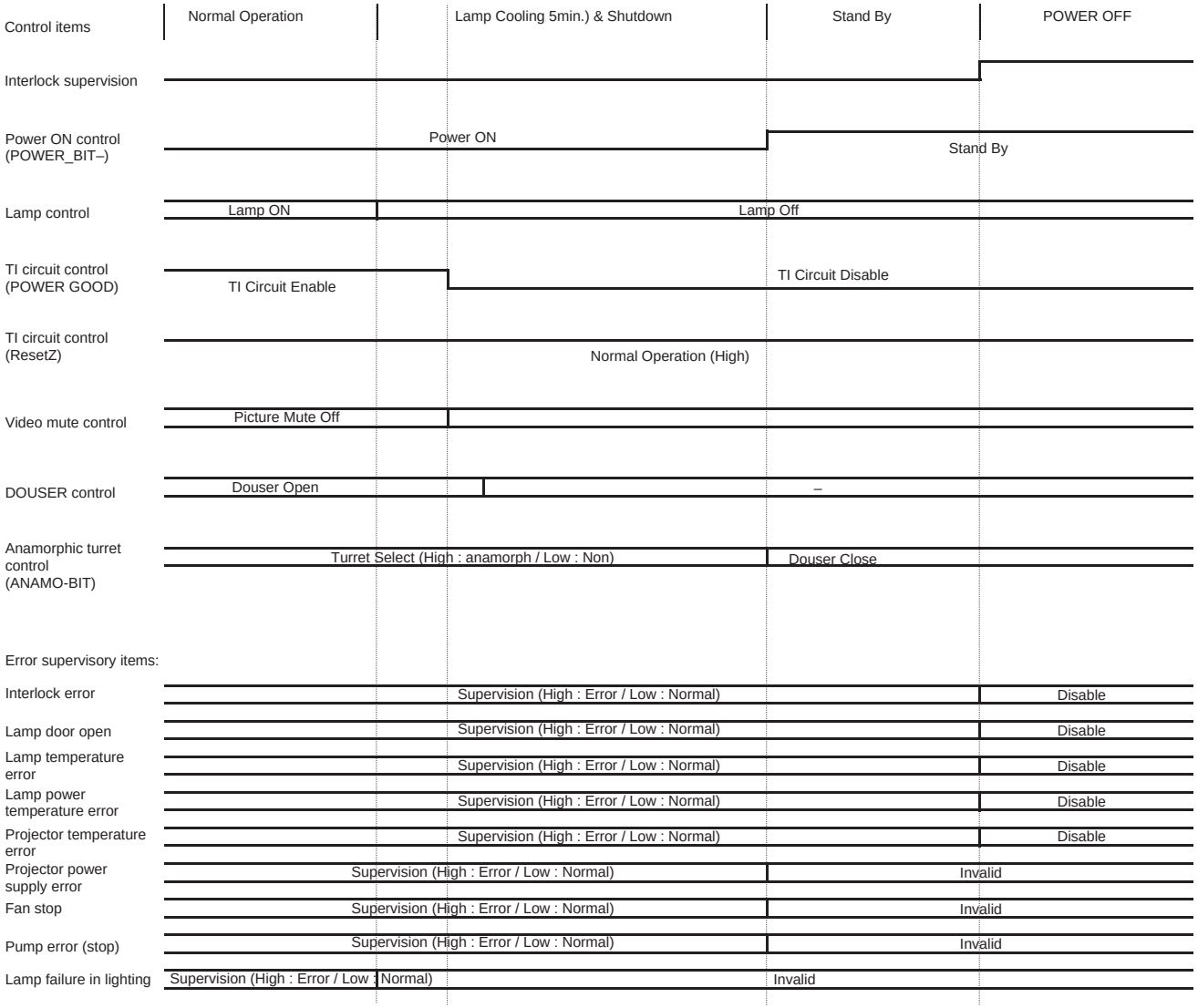


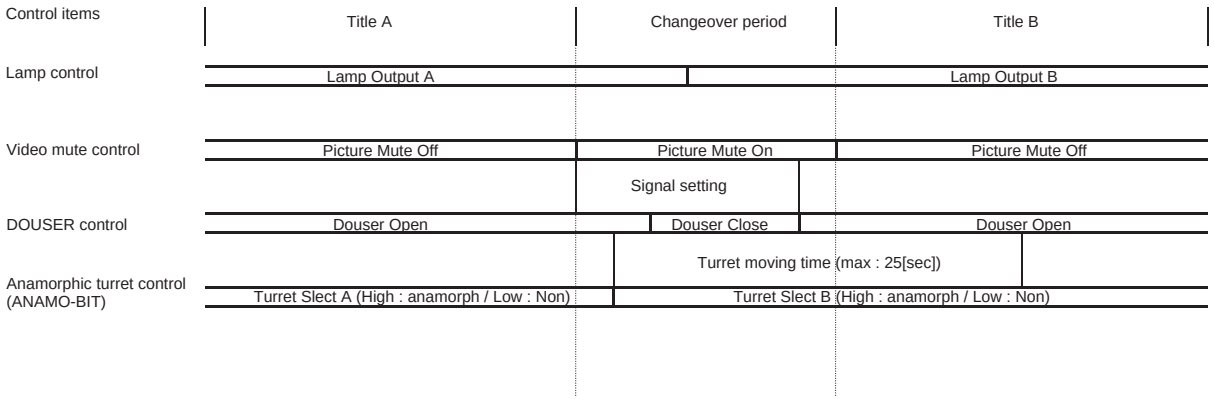








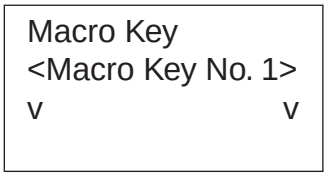




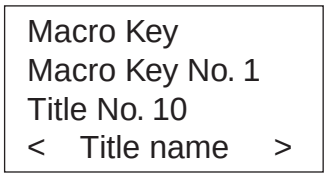
Title Setup

Macro Key setup

Title setup is performed so that a title can be assigned to the Macro Keys 1 to 8.
A maximum of eight titles can be registered.
Using the right and left cursor keys, select the Macro Key number for registration and press the ENTER or Downward Arrow key.



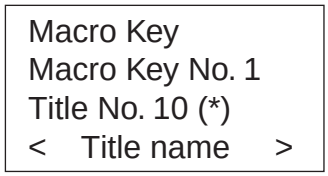
Using the right and left cursor keys, select the title for registration and press the ENTER key.



① Macro Key

• Selection of Title Memory registration

Example of display



First line : Indication of "Macro Key"
Second line : Indication of Macro Key number (Macro Key Nos. 1 ~ 8)
Third line : Indication of Title number (*1) / Indication of current setup
Fourth line : Indication of Title Name registered (*2)
Or indication of Key Registration delete "---" (*3)
(*1) Indication of the title number for the title selected in the fourth line
When "---" is selected, "Title No. "--" is indicated.
(*2) Indication of the registered titles only
(*3) Even when no registration is made for the Macro Key, "---" is indicated.

Configuration

Setup

Dowser Mode

During the period of title changeover, a dowser is used to select a setup function to perform screen mute.

Example of display

```
Setup
Dowser Mode
                    (*)
<       Disable      >
```

First line : Indication of "Setup"
Second line : Indication of "Dowser Mode"
Third line : Indication of current setup
Fourth line : For Dowser used: "Enable"
For Dowser not used: "Disable"

Turret

The control mode is set up for the motor-operated turret of the anamorphic lens.

①Manual

The Mode to use the motor-operated turret of the anamorphic lens without any linkage with the title:

Example of display

```
Turret
Manual
                    (*)
< Without Anamo.>
```

First line : Indication of "Turret"
Second line : Indication of "Manual"
Third line : Indication of current setup
Fourth line : For "Enable" (Anamo used): "With Anamo"
For "Disable" (Anamo not used): "Without Anamo"

②Control

The Mode to change over the motor-operated turret of the anamorphic lens in linkage with the title:

Example of display

```
Turret
Control
                    (*)
<         Auto       >
```

First line : Indication of "Turret"
Second line : Indication of "Control"
Third line : Indication of current setup
Fourth line : For "Enable": "Manual"
For "Disable": "Auto"

③Ref. Select

Used to select default setup for the motor-operated turret position when a title is established newly.

Example of display

```
Turret
Ref. Select
                    (*)
< Without Anamo.>
```

First line : Indication of "Turret"
Second line : Indication of "Ref. Select"
Third line : Indication of current setup
Fourth line : For "Enable: "With Anamo"
For "Disable": "Without Anamo"

Ext. MMS Link

Enabled when External MM connection is made:

Proceed to connect again, connection cutoff commands

Used when the linkage with the MM is disconnected or disconnection is required.

Example of display

```
Setup
Ext. MMS Link
                    (*)
<     Connect     >
```

First line : Indication of "Setup"
Second line : Indication of "Ext. MMS Link"
Third line : Indication of current setup
Fourth line : For "Enable: "Connect"
For "Disable": "Disconnect" (*1)

(*1) Linkage with the External MM is disconnected.
The status of disconnection is maintained until the next connection is made.

Panel Key Lock

Enable/Disable of the main unit control keys is set up.

Example of display

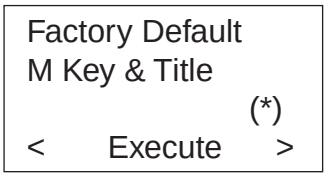
```
Setup
Panel Lock Key
                    (*)
<       Lock        >
```

First line : Indication of "Setup"
Second line : Indication of "Panel Key Lock"
Third line : Indication of current setup
Fourth line : Panel key disabled: "Lock"
Panel key enabled: "Unlock"

(*) In the lock mode, canceling is possible by pressing the Cancel key for a long time (10 seconds).

Factory Default

Projector setup conditions are returned to the status of shipment from the factory.



①M Key & Title

Macro Key registration and title initialization are carried out.

Macro Key registration and title are restored to the status of shipment from the factory.

Example of display

First line : Indication of "Factory Default"

Second line : Indication of "M Key & Title"

Third line : Void

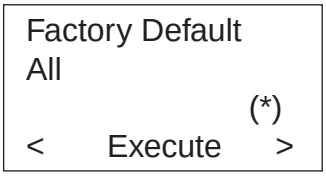
Fourth line : Indication of "Execute"

②All

The setting conditions are initialized. (Including Macro Key registration and Title)

The status of shipment from the factory is assumed.

However, lamp setting and network setting are not initialized.



Example of display

First line : Indication of "Factory Default"

Second line : Indication of "All"

Third line : Void

Fourth line : Indication of "Execute"

Installation

Image Orient

The projection mode is selected for the projector.

LCD display	Method of projection	Method of installation	
Normal–F	Normal Front	Normal	Front projection
Normal–R	Normal Rear	Normal	Rear projection

Example of display

```
Installation
Image Orient
                    (*)
<UpsideDown -R >
```

First line : Indication of "Installation"
Second line : Indication of "Image Orient"
Third line : Indication of current setup
Fourth line : Normal Front : “Normal –F”
UpsideDown Rear : “UpsideDown–R” (*1)
Normal Rear : “Normal–R”
UpsideDown Front : “UpsideDown–F” (*1)
(*1) Enabled only for the NC800C

Lens Calibrate

When the "Execute" ENTER key is pressed, positioning of the ZOOM and FOCUS lenses is carried out.

Example of display

```
Installation
Lens Calibrate

<     Execute     >
```

First line : Indication of "Installation"
Second line : Indication of "Lens Center"
Third line : Void
Fourth line : Indication of "Execute"

Lens Center

When the ENTER key is pressed in "Execute" mode, the lens mount (lens shift) position is moved to the center (reference position).
This is valid only in the directions of up, down, right, and left.

Example of display

```
Installation
Lens Center

<     Execute     >
```

First line : Indication of "Installation"
Second line : Indication of "Lens Center"
Third line : Void
Fourth line : Indication of "Execute"

MMS Select

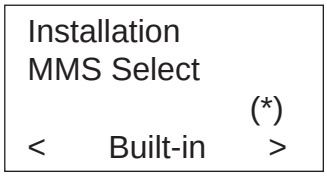
The mode of a multimedia switcher to be connected is selected.

Built-in : Selection of a built-in multimedia switcher of the projector
External : Selection of a multimedia switcher to be connected externally
Not Use : Multimedia switcher not in use

When Built-in and External are selected without making a connection of multimedia switcher, operation will sometimes become slow because the projector itself tries to search for the multimedia switcher.
When no multimedia switcher is connected, "Not Use" should be selected.

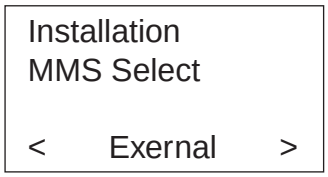
① Use of built-in MMS

Example of display



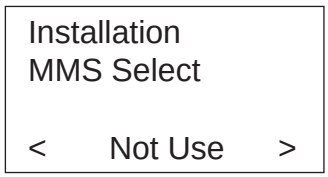
② Use of externally connected MMS

Example of display



③ MMS not in use

Example of display



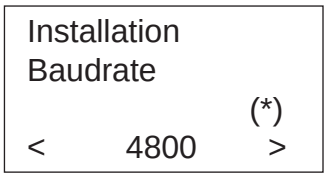
First line : Indication of "Installation"
Second line : Indication of "MMS Select"
Third line : Indication of current setup
Fourth line : Indication of MMS in linkage
(*) The number of MMSs that are available at the same time is only one.

Baudrate

The data transfer rate [bps] of the RS-232C terminal (SYSTEM) is set up.

4,800 / 9,600 / 19,200 / 38,400 [bps]

Example of display



First line : Indication of "Installation"
Second line : Indication of "Baudrate"
Third line : Indication of current setup
Fourth line : Indication of communication speed
4,800 / 9,600 / 19,200 / 38,400

Date / Time

Projector's Date and Time are set up.

Date

Year, month, day, day of the week

(*1) 05/07/11 (Mon)

Move the ↑ cursor and enter numeral data through the tenkey.

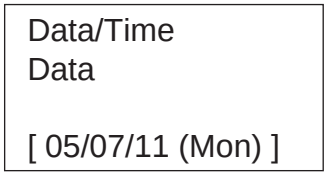
Time

(*1) 16:27:33

Move the ↑ cursor and enter numeral data through the tenkey.

①Date setup

Example of display



First line : Indication of "Date / Time"
Second line : Indication of "Date"
Third line : Void
Fourth line : Indication of date input (*1)

② Time setup

Example of display

```
Data/Time
Time

[     16:27:33     ]
```

First line : Indication of "Date / Time"
Second line : Indication of "Time"
Third line : Void
Fourth line : Indication of time input (*1)

New Bulb

Used when the lamp bulb is replaced.
Lamp usage time reset, bulb type selection, and bulb entry selection are newly carried out.

①Bulb Entry selection

Used when selecting the bulb type from the Bulb Entry already registered.
When a new bulb is selected, confirmation of "Air Filter" replacement and lamp Usage clear is made in the screen.
Selection of a new bulb cannot be accomplished unless all items of "UsageClear OK?" are OK.

Example of display

```
New  Bulb
Entry Select
                  (*)
[   Entry Name   ]
```

First line : Indication of "New Bulb"
Second line : Indication of "Entry Select"
Third line : Indication of current setup
Fourth line : Indication of Entry Name already registered
(If no Entry is present, "(None)" is displayed.

② Entry Exit selection

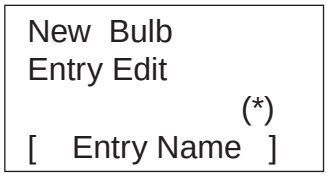
Establishment of Bulb Entry and editing of existing Entries are carried out.
A maximum of 16 entries can be registered.
Bulb Entry cannot be deleted. If deletion is needed, it should be carried out from the touch panel or PC control.

a) Entry Edit

• For existing Entry

Select an objective entry being edited and edit the required items.

Example of display

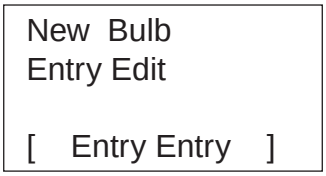


First line : Indication of "New Bulb"
Second line : Indication of "Entry Edit"
Third line : Indication of current setup
Fourth line : Indication of Entry Name already registered

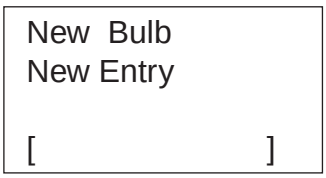
• For new establishment

Select a new Entry and enter the required input items.
When all input entry is finished, move to a higher hierarchical level of the menu.
When returning to a higher menu, a screen for entering the Entry Name is displayed. Then, enter the Entry Name.

Example of display



First line : Indication of "New Bulb"
Second line : Indication of "Entry Edit"
Third line : Void
Fourth line : Indication of "New Entry"



First line : Indication of "Entry Edit"
Second line : Indication of "New Entry"
Third line : Void
Fourth line : Indication of Entry Name

* Enter Entry Name and make final definition with the Enter key.
If returned without entering the required input items, an alarming popup message is displayed and a lower menu is recovered again.
Cancel New Entry with the Cancel key and return to the upper menu.

b) Current (Setup indispensable in the case of New Entry)

Example of display

```
Entry Name
Current
Min Max          (*)
[ 100.1-180.1[A]  ]
```

First line : Indication of Entry Name being edited
Second line : Indication of "Current"
Third line : Indication of Guide and Current setup
Fourth line : Indication of Current Value, Input (*1)

(*1) 100. 1-180.1
Move the ↑ cursor and enter the numerical input through the tenkey.
Initial display is "000.0".

* Enter Min and Max inputs at the same time.
For security, any setting as to override the lamp range cannot be carried out.
Lamp Range 1 : 50-138 [A]
Lamp Range 2 : 50-110 [A]
Lamp Range 3 : 50-80 [A]
Lamp Range 4 : 50-65 [A]

c) Typical Watt (Setup indispensable in the case of New Entry)

Enter the typical wattage input of the Lamp Bulb.
If there is no "Max Watt" setup, "Typical Watt" becomes the maximum wattage for lamp control.
Lamp control is effected within the range of 70[%] ~ 100[%] of "Typical Watt."

Example of display

```
Entry Name
Typical Watt
Max6.00[kW]    (*)
[    6.00   [kW]     ]
```

First line : Indication of Entry Name being edited
Second line : Indication of "Typical Watt"
Third line : Indication of Max Watt and Current setup
Fourth line : Indication of Wattage value, Input (*1)

(*1) 6.00
Enter numerical inputs by ↑ cursor movement.
Initial display is "0.00".

(*2) When a Typical Watt input is entered and the value of [Typical Watt > Max Watt] is set up, Max Watt is also set up at the same time as an input value of Typical Watt.
(Other than the cases when Max Watt is not set up)

* The input range is: 0.01 <= Typical Watt <= 9.99 [kW]

d) Max Watt

A proper value is set up when the lamp bulb is used above the typical wattage.
Use of the lamp bulb above the typical wattage should be done for user's self-responsibility in all respects.
The lamp's life may expire or the lamp may be ruptured.

Example of display

```
Entry Name
Max Watt
Typ7.00[kW]      (*)
[    6.00   [kW]     ]
```

First line : Indication of Entry Name being edited
Second line : Indication of "Max Watt"
Third line : Indication of Typical Watt and Current setup
Fourth line : Indication of Wattage value, Input (*1)
(*1) 6.00
Enter numerical inputs by ↑ cursor movement.
Initial display is "0.00".

* It is necessary to enter Typical Watt in the first place.
  Input range: Typical Watt <= Max Watt <= 9.99 [kW]

* It is OK even though no Max Watt input is entered.
  Indication at that time: "-,--"

* To clear any input after the input has once been defined:
  Enter "0.00".

e) Warning Time
Warning Time is set up for the lamp usage time.
In addition to the Bulb Entry values, the Warning Time for the lamp usage time can be set up manually.
When using the Bulb Entry values, select Use Bulb Entry in the Bulb Warning menu.
Warning Time for NC-16LP401 and NC-16LP402 is the value when a lamp bulb is used at the maximum output.

Example of display

```
Entry Name
Warning Time
                    (*)
[    1000   [H]      ]
```

First line : Indication of Entry Name being edited
Second line : Indication of "Warning Time"
Third line : Indication of current setup
Fourth line : Indication of Warning Time, Input (*1)

(*1) 1000
Enter numerical inputs by ↑ cursor movement.
Initial display is "----".

* It is unnecessary to enter Warning Time input.
Indication at that time: "----"
No warning is given in this case.

* To set up no warning:
Enter "0000".

* Input range:
0000 <= Warning Time <= 9999[H]

f) In the case of New Entry, "Entry" is registered at the time when all indispensable items have been entered.
When withdrawing from the menu with no indispensable items entered, a Warning message is displayed.

Bulb Warning

A setup value for Warning Time is selected.
When this function is used, an arbitrary warning time can be used deviating from the Bulb Entry setup range.
Use Bulb Entry : Warning Time for Bulb Entry is utilized.
Manual: Used when using Warning Time other than the case of Bulb Entry setup.

① Use Bulb Entry

Warning Time for Bulb Entry setup is used.

Example of display

```
Installation
Bulb Warning
                (*)
<  Use Blb Entry >
```

First line : Indication of "Installation"
Second line : Indication of "Bulb Warning"
Third line : Indication of current setup
Fourth line : Indication of "Use Bulb Entry"

② Manual

Warning Time for Manual setup is used.

Example of display

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

First line : Indication of "Installation"
Second line : Indication of "Bulb Warning"
Third line : Indication of current setup
Fourth line : Indication of "Manual"

Example of display

```
Bulb Warning
Manual

[    1000  [H]     ]
```

First line : Indication of "Bulb Warning"
Second line : Indication of "Manual"
Third line : Void
Fourth line : Indication of Warning Time, Input (*1)

(*1) 1000
Enter numerical inputs by ↑ cursor movement.
Initial display is "0000".

New Lamp House

This function is used when the usage time of lamp house is controlled.
At the time of Lamp House replacement, Time Control Entry is selected to integrate the consumed time.
It is possible to carry out the resetting of Lamp House Usage Time, the integration mode, and the selection of Lamp House.

①Usage Clear

Lamp House Usage Time is cleared.
Single mode : Lamp House Usage Time is cleared to zero.
Multi-mode : Lamp House Usage Time for the selected House 1 or House 2 is cleared to zero.

Example of display

```
New Lamp house
Usage Clear
                    (*)
[       House        ]
```

First line : Indication of "New Lamp House"
Second line : Indication of "Usage Clear"
Third line : Indication of current setup
Fourth line : Indication of Lamp House to be cleared
Single mode : House
Lamp 1 used in multi-mode : House 1
Lamp 2 used in multi-mode : House 2

- Popup Menu

Confirmation of Usage Clear

Example of display

```
**Usage Clear**
Are you sure?
 <  Yes  >
****************
```

First line : Indication of "Usage Clear"
Second line : Indication of "Are you sure?"
Third line : Indication of "Yes / No"
Fourth line : Popup decoration

②Usage Mode (Multi)

This function is used when the usage time is integrated while two lamp houses are used reciprocally. When the lamp house is replaced, the integrated lamp house name is selected.

Example of display

```
Usage Mode
Multi
                    (*)
<  Lamp house 1 >
```

First line : Indication of "Usage Mode"
Second line : Indication of "Multi"
Third line : Indication of current setup
Fourth line : Indication of Lamp House
Lamp 1 used in multi-mode: House 1
Lamp 2 used in multi-mode: House 2

③Usage Mode (Single)

This function is selected when a single lamp house is used.

Example of display

```
New Lamp house
Usage Mode
                    (*)
<        Single      >
```

First line : Indication of "New Lamp House"
Second line : Indication of "Usage Mode"
Third line : Indication of current setup
Fourth line : Indication of "Single"

Bulb Alignment

This function is used to display the Lamp Brightness value read out by the optical sensor.
This value has no correlation to the projector.

This function ensures easy adjustments when the lamp bulb alignment is adjusted.

Example of display

```
Installation
Bulb Alignment
Peakhold 4095
<  Average 2400 >
```

First line : Indication of "Installation"
Second line : Indication of "Bulb Alignment"
Third line : Indication of "Peak Hold" value
Fourth line : Indication of "Average" value

Peak hold : Maximum value read out by the optical sensor is displayed.
(This value is cleared when ENTER is pressed.)
Average : A mean value of the data obtained by the optical sensor is displayed.

Memory

The present status of Lamp and Lens is overwritten in Entries of the selected lamp and lens memories.

① Lamp

The present status of Lamp output is overwritten in the selected Lamp Memory Entry.

Example of display

```
Memory
Lmap
                    (*)
< Memory Name >
```

First line : Indication of "Memory"
Second line : Indication of "Lamp"
Third line : Indication of current setup
Fourth line : Indication of Memory Name registered

• Popup Menu

Example of display

```
**Lamp Memory**
Over Write?
 <  Yes  >
****************
```

First line : Indication of "Lamp Memory"
Second line : Indication of "Overwrite"
Third line : Indication of "Yes / No"
Fourth line : Popup decoration

② Lens

The present status of Lens output is overwritten in the selected Lens Memory Entry.

Example of display

```
Memory
Lmap
                (*)
< Memory Name >
```

• Popup Menu

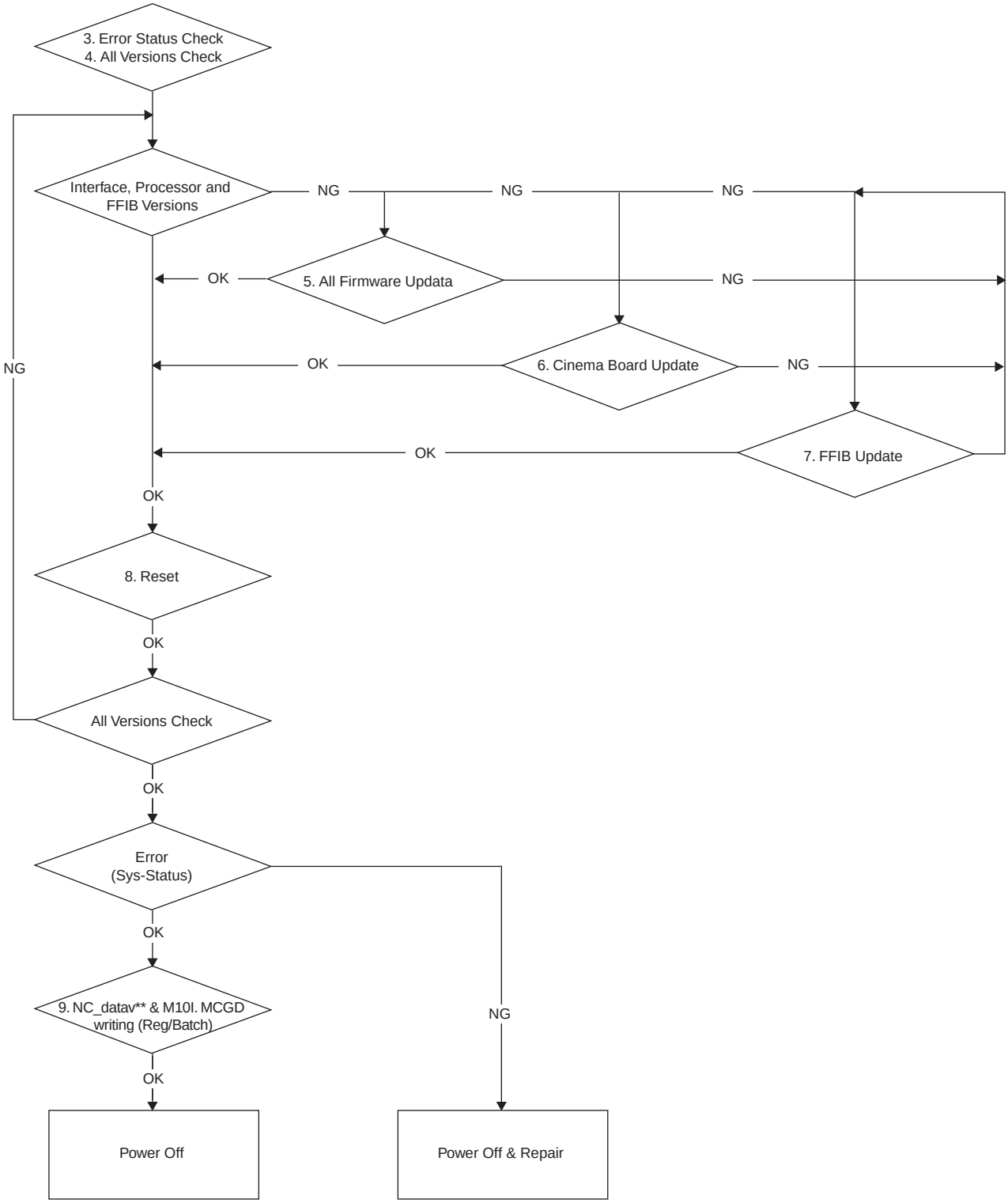
Example of display

```
**Lamp Memory**
Over Write?
 <  Yes  >
****************
```

First line : Indication of "Lens Memory"
Second line : Indication of "Overwrite"
Third line : Indication of "Yes / No"
Fourth line : Popup decoration

1. Cinema Software Check and Update

1-1. Software Version Check and Update



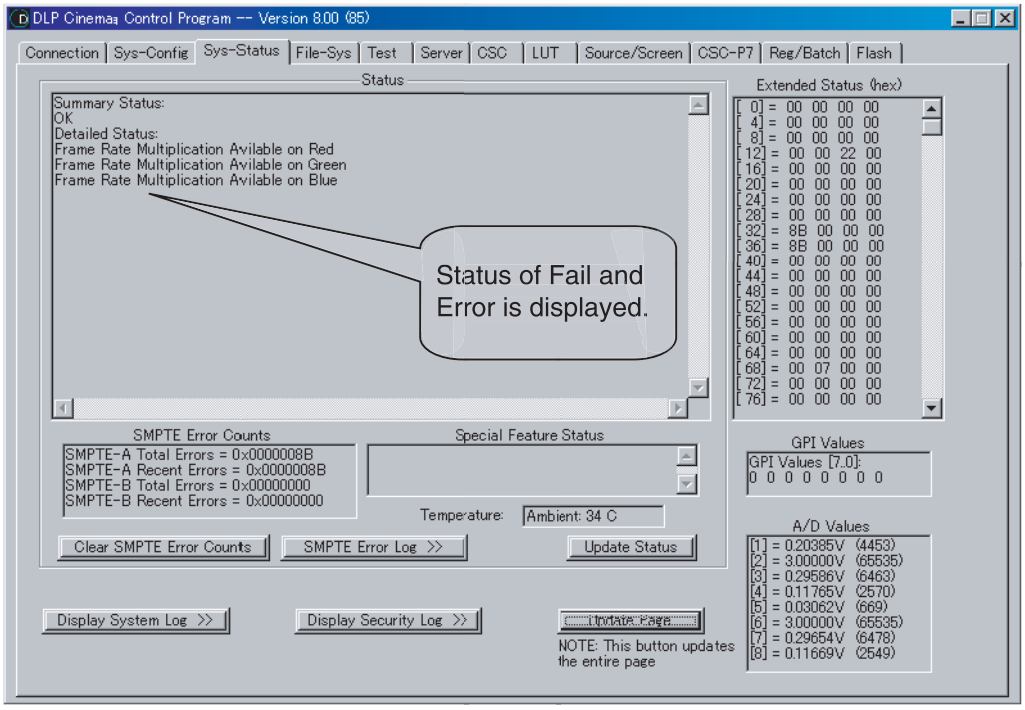
2. Environmental setup (common)

1) Make connections toward the PC projector through the LAN cable.
2) Start equipment in Lamp Off mode. (Refer to 10-1. Lamp Off Mode.)

3. Error status check

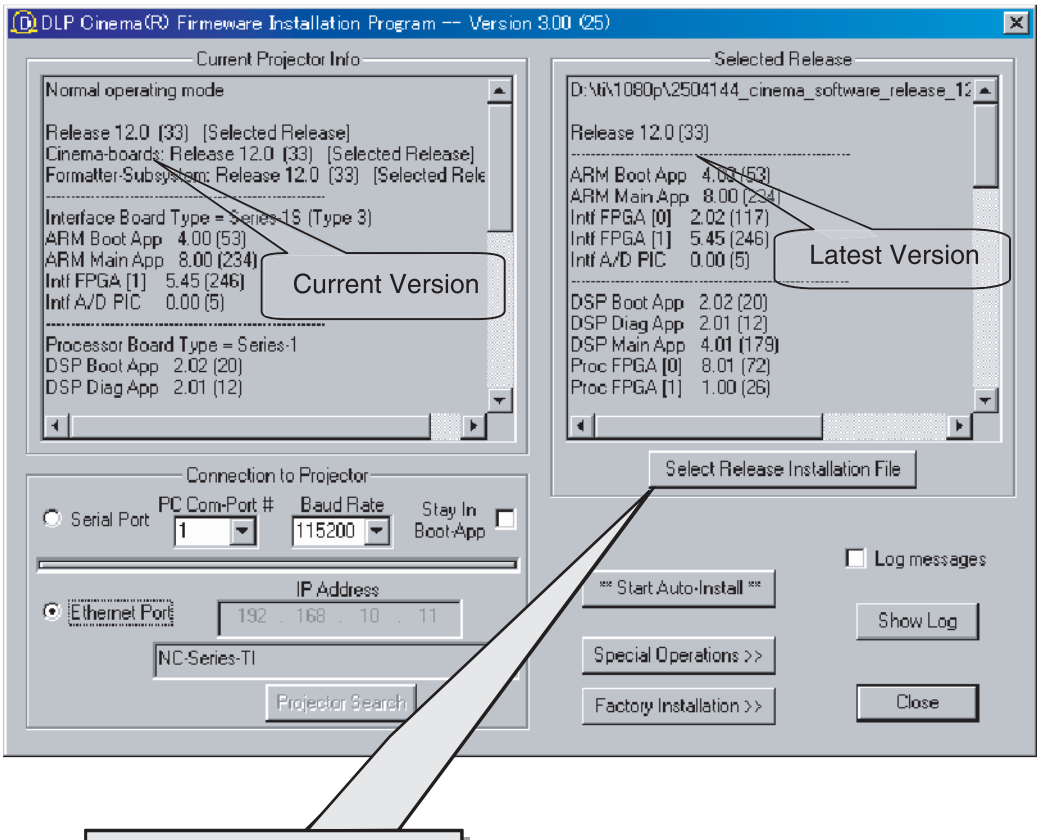
1) Start “DLP Cinema® Control Program” from the PC for login.
   (Refer to 10-3. DLP Cinema® Control Program.)
2) Select the “Sys-Status” tab and check the status.
   Disregard the failures of Self-Test because they are automatically cleared at the time of updating.
   If there is any error, turn off the projector power supply once and confirm that the Interface Board, the Processor Board, the FFIB Board, and the wiring cables (between FFIB and FSB) are certainly installed.

Caution) If there is any failure relating to Self-Test after updating, there lies a certain problem. In this case, an adequate measure has to be taken separately.



4. Version check (Interface, Processor, FFIB)

1) Start “DLP Cinema® Firmware Installation Program” from the PC for login.
(Refer to 10-2. DLP Cinema® Firmware Installation Program.)



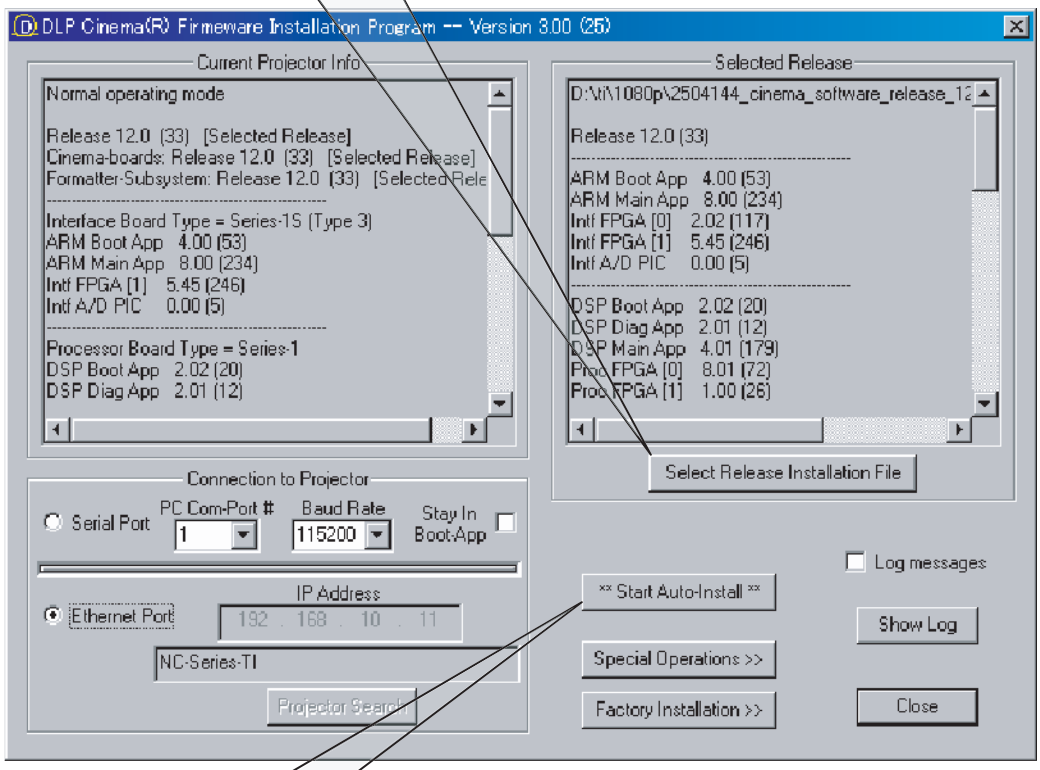
2) Press Select Release Installation and select “Release *.*.dlpcinema”.
Compare the release version of “Current Projector Info” with that of “Selected Release” and write the obtained data on the list (to be specified separately).

If there is any discrepancy in versions of “Current Projector Info” and “Selected Release,” update the discrepancy items according to the instructions specified below.
Discrepancy in all versions of Interface Board and Processor Board, and FFIB
→ Item 5.
Discrepancy in Interface Board and Processor Board only
→ Item 6.
Discrepancy in FFIB only
→ Item 7.

5. Update (Interface, Processor, & FFIB)

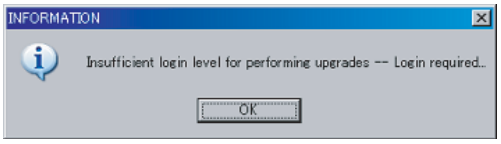
1) Start “DLP Cinema® Firmware Installation Program” from the PC for login.
(Refer to 10-2. DLP Cinema® Firmware Installation Program.)

2) Press Select Release Installation File and select “Release *.*.dlpcinema” from the folder where the firmware is stored.

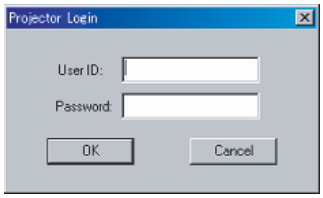


3) Press ** Start Auto-Install ** .
A differential file from the latest version is automatically updated.

4) A pop-up window requiring login is displayed in the middle of updating. Press OK .



5) Input ID and password specified below, and press the OK button.
ID : Service
Password : Heal ☐ Thyself (☐ : for Blank)



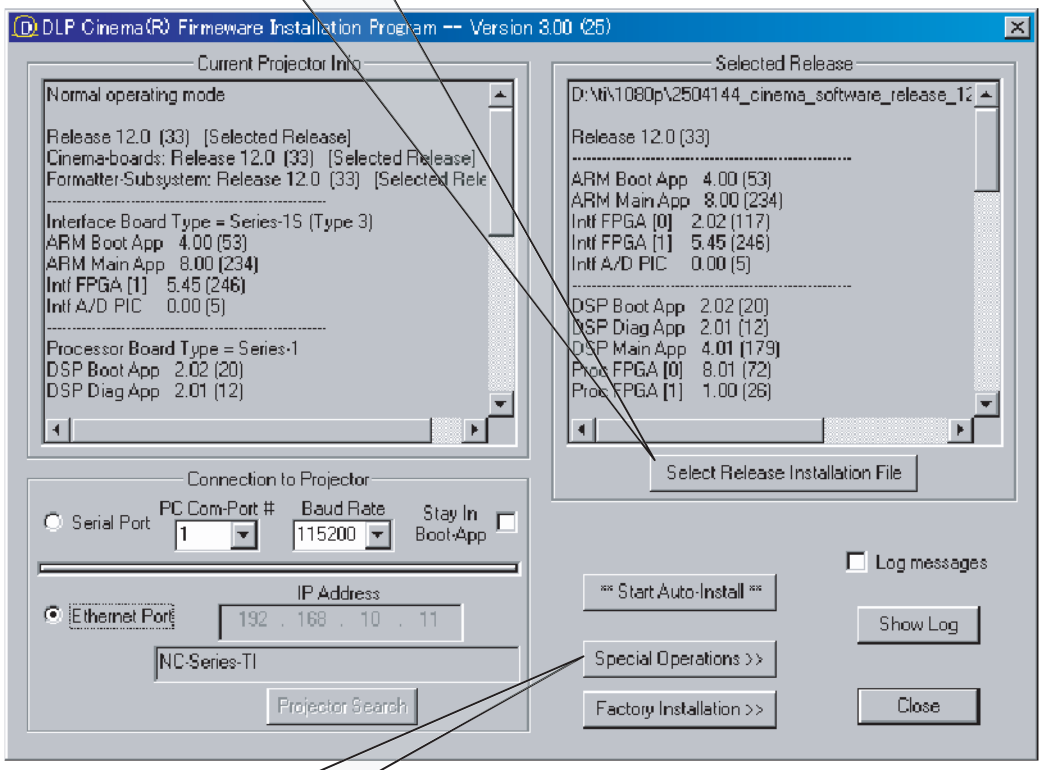
6) END upon the display of “Complete”

7) After the completion of updating, check all versions again.

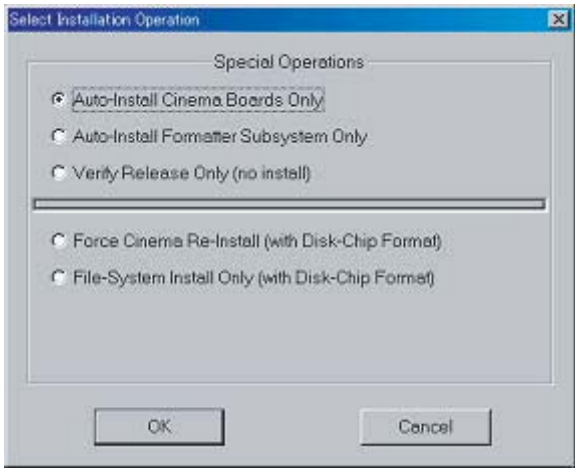
6. Update (Interface, Processor)

1) Start “DLP Cinema® Firmware Installation Program” from the PC for login.
(Refer to 10-2. DLP Cinema® Firmware Installation Program.)

2) Press Select Release Installation File and select “Release *.*.dlpcinema”.



3) Press Special Operations>> .



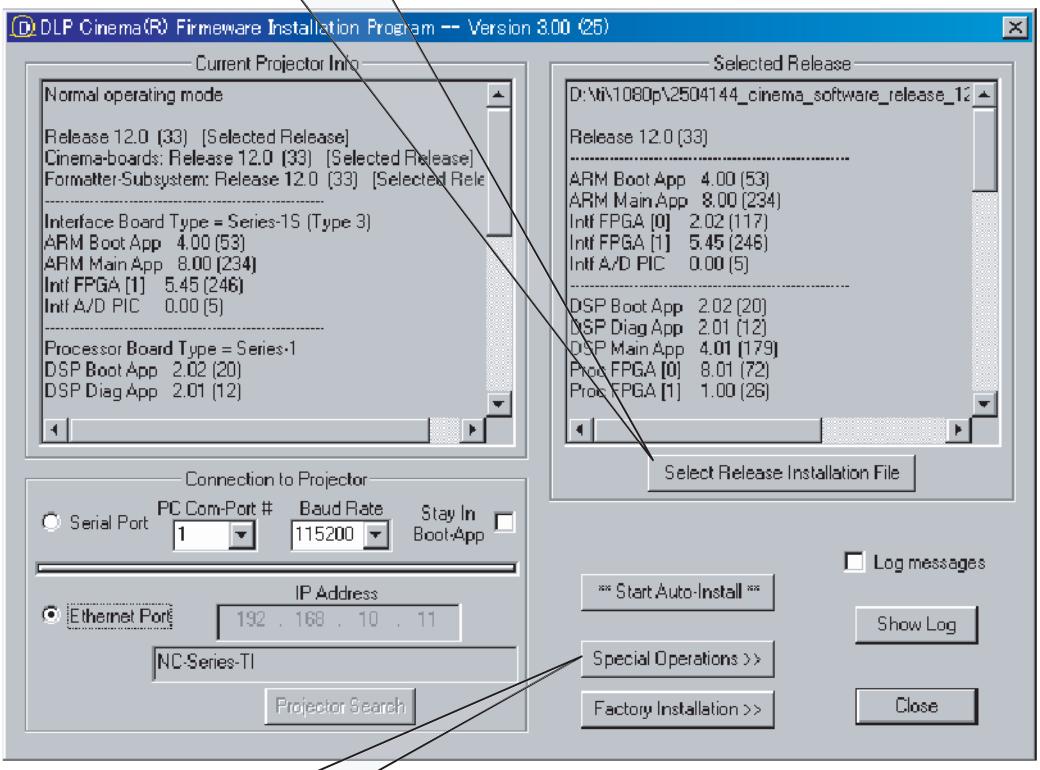
Select “Auto-Install Cinema Boards Only” and press OK .

4) After the completion of updating, check versions again.

7. Update (FFIB)

1) Start “DLP Cinema® Control Program” from the PC for login.
(Refer to 10-3. DLP Cinema® Control Program.)

2) Press Select Release Installation File and select “Release *.*.dlpcinema”.



3) Press Special Operations>> .

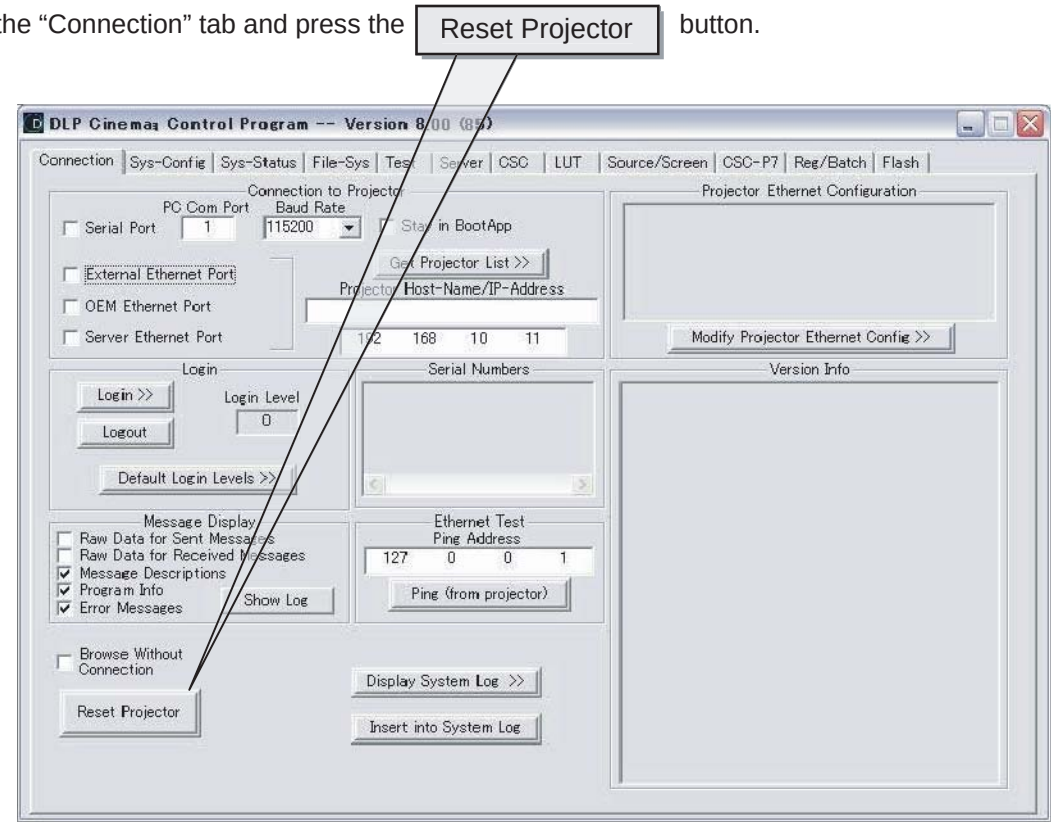
Select “Auto-Install Formatter Subsystem Only” and press OK .

4) After the completion of updating, check versions again.

8. Cinema block reset (Interface, Processor, FFIB, FSB)

1) Start “DLP Cinema® Control Program” from the PC for login.
(Refer to 10-3. DLP Cinema® Control Program.)

2) Select the “Connection” tab and press the Reset Projector button.



3) Confirm the version.

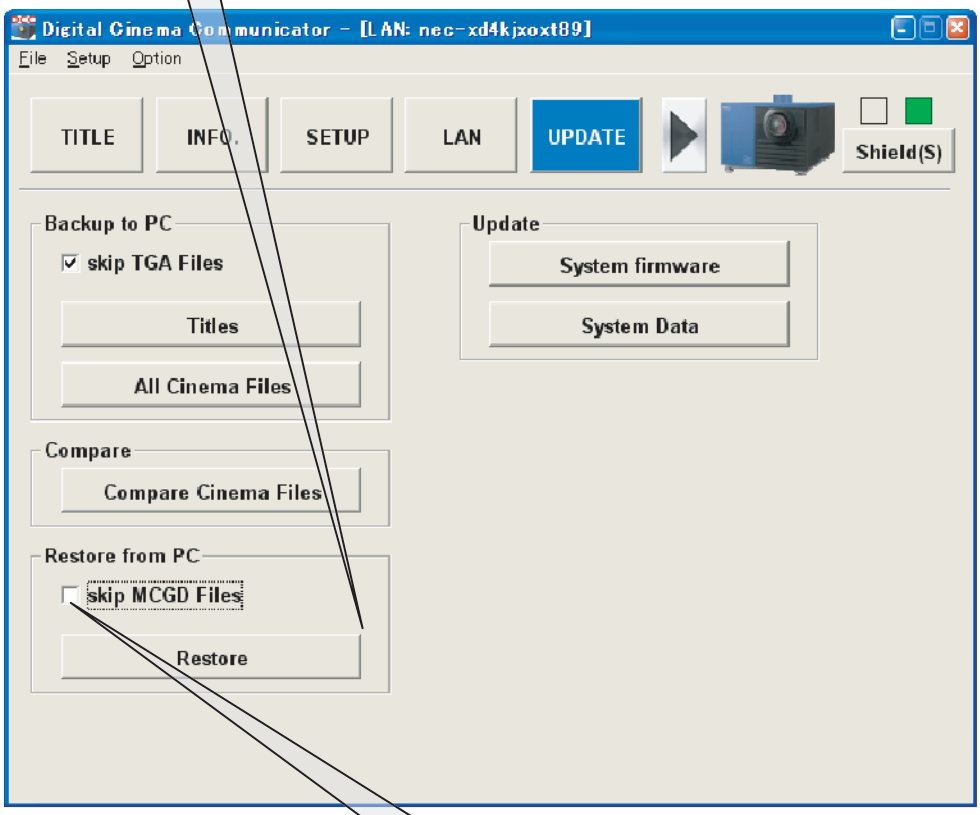
4) Select the “Sys-Status” tab and confirm that there is no error or failure in the status.

Caution) If there is any failure relating to Self-Test after updating, there lies a certain problem. In this case, an adequate measure has to be taken separately.

5) After the completion of firmware & data writing, turn OFF the projector power supply.

9. NC_data & M10I.MCGD data updating (Interface Board)

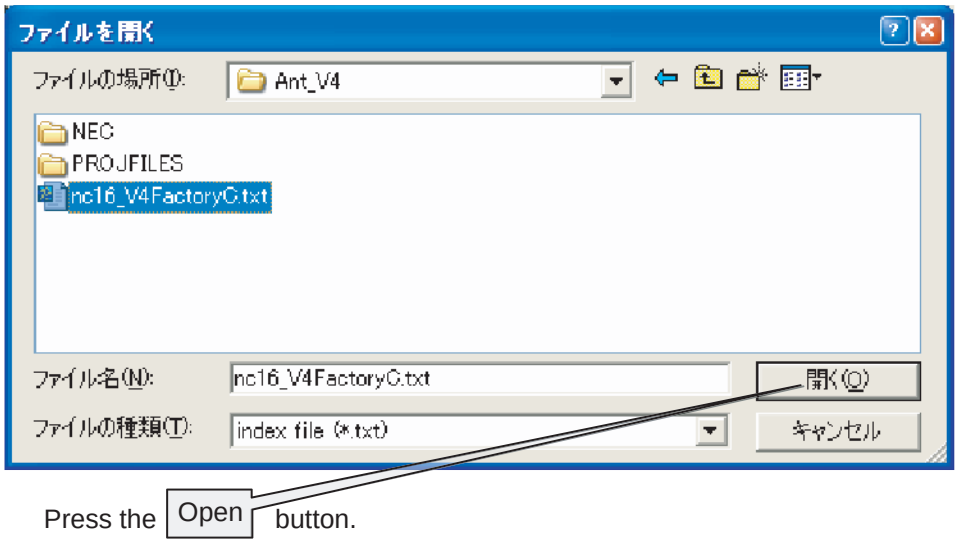
1) Turn ON the projector power supply.
2) Start the Digital Cinema Communicator from the PC. (Mode in Service)
3) Press the Restore button of “Restore from PC” in the “UPDATE” menu.



A check mark is given to the Skip MCGD File .

In the case of installation after the replacement of an interface board:
[Remove the check mark.]
In cases other than the above:
[Leave the check mark as it is.]

4) SOURCE / PCF / SCREEN / TGA FILE / MCGD FILE update
Select the “nc16_V*FactoryC.txt” file.



Press the Open button.

* The “nc16_V*FactoryC.txt” file automatically writes the SOURCE / PCF / SCREEN / TGA File / MCGD file in the projector.
* Before the replacement of an interface board or if no replacement is intended: A set of TI setup data Select [ne16_V*ServiceC.txt] of [NC1600_Service_Vx].

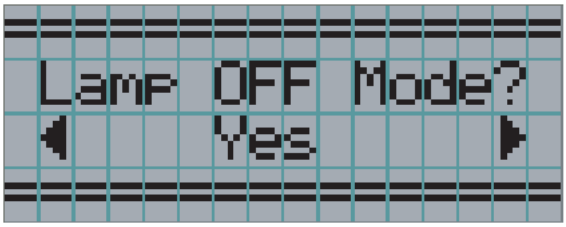
10. Common setting

When adjusting the projector, insert the specified USB memory, without fail, in the USB terminal of the projector before starting operation.

10-1. Lamp off mode (Remote controller operation)

1) In the state of standby, keep pressing the CTL + PIXEL keys for ten seconds.

2) A display below is presented in the LCD screen. Select “Yes” and press the ENTER key.



3) Turn the power supply ON from the remote controller or the key of the projector main body.

Caution) The Lamp Off mode is canceled when the power supply is turned OFF.
To make the power supply turned ON again in the Lamp Off mode, follow the steps of 1) to 3) above.

10-2. DLP Cinema® Firmware Installation Program

Preliminary arrangements (Not required if setting is already finished in the PC)

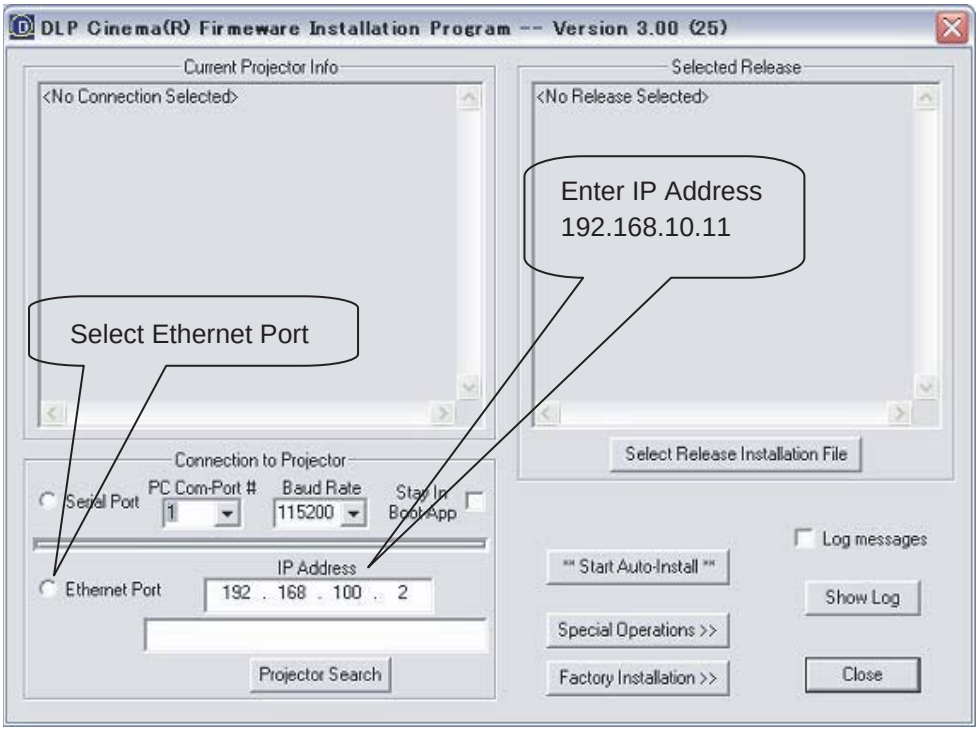
Make settings for the PC network to the figures specified below.

IP-Address	192. 168. 010. 17
Gateway	192. 168. 010. 17
Subnet Mask	255. 255. 255. 0

1) Start “DLP Cinema® Firmware Installation Program” from the PC.

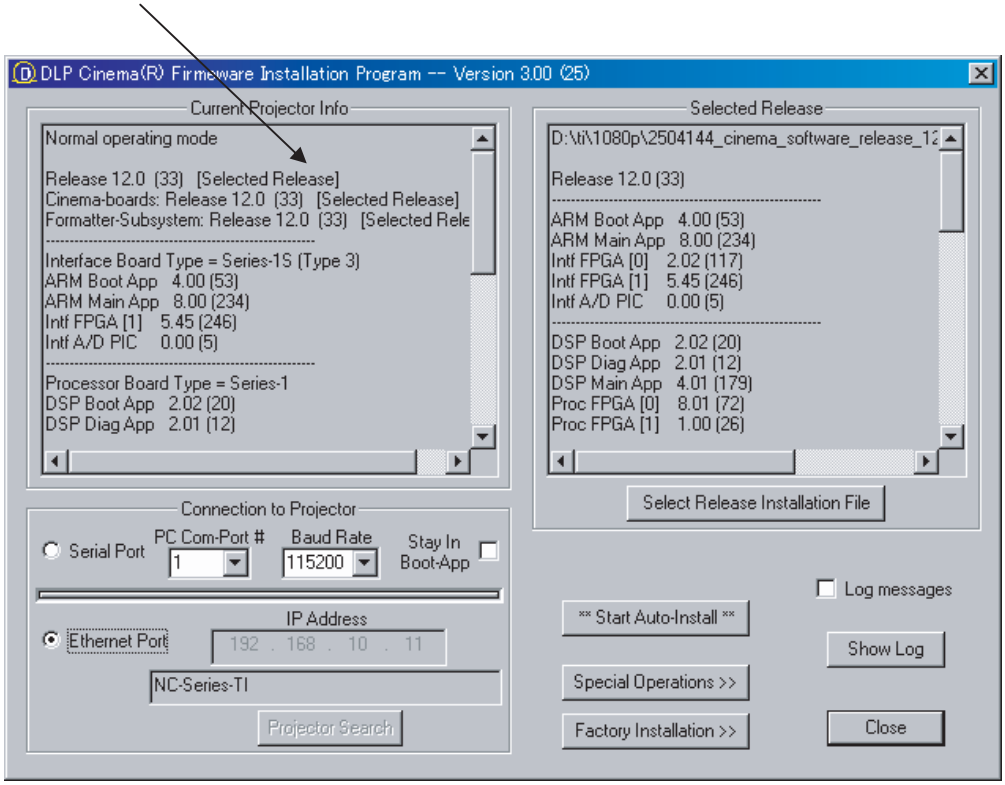
Caution) Use the version program attached to the latest release, without fail.

2) Setting for the projector being connected
Enter the IP address of 192. 168. 10. 11.



3) Select the connecting port.
Select the Ethernet port.

4) Connection (Login)
When connection (login) is successful, the software and hardware version info already installed in "Current Projector Info" is displayed.



10-3. DLP Cinema® Control Program

Preliminary arrangements (Not required if setting is already finished in the PC)

- Make settings for the PC network to the figures specified below.

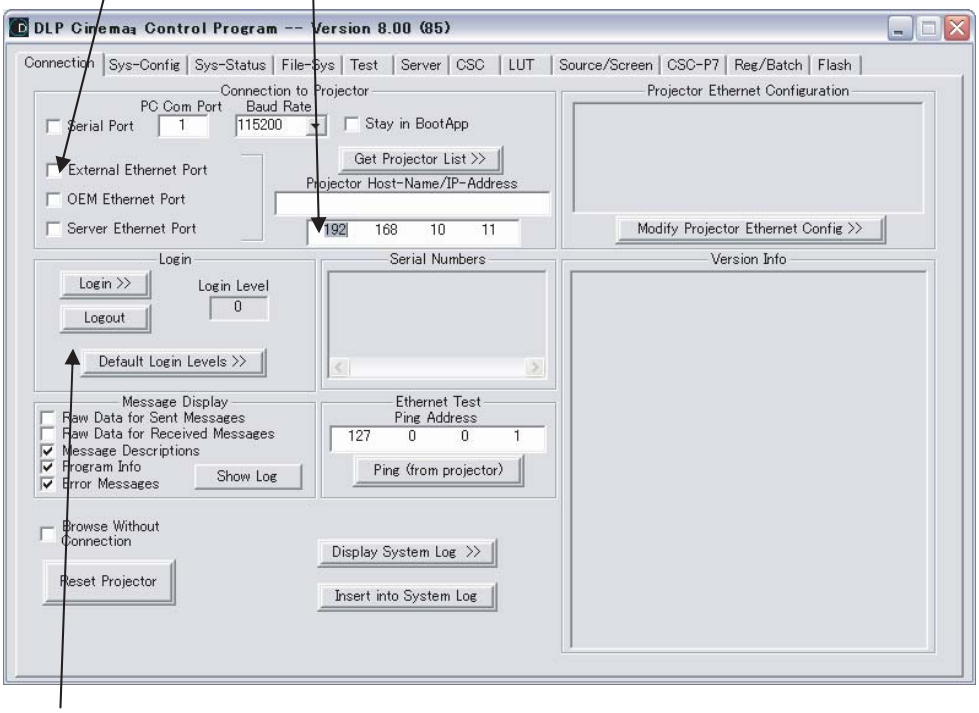
IP-Address	192. 168. 010. 17
Gateway	192. 168. 010. 17
Subnet Mask	255. 255. 255. 0

1) Start "DLP Cinema® Control Program" from the PC.

Caution) Use the version program attached to the latest release, without fail.

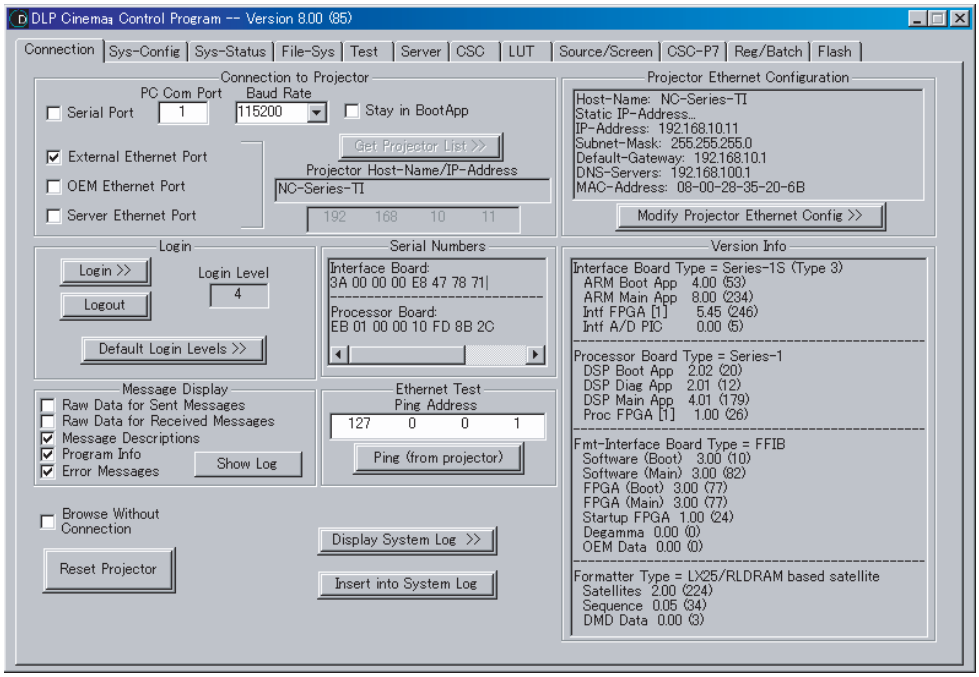
2) Setting for the projector being connected
Enter the IP address of 192. 168. 10. 11.

3) Select the connecting port.
Select the “External Ethernet port.”
(When connection is successful, “Log In” is displayed in “Version Info”.)



4) Security setup
Enter the User ID and Password in the Security item and press Login .
ID : Service
Password : Heal☐ Thyself (☐ : for Blank)

When Log In is successful, the version information specified below is displayed in “Version Info”.



10-4. Digital Cinema Communicator

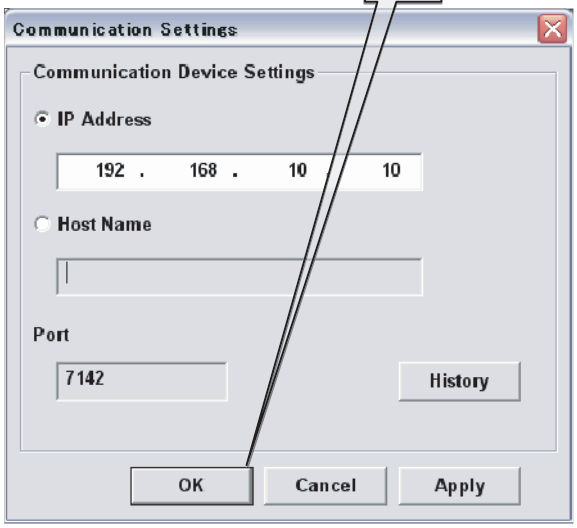
Preliminary arrangements (Not required if setting is already finished in the PC)

- Make settings for the PC network to the figures specified below.

IP-Address	192. 168. 010. 17
Gateway	192. 168. 010. 17
Subnet Mask	255. 255. 255. 0

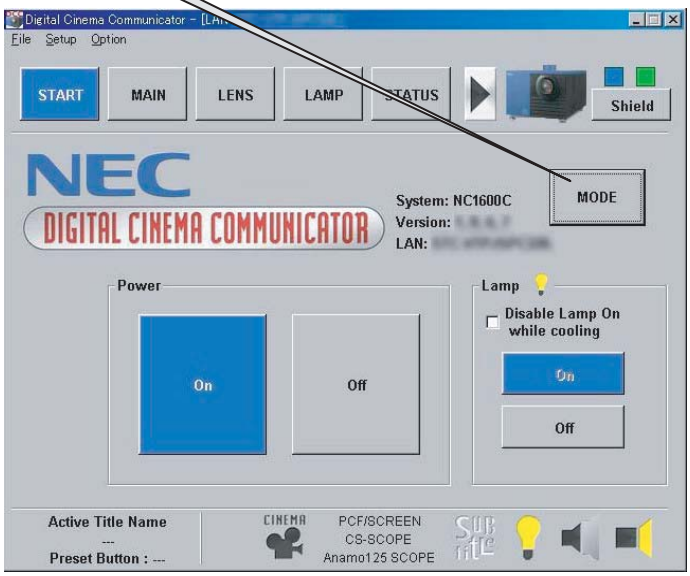
1) Start DigitalCinemaCommXP.exe.
2) Communication setup
   Select Communication Settings of Setup .

Enter the IP address of “192. 168. 10. 10” and press OK .

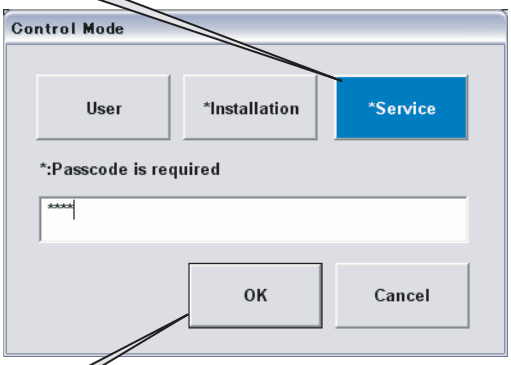


3) Service mode setup

Press MODE at top right.



Press Service the popup screen and enter “3151”.



Press OK .

NEC CPU Board Software Update Procedures (Writing in the CPU Board)

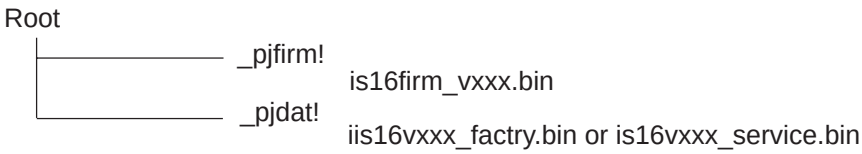
* For the firmware and data, the latest versions shall be used at all times.

1. Preparation

Copy the firmware and the data file in the Compact Flash memory in the procedures specified below.

1) Copy the firmware (is16firm_v1xx.bin) in the "_pjfirm!" folder of the Compact Flash memory.

2) In the case of installation after the replacement of a CPU board:
Copy Data(is16v1xx_factry.bin) into the "_pjdat!" folder of the compact flash memory.
In cases other than the above:
Copy Data(is16vxxx_service.bin) into the "_pjdat!" folder of the compact flash memory.



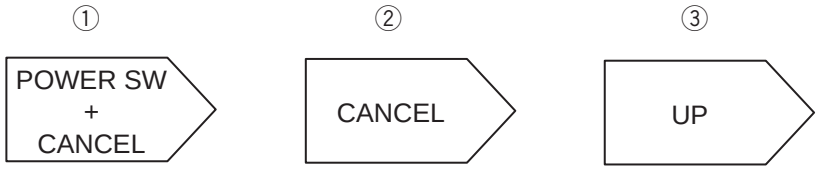
3) Insert the Compact Flash memory in the PCCARD slot.

2. Firmware updating (Projector "MENU CTL" key operation)

1) Turn the power switch ON while the CANCEL key is kept pressed.

2) When the Status LED is turned green, press the CANCEL key.

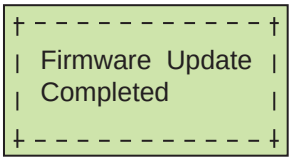
3) Press the UP key.



LCD Display

Firmware being updated

End of firmware update

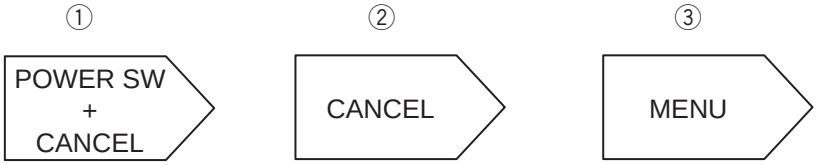


4) Turn the power switch OFF and pull out the Compact Flash memory.

Caution) Failure in updating: Power LED blinking in red ⇒ Retry updating.

3. Data updating (Projector "MENU CTL" key operation)

1) Turn the power switch ON while the CANCEL key is kept pressed.
2) When the Status LED is turned green, press the CANCEL key.
3) Press the MENU key.



LCD Display

Data being updated

End of data update

4) Turn the power switch OFF and pull out the Compact Flash memory.

Caution) Failure in updating: Power LED blinking in red ⇒ Retry updating.

After the completion of firmware and data updating, let the projector to assume the "Standby" status. According to "Information → Version" of the LCD menu, check versions for the following three items:

- BIOS
- Firmware
- Data

Parts Replacement Work

	Replacement of Interface Board	Items for Reference	Replacement of Processor Board	Items for Reference
Adjust Item	Version check for cinema software Installation of cinema software Installation of setup data Installation of MCGD file	5. Confirmation of cinema software and reference to Update Flow	Version check for cinema software Installation of cinema software	5. Confirmation of cinema software and reference to Update Flow
Inspection Item	Signal check SDI-A, SDI-B, DVI-A, DVI-B GPIO LAN (TI) Serial (TI) IInterface board MSN No. writing Digital Certification	7-15. Picture quality check 7-18. Operation check for external control terminals Memo the numbers on boards. 7-22. Digital Cinema Certificate Refer to data acquisition	Confirmation of image display Any input acceptable	7-15. Picture quality check

	Replacement of EFIB Board	Items for Reference	Replacement of Prism Assy	Items for Reference
Adjust Item	Version check for cinema software Installation of cinema software	5. Confirmation of cinema software and reference to Update Flow	Version check for cinema software Installation of cinema software	5. Confirmation of cinema software and reference to Update Flow
Inspection Item	Confirmation of image display Any input acceptable	7-15. Picture quality check	Confirmation of image display Any input acceptable	7-15. Picture quality check

	Replacement of Cables (Signal lines between FFIB and FSB)	Items for Reference	Replacement of CPU PWB	Items for Reference
Adjust item			Version check for Firm & Data Installation of Firm & Data	3. Writing into CPU Board
Inspection Item	Confirm that video pictures can be seen. Any input is acceptable. 3D check	7-15. Picture quality check 7-15. Picture quality check	Confirmation of image display Any input acceptable Operation check at each terminal on CPU PWB Serial No. writing Digital Certification	7-15. Picture quality check 7-18. Operation check for external control terminals 7-21. Serial No. writing 7-22. Digital Cinema Certificate Refer to data acquisition.

	Replacement of PJDIV	Items for Reference	Replacement of DVI-OUT	Items for Reference
Adjust Item	Adjustment of GPSU output	4. Output adjustment for General Power Supply Unit (PJDIV PWB)		
Inspection Item	Confirmation of image display Any input acceptable Touch panel power supply Anamorphic turret operation	7-15. Picture quality check 7-19. Operation check for optional equipment 7-19. Operation check for optional equipment	Confirmation of image display Any input acceptable MM2000B operation (images) DVI input picture check	7-15. Picture quality check 7-19. Operation check for optional equipment 7-15. Picture quality check

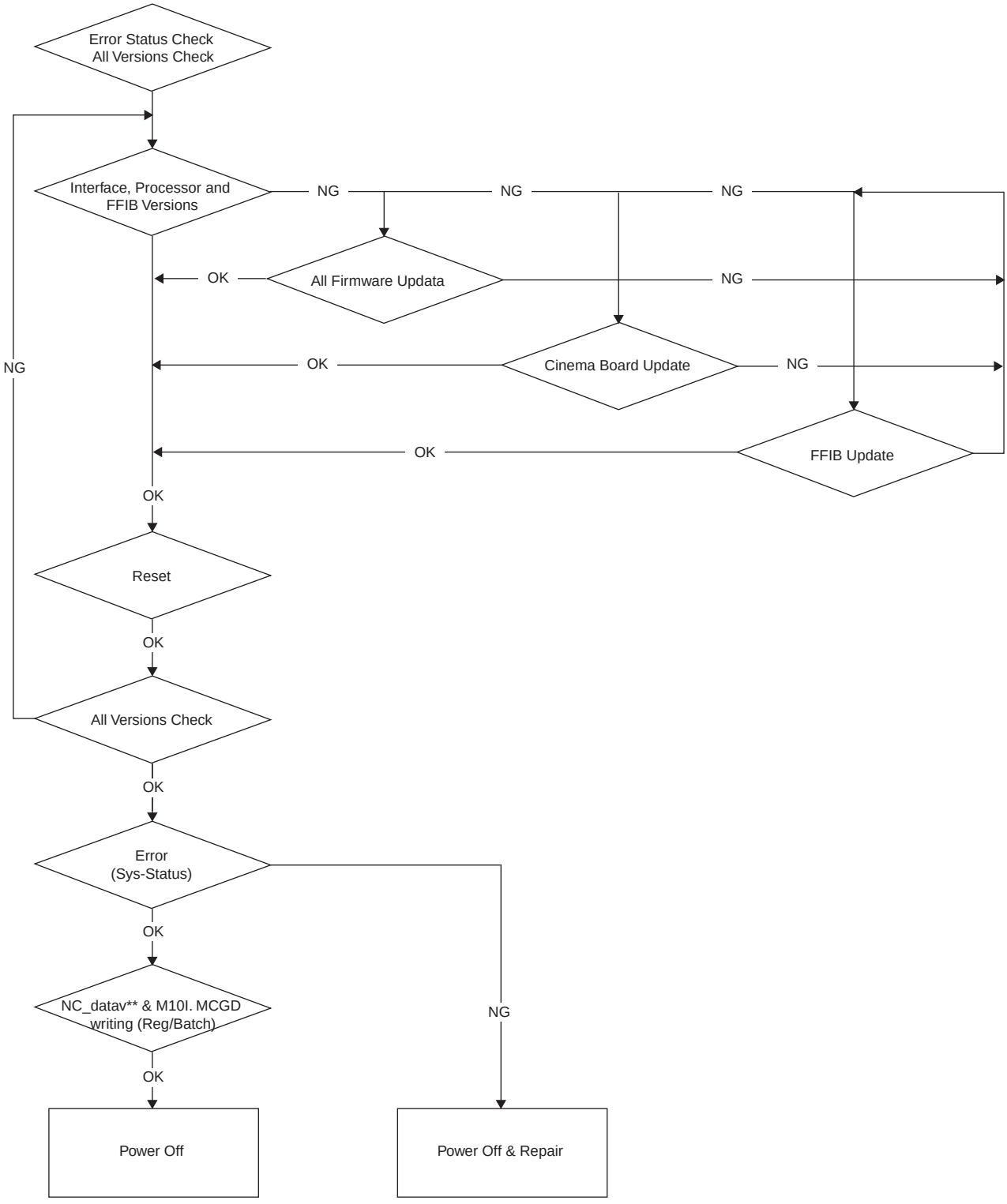
	Replacement of ETHER PWB	Items for Reference	Replacement of GPIO PWB	Items for Reference
Adjust Item				
Inspection Item	Provisions shall be enabled to gain access to the CPU and TI circuit. Operation enabled for the touch panel and MM2000B.	7-18. Operation check for external control terminals. 4) Ethernet terminal check 7-19. Operation check for optional equipment	GPIO terminal enabled to operate.	7-18. Operation check for external control terminals

	Replacement of PJKEY PWB	Items for Reference	Replacement of GPSU (Main PS)	Items for Reference
Adjust Item			Adjustment of GPSU output	4. Output adjustment for General Power Supply Unit (PJDIV PWB)
Inspection Item	Key operation enabled. LED lighting possible. LCD operation possible.	7-17. Control key operation check	Confirmation of image display Any input acceptable MM2000B operation enabled.	7-15. Picture quality check 7-19. Operation check for optional equipment

	Replacement of Standby PS	Items for Referenc
Adjust item		
Inspection Item	Confirmation of image display Any input acceptable Touch panel power supply	7-15. Picture quality check 7-19. Operation check for optional equipment

Cinema Software Check and Update

Software Version Check and Update Flow



Picture quality check

1) DVI input terminal check

① Connect the DVI-A terminal with a digital RGB signal generator through a DVI-D cable.
② Change over the projector title to Macro Key "3" (DVI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display SMPTE patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the DVI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "4" (DVI-B) and make confirmation for Items ③ to ④.

2) HD-SDI input terminal check

① Connect the SDI-A terminal with an SDI signal generator through a BNC cable (5C-FB).
② Change over the projector title to Macro Key "1" (SDI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display chart patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the SDI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "2" (SDI-B) and make confirmation for Items ③ to ④.

3) 3D display functional check with dual HD-SDI input signals

① Connect the SDI signal generator to the SDI-A terminal and the SDI-B terminal through the BNC cable (5C-FB).
In this case, both input terminals shall be connected, without fail.
② Change over the projector title to “3D TEST SDI AB.”
③ Display the signals specified below, and confirm that there is no problem like freeze of images, gradation skip, coloring, noise, etc.

Signal Format

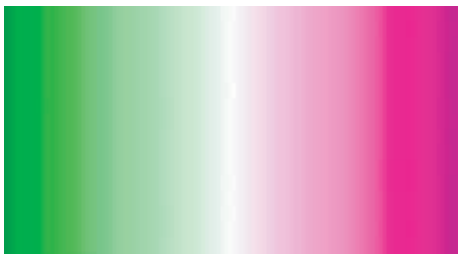
Port Protocol	Source Format	Vertical Rate	Scan type	Color Space
SMPTE 274M	1920 x 1080	24/23.98 [HZ]	Progressive	YPbPr

Signal Pattern

Mono scope

SDI Check-field

Ramp



Shadow Ramp

Operation check for external control terminals

1) REMOTE IN (Not required: Already finished)
   ① Connect the Remote Controller to the REMOTE IN terminal through the accessory Cable.
   ② Select “White100” of the TEST Pattern.
   ③ When the “CTL” key and the “PIC MUTE” key are simultaneously pressed at the Remote Controller, the DOUSER shall be capable of operation. (Refer to the table below.)
   Resetting shall be possible when the keys are pressed again.

	POWER LED	SCREEN
DOUSER ON	Blinking in green	Not displayed
DOUSER OFF	Green	Displayed

2) IR light receiver
   ① Disconnect the cable from the REMOTE IN terminal.
   ② Select “White100” of the TEST Pattern.
   ③ When the “CTL” key and the “PIC MUTE” key are simultaneously pressed at the Battery-powered Remote Controller, the DOUSER shall be capable of operation. (Refer to the table below.)
   Resetting shall be possible when the keys are pressed again.

	POWER LED	SCREEN
DOUSER ON	Blinking in green	Not displayed
DOUSER OFF	Green	Displayed

3) RS232C terminal check
   ① CINEMA
   Make connections toward the PC through the RS-232C cable (extension Straight Cable).
   Let the CINEMA/SYSTEM changeover Push-Switch assume a protruded state.
   Start the DLP Cinema Control Program to select COM1 or COM2 of the Connection Tab, and confirm that Login is enabled.
   Log In : Service
   Password : Heal□Thyself (□ : Blank)
   ② SYSTEM (Not required because it is already finished at the time of Serial No. writing to be described later)

4) Ethernet terminal check
   Use the Dos Prompt and make pinging toward each IP Address to check connections.

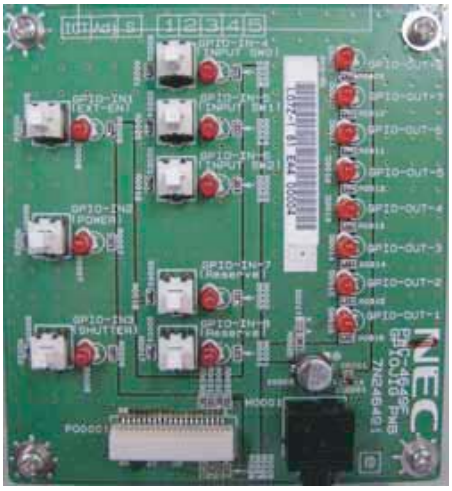
	Terminal	IP Address
System (NEC)	LAN-1 or LAN-2	192.168.10.10
Cinema (TI)	LAN-1 or LAN-2	192.168.10.11

5) Operation check for USB terminals (No inspection required)
   No inspection is required because the projector control mode change key (USB Memory) is used.

6) Operation check for the PC-CARD terminal (No inspection required)
   * Firmware and data updating is finished for the adjustment specifications.

7) Operation check for the GPIO terminal
Check the operation of the GPIO terminal by means of the I/O tester.

① Before turning **ON** the **AC Switch** of the **Projector**, make a connection between the **GPIO** tester and the **Projector** (GPIO terminal and REMOTE IN terminal). (For the connection between the GPIO tester and the REMOTE IN terminal of the set, use a cable for the remote controller.)
In this case, all the **GPIO-IN POWER keys** of the GPIO tester shall be made to stay in OFF positions.



② Start the Projector and confirm that the respective functions specified in the table below are available under the control from the GPIO tester. (On- > Off in the table below: The On period shall be 500ms or more.)
However, operation check for the Lamp on/off function is possible even in the middle of the projector in Standby mode.
In the standby mode, the present Lamp on/off status is displayed in the LCD screen. The GPIO system is regarded to have passed the test if the Lamp ON/OFF status displayed in the LCD screen changes when the Lamp on/off function in the table below is used.
Example) Execution of Lamp on with the GPIO tester → Defined as PASS with a display of “Lamp on” in the LCD screen

Function	GPIO-IN1 **EXT-EN**	GPIO-IN2 **POWER**	GPIO-IN3 **SHUTTER**	GPIO-IN6 **INPUT SW2**	GPIO-IN5 **INPUT SW1**	GPIO-IN4 **INPUT SW0**
Lamp on	**On->Off**	Off	Off	Off	Off	Off
Lamp off	Off	**On->0ff**	Off	Off	Off	Off
Douser on	Off	Off	Off	Off	Off	**On->Off**
Douser off	Off	Off	Off	Off	**On->Off**	Off
Macro Key 1	Off	Off	**On->Off**	Off	Off	Off
Macro Key 2	Off	Off	**On->Off**	Off	Off	**On->Off**
Macro Key 3	Off	Off	**On->Off**	Off	**On->Off**	Off
Macro Key 4	Off	Off	**On->Off**	Off	**On->Off**	**On->Off**
Macro Key 5	Off	Off	**On->Off**	**On->Off**	Off	Off
Macro Key 6	Off	Off	**On->Off**	**On->Off**	Off	**On->Off**
Macro Key 7	Off	Off	**On->Off**	**On->Off**	**On->Off**	Off
Macro Key 8	Off	Off	**On->Off**	**On->Off**	**On->Off**	**On->Off**

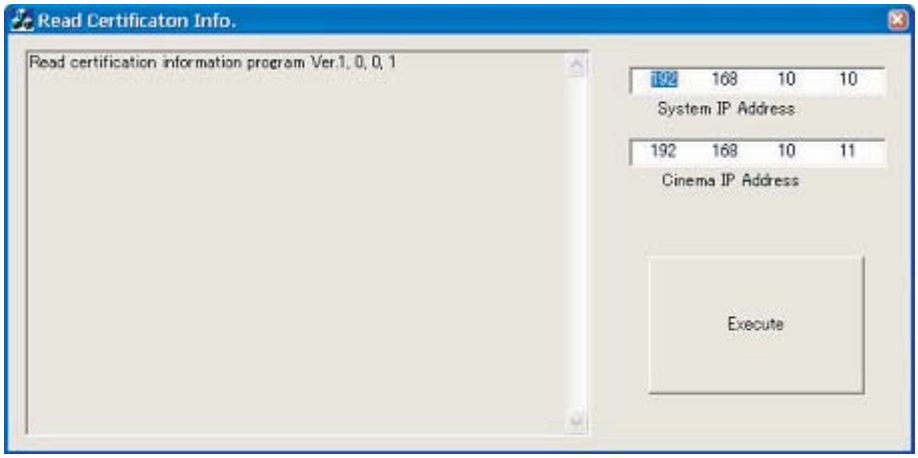
Caution) At the time of execution of the Macro Key functions, On-Off control shall be carried out simultaneously for the two GPIO terminals.

Complementary info) If the projector is started in the Standby mode in the state that “Lamp off” is displayed in the LCD screen [starting in **Lamp off mode (Default)**], the lamp remains to be turned OFF even after the start of the projector. To check the presence of pictures from the projector and others, the lamp can be turned on in the method specified below.
[Method of Lamp on/off after the start of the Projector]
There are three methods.
- Operation from DDC → Press Lamp [On]/[Off] in START Menu.
- Operation from GPIO → Execute the Lamp on/off function specified in the table above.
- Operation from main-unit key → Refer to the separate page [Control key and LED operation check].

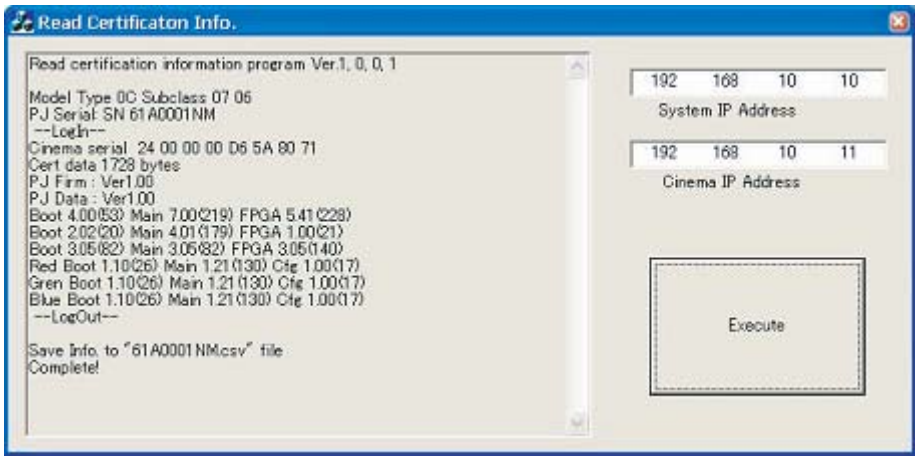
Acquisition of Digital Cinema Certificate Data

Interface Board (Applicable to 7N950921, 7N950851)

1) Connect the projector and the PC through a LAN cable.
2) Make settings for the PC Network to the figures specified below.
   IP-Address : 192. 168. 010. 17
   Gatway : 192. 168. 010. 17
   Subnet Mask : 255. 255. 255. 0
3) Start “ReadCert.exe” from the PC.
   Make settings for “System IP Address” and “Cinema IP Address” as specified below.
   System IP Address : 192. 168. 010. 010
   Cinema IP Address : 192. 168. 010. 011
   Press [Execute] and acquire data.



4) Acquisition of Data has been completed when “Complete!” is displayed in the last line of the screen.

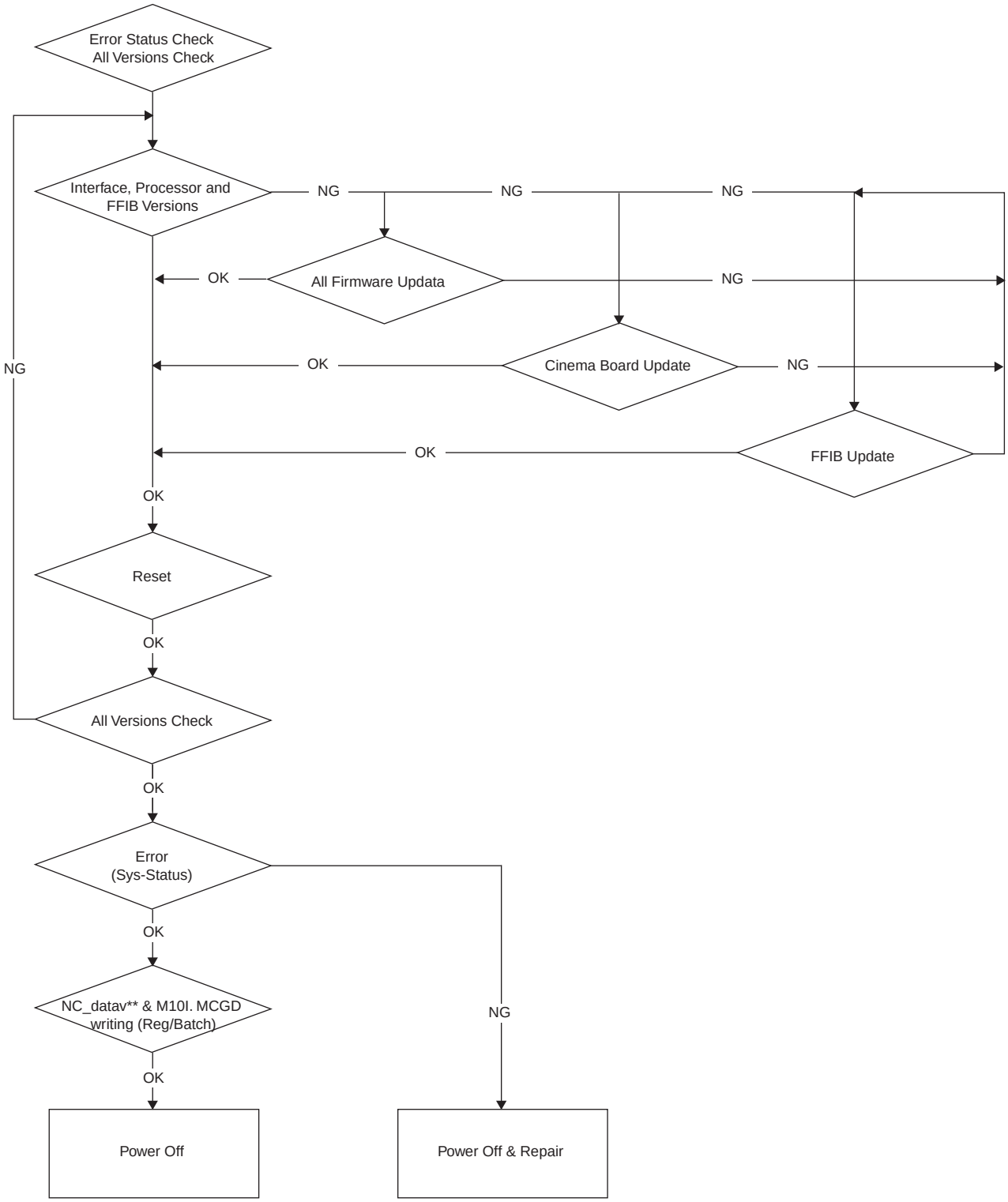


5) The Data File is saved in the folder where the “ReadCert.exe” is present, with the File name expressed by the serial number of the Projector.
   Confirm that the saved File is identical with the Serial number of the Projector.

Caution : The Projector cannot be used if this Data File is missing. Confirm it, without fail.
The Data are acquired from the Interface Board (7N950921 or 7N950851). If the Board is replaced, this work has to be carried out again.

Processor Board exchange/FFIB Board exchange/Prism ASSY exchange

Software Version Check and Update Flow



Picture quality check

1) DVI input terminal check

① Connect the DVI-A terminal with a digital RGB signal generator through a DVI-D cable.
② Change over the projector title to Macro Key "3" (DVI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display SMPTE patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the DVI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "4" (DVI-B) and make confirmation for Items ③ to ④.

2) HD-SDI input terminal check

① Connect the SDI-A terminal with an SDI signal generator through a BNC cable (5C-FB).
② Change over the projector title to Macro Key "1" (SDI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display chart patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the SDI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "2" (SDI-B) and make confirmation for Items ③ to ④.

3) 3D display functional check with dual HD-SDI input signals

① Connect the SDI signal generator to the SDI-A terminal and the SDI-B terminal through the BNC cable (5C-FB).
In this case, both input terminals shall be connected, without fail.
② Change over the projector title to “3D TEST SDI AB.”
③ Display the signals specified below, and confirm that there is no problem like freeze of images, gradation skip, coloring, noise, etc.

Signal Format

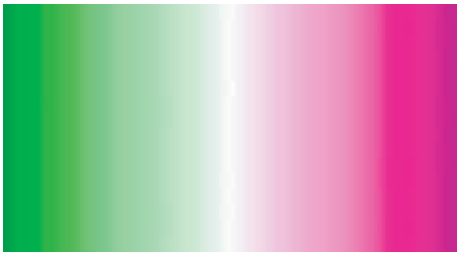
Port Protocol	Source Format	Vertical Rate	Scan type	Color Space
SMPTE 274M	1920 x 1080	24/23.98 [HZ]	Progressive	YPbPr

Signal Pattern

Mono scope

SDI Check-field

Ramp



Shadow Ramp

Cable (signal line between FFIB and FSB) exghange

Picture quality check

1) DVI input terminal check

① Connect the DVI-A terminal with a digital RGB signal generator through a DVI-D cable.
② Change over the projector title to Macro Key "3" (DVI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display SMPTE patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the DVI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "4" (DVI-B) and make confirmation for Items ③ to ④.

2) HD-SDI input terminal check

① Connect the SDI-A terminal with an SDI signal generator through a BNC cable (5C-FB).
② Change over the projector title to Macro Key "1" (SDI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display chart patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the SDI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "2" (SDI-B) and make confirmation for Items ③ to ④.

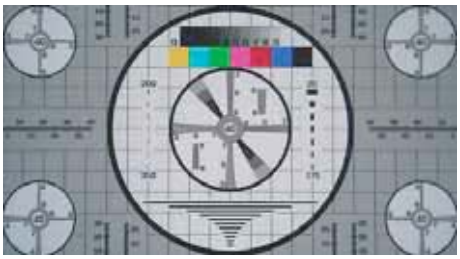
3) 3D display functional check with dual HD-SDI input signals

① Connect the SDI signal generator to the SDI-A terminal and the SDI-B terminal through the BNC cable (5C-FB).
In this case, both input terminals shall be connected, without fail.
② Change over the projector title to “3D TEST SDI AB.”
③ Display the signals specified below, and confirm that there is no problem like freeze of images, gradation skip, coloring, noise, etc.

Signal Format

Port Protocol	Source Format	Vertical Rate	Scan type	Color Space
SMPTE 274M	1920 x 1080	24/23.98 [HZ]	Progressive	YPbPr

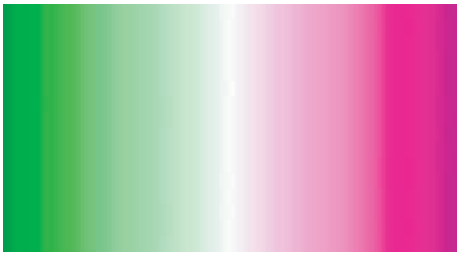
Signal Pattern



Mono scope

SDI Check-field

Ramp



Shadow Ramp

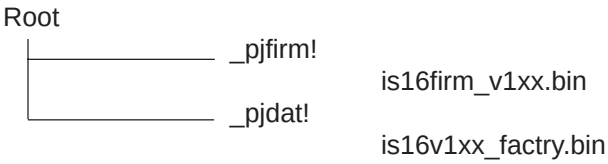
CPU PWB exchange

CPU Board Firmware / Data Update

1. Preparation

Copy the Firmware and Data file in the Compact Flash memory in the procedures specified below.

1) Copy Firm(is16firm_v1xx.bin) in the "_pjfirm!" folder of the Compact Flash memory.
2) Copy Data(is16v1xx_factory.bin) in the "_pjdat!" folder of the Compact Flash memory.



3) Insert the Compact Flash memory in the PC-CARD slot.

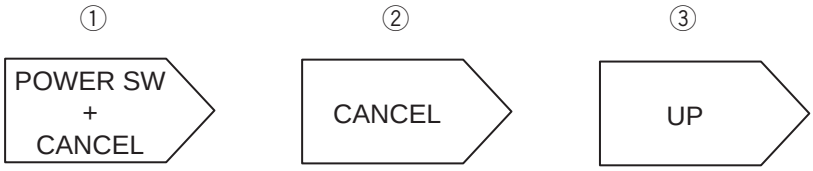
2. Update

2-1. Firm (Projector " MENU CTL " key operation)

① Pressing the CANCEL key, turn ON the Power SW.

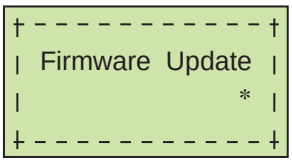
② When the Status LED is turned green, press the CANCEL key.

③ Press the UP key.

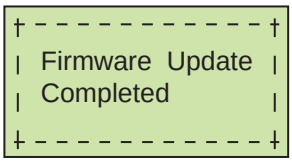


LCD display

Firm writing



End of Firm writing



④ Turn OFF the Power SW.

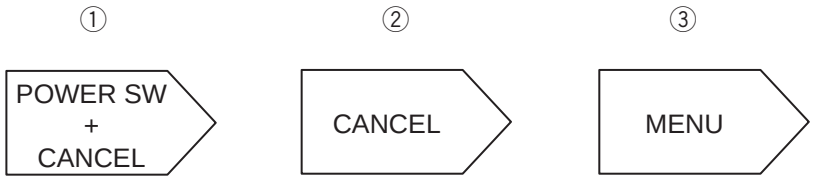
Note) Failure in writing: Power LED keeps blinking in red. ⇒ Retry writing.

2-2. Data (Projector " MENU CTL " key operation)

① Pressing the CANCEL key, turn ON the Power SW.

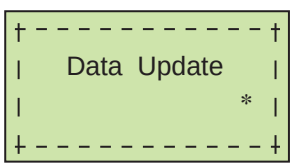
② When the Status LED is turned green, press the CANCEL key.

③ Press the MENU key.

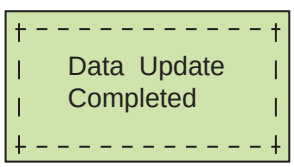


LCD display

Data writing



End of Data writing



④ Turn OFF the Power SW and remove the Compact Flash memory.

Note) Failure in writing: Power LED keeps blinking in red. ⇒ Retry writing.

After the completion of Firm and Data writing, make the Projector assume the "Standby" condition.
According to "Information → Version" of the LED menu, check the version for the three items specified below.
BIOS / Firmware / Data

Picture quality check

1) DVI input terminal check

① Connect the DVI-A terminal with a digital RGB signal generator through a DVI-D cable.
② Change over the projector title to Macro Key "3" (DVI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display SMPTE patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the DVI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "4" (DVI-B) and make confirmation for Items ③ to ④.

2) HD-SDI input terminal check

① Connect the SDI-A terminal with an SDI signal generator through a BNC cable (5C-FB).
② Change over the projector title to Macro Key "1" (SDI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display chart patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the SDI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "2" (SDI-B) and make confirmation for Items ③ to ④.

3) 3D display functional check with dual HD-SDI input signals

① Connect the SDI signal generator to the SDI-A terminal and the SDI-B terminal through the BNC cable (5C-FB).
In this case, both input terminals shall be connected, without fail.
② Change over the projector title to “3D TEST SDI AB.”
③ Display the signals specified below, and confirm that there is no problem like freeze of images, gradation skip, coloring, noise, etc.

Signal Format

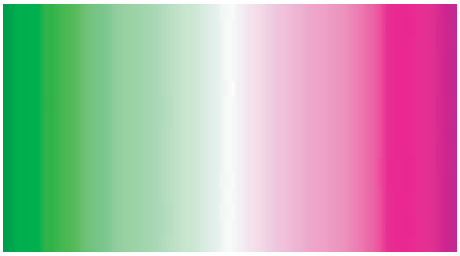
Port Protocol	Source Format	Vertical Rate	Scan type	Color Space
SMPTE 274M	1920 x 1080	24/23.98 [HZ]	Progressive	YPbPr

Signal Pattern

Mono scope

SDI Check-field

Ramp



Shadow Ramp

Operation check for external control terminals

1) REMOTE IN (Not required: Already finished)
   ① Connect the Remote Controller to the REMOTE IN terminal through the accessory Cable.
   ② Select “White100” of the TEST Pattern.
   ③ When the “CTL” key and the “PIC MUTE” key are simultaneously pressed at the Remote Controller, the DOUSER shall be capable of operation. (Refer to the table below.)
   Resetting shall be possible when the keys are pressed again.

	POWER LED	SCREEN
DOUSER ON	Blinking in green	Not displayed
DOUSER OFF	Green	Displayed

2) IR light receiver
   ① Disconnect the cable from the REMOTE IN terminal.
   ② Select “White100” of the TEST Pattern.
   ③ When the “CTL” key and the “PIC MUTE” key are simultaneously pressed at the Battery-powered Remote Controller, the DOUSER shall be capable of operation. (Refer to the table below.)
   Resetting shall be possible when the keys are pressed again.

	POWER LED	SCREEN
DOUSER ON	Blinking in green	Not displayed
DOUSER OFF	Green	Displayed

3) RS232C terminal check
   ① CINEMA
   Make connections toward the PC through the RS-232C cable (extension Straight Cable).
   Let the CINEMA/SYSTEM changeover Push-Switch assume a protruded state.
   Start the DLP Cinema Control Program to select COM1 or COM2 of the Connection Tab, and confirm that Login is enabled.
   Log In : Service
   Password : Heal□Thyself (□ : Blank)
   ② SYSTEM (Not required because it is already finished at the time of Serial No. writing to be described later)

4) Ethernet terminal check
   Use the Dos Prompt and make pinging toward each IP Address to check connections.

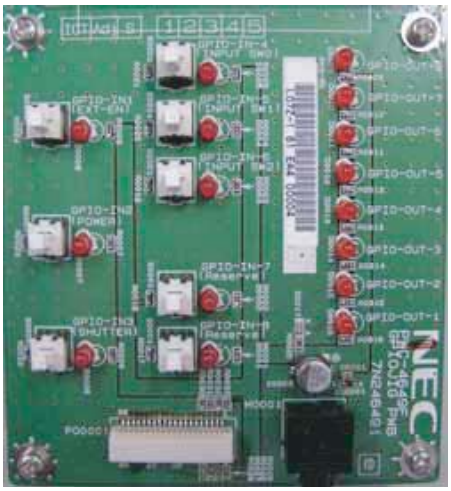
	Terminal	IP Address
System (NEC)	LAN-1 or LAN-2	192.168.10.10
Cinema (TI)	LAN-1 or LAN-2	192.168.10.11

5) Operation check for USB terminals (No inspection required)
   No inspection is required because the projector control mode change key (USB Memory) is used.

6) Operation check for the PC-CARD terminal (No inspection required)
   * Firmware and data updating is finished for the adjustment specifications.

7) Operation check for the GPIO terminal
Check the operation of the GPIO terminal by means of the I/O tester.

① Before turning **ON** the **AC Switch** of the **Projector**, make a connection between the **GPIO** tester and the **Projector** (GPIO terminal and REMOTE IN terminal). (For the connection between the GPIO tester and the REMOTE IN terminal of the set, use a cable for the remote controller.)
In this case, all the **GPIO-IN POWER keys** of the GPIO tester shall be made to stay in OFF positions.



② Start the Projector and confirm that the respective functions specified in the table below are available under the control from the GPIO tester. (On- > Off in the table below: The On period shall be 500ms or more.)
However, operation check for the Lamp on/off function is possible even in the middle of the projector in Standby mode.
In the standby mode, the present Lamp on/off status is displayed in the LCD screen. The GPIO system is regarded to have passed the test if the Lamp ON/OFF status displayed in the LCD screen changes when the Lamp on/off function in the table below is used.
Example) Execution of Lamp on with the GPIO tester → Defined as PASS with a display of “Lamp on” in the LCD screen

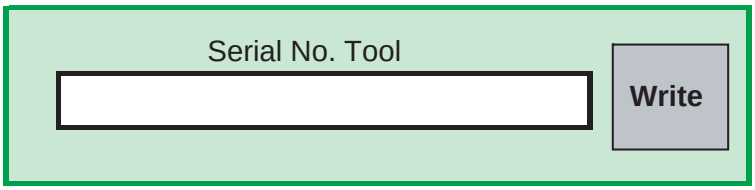
Function	GPIO-IN1 **EXT-EN**	GPIO-IN2 **POWER**	GPIO-IN3 **SHUTTER**	GPIO-IN6 **INPUT SW2**	GPIO-IN5 **INPUT SW1**	GPIO-IN4 **INPUT SW0**
Lamp on	**On->Off**	Off	Off	Off	Off	Off
Lamp off	Off	**On->0ff**	Off	Off	Off	Off
Douser on	Off	Off	Off	Off	Off	**On->Off**
Douser off	Off	Off	Off	Off	**On->Off**	Off
Macro Key 1	Off	Off	**On->Off**	Off	Off	Off
Macro Key 2	Off	Off	**On->Off**	Off	Off	**On->Off**
Macro Key 3	Off	Off	**On->Off**	Off	**On->Off**	Off
Macro Key 4	Off	Off	**On->Off**	Off	**On->Off**	**On->Off**
Macro Key 5	Off	Off	**On->Off**	**On->Off**	Off	Off
Macro Key 6	Off	Off	**On->Off**	**On->Off**	Off	**On->Off**
Macro Key 7	Off	Off	**On->Off**	**On->Off**	**On->Off**	Off
Macro Key 8	Off	Off	**On->Off**	**On->Off**	**On->Off**	**On->Off**

Caution) At the time of execution of the Macro Key functions, On-Off control shall be carried out simultaneously for the two GPIO terminals.

Complementary info) If the projector is started in the Standby mode in the state that “Lamp off” is displayed in the LCD screen [starting in **Lamp off mode (Default)**], the lamp remains to be turned OFF even after the start of the projector. To check the presence of pictures from the projector and others, the lamp can be turned on in the method specified below.
[Method of Lamp on/off after the start of the Projector]
There are three methods.
- Operation from DDC → Press Lamp [On]/[Off] in START Menu.
- Operation from GPIO → Execute the Lamp on/off function specified in the table above.
- Operation from main-unit key → Refer to the separate page [Control key and LED operation check].

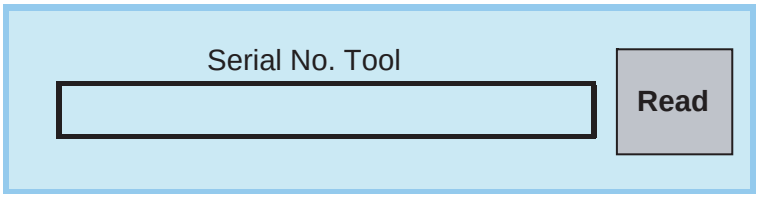
Serial No. update (Power ON state)

1) Make connections between the Serial terminal of the PC and the RS-232C terminal through the RS-232C (Straight) extension cable.
2) Press the Cinema/System switch of the RS-232C (hollow state).
3) Updated the serial number.
   From the PC, open “iS25_FactoryAdj_xxx.xls” for factory adjustments.
   Enter the serial number in the area specified below and press the “Write” button.



4) Serial number check
   Press the “Read” button and confirm that the displayed serial number is identical with the updated serial number.

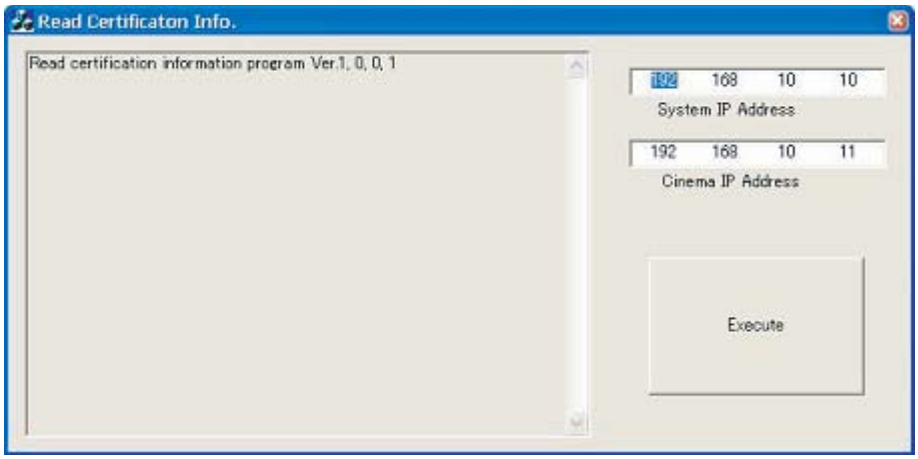
Serial No.



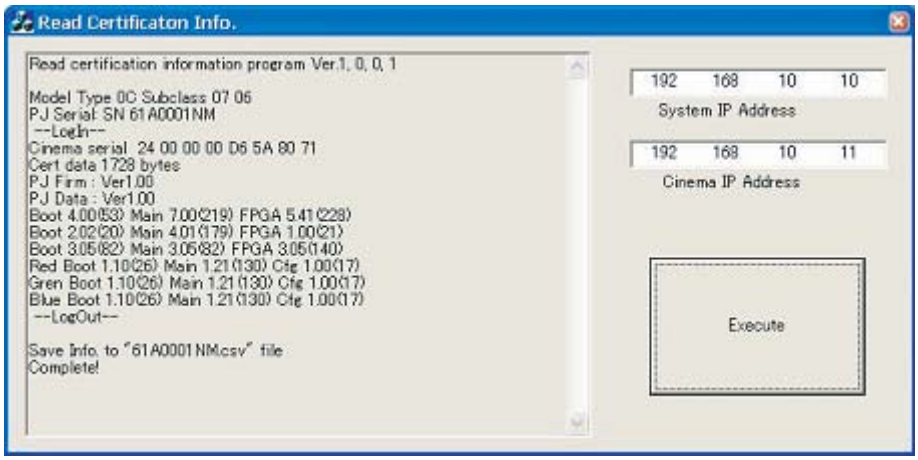
Acquisition of Digital Cinema Certificate Data

Interface Board (Applicable to 7N950921, 7N950851)

1) Connect the projector and the PC through a LAN cable.
2) Make settings for the PC Network to the figures specified below.
   IP-Address : 192. 168. 010. 17
   Gatway : 192. 168. 010. 17
   Subnet Mask : 255. 255. 255. 0
3) Start “ReadCert.exe” from the PC.
   Make settings for “System IP Address” and “Cinema IP Address” as specified below.
   System IP Address : 192. 168. 010. 010
   Cinema IP Address : 192. 168. 010. 011
   Press Execute and acquire data.



4) Acquisition of Data has been completed when “Complete!” is displayed in the last line of the screen.



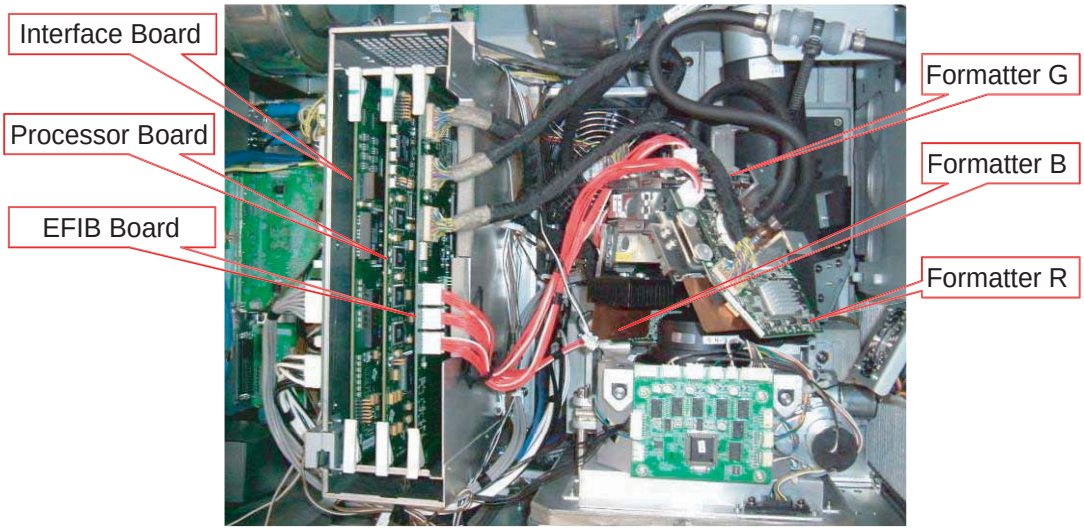
5) The Data File is saved in the folder where the “ReadCert.exe” is present, with the File name expressed by the serial number of the Projector.
   Confirm that the saved File is identical with the Serial number of the Projector.

Caution : The Projector cannot be used if this Data File is missing. Confirm it, without fail.
The Data are acquired from the Interface Board (7N950921 or 7N950851). If the Board is replaced, this work has to be carried out again.

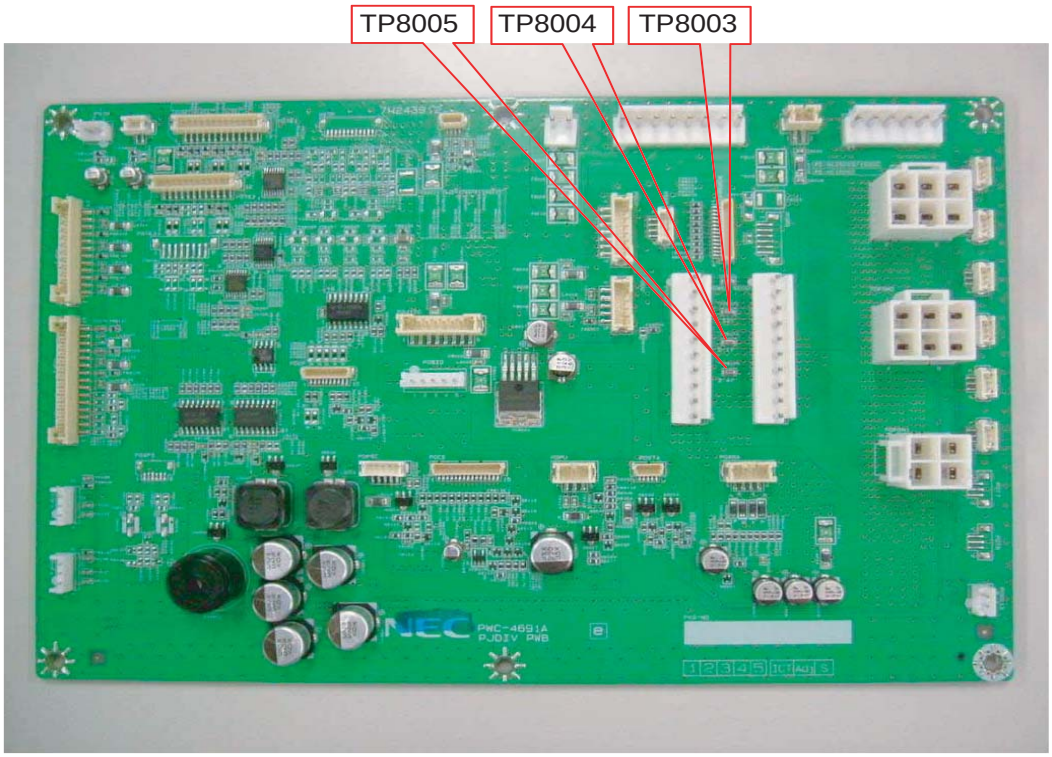
PJDIV PWB exchange

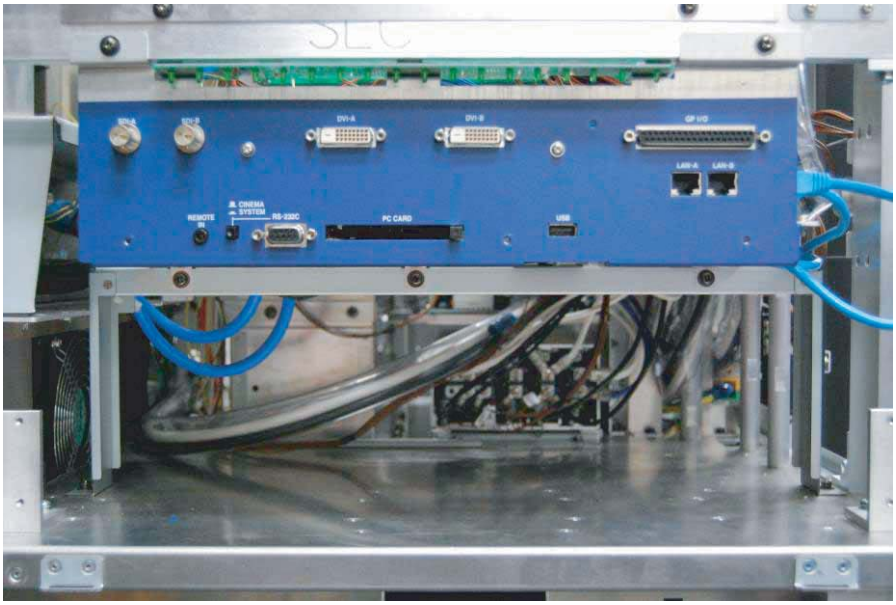
Output Adjustment for General Power Supply Unit (PJDIV Board)

1) Disconnect the various boards of Interface, Processor, and EFIB inserted in the Mother Board.

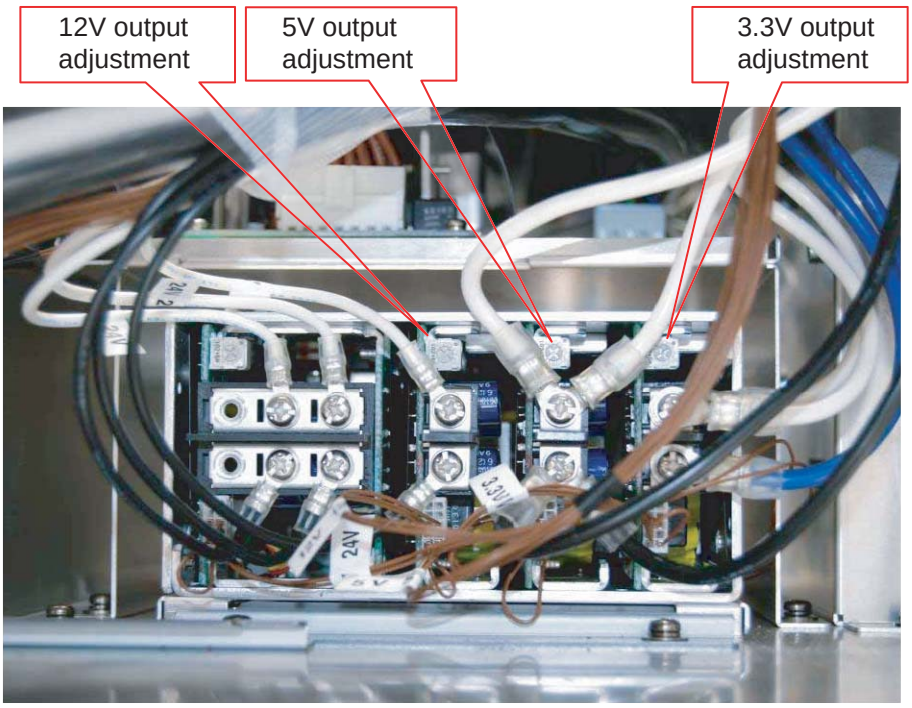


2) Start the Projector in the Lamp OFF Mode.
3) Voltage check for 3.3V, 5V, and 12V
   Check the voltages listed below, between TEST Point and GND.
   TP8005 (near PON11) : 3.40 ± 0.05 [VDC]
   TP8004 (near PON11) : 5.10 + 0.1 [VDC]
   – 0.0 [VDC]
   TP8003 (near PON11) : 12.00 ± 0.1 [VDC]
   If the voltage level is deviating from the tolerable value, adjust the output of the General Power Supply Unit (GPSU). (See descriptions below.)





Projector front-right side



General Power Supply (GPSU)

4) After voltage check, turn the power OFF at the projector. Reinstall the Interface Board, the Processor Board, and the EFIB Board, which have been disconnected before work.

Note) Record the measured values (voltages) at TP8003, TP8004, and TP8005.

Picture quality check

1) DVI input terminal check

① Connect the DVI-A terminal with a digital RGB signal generator through a DVI-D cable.
② Change over the projector title to Macro Key "3" (DVI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display SMPTE patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the DVI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "4" (DVI-B) and make confirmation for Items ③ to ④.

2) HD-SDI input terminal check

① Connect the SDI-A terminal with an SDI signal generator through a BNC cable (5C-FB).
② Change over the projector title to Macro Key "1" (SDI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display chart patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the SDI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "2" (SDI-B) and make confirmation for Items ③ to ④.

3) 3D display functional check with dual HD-SDI input signals

① Connect the SDI signal generator to the SDI-A terminal and the SDI-B terminal through the BNC cable (5C-FB).
In this case, both input terminals shall be connected, without fail.
② Change over the projector title to “3D TEST SDI AB.”
③ Display the signals specified below, and confirm that there is no problem like freeze of images, gradation skip, coloring, noise, etc.

Signal Format

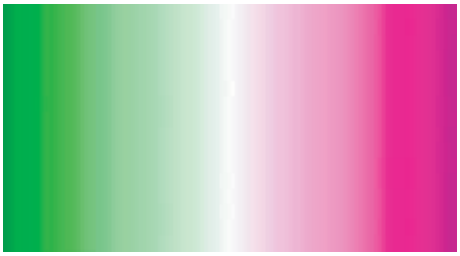
Port Protocol	Source Format	Vertical Rate	Scan type	Color Space
SMPTE 274M	1920 x 1080	24/23.98 [HZ]	Progressive	YPbPr

Signal Pattern

Mono scope

SDI Check-field

Ramp



Shadow Ramp

Operation check for Optional devices

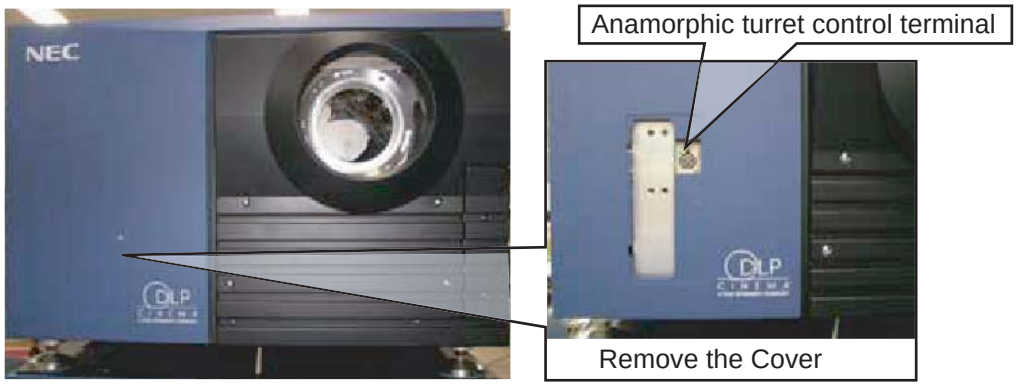
1) Anamorphic turret

① Mount the anamorphic turret test jig on the anamorphic turret control terminal located in projector front.

② According to the LCD menu (MENU → Title Select), make a changeover between “SDI A W-ANAMO” and “SDI A.” Confirm that the LED of the anamorphic turret test jig makes a change as shown in the table below simultaneously when the title has been changed over.

Tide name	Test jig LED
SDI A	Lit in red
SDI A W-ANAMO	Lit in green

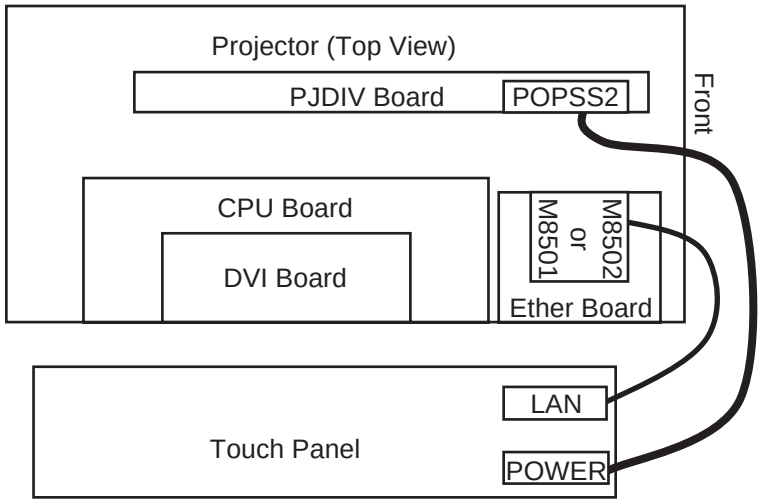
③ Remove the Anamorphic turret test jig and mount the anamorphic turret control terminal Cover located in Projector front.



2) Touch Panel

Connect the Touch Panel and confirm that the Projector can be controlled from the Touch Panel.
This action is taken also for the purpose of Touch Panel terminal testing for the Projector

① In the state that the POWER is turned OFF, make a connection between the projector and the Touch Panel.



Connection Diagram for “Projector – Touch Panel”

② Let the Projector assume the Standby status.
Turn the POWER ON for the Touch Panel and confirm that there is no ERROR.

③ Turn the POWER OFF for the Projector and remove the Touch Panel.

DVI-OUT PWB exghange

Picture quality check

1) DVI input terminal check

① Connect the DVI-A terminal with a digital RGB signal generator through a DVI-D cable.
② Change over the projector title to Macro Key "3" (DVI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display SMPTE patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the DVI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "4" (DVI-B) and make confirmation for Items ③ to ④.

2) HD-SDI input terminal check

① Connect the SDI-A terminal with an SDI signal generator through a BNC cable (5C-FB).
② Change over the projector title to Macro Key "1" (SDI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display chart patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the SDI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "2" (SDI-B) and make confirmation for Items ③ to ④.

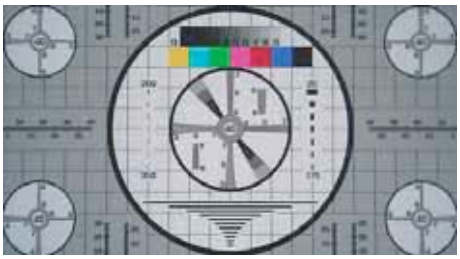
3) 3D display functional check with dual HD-SDI input signals

① Connect the SDI signal generator to the SDI-A terminal and the SDI-B terminal through the BNC cable (5C-FB).
In this case, both input terminals shall be connected, without fail.
② Change over the projector title to “3D TEST SDI AB.”
③ Display the signals specified below, and confirm that there is no problem like freeze of images, gradation skip, coloring, noise, etc.

Signal Format

Port Protocol	Source Format	Vertical Rate	Scan type	Color Space
SMPTE 274M	1920 x 1080	24/23.98 [HZ]	Progressive	YPbPr

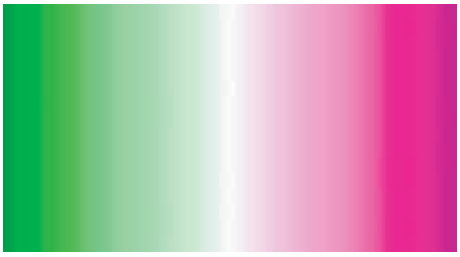
Signal Pattern



Mono scope

SDI Check-field

Ramp



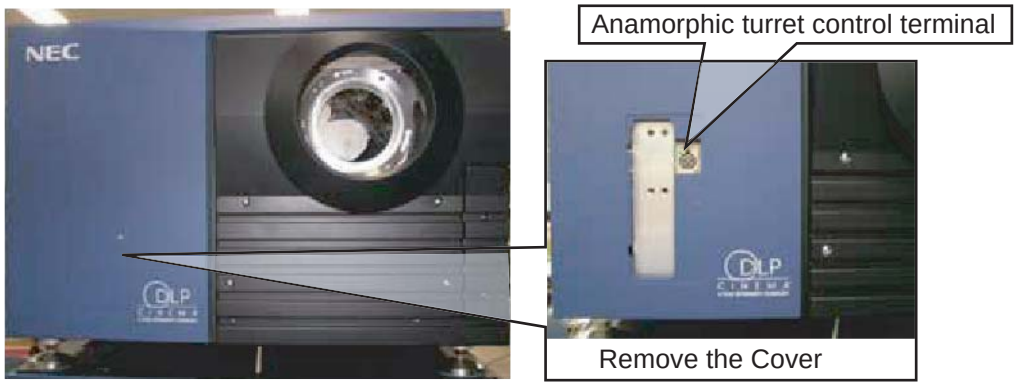
Shadow Ramp

Operation check for Optional devices

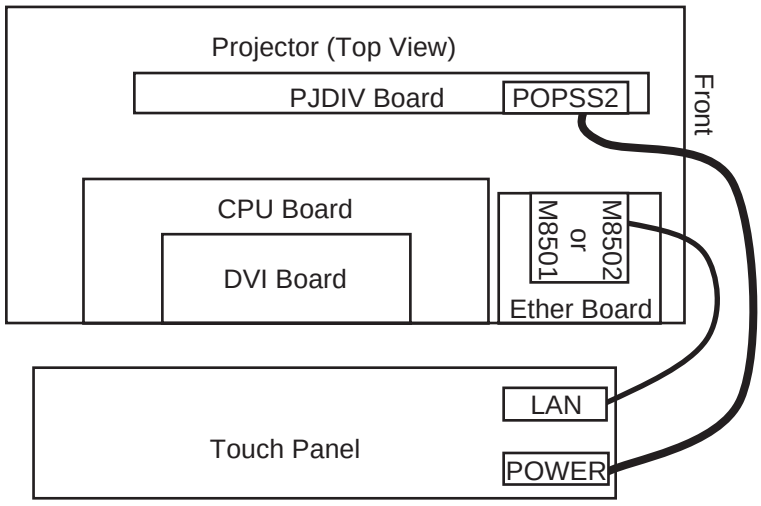
1) Anamorphic turret
   ① Mount the anamorphic turret test jig on the anamorphic turret control terminal located in projector front.
   ② According to the LCD menu (MENU → Title Select), make a changeover between “SDI A W-ANAMO” and “SDI A.” Confirm that the LED of the anamorphic turret test jig makes a change as shown in the table below simultaneously when the title has been changed over.

Tide name	Test jig LED
SDI A	Lit in red
SDI A W-ANAMO	Lit in green

   ③ Remove the Anamorphic turret test jig and mount the anamorphic turret control terminal Cover located in Projector front.



2) Touch Panel
   Connect the Touch Panel and confirm that the Projector can be controlled from the Touch Panel.
   This action is taken also for the purpose of Touch Panel terminal testing for the Projector
   ① In the state that the POWER is turned OFF, make a connection between the projector and the Touch Panel.



Connection Diagram for “Projector – Touch Panel”

   ② Let the Projector assume the Standby status.
   Turn the POWER ON for the Touch Panel and confirm that there is no ERROR.
   ③ Turn the POWER OFF for the Projector and remove the Touch Panel.

ETHER PWB exchange

Operation check for external control terminals

1) REMOTE IN (Not required: Already finished)
   ① Connect the Remote Controller to the REMOTE IN terminal through the accessory Cable.
   ② Select “White100” of the TEST Pattern.
   ③ When the “CTL” key and the “PIC MUTE” key are simultaneously pressed at the Remote Controller, the DOUSER shall be capable of operation. (Refer to the table below.)
   Resetting shall be possible when the keys are pressed again.

	POWER LED	SCREEN
DOUSER ON	Blinking in green	Not displayed
DOUSER OFF	Green	Displayed

2) IR light receiver
   ① Disconnect the cable from the REMOTE IN terminal.
   ② Select “White100” of the TEST Pattern.
   ③ When the “CTL” key and the “PIC MUTE” key are simultaneously pressed at the Battery-powered Remote Controller, the DOUSER shall be capable of operation. (Refer to the table below.)
   Resetting shall be possible when the keys are pressed again.

	POWER LED	SCREEN
DOUSER ON	Blinking in green	Not displayed
DOUSER OFF	Green	Displayed

3) RS232C terminal check
   ① CINEMA
   Make connections toward the PC through the RS-232C cable (extension Straight Cable).
   Let the CINEMA/SYSTEM changeover Push-Switch assume a protruded state.
   Start the DLP Cinema Control Program to select COM1 or COM2 of the Connection Tab, and confirm that Login is enabled.
   Log In : Service
   Password : Heal□Thyself (□ : Blank)
   ② SYSTEM (Not required because it is already finished at the time of Serial No. writing to be described later)

4) Ethernet terminal check
   Use the Dos Prompt and make pinging toward each IP Address to check connections.

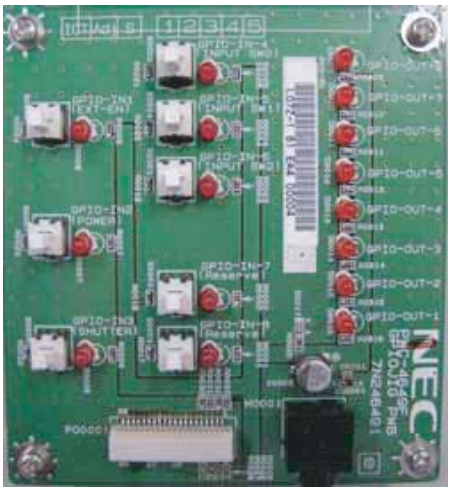
	Terminal	IP Address
System (NEC)	LAN-1 or LAN-2	192.168.10.10
Cinema (TI)	LAN-1 or LAN-2	192.168.10.11

5) Operation check for USB terminals (No inspection required)
   No inspection is required because the projector control mode change key (USB Memory) is used.

6) Operation check for the PC-CARD terminal (No inspection required)
   * Firmware and data updating is finished for the adjustment specifications.

7) Operation check for the GPIO terminal
Check the operation of the GPIO terminal by means of the I/O tester.

① Before turning **ON** the **AC Switch** of the **Projector**, make a connection between the **GPIO** tester and the **Projector** (GPIO terminal and REMOTE IN terminal). (For the connection between the GPIO tester and the REMOTE IN terminal of the set, use a cable for the remote controller.)
In this case, all the **GPIO-IN POWER keys** of the GPIO tester shall be made to stay in OFF positions.



② Start the Projector and confirm that the respective functions specified in the table below are available under the control from the GPIO tester. (On- > Off in the table below: The On period shall be 500ms or more.)
However, operation check for the Lamp on/off function is possible even in the middle of the projector in Standby mode.
In the standby mode, the present Lamp on/off status is displayed in the LCD screen. The GPIO system is regarded to have passed the test if the Lamp ON/OFF status displayed in the LCD screen changes when the Lamp on/off function in the table below is used.
Example) Execution of Lamp on with the GPIO tester → Defined as PASS with a display of “Lamp on” in the LCD screen

Function	GPIO-IN1 **EXT-EN**	GPIO-IN2 **POWER**	GPIO-IN3 **SHUTTER**	GPIO-IN6 **INPUT SW2**	GPIO-IN5 **INPUT SW1**	GPIO-IN4 **INPUT SW0**
Lamp on	**On->Off**	Off	Off	Off	Off	Off
Lamp off	Off	**On->0ff**	Off	Off	Off	Off
Douser on	Off	Off	Off	Off	Off	**On->Off**
Douser off	Off	Off	Off	Off	**On->Off**	Off
Macro Key 1	Off	Off	**On->Off**	Off	Off	Off
Macro Key 2	Off	Off	**On->Off**	Off	Off	**On->Off**
Macro Key 3	Off	Off	**On->Off**	Off	**On->Off**	Off
Macro Key 4	Off	Off	**On->Off**	Off	**On->Off**	**On->Off**
Macro Key 5	Off	Off	**On->Off**	**On->Off**	Off	Off
Macro Key 6	Off	Off	**On->Off**	**On->Off**	Off	**On->Off**
Macro Key 7	Off	Off	**On->Off**	**On->Off**	**On->Off**	Off
Macro Key 8	Off	Off	**On->Off**	**On->Off**	**On->Off**	**On->Off**

Caution) At the time of execution of the Macro Key functions, On-Off control shall be carried out simultaneously for the two GPIO terminals.

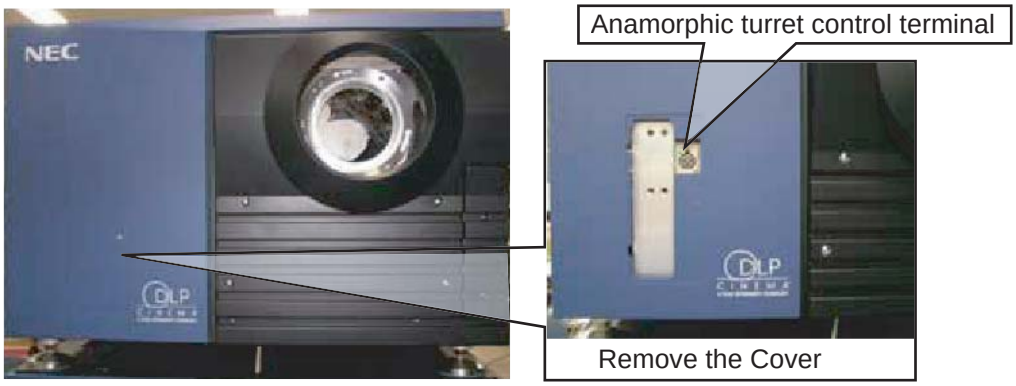
Complementary info) If the projector is started in the Standby mode in the state that “Lamp off” is displayed in the LCD screen [starting in **Lamp off mode (Default)**], the lamp remains to be turned OFF even after the start of the projector. To check the presence of pictures from the projector and others, the lamp can be turned on in the method specified below.
[Method of Lamp on/off after the start of the Projector]
There are three methods.
- Operation from DDC → Press Lamp [On]/[Off] in START Menu.
- Operation from GPIO → Execute the Lamp on/off function specified in the table above.
- Operation from main-unit key → Refer to the separate page [Control key and LED operation check].

Operation check for Optional devices

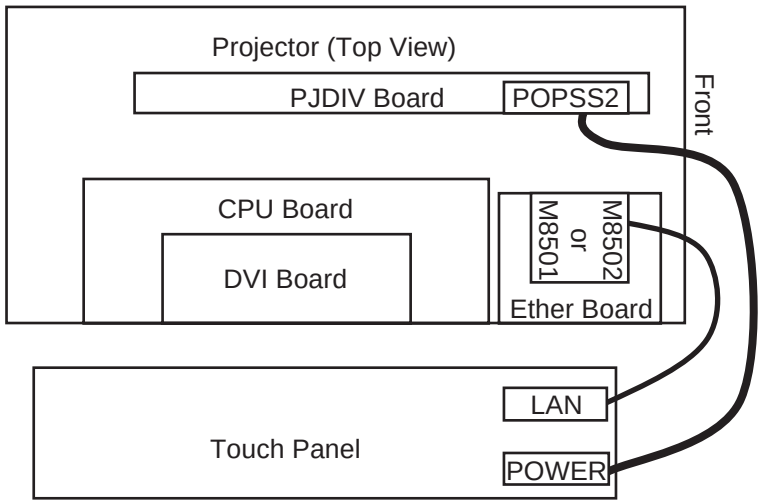
1) Anamorphic turret
   ① Mount the anamorphic turret test jig on the anamorphic turret control terminal located in projector front.
   ② According to the LCD menu (MENU → Title Select), make a changeover between “SDI A W-ANAMO” and “SDI A.” Confirm that the LED of the anamorphic turret test jig makes a change as shown in the table below simultaneously when the title has been changed over.

Tide name	Test jig LED
SDI A	Lit in red
SDI A W-ANAMO	Lit in green

   ③ Remove the Anamorphic turret test jig and mount the anamorphic turret control terminal Cover located in Projector front.



2) Touch Panel
   Connect the Touch Panel and confirm that the Projector can be controlled from the Touch Panel.
   This action is taken also for the purpose of Touch Panel terminal testing for the Projector
   ① In the state that the POWER is turned OFF, make a connection between the projector and the Touch Panel.



Connection Diagram for “Projector – Touch Panel”

   ② Let the Projector assume the Standby status.
   Turn the POWER ON for the Touch Panel and confirm that there is no ERROR.
   ③ Turn the POWER OFF for the Projector and remove the Touch Panel.

GPIO PWB exchange

Operation check for external control terminals

1) REMOTE IN (Not required: Already finished)
   ① Connect the Remote Controller to the REMOTE IN terminal through the accessory Cable.
   ② Select “White100” of the TEST Pattern.
   ③ When the “CTL” key and the “PIC MUTE” key are simultaneously pressed at the Remote Controller, the DOUSER shall be capable of operation. (Refer to the table below.)
   Resetting shall be possible when the keys are pressed again.

	POWER LED	SCREEN
DOUSER ON	Blinking in green	Not displayed
DOUSER OFF	Green	Displayed

2) IR light receiver
   ① Disconnect the cable from the REMOTE IN terminal.
   ② Select “White100” of the TEST Pattern.
   ③ When the “CTL” key and the “PIC MUTE” key are simultaneously pressed at the Battery-powered Remote Controller, the DOUSER shall be capable of operation. (Refer to the table below.)
   Resetting shall be possible when the keys are pressed again.

	POWER LED	SCREEN
DOUSER ON	Blinking in green	Not displayed
DOUSER OFF	Green	Displayed

3) RS232C terminal check
   ① CINEMA
   Make connections toward the PC through the RS-232C cable (extension Straight Cable).
   Let the CINEMA/SYSTEM changeover Push-Switch assume a protruded state.
   Start the DLP Cinema Control Program to select COM1 or COM2 of the Connection Tab, and confirm that Login is enabled.
   Log In : Service
   Password : Heal□Thyself (□ : Blank)
   ② SYSTEM (Not required because it is already finished at the time of Serial No. writing to be described later)

4) Ethernet terminal check
   Use the Dos Prompt and make pinging toward each IP Address to check connections.

	Terminal	IP Address
System (NEC)	LAN-1 or LAN-2	192.168.10.10
Cinema (TI)	LAN-1 or LAN-2	192.168.10.11

5) Operation check for USB terminals (No inspection required)
   No inspection is required because the projector control mode change key (USB Memory) is used.

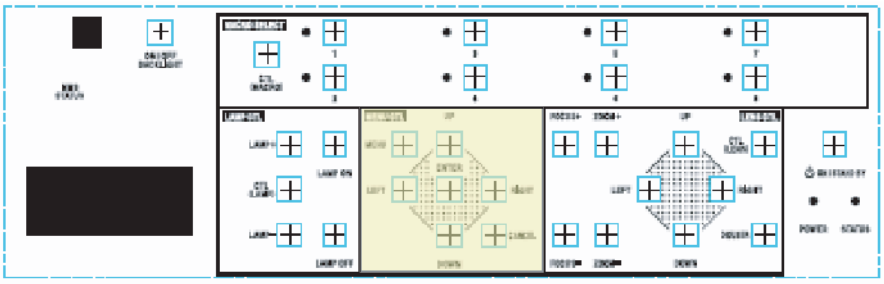
6) Operation check for the PC-CARD terminal (No inspection required)
   * Firmware and data updating is finished for the adjustment specifications.

PJKEY PWB exchange

Operation check for control key & LED

1) “POWER” key (Not required if already finished)
2) “LENS CTL” key
   Confirm that any key is effective in the LENS CTL area.
   When “CTL (LENS)” is pressed, character lighting shall be performed in the LENS CTL area.
   “UP”, “DOWN”, “RIGHT”, “LEFT”, “FOCUS+”, “FOCUS –”, “ZOOM+”, “ZOOM –”, “DOUSER”
   Other keys need not be tested because they have already been checked at the time of Lens Mount test.

3) “MENU CTL” key
   Confirm that any key is effective in the MENU CTL area.
   “MENU” : Moves from the Home screen to the Menu Select screen.
   “ENTER” : Determines selection.
   “CANCEL” : Cancels the selection. Otherwise, it returns to the previous one.
   “UP” : Goes upward in the menu.
   “DOWN” : Goes downward in the menu.
   “LEFT” : Goes to the left in the menu.
   “RIGHT” : Goes to the right in the menu.



4) “LAMP CTL” key

CTL (LAMP) When a key is pressed, character lighting shall be performed in the LAMP CTL area.

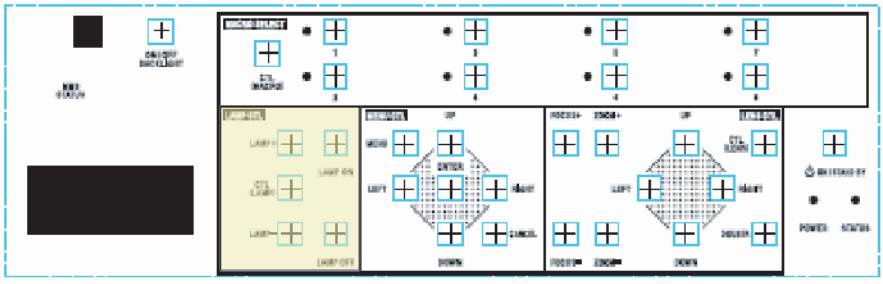
(“LAMP+”, “LAMP –”, “LAMP ON”, “LAMP OFF”)

CTL (LAMP) + LAMP - : The lamp output value shall lower (DOWN).

CTL (LAMP) + LAMP + : The lamp output value shall rise (UP).

CTL (LAMP) + LAMP ON : The lamp shall be turned ON (to be pressed for about 3 seconds or longer).

CTL (LAMP) + LAMP OFF : The lamp shall be turned OFF (to be pressed for about 3 seconds or longer).



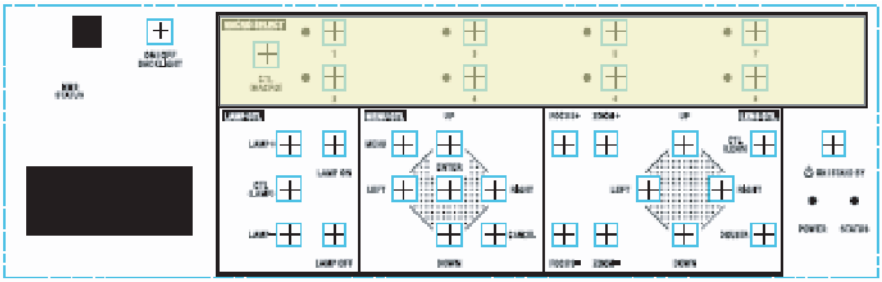
5) “MACRO SELECT” key
Apply signals to the terminals of “SDI A”, “SDI B”, “DVI A”, and “DVI B”. (Any pictures acceptable)

CTL (MACRO) When a key is pressed, character lighting shall be performed in the MACRO SELECT area. (“1”, “2”, “3”, “4”, “5”, “6”, “7”, “8”)

When CTL (MACRO) + 1-8 are pressed, the title shall be changed over to the registered one.

LCD display : The changed title shall be displayed.
Images: There shall be no turbulence in changed images.
The MACRO Select LED shall be lit.

	Selected	Not selected	Title not registered
MACRO Select LED	Lit in orange	Lit in green	Unlit



List of Macro Key Registration

Key No.	During factory adjustments		During shipment	
	Title name	Terminal	Title name	Terminal
1	SDI A	SDI-A	DCDM XYZ 239	SDI-A, B DUAL
2	SDI B	SDI-B	DCDM XYZ 185	SDI-A, B DUAL
3	DVI A	DVI-A	DCDM RGB239	SDI-A, B DUAL
4	DVI B	DVI-B	DCDM RGB185	SDI-A, B DUAL
5	CrossHatch	TEST Pattern	MXFI 239	SDI-A
6	Alignment	TEST Pattern	MXFI 185	SDI-B
7	White100	TEST Pattern	DVI-A	DVI-A
8	Black	TEST Pattern	DVI-B	DVI-B

6) “BACKLIGHT” key
Press the BACK LIGHT key for about one second and confirm that the LC Back Light is lit and unlit (toggle).

7) “POWER” LED (Not required if already finished)
Check operation specified in the table below.

LED	Mode	Status	Countermeasures
POWER	Standby	Normal	Lit in orange
		Error	Lit in red
	Running	Normal	Lit in greem
		Error	Lit in red
	Cooling	Normal	Lit in orange
	DOUSER	Close	Lit in green

8) “STATUS” LED (Not required if already finished)
Check operation specified in the table below.

LED	Mode	Status	Countermeasures
STATUS	Standby	Normal	Lit in green
	Lamp lit	Retry	Blinking in green
	Running	Normal	Unlit
	Cooling	Normal	Unlit
	ERROR	Error3	Blinking 3 times in red (for 0.5 sec) at 5 sec. intervals

9) “REAR STATUS” LED (Not required if already finished)
Check operation specified in the table below.

LED	Mode	Status	Countermeasures
REAR STATUS	Standby	Normal	Lit in orange
		Warning	Lit in red
		Error	Blinking in red
	Running	Normal	Lit in greem
		Warning	Lit in red
		Error	Blinking in red
	Cooling	Normal	Blinking in rorenge
	DOUSER	Close	Blinking in green

10) “MMS STATUS” LED (Already finished for 7-16. Operation check for optional devices)
Check operation specified in the table below.

LED	Mode	Status	Countermeasures
MMS STATUS	Not Use		Unlit
	Built-in	During connection processing	Blinking in green
		During connection	Lit in green
		Connection Error	Blinking in red
	External	During connection processing	Blinking in orange
		During connection	Lit in orange
		Connection Error	Blinking in red

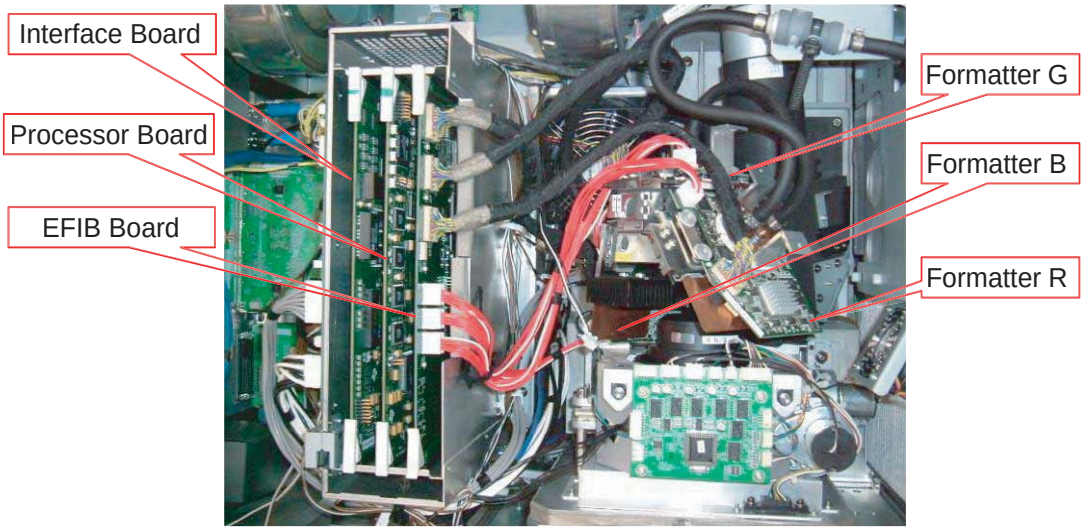
11) BEEP (Not required if already finished)
Check operation specified in the table below.

LED	Status	Countermeasures
BEEP	Normal	No sound
	Warning	No sound
	Error	Continuous sound

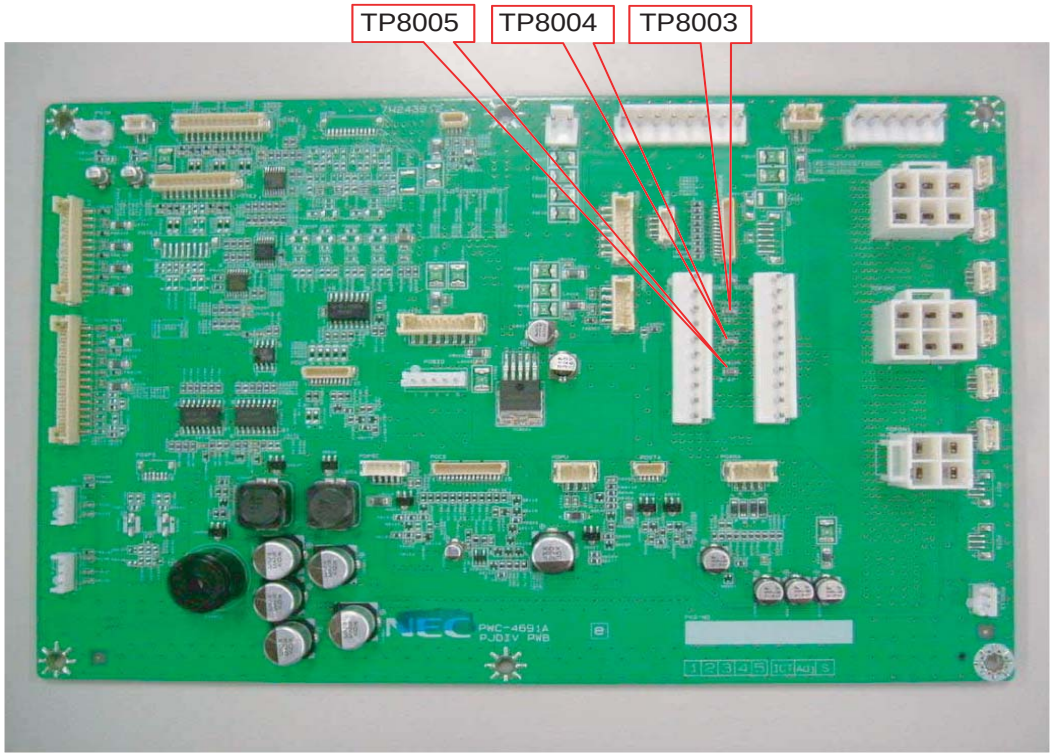
GPSU (Main PS) exchange

Output Adjustment for General Power Supply Unit (PJDIV Board)

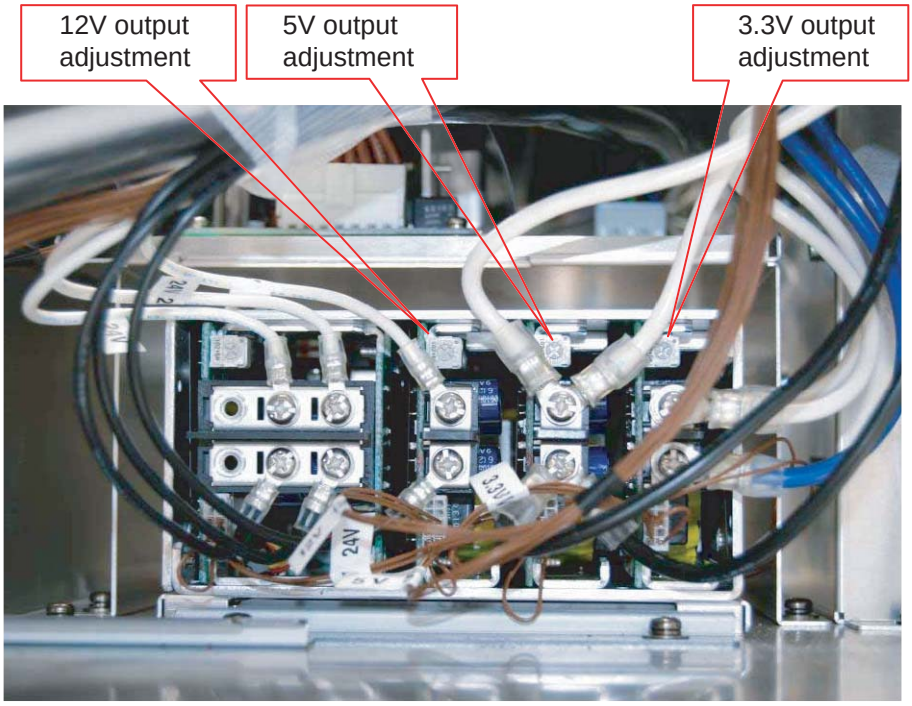
1) Disconnect the various boards of Interface, Processor, and EFIB inserted in the Mother Board.



2) Start the Projector in the Lamp OFF Mode.
3) Voltage check for 3.3V, 5V, and 12V
   Check the voltages listed below, between TEST Point and GND.
   TP8005 (near PON11) : 3.40 ± 0.05 [VDC]
   TP8004 (near PON11) : 5.10 + 0.1 [VDC]
   – 0.0 [VDC]
   TP8003 (near PON11) : 12.00 ± 0.1 [VDC]
   If the voltage level is deviating from the tolerable value, adjust the output of the General Power Supply Unit (GPSU). (See descriptions below.)



Projector front-right side



General Power Supply (GPSU)

4) After voltage check, turn the power OFF at the projector. Reinstall the Interface Board, the Processor Board, and the EFIB Board, which have been disconnected before work.

Note) Record the measured values (voltages) at TP8003, TP8004, and TP8005.

Picture quality check

1) DVI input terminal check

① Connect the DVI-A terminal with a digital RGB signal generator through a DVI-D cable.
② Change over the projector title to Macro Key "3" (DVI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display SMPTE patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the DVI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "4" (DVI-B) and make confirmation for Items ③ to ④.

2) HD-SDI input terminal check

① Connect the SDI-A terminal with an SDI signal generator through a BNC cable (5C-FB).
② Change over the projector title to Macro Key "1" (SDI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display chart patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the SDI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "2" (SDI-B) and make confirmation for Items ③ to ④.

3) 3D display functional check with dual HD-SDI input signals

① Connect the SDI signal generator to the SDI-A terminal and the SDI-B terminal through the BNC cable (5C-FB).
In this case, both input terminals shall be connected, without fail.
② Change over the projector title to “3D TEST SDI AB.”
③ Display the signals specified below, and confirm that there is no problem like freeze of images, gradation skip, coloring, noise, etc.

Signal Format

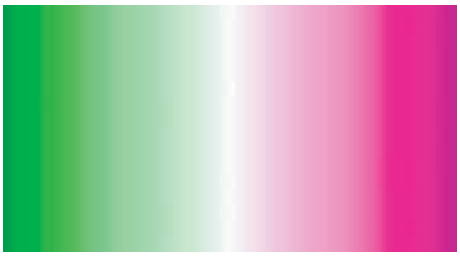
Port Protocol	Source Format	Vertical Rate	Scan type	Color Space
SMPTE 274M	1920 x 1080	24/23.98 [HZ]	Progressive	YPbPr

Signal Pattern

Mono scope

SDI Check-field

Ramp



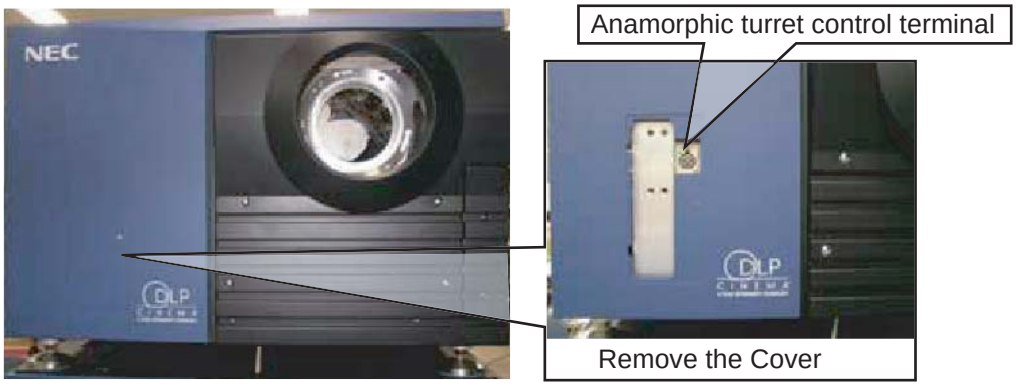
Shadow Ramp

Operation check for Optional devices

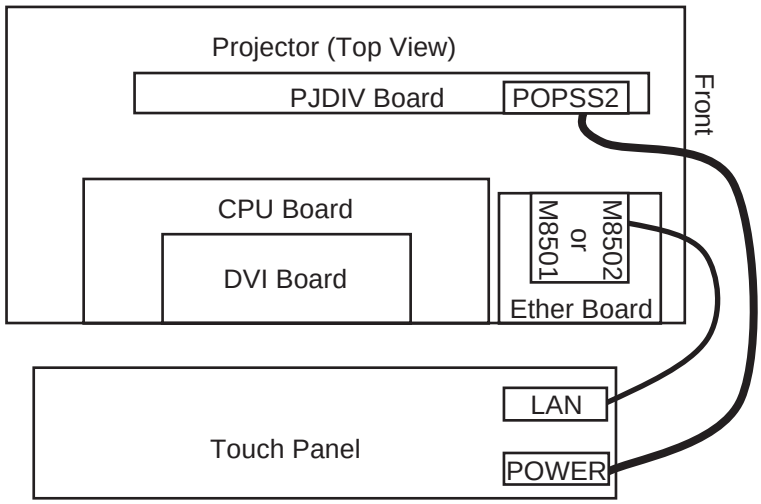
1) Anamorphic turret
   ① Mount the anamorphic turret test jig on the anamorphic turret control terminal located in projector front.
   ② According to the LCD menu (MENU → Title Select), make a changeover between “SDI A W-ANAMO” and “SDI A.” Confirm that the LED of the anamorphic turret test jig makes a change as shown in the table below simultaneously when the title has been changed over.

Tide name	Test jig LED
SDI A	Lit in red
SDI A W-ANAMO	Lit in green

   ③ Remove the Anamorphic turret test jig and mount the anamorphic turret control terminal Cover located in Projector front.



2) Touch Panel
   Connect the Touch Panel and confirm that the Projector can be controlled from the Touch Panel.
   This action is taken also for the purpose of Touch Panel terminal testing for the Projector
   ① In the state that the POWER is turned OFF, make a connection between the projector and the Touch Panel.



Connection Diagram for “Projector – Touch Panel”

   ② Let the Projector assume the Standby status.
   Turn the POWER ON for the Touch Panel and confirm that there is no ERROR.
   ③ Turn the POWER OFF for the Projector and remove the Touch Panel.

Replacement of the standby power supply

Picture quality check

1) DVI input terminal check

① Connect the DVI-A terminal with a digital RGB signal generator through a DVI-D cable.
② Change over the projector title to Macro Key "3" (DVI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display SMPTE patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the DVI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "4" (DVI-B) and make confirmation for Items ③ to ④.

2) HD-SDI input terminal check

① Connect the SDI-A terminal with an SDI signal generator through a BNC cable (5C-FB).
② Change over the projector title to Macro Key "1" (SDI-A).
③ Display the Ramp signals to confirm the freedom from gradation skip, coloring, and others.
④ Display chart patterns and others to confirm the freedom from jitter, coloring, etc.
⑤ Change the connection to the SDI-B input terminal of the projector.
⑥ Change over the projector title to Macro Key "2" (SDI-B) and make confirmation for Items ③ to ④.

3) 3D display functional check with dual HD-SDI input signals

① Connect the SDI signal generator to the SDI-A terminal and the SDI-B terminal through the BNC cable (5C-FB).
In this case, both input terminals shall be connected, without fail.
② Change over the projector title to “3D TEST SDI AB.”
③ Display the signals specified below, and confirm that there is no problem like freeze of images, gradation skip, coloring, noise, etc.

Signal Format

Port Protocol	Source Format	Vertical Rate	Scan type	Color Space
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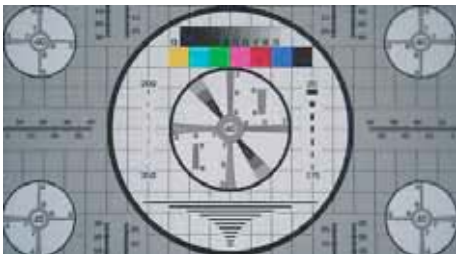
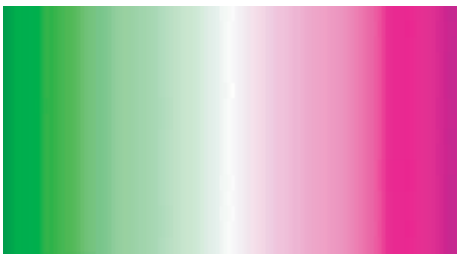
Signal Pattern



Mono scope

SDI Check-field

Ramp



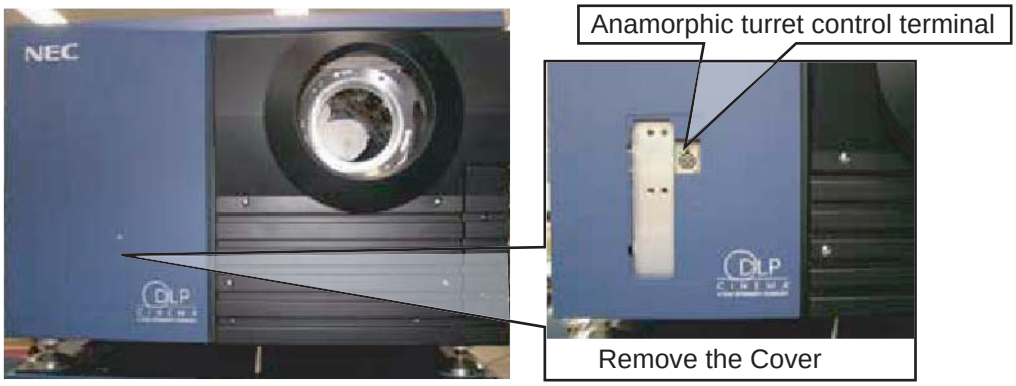
Shadow Ramp

Operation check for Optional devices

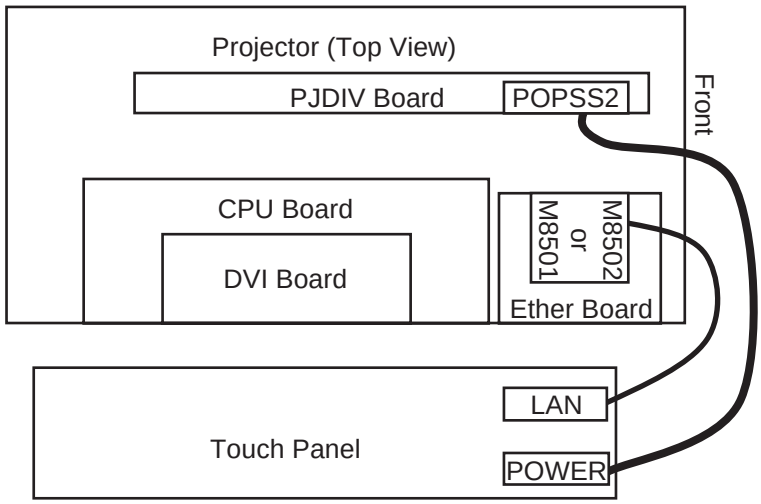
1) Anamorphic turret
   ① Mount the anamorphic turret test jig on the anamorphic turret control terminal located in projector front.
   ② According to the LCD menu (MENU → Title Select), make a changeover between “SDI A W-ANAMO” and “SDI A.” Confirm that the LED of the anamorphic turret test jig makes a change as shown in the table below simultaneously when the title has been changed over.

Tide name	Test jig LED
SDI A	Lit in red
SDI A W-ANAMO	Lit in green

   ③ Remove the Anamorphic turret test jig and mount the anamorphic turret control terminal Cover located in Projector front.



2) Touch Panel
   Connect the Touch Panel and confirm that the Projector can be controlled from the Touch Panel.
   This action is taken also for the purpose of Touch Panel terminal testing for the Projector
   ① In the state that the POWER is turned OFF, make a connection between the projector and the Touch Panel.



Connection Diagram for “Projector – Touch Panel”

   ② Let the Projector assume the Standby status.
   Turn the POWER ON for the Touch Panel and confirm that there is no ERROR.
   ③ Turn the POWER OFF for the Projector and remove the Touch Panel.

Lens Mount Adjustments

1. Adjustment of lens shift limit

No adjustment items required

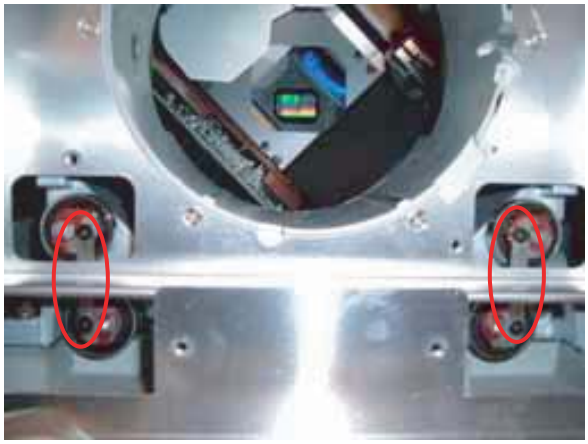
2. Adjustment of focus limit

No adjustment items required

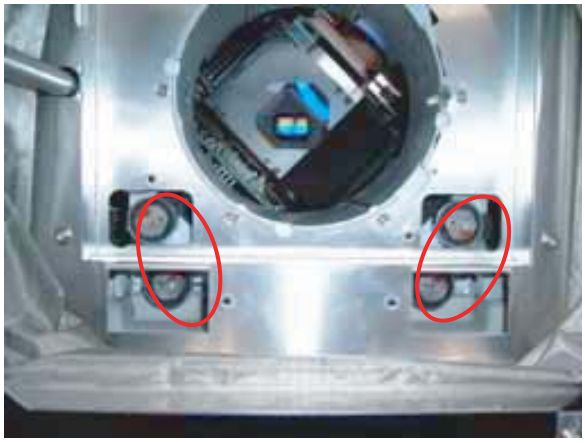
3. Adjustment of lens mount

1) Let the lens focus gear coincide with the zoom gear marking (for 4 meters).

2) Remove the lock plate (2 pcs.).

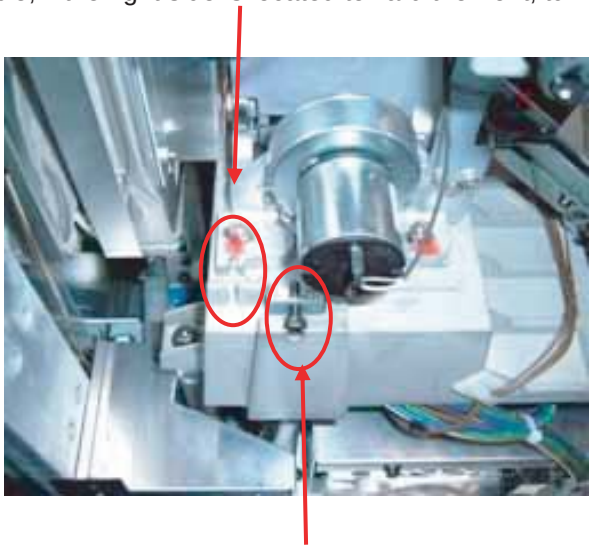


3) Adjust the vertical focus balance in the crosshatch screen.
   - Turn the cam shown at top left and move the vertical focus point toward the front by the same distance from the screen. Then, lock the point with the screw in the cam.
   - Turn the bottom-left cam to eliminate a gap and lock the cam with the screw in the cam.
   - The cam on the right side should be adjusted during fine adjustments. (The adjusting method is the same as that for the left side cam. However, the turning direction is counterclockwise and reverse as that for locking. Make sure not to confuse it.)
   - If the lower focus is located toward the front, for example, the mount should be positioned to face upwards. (In such a case, the screen is moved downwards.)



4) Loosen the mount fixing screws (M5, 4 pcs.).

5) Make turns with jigs so that the right and left focus points become the same as each other.
For example, if the right side is located toward the front, turn it so that the screen is faced to the right.



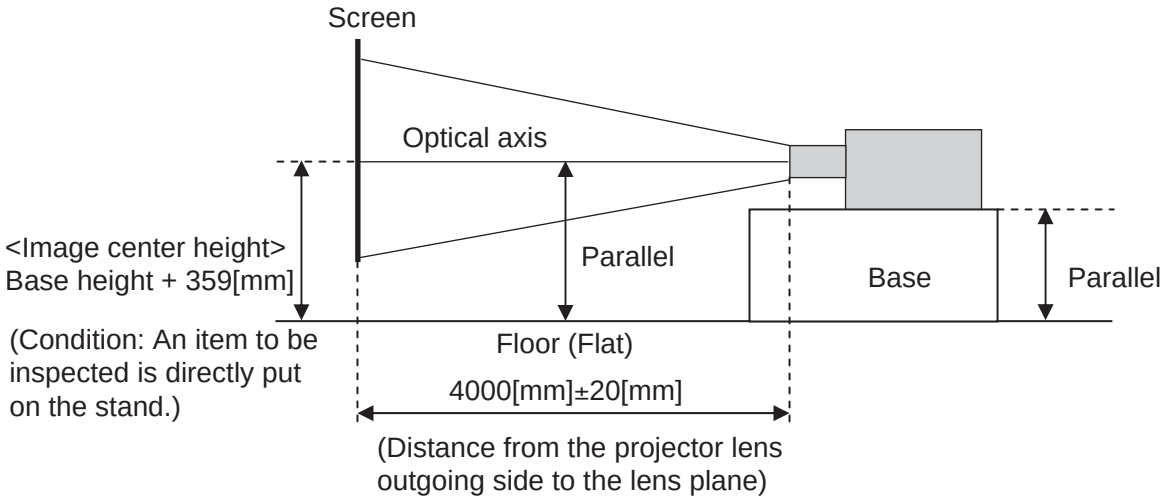
6) Move the Axis Z adjusting metal fittings and adjust the center focus in front of the screen.
• Make adjustments so that the center focus becomes best in front of the screen (separately specified).
7) Tighten the mount fixing screws (M5, 4 pcs.).
Confirm that all the right, left, top, bottom, and Axis Z focuses have been correctly adjusted.
If any focus is adversely adjusted, make respective readjustments adequately.
8) Move the screen to the screen center by means of lens shift function.
9) Install the lock plate.
10) Attach a locking adhesive agent to the fixing screws of the cam, lock plate, and mount fixing screws.

4. Installation conditions

Optical adjustments shall be carried out always under the conditions that the projector lamp has been lit for five minutes or longer.

Caution) Prior to the closure of the power switch, confirm the item specified below, without fail.
• The single-phase AC power circuit shall be connected correctly.

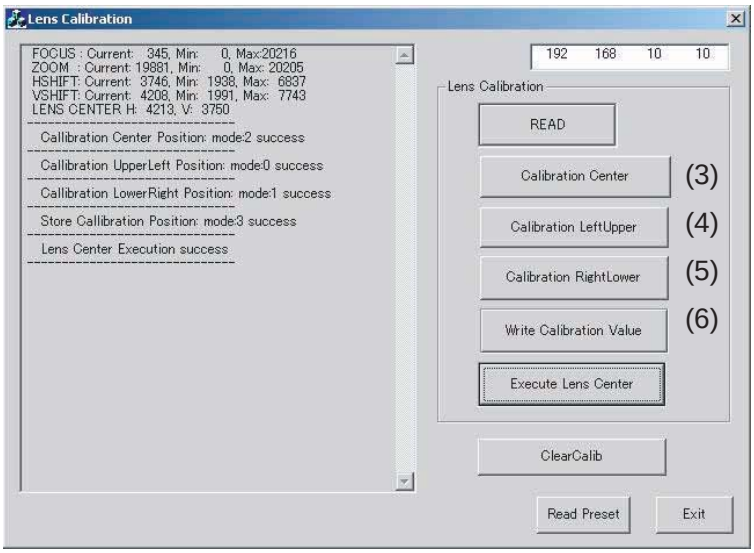
(Lens used: NC-60LS13Z)



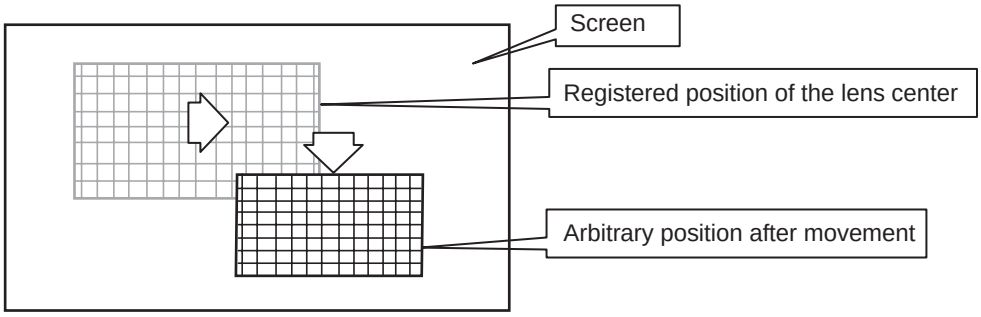
* When the lens zoom is moved from Wide to Tele, the displacement from the center shall be within ±10mm. (Based on the screen width of 2.7[m])

5. Adjustment of lens, zero position (calibration), and shift range

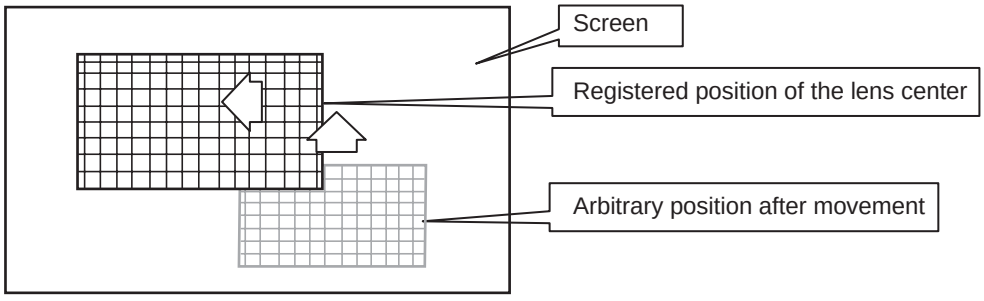
1) Select "Cross Hatch" of the TEST Pattern.
2) Using "Lens Shift", adjust the center of the projector screen to the center position of the screen.
3) Write this point with the use of appropriative software. (Press the [Calibration Center] button.)
4) Move the lens to the top left position (0.13H/351mm, 0.34V/484mm).
   Write this point with the use of appropriative software. (Press the [Calibration Left Upper] button.)
5) Move the lens to the bottom right position (-0.13H/351mm, -0.34V/484mm).
   Write this point with the use of appropriative software. (Press the [Calibration Right Lower] button.)
6) Write the above-mentioned three points in the EEPROM. (Press the [Write Calibration Value] button.)



7) Turn the projector power OFF and save the written values.
8) Confirm the registered data.
   • Turn the power ON.
   • Display "Cross Hatch" of the TEST Pattern.
   • Using "Lens Shift" (top, bottom, right, and left), try to move the projected image to an arbitrary position.



Execute "Lens Center" and confirm that the image center is returned to the screen center.
[MENU] → [Configuration] → [Installation] → [Lens Center]



Description of power supply circuit operation

① Lamp power supply (KSX-4000NEVT)
The specifications are outlined below.
- A maximum output of 138A/4kW is obtainable.
- Input comes in a single phase, ranged from 200V to 240V.
  The communication system in conjunction with the CPU PWB is of the RS-232C protocol.
  A high voltage generator (igniter) needed for the starting of the lamp is installed beside the lamp power supply.
  The igniter output has to be handled with care because a high voltage of a maximum of 40kV is generated when the lamp is started.

② Standby power supply (LEB100F-0524)
When the circuit protector is turned ON, the input AC voltage begins to be applied.
The output comes in 5V and 24V. The source voltages are applied to the necessary spots via the PJDIV PWB.
The power output of 24V is used exclusively for the optional teach panel.
The power output of 5V is fed to the ETHER PWB, CPU PWB, and part of the PJDIV PWB.

③ Main power supply (AC6-2HECB-00)
(AC6-HE2CB-00)
The input AC voltage is applied when the relay of the AC PWB is turned ON.
(The input AC voltage is not applied even though the circuit protector is simply turned ON.)
The output voltages are 3.3V, 5V, 12V, and 24V. The source voltages are applied to the necessary spots via the PJDIV PWB.
In particular, high voltage accuracy is required for 3.3V and 5V. Adjustments are needed at the time of replacement of the main power and the PJDIV PWB.
(High voltage accuracy is particularly required for the TI board. If accuracy is not secured, an error will be caused in the TI board.)

Method of voltage adjustments
At the measuring point TP on the PJDIV WB, connect the voltmeter + probe to TP and — probe to FG.

TP8005:	3.3V check TP	Adequate range 3.40V ± 0.05V.
TP8004:	5V check TP	Adequate range 5.05V ± 0.05V.

Based on the values of the above-mentioned voltmeter, adjust the VR of the main power supply to the adequate range.
In the state of deviation from MM2000B (optional), there is the main power supply on the deep right and there are four white VRs.
First from the left is a VR for 3.3V
Second from the left is a VR for 5V
Third from the left is a VR for 12V (for reference)
Fourth from the left is a VR for 24V (for reference)
The units of the NC2500S (AC6-HE2CB-00) and the NC1600C (AC6-2HECB-00) come in the same shape. However, they have to be handled with care because they have different output capacities.

PJKEY PWB Circuit Operation

① Key

Connections are made for the 35 keys on the boards and the 4x5 key matrix for the CPU PWB.
If there is a 4x5 key matrix simply, only 20 keys can be disposed of. Therefore, using combination of the following three CTL keys (double pressing), part of the key matrix is changed over.

LENS CTL key: (CTL key to operate the lens system)
MACRO CTL key: (CTL key for macro changeover)
LAMP CTL Key: (CTL key for lamp output and lamp ON/OFF operation)

This key matrix changeover is carried out in the hardware and this operation is in the exclusive relationship.
The backlight is also lit up for the key that becomes effective at the time of this key matrix changeover.
The backlight ON/OFF key is used for the backlight ON/OFF operation, including the LCD.
The LIGHT1 PWB for PJKEY PWB lighting and the LIGHT2 PWB for terminal block lighting are synchronized.
The backlight of invalid keys is kept unlit even when the backlight is lit in conjunction with the CTL key.

② Memory

There is provision of a 4k-byte E2ROM that is connected to the CPU PWB through I2C.
This memory keeps the serial number and such information that is singular to the set.
The same memory is accommodated in the CPU PWB and the PJDIV PWB. Therefore, even though any board is replaced, the previously mentioned information is made to be retained.

③ IR light receiver

A wireless remote IR light receiver is provided.
This light receiver becomes invalid in the case of wired remote.

CPU PWB PWC-4651 Check Points
The check points are specified below, to be needed in the case of abnormal operation when the CPU PWB is put in service.

For the operation of the CPU PWB, two types of jigs are available; the JTAG jig and the function jig (simplified version).
The check points specified below are applicable when the function jig is used and any malfunction occurs.

Circuit Operation of the CPU PWB PWC-4651

1. Power supply system

① Power supply to the CPU PWB

The power supply to the CPU PWB is controlled by the POCP.

Pins 1 and 2 : +5V for standby ..... D7603 (LED) is lit.
Pin 6 : +5V for main ..... D7602 (LED) is lit.

The fuses (F7601, F7602) are mounted behind the respective pins of the connector. If the connector pins are applied with a voltage but the above-mentioned LEDs are not lit, the related fuses may have blown out. Turn off the power supply toward the CPU PWB and measure the resistance value between both ends of the above-mentioned fuse by means of a circuit tester. If this section is found short-circuited, the fuse is normal. If the measured value is found infinity, this fuse is then broken.

② Standby power supply system

The standby power supply provides +5V and +3.3V.
Voltage +5V is fed from Pins 1 and 2 of the above-mentioned POCP. This voltage is used to drive the circuits of peripheral boards that work at +5V and also used as the power supply for the I2C bus and buffer circuit to be connected.
Voltage +3.3V is produced from +5V by the regulator of IC7604. Most circuits in the CPU PWB are driven at this standby voltage of +3.3V.
Some devices are driven by another power supply obtained from +3.3V by the aid of the regulator IC.

③ Main power supply system

The main power supply also provides +5V and +3.3V.
This power supply is used for the interface circuits of the PWB that works on the main power supply system when installed in the projector.
Voltage +5V is fed from Pin 6 of the POCP connector.
Voltage +3.3V is produced from +5V by the regulator of IC7604 and IC7606.

2. Circuit operation

① CPU circuit

• Power supply
The power supply toward the CPU (IC7002) is produced by the regulator.
Power supply (+3.3V) for CPU I/O pin: Produced from Standby +5V by IC7005.
Power supply (+1.2V) for CPU core: Produced from Standby +3.3V by IC7004.

• Reset
IC7000 is a circuit to control power voltage supervision and resetting. This circuit is used to supervise Standby +3.3V that is the basis for the power supply of the CPU core. The CPU is reset if this voltage becomes lower than +3.0V.
D7001 is unlit when the reset output is generated from IC7000. D7001 is lit when the reset condition is canceled.

• Clock
X7001 is an oscillator of 12MHz. Based on this 12MHz, the CPU generates various clock signals in conjunction with the PLL in the CPU. These signals are the main clock to be used inside the CPU, the bus clock to access the peripheral devices, and so on.

• Program/Data memory
The firmware for CPU operation and the associated data are accommodated in the Flash ROM of IC7007 and IC7008. The respective ROM functions are specified below.
IC7007 : Storage area for BIOS and various data
IC7008 : Storage area for firmware
When the reset condition is canceled by IC7000 after the power supply has been turned ON, the CPU firstly reads out the BIOS data of IC7007. It then starts up itself based on these data. After that, it reads out the firmware data of IC7008. It operates while referring to the data of IC7007.
The adjusting values and such data are written in IC7007 for storage.
The serial number of the unit and information about the usage time are stored in the EEPROM of IC7003.

• Work memory
IC7006 is an SDRAM. It is used as a work area while the CPU is in operation.
The circuits between the CPU and the SDRAM are operated in synchronization with the bus clock of 133MHz.

② Peripheral chip set ASSIST III (IC7200)

This IC is connected to the local bus of the CPU. The power supply is 3.3V.
The clock signals needed to drive this IC are as specified below.

- 12MHz : Fed from X7001 for internal timing circuits
- 66MHz : Fed from the CPU for internal timing circuits
- 33MHz : Fed from X7200 for PCI buses

The following functions are available:

- PI/O (8-bit x 3 ports): Interface with the MOTOR PWB
- Fan revolution control and rpm measuring circuit : ed for liquid cooling pump control in NC2500C. In NC800C, two fans are controlled for lamp cooling.
- Key matrix driver circuit : Pulse I/O toward the key matrix circuit of the KEY PWB.
- I2C bus circuit : Interface with the I2C bus and devices in other boards.
- PCI bus circuit : Connected with various interface circuits of the PC card and Ethernet. The clock signal of the PCI bus is maintained at 3.3MHz.
- Remote control signal decoder circuit : Used for the decoding of wired and wireless remote control signals.

③ PC card interface circuit IC7301

IC7301 is a PC card interface IC. It is connected to the PCI bus of the ASSIST III (IC7200). The CPU uses the PCI bus of the ASSIST III and gains access to the PC card via this PC card interface IC.
The PC card socket M7300 is of the PCMCIA TYPE II and applicable to the Card Bus.

- Power supply
  The power supply for IC7301 is +2.5V. This voltage is produced from Standby +3.3V by the regulator of IC7300.
  The power supply to be fed to the PC card is obtained through changeover between +5.0V and +3.3V. The PC card inserted in the socket is detected by IC7301 to identify the applicable voltage to be supplied. According to this identification, the required power voltage is selected by Q7307. While no PC card is inserted, Q7307 stays in the OFF state and no power is fed to the socket.
  Standby +5.0V is fed to the +5.0V card. For the +3.3V card, the 3.3V power is produced from Standby +5.0V by the regulator of IC7303.

- D7300 is lit up when the PC card is accessed.

④ Ethernet interface circuit

For the Ethernet interface circuit, two circuits are installed in this PWB.

IC7400, M7400 (for local network) : Connected to the MM (Multimedia Switcher) and the touch panel via the ETHER PWB (Hub) in the projector. Used for communication with these devices.

IC7500, M7500 (for global network) : Connected to the ETHER PWB (Hub) in the projector. This port is used to establish a LAN with external devices.

Both of these two circuits are applicable to the 10Base-T / TX UTP (Unshielded Twist Pair cable).
In addition, the MAC address and the IP address are set up individually for each port.

MAC address : 6 bytes of XX XX XX XX XX XX
00 30 13 1f 00 01 ~ Used for manufacturing in Japan
00 30 13 1f 08 01 ~ Used for manufacturing in China

Local network port (IC7400, M7400)
IC7400 is a PCI bus, which is connected to the ASSIST III (IC7200). IC7400 is fed power of the two systems; Standby +3.3V and +2.5V that is generated by the regulator IC7300.
A 25MHz quartz crystal oscillator of X7400 is used to generate the clock signals for internal driving in the Ethernet interface circuit. The setup values for the operation mode of IC7400 and the MAC address values are stored in the EEPROM IC7401.
Using the PCI bus of the ASSIST III, the CPU performs data exchange with this Ethernet port.
Connector M7400 is of the RJ-45 type and has a built-in transformer.

This port is used as a communication port with the MM (Multimedia Switcher) and the touch panel.
The MAC address is written in while PWB assembly is carried out at the factory. As a barcode label, the written values are attached around the rear side of the connector M7400 on the PWB.
Since this is an exclusive communication port with optional devices of the projector, a local default value is set up for the IP address.

Global network port (IC7500, M7500)
IC7500 is also a PCI bus, which is connected to the ASSIST III (IC7200). IC7500 is fed power of the two systems; Standby +3.3V and +2.5V that is generated by the regulator IC7300.
A 25MHz quartz crystal oscillator of X7500 is used to generate the clock signals for internal driving in the Ethernet interface circuit. The setup values for the operation mode of IC7500 and the MAC address values are stored in the EEPROM IC7501.
Using the PCI bus of the ASSIST III, the CPU performs data exchange with this Ethernet port.
Connector M7500 is of the RJ-45 type and has a built-in transformer.
This port is used as a communication port with the MM (Multimedia Switcher) and the touch panel.
The MAC address is written in while PWB assembly is carried out at the factory. As a barcode label, the written values are attached around the rear side of the connector M7500 on the PWB.
The devices to be connected to this port can be a PC, a video server, and the like. IP address setup is made at the time of shipment, but such setting can be made according to the working environment of the system and the network where this projector is used.

⑤ USB interface circuit

The USB interface circuit is of the A type and its connector is M7401. It is connected to the USB interface pin of the CPU (IC7002) via the transformer T7401.

As a power supply for the connector M7401, +5.0V is fed through IC7402. The CPU controls IC7402 so that the +5.0V power can be fed to and removed from the connector M7401. If a current of over 1A is carried through the connector M7402 from the +5.0V power supply, IC7402 functions to suspend the supply of this +5.0V power. (In this case, the current protection circuit is actuated.)

⑥ Wired remote control circuit

Connector M7800 is a connecting connector for the wired remote control circuit. The power supply for the remote control circuit is gained from Pin 2 of this connector at +4.0V. This voltage is obtained from Standby +5.0V with the aid of the regulator IC7801. When the remote control circuit is connected with the connector M7800 through a remote control cable of 16 meters long, the voltage is maintained at approximately 3.3V on the remote control side.

Pin 3 of the connector M7800 is an input terminal for the remote control signals. The remote control signals are gained at +5.0Vp-p on this PWB and processed for waveform shaping and level conversion at Q7806 and Q7808. When the signals are converted into +3.3Vp-p, they are entered in the remote control signal decoder circuit of the ASSIST III (IC7200).

In the ASSIST III (IC7200), the entered remote control signals are decoded by hardware. Only when remote control signals are identified as normal, the information about the entry of a remote control input is transmitted from the ASSIST III (IC7200) to the CPU. If the input signals are identified as abnormal in the ASSIST III (IC7200), the information about the decoded signals is not transmitted to the CPU.

Pin 1 of the connector M7800 is maintained at the GND potential.

⑦ PC control interface M7700

Connector M7700 is an RS-232C port. It is used for communication with external devices. If it is connected with a PC, a D-Sub 9-pin cable in straight connection is used.

Switch S7700 is a changeover switch used to select the destination of connection for the connector M7700. This switch is of the Push & Lock type.

When the S7700 is pressed ON, the communication line of M7700 is connected to the RS-232C driver / receiver of IC7702. It is then connected to the serial communication port (UART) of the CPU (IC7002).

If the S7700 is not pressed ON, the communication line of M7700 is connected to the connector POCT. When it is incorporated in the projector, it is connected to D-Sub 9-pin of the mother board in the POCT Sinama circuit.

⑧ External control circuit

Connector POCO is a connector to make a connection with the GPIO PWB. When a control signal input is transmitted from D-Sub Pin 37 of the GPIO terminal in the projector, it is converted into a signal maintained at the LVTTL level via the photo coupler of the GPIO PWB. The converted signal is then entered in Pins 1 ~ 7 of this POCO. This signal input passes through the buffer logic IC7800 and is entered in the PI/O circuit of the CPU.

The CPU periodically supervises the status of this input and takes a variety of actions according to the status of input; such as power supply startup, signal changeover, and so on.

Pins 9 ~ 14 of Connector POCO are used to supply the potential data of GND and Standby +5.0V to actuate the photo coupler of the GPIO PWB.

3. Setup

① DIP switches

Two DIP switches (S7200 and S7600) are allocated on the PWB. Each has the functions as described below.

- S7200 (4p)
  This switch is used for hardware debugging. In ordinary usage, it should be set at the OFF side. If it is carelessly set at the ON side in the middle of ordinary usage, the PWB cannot operate normally.

- S7600 (2p)
  This switch is used for hardware debugging. In ordinary usage, it should be set at the OFF side. If it is carelessly set at the ON side in the middle of ordinary usage, the PWB cannot operate normally.

4. List of Major Bus Functions

IC7000 : BD4730G Power supervision and reset control
IC7002 : S3C2440A-400 CPU
IC7005 : PQ070XZ01ZPH CPU 3.3V power regulator for I/O
IC7004 : PQ015YZ01ZPH CPU 1.2V power regulator for core
X7001 : 12M-SG8002JFPCC 12MHz oscillator Main clock for CPU•ASSIST III
IC7003 : HN58X2432T1 EEPROM Usage time, serial No., lens memory data storage
D7001 : LED Reset status display to the CPU
D7002 : LED Reset output status display to the CPU
IC7006 : K4S561632E SDRAM CPU work area
IC7007 : Flash ROM0 CPU's BIOS, data storage area
IC7008 : Flash ROM1 CPU's program area
IC7010 : RTC-8564JE RTC
IC7100 : 74LVC08APW Decoder for bus and buffer control signals
IC7101, IC7102 : 74LCX16245MTDX Data•bus•buffer
IC7103, IC7104 : 74LCX16245MTDX Address•bus•buffer
IC7200 : S1L53354 (ASSIST III) CPU aux. Function IC
X7200 : 33M-SG8002JFSCC 33MHz oscillator For CPI bus clock
IC7201 : NC7WB66K8X Analog switch Main power switching for I^2C BUS1 (5V system) of ASSIST
IC7202 : NC7WB66K8X Analog switch Main power switching for I^2C BUS2 (3.3V system) of ASSIST
IC7301 : R5C485-LCFP144 PCMCIA/Card bus Interface IC
D7300 : LED Display of PC card access status
IC7300 : PQ070XZ01ZPH 2.5V power regulator for PC card interface IC (IC7301)
IC7303 : PQ070XZ01ZPH 3.3V power regulator for PC card connector (M7300)
Q7303 : SI4963GY PC card power selector (3.3V/5.0V) changeover circuit
IC7400 : RTL8100CL-LF Local LAN of Ethernet interface IC
IC7401 : Serial EEPROM Setup data storage for Ethernet interface IC
IC7402 : Power switch for USB DC 5V
IC7500 : RTL8100CL-LF Global LAN of Ethernet interface IC
IC7401 : Serial EEPROM Setup data storage for Ethernet interface IC
IC7602 : 74LVC245APW DIV PWB interface for NC800C Error detection input buffer
IC7604 : PQ070XH02ZP Regulator for Standby +3.3V power supply
IC7605 : PQ070XZ01ZPH Regulator for Main +3.3V power supply
D7602 : LED For Main +5.0V power check. Usually lit during operation
D7603 : LED For Standby +5.0V power check. Usually lit during operation
S7700 : RS-232C changeover switch Selection of the connecting destination for M7700 (RS-232C) by means of the NEC CPU/TI circuit.
IC7700 : ADM3202ARNZ RS-232C interface IC For internal NEC ⇔ TI communication
IC7702 : ADM3202ARNZ RS-232C interface IC For external ⇔ NEC/TI communication
IC7703 : ADM3202ARNZ RS-232C interface IC For CPU ⇔ Lamp source communication

Connectors:

POCD1, POCD2	: Debugging connectors (for engineer)
M7300	: PCMCIA TYPE II card connector Applicable to card•bus
M7401	: USB connector Type-A
M7400	: RJ45 Connector for Ethernet local Transformer incorporated
M7500	: RJ45 Connector for Ethernet local Transformer incorporated
POIF	: KEY PWB interface
POCK	: DIV PWB interface for NC800C Error detection input
POCE	: DIV PWB interface for NC2500C
PODM	: DIV PWB interface for NC800C Fan control I/O
POFA	: DIV PWB interface for NC800C Fan revolutions detection input
POUL	: DIV PWB interface for NC800C Power•lamp control
PON8	: TI MOTHER PWB interface Transmission of commands to the TI circuit (RS-232C), RESETZ output
POCT	: TI MOTHER PWB interface External RS-232C port with the TI circuit
M7700	: D-Sub Pin 9 RS-232C interface with external devices
POSIO	: RS-232C interface For future extension
POCI	: Lamp power control interface RS-232C, lamp startup signal, interlock detection input
POCO	: GPIO PWB interface External control input
M7800	: Wired remote control signal input
POTY	: DIVIOUT PWB interface for NC2500S
POCM	: MM2000B control interface for NC2500S
PODM	: MOTHER PWB interface
POCF	: DIV PWB interface for NC2500S Photo sensor, error detection port control

GPIO PWB PWC-4649E Circuit Operation

This PWB has two major functions. Firstly, this PWB extends the GPIO (D-Sub 37-pin) connector of the mother board in the cinema signal processor circuit from the projector interior to the terminal panel located on the side surface. Secondly, it distributes the input signal line of the GPIO terminal to the CPU PWB.
M9501 on the PWB is an interface used to control the projector with the aid of external equipment or control the external equipment from the projector. It is provided with eight input ports and eight output ports. The internal circuits are designed so that they can be interrupted electrically from the outside by the photo coupler.

1. Factors related to the power supply

① The power supply to the PWB is maintained through:

POCO

Pins 12, 13, and 14: +5V for standby

Pins 9, 10, and 11: GND

The POCO connector is connected to the CPU PWB from which the power is distributed.
This power supply is connected to the mother board of the cinema signal processor circuit through Connector PO6005 on the PWB. It is used to drive the input section of the photo coupler in the cinema interface board.

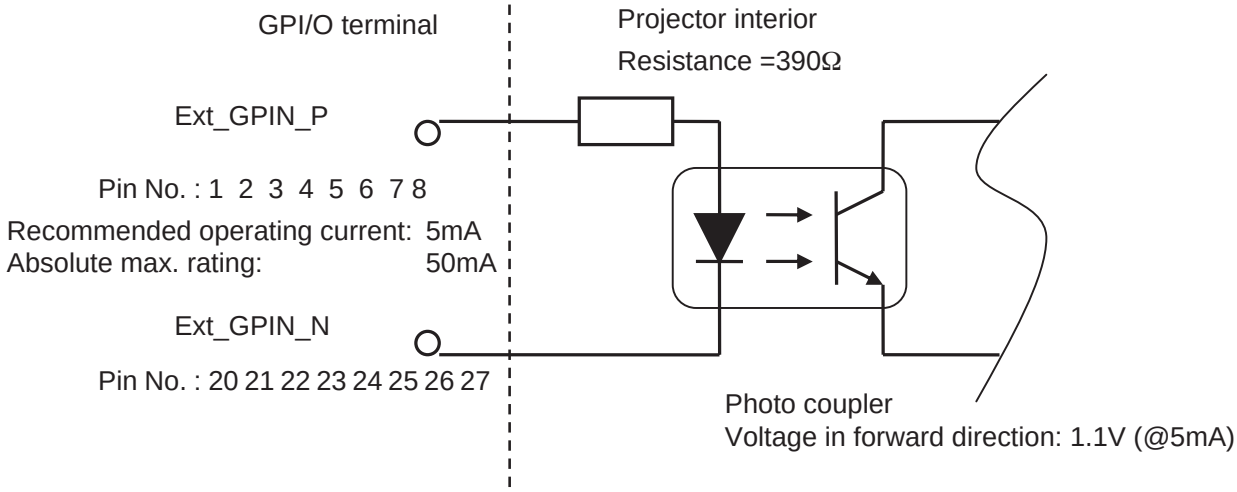
2. Circuit operation

① Connector M9501

1) Input terminal

These connector pins specified below are used as the input pins. They are connected to the photo coupler on the PWB.

- Input Pin 1 ~ Pin 8 (anodes of the photo coupler): Ext_GPIO_P
- Input Pin 20 ~ Pin 27 (cathodes of the photo coupler): Ext_GPIO_N



As described above, there are circuits connected with the diodes of Photo Coupler IC9501 ~ IC9508 between Ext_GPIN_P and Ext_GPIN_N. There are eight such circuits available in all.

When a voltage is applied between Ext_GPIN_P and Ext_GPIN_N, the photo coupler diode can be turned ON and OFF.

Usually, Connector M9501 is in OPEN state. Therefore, the photo coupler remains to be turned OFF.

The voltage to be applied between Ext_GPIN_P and Ext_GPIN_N to get the photo coupler turned ON should be kept between DC 3.3V and DC 10V. If this voltage is lower than DC 3.3V, the photo coupler cannot be turned ON, thus failing in operation. If a voltage higher than DC 10V is applied, the photo coupler can be destroyed. This voltage should be maintained at a positive potential (+) on the Ext_GPIN_P side (Pin 1 ~ Pin 8 side) and at a negative potential (—) on the Ext_GPIN_N side (Pin 20 ~ Pin 27 side). A resistor of 390Ω is inserted in series on the photo coupler diode side.

When a current of 5mA is carried through this diode, the forward voltage of the diode becomes 1.1V.

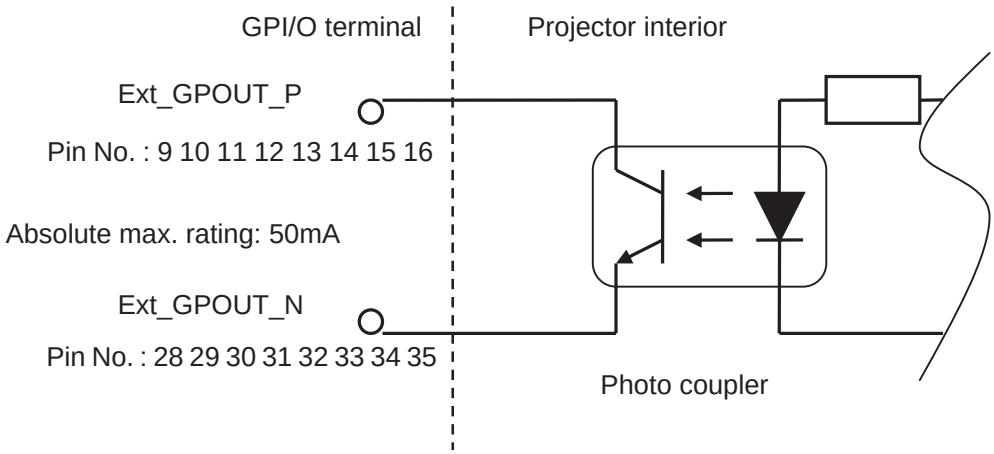
The signal input entered from this circuit is picked up from the collector of the output side transistor in the photo coupler. This signal input is divided into two portions. One is led to the Cinema System circuit (INTERFACE Board) through Connector PO6005 and the other is applied to the CPU PWB via the POCO.

GPIO setup
As described previously, the signal from this input terminal is applied in parallel to the Cinema circuit and the CPU circuit. This signal input is used for functional setup for the projector by making GPIO setup.
When the GPIO terminal setup for the projector is based on the SYSTEM/CINEMA, the system control microprocessor on the CPU PWB functions to detect an input signal of the eight systems in order to set up an external control function so that power supply ON/OFF, dowser ON/OFF, and title changeover can be carried out.
If the GPIO terminal setup for the projector is based on the CINEMA, the microprocessor on the CPU PWB disregards the input signal of the eight systems and the external control function becomes unavailable.

The input signal entered in the Cinema circuit (INTERFACE Board) is always maintained irrespective of the condition of the projector's GPIO setup. Therefore, when microprogram setup is made for the Cinema circuit, this signal can be used as a direct control input fed to the Cinema circuit.

2) Output terminal
The output terminals are arranged as specified below.
- Output: Pin 9 ~ Pin 16 (Photo coupler anode): Ext_GPOUT_P
- Output: Pin 28 ~ Pin 35 (Photo coupler cathode): Ext_GPOUT_N

The internal circuit for these terminals is arranged as illustrated below. Terminals of Ext_GPOUT_P and those of Ext_GPOUT_N are combined to make up eight sets of terminals in all, each set being a combination of terminals with smaller pin numbers.



The photo coupler in the above illustration is intended for use in output circuitry, actually installed in the INTERFACE Board of the Cinema circuit.
It is not for IC9501 ~ IC9508 on this GPIO PWB.
When these terminals are used, a DC power supply (+) should be applied to the terminal side of Ext_GPOUT_P and a DC power supply (-) or GND should be applied to the terminal side of Ext_GPOUT_N. For the limitation of current between power supply or GND and terminals, a resistor should be connected in series so that the collector current of the photo coupler transistor cannot exceed the absolute maximum rating (50mA).
If this resistor is omitted, a heavy current may be carried between the collector and the emitter of the transistor when the photo coupler is turned ON, thus giving rise to destruction in the photo coupler.
This output terminal provides an output generated from the Cinema circuit (INTERFACE Board). Contents of this output (H/L logic, output timing) can be set up with the microprogram for the Cinema circuit.
This output signal is used when control timing pulses, etc. are generated for the right/left eye LCD shutter and others at the time of Active 3D System structuring.

② Connector PO6005
This connector is connected to D-Sub Pin 37 of the Mother Board in the Cinema circuit.
Various I/O signals are applied under the control from the above-mentioned circuit.

③ Connector POCO
This connector is used to apply signals of projector's input terminal M9501 to the CPU PWB.

Description of Operation of the ETHER Board Circuit

This board is an 8-Port swiching hub for 100BASE-TX and 10BASE-T.

1. VLAN

By the use of VLAN function of IC8300 (RTL8309SB) the board can function as 2-system switching hub, each system having 4 independent ports.

Group A: M8501-M8504
Group B: M8505-M8507

Connection can freely made between each port within the groups; however, communication between the groups is impossible.
This function can be set by the set data in EEPROM-IC8503(BR24C02) at the time of reset.
The board that permits communication between Groups A-B, therefore, cannot be set correctly from IC8503. (IC8300 at default permits 8-port full communication.)

2. Auto MDI/MDI-X

This board can automatically detect the difference between straight and cross cables and switch between them. Thus, twisted-pair cables to be connected can be any kind.

3. Power supply

As a power supply 5 volts is supplied from DIV PWB via connector POLAN (S2B-PH).
In IC8501 (PQ070XH02ZPH) 5 volts is regulated to 3.3 volts which is then supplied to IC8300 (RTL8309SB) and IC8503 (BR24C02).
In IC8502 (PQ070XH02ZPH) 3.3 volts is regulated to 1.8 volt which is supplied to IC8300 (RTL8309SB).

Description of Operation of PJDIV PWB Circuit

① Power distribution

The power output fed from the power unit is distributed to the respective boards of the set.

CPU PWB	: 5V (Standby), 5V (Main)
MOTHER PWB	: 3.3 V (Main), 5V (Main), 12V (Main)
ETHER PWB	: 24V (Standby)
DVI-OUT PWB	: 3.3V (Main), 5V (Main)
SENSOR PWB	: 5V (Main)
PEDE-A PWB	: 5V (Main)
FAN	: 24V (Main) (w/o AC-FAN)
Teach panel	: V (Standby) (Optional)
MM2000B	: 5V (Main) (Optional)

② FAN circuit

The power output of 24V (Main) is fed to the fans in the set, except for the lamp cooling fan.
here is a provision of a hardware protective circuit (a protective circuit that works even in the case of CPU runaway) intended to unlight the lamp at the time of fan stoppage, including the lamp cooling fan.
In this case, the CPU PWB identifies the fan that has stopped and indicates the information about this fan at the LCD.

③ A/D conversion of L-SENS PWB output

The L-SENS PWB generates the voltage output that is proportionate to the brightness of the lamp.
The output voltage is A/D-converted and then identified at the CPU PWB.
According to the recognized information, the CPU PWB utilizes this information for automatic compensation of lamp output or other adequate functions.

④ Generation of Power good signal

The Power good signals are generated based on the supervisory signals of power voltages and the control signals fed from the CPU PWB.

⑤ Pump driver circuit

Under the control from the CPU PWB, the power of 12V (pump ON) or 0V (pump OFF) is fed as the power supply for the pump.
The power for the above-mentioned pump is fed via the RELAY PWB.
Voltage level control is carried out in this case so that the revolution pulse signals obtained from the pump can be recognized at the CPU PWB.
The power of 12V is generally fed to the pump. In the case of malfunction, however, pump ON/OFF operation is repeated for the trial for restarting.

⑥ Memory

There is provision of a 4k-byte EEPROM that is connected to the CPU PWB through I2C.
This memory keeps the serial number and such information that is singular to the set.
The same memory is accommodated in the CPU PWB and the PJKEY PWB. Therefore, even though any board is replaced, the previously mentioned information is made to be retained.

⑦ Motorized anamorphic lens turret driver circuit

Under the control from the CPU PWB, the power of 12V or 0V is fed as the power supply for the turret.
The driving capability is 12V/200mA, supported by the protective circuit of 500mA.

⑧ Lamp door detector circuit

This circuit is used to supervise the open/shut condition of the door where the lamp house is accommodated.
It is also connected to the hardware protective circuit that is used to cause the above-mentioned lamp to be unlit.
When the door is opened, the lamp is unlit.
If the door is opened in the middle of operation of the set, the standby mode is assumed without lamp cooling.
(There is a lamp cooling fan behind the door and it is used to stop the fan for safety.)
If the door is opened in the standby mode, the power supply of the set cannot be turned on.

⑨ Thermostat detector circuit

The lamp house temperature is supervised with the aid of a thermostat.
It is also connected to the hardware protective circuit that is used to cause the above-mentioned lamp to be unlit.
When the lamp house temperature exceeds the specified level, the lamp is unlit.
If the temperature exceeds the specified level in the middle of operation of the set, the standby mode is assumed after the completion of lamp cooling.
If the temperature exceeds the specified level in the standby mode, the power supply of the set cannot be turned on.

⑩ Buzzer

The buzzer is turned ON/OFF under the control from the CPU PWB.
The buzzer sounds shortly after the closure of the AC power switch and at the occurrence of an error.

⑪ Status LED driver circuit
Under the control from the CPU PWB, the Status LED located behind the set is turned ON/OFF.
Basically, the LED is lit in green under normal conditions, in orange for alarming, and in red with an error.

⑫ T-SENS PWB interface
In addition to the above-mentioned thermostat in the set, temperatures are supervised by five T-SENS PWBs.
Since the T-SENS PWB has the same address for I2C protocol communication, a changeover circuit is installed.
The range of temperature sensing is –10° to 100°.

FFIB PWB (FPGA Formatter Interface Board) PWC-4683

In the Cinema circuit, the FFIB PWB enters the video data of the VIDEO processor and the SOFTWARE processor in the LVTTL (3.3V) 16-bit EVEN/ODD format. After passing through various functional processing of Item 1 below, the data are transmitted to the FSB in the LVDS (2.5V) 16-pair format.
In the bootstrapping mode, configuration control is also carried out for each FSB.

1. Electrical Interface

1-1. Intialzatopm

Signal Name	Description	I/O	Type
MB_RESETZ	Hardware Reset	I	LVTTL
MB_POWERGOOD	Main Power Status	I	LVTTL

1-2. Main Data Interface

Signal Name	Description	I/O	Type
FCLK	Pixel Clock	I	LVTTL
O/E [R/G/B] (15:0)	Video Data, Odd/Even	I	LVTTL
O/E [R/G/B]_SIGN	Video Data, Odd/Even Sign	I	LVTTL
O/E [R/G/B]_RSVD	Video Data, Odd/Even Reserved	1	LVTTL
MB_ACTDATA	Input Active Data	I	LVTTL
MB_VSYNCZ	Input Vertical Sync	I	LVTTL
MB_HSYNCZ	Input Horizontal Sync	I	LVTTL
MB_OLCATE	Input Overlay Active Even	I	LVTTL
MB_OLACTO	Input Overlay Active Odd	I	LVTTL
MB_SYNCVAL	Input Sync Vaild	I	LVTTL
MB_3D_SYNC_IN	3D Input Reference	I	LVTTL
MB_3D_SYNC_OUT	3D Output reference	O	LVTTL

1-3. Satellite Data Interface (Red, Green, Blue)

Signal Name	Description	I/O	Type
SAT_[R/G/B] CLK_P/N	Output Pixel Clock? 150MHz	O	2.5 LVDS
SAT_[R/G/B] DATA_P/N (15:0)	Output Pixel/Control Data Video sync signals (Vsync, Hsync & Actdata) are embedded in the 16 bit data word	O	2.5 LVDS
SAT_[R/G/B]_TXDATA_P/N	Output register and setup control data	O	2.5 LVDS
SAT_[R/G/B]_RXCLK_P/N	Input data clock	I	2.5 LVDS
SAT_[R/G/B]_RXDAT_P/N	Input register and setup control data	I	2.5 LVDS
SAT_[R/G/B]_LVDS_SPARE (1:0)	Spare I/O signal lines. LVDS capable. Currently not used.	I/O	2.5 LVDS
SAT_[R/G/B]_LTTL_SPARE (1:0)	Spare I/O signal lines. LVTTL. Currently not used.	I/O	LVTTL
SAT_[R/G/B]_POWERGOOD	Power status to Satellite	O	LVTTL
SAT_[R/G/B]_RESETZ	Hardware Reset to Satellite	O	LVTTL

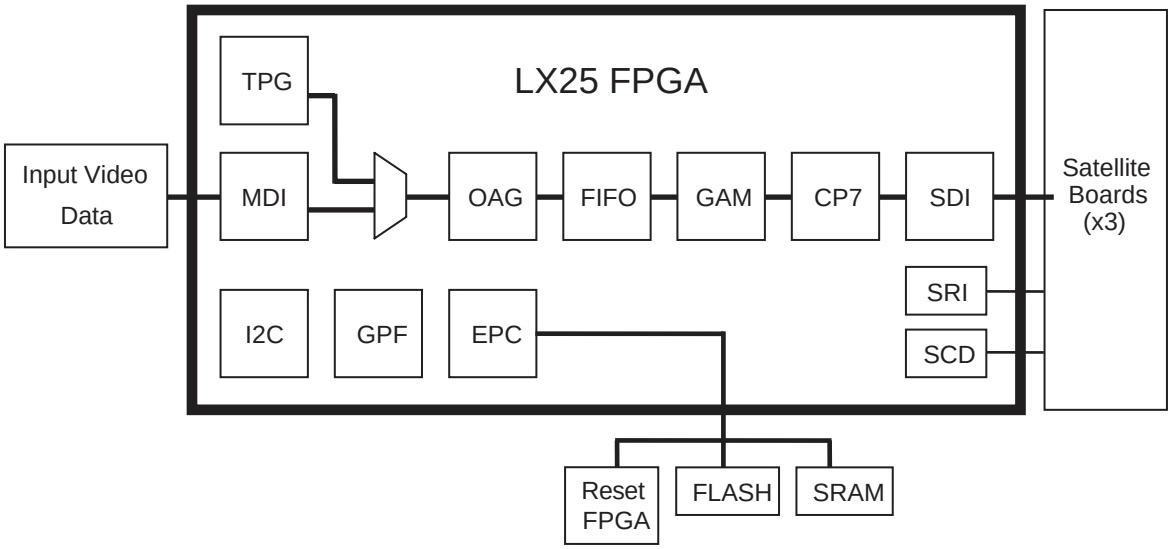
1-4. Satellite FPGA Programming Interface

Signal Name	Description	I/O	Type
SAT_[R/G/B] CCLK	FPGA Data Clock? used to time D_IN output during configuration.	O	LVCMOS
SAT_[R/G/B]_D_IN	FPGA Configuration Data? serial data output used to configure the Satellite FPGA device.	O	LVCMOS
SAT_[R/G/B]_DONE	FPGA Configuration Done? indicates completion of device configuration.	I	LVCMOS
SAT_[R/G/B]_INIT_B	FPGA Init Pin? indicates whether a CRC error occurred during configuration : 0 = CRC error 1 = No CRC error	I	LVCMOS
SAT_[R/G/B]_PROG_B	FPGA Full-chip reset (Active LOW).	O	LVCMOS

2. FPGA Function

The FPGA (U22 / XC4VLX25-11FFG668C) offers the following functions:

- ☐ Test Pattern Generator (TPG)
- ☐ Main Data Interface (MDI)
- ☐ Offset & Gain (OAC)
- ☐ Clock Domain Conversion (FIFO)
- ☐ DeGamma (GAM)
- ☐ CSC-P7 (CP7)
- ☐ Satellite Data Interface (SDI)
- ☐ Satellite Configuration Data (SCD)
- ☐ Satellite Register Interface (SRI)
- ☐ I2C Interface Module (I2C)
- ☐ General Purpose Functions (GPF)
- ☐ Embedded Processor Control (EPC)



3. Power

3-1. Power input

The power supplies for three systems are fed through the pins of J17 and J18 as specified below.

12V: J17 #A1, #B1, #C1
This board not used yet; relayed to each FSB

5V: J17 #A9, #A10, #A39, #A40, #B9, #B10, #B39, #B40, #C9, #C10, #C40
J18 #A1, #A2, #A39, #A40, #B1, #B2, #B39, #B40, #C1, #C40
for FPGA, Reset FPGA I/O (5V > 2.5V)

3.3V: J17 #A5, #A6, #A13, #A14, #B5, #B6, #B13, #B14, #B15, #C5, #C6, #C13, #C14, #C15
J18 #B24, #B30, #B31, #B34, #C27
for FPGA, Reset FPGA I/O and Core (3.3V > 1.2V)
Flash, SRAM, PLL, other Reset IC

3-2. Voltage converter

The DC-DC converter (U5 / TPS54610PWP) generates the 1.2V power from 3.3V for the core power supply of FPGA.
The DC-DC converter (U6 / TPS54810PWP) generates the 2.5V power from 5V for the I/O power supply of each channel of FPGA and FSB.

3-3. Power output

The power supplies for three systems are fed to the FSB (Formatter Satellite Board) through the pins of J7 to J9 (Power ON) as specified below.

12V: J7#3, J8#3, J9#3
3.3V: J7#5, J8#5, J9#5
2.5V: J7#1&7, J8#1&7, J9#1&7
* J7: for Red-ch, J8: for Green-ch, J9: for Blue-ch

4. Configuration

Configuration means the behavior of its own in conjunction with the FPGA.
In this system, configuration is carried out as one of the boot events for the FFIB and the FPGA on each FSB. Therefore, starting becomes impossible if any one of configurations fails for the FPGA.

Configuration sequence after the accomplishment of Power ON:

a. U15 (Reset FPGA / XC3S100E-4TQG144C) is configured by U11 (PROM / XCF01SV0G20C).
After normal completion, the status LED “DS” is lit in green.

b. U15 is used as a configuration controller so that U22 on FFIB and U1 (common to all channels) on FSB can be configured from U16 (S29GLO64A90TFIR20).
After normal completion, the status LED “D12” is lit in green.
Upon normal completion of configuration on each FSB, the status LED “D2” is lit in green.

5. Status LED

This board is provided with the LEDs specified below intended for the presentation of status information about the system.

At the time of normal starting, all LEDs are lit in green.

Reference	LED Name	Color	Definition
D2	Configuration	Green	Completion of all configurations (including FSB)
		Red	Incompletion of configurations
D1	PowerGood	Green	PowerGood “High” in steady state
		Yellow	PowerGood “Low”
		Red	Power and PowerGood events in false state
D5	Reset FPGA	Green	Completion of U15 Sub FPGA configurations
		Unlit	Incompletion of U15 Sub FPGA configurations
D12	FPGA DONE	Green	Completion of U22 Main FPGA configurations
		Unlit	Incompletion of U22 Main FPGA configurations
D3	General Purpose	—	Not use
D4	General Purpose	—	Not use

6. Flash memory map

In the U16, the following files with the respective functions are mapped as shown below.

These FW items are furnished by Texas Instruments, Inc.

Data (Contents)	Start Location (Bytes)	Size (Bytes)	#of Sectors	Mbits
TI Application Software ? Boot	0x00000000	128K	2	1.000
TI Application Software ? Main	0x00020000	512K	8	4.000
OEM Gamma Tables	0x000A0000	64K	1	.500
OEM Data	0x000B0000	64K	1	.500
DMD Data	0x000C0000	64K	1	.500
Spare	0x000D0000	192K	3	1.500
Main FPGA Firmware ? Boot	0x00100000	1024K	16	8.000
Main FPGA Firmware ? Main	0x00200000	1024K	16	8.000
Satellite FPGA Firmware	0x00300000	1600K	25	12.500
Sequence Data	0x00490000	3250K	25	27.500
Total	0x00800000	8192K	128	64.00

Description of Operation of the DVI-OUT Board Circuit

This board receives a video signal input from a projector's DVI Port and an output video signal of MM2000 (option), and transmits either video signal to DVI I/F of TI circuit at the following stage.

1. Video input

1.1 DVI system

[Single Link/8Bit x 2Port]

- Video signals (DVI/IF) from the external input ports DVI-A (M6501) and DVI-B (M6500) are each input to IC6503 and IC6502 (both are Sil1161) with TMDS.
- In Sil1161s input TMDS signals are parallel-converted to R,G,B (16 bits each, 48 bits total) and output to IC6504 (EP2C35F672), together with the clock and sync signals.

[Twin Link/10Bit by 2Port]

- In compliance with high resolution,etc. Twin Link is supported in which input insufficency at 1Port is compensated for at 2Port side.
- The basic operation is the same as that of Single Link. A-Port (IC6503-IC6506 line) performs 8Bit processing, while B-Port (IC6502-IC6505 line) performs 2Bit processing.
- Data reconstruction is made by the TI circuit at the following stage.

1-2. MM2000 system

- Video signals are input with LVDS I/F in such a manner that the EVEN data are via PONA to IC6500 while the ODD data via PONB to IC6501. THC63LVD104S is employed for both IC6500 and IC6501.
- In THC63LVD104S input LVDS signals are parallel-converted to R,G,B (10 bits each, 30 bits total) and output to IC6504 (EP2C35F672), together with the clock and sync signals.

2. Data Processing and Selector

- IC6504 (EP2C35F672) performs input switching so as to output the video input signal from either the external DVI port or MM2000. Switching control is made from the CPU PWB. In this case connector POTY#1 is to be switched according to the logic below:
  H:DVI
  L:MM2000
- Each input signal, together with the clock and sync signals, is output with R,G,B (16 bits each, 48 bits total) to IC6506 and IC6505 (both are Sil1160).
- The output formats for each input signal are as follows:
  - DVI
    Single Link
    Port-A: 8 bit data via IC6503 is output to IC6506 as 8 bits.
    Port-B: 8 bit data via IC6502 is output to IC6505 as 8 bits.
    Dual Link
    Port-A: 8 bit data via IC6503 is output to IC6506 as 8 bits.
    Port-B: 2 bit data via IC6502 is output to IC6505 as 2 bits.
  - MM2000
    Port-A: 8 bit data via IC6503 is output to IC6506 as 8 bits.
    Port-B: 2 bit data via IC6502 is output to IC6505 as 2 bits.

3. Video output

In Sil1160 the parallel signals input from EP2C35F672 are converted to TMDS signals which are output to Output-A (M6503) and Output-B (M6502) and from which the signals are each transmitted to the DVI ports of TI at the following stage.

4. EDID

This board is not equipped with EDID ROM.
The DDC line (clock and data) is connected directly across Input-Output of the DVI connector on the board and permits access to EDID ROM on the Cinema system Interface board connected at the following stage.

5. Configuration

IC6504 (EP2C35F672) is an FPGA and thus can be configured from IC6511 (EPCS16SI16N) at the time of power-on.

6. Power Supply

As a power supply both 3.3 and 5 volts are supplied via connector PODO (S5B-PH) from DIV PWB.
An I/O system power of 3.3 volts for each device is directly supplied.
A core supply of 1.2 volt for IC6504 is supplied after being converted from 5 volts by IC6512 (SC4519ST).

7. Equalizer

IC6502 and IC6503 (both are Sil1161) have the equalizing function that permits transmission of UXGA with a cable of up to 15 meters (usually a cable of 2 meters at best).
In actual evaluation it has been verified that a 10-meter cable from Japan Avionics can be used.
The setting of this function is possible only for service and PC- or tablet-controlled.

Setting will be made for Sil1161 by I2C from CPU PWB via connector POTY (S6B-ZR).
Since Sil1161 has only one SLAVE address, switching is made by IC6509 and IC6510 (both are NC7WB66K8X) as follows:

#1: I2C Clock
#2: I2C Data
#3: I2C CTLA
#4: I2C CTLB

MOTHER Board Circuit Operation

MOTHER Board configuration

HD-SDI connectors	2
DVI connectors	2
GP I/O connector	1
RS232C connector D-SUB 9-pin	1
RS232C connector EH 9-pin	1
LAN connector	1

Connector for TI processor board
Connector for interface board
Connector for formatter interface board
Power connectors 3.3V, 5V, and 12V

Operation
This is a board used to relay the external interface connector signals to the TI Board.

Description of Operation of L-SENSE PWB Circuit

An optical sensor is provided at the center of the outside of the optical engine Hold mirror.
The output of this sensor is A/D-converted at PJDIV PWB to which L-SENSE PWB is connected.
CPU PWB recognizes the lamp brightness in accordance with the A/D-converted value. This value is also used as information on functions such as Lamp feedback and Lamp bulb adjustment.

INTERFACE PWB Circuit Operation

① Cinema circuit control

This block involves the CPU and memory circuit inside so that the setup data related to cinema (color setup/ definition change setup/ signal select information) can be stored in the internal memory.

When the cinema setup data are called up from the CPU PWB on NEC side through the RS232C, the signal changeover and color setup data are converted and transmitted to the Processor, EFIB, and Formatter boards.

② Video signal conversion

The HDSDI signals (2 ports) and the DVI signals (2 ports) are received and converted into the parallel signals.
The converted signals are transferred to the PROCESSOR Board via the MOTHER Board.

③ Communication interface

The LAN/ RS232C/ GPIO signals are received via the MOTHER Board so that external control can be carried out.

PROCESSOR Board Circuit Operation

① **Cinema signal conversion**
Based on the setup data, the video signal input entered from the INTERFACE Board is used for signal processing such as color correction, gamma correction, and others.

T-SENS PWB Circuit Operation

A temperature IC of I2C protocol is provided.
The measuring range is –15° ~ +85°, and accuracy is ±2°.
A total of five T-SENS PWBs are used in NC1600C. (The same circuit in all cases)
Each T-SENS PWB is connected to the PJDIV PWB.
Since all the T-SENS PWB circuits have the same configuration, the changeover IC is used in the PJDIV PWB for selection.
(This is because all the circuits are the same, and therefore the I2C address is also the same.)
By I2C protocol communication via the PJDIV PWB, the CPU PWB identifies each temperature.
This value is used for temperature indications and as functional information about the protector.

FSB PWB (Formatter Satellite Board)
PWC-4670 (RED/GREEN)/4671(BLUE)

In the Cinema circuit, this board performs data formatting for the VIDEO processor and the DMD.
The video data input is entered in the LVDS (2.5V) 16-pair format.
After passing through various functional processing of Item 1 below at U1, the data are transmitted to the DMD in the LVDS (2.5V) 64-pair format.
PWC-4670 is used to drive the red and green DMD and PWC-4671 is used to drive the blue DMD, respectively.
The DMD and the boards are connected through the interposer “8810-001” made by Inter Con System, Inc.
Circuits and behaviors of the respective channel boards are identical with each other.

1. Electrical Interface

1-1. Initialization

Signal Name	Description	I/O	Type
SAT_PWRGOOD	Main Power Status A high value indicates all supplies are within operating voltage range.	I	2.5V LVCMOS
SAT_RSTZ	Hardware Reset Asynchronous Reset (Asserted LOW). When asserted, the FPGA will be initialized to the power up state and remain so until SAT_RSTZ is de-asserted.	I	2.5V LVCMOS

1-2. Satellite Data Interface ? Data & Control

Signal Name	Description	I/O	Type
SAT_CLK_P/N	Input Data Clock ? 165MHz	I	2.5V LVDS
SAT_DATA_P/N (15:0)	Input Pixel/Control Data Video synch signals (Vsync, Hsync & Actdata) are embedded in the 16 bit data word.	I	2.5V LVDS
SAT_TXDATA_P/N	Input register and setup control data	I	2.5V LVDS
SAT_RXCLK_P/N	Output data clock	O	2.5V LVDS
SAT_RXDATA_P/N	Output register and setup control data	O	2.5V LVDS
SPARE_LVDS (1:0)	Input Vertical Sync	I	2.5V LVDS
SPARE_LVTTL (1:0)	Input Horizontal Sync	I	3.3V LVTTL

1-3. DMD LVDS Interface

Signal Name	Description	I/O	Type
DCLK_C [P, N]	DMD Port C Differential Clock	O	2.5V LVDS
DCLK_D [P, N]	DMD Port D Differential Clock	O	2.5V LVDS
SCTRL_C [P, N]	DMD Port C Differential Serial Control	O	2.5V LVDS
SCTRL_D [P, N]	DMD port D Differential Serial Control	O	2.5V LVDS
DATA_C [P, N] (15:0)	DMD Port C Differential Serial Data	O	2.5V LVDS
DATA_D [P, N] (15:0)	DMD Port D Differential Serial Data	O	2.5V LVDS

1-4. DMD Serial Communications Port Interface

Signal Name	Description	I/O	Type
SCP_CK	SCP Bus Clock	O	3.3V LVTTL
SCP_DO	SCP Bus Output Data	O	3.3V LVTTL
SCP_DI	SCP Bus Input Data	I	3.3V LVTTL
SCP_DMD_ENZ	SCP Bus DMD Enable (Active LOW)	O	3.3V LVTTL

1-5. DMD Reset and Mode Control

Signal Name	Description	I/O	Type
DMD_PWRDNZ	DMD Reset (Active LOW)	O	3.3V LVTTL
SIGNAL_ASIC_EN	Signal ASIC configuration Enable (Active HIGH)	O	3.3V LVTTL
DMD_MODE_[A, B]	DMD Bandwidth Mode select	O	3.3V LVTTL
MBRST (29:0)	Non-logic compatible Mirror Bias Reset signals Connected directly to the array of pixel mirrors Used to hold or release the mirrors	O	—

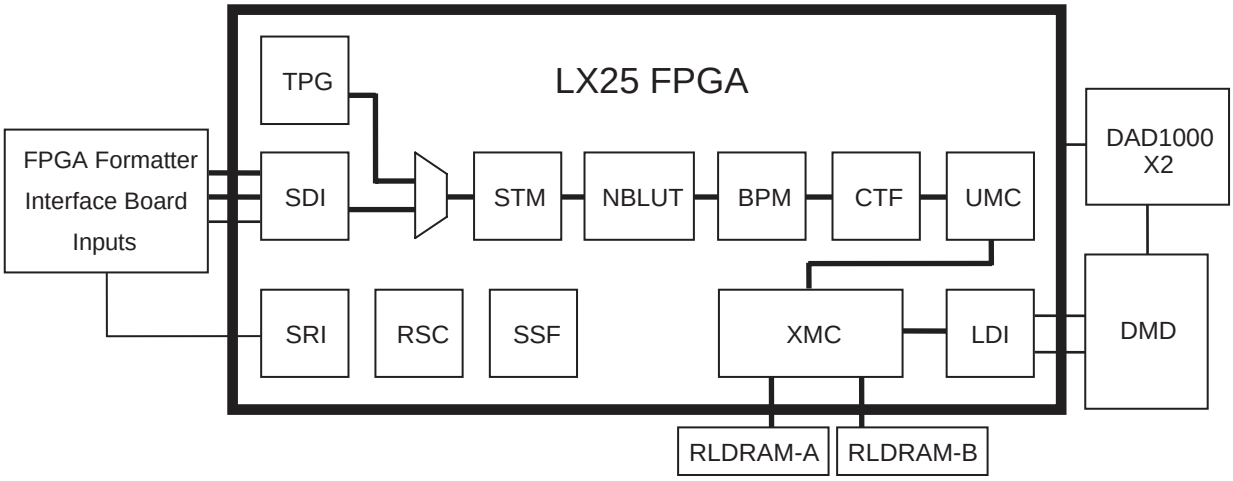
1-6. Satellite FPGA Programming Interface

Signal Name	Description	I/O	Type
SAT_ CCLK	Data Clock ? used to time C_DATA input during configuration.	I	2.5V LVCMOS
SAT_DIN	Configuration Data? serial data input used to configure the device.	O	2.5V LVCMOS
SAT_DONE	Configuration Done? indicates completion of device configuration.	I	2.5V LVCMOS
SAT_INIT_B	Before MODE pins are sampled, SAT_INIT is an input that can be held Low to delay configuration. After MODE pins are sampled, SAT_INIT is an open-drain active Low output indicating whether a CRC error occurred during configuration : 0 = CRC error 1 = No CRC error	I/O	2.5V LVCMOS
SAT_PROG_B	FPGA Full-chip reset (Active LOW)	I	2.5V LVCMOS

2. FPGA function

The FPGA (U1 / XC4VLX25-11FFG668C) offers the following functions:

- ☐ Satellite Data Interface (SDI)
- ☐ Satellite Register Interface (SRI)
- ☐ Contour Mitigation (STM)
- ☐ Non-Binary LUT (NBLUT)
- ☐ Bit Plane Mux (BPM)
- ☐ Corner Turn Formatter (CTF)
- ☐ Bit Plane Frame Storage
- ☐ DMD LDI Interface (LDI)
- ☐ Universal Memory Control (UMC)
- ☐ RLDRAM Controller (XMC)
- ☐ Satellite Synchronization Function (SSF)
- ☐ Realtime Sequence Control (RSC)
- ☐ Test Pattern Generator (TPG)



3. DAD1000

The DAD1000 (U10, U11) is in charge of bias voltage feeding and pixel mirror control for the DMD.
Voltage supplies are only the outputs from VOFFSET of U10.
Mirror control (reset waveform) is carried out for 15 lines (even numbers out of 0~29) from U10 and 15 lines (odd numbers out of 0~29) from U11, 30 in all.
To drive the DMD in Single ASIC mode, this system uses only the C and D ports out of four ports of A~D in all. Therefore, 64*2 pins for the A and B ports are not used.

4. RLDRAM (U7, U8)

The RLDRAM (U7, U8) employs two pieces of 288M (8M*36 bits) for the main memory. The upper section (Addr0~35) is shouldered by U7, while the lower section (Addr36~71) is shouldered by U8.
This device calls for the following four types of power supplies.
VEXT feeds the 2.5V power through 02 (Power FET).
VDD and VDDC feed the 1.8V power converted at U5.
VREF and VTT feed the power of two systems where the 5V output from the DAD1000 is converted to 0.9V by U9.
U9 (TPS51100DG0) is an optimized device for DDR Memory Termination.

VEXT	:	Main	2.5V
VDD	:	Core	1.8V
VDDQ	:	I/O	1.8V
VREF	:	Reference	0.9V
VTT	:	Trmination	0.9V

5. Power

5-1. Power input

The power of three systems is fed through the pins of J3 specified below.

12V : #3
for DAD1000, DMD (12V > 26V)

3.3V : #5
for FPGA Core (3.3V > 1.2V), DMD,
FPGA I/O, RLDRAM (3.3V > 1.8V)

2.5V : #1, #7
for FPGA I/O, OSC

5-2. Voltage converter

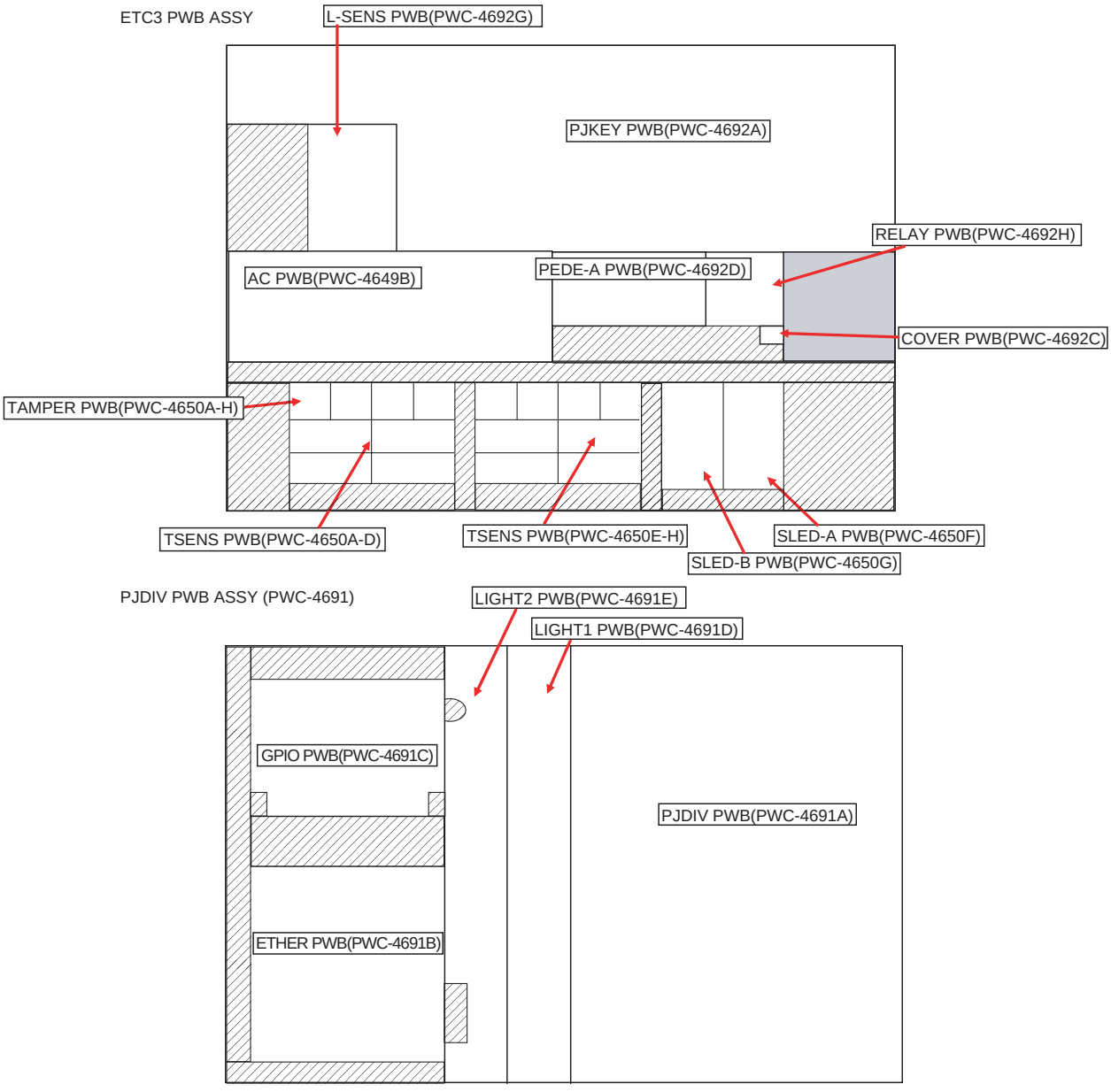
The DC-DC converter (U4 / TPS54610PWP) generates the 1.2V power from 3.3V for the core power supply of FPGA.
The DC-DC converter (U5 / TPS54610PWP) generates the 1.8V power from 3.3V for the I/O power supply of FPGA.

6. Status LED

LED “D8” provides the status information about the system.
Upon normal completion of configuration, LED is lit in green. In the case of incompletion, the LED is not lit.

PWB DIV1

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
		PJDIV_PWB PWB ASSY	81N94Y01	1	Tester check
		ETC3_PWB PWB ASSY	81N94Z01	1	Tester check



PWB DIV2

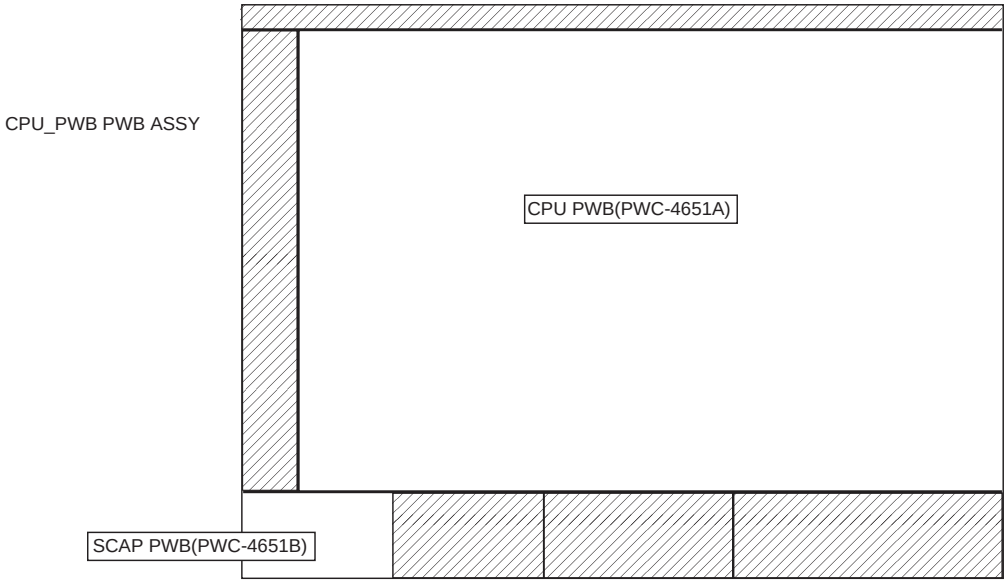
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
		CPU_PWB PWB ASSY	81L23C01	1	Tester check

Board splitting is performed.

The hatched area is abolished.

The dot area is unused.

[CAUTION] ~ countermeasure against static electricity ~
Use WRISTSTRAP when you handle the platform.

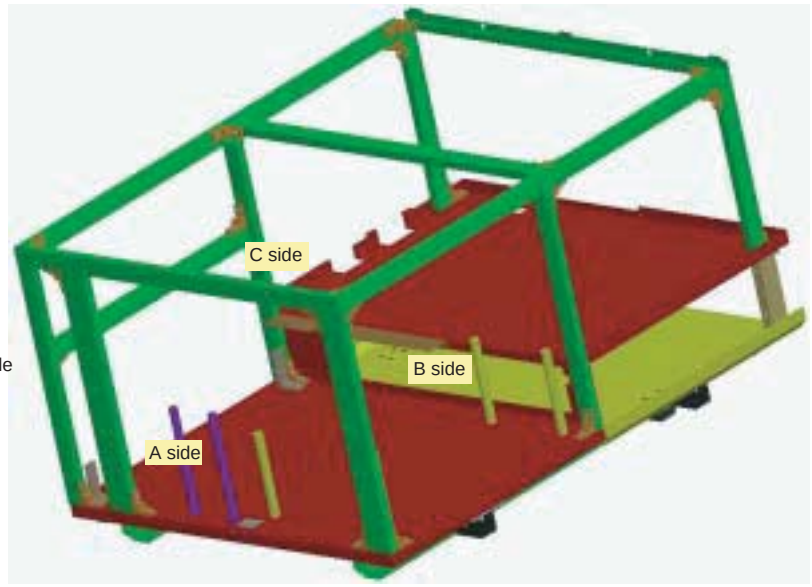


FRAME1

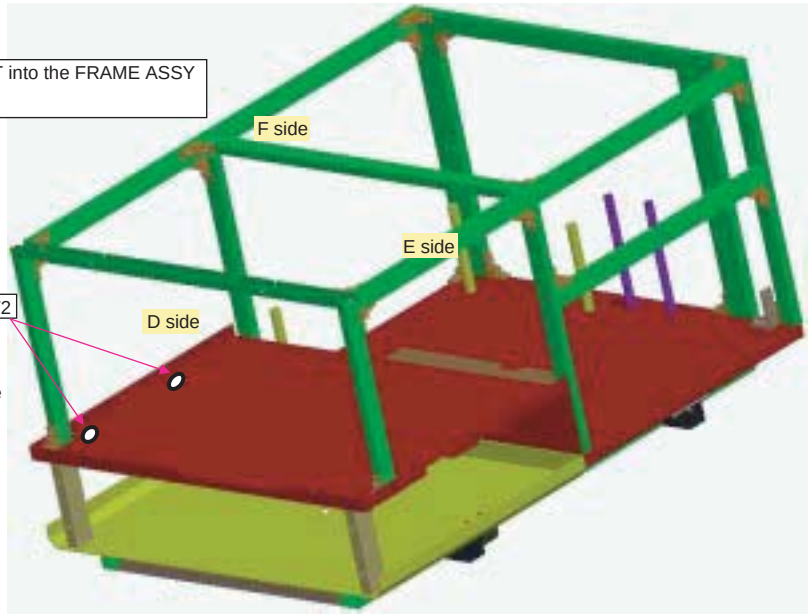
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FRAME ASSY	24HS4261	1	
PRT2		GROMMET(G-50)	24C07691	2	

CAUTION : EMI (Electro Magnetic Interface countermeasure)

① Positions of gaskets to be stuck to the Frame Assy shall be described following the order of planes (A to F) on the Frame Assy. In this case, these positions shall be defined as specified below.



* Set GROMMET into the FRAME ASSY screw hole.

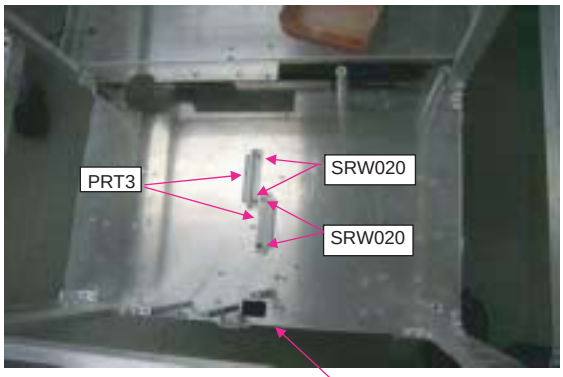


FRAME

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FRAME ASSY	24HS4261	1	
PRT2		FOOT(RP-70M14)	24C08881	4	
PRT3		HOLDING BRACKET	24H55831	2	
	SRW020	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
PRT4		BRACKET(FB) ASSY	24HS3991	1	
	SRW071	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check
PRT5		BRACKET(FA) ASSY	24HS3981	1	
	SRW070	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check

① Check the FLAME Assy screws tightened up.

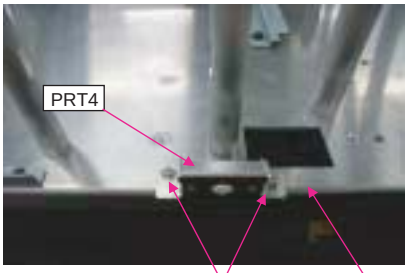
② Place the FOOT(4 pieces) on the rear of the FLAME.
Tighten up the screws without any interspace.
Torque : 100±5kgf•cm



③ Turn back the FLAME Assy, and set the bracket(2 pieces) to it.

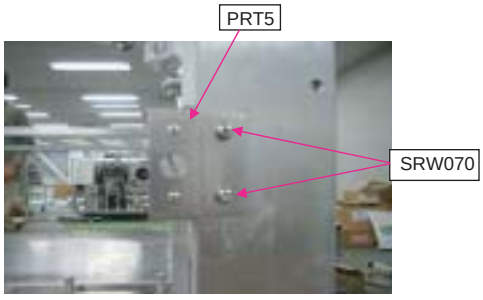
* The front side of the FLAME Assy

④ Set the brackets(FB) on the FLAME Assy.



* The front side of the FLAME Assy

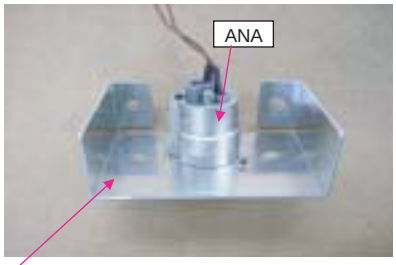
⑤ Set the brackets(FA) on the FLAME Assy.



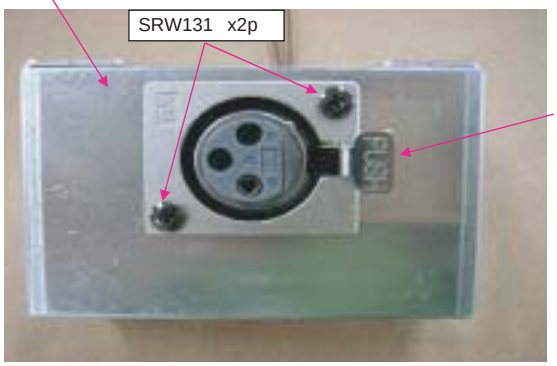
ANA

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FIXING PLATE(CC)	24H56111	1	
	ANA	CN4-3P(ANA)300W,1061-24	7NW4W047	1	
	SRW131	SL-CPIMS*2.5*8	24V00181	2	Torque check
PRT2		SHIELD PLATE(CC)	24J29021	1	
	SRW022	PL-CPIMS*4*10*3KF	24V00461	2	Torque check

① Mount Connector "ANA" on the stationary plate (CC).



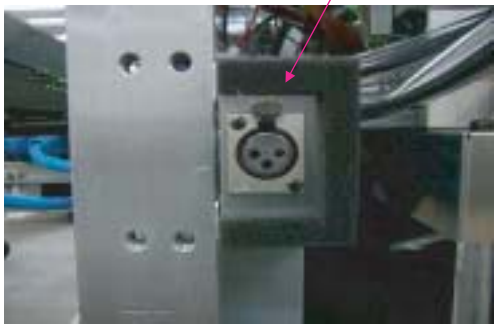
PRT1

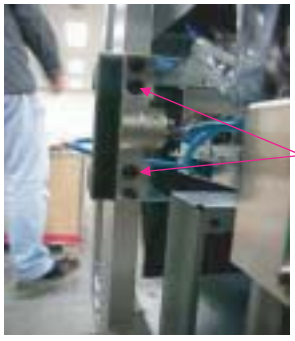


② When the FIXING PLATE set on the FLAME, the PUSH side of the "ANA" should be upward.

③ Set the CC on the FLAME, and set the SHIELD PLATE(CC) on the FIXING PLATE.

PRT2





FRAME1_A

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FRAME ASSY	24HS4261	1	
PRT2		GASKET(STG15-10)	24C06081	1	160mm
PRT3		GASKET(STG15-10)	24C06081	1	30mm
PRT4		GASKET(STG10-10)	24C05351	1	340mm
PRT5		GASKET(STG7-10)	24C08591	1	170mm
PRT6		GASKET(STG7-10)	24C08591	2	50mm
PRT7		GASKET(STG7-10)	24C08591	1	380mm
PRT8		GASKET(STG0.5-8)	24C07561	1	280mm

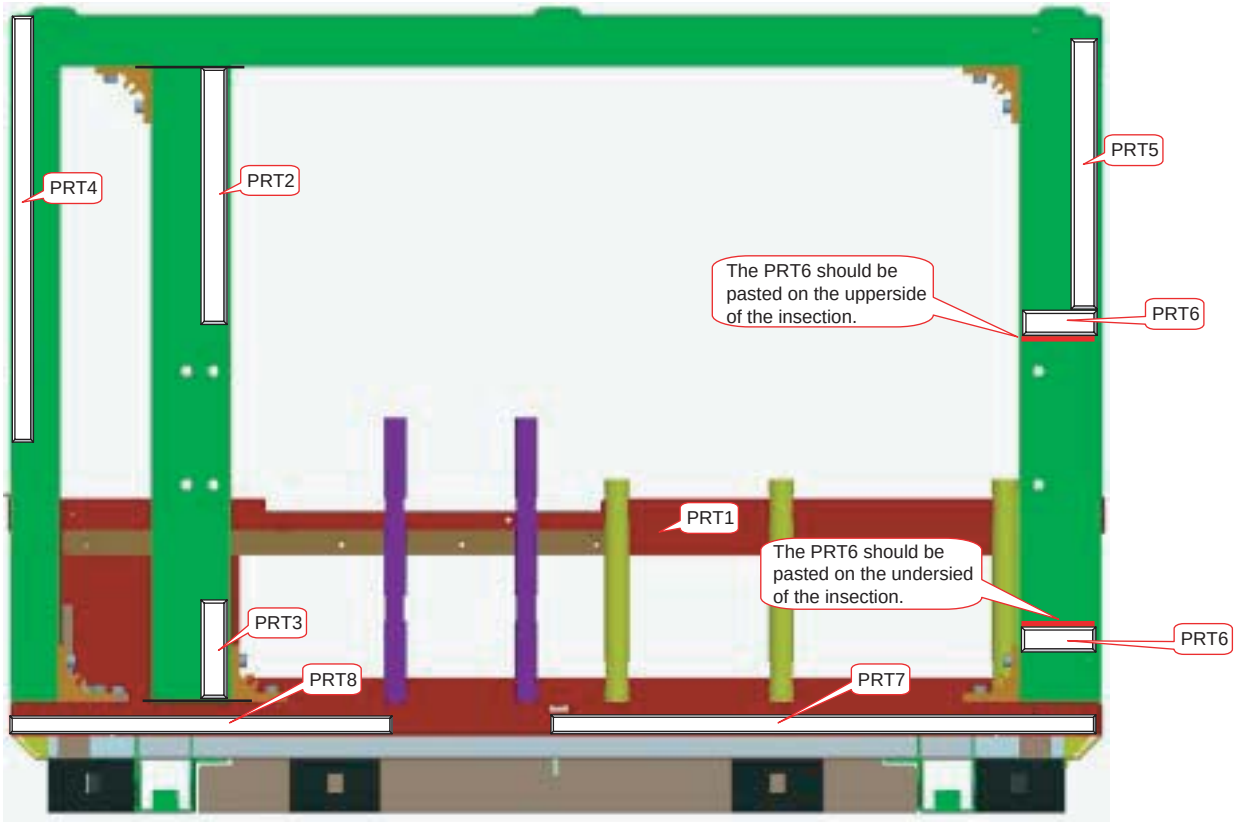
CAUTION : EMI (Electro Magnetic Interference : radio disturbance) countermeasure

① GASKET(STG15-10) should be 30mm and 160mm each, and paste it on the FRAME ASSY.

② GASKET(STG10-10) should be 340mm long, and paste it on the FRAME ASSY.

③ GASKET(STG7-10) should be 50mm/170mm and 380mm each, and pasteit on the FRAME ASSY.

④ GASKET(STG0.5-8) should be 280mm and 680mm each, and paste it on the FRAME ASSY.



PRT2 should be pasted based on inside of the Terminal area.
PRT3 should be pasted based on inside of the Terminal area.
PRT4 should be pasted based on upper left to outside.
PRT5 should be pasted begin at PRT6 based on outside.
PRT6 should be pasted based on outside(upside or lower side) of the insection.
PRT7 should be pasted based on lower left.
PRT8 should be pasted based on lower right.

FRAME1_B

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FRAME ASSY	24HS4261	1	
PRT2		GASKET(STG2-10)	24C06051	1	250mm
PRT3		GASKET(STG2-10)	24C06051	1	210mm
PRT4		GASKET(STG2-10)	24C06051	1	300mm

CAUTION : EMI (Electro Magnetic Interference : radio disturbance)

① GASKET(STG2-10) should be 210mm/250mm and 300mm each, and paste it on the FRAME ASSY.

PRT2 should be pasted based on outside of the Terminal area.
PRT3 shall be stuck, starting from the bracket and based on the lower side.
PRT4 shall be stuck, starting from the bracket and based on the lower side.

FRAME1_C

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FRAME ASSY	24HS4261	1	
PRT2		GASKET(STG0.5-8)	24C07561	1	680mm
PRT3		GASKET(STG0.5-8)	24C07561	1	680mm
PRT4		GASKET(STG0.5-8)	24C07561	3	300mm
PRT5		GASKET(STG10-10)	24C05351	2	270mm
PRT6		GASKET(STG10-10)	24C05351	2	90mm
PRT7		GASKET(STG10-10)	24C05351	2	140mm
PRT8		GASKET(STG10-10)	24C05351	2	30mm

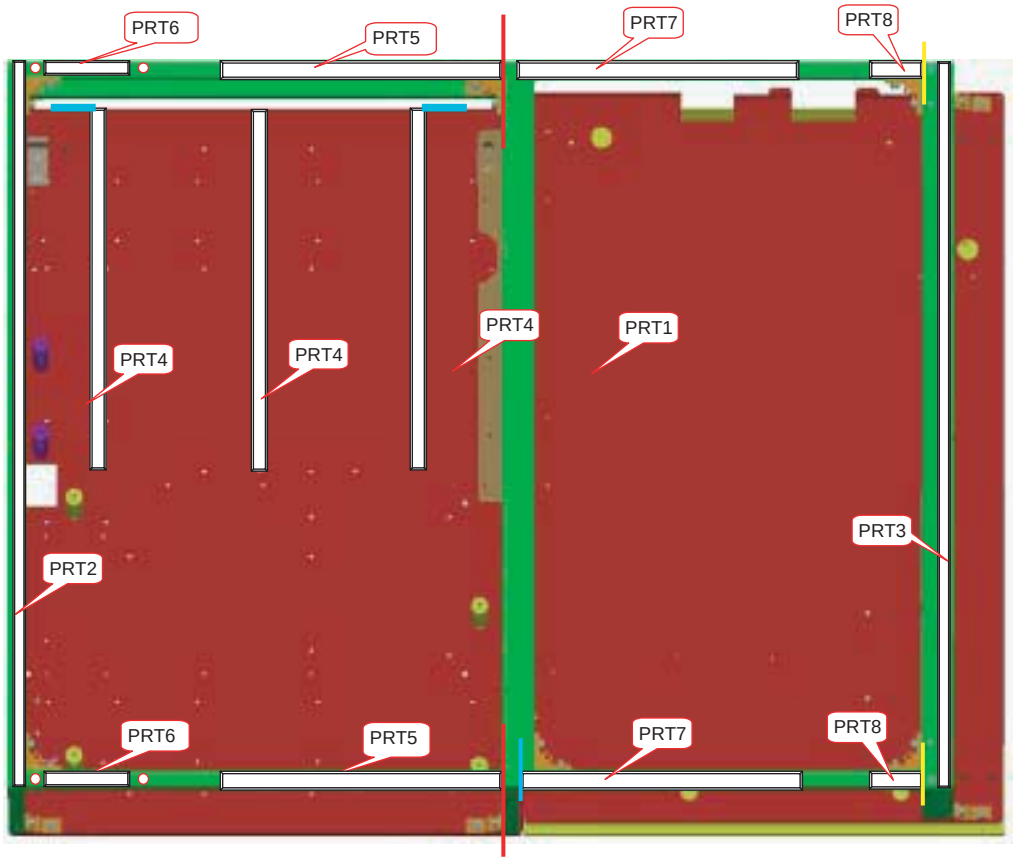
CAUTION : EMI (Electro Magnetic Interference : radio disturbance)

① GASKET(STG0.5-8) should be 300mm/680mm each, and paste it on the FRAME ASSY.

② GASKET(STG10-10) should be 90mm/270mm each, and paste it on the FRAME ASSY.

③ GASKET(STG7-10) should be 50mm/ 170mm each, and paste it on the FRAME ASSY.

④ GASKET(STG0.5-8) should be 280mm/ 680mm each, and paste it on the FRAME ASSY.



PRT2 pastes based on inner side.
PRT3 pastes along SCREW.
The right and left of PRT4 shall be stuck to the inside ends of each metal fitting. PRT4 in the center shall be stuck to the center.
PRT5 shall be stuck along the outside and based on the left red line over the head.
PRT6 shall be stuck so that it comes to the center between the front and rear screws.
PRT7 shall be stuck according to the vertical frame (light blue).
PRT8 shall be stuck according to the junction at the left end.

FRAME1_E

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FRAME ASSY	24HS4261	1	
PRT2		GASKET(STG2-10)	24C06051	1	70mm
PRT3		GASKET(STG2-10)	24C06051	1	310mm

CAUTION : EMI (Electro Magnetic Interference : radio disturbance) countermeasure

① GASKET(STG2-10) should be 70mm, and paste it on the FRAME ASSY

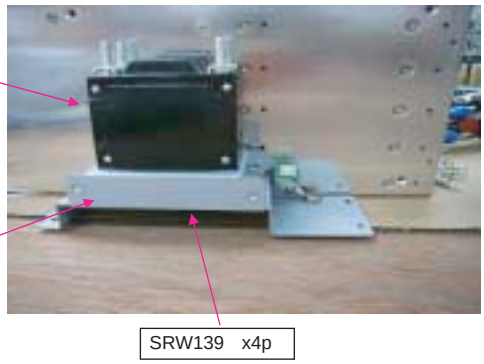
② GASKET(STG2-10) should be 310mm, and paste it on the FRAME ASSY.

PRT2 should be pasted on beside the Bracket T attachment.
PRT3 shall be stuck, starting from the bracket and based on the lower side.

SW

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		IELHK-1-11-61-50A	6N500018	1	Amperage rating 50A
	SRW139	PL-CPIMS*3*6*3KF	24V00571	4	Torque check
PRT2		BRACKET(TAMPER)A	24H60411	1	
PWB1		ETC3_PWB PWB ASSY	81N94Z01	1	
	SRW143	CBIMS*2*8*3GF	24V01031	2	Torque check
PRT3		HOLDING PLATE(TAMPER PWB)	24H61171	1	
	T3	CN3P(T3)550W,1061-26	7NW3W091	1	
	SW	CN2P(SW)575W,1283-8	7NN2N007	1	
	NF	CN2P(NF)575W,1015-12	7NN2N006	2	
PRT4		BARRIER(SW)	24J34851	1	
	SRW089	SCREW,PL-CPIMS*3*8*3GF	24V00111	4	Torque check
PRT5		BAND(L=100,T18R)	24C09121	2	
		GLUE,SCREW LOCK	92201082		

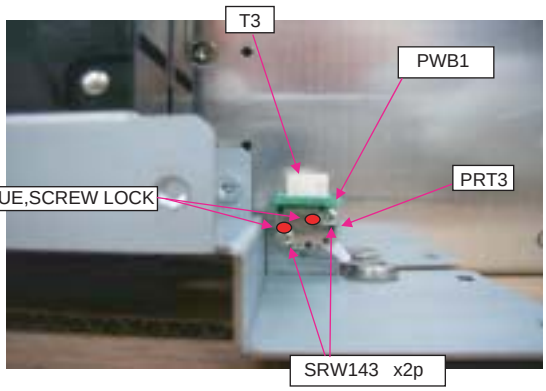
① Mount the CIRCUIT PROTECTOR (6N500018) on the BRACKET(TAMPER)A.

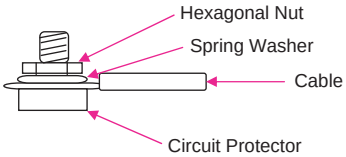


SAFETY * Check Amperage Rating 50A

② Mount TAMPER PWB on the BRACKET(TAMPER)A.

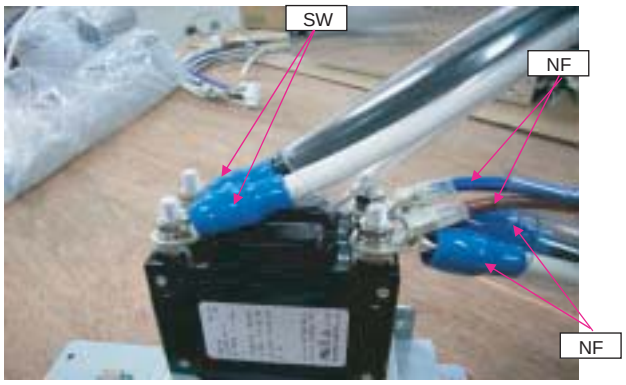
* Insert "T3".





③ Attach the CABLE on the CIRCUIT BREAKER ASSY.

④ CABLE attaches using the SPRING WASHER & NUT as an attachment of CIRCUIT BREAKER.
(Attach the round type terminal → Spring Washer → Hexagonal Nut in order.)

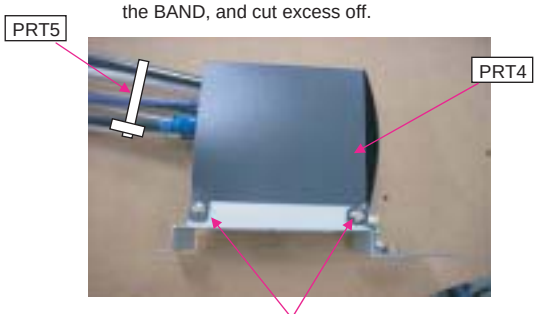


* Match the CABLE color with collinear circuit.

SAFETY

⑤ Attache BARRIER(SW) on BRACKET(TAMPER)A.

* Bundle together the CABLE SW and NF with the BAND, and cut excess off.



Take out a NUT from CIRCUIT PROTECTOR, and tighten it up.
4 places
Tighten Torque : Torque : 32±2kgf•cm

TERMINAL BOARD ASSY1

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		TERMINAL SK10-4J UL	7N120007	1	
	SRW112	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check
PRT2		TERMINAL SK10-2S	7N120008	2	
PRT3		CABLE CLIP(FCA-10)	24C02841	1	
	SRW011	SCREW,PL-CPIMS*3*8*3GF	24V00111	1	Torque check
	IL	CN4P(IL)150W,1061-26	7NW4N004	1	
	GND	CN WIRE(E)225W,1283-8	7NN1N047	1	
PRT4		MBT-60X2P+60AEX1P	7N120012	1	
PRT5		BRACKET(TERMINAL BOARD)	24H60041	1	
	SRW136	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
PRT6		CORE E04SR301334	6N160020	1	
PRT7		CORE E04SR401938	6N160024	1	
PRT8		BAND (L=100,T18R)	24C09121	1	

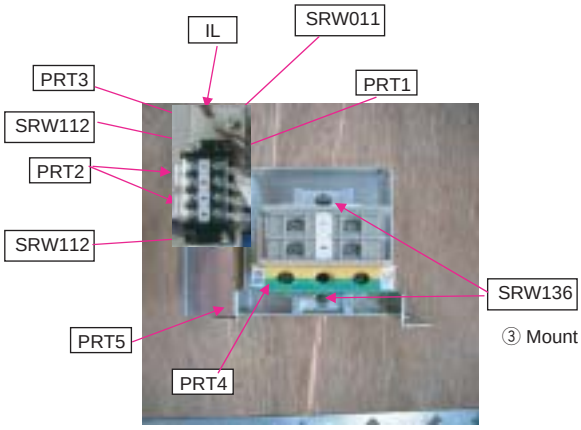
① Mount SK10-2S after removing TERMINAL COVER, and mount it on BRACKET(TERMINAL BOARD) after placing REAR COVER back.

② Mount CABLE CLIP on BRACKET(TERMINAL BOARD)

Take out a SCREW from TERMINAL, and tighten it up.
CONNECTOR (IL) ⇒ TERMINAL

1	1
2	2
3	3
4	4

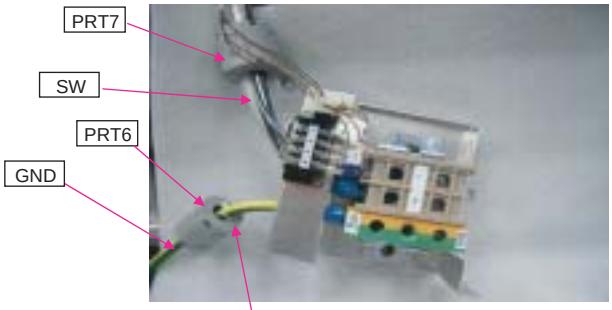
8 places
Tighten Torque : 5~7kg•cm



③ Mount TERMINAL on BRACKET(TERMINAL BOARD)

④ Mount CABLE SW and GND on TERMINAL BOARD ASSY
* Tighten Torque : 50±5kgf•cm
* Check the TERMINAL COVER places the base of the TERMINAL after mounting it.

SAFETY Mounting the CABLE should be used Specified Torque.



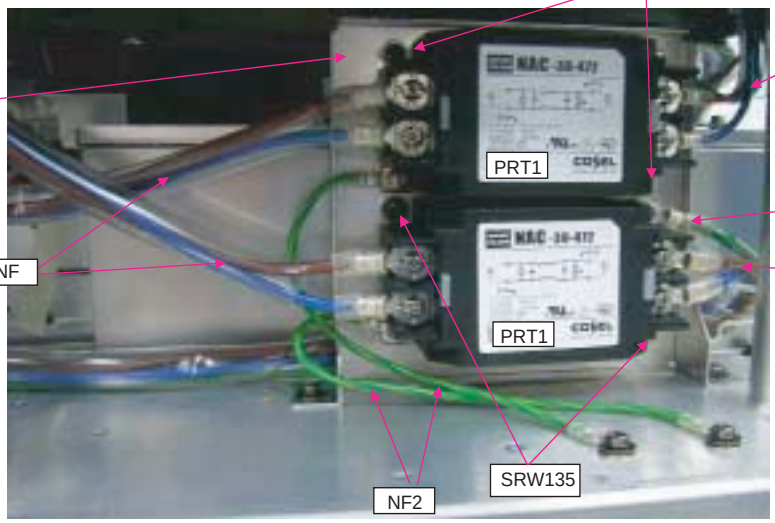
⑤ Fasten the ferrite core to the CABLE (GND) by means of a wire harness band. The surplus part shall be cut off.

TERMINAL BOARD2

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FILTERS NAC-30-472	6N120104	2	30A
PRT2		BRACKET(N FILTER)	24H60031	1	
	SRW135	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
	NF2	CN WIRE(NF2)150W,1015-18	7NN1N036	2	
	AC0	CN5-WP(AC0)250W,1015-18	7NW5W065	1	
	AC1	CN3P(AC1)1075W,1015-12	7NN3N002	1	

⑤ Mount FILTERS(2 P) on BRACKET(N FILTER).
Mount CABLE NF (2P), NF2 (2P) and AC0 on FILTERS.
* Tighten Torque : 13±1kgf•cm
* Close the COVER after attaching the NOISE FILTER.

SAFETY * Check the CABLE loosess.
Tighten Torque : 13±1kgf•cm



* Check the FILTER model number.
* Check the input and output of FILTER wiring.

INPUT	LOADING
NF : LINE	LOAD : AC0
NF : LINE	LOAD : AC1

* Check the CABLE loosess.

TERMINAL BOARD ASSY2

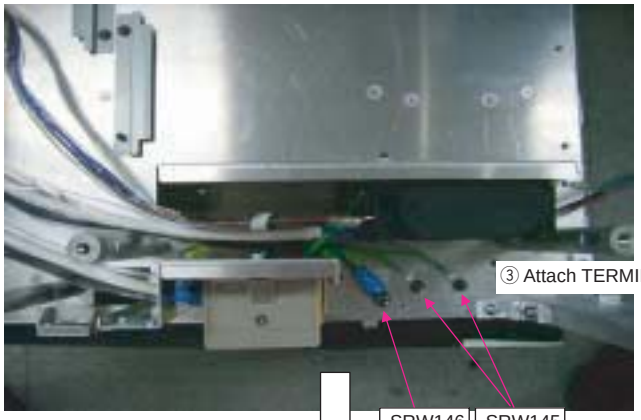
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
	SRW052	SCREW,PL-CPIMS*3*8*3GF	24V00111	4	Torque check
	SRW037	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
	SRW036	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
	SRW146	PL-CPIMS*6*14*3KF	24N02981	1	Torque check
	SRW147	WASHER,PIWA*6*3KF	24V00871	1	
	SRW145	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
	SRW134	PIWA*4*3GF	24V00661	2	

① Attach CIRCUIT BREAKER ASSY on FLAME.

VIEW DIRECTION

* On the left hand side viewed form the LENSE side.

② Attach FILTER ASSY on FLAME.



③ Attach TERMINAL BOARD ASSY on FLAME.

④ Attach the GND on FLAME ASSY.

VIEW DIRECTION

* On the right hand side viewed form the LENSE side.

SRW146/SRW147
SRW145/SRW134

Nipping WIRE CONNECTOR betweem WASHER and SCREW.

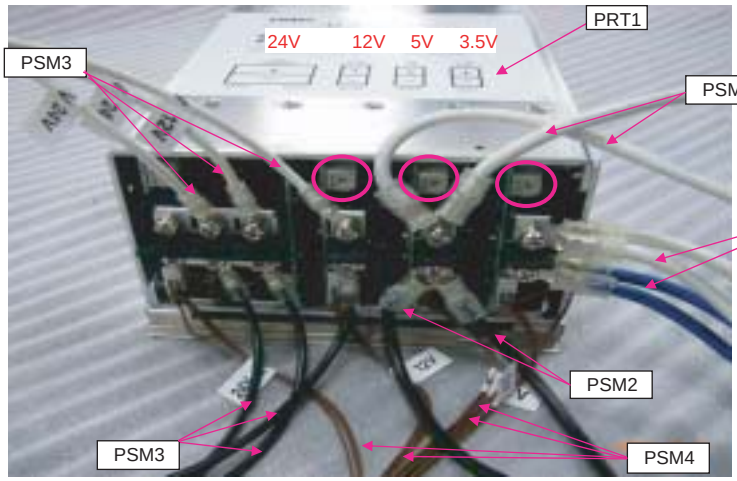
SAFETY

* Check the CABLE loosess.

M-PS1

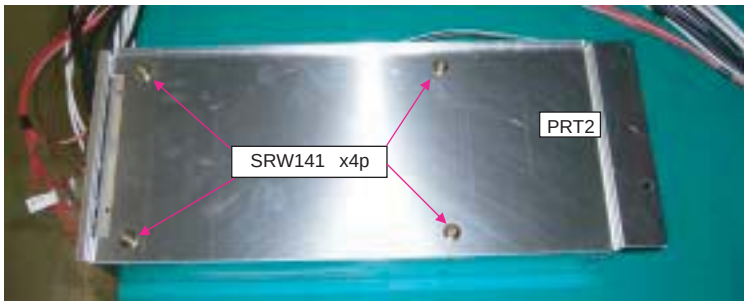
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		POWER SUPPLY(AC6-2HECB-00)	3N101231	1	
PRT2		BRACKET(M-PS)	24H55601	1	
	SRW141	PL-CPIMS*4*8*3GF	24V00591	4	Torque check
	PSM1	CN4P(PSM1)700W,1015-12	7NW4N001	1	
	PSM2	CN6-WP(PSM2)700W,1015-12	7NW6N002	1	
	PSM3	CN6-WP(PSM3)700W,1015-18	7NW6N001	1	
	PSM4	CN14-WP(PSM4)700X,1061-28	7NWDV001	1	

① Remove the short-circuiting connector (this connector to be abandoned) that is inserted in the power unit.
Install the cable according to the instructions of the label that is stuck there.
* Fix it with a screw that is mounted on the power unit. Torque: 12~14kgf•cm



② Do not block off the Volume(surrounded wih circle ◯) over wire rod.

* Check current rating 50A.
*Check CABLE looseness.



③ Attach M-PS on POWER SUPPLY UNIT.

M-PS2

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		BAND (L=100,T18R)	24C09121	1	
PRT2		TAPE,SCOTCH NO.214	92203051	1	
	SRW019	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
	AC3	CN3-WP(AC3)280W,1015-18	7NN3V001	1	
PRT3		BRACKET(BYPS)	24H60011	1	
	SRW035	PL-CPIMS*4*10*3KF	24V00461	4	Torque check

① Bind the cables "PSM3" and "PSM4" with a wire harness band.

* Cut excess off.

CAUTION : Do not block off the Volume (surrounded with circle ◯) over wire rod. It uses when the voltage adjusts during adjustment process.

② Lift up and bundle PSM4 wiring to not droop down.

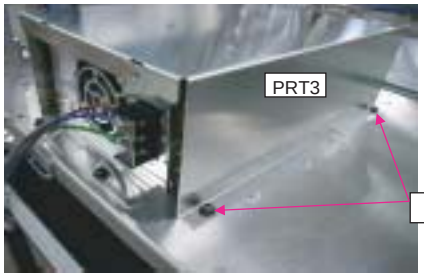
③ Fasten the wiring material of PSM4 with a tape.

④ Uncover and screw tightly with the screw attached to the POWER SUPPLY UNIT.
Torque : 12~14kgf•cm
After assembling, close the protective cover and lock it.

* Check CABLE looseness.

⑤ Put PSM4 wiring into thePOWER SUPPLY UNIT connector.

CAUTION : When POWER SUPPLY (AC6-2HECB-0 set to the FLAME ASSY, Do not hold the wiring Between Holding Bracket and Bracket(M-PS).



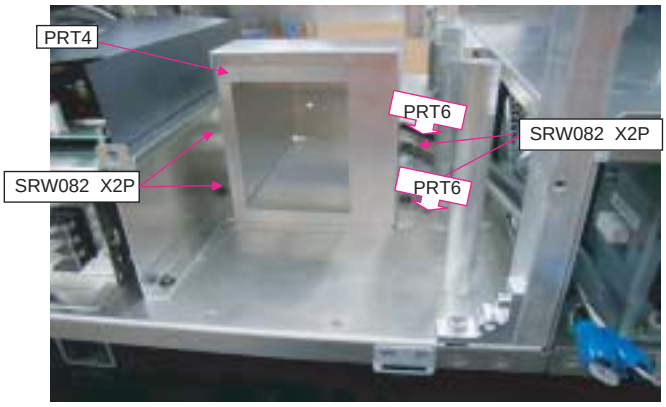
⑥ Insert M-PS guide-hole to the BRACKET on the back surface.

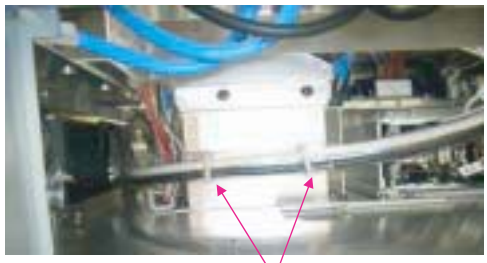
⑦ Put BYPS over POWER SUPPLY MAIN, and attach to FLAME ASSY.

DCFAN

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		DCFAN 4715KL	3N170098	1	
PRT2		GUARD(FAN)	12265641	1	
	SRW109	PL-CPIMS*4*50*3KF	24V00531	2	Torque check
PRT3		DUCT(FAN)C	24H60901	1	
	SRW063	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
PRT4		DUCT(FAN)ASSY	24HS4361	1	
PRT5		CUSHION(T3)	24J34901	1	
	SRW082	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
PRT6		CRAMP(RBWS-5N)	24C09281	5	
PRT7		COLLAR (H28.2)	24H61481	2	
PRT8		EDGE SADDLE	25283461	1	

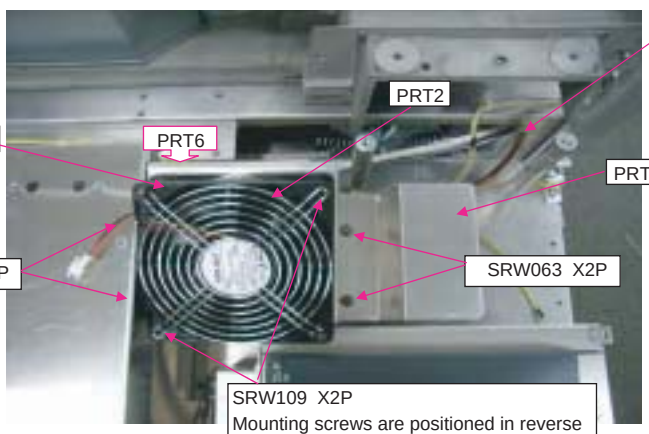
① Attach DUCT(FAN) ASSY on FLAME ASSY.





② Stick the cushion (T3) to the DUST (FAN) ASSY.
This cushion (T3) shall be stuck before the mounting of the DUCT (FAN) ASSY.

* Paste it based on the the corner.



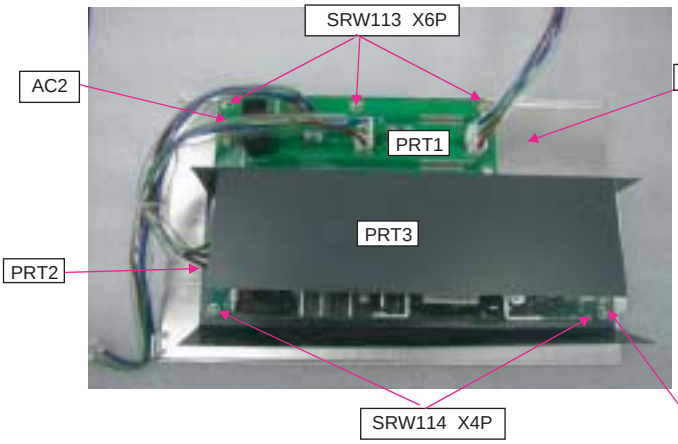
③ After attaching DC FAN or GUARD (FAN) on DUCT (FAN) C, attach it on DUCT (FAN) ASSY.

STANDBY

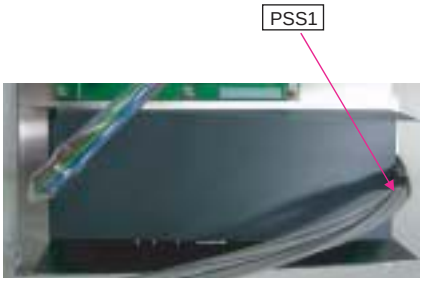
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		ETC3_PWB PWB ASSY	81N94Z01		
	SRW113	SCREW,PL-CPIMS*3*8*3GF	24V00111	6	Torque check
PRT2		POWER SUPPLY(LEB100F-0524	3N100921	1	
PRT3		BARRIER(PS)	24J34921	1	
		SCREW,PL-CPIMS*3*8*3GF	24V00111	4	Torque check
PRT4		BRACKET(ACPWB)	24H55581	1	
	SRW018	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
	AC2	CN5P(AC2)200W,1015-18	7NW5W050	1	
	PSS1	CN8P(PSS1)700W,1015-18	7NW8W030	1	
PRT5		BAND (L=100,T18R)	24C09121	1	

① Attach the AC-PWB ASSY to the mounting metal fitting (ACPWB). To install the DC Power Supply, lay a barrier first and then install it on the barrier. (Fit the DC power supply to the stud of the mounting metal fitting first.)

[CAUTION] countermeasure against static electricity
Use WRISTSTRAP when handling of BOARD.

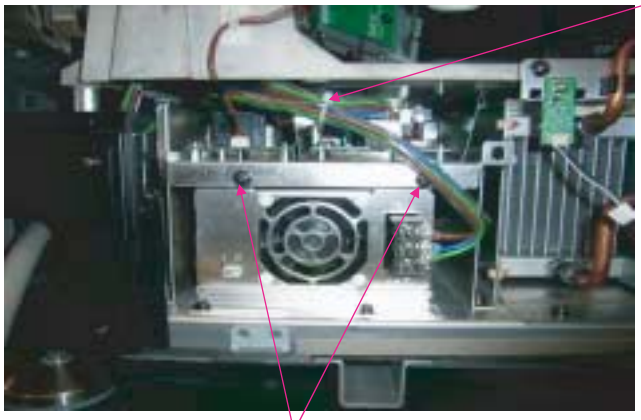


② Insert AC2 between AC-PWB and DC POWER SUPPLY.



* The connector shall be inserted completely without permitting any rise.

③ The BARRIER (PS) shall be mounted in a posture where this side can be opened.



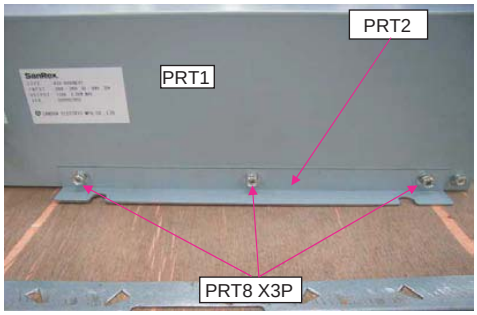
④ Bundle AC2 and AC with BAND.

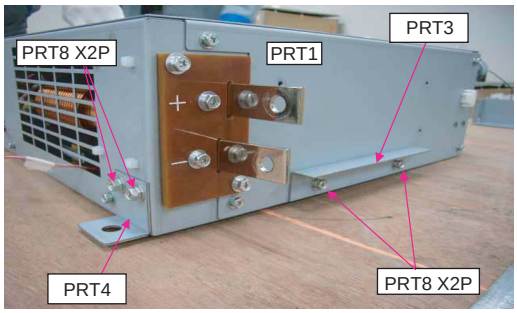
⑤ Attach AC-PWB ASSY over BYPS.

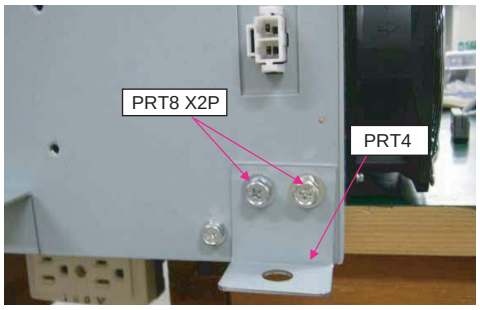
BALLAST PS1

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		POWER SUPPLY	3N101241	1	
PRT2		Bracket 1		1	
PRT3		Bracket 2		1	
PRT4		Bracket 3		2	
PRT5		Cushion		1	Use the appended goods of
PRT6		Bracket 4		1	electric power supply.
PRT7		Bracket 5		1	
PRT8		Bracket 6		1	
PRT9		Screw M5		9	
PRT10		Screw M8		2	
PRT11		IGNITER SS-140GMNE	3N101251	1	

① Attach Bracket on Power Supply BALLAST.
* Bracket and SCREW are appended goods.
SCREW (M5) Tightening torque : 32±2kgf•cm

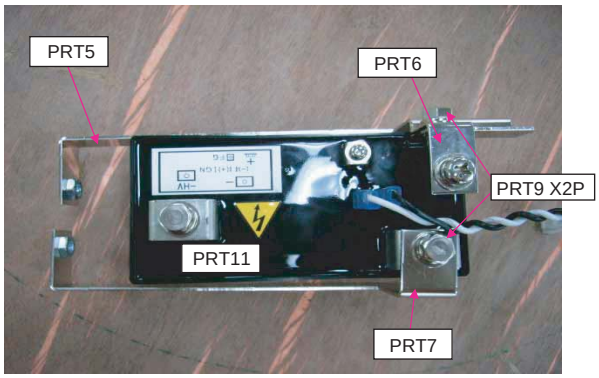


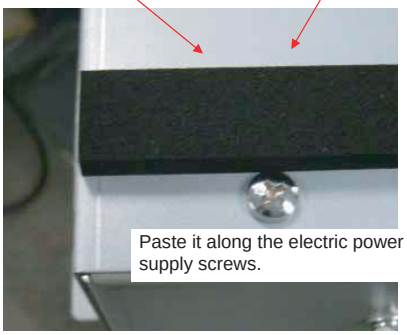




② Paste Cushion comes with IGNITER.

② Attach Bracket comes with IGNITER.
SCREW (M8) Tightening torque : 130±10kgf•cm

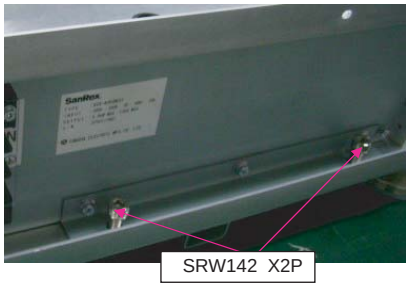


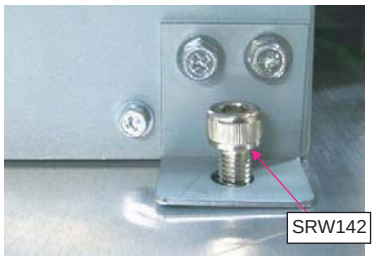


BALLAST PS2

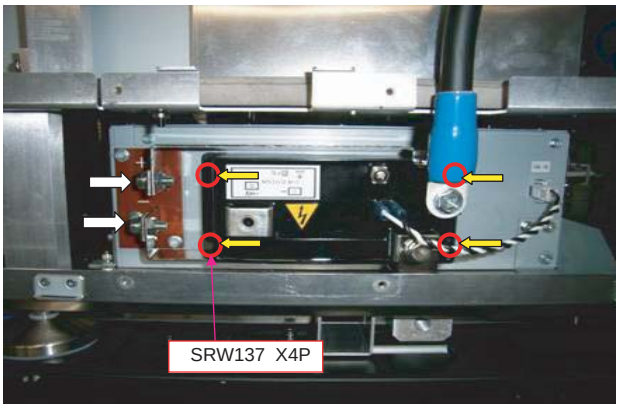
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
	SRW142	HHCS*8*20*3GF	24V00741	4	Torque check
	SRW137	PL-CPIMS*4*16*3GF	24V00471	4	Torque check

① Fix the BALLAST POWER SUPPLY with screws by entering it from the rear side of the FLAME ASSY lower stage.





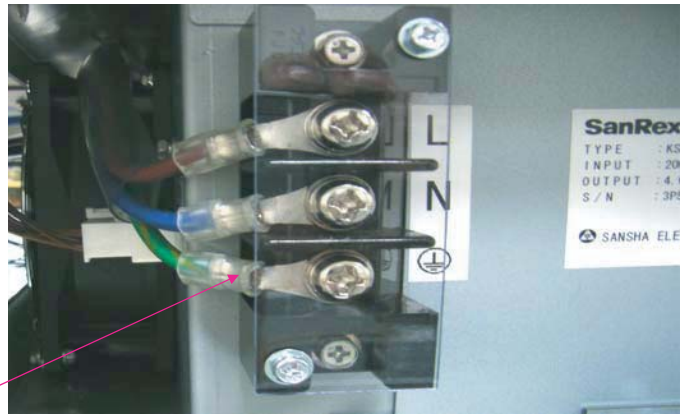
② Attach IGNITER along the sides of POWER SUPPLY.



③ There is an accessory Bracket 4-6 mounted as described previously. Connect this bracket to the terminal block of the ballast power supply as illustrated at left.
* Fix the mounting metal fittings of the igniter and the terminal block of the ballast power supply using accessory screws (M6).
Tightening torque: 55 ± 5kgf•cm

④ Remove TERMINAL BOARD COVER of POWER SUPPLY BALLAST, attach CABLE(AC1) from NOISE FILTERS.
Tightening torque : 50±5kgf•cm

⑤ Attach the removed TERMINAL COVER.
Tightening torque : 6±1kgf•cm



CAUTION : For GND cabling, use a spiral wire of green/yellow.

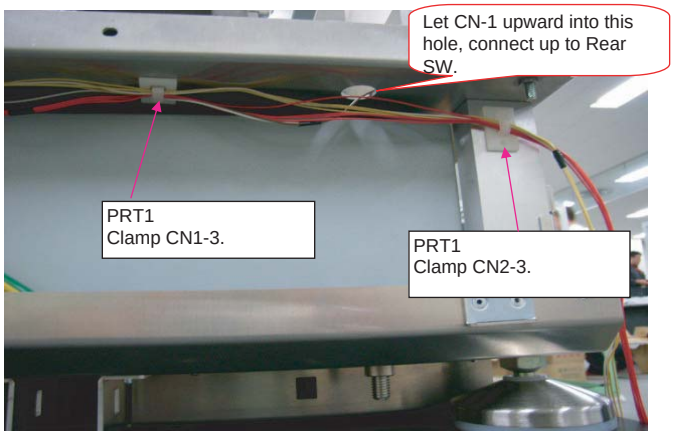
SAFETY

CABLE attachment should be used specified torque.

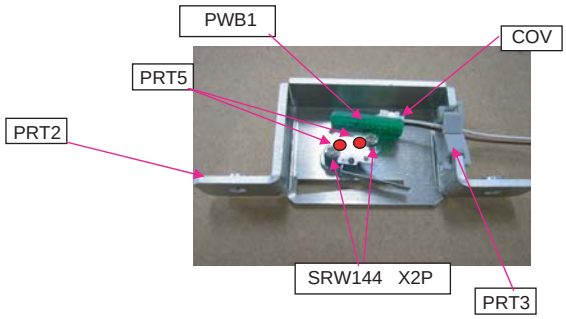
BALLAST PS3

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		CABLE CLIP(FCA-10)	24C02841	2	
PRT2		BRACKET(COVER SW)	24H60331	1	
PRT3		EDGE SADDLE	25283461	1	
PWB1		ETC3 PWB PWB ASSY	81N94Z01	1	
	SRW144	CBIMS*2*8*3GF	24V01031	2	Torque check
	SRW050	CFIMS*3*6*3KF	24V00421	2	Torque check
PRT4		CABLE CLIP(FCA-10)	24C02841	1	
CN1		CN12-WPTE2)300X, 1685-28	7NWBV007	1	TSENS
CN2		CN5P(STA)1550W,1685-28	7NW5W067	1	LED
CN3		CN2P(COV)1600W,1061-26	7NW2W059	1	Rear SW
PRT5		GLUE,SCREW LOCK	92201082		

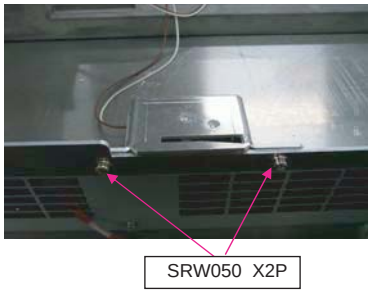
① Attach CABLE CLIP(FCA-10) on FLAME ASSY, and also clamp CN1-3.



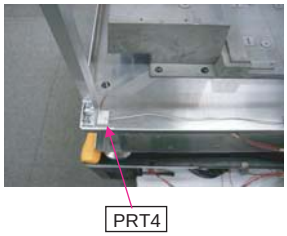
② Attach COVER SW PWB or EDGE SADDLE on BRACKET (COVER SW).
Insert COV CONNECTOR into COVER SW PWB.



③ Attach COVER SW ASSY on FLAME.



④ Paste CABLE CLIP, infix CN1 CABLE.

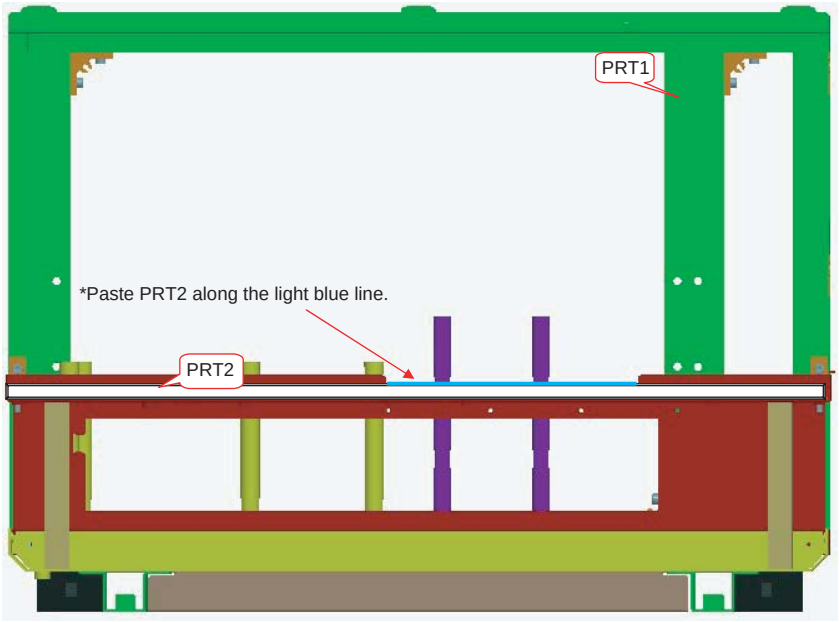


BALLAST PS3 (2)

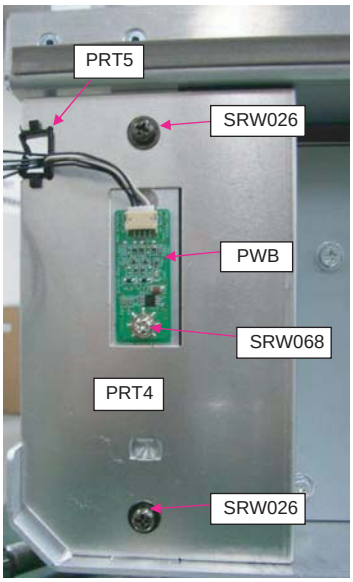
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FRAME ASSY	24HS4261	1	
PRT2		GASKET(STG0.5-8)	24C07561	2	680mm
PRT3		PARTITION PLATE(LAMP PS)L	24H61181	1	
	SRW021	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
PRT4		PARTITION PLATE(LAMP PS)R	24H61191	1	
	SRW026	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
PRT5		EDGE SADDLE	25281281	1	
PWB		TSENS PWB ASSY		1	
	SRW068	SCREW,PL-CPIMS*3*8*3GF	24V00111	1	Torque check

CAUTION : EMI (Electro Magnetic Interference : radio disturbance)

① GASKET(STG0.5-8) should be 680mm each, and paste it on the FRAME ASSY.



② After attaching Edge Sadle on Partition Plate(Lamp PS)R, attach it on lower stand (Ballast POWER SUPPLY) of the FLAME ASSY.
③ Attach TSENS PWB ASSY along cutting parts of Partotion Plate(Lamp PS)R, and insert CONNECTOR.
④ Attach Partition Plate(Lamp PS)L on the lower stand (Ballast POWER SUPPLY) of FLAME ASSY.



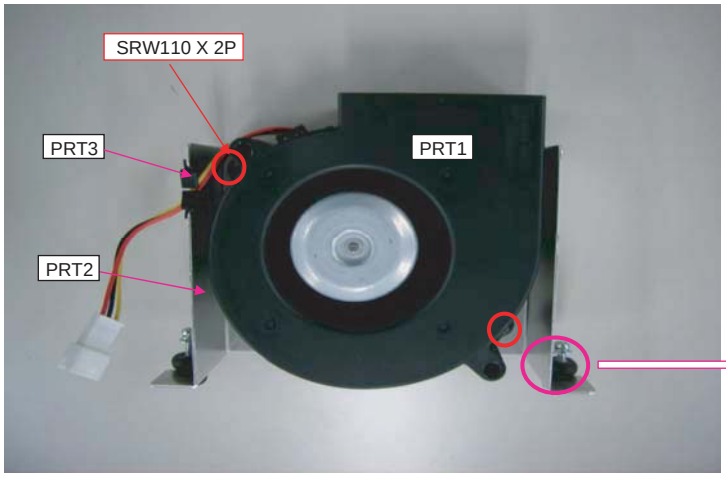
C FAN

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		DCFAN 9BAM24GD2-2	3N170100	2	
PRT2		BRACKET(C FAN)	24H60871	2	
	SRW109	PL-CPIMS*3*15	24V00251	6	Torque check
	SRW110	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
PRT3		EDGE SADDLE	25281281	2	
PRT4		CUSHION	24C09141	6	
PRT5		COLLAR	24C09171	6	
PRT6		CRAMP(RBWS-5N)	24C09281	1	
PRT7		CABLE CLIP(FCA-10)	24C02841	1	

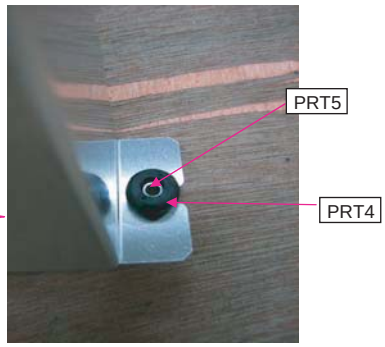
① Attach DC FAN on BRACKET(C FAN).

② Attach EDGE SADDLE on BRACKET(C FAN).

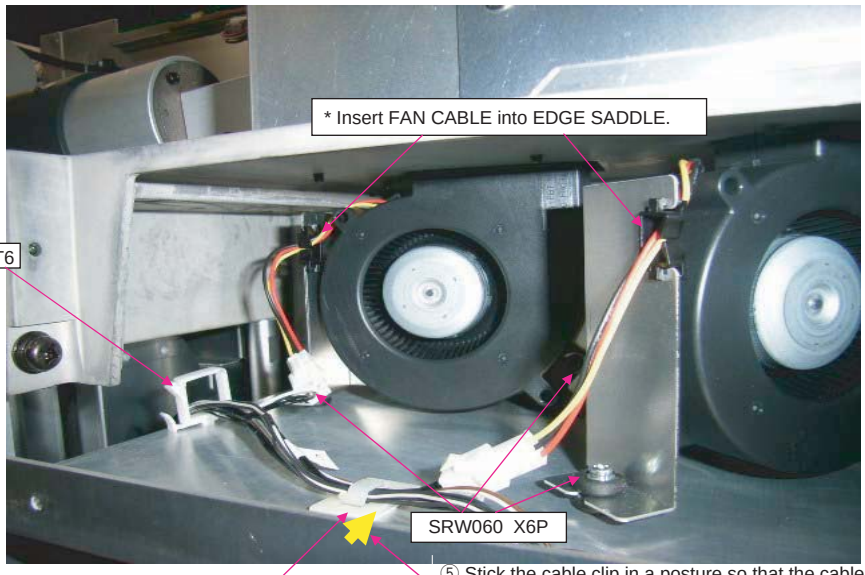
Assemble 2 sets.



③ Fit a cushion material to the fixing section of the mounting metal fittings (Fan C), and pass a collar.



④ After the DC fan has been installed, mount the mounting metal fittings (Fan C) on the frame.



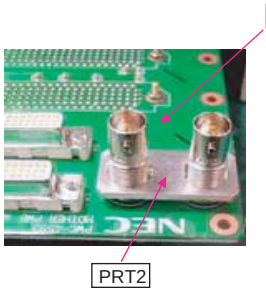
⑤ Stick the cable clip in a posture so that the cable can be fixed in this direction. The position for adhesion shall be around the center of the straight line between the GROMMET (G-50) and the CABLE CLIP (FCA-10).

TI BOX1

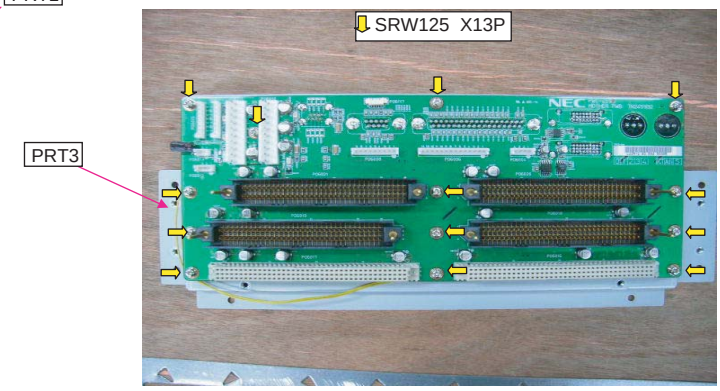
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		MOTHER PWB PWB ASSY	81N94M01	1	
PRT2		PLATE(BNC)	24H46901	1	
PRT3		SHIELD CASE A ASSY	24HS4381	1	
	SRW125	SCREW,PL-CPIMS*3*8*3GF	24V00111	13	Torque check
PRT4		STUD(D-SUB H5*.3)	24N08192	4	Torque check
		GLUE,SCREW LOCK	92201082		

[CAUTION] countermeasure against static electricity
Use WRISTSTAP when handling the BOARD.

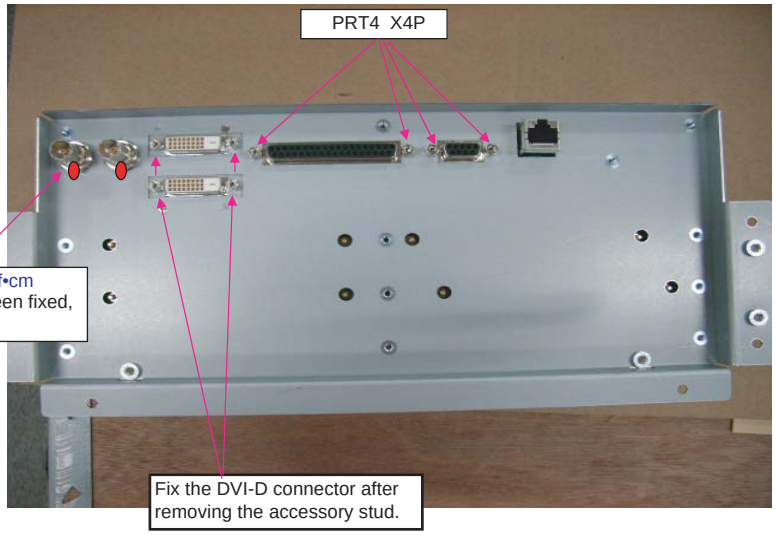
① Insert PLATE(BNC) on BNC after removing NUT and STUD on MOTHER_PWB.
Put MOTHER_PWB on SHIELD CASE A ASSY, and turn it back.



② Screw the MOTHER_PWB.



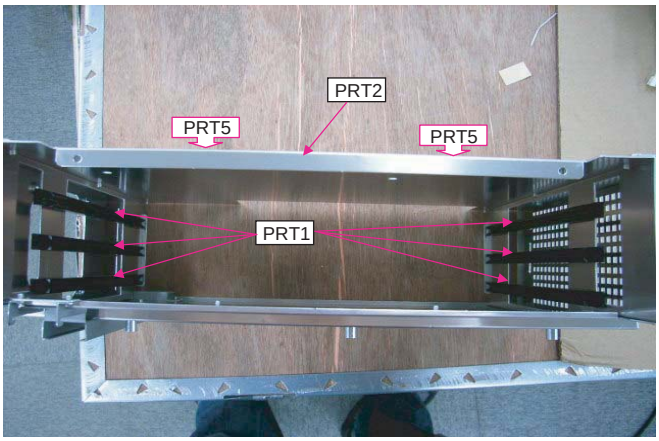
③ Put MOTHER_PWB on SHIELD CASE A ASSY, turn it back.
Fix BNC CONNECTOR with hexagon nut and washer removed from BNC CONNECTOR.



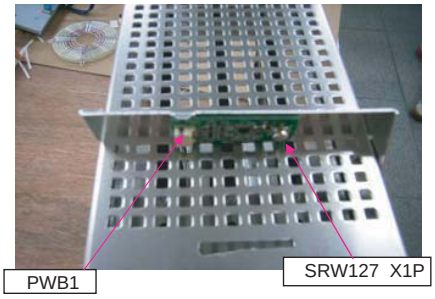
TI BOX2

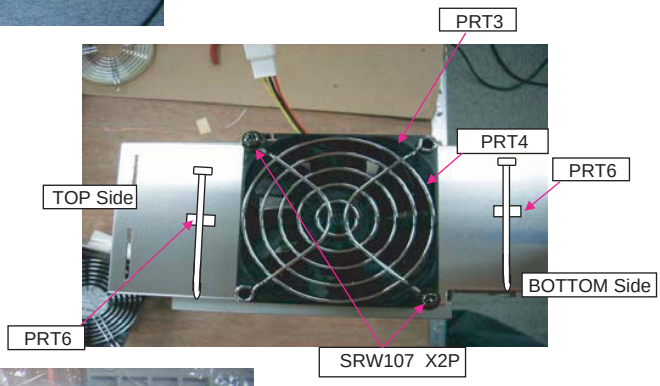
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		GUIDE RAIL	24C02751	6	Amperage Rating 50A
PRT2		SHIELD CASE B ASSY	24HS4392	1	
	SRW085	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
PRT3		DCFAN 9B0824G102	3N170123	1	
PRT4		GUARD(FAN)(80)	24C08421	1	
	SRW107	PL-CPIMS*4*50*3KF	24V00531	2	Torque check
PWB1		ETC3 PWB PWB ASSY	81N94Z01		
	SRW127	PL-CPIMS*3*8*3GF	24V00111	1	Torque check
	SRW149	PL-CPIMS*3*8*3GF	24V00111	2	
PRT5		CRAMP(RBWS-5N)	24C09281	2	
PRT6		STRAP(1K-57)	24C08381	2	

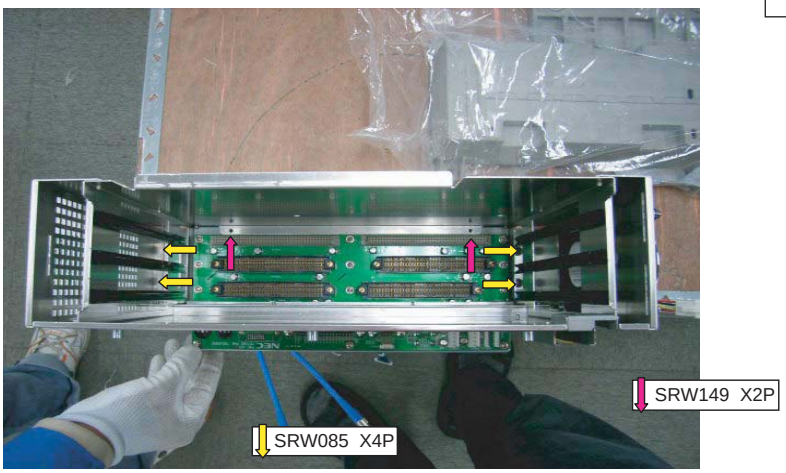
① Install the GUIDE RAIL on the HIELD CASE B ASSY.
The Shield Case B Assy may be deformed easily at the time of X6P installation.
Therefore, this installation should be carried out after a cushion material has been fitted as a jig. (Remove this jig after installation.)



② Attach DC FAN and GUARD(FAN) on SHIELD CASE B ASSY.
Mount the label [DC Fan Installed ⇒ faced to the Shield Case B Assy side.
The lead-out port of the wiring material shall be positioned on the prism side.



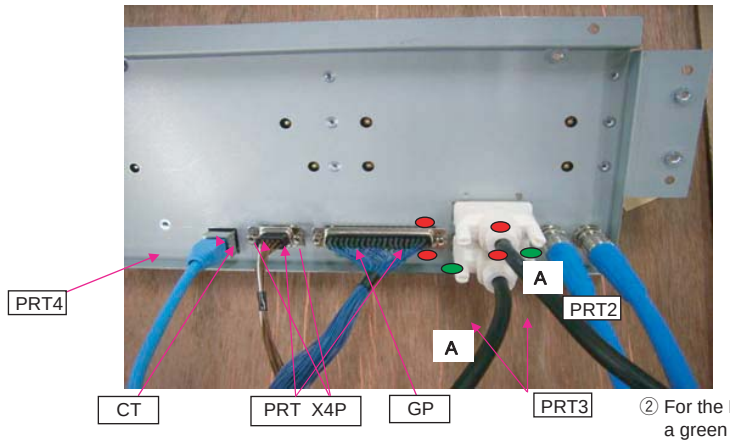




TI BOX3

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		STUD(D-SUB H*5.3)	24N08192	4	Torque check
PRT2		CABLE BNC D5FBC0042-SA	7N520062	2	
PRT3		CABLE DVI-D SA0509049	7N520056	2	
	GP	CN37-40P(GP)250W,1571-28	7NWLW046	1	
	CT	CN9P(CT)250W,1061-26	7NW9W010	1	
PRT4		CABLE LAN 0.33M PCRJE0033	7N520058	1	
PWB1		PJDIV PWB PWB ASSY	81N94Y01	1	
	SRW126	SCREW,PL-CPIMS*3*8*3GF	24V00111	6	Torque check
PRT5		CRAMP(RBWS-5N)	24C09281	2	

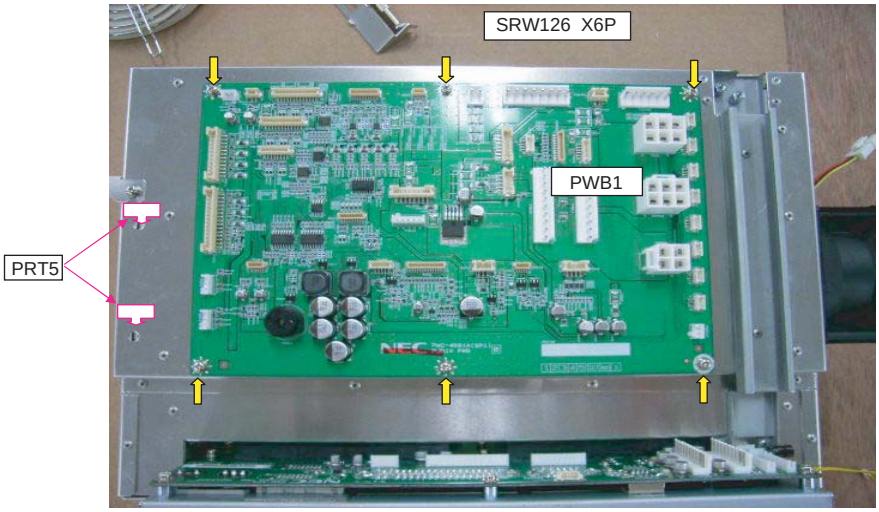
① Fix D-sub37P(GP) and D-sub9P(CT) with STUD.
Attach each CABLE (BNC/DVI/LAN/GP/CT).



② For the DVI-D cable, the inserted parts on lower side shall be given a green marking on both sides (Terminal A side).
For the BNC cable, the inserted parts on left side shall be given a green marking on both sides (Terminal A side).
For the DVI-D cable, a screw lock agent shall be applied after the completion of screw tightening.

[CAUTION] countermeasure against static electricity
Use WRISTSTRAP when handling the BOARD.

③ Attach PJDIV PWB ASSY.
USE SPACER JIG for not warpaging when screwing.

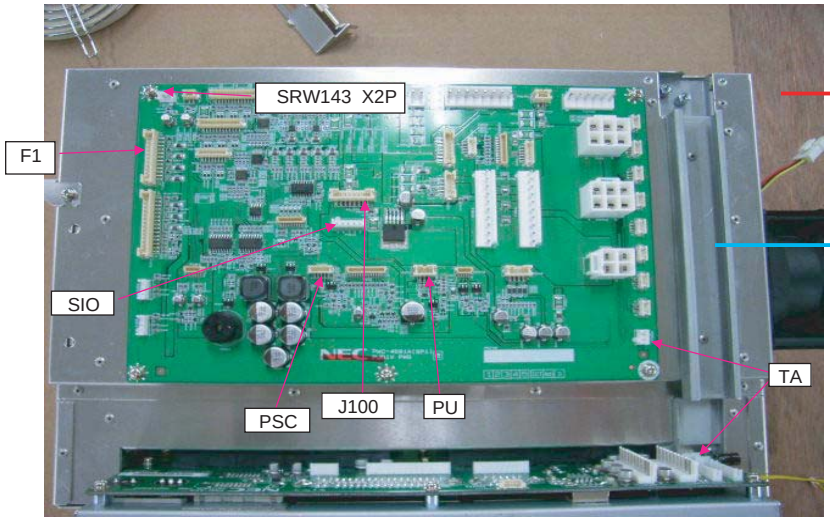


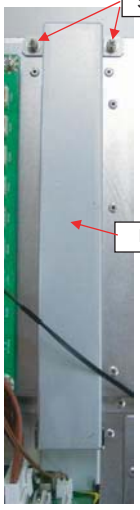
TI BOX4

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PWB1		ETC3 PWB PWB ASSY	81N94Z01	1	
	SRW143	CBIMS*2*8*3GF	24V01031	2	Torque check
	T1	CN3P(T1)225W,1061-26	7NW3W089	1	
	TA	CN2P(TA)100W,1061-26	7NW2W058	1	
	PU	CN3P(PU)925W,3265-24	7NW3W087	1	
	PSC	CN5P(PSC)875W,1061-26	7NW5W064	1	
	SIO	CN5P(SIO)200W,1061-24	7NW5W068	1	
	J100	CN8P(J100)500W,1061-24	7NW8W032	1	
	F1	CN12-WP(F1)250X,1061-24	7NWBV005	1	
PRT1		SHIELD CASE D	24H61032	1	
	SRW044	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	
		GULE,SCREW LOCK	92201082		

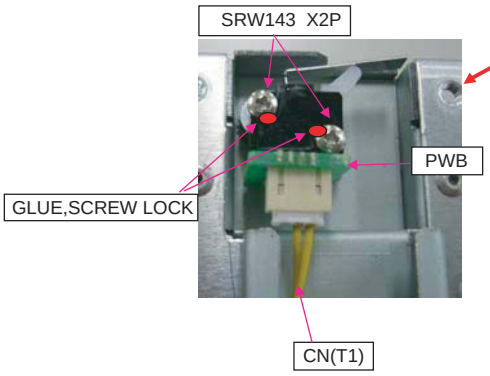
[CAUTION] countermeasure against static electricity
Use WRISTSTRAP when handling the BOARD.

① Insert each CONNECTOR into PJDIV PWB ASSY. (Picture below)





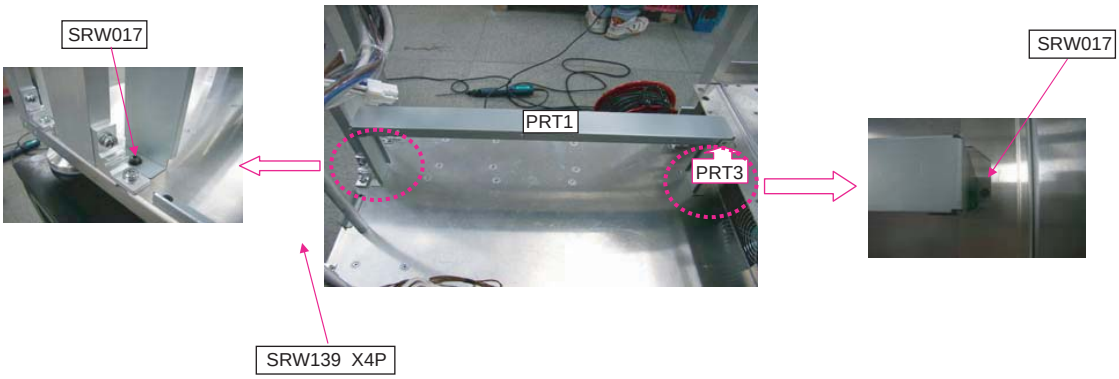
② Insert CN(TA) into "PO6013" between PJDIV - MOTHER PWB ASSY.
③ Set CN(T1) into TI Shiled Case after inserting TAMPER PWB ASSY.
④ Set Shiled Case D over CN(T1) after setting on TAMPER PWB ASSY.
Make sure not to pinch this connector with the Shield Case D.



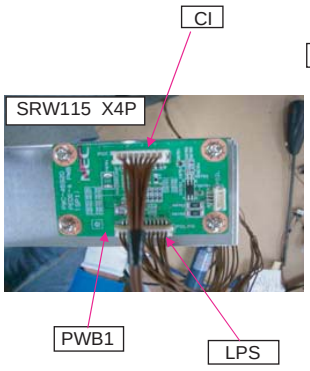
FIXING BRACKET TI

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		BRACKET(PWB-U)	24H55551	1	
	SRW017	PL-CPIMS*3*10*3KF	24V00461	2	Torque check
PWB1		ETC3 PWB PWB ASSY	81N94Z01	1	
	SRW115	SCREW,PL-CPIMS*3*8*3GF	24V00111	4	Torque check
PRT2		FIXING BRACKET(TI UNIT)	24H60051	1	
PRT3		CRAMP(RBWS-5N)	24C09281	2	
	SRW038	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
	SRW039	PL-CPIMS*6*14*3KF	24N02981	2	Torque check
	CI	CN8P(CI)300W,1061-24	7NW8W031	1	
	LPS	CN12-18P(LP)1050W,1061-26	7NWXW004	1	

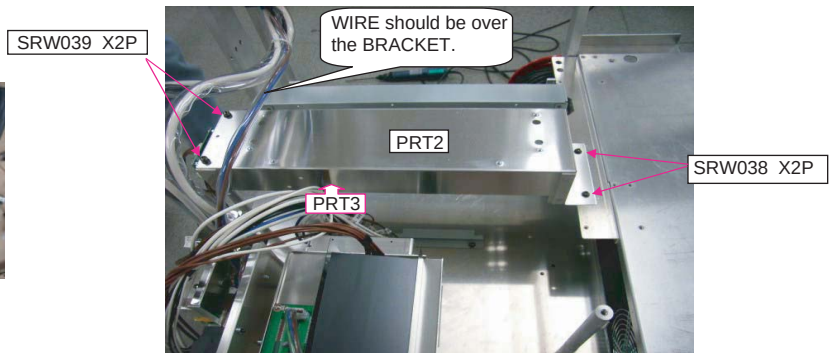
① Attach FIXING BRACKET (PWB-U) on FLAME ASSY.
Attach FIXING BRACKET (PWB-U) on CLAMP.



② Insert CONNECTOR CI and LPS into PEDE-A, connect CI on CPU BOARD and LPS on LAMP POWER SUPPLY.



③ Attach FIXING BRACKET(TI UNIT) on FLAME ASSY.
Attach FIXING BRACKET(TI UNIT) on CLAMP.

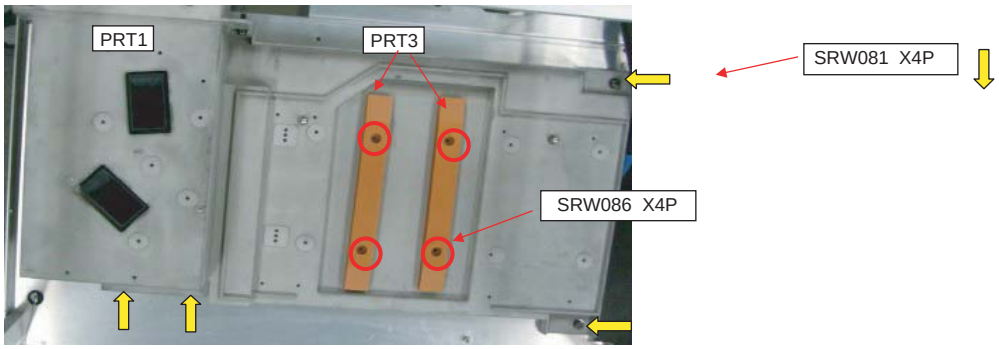


ENGINE BASE

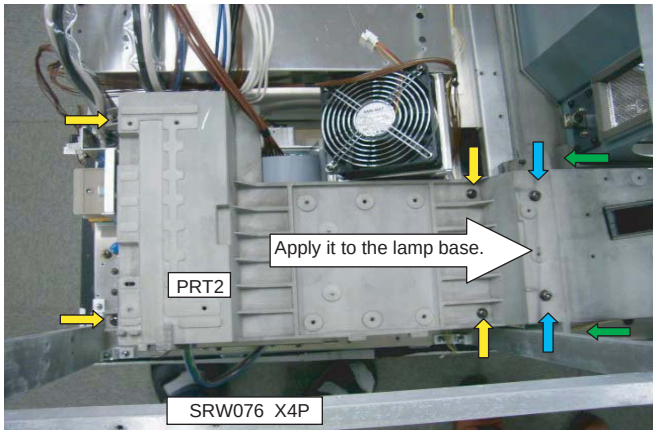
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		LAMP BASE ASSY	24HS4331	1	
	SRW081	PL-CPIMS*6*14*3KF	24N02981	4	Torque check
PRT2		ENGINE BASE ASSY	24HS4251	1	
	SRW076	PL-CPIMS*6*20*3GF	24V01111	8	Torque check
PRT3		PLATE(LEF BASE)	24J34821	2	
	SRW086	PL-CPIMS*4*10*3KF	24V00461	4	Torque check

① Attach Lamp Base Assy on FLAME ASSY.

② Attach Plate(Lef Base) on Lamp Base Asasy.



③ Attach ENGINE BASE ASSY on FLAME ASSY.

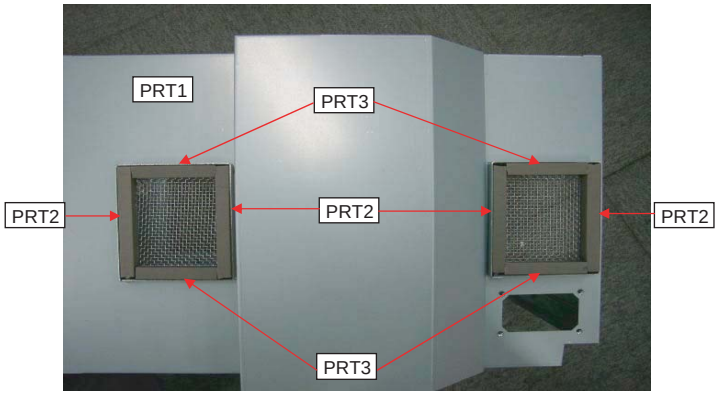


* When installing the engine base Assy, apply it to the lamp base side and tighten screws from above (blue arrow mark). Then, tighten screws from the side (green arrow mark). Finally, tighten screws (yellow arrow mark) that are intended for fixing the engine base Assy. In this case, the steps shall be made to a minimum between the engine base and the lamp base.

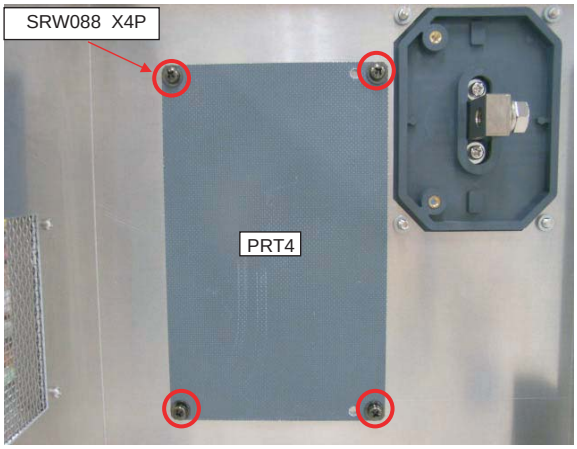
LAMP1

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		LAMP COVER S ASSY	24HS4291	1	
PRT2		GASKET(STG10-10)	24C05351	4	90mm
PRT3		GASKET(STG10-10)	24C05351	4	60mm
PRT4		INSULATION PLATE B	24J34841	1	
	SRW088	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
	SRW078	PL-CPIMS*4*10*3KF	24V00461	5	Torque check

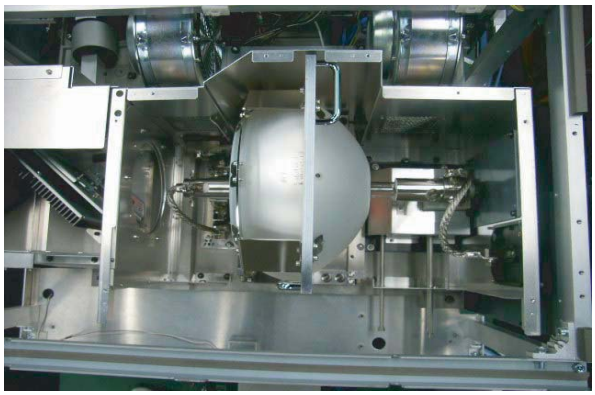
① GASKET(STG15-10) should be 90mm and 60mm each, and paste it on the Lamp Cover S Assy.



② Attach Insulation Plate B on Lamp Cover S Assy.



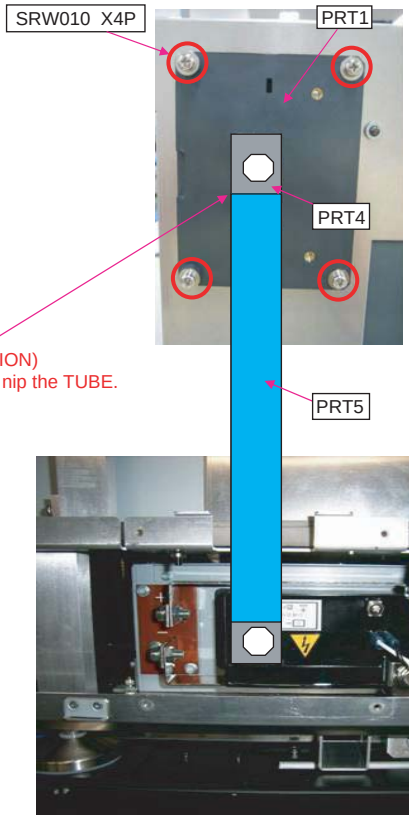
③ Attach Frame Assy on Lamp Cove S Assy.



LAMP2

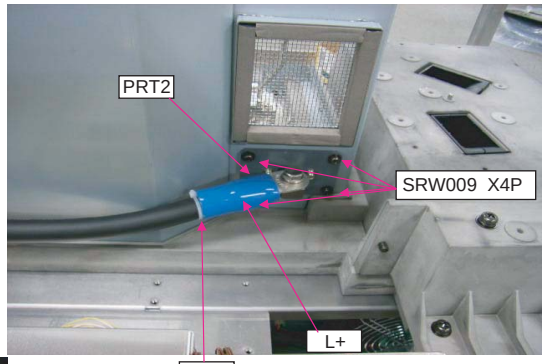
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		TERMINAL PLATE(PA67)	24BS7801	1	
	SRW010	PL-CPIMS*4*16*3GF	24V00471	4	Torque check
PRT2		TERMINAL PLATE(PA67)	24BS7801	1	
	SRW009	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
	L+	CN WIRE(L+)525W,1284-2/0	7NN1N049	1	
PRT3		BAND (L=100,T18R)	24C09121	2	
PRT4		PLATE(LPS)	24H61311	1	
PRT5		TUBE(ST-110DG UL)	9R050007	2	245±5mm

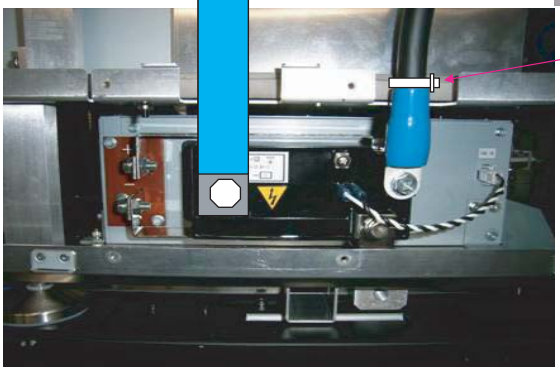
① Attach TERMINAL PLATE on LAMP COVER S ASSY.



② Attach TERMINAL PLATE on LAMP COVER S ASSY.
Remove M10, and attach CN WIRE(L+).
Torque : 250±10kgf•cm

③ Put "L+" INSULATION COVER over the TERMINAL, and band them. Cut the excess off.





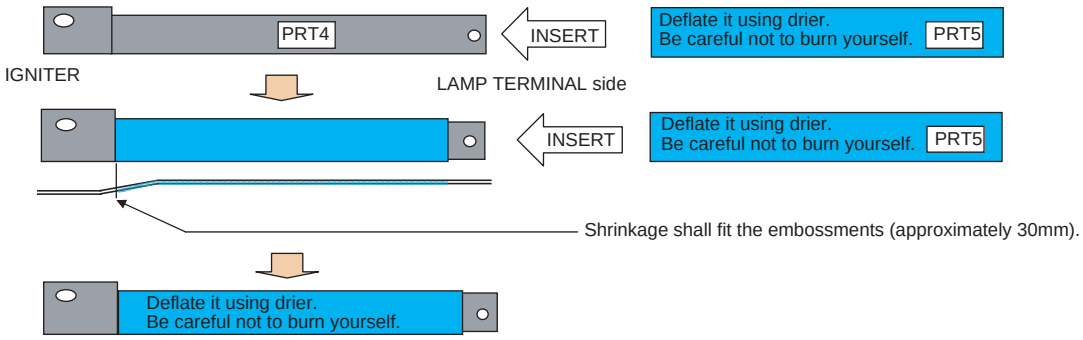
④ Cover the plate (LPS) with a tube (ST-110DG UL).
Put an item, which has been shrunk by a drier (a heater), in between the cathode side terminal and the igniter.
Use various accessory screws (M10) for fixing.

Tightening torque : 250±10kgf•cm

SAFETY

Attach CABLE using the specified torque.

The TUBE (ST-110DG UL) shall be used in advance to cover the PLATE (LPS). After this tube has been made to shrink, Use another tube to cover the plate and shrink this tube. (Double coverage)



LAMP2 (2)

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		REFLECTOR BASE(PA67)	12JT1801	1	

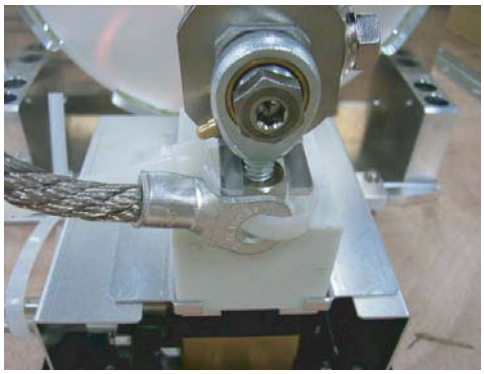
Beyond this point, Lamp operation should be in the LAMP ROOM for ensuring safety wearing a protective mask, protective glove, protective arm cover and protective clothes. No admittance in the LAMP ROOM without wearing protective equipment above.

① Take Reflector Base(PA67) out of the individual packaging.

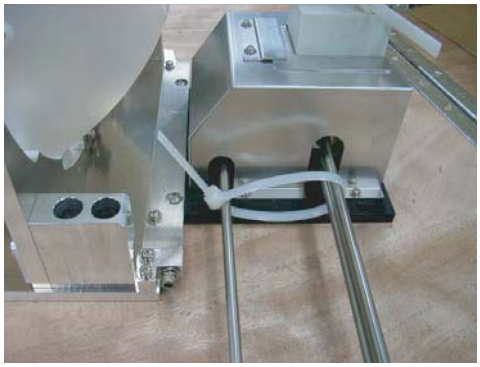
② Cut off each fixing BAND.

positive post

negative post



arbor adjustment



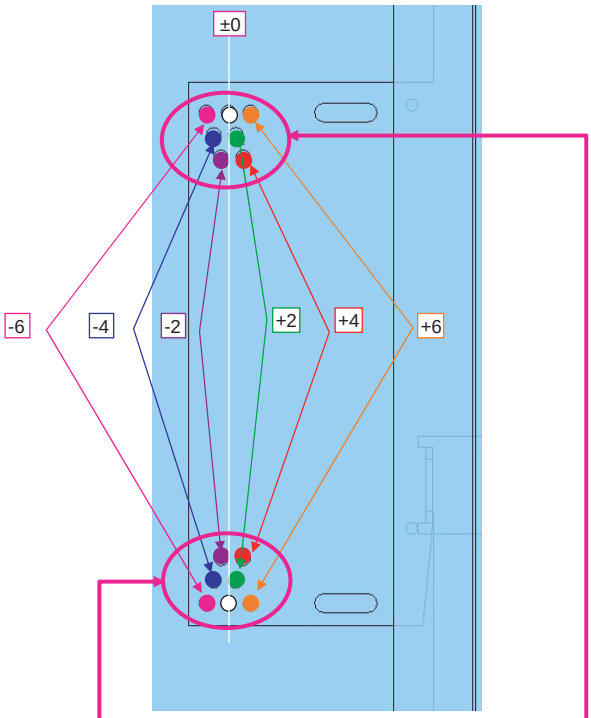
The markings provided to the rod for optical-axis adjustments shall be located on the specified side.
If they are not found on the lower side, the optical axis may have been displaced. Therefore, make adjustments in the adjusting processes.

After the fixing band has been cut, handle the Reflector Base (PA67) carefully so that the Lamp Bulb block and the Reflector block are not damaged by the wires of the anode and cathode blocks as a result of coming in collision with them.

LAMP2 (3)

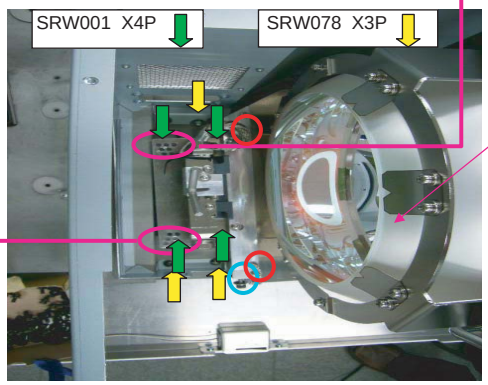
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		REFLECTOR BASE(PA67)	12JT1801	1	
	SRW001	PL-CPIMS*4*16*3GF	24V00471	8	Torque check

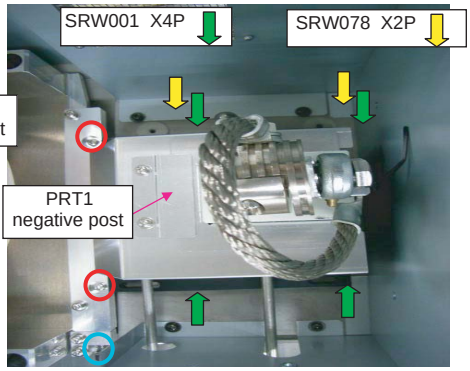
Beyond this point, Lamp operation should be in the LAMP ROOM for ensuring safety wearing a protective mask, protective glove, protective arm cover and protective clothes. No admittance in the LAMP ROOM without wearing protective equipment above.



① Put the reflector base on the lamp base and fix it.
For fixing, the Lamp Base Assy pin shall be applied to the Reflector Base (PA67).
When putting the reflector base on the lamp base, use a protection mask and wear protection gloves.

② When fixing the reflector base to the lamp base, fix the screws in the positions of –2, –4, –6 or +2, +4, +6 according to the numerical values of measuring positions listed in the Inspection Qualification Table.
The Inspection Qualification Table shall be stuck to the History Table.



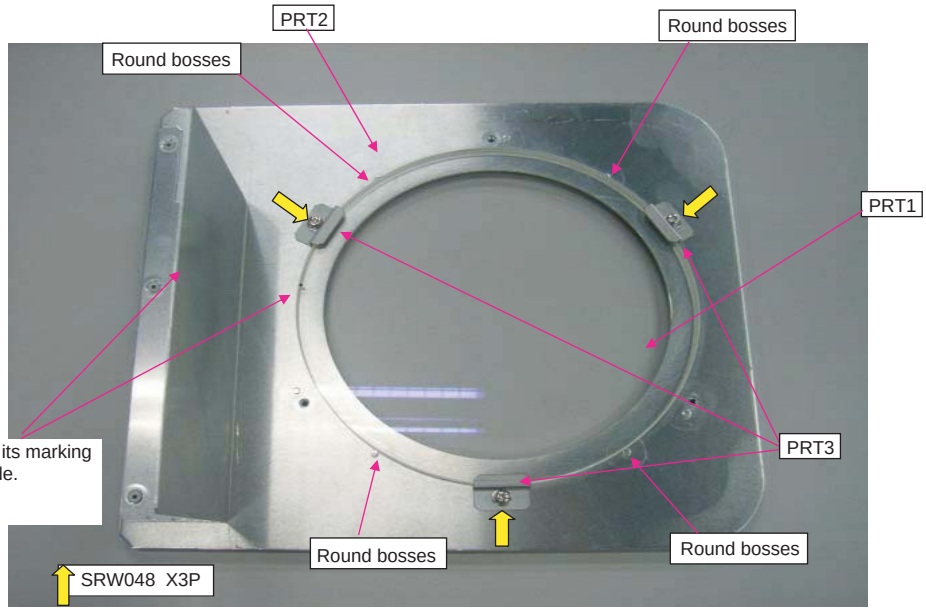


* Apply the reflector base (PA67) to the lamp fan side and fix it with the screws indicated by the green arrow mark.
Then, remove the screws encircled in red and tighten the screws encircled in blue.
The tightening torque for the screws encircled in blue shall be 12 ~ 14kgf•cm.

UV GLASS

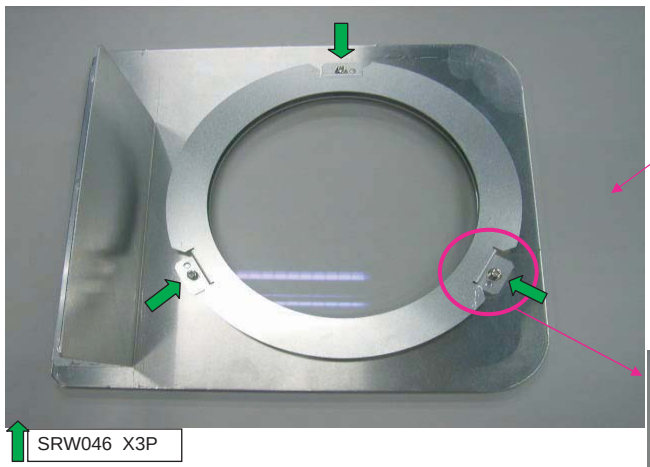
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		UV GLASS(PA67)	12JT1791	1	
PRT2		BASE(GLASS)ASSY	24HS4351	1	
PRT3		HOLDING PLATE(UV GLASS)	24H60271	3	
	SRW048	SCREW,PL-CPIMS*3*8*3GF	24V00111	3	Torque check
PRT4		COVER(GLASS)	24H60171	1	
	SRW046	SCREW,PL-CPIMS*3*8*3GF	24V00111	3	Torque check

① Put the UV glass fitted to the round bosses (4 pcs.) of the base (Glass) Assy and fix it with a holding plate (UV Glass). (Where round bosses are not allocated)



② Mount the UV GLASS so that its marking side is faced to the PLATE side. (Outside direction)

③ Attach COVER(GLASS) over BASE(GLASS)ASSY.



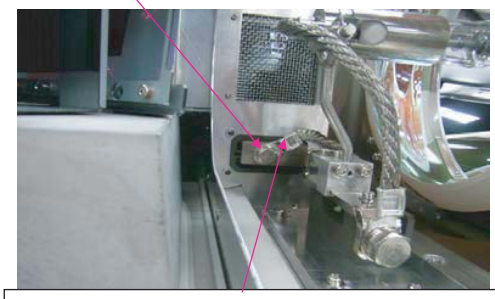
④ Fit it to the round bosses.

LAMP3

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		DUCT(LAMP)	24H60251	1	
	SRW047	PL-CPIMS*4*10*3KF	24V00461	3	Torque check
PRT2		LAMP COVER S(BOTTOM)	24H61261	1	
	SRW078	PL-CPIMS*4*10*3KF	24V00461	2	Torque check

Beyond this point, Lamp operation should be in the LAMP ROOM for ensuring safety wearing a protective mask, protective glove, protective arm cover and protective clothes. No admittance in the LAMP ROOM without wearing protective equipment above.

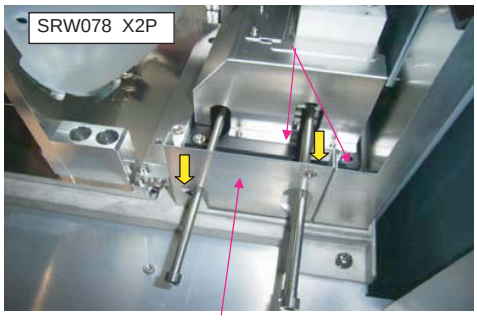
① Remove the screws of Positive Post Terminal Plate, and attach it using unscrewed screws from Reflector base Positive Post Cable.



Check the CABLE not to touch LAMP COVER S ASSY.

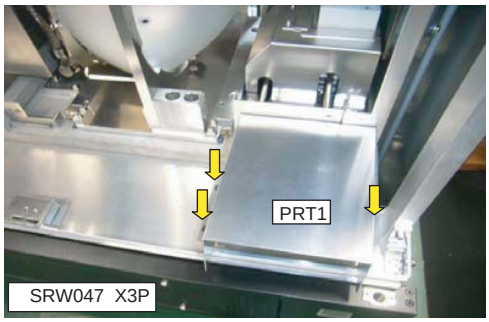
② Remove the screws of Negative Post Terminal Plate, and attach it using unscrewed screws from Reflector base Negative Post Cable.

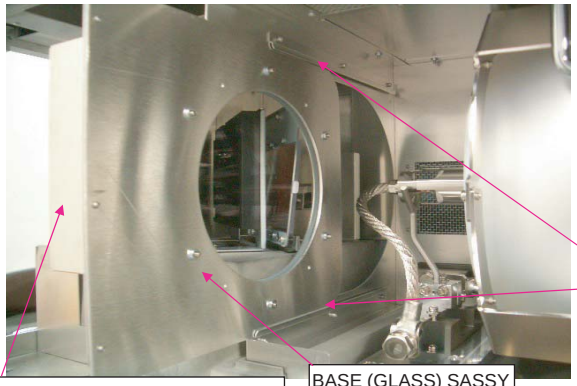
③ Remove the wire harness band that is attached to the optical axis adjusting bar.
(Cut it off)
Attach LAMP COVER S (BOTTOM) on LAMP BASEASSY.



PRT2

④ Get the optical axis adjusting bar of the reflector base passed through the guide hole of the duct lamp and mount the assembly on the frame Assy.





⑤ Fit BASE(GLASS) SASSY into LAMP COVER S ASSY GUIDE RAIL.

ENGINE 3

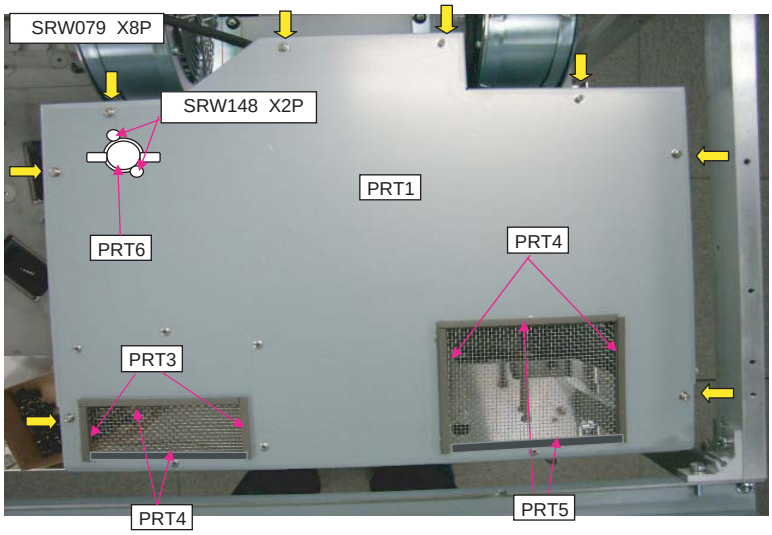
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		LAMP COVER T ASSY	24HS4301	1	
	SRW079	SCREW,PL-CPIMS*3*8*3GF	24V00111	8	Torque check
PRT2		LAMP COVER F ASSY	24HS4281	1	
	SRW077	SPECIAL SCREW(M4*18)	24N08431	4	Torque check
PRT3		GASKET(STG3-5)	24C08441	2	50mm
PRT4		GASKET(STG3-5)	24C08441	4	100mm
PRT5		GASKET(STG3-5)	24C08441	2	100mm
PRT6		THERMOSTAT CS-7SA-90(F)	7N970055	1	
	SRW148	CBIMS*3*6*3KF	24V00161	2	Torque check
PRT7		LABEL(LAMP)	24L56451	1	

Beyond this point, Lamp operation should be in the LAMP ROOM for ensuring safety wearing a protective mask, protective glove, protective arm cover and protective clothes. No admittance in the LAMP ROOM without wearing protective equipment above.

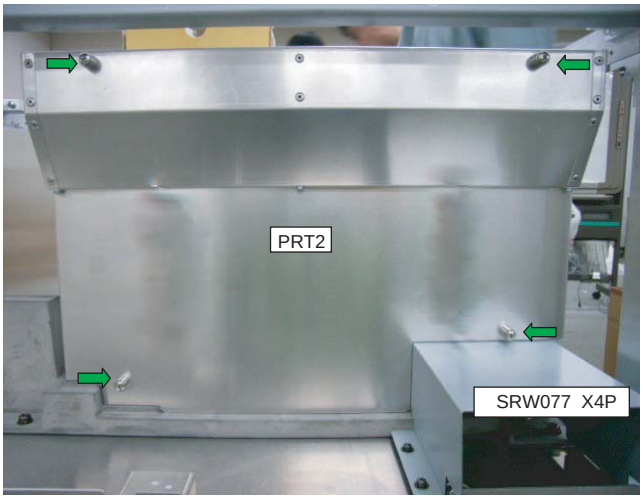
① GASKET(STG3-5) should be 50mm and 100mm each, and paste it on the Lamp Cover T Assy.

② Attach Thermostat CS-7SA-90(F) on Lamp Cover T Assy.

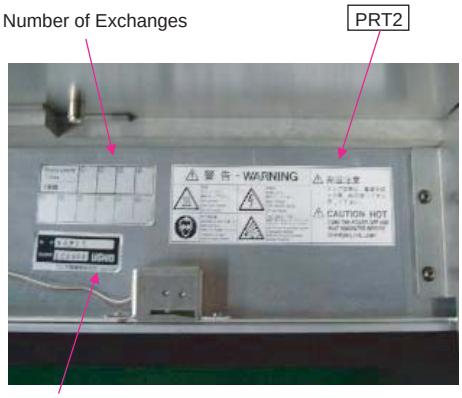
③ Attach Lamp Cover T Assy on Lamp cover S Assy.



④ Attach Lamp Cover F Assy.



⑤ Paste the label (comes with Reflector Base12JT1801) for Number of Exchanges and Lamp Serialover the FLAME ASSY.

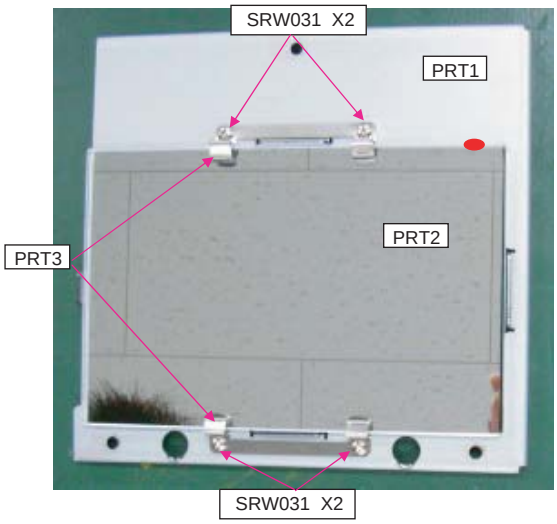


Confirm that installation of the Lamp Cover S Assy has been completed. Subsequent work can be carried out outside the exclusive lamp mounting room.

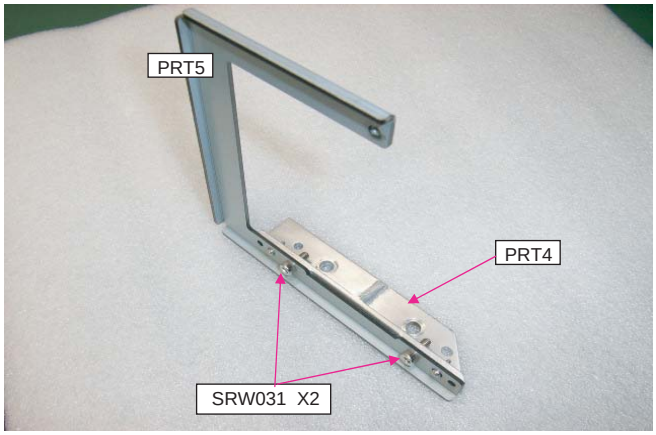
MIRROR ASSY

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		BRACKET(CM1)	24H59941	1	
PRT2		COLD MIRROR	12JS0271	1	
PRT3		PLATE SPRING(CM1)	24H59961	2	
	SRW031	CBIMS*2*6*3KF	24V00541	4	Torque check
PRT4		BASE(CM1)B ASSY	24HS4341	1	
	SRW029	HHCS*3*16*3GF	24V01121	2	Torque check
PRT5		BASE(CM1)A	24H59921	1	
PRT6		SPRING(WM6-10)	24C08451	3	
	SRW027	HHCS*4*10*3GF	24V00441	3	

① Put Cold Mirror over Bracket(CM1), and fix it with Plate Spring(CM1) or the screws.
CAUTION : Make sure that a red marking should be same location as picture below when putting Cold Mirror over Bracket(CM1).
Do not touch the Mirror with bare hands.



② Attach Base(CM1)B Assy on Base(CM1)A.



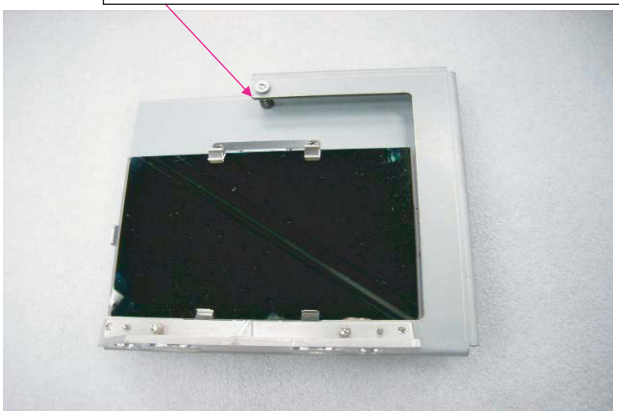
③ Adjust the positioning guide pin.

MIRROR ASSY (2)

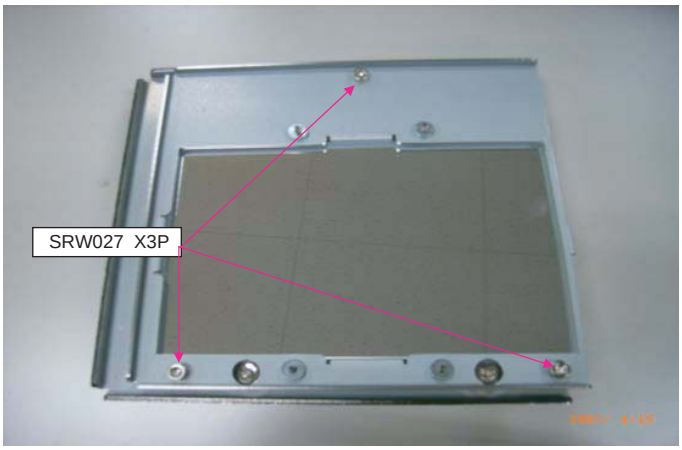
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		SPRING(WM6-10)	24C08451	3	
	SRW027	HHCS*4*10*3GF	24V00441	3	
		GLUE,SCREW LOCK	92201082		

① Assemble the Bracket (CM1) where the Base (CM1) A and the Cold Mirror are mounted.
At that time, put the Spring (WM6-10) in the specified place and tighten screws in the state that the above-mentioned Bracket (CM1) is placed.
The respective screws should be tightened temporarily. They should not be tightened all at once.

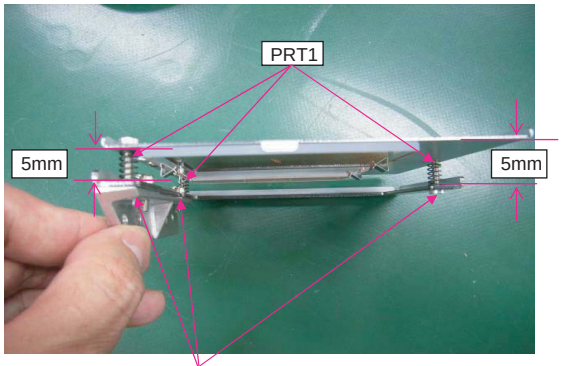
② Put Springs (3 positions) in the Bracket (CM1) where the Base (CM1) A and the Cold Mirror are mounted.



③ Apply an exclusive gap securing jig to the section between the Base (CM1) A and the Bracket (CM1), and tighten screws.
Use an exclusive jig to secure the unified gap of 5mm required.



④ Insert springs (3 positions) in the section between the mounting metal fittings (CM1) and the Base (CM1) A, and tighten screws. Control the gap of [5mm].
(Use a jig for gap control.)

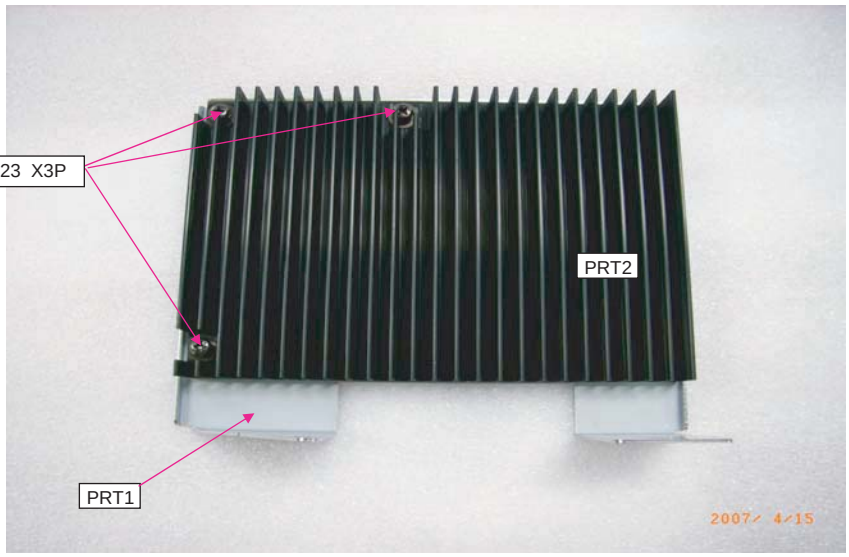


⑤ Attach the glue screw lock to the groove side of a screw.

HEAT SINK

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		BRACKET(HEAT SINK)	24H59951	1	
PRT2		HEAT SINK(EB146-100)	24H56601	1	
	SRW023	PL-CPIMS*4*10*3KF	24V00461	3	Torque check

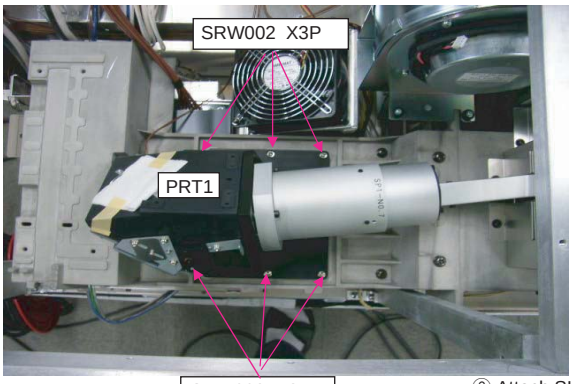
① Attach HEAT SINK on BRACKET(HEATSINK).



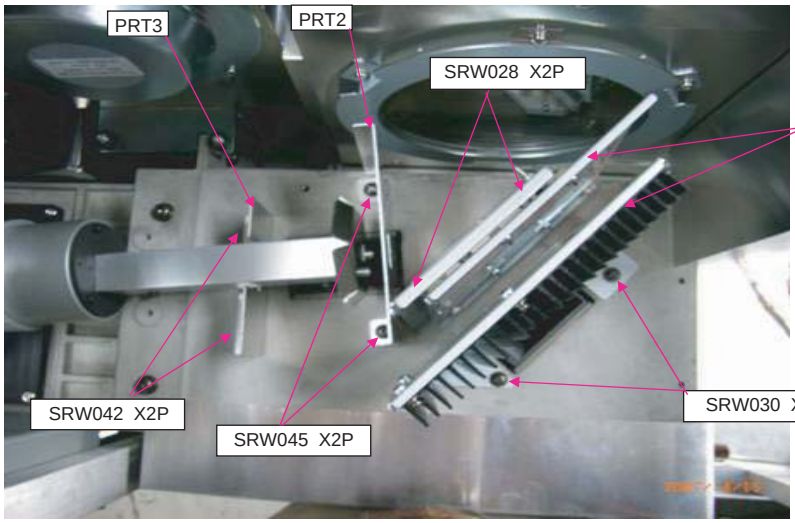
ENGINE 1

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		OPT ENGINE(PA67)	24BS7771	1	
	SRW002	HHCS*5*16*3GF	24V00501	6	Torque check
PRT2		SHIELD PLATE(ROD)	24H60131	1	
	SRW045	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
PRT3		SHIELD PLATE(ENGINE)C	24H60111	1	
	SRW042	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
	SRW028	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
	SRW030	PL-CPIMS*4*10*3KF	24V00461	2	Torque check

① Attach OPT ENGINE(PA67) over ENGINE BASE.



② Attach SHIELD PLATE(ENGINE)C before attaching ENGINE.
Be careful for attachment direction of SHIELD PLATE(ROD).

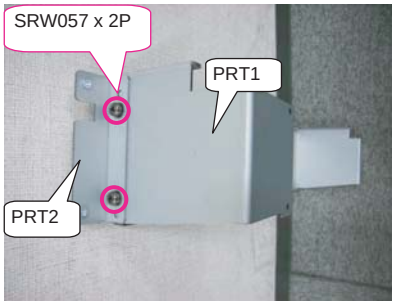


③ Attach HEAT SINK ASSY.
Attach COLD MIRROR ASSY.

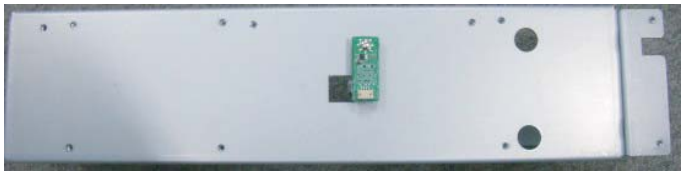
MOUNT L-FAN

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		MOUNT(L-FAN)	24H60831	1	
PRT2		MOUNT(L-FAN)S	24H60841	1	
	SRW057	PL-CPIMS*5*12*3KF	24V00151	2	Torque check
	SRW056	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
	PWB1	LSES PWB ASSY		1	
	SRW127	SCREW, PL-CPIMS*3*8*3GF	24V00111	1	Torque check
PRT3		SHIELD PLATE(LAMP CABLE)	24H61331	1	
	SRW073	SCREW,PL-CPIMS*3*8*3GF	24V00111	3	Torque check

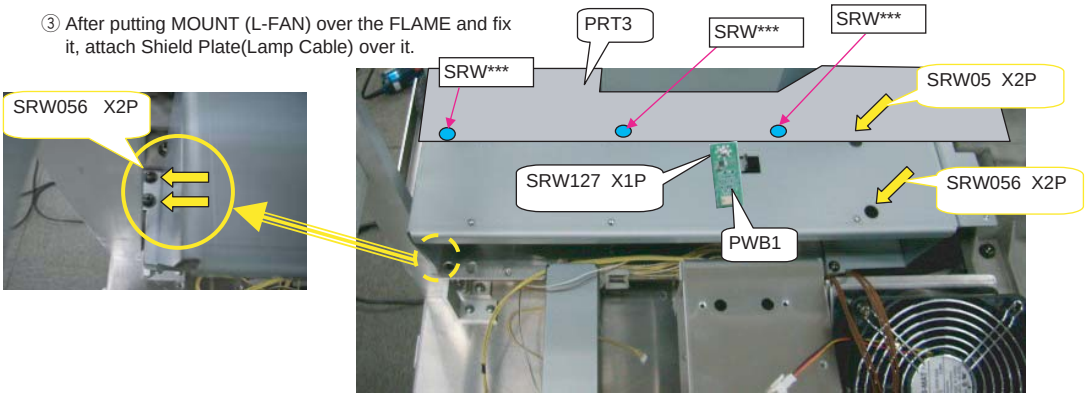
① Attach MOUNT (L-FAN) and MOUNT(L-FAN)S



② Attach L SENS PWB ASSY on MOUNT(L-FAN).



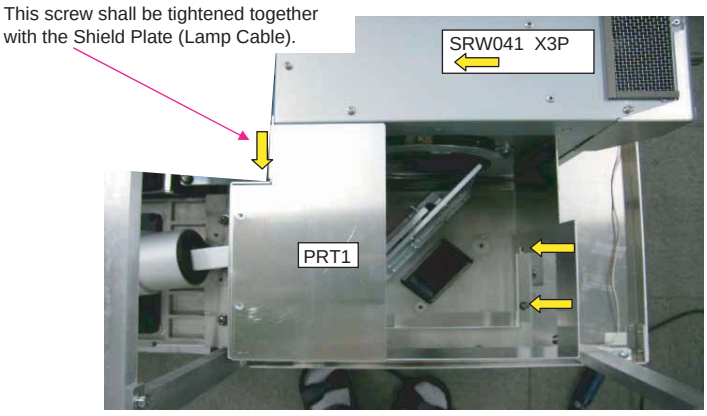
③ After putting MOUNT (L-FAN) over the FLAME and fix it, attach Shield Plate(Lamp Cable) over it.



ENGINE 2

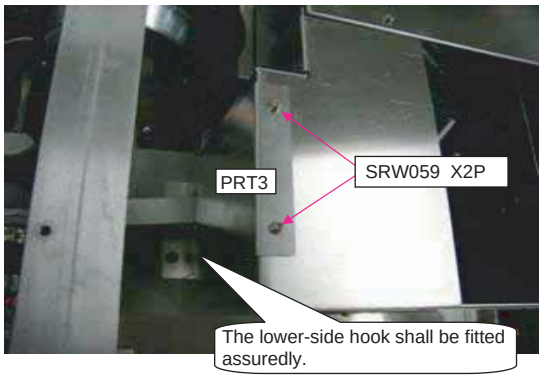
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		SHIELD PLATE(ENGINE)B	24H60101	1	
	SRW041	PL-CPIMS*4*10*3KF	24V00461	3	Torque check
PRT2		SHIELD PLATE(ENGINE)D	24H60121	1	
	SRW043	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check
PRT3		SHIELD PLATE(ENGINE)E	24H60861	1	
	SRW059	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check

① Attach SHIELD PLATE (ENGINE) B on LAMP BASE ASSY.



② Attach SHIELD PLATE (ENGINE) D on SHIELD PLATE (ENGINE) B.

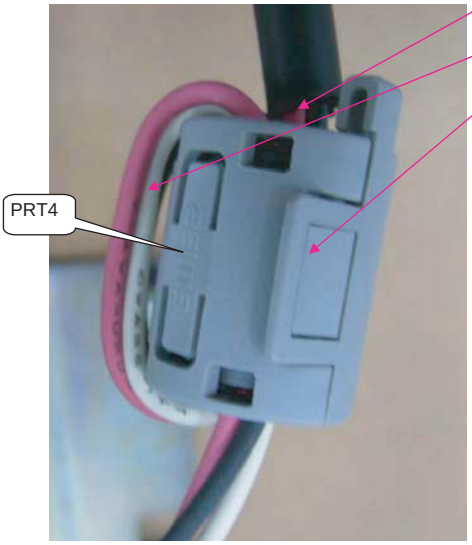
③ Attach SHIELD PLATE (ENGINE) E on SHIELD PLATE (ENGINE) B.



MOUNT L-FAN

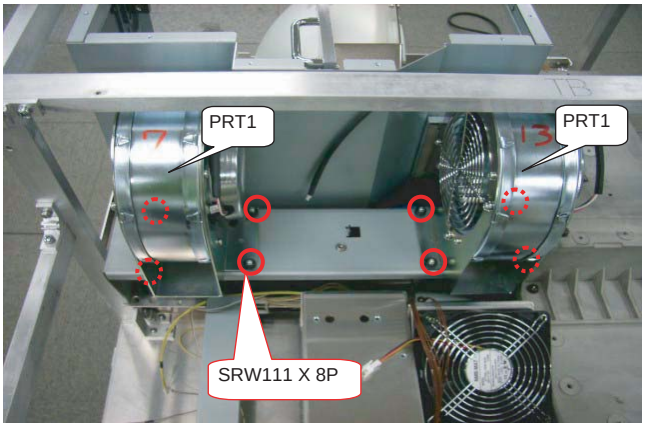
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		DCFAN BL6771	3N170122	2	
PRT2		CUSHION	24C09141	8	
PRT3		COLLAR	24C09171	8	
PRT4	SRW111	PL-CPIMS*3*15	24V00251	8	Torque check
PRT4		CORE E04SR200932	6N160014	2	

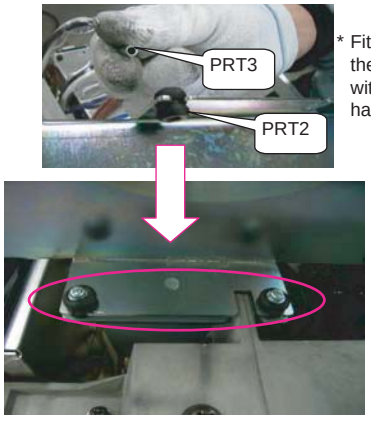
① Attach CORE on DC Fan BL6771.



* Mount it until it stops at the root of the black tube.
* Pass the fan cable twice through the ferrite core and wind it once.
* When closing the core, make sure not to pinch the cable. Fasten the hook.

② Set Fan after attaching Cushion and Collar on DC Fan BL6771.





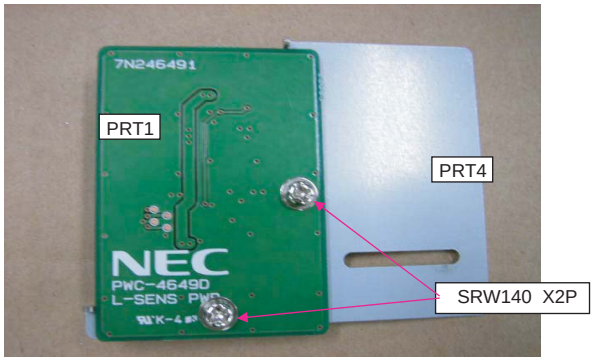
* Fit a cushion material to the DC fan and fasten it with screws after a collar has been passed.

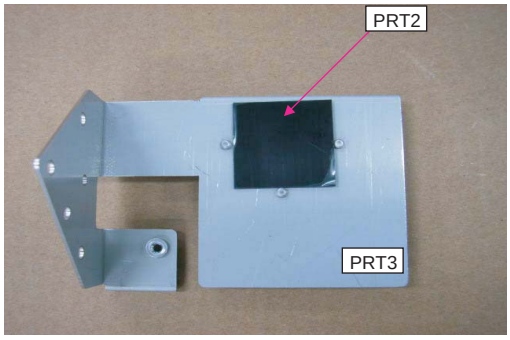
③ Fit a cushion material to the DC fan base. Put the DC fan on the mount (L-fan) and fix it through a collar.

L-sens

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		L-SENS PWB ASSY	81N94ZG1	1	
	SRW140	PL-CPIMS*3*8*3GF	24V00111	2	Torque check
PRT2		FILTER(SENSOR)	24J28671	1	
	PY	CN4P(PY)800W,1061-28	7NW4W053	1	
PRT3		HOLDER(SENSOR)	24H59981	1	
PRT4		BRACKET(SENSOR)	24H59971	1	
	SRW032	PL-CPIMS*3*6*3KF	24V00571	1	Torque check

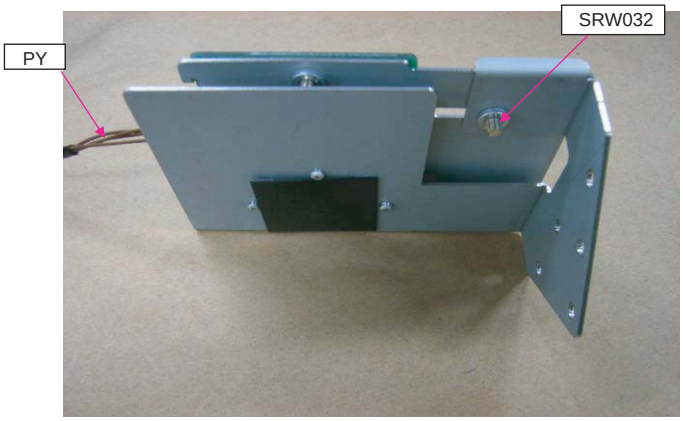
① Attach CIRCUIT PROTECTOR (6N500018) on BRACKET (TAMPER) A.





② Peel off a protection sheet from the adhesive tape of the filter (sensor) and stick the filter to the holder (sensor) by applying it to the three round bosses on the holder.

* Remove the FILTER(SENSOR) film.



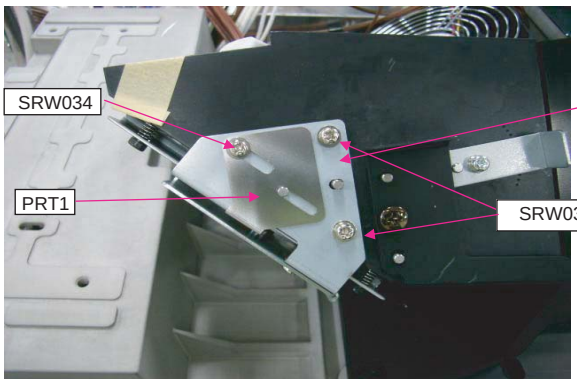
③ Assemble the respectively assembled holders (sensor) and mounting metal fittings (sensor).

* The PY connector shall be assembled after it has been inserted in advance.

L-sens2

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		SHUTTER(SENSOR)	24H59991	1	
	SRW034	PL-CPIMS*3*6*3KF	24V00571	1	Torque check
	SRW033	PL-CPIMS*3*6*3KF	24V00571	2	Torque check

① Attach HOLDER (SENSOR) ASSY on ENGINE, and insert SHUTTER (SENSOR) over it.



② Attach TAMPER PWB on BRACKET (TAMPER) A.

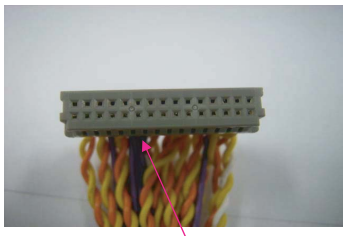
CABLE

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
	J7	CN30P(J7)360W,1061-28	7NWLW048	6	
	J1	CN8P(J1)360W,1007-22	7MW8W033	3	
PRT1		CONDUCTIVE CLOTH TAPE	9R030011		
PRT2		ACETATE CLOTH TAPE	9R030010		

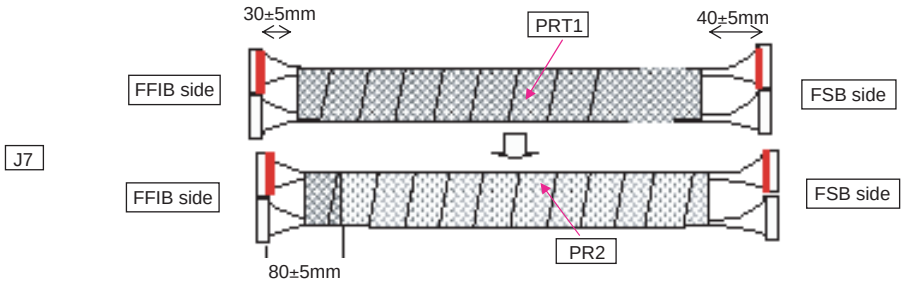
① The both side of a CONNECTOR "J7" should be marked with red.

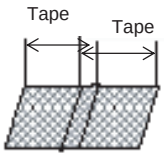
* Not to color on TERMINAL (PIN).
Wind a conductive cloth tape together with two connectors "J7."
Then, wind an acetate cloth tape over it.

* The Marker (crimson) to be used shall be an item applicable to RoHS or equivalent.

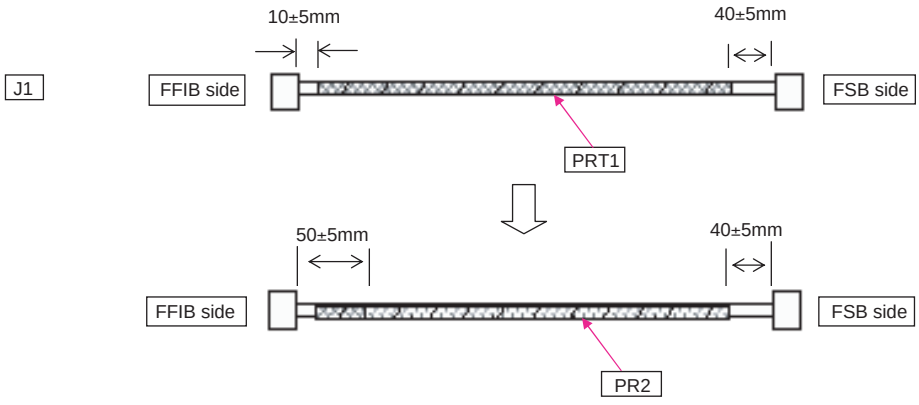


* A red marking on the hollow side





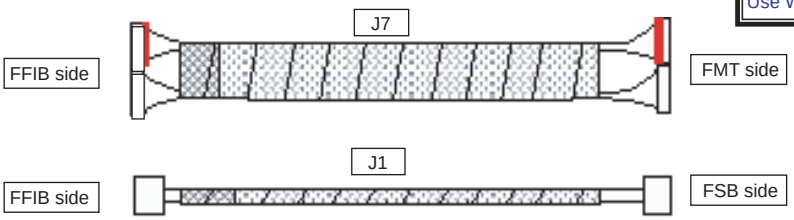
② The amount of tape winding applied to Cables (J1/J7) shall be 1/3 or more of the tape width.



PRISM SASSY

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		PRISM ASSY	82N94121	1	
PRT2		WATER COOLED UNIT(PA67)	24BS7781	1	
PRT3		SPRING(K=0.92, L=8.2)	24H45922	12	
PRT4		SPECIAL SCREW(M3, D=4)	24N06341	12	Torque check
PRT5		WASHER(D6, T1.5)	24H52701	4	
		SILICON OIL CONPOUND G747	9E020001		
		GLUE, SCREW LOCK	92201082		

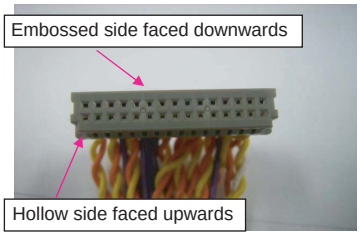
[CAUTION] countermeasure against static electricity
Use WRISTSTRAP when handling the Board.

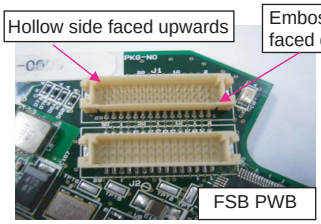


① Mounting Instruction for WATER COOLED UNIT(PA67)

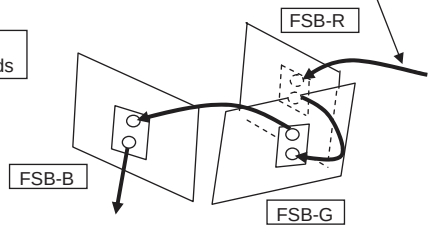
② When inserting and pulling the CONNECTOR J1/J7, put your hand on the BOARD to support it.

* Carefully check the unevenness of the housing before insertion.

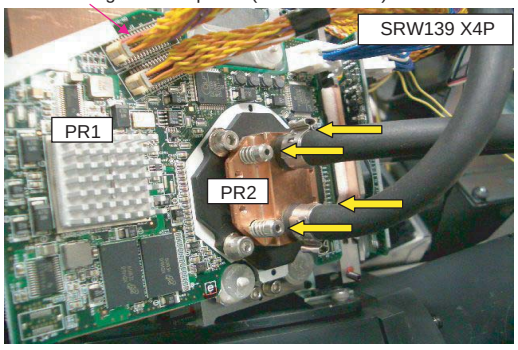




* From pump side to joint (where adhesion of the LABEL is provided)

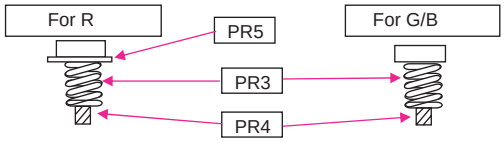


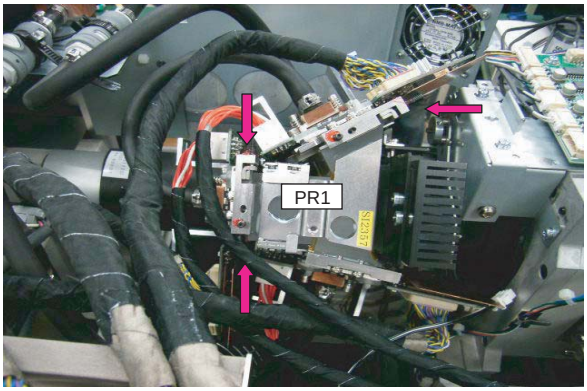
* Insert the red marking side on upside. (All R/G/B PWB)



③ Coat evenly with SILICON OIL CONPOUND G747(200G) on contacting surface of DMD of WATER COOLED UNIT.

④ Combinational method for Screws and Spring and Washer when mounting WATER COOLED UNIT.





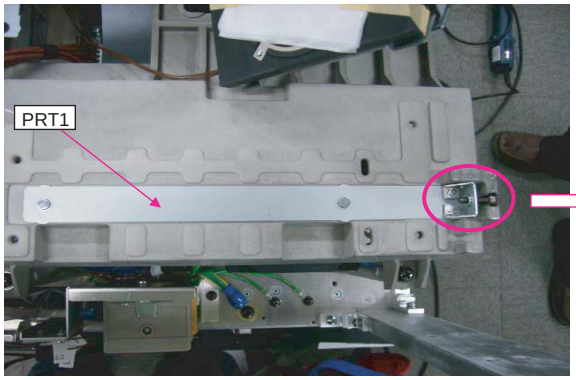
⑤ Mount it on OPT ENGINE UNIT using the screws from PRISM ASSY.
Tightening torque : 13±kgf•cm

GLUE,SCREW LOCK (3parts)

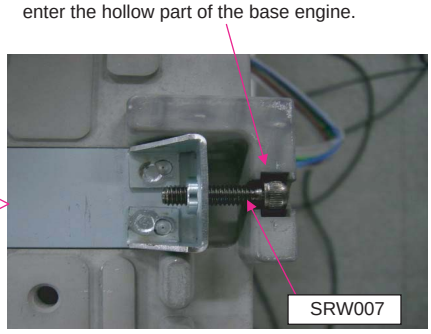
LENS MOUNT

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		Bracket Z-Axis Adjust		1	Appended Goods of LENS MOUNT(PA67)
	SRW007	HHCS*4*16*3KF	24V00451	1	
PRT2		Bracket Translate		1	Appended Goods of LENS MOUNT(PA67)
PRT3		SHIELD PLATE(NC1600C)A	24H60931	1	
PRT4		LENS MOUNT(PA67)	24BS7791	1	
	SRW065	CFIMS*3*6*3KF	24V00421	6	Torque check
	SRW132	SCREW,PL-CPIMS*3*12*3KF	24V00121	2	Torque check

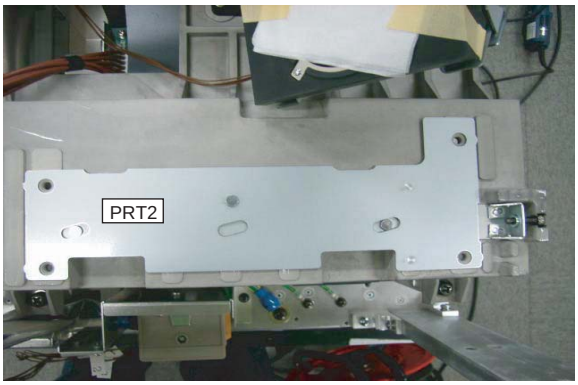
① Mount adjustment screw on Bracket Z-Axis Adjust, put it over the BASE ENGINE.



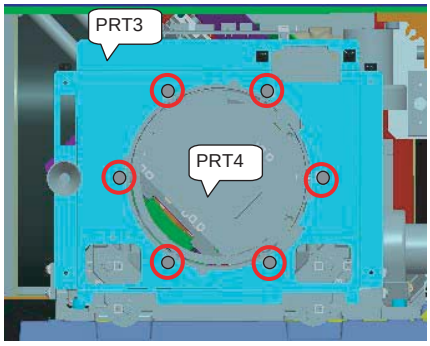
② When mounting the adjusting screws (SRW007) on the Bracket Z-Axis Adjust block, adjust the amount of screw tightening so that their heads enter the hollow part of the base engine.



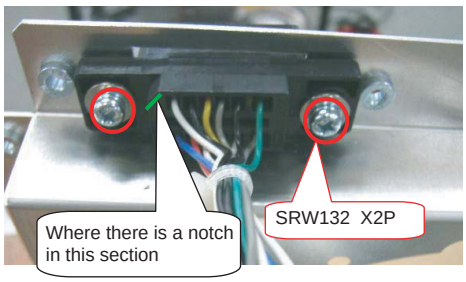
③ Put Bracket Translate over Bracket Z-Axis Adjust.



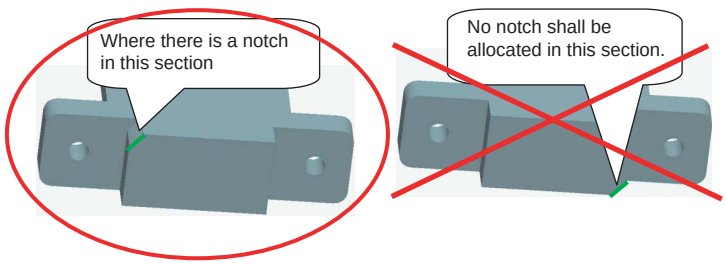
④ Mount SHIELD PLATE(NC1600C)A on LENS MOUNT(PA67). Remove LENS HOLDER after mounting.



⑤ Install the connector block of the lens mount (PA67) on the Shield Plate (NC1600C) A.



CAUTION : The installation of the Connector block of the Lens Mount (PA67) shall conform to the mounting posture as shown at left in the diagram below.

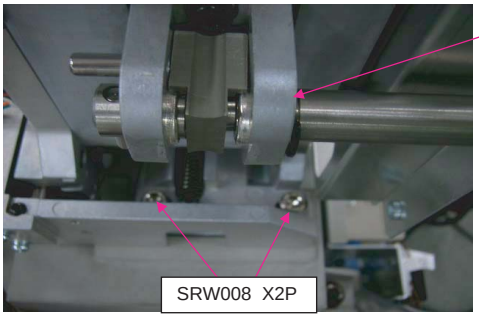


LENS MOUNT (2)

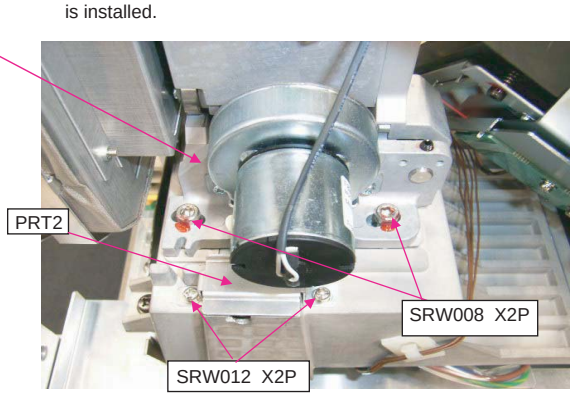
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		LENS MOUNT(PA67)	24BS7791	1	
	SRW008	SCR(SL-HHCS*5*16)	24N08451	4	Torque check
PRT2		HOLDING PLATE(SCREW)	24H61161	1	
	SRW012	SCREW,PL-CPIMS3*8*3GF	24V00111	2	Torque check

① Put the Lens Mount (PA67) on the Bracket Translate block. Fix it according to the screw holes.

② Fix Lens Mount (PA67) with SRW008.



③ Install the Holding Plate (screw).
This mounting action shall be taken before the Lens Mount (PA67) is installed.

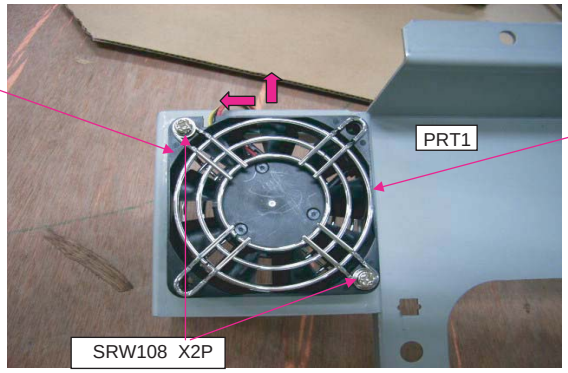


④ When the Lens Mount is installed with screws, the screw positions shall be defined so that the lens mount is positioned in the mechanical center.
(The screw holes of the Lens Mount shall be equally balanced to the right and left.)

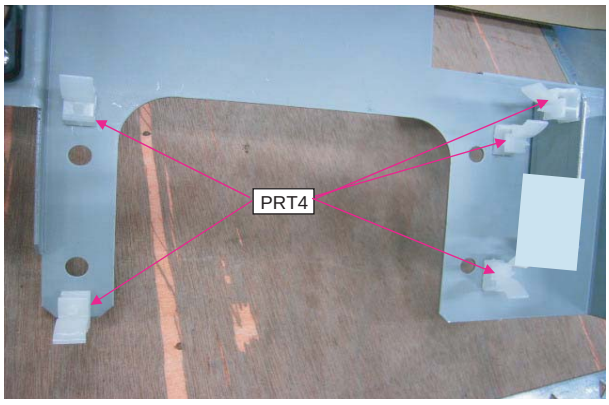
LIQUID COOLER UNIT 1

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		BASE(TANK) ASSY	24HS4371	1	
PRT2		DCFAN 2406KL	3N170096	1	
PRT3		FINGER GURD	24C04131	2	
	SRW108	PL-CPIMS*3*25*3GF	24V00301	2	Torque check
PRT4		PC SUPPORT(H8)	12281531	5	
PRT5		BASE(RADIATOR)	24H60321	1	
PRT6		BASE(PUMP)ASSY	24HS4311	1	
	SRW080	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
PRT7		HOLDER(0828)	24C08371	3	

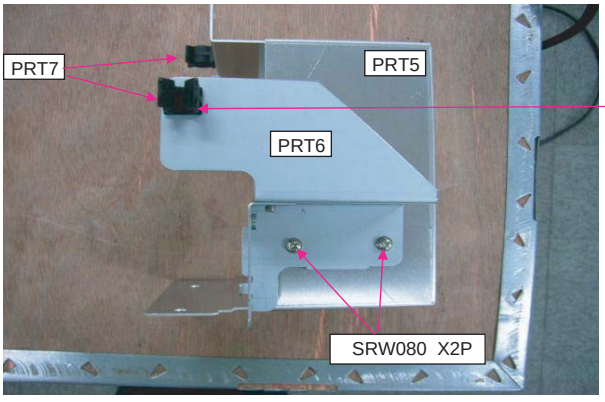
① Mount DC FAN on BASE(TANK)ASSY.



② Mount DC FAN in the direction of an arrow.
Attach FINGER GURD on front-back both sides.



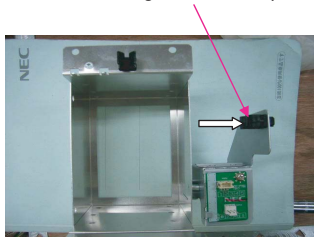
③ Attach PC SUPPORT(H8) on BASE(TANK)ASSY.



④ Assemble the base (radiator) and the base (pump).
Each base shall be provided with the rod holder.

* Installation (insertion) is backward direction

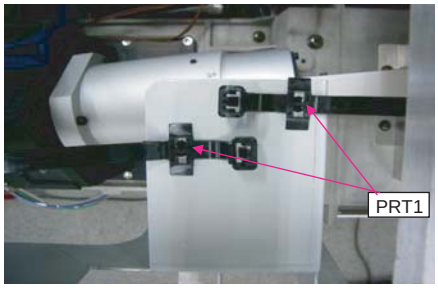
* Right installation (insertion) direction



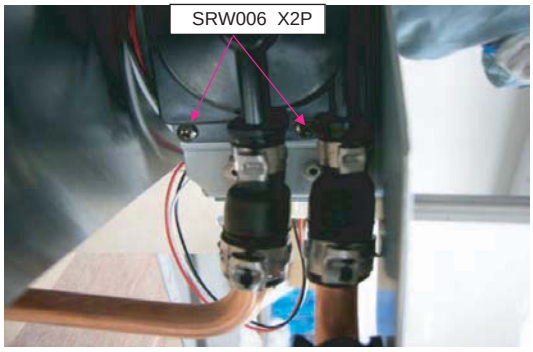
LIQUID COOLER UNIT 3

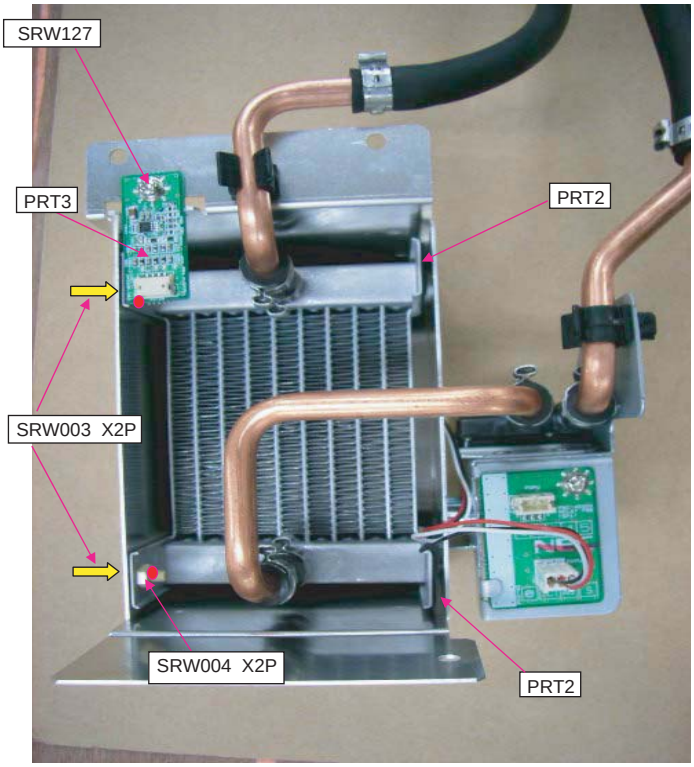
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		STRAP(1K-57)	24C08381	2	
PRT2		CUSHION SHEET(RADIATOR)	24J25581	2	
	SRW003	SPECIAL SCREW(PPS M4*10)	24N07701	2	Torque check
	SRW004	SPECIAL NUT(PPS M4)	24N07711	2	
	SRW006	CBIMS*2*6*3KF	24V00541	2	Torque check
PRT3		TSES PWB ASSY		1	
	SRW127	PL-CPIMS3*8*3GF	24V00111	1	Torque check

① Attach STRAP (1K-57) on BASE (TANK) ASSY.

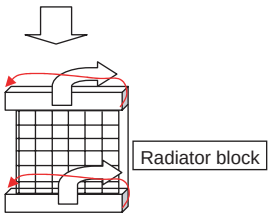


② Install the pump block of the liquid cooler unit.





③ Stick a cushion material (radiator) to the radiator block of the liquid cooler unit in such a manner that it is wound around the radiator block by 3/4 turns.

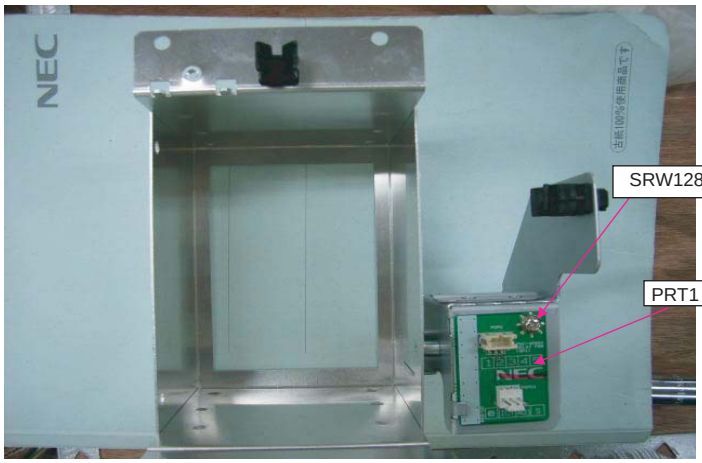


After fixing SRW004 and SRW003, apply Screw Lock.

LIQUID COOLER UNIT 2

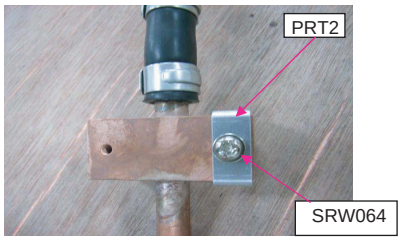
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		RELAY PWB ASSY		1	
	SRW128	SCREW,PL-CPIMS*3*8*3GF	24V00111	1	Torque check
PRT2		BRACKET(STOPPER)	24H60921	1	
	SRW064	SCREW,PL-CPIMS*3*8*3GF	24V00111	1	Torque check
PRT3		SHEET(SERMAL)	24J34891	1	
PRT4		TSENS PWB ASSY		1	
	SRW130	SCR(PPS M3*8)	24N08231	1	Torque check
PRT5		HOLDER(TANK)	24H51671	1	
	SRW005	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
		GLUE,SCREW LOCK	92201082		

① Attach RELAY PWB on BASE (PUMP).

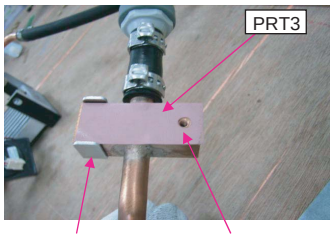


② Attach TAMPER PWB on BRACKET (TAMPER) A.

③ Attach BRACKET (STOPPER) faced up the] cooling connection surface on right side.



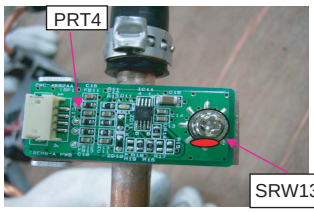
④ The SHEET (THERMAL) shall be mounted opposite to the BRACKET (STOPPER). The screw holes of the SHEET (THERMAL) shall be symmetrically allocated based on the BRACKET (STOPPER).



BRACKET (STOPPER)

The screw hole position of SHEET (THERMAL).

⑤ Attach TSENS PWB ASSY on SHEET (THERMAL).



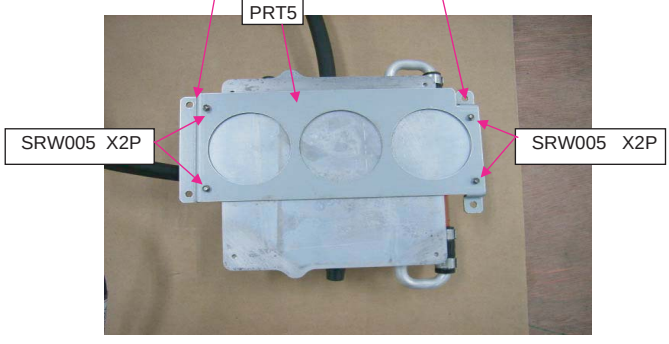
⑦ Apply GLUE,SCREW LOCK.

⑥ Mount the holder (tank) on the tank block of the liquid cooler unit.

* When attaching TANK on FRAM ASSY.

Right side

Left side

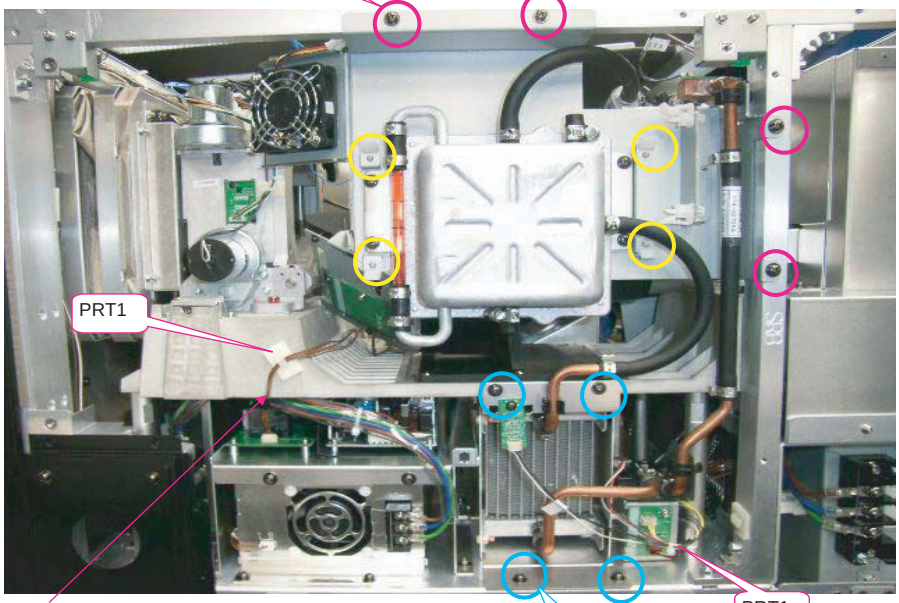


* Screws shall be mounted from tank side.

LIQUID COOLER UNIT 4

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
	SRW083	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
	SRW049	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
PRT1		CABLE CLIP(FCA-10)	24C02841	1	
PRT2		BAND (L=100, T18R)	24C09121	1	

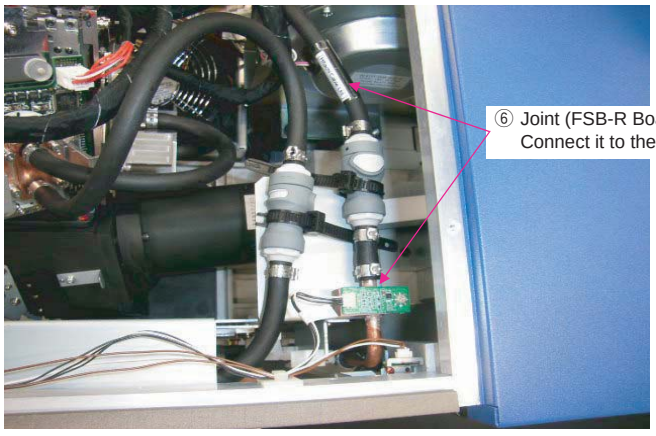
① Install the LIQUID COOLER UNIT ASSY on the FRAME ASSY of the tank block.
② Install the radiator block of the LIQUID COOLER UNIT ASSY on the FRAME ASSY.



③ Fix the radiator block of the LIQUID COOLER UNIT with PC holders.
X4 positions

④ Fasten the Connector (PSC) with CABLE CLIPs (FCA-10).
In this case, it shall not be made to enter the standby power supply area crossing the AC Cable.

⑤ Connect the joint blocks (tank side and prism side) of the LIQUID COOLER UNIT ASSY block and fix the connecting blocks with straps.

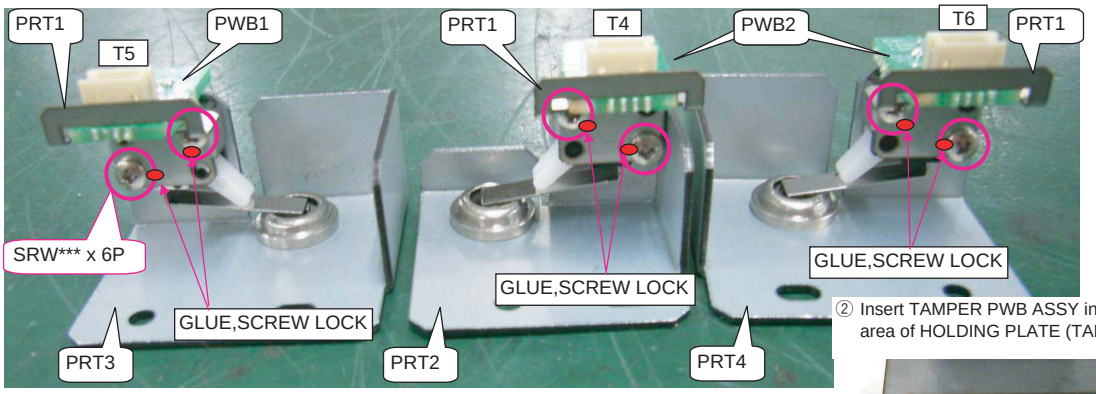


⑥ Joint (FSB-R Board side) label side of the LIQUID COOLER UNIT ASSY
Connect it to the same LABEL side (PUMP side).

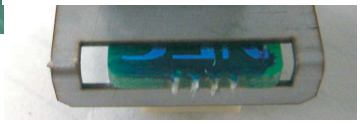
TAMP

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PWB1		ETC3_PWB PWB ASSY	81N94Z01	1	
PWB2		ETC3_PWB PWB ASSY	81N94Z01	1	
PRT1		HOLDING PLATE(TAMPER PWB)	24H61171	3	
PRT2		BRACKET(TAMPER)B	24H60421	1	
	SRW053	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check
PRT3		BRACKET(TAMPER)C	24H60431	1	
	SRW054	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check
PRT4		BRACKET(TAMPER)D	24H60441	1	
	SRW055	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check
	SRW143	CBIMS*2*8*3GF	24V01031	6	Torque check
	T4	CN3P(T4)700W,1061-26	7NW3W092	1	
	T5	CN3P(T5)900W,1061-26	7NW3W093	1	
	T6	CN3P(T6)1050W,1061-26	7NW3W094	1	
		GLUE,SCREW LOCK	92201082		

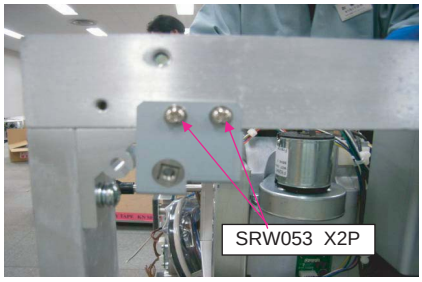
① Attach TAMPER PWB ASSY on BRACKET (TAMPER) B, C, D.
* Insert HOLDING PLATE(TAMPER PWB) into between BRACKET and TAMPER PWB ASSY.



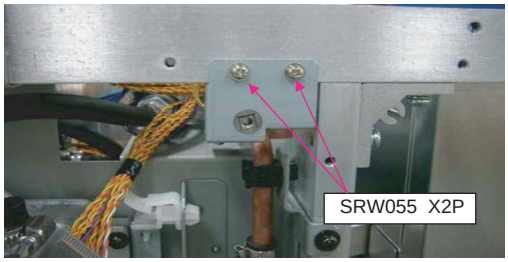
② Insert TAMPER PWB ASSY into the apertural area of HOLDING PLATE (TAMPER PWB).



③ Mount BRACKET (TAMPER)B ASSY.



④ Mount BRACKET (TAMPER) D ASSY.



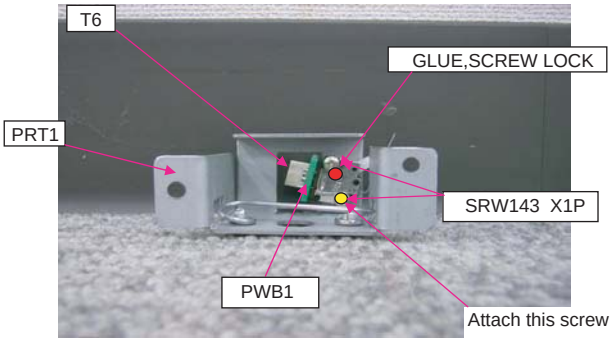
⑤ Mount BRACKET (TAMPER) C ASSY.

SRW054 X2P

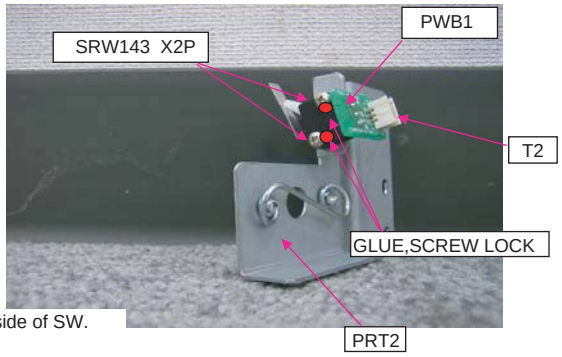
BRACKET

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		BRACKET(FB) B ASSY	24HS4401	1	
	SRW074	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check
PRT2		BRACKET(FE) B ASSY	24HS4411	1	
	SRW075	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check
	SRW143	CBIMS*2*8*3GF	24V01031	4	Torque check
PWB1		ETC3_PWB PWB ASSY	81N94Z01	1	
PRT3		HOLDING PLATE(TAMPER PWB)	24H61171	1	
	T2	CN3P(T2)275W,1061-26	7NW3W090	1	
	T6	CN3P(T6)1050W,1061-26	7NW3W094	1	
PRT4		BARRIER(TAMPER F)	24J34911	1	
PRT5		RIVET,PUSH(NRP-345)	24C06391	2	
		GLUE,SCREW LOCK	92201082		

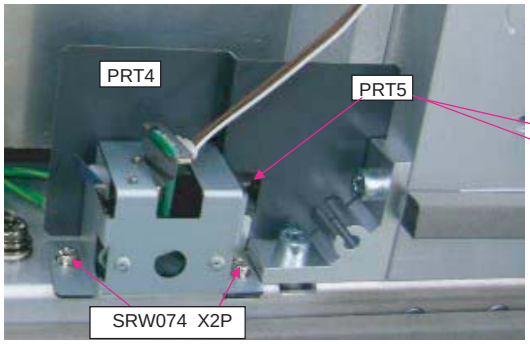
① Attach TAMPER PWB ASSY on BRACKET (FB) B ASSY.
Mount one of SRW143 on the other side.



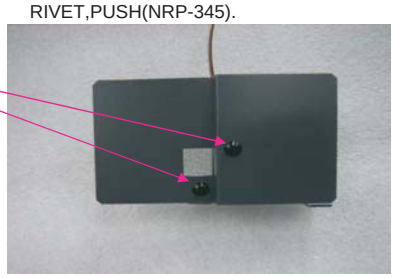
② Mount TAMPER PWB ASSY on BRACKET (FE) B ASSY.



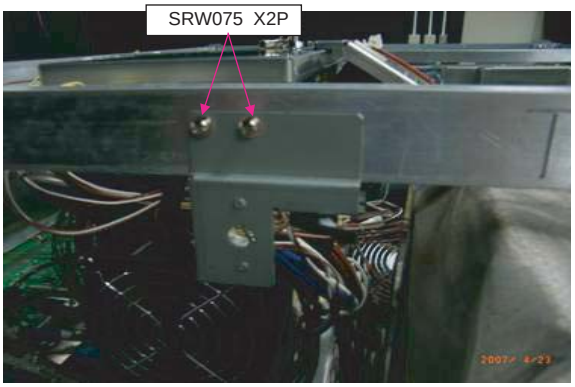
③ Insert it in-between BRACKET and TAMPER PWB ASSY.



④ Attach BARRIER(TAMPER F) from rear side of RIVET,PUSH(NRP-345).



⑤ Mount the BARRIER (TAMPER F) on the BRACKET (FB) B ASSY by means of RIVETs and PUSH (NRP-345).

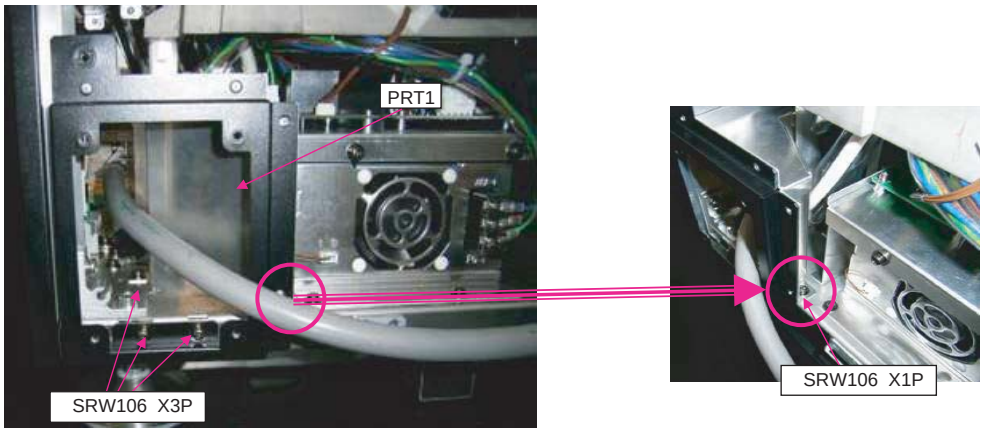


⑥ Mount BRACKET(FE)B ASSY.

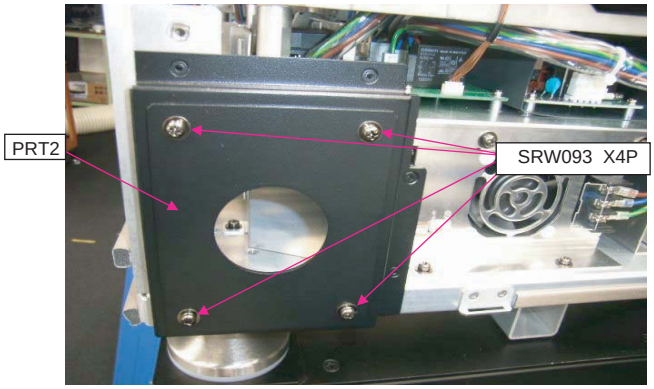
POWER SUPPLY CABLE TERMINAL

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		SIDE PANEL RF(CABLE) ASSY	24PS5341	1	
	SRW106	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
PRT2		PLATE(45)	24P04891	1	
	SRW093	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
PRT3		SHIELD PLATE(N FILTER)	24H61291	1	
	SRW072		24V00111	2	
PRT4		CAUTION LABEL(HIGH LEAKAG	24L64431	1	

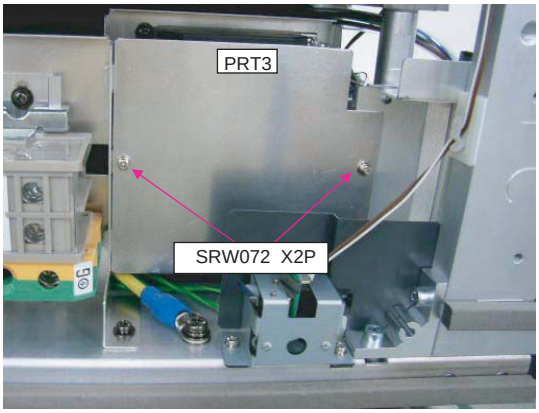
① Attach SIDE PANEL RF(CABLE)ASSY on FLAME ASSY.



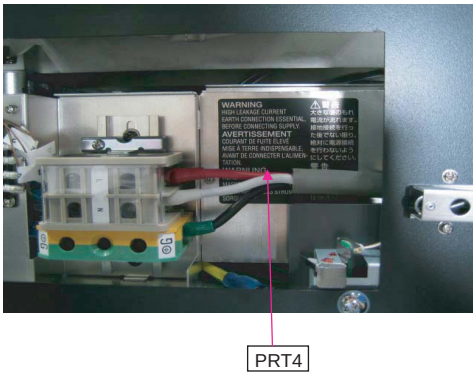
② Attach SIDE PANEL RF(CABLE)ASSY on PLATE(45).



③ Attach SHIELD PLATE(N FILTER).



④ Paste CAUTION LABEL(HIGH LEAKAG on SHIELD PLATE (N FILTER).
Paste it not running on the screws or hiding BARRIER(TAMPER F).

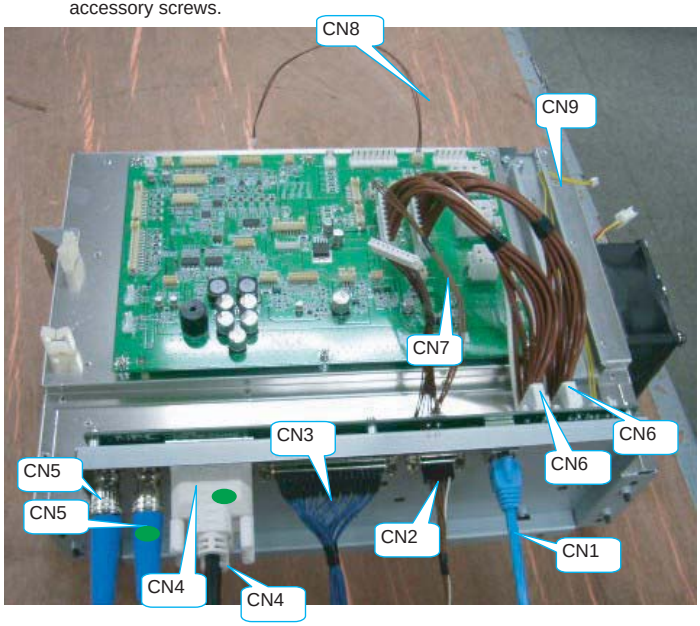


TI Shield MT1

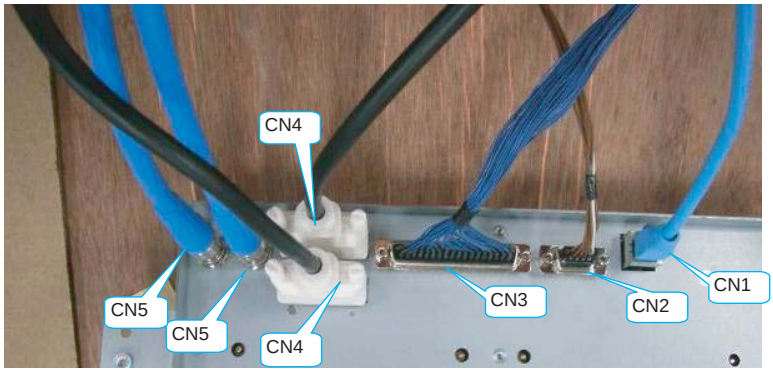
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
CN1	LAN	CABLE LAN 0.33M PCRJE0033	7N520058	1	
CN2	CT	CN9P(CT)250W,1061-26	7NW9W010	1	
CN3	GP	CN37-40P(GP)250W,1571-28	7NWLW046	1	
CN4	DVI-D	CABLE DVI-D SA0509049	7N520056	2	
CN5	BNC	CABLE BNC D5FBC0042-SA	7N520062	2	
CN6	N10 & N11	CN10P(N10)200W,1015-18	7NW0W022	2	
CN7	FP	CN4-5P(PF)200W, 1061-26	7NW4W042	1	
CN8	LAN	CN2P(LAN)270W,1061-24	7NW2W033	1	
CN9	T1	CN3P(T1)225W,1061-26	7NW3W089	1	

① Insert the respective connector cables in the TI Shield Case Sassy.
Caution: After making connections, the CN-CT and CN-GP connectors shall be fastened with the accessory studs.
Caution: After making connections, the CN-GP cable shall be fastened with the accessory screws.

[Caution] Measures against static charges
Wrist straps shall be used while boards are handled.



② Give a green marking to the A terminal side.
(Both sides)



TI Shield MT2

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
	SRW084	PL-CPIMS*4*10*3KF	24V00461	6	Torque check
CN1		CN2-WP(TH)1325X,3265-24	7NW2V001	1	
PRT1		GASKET(STG15-10)	24C06081	1	70mm
PRT2		GASKET(STG7-10)	24C08591	1	90mm

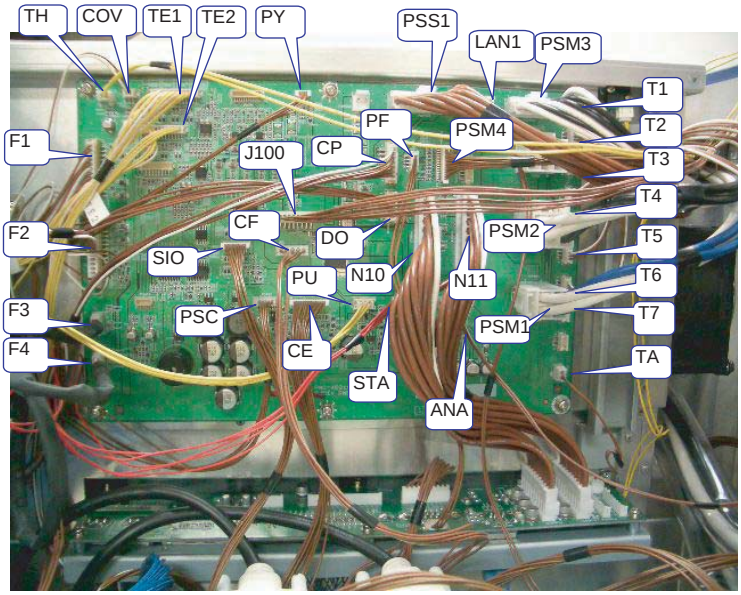
[Caution] Measures against static charges
Wrist straps shall be used while boards are handled.

① After the gaskets (STG10-10) and (STG7-10) have been cut into pieces of 70mm and 110mm respectively, they shall be stuck to the TI Shield Case Sassy.

② Fasten the TI Shield Case Sassy.

③ Insert the respective connectors in the PJDIV PWB ASSY.

Connector	Connect to	Connect from
COV	PJDIV PWB	COVER
TH	PJDIV PWB	THERMOSTAT
TE1	PJDIV PWB	TSENS PWB
TE2	PJDIV PWB	TSENS PWB
F1	PJDIV PWB	FAN(Tube)
F2	PJDIV PWB	FAN(Prism)
F3	PJDIV PWB	FAN(Lamp)
F4	PJDIV PWB	FAN(Lamp)
PY	PJDIV PWB	LENS PWB
J100	PJDIV PWB	MOTOR
SIO	PJDIV PWB	CPU PWB
CF	PJDIV PWB	CPU PWB
PSC	PJDIV PWB	AC PWB
CE	PJDIV PWB	CPU PWB
PU	PJDIV PWB	RELAY PWB
PSS1	PJDIV PWB	STANDBY PS
CP	PJDIV PWB	CPU PWB
PF	PJDIV PWB	MOTHER PWB
PSM4	PJDIV PWB	GPSU
DO	PJDIV PWB	DVI/OUT PWB
N10	PJDIV PWB	MOTHER PWB
N11	PJDIV PWB	MOTHER PWB
STA	PJDIV PWB	SLED/A PWB
ANA	PJDIV PWB	ANA
LAN1	PJDIV PWB	ETHER PWB
PSM1	PJDIV PWB	GPSU
PSM2	PJDIV PWB	GPSU
PSM3	PJDIV PWB	GPSU
T1	PJDIV PWB	FIPS(TI Case)
T2	PJDIV PWB	FIPS(Lens hood)
T3	PJDIV PWB	FIPS(Left to the front)
T4	PJDIV PWB	FIPS (Right to the front)
T5	PJDIV PWB	FIPS (Left to the rear)
T6	PJDIV PWB	FIPS(FRONT)
T7	PJDIV PWB	FIPS (Right to the rear)
TA	PJDIV PWB	MOTHER PWB



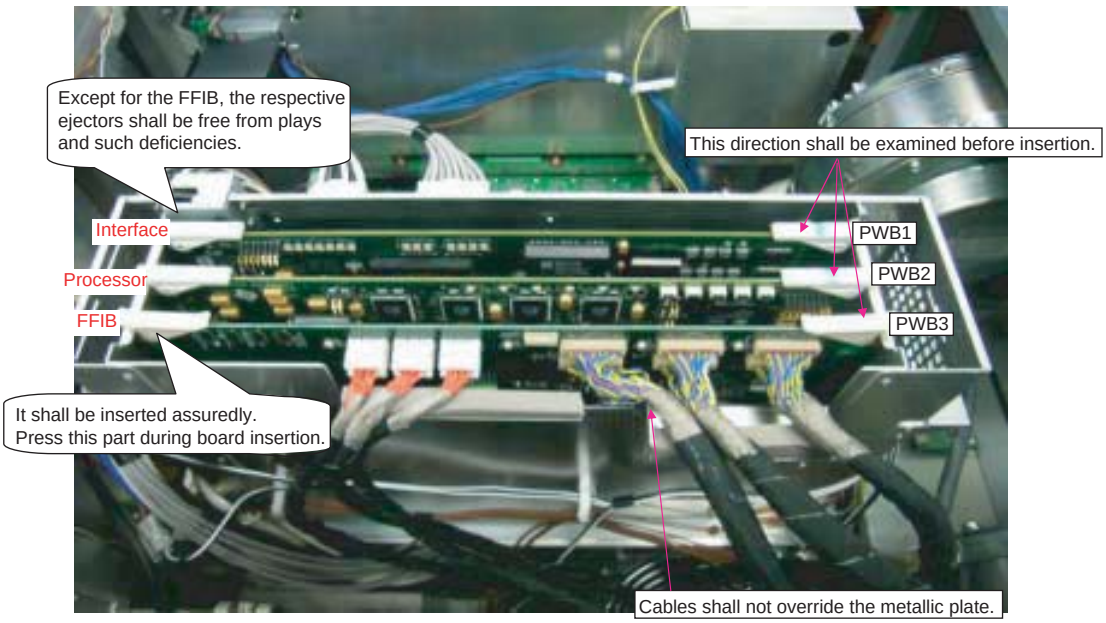
TI Shield MT3

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PWB1		PROCESSOR 2506937-0002	7N950861	1	
PWB2		INTERFACE 2506940-0002	7N950851	1	
PWB3		FFIB_PWB ASSY	81N94F01	1	Torque check

① Install the Interface Board and the Processor Board on the TI Shield Case.
Caution: Each board shall be inserted assuredly and there shall be no defects such as lifting and tilting.

[Caution] Measures against static charges
Wrist straps shall be used while boards are handled.

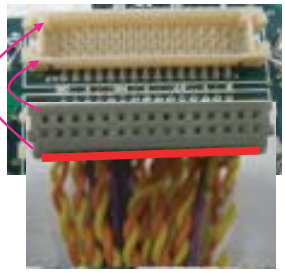
② Mount the FFIB PWB ASSY on the TI Shield Case.
Caution: The respective connectors shall be inserted after the FFIB PWB ASSY has been inserted in the TI Shield Case completely. When connectors are inserted or pulled out, or in the case of cabling, stresses may be applied to the respective FMT PWB SASSY and FFIB PWB ASSY. Therefore, connectors shall not be pulled violently.



③ Insert in the FFIB the J1/J7 connectors from the PRISM ASSY.
The J7 connector has a direction for insertion (polarity).

* Check the surface unevenness of the housing before insertion.

Red marking side of connector corresponds to the upper surface of the post (hollow).

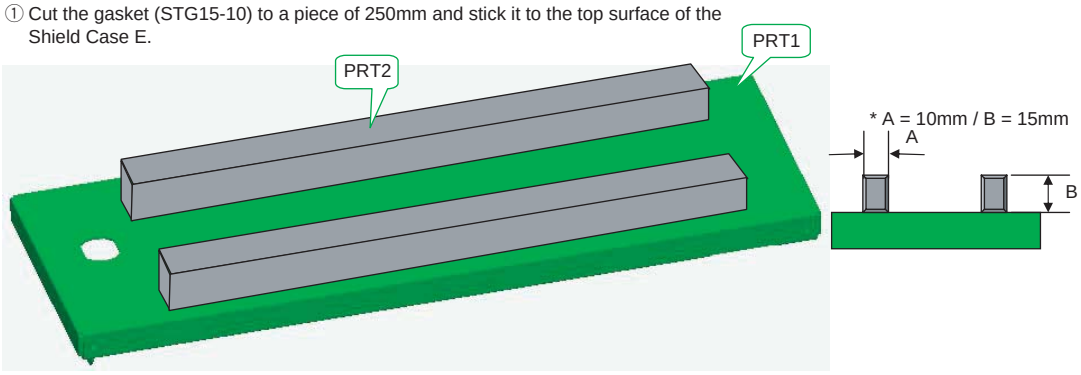


TI EMI

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		SHIELD CASE E	24H61041	1	
PRT2		GASKET(STG15-10)	24C06081	2	250mm
PRT3		GASKET(STG15-10)	24C06081	1	70mm
PRT4		GASKET(STG10-10)	24C08351	1	120mm
PRT5		GASKET(STG8-10)	24C05341	2	70mm
PRT6		CUSHION(80*15*T4)	24J28641	2	
PRT7		ACETATE CLOTH TAPE	9R030010	4	70mm

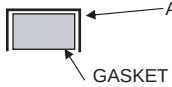
[Caution] EMI (Electromagnetic Interference: Radio interference noise)

① Cut the gasket (STG15-10) to a piece of 250mm and stick it to the top surface of the Shield Case E.

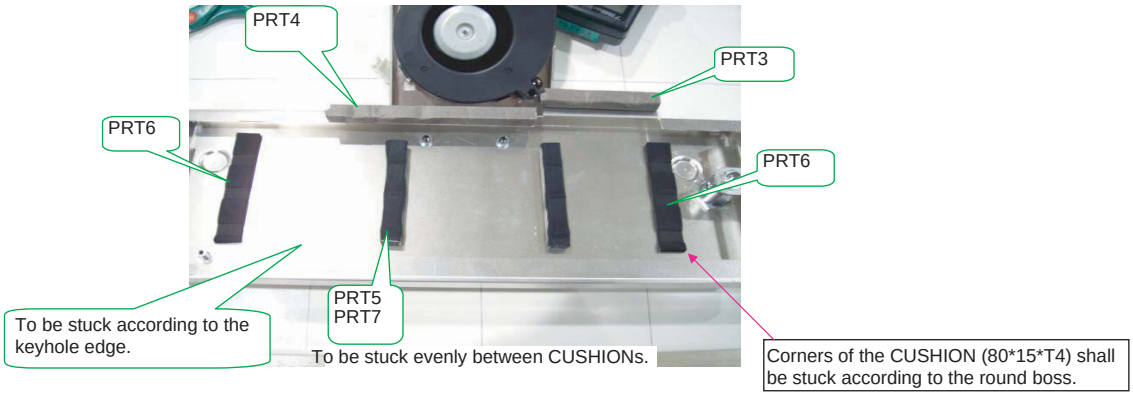


② Cut an acetate cloth tape into a piece of 70mm and stick it to cover the Gasket (STG8-10) that has been cut into the same piece of 70mm.

Drawing as seen from the cross section



③ Cut the gasket (STG8-10) into 70mm X 2P processed in the same manner as above and stick it to inside of the top surface of the Shield Case E.



TI Shield MT4

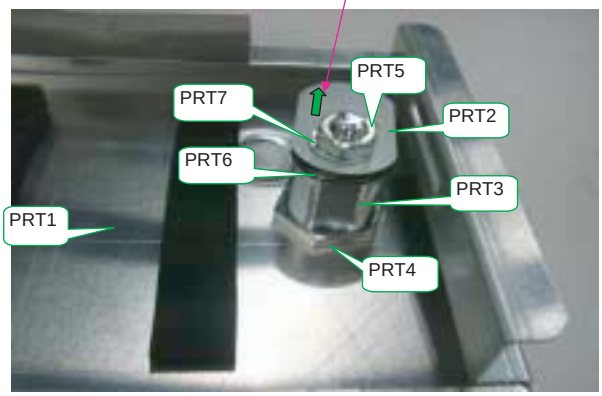
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		SHIELD CASE E	24H61041	1	
PRT2		CAM(LOCK)TI	24H61071	1	
PRT3		KEY(NS-804)	24C09301	1	Number control
PRT4		NUT(larg)		1	Torque check
PRT5		NUT (small)		1	Torque check
PRT6		WASHER 1		1	
PRT7		WASHER 2		1	
PRT8		BRACKET(P-FAN)	24H60851	1	
PRT9		DCFAN 9BAM24GD2-2	3N170100	1	
	SRW110	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
	SRW058	PL-CPIMS*4*10*3KF	24V00461	2	Torque check

① Mount the KEY (NS-804) and the CAM (LOCK) TI on the Shield Case E.
For the installation of the CAM (LOCK) TI, the nuts attached to the KEY (NS-804) shall be used.

② In the state that the key is inserted (Unlocked), the notch section shall be positioned inside.

The CAM (LOCK) TI shall be installed in the posture as shown in the photo below.

Caution : Confirm that the key can be pulled out after key locking.
If it cannot be pulled out, change the direction of washer attached to the key and reinstall it.



[Caution] Describe the KEY number in the history sheet.

a) Remove the nut and washer, attached to the KEY (NS-804).

b) With the NUT (large), fix the KEY (NS-804) to the Shield Case E.

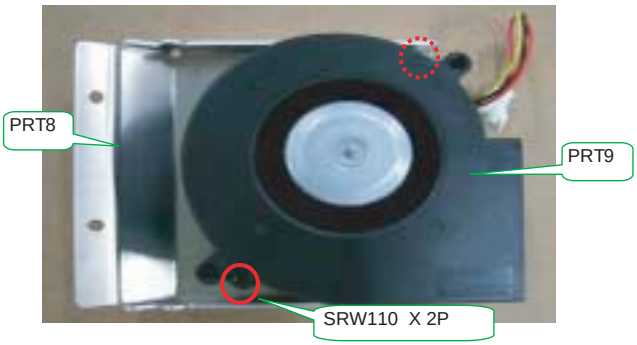
c) Enter the Washer 1 and the CAM (LOCK) TI in the KEY (NS-804).

d) Enter the Washer 2 and fix the CAM (LOCK) TI with the NUT (small).

Tightening torque of PRT4 : 100±5kgf•cm

Tightening torque of PRT5 : 32±2kgf•cm

③ Mount the DC FAN 9BAM24GD2-2 on the BRACKET (P-FAN).

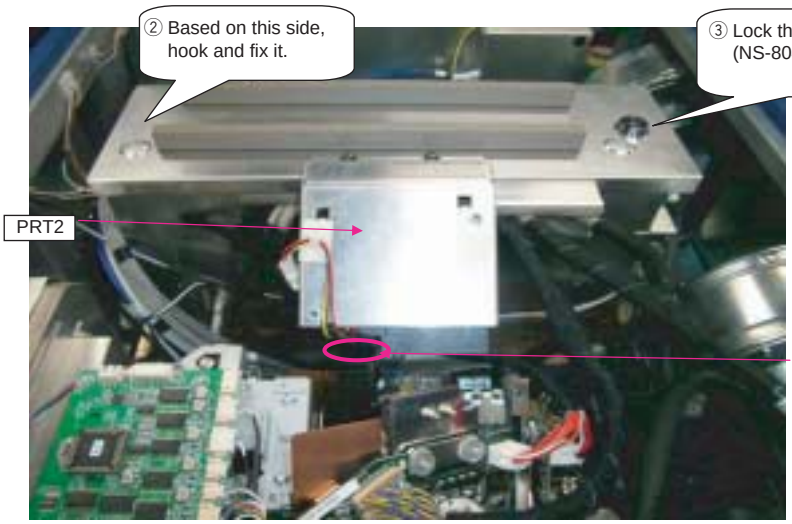


④ Mount the DC FAN Sassy on the Shield Case E Sassy.

Shield MT5

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		SHIELD PLATE(ENGINE)A	24H60091		
	SRW040	SCREW,PL-CPIMS*3*8*3GF	24V00111		Torque check
PRT2		CABE CLIP(FCA-10)	24C02841	1	
PRT3		CAUTION LABEL(TI CONNECTO	24L64451	1	

① Mount the Shield Case E Sassy on the TI Shield Case E Sassy.
Install the KEY (NS-804) and its opposite side in such a manner of hanging them, and lock the KEY (NS-804) lastly.

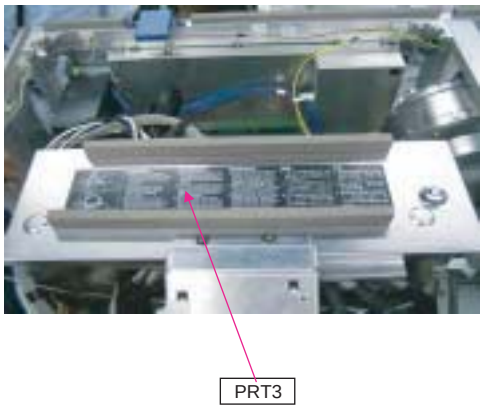


Caution : Many gaskets are stuck to the Shield Case E and the B Sassy, and gaskets themselves can become repulsive. In some cases, therefore, it may be difficult to mount the same parts.
Before tightening, confirm if each hook is effective.

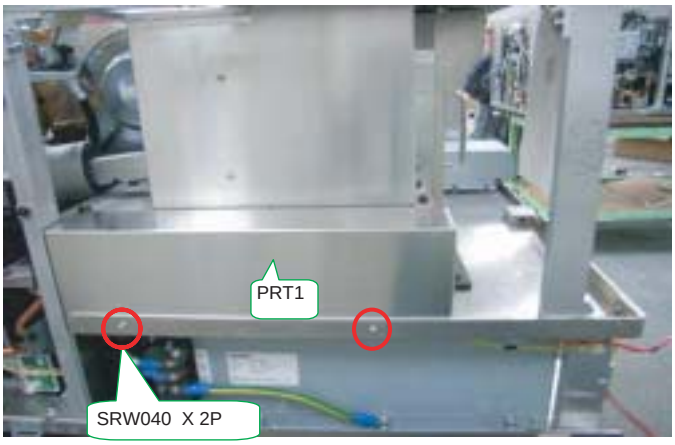
④ To prevent the CABLEs from coming in contact with the heat radiating plate, determine the adhesion positions for CABLE CLIPs.

⑤ Stick the CABLE CLIP (FCA-10) to the BRACKET (P-FAN).
Stick the FAn CABLE in positions where it does not come in contact with the heat radiating plate of the Prism Assy.

⑥ Stick the CAUTION LABEL (TI CONNECTOR) to the top surface of the Shield Case E Sassy. (Almost in the center)



⑦ Install the SHIELD PLATE (ENGINE) A on the FRAME ASSY.

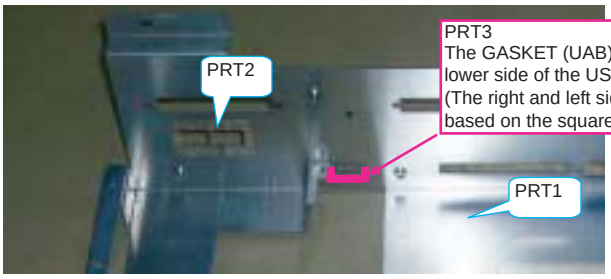


CPU1

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		BRACKET(ARM)	24H55512	1	
PRT2		GASKET(LAN)	24J28981	1	
PRT3		GASKET(USB)	24J29571	1	
PWB1		CPU PWB Assy	81L23CA2	1	
PRT4		STUD(D-SUB H*5.3)	24N08192	2	Torque check
	SRW121	SCREW,PL-CPIMS*3*8*3GF	24V00111	4	Torque check
CN1	LAN	CABLE LAN 0.33M PCRJE0033	7N520058	2	
PWB2		S-CAP PWB ASSY	81L23CC2	1	
	SRW119	SCREW,PL-CPIMS*3*8*3GF	24V00111	1	Torque check
CN2	CB	CN3P(CB)100W,1061-26	7NW3W066	1	

Caution : External parts shall be handled carefully so that they are not damaged.

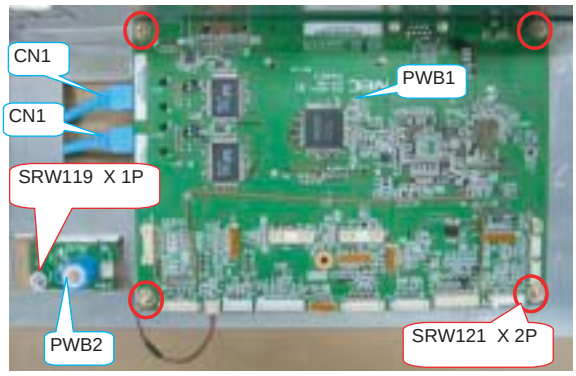
① Stick the Gasket (LAN) to the Bracket (ARM).



② Mount the Bracket (ARM) on the CPU_PWB ASSY.

[Caution] Measures against static charges
Wrist straps shall be used while boards are handled.

③ Install the S-CAP PWB ASSY and insert the CN-CB.



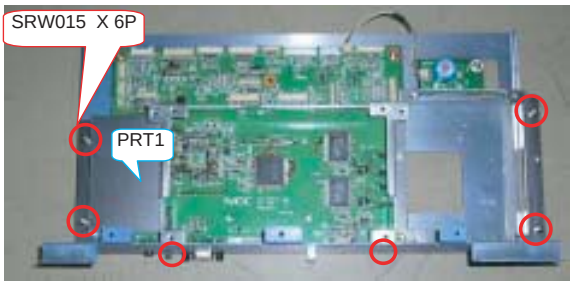
CPU2

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		BRACKET(DVI-O)	24H55531	1	
	SRW0115	SCREW,PL-CPIMS*3*8*3GF	24V00111	6	Torque check
PRT2		FIXING PLATE(DVI)	24H55541	1	
PWB1		DVI-OUT PWB ASSY	81L07V01	1	
PRT3		STUD		4	Torque check
	SRW116	SCREW,PL-CPIMS*3*8*3GF	24V00111	4	Torque check
	SRW116	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check
PRT4		STUD		4	Torque check
		ETHER PWB ASSY		1	
	SRW118	SCREW,PL-CPIMS*3*8*3GF	24V00111	4	Torque check

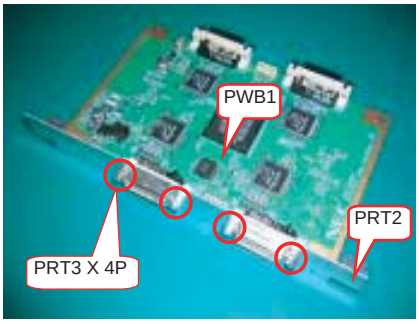
Caution : External parts shall be handled carefully so that they are not damaged.

[Caution] Measures against static charges
Wrist straps shall be used while boards are handled.

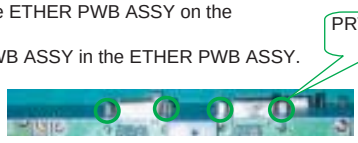
① Mount the Bracket (ARM) Sassy on the Bracket (DVI-O).

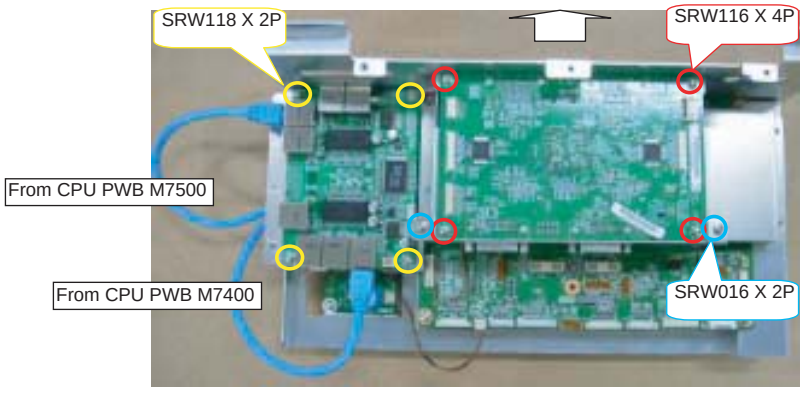


② Remove the stud from the DVI-OUT PWB and use this stud for mounting after the Fxing Plate (DVI) has been removed.



③ Install the DVI-OUT PWB ASSY and the ETHER PWB ASSY on the Bracket (ARM) Sassy.
Insert the LAN CABLE of the S CAP PWB ASSY in the ETHER PWB ASSY.



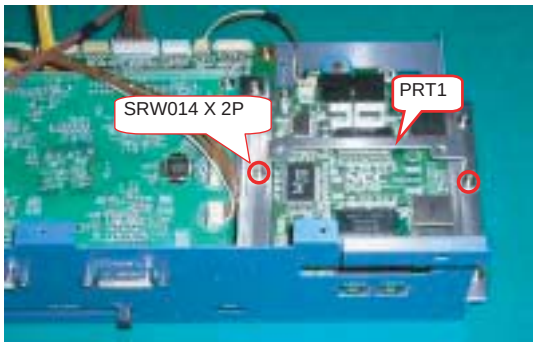


CPU3

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		BRACKET(GP)	24H55521	1	
	SRW014	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check
PWB1		GPIO PWB ASSY	81L07YE1	1	
	SRW117	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check
PRT2		STUD(D-SUB H*6.3)	24N08182	2	Torque check
PRT3		CONNECTOR BCJ-JR	7N030133	2	
		GLUE,SCREW LOCK	92201082		Adequate quantity

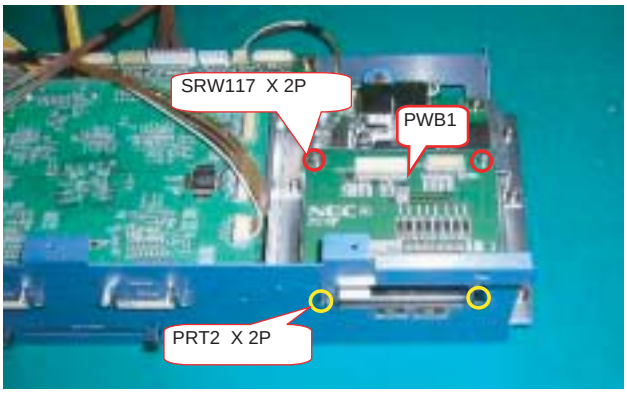
Caution : External parts shall be handled carefully so that they are not damaged.

① Mount the Bracket (GP).

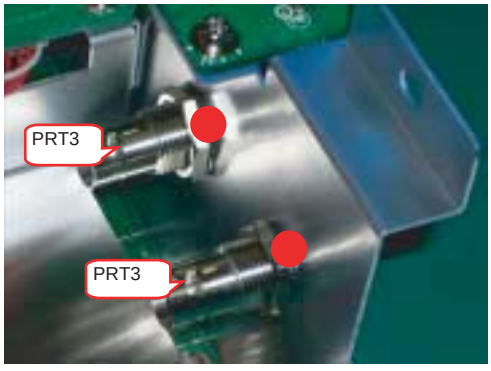


[Caution] Measures against static charges
Wrist straps shall be used while boards are handled.

② Remove the STUD from the GPIO-PWB ASSY and use this STUD for fixing.



③ Remove the nut from the connector BCG-JR. After insertion in metal fittings, use the same nut for fixing. (2 positions)
* Apply a screw lock agent after fixing. Tightening torque : 27±2kgf•cm

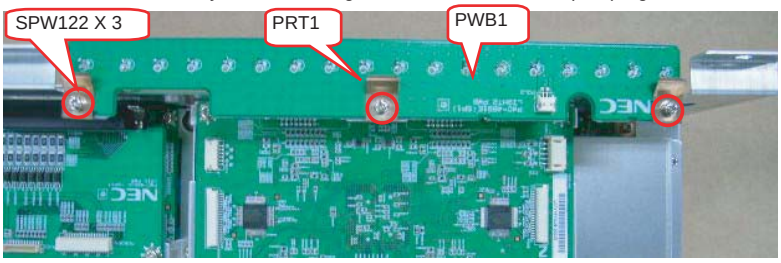


CPU4

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PWB1		LIGHT-2 PWB ASSY		1	
PRT1		PLATE SPRING(LED)	24H57591	3	
	SRW122	SCREW,PL-CPIMS*3*8*3GF	24V00111	3	Torque check
PRT2		BARRIER (LED)	24J35131	1	
PRT3		ACETATE CLOTH TAPE 570F	9R030010	1	
CN1	DO	CN5P(DO)475W,1061-24	7NW5W066	1	
CN2	TY	CN6P(TY)325W,1061-26	7NW6W039	1	
CN3	CP	CN7P(CP)400W,1061-24	7NW7W030	1	
CN4	CF	CN10P(CF)250W,1061-28	7NW0W024	1	
CN5	CE	CN15P(CE)200W,1061-28	7NWEW022	1	
CN6	N8	CN9P(N8)150W,1061-24	7NW9W002	1	
CN7	CO	CN14P(CO)180W,1061-28	7NWDW015	1	
CN8	CB	CN3P(CB)100W,1061-26	7NW3W066		
CN9	LAN	CABLE LAN 0.33M PCRJE0033	7N520058		

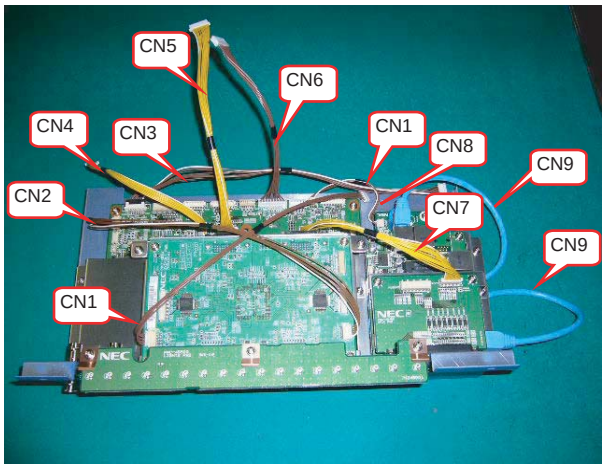
Caution : External parts shall be handled carefully so that they are not damaged.

① Install the LIGHT-2 PWB Assy. At that time, tighten the PLATE SPRING (LED) together.



[Caution] Measures against static charges
Wrist straps shall be used while boards are handled.

② Insert the respective wiring materials.

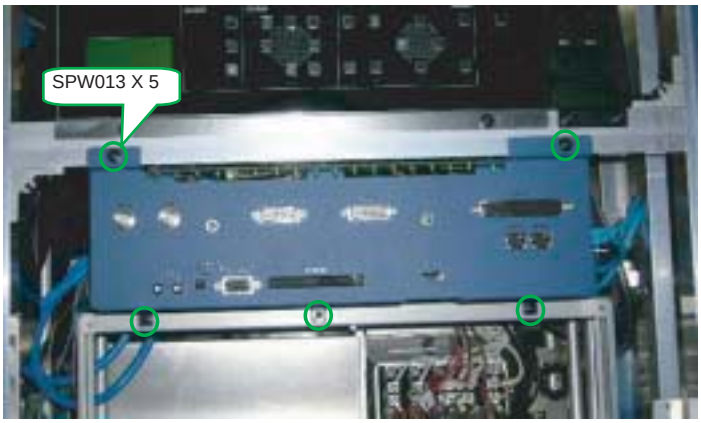


MT CPU'S

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
	SRW013	PL-CPIMS*4*10*3KF	24V00461	5	Torque check
		GLUE,SCREW LOCK	92201082		Adequate quantity
PRT1		CORE E04SR200932	6N160006	2	

Caution : External parts shall be handled carefully so that they are not damaged.

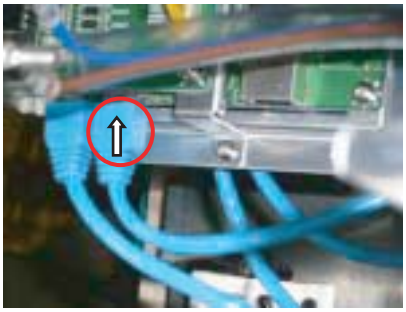
① When all parts have been assembled in the Bracket (ARM), mount the assembly on the set.



② Make connector connections.

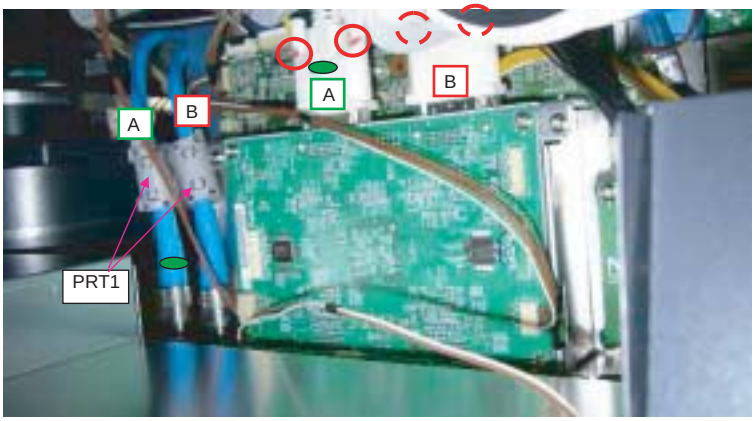
Connector	Connect to	Connect from
CE	PJ-DIV	CPU
CF	PJ-DIV	CPU
CP	PJ-DIV	CPU
LAN	PJ-DIV	ETHER
PD	PJ-DIV	MOTOR
DO	PJ-DIV	DVIOUT
PU	PJ-DIV	RELAY
N8	MOTHER	CPU
CI	CPU	PED-A
CT	CPU	MOTHER
GPIO	GPIO	MOTHER

③ Connect the LAN Cable of the MOTHER PWB to the ETHER PWB (M8507).



④ Insert the SDI (A)(B) and the DVI (A)(B), extended from the MOTHER PWB ASSY.
After screw tightening, apply a screw lock agent to the DVI (4 positions in all).

* A green marking is provided to the Terminal A side of the DVI cable and the SDI from the Mother PWB Assy. Make sure not to make a mistake by wrong insertion.



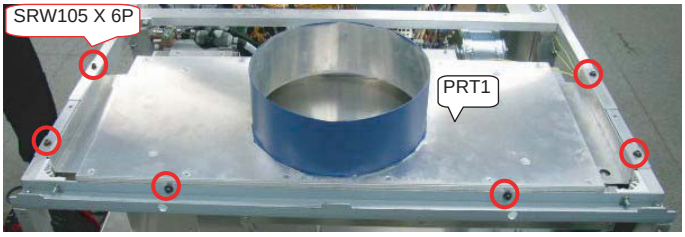
MT Duct Top

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		DUCT(TOP)ASSY	24PS5331	1	
	SRW105	PL-CPIMS*4*10*3KF	24V00461	4	
PRT2		BRACKET T	24P04591	4	
	SRW091	PL-CPIMS*4*10*3KF	24V00461	8	
PRT3		INSULATION PLATE A	24J34831	1	
	SRW087	PL-CPIMS*4*10*3KF	24V00461	4	
PRT4		INSULATION PLATE B	24J34841	1	
PRT5		PUSH RIVET(NRP460)	24C08461	4	
PRT6		CABLE CLIP(FCA-10)	24C02841	16	

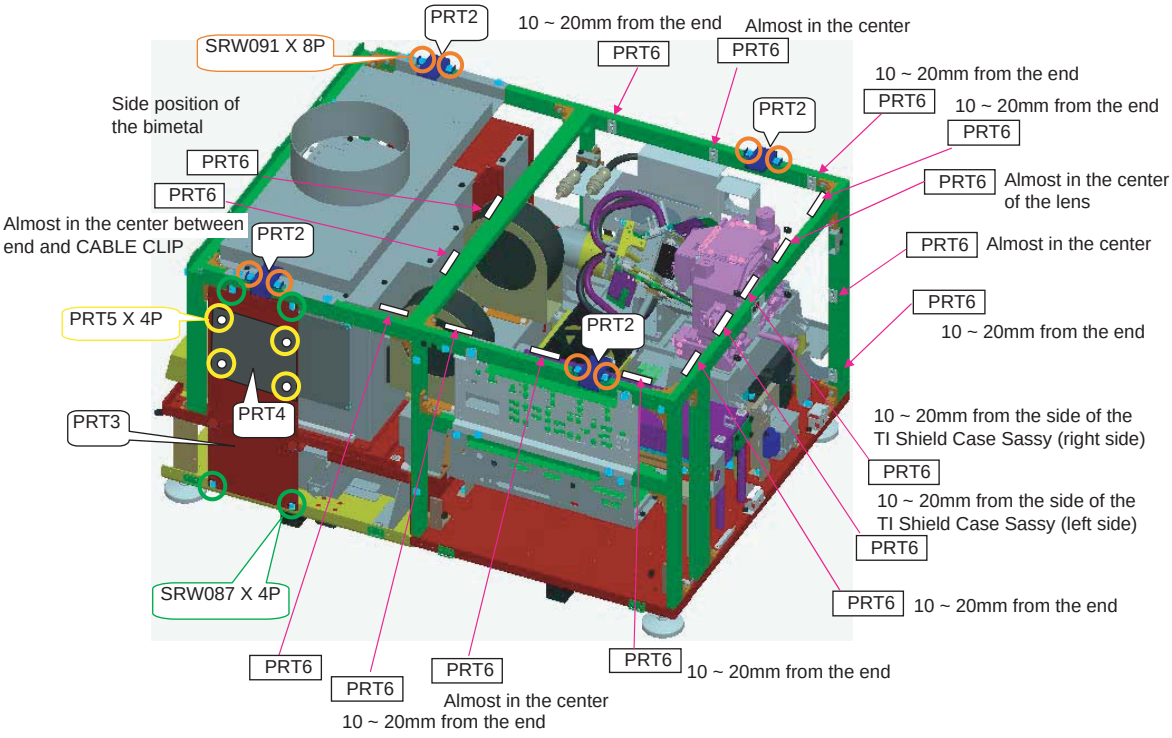
Caution : External parts shall be handled carefully so that they are not damaged.

Install the external parts.

① Install the Duct (Top) Assy.



② Install the Bracket T and the Insulation Plate A.
③ Fix the Insulation Panel B to the Insulation Plate A by means of the Push Rivets.

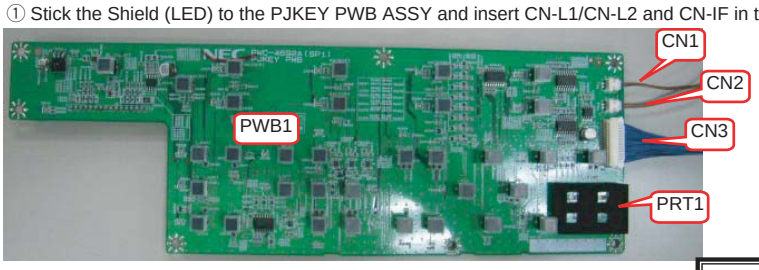


CTL1

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PWB1		PJKEY PWB ASSY		1	
PRT1		SHIELD(LED)	24J28621	1	
CN1	L1	CN2P(L1)100W,1061-26	7NW2W035	1	
CN2	L2	CN2P(L2)380W,1061-26	7NW2W057	1	
CN3	IF	CN40P(IF)500W,1571-28	7NWLW047	1	
PRT1		BRACKET(KEY)	24H60891	1	
	SRW123	SCREW,PL-CPIMS*3*8*3GF	24V00111	7	Torque check
PWB2		LCD_MODULE ASSY	81L23L01	1	
	SRW069	WASHER(D8-2.5)	24J28631	4	
	SRW129	CBIMS*2*6*3KF	24V00541	4	Torque check
CN4	LC	CN8P(LC)600W,1061-24	7NW8W024	2	

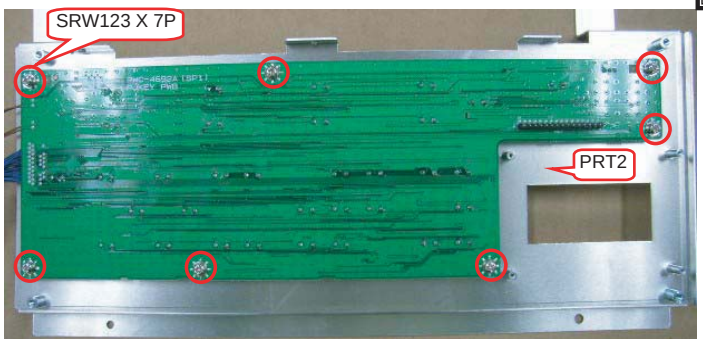
Caution : External parts shall be handled carefully so that they are not damaged.

① Stick the Shield (LED) to the PJKEY PWB ASSY and insert CN-L1/CN-L2 and CN-IF in the same PWB.

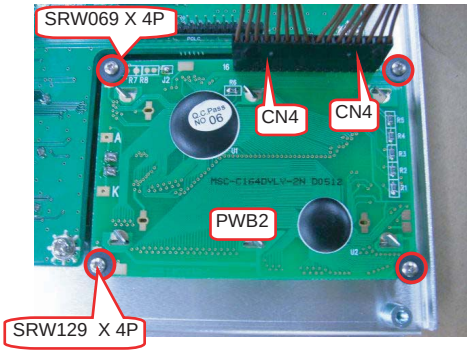


[Caution] Measures against static charges
Wrist straps shall be used while boards are handled.

② Mount the PJKEY PWB ASSY on the Bracket (KEY).



③ Mount the LCD MODULE ASSY on the Bracket (KEY) and insert CN-LC in the LCD_MODULE ASSY and the PJKEY PWB ASSY.
Caution: When mounting the LCD MODULE ASSY on the Bracket (KEY), make sure not to permit the intrusion of dust and contaminants.
Caution: The CN-LC shall not be inserted in a crossed posture.

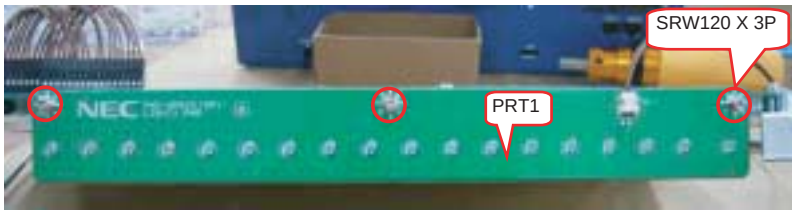


CTL2

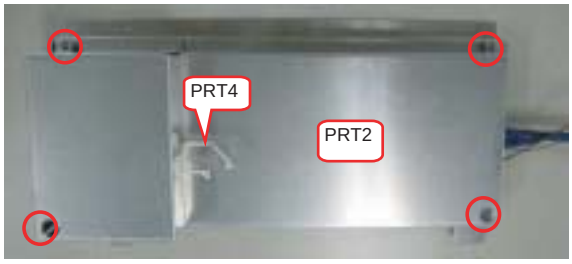
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PWB1		LIGHT-1 PWB ASSY		1	
	SRW120	SCREW,PL-CPIMS*3*8*3GF	24V00111	3	Torque check
PRT2		SHIELD PLATE(KEY)	24H60881	1	
	SRW061	SCREW,PL-CPIMS*3*8*3GF	24V00111	4	Torque check
PRT3		DECOR PLATE (KEY)	24K26401	1	
PRT4		CRAMP(RBWS-5N)	24C09281	1	
PRT5		BARRIER (LED)	24J35131	1	
PRT6		ACETATE CLOTH TAPE 570F	9R030010	1	

Caution : External parts shall be handled carefully so that they are not damaged.

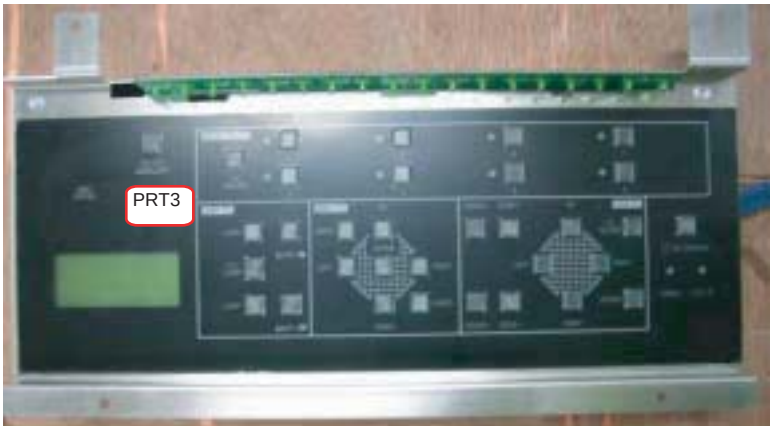
① Install the LIGHT-1 PWB ASSY.
After the installation, insert the CN-L1 from the PJKEY PWB ASSY.



② Stick the Décor Plate (KEY) to the Bracket (KEY).



③ Stick the Décor Plate (KEY) to the Bracket (KEY).

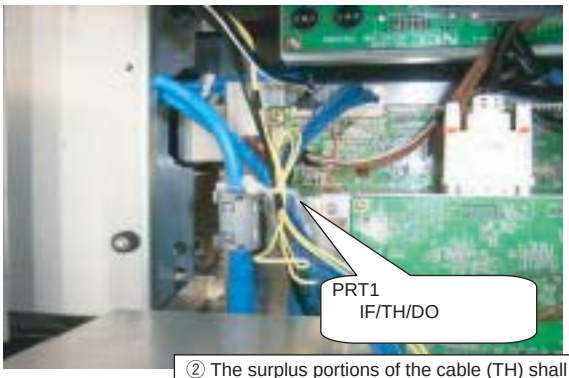


CTL3

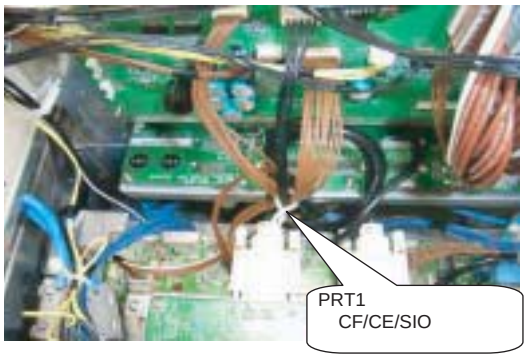
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
	SRW062	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
PRT1		OMEGA LOCK(OLS-80)	24C07471	3	

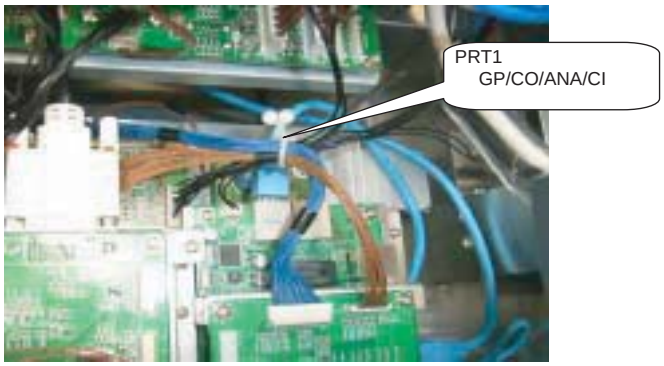
Caution : External parts shall be handled carefully so that they are not damaged.

① Install the PJKEY SASSY.



② The surplus portions of the cable (TH) shall be folded back and bundled.





Lens food Sassy (2)

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		SHIELD PLATE(NC1600C)B	24H60941	1	
PRT2		SHIELDING SHEET(LENS)	24J24641	1	
PRT3		HOLDER(SHIELD)A	24H56781	2	
PRT4		HOLDER(SHIELD)B	24H56791	2	
PRT5		SHIELD BOARD A	24H56751	1	
	SRW051	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check

① Hook the Shielding Sheet (Lens) on the Shield Plate (NC1600C) B.
② In the state of 1 above, hook the Holder (Shield) A and the Holder (Shield) B, and fasten them with screws.

Caution : When fastening the Holder (Shield) A and the Holder (Shield) B with screws, confirm that the screws are not located on the Connector side of the Lens Mount (PA67), but on the opposite side (lower side).
(If they are located on the upper side, they will come in contact with the Front Panel Sassy.)

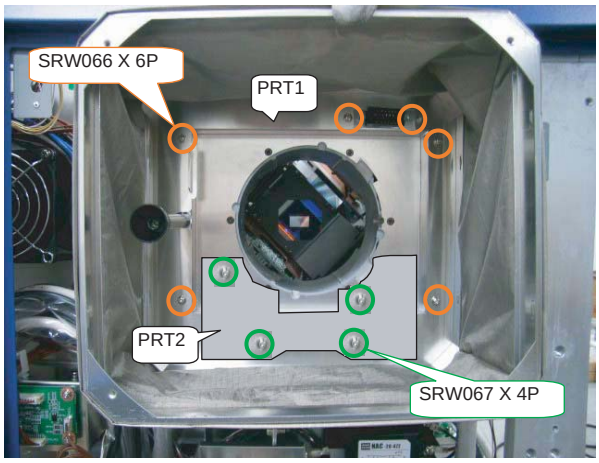
③ If there is any vacant Shielding Sheet (Lens) in the state of ② above, hook it on the Shield Board A.
④ Similarly in the state of ② above, hook the Holder (Shield) A and the Holder (Shield) B and fasten them with screws.

Caution : When fastening the Holder (Shield) A and the Holder (Shield) B with screws, confirm that the screws are not located on the Connector side of the Lens Mount (PA67), but on the opposite side (lower side).
(If they are located on the upper side, they will come in contact with the Front Panel Sassy.)

MT Rear & Shield (2)

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		Shield Plate(NC1600C) Sassy		1	
	SRW066	SCREW,PL-CPIMS*3*8*3GF	24V00111	6	Torque check
PRT2		Cover(Shield)	24H60951	1	
	SRW067	SCREW,PL-CPIMS*3*8*3GF	24V00111	4	Torque check

① After the installation of the Shield Plate (NC1600C) Sassy, install the Cover (Shield).

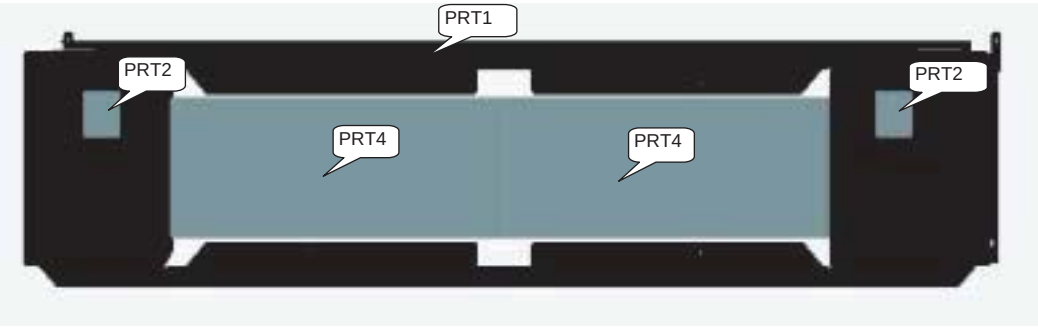


Rear Panel B Sassy

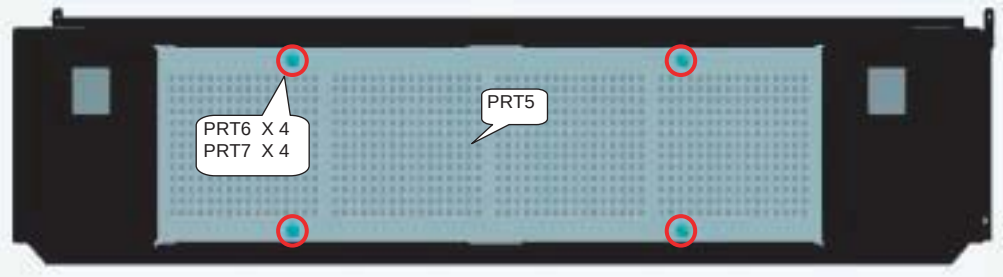
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		REAR PANEL B ASSY	24PS5321	1	
PRT2		DIFFUSER	24K26381	2	
PRT3		CABLE CLIP(FCA-10)	24C02841	3	
PWB1		SLED-A PWB ASSY		1	
	SRW124	SCREW,PL-CPIMS*3*8*3GF		2	Torque check
PRT4		FILTER B	24J28391	2	
PRT5		FILTER CASE(REAR)	24P05491	1	
PRT6		SPECIAL SCREW(M4*18)	24N08431	4	Torque check
PRT7		PIWA*4*3GF	24V00661	4	
CN1		CN3P(ST1)625W,3265-24	7NW3W088		

Caution : External parts shall be handled carefully so that they are not damaged.

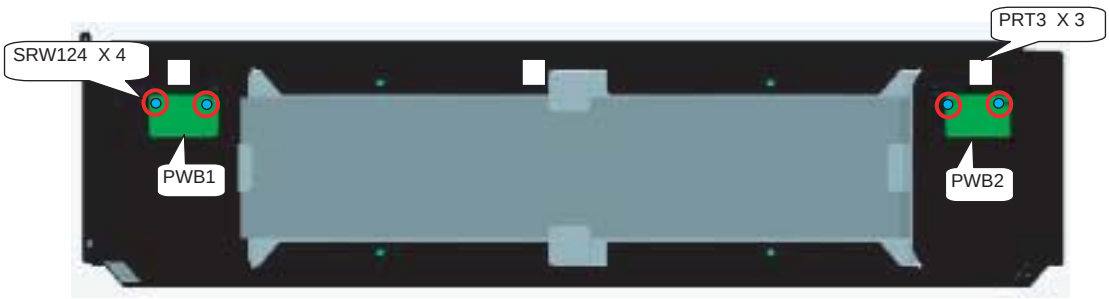
① Mount the Diffuser on the Rear Panel B Assy.
② Mount the Filter B on the Rear Panel B Assy.



③ Mount the PIWA*4*3GF and the Special Screw (M4*18) on the Filter Case (Rear).
(The rear Filter Cover Sassy is the Assy product of PRT4 as well as SRW*** and SRW***.)
④ Install the Rear Filter Cover Sassy on the Sassy of ②.



⑤ Reverse the Rear Panel B Assy and install the SLED-A PWB Assy and the ALED-B PWB Assy.
⑥ Stick the cable clip (FCA-10) to the Rear Panel B Assy.
⑦ Insert CN1 in the SLED-A PWB Assy and the ALED-B PWB Assy. Hang the wiring materials on the cable clip (FAC-10) of ⑥ for cabling.



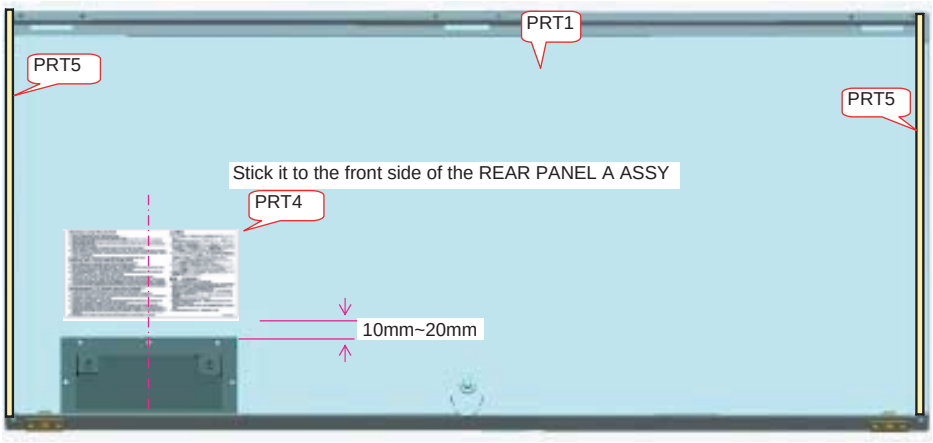
Rear Panel T Sassy

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		REAR PANEL A ASSY	24PS5311	1	
PRT2		KEY(TL-96N-1)	24C09131	1	
PRT3		CAM(LOCK)TI	24H61071	1	
PRT4		CAUTION LABEL(LAMP)	24L62591	1	
PRT5		GASKET(STG1-5)	24C09311	2	315mm
PRT6		COVER(REAR PANEL)	24P05481	1	
PRT7		SPECIAL SCREW(M4*18)	24N08431	2	Torque check
PRT8		PIWA*4*3GF	24V00661	2	

Caution : External parts shall be handled carefully so that they are not damaged.

Caution : EMI (Electromagnetic Interference: Radio interference noise)

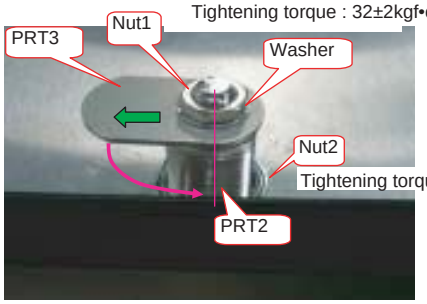
① Cut the Gasket (STG1-5) to a piece of 315mm and stick it to the Rear Panel A Assy.



② Remove Nut 2 of the Key (TL-96N-1) and pass the Key (TL-96N-1) through the hole of the Rear Panel A Assy.
Then, tighten the key with Nut 2.
Remove Nut 1 and washer from the tip of the Key (TL-96N-1) and mount the cam (LOCK) TI.
Then, tighten the cam with the same Nut 1 and Washer.

In the state that the key is inserted (unlocked),
the notch section shall be faced toward outside.
(Panel end side)

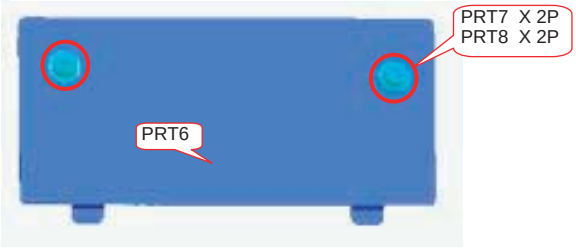
Tightening torque : 32±2kgf•cm



Mount the CAM (LOCK) TI on the left side as seen from the panel end.
Caution: When the key is pulled out, the CAM (LOCK) TI is faced to the bottom side. (Located on the Panel end side)

Caution: Confirm that the Key can be pulled out after Key locking.
If it cannot be pulled out, change the direction of washer attached to the key and reinstall it.

③ Mount the Special Screw (M4*18) and the PIWA*4*3GF on the Cover (Rear Panel).

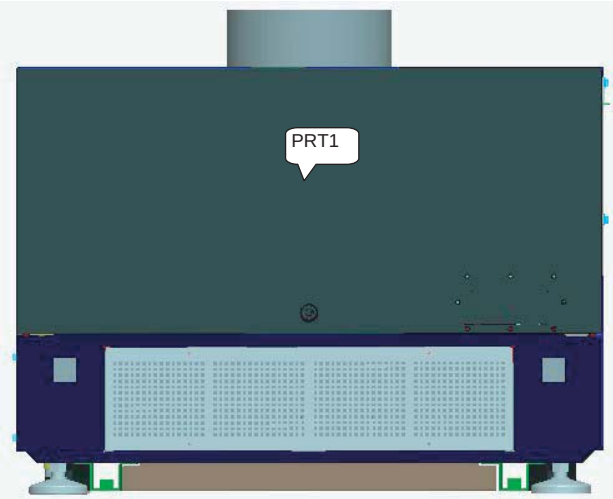


MT Rear & Shield

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		Rear Panel T Sassy	82N94321	1	

Caution : External parts shall be handled carefully so that they are not damaged.

① Install the Rear Panel T Sassy.
After the installation, make key locking.



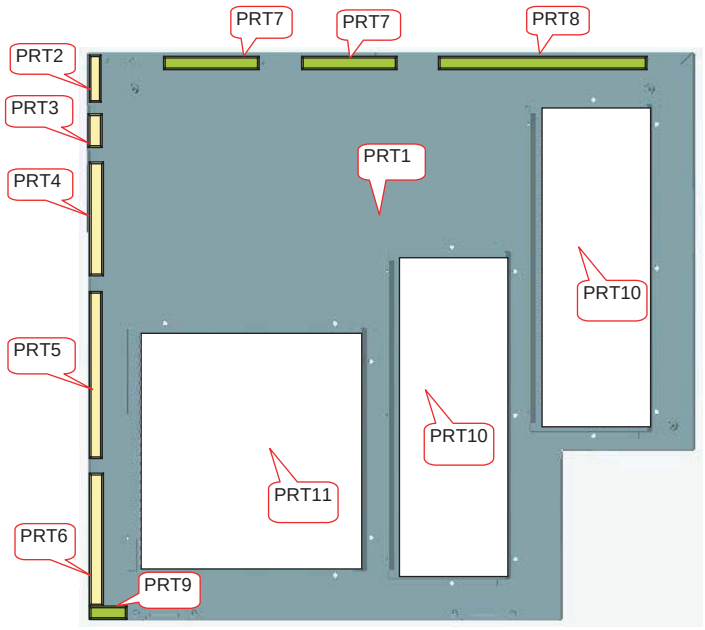
Side Panel RF Sassy

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		SIDE PANEL RF ASSY	24PS5291	1	
PRT2		GASKET(STG1-7)	24C05331	1	40mm
PRT3		GASKET(STG1-7)	24C05331	1	20mm
PRT4		GASKET(STG1-7)	24C05331	1	80mm
PRT5		GASKET(STG1-7)	24C05331	1	120mm
PRT6		GASKET(STG1-7)	24C05331	1	100mm
PRT7		GASKET(STG2-10)	24C06051	2	70mm
PRT8		GASKET(STG2-10)	24C06051	1	170mm
PRT9		GASKET(STG2-10)	24C06051	1	40mm
PRT10		FILTER B	24J28391	2	170mm
PRT11		FILTER A	24J28381	1	40mm
PRT12		SPECIAL SCREW(M4*18)	24N08431	3	
PRT13		PIWA*4*3GF	24V00661	3	

Caution : External parts shall be handled carefully so that they are not damaged.

Caution : EMI (Electromagnetic Interference: Radio interference noise)

① Cut the Gasket (STG1-7) into pieces of 20mm, 40mm, 80mm, and 100mm respectively and stick them to the Side Panel RF Assy.
② Cut the Gasket (STG2-10) into pieces of 40mm, 70mm, and 170mm respectively and stick them to the Side Panel RF Assy.
③ In the location where the gaskets have been attached to the Side Panel RF Assy, install the Filter A and Filter B.



④ After the PIWA*4*3GF has been installed on the Side Panel RF Assy, mount the SPECIAL SCREW (M4*18).

Side Panel LF Sassy

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		SIDE PANEL LF ASSY	24PS5271	1	
PRT2		GASKET(STG0.5-8)	24C07561	2	330mm
PRT3		GASKET(STG0.5-8)	24C07561	1	310mm
PRT4		GASKET(STG0.5-8)	24C07561	1	380mm
PRT5		GASKET(STG0.5-8)	24C07561	1	70mm
PRT6		GASKET(STG0.5-8)	24C07561	2	100mm
PRT7		GASKET(STG0.5-8)	24C07561	3	60mm
PRT8		GASKET(STG1-7)	24C05331	1	360mm
PRT9		GASKET(STG1-7)	24C05331	1	250mm
PRT10		GASKET(STG1-7)	24C05331	1	100mm
PRT11		GASKET(STG2-10)	24C06051	1	410mm
PRT12		GASKET(STG2-10)	24C06051	2	40mm

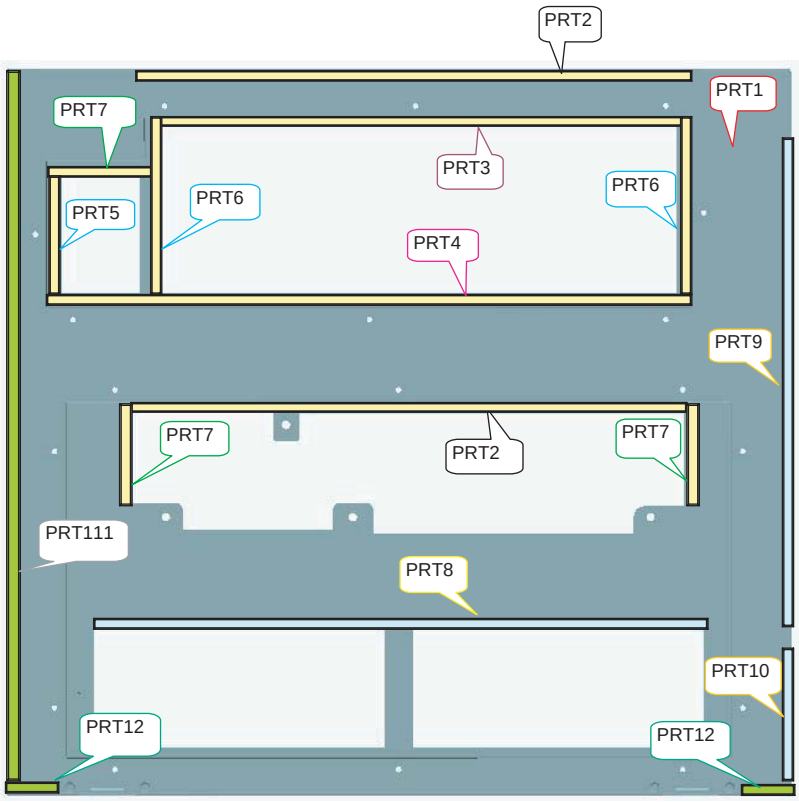
Caution : External parts shall be handled carefully so that they are not damaged.

Caution : EMI (Electromagnetic Interference: Radio interference noise)

① Cut the Gasket (STG0.5-8) into pieces of 380mm, 330mm, 310mm, 100mm, 70mm, and 60mm respectively and stick them to the Shield Panel LF Assy.

② Cut the Gasket (STG1-7) into pieces of 360mm, 250mm, and 100mm respectively and stick them to the Side Panel LF Assy.

③ Cut the Gasket (STG2-10) into pieces of 410mm and 40mm respectively and stick them to the Side Panel LF Assy.



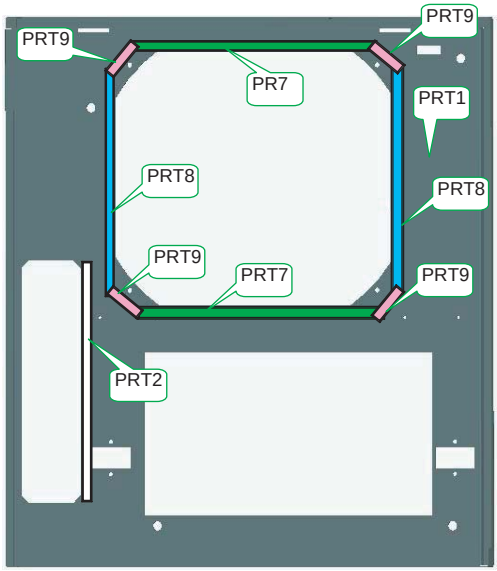
Front Panel B Sassy

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FRONT PANEL B ASSY	24PS4042	1	
PRT2		GASKET(STG7-10)	24C08591	1	190mm
PRT3		BRACKET(FD)ASSY	24HS4011	2	
	SRW301	SCREW,PL-CPIMS*3*8*3GF	24V00111	4	Torque check
PRT4		BRACKET(FF)ASSY	24HS4041	2	
	SRW302	SCREW,PL-CPIMS*3*8*3GF	24V00111	4	Torque check
PRT5	SRW122	WASHER(TM-137-2)	24C08391	8	
PRT6	SRW106	SCR(TL-243-2)	24N08071	4	
PRT7		GASKET(STG0.5-8)	24C07561	2	200mm
PRT8		GASKET(STG0.5-8)	24C07561	2	180mm
PRT9		GASKET(STG0.5-8)	24C07561	4	25mm

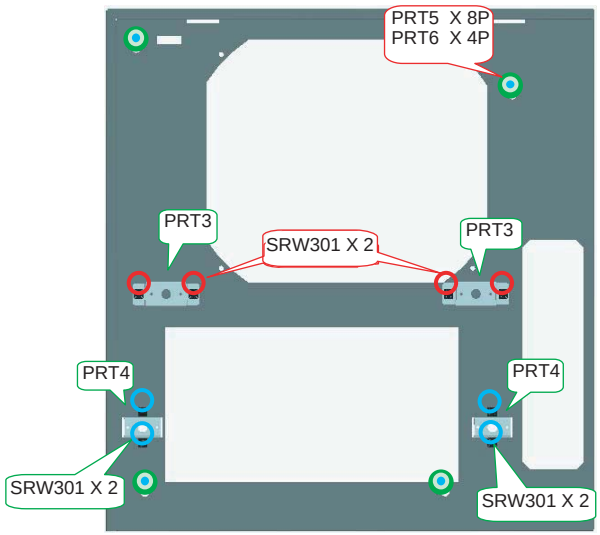
Caution : External parts shall be handled carefully so that they are not damaged.

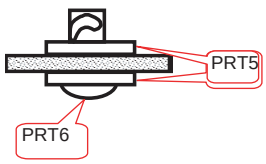
Caution : EMI (Electromagnetic Interference: Radio interference noise)

① Cut the Gasket (STG0.5-8) into a piece of 190mm and stick it to the Front Panel B Assy.



② When the Washer (Tm-137-2) is attached with the SCR (TL-243-2), mount this SCR on the Front Panel B Assy.



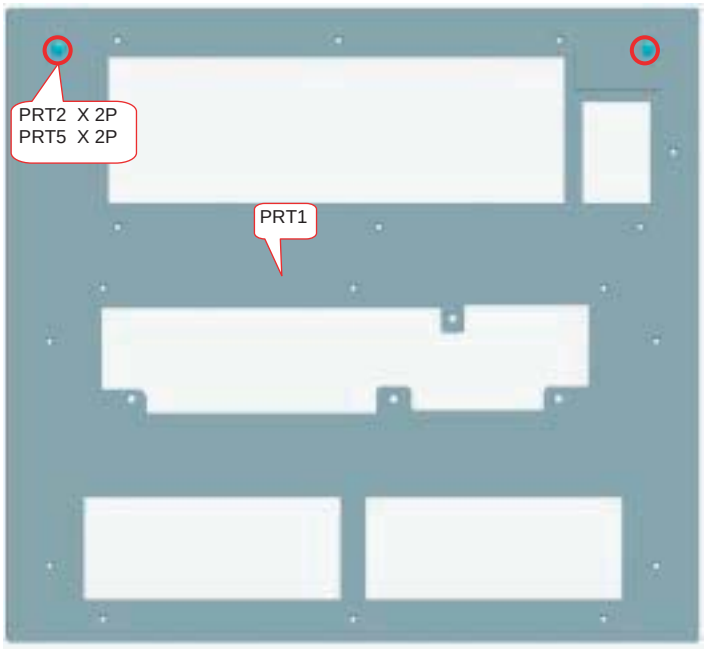


Side Panel LF Sassy 2

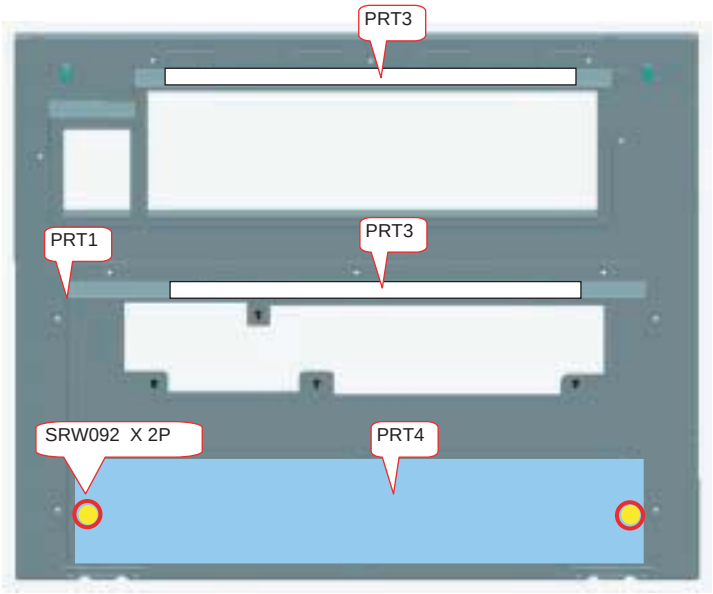
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		SIDE PANEL LF ASSY	24PS5271	1	
PRT2		SPECIAL SCREW(M4*18)	24N08431	2	Torque check
PRT5		PIWA*4*3GF	24V00661	2	
PRT3		DECOR PLATE(LIGHT)	24K26211	2	
PRT4		SHADING PLATE(MMS)	24P04871	1	
	SRW092	SCREW,PL-CPIMS*3*8*3GF	24V00111	2	Torque check

Caution : External parts shall be handled carefully so that they are not damaged.

① Mount the special Screw (M4*18) on the Side Panel LF Assy.



② Stick the Décor Plate (Light) to the Side Panel LF Assy.
③ Mount the Shading plate (MMS) on the Side Panel LF Assy.



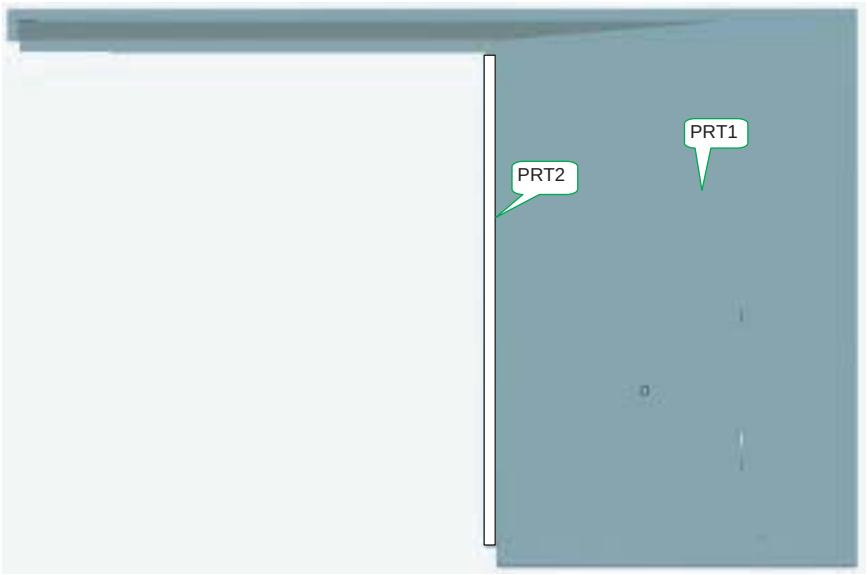
Front Panel A Sassy

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FRONT PANEL A ASSY	24PS5241	1	
PRT2		GASKET(STG0.5-8)	24C07561		410mm

Caution : External parts shall be handled carefully so that they are not damaged.

Caution : EMI (Electromagnetic Interference: Radio interference noise)

① Cut the Gasket (STG0.5-8) into a piece of 410mm and stick it to the Front Panel A Assy.



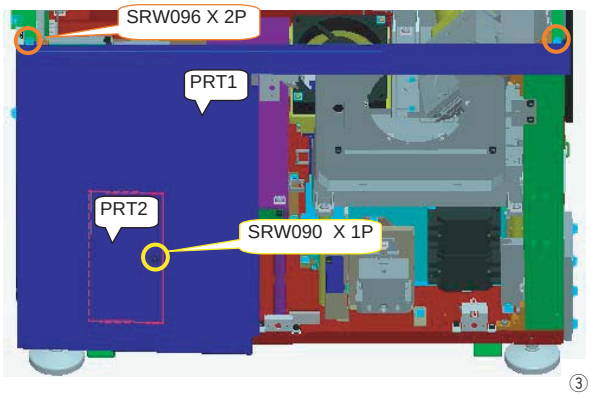
PRT2 shall be stuck to the front surface.

MT Front A & B

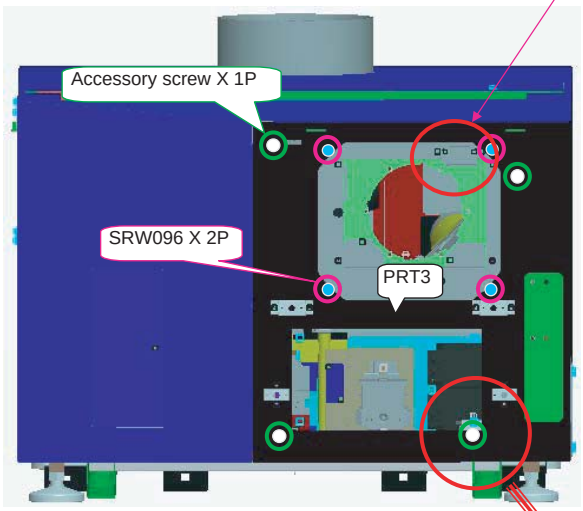
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		Front Panel A Sassy	82N94211	1	
	SRW096	PL-CPIMS*4*10*3KF	24V00461	2	Torque check
PRT2		FRONT PANEL F	24P04471	1	
	SRW090	SCREW,PL-CPIMS*3*8*3GF	24V00111	1	Torque check
PRT3		Front Panel B Sassy	82N94221	1	
				4	Lockup shall be carried out.
	SRW025	SCREW,PL-CPIMS*3*8*3GF	24V00111	4	Torque check
PRT4		GASKET(STG7-10)	24C08591	2	10mm
PRT5		LABEL(LENS LOCK)	24L64421	1	

Caution : External parts shall be handled carefully so that they are not damaged.

① Install the Front Panel A Sassy.
After the installation, make key locking.

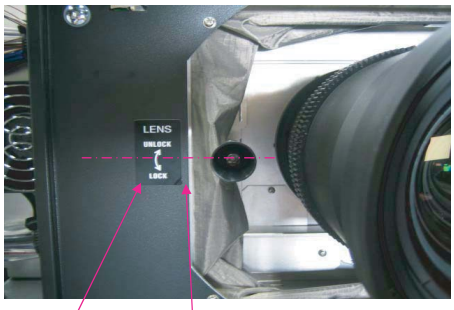


② Install the Front Plate F Sassy.



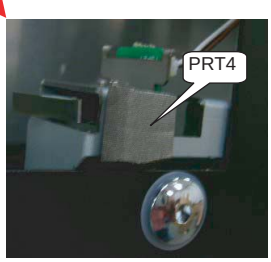
③ Put conductive cloth in the holder.

④ According to the lock lever of the lens mount, stick the center part of the LABEL (LENS LOCK) to a place about 10mm from the edge of the Front Panel B Sassy.



⑤ Cut the Gasket (STG7-10) into a piece of 10mm and stick it to the Front Panel B Sassy.

Caution : The Gasket (PRT4) shall not override the Front Panel B.



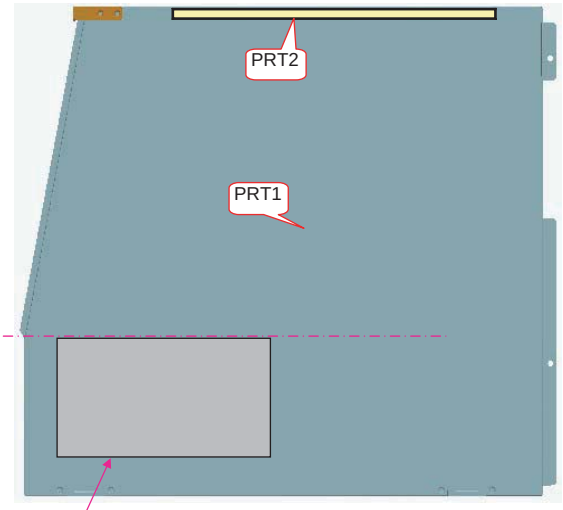
Side Panel RR Sassy

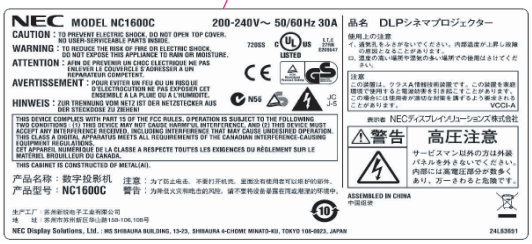
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		SIDE PANEL RR ASSY	24PS5301	1	
PRT2		GASKET(STG2-10)	24C06051		300mm
PRT3		INSTRUCTION NAME PLATE	24L63652		
					Torque check
					Torque check

Caution : External parts shall be handled carefully so that they are not damaged.

Caution : EMI (Electromagnetic Interference: Radio interference noise)

① Cut the Gasket (STG2-10) into a piece of 300mm and stick it to the Side Panel RR Assy.





* For the INSTRUCTIOn NAME PLATE, adjust the upper part of the LABEL to the extended line from the upper end of the Rear Panel B Assy.
On the side surface, stick the label 10 ~ 20mm from the end line of the Side Panel RR Assy.
To be stuck to the front surface of the Side Panel RR Assy.

SAFETY

Do not forget adhesion of the NAME PLATE and the CAUTION LABEL (Requirements of Safety Standard)

SAFETY

Confirm that all the safety standard requirements are printed on the NAME PLATE (Requirements of Safety Standard)

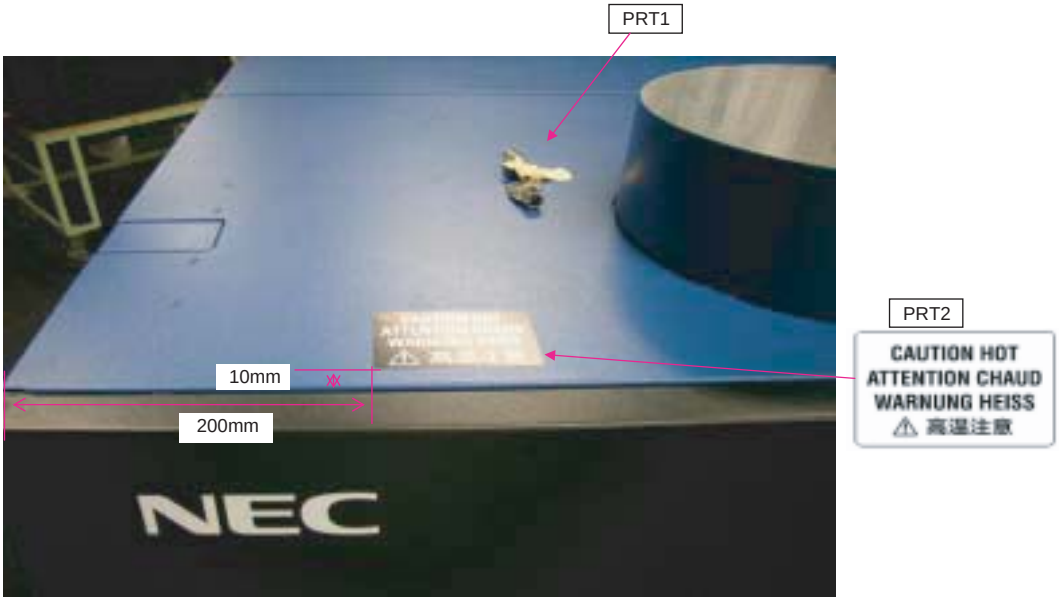
SAFETY

Confirm the factory certificate number on the NAME PLATE.
(North America)
(720SS) for SSS China
(Requirements of Safety Standard)

Top Cover R Sassy

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		TOP COVER R ASSY	24PS5261	1	
PRT2		LABEL(HEAT)	24L49921	1	

① Stick the label (HEAT) to the TOP COVER R ASSY.



② The label (HEAT) shall be stuck 200mm from the edge of the Top Panel R Sassy and 10mm from the edge of the rear side.
In the direction where characters can be read correctly from the rear side

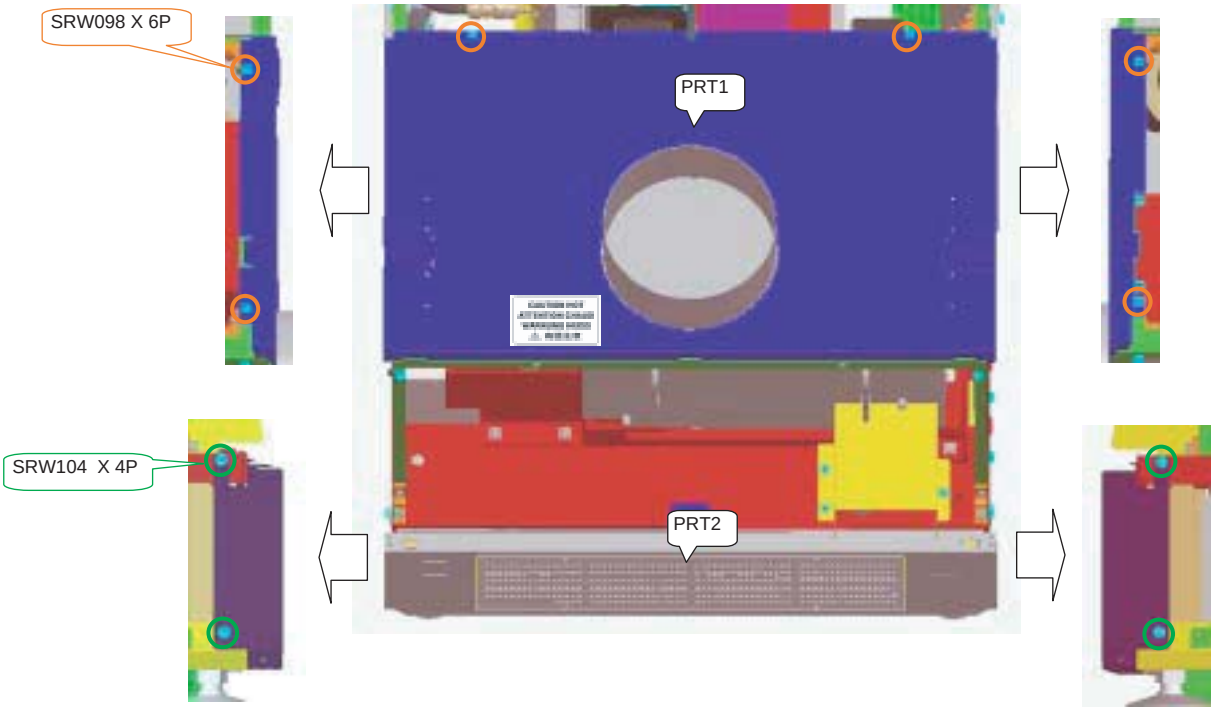
MT Side & Rear

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		Top Panel R Sassy	82N94311	1	
	SRW098	PL-CPIMS*4*10*3KF	24V00461	6	
PRT2		REAR PANEL B SASSY	82N94331	1	
	SRW107	PL-CPIMS*4*10*3KF	24V00461	4	
PRT3		Side Panel RR Sassy	82N94291	1	
	SRW103	PL-CPIMS*4*10*3KF	24V00461	3	
PRT4		Side Panel LR Sassy	24PS5281	1	
	SRW101	PL-CPIMS*4*10*3KF	24V00461	3	

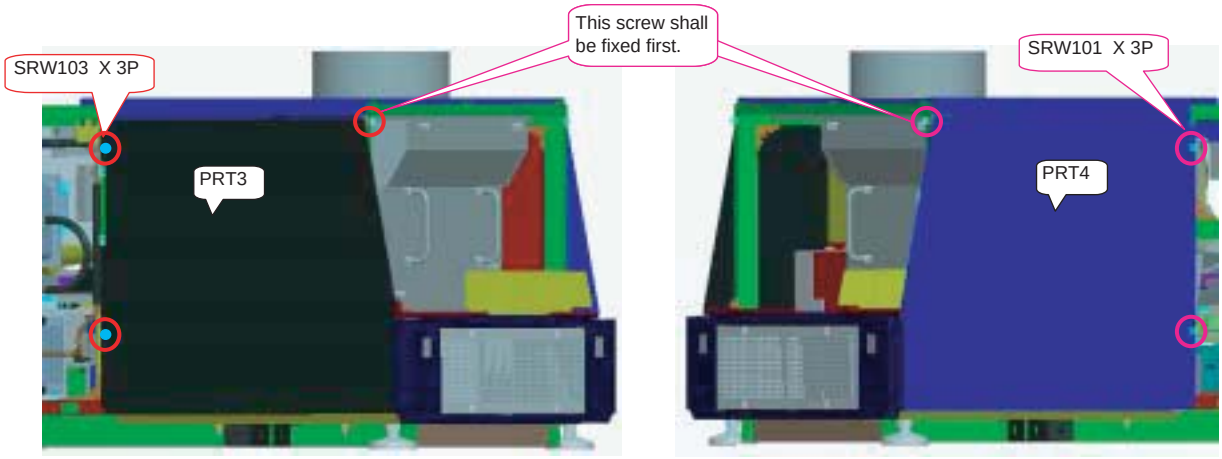
Caution : External parts shall be handled carefully so that they are not damaged.

Install the external parts.

① Install the Top Panel R Sassy and the Rear Panel B Sassy.



② Install the Side Panel RR Sassy and the Side Panel LR Sassy.



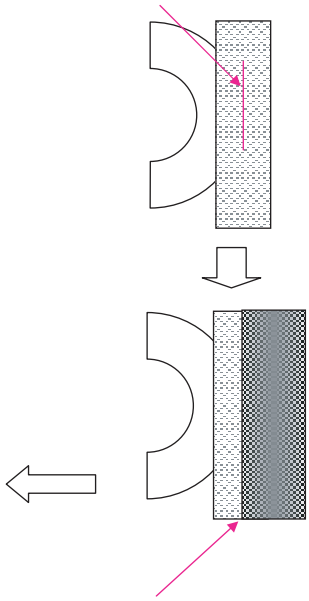
Front Panel C Sassy

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FRONT PANEL C	24D14151	1	
PRT2		CUSHION(30*18*T5)	24J30881	1	
PRT3	SRW106	SCR(TL-243-2)	24N08071	2	
PRT4	SRW122	WASHER(TM-137-2)	24C08391	2	
PRT5		CONDUCTIVE CLOTH TAPE	9R030011	1	L=230mm
PRT6		ACETATE CLOTH TAPE	9R030010	1	L=230mm

Caution : External parts shall be handled carefully so that they are not damaged.

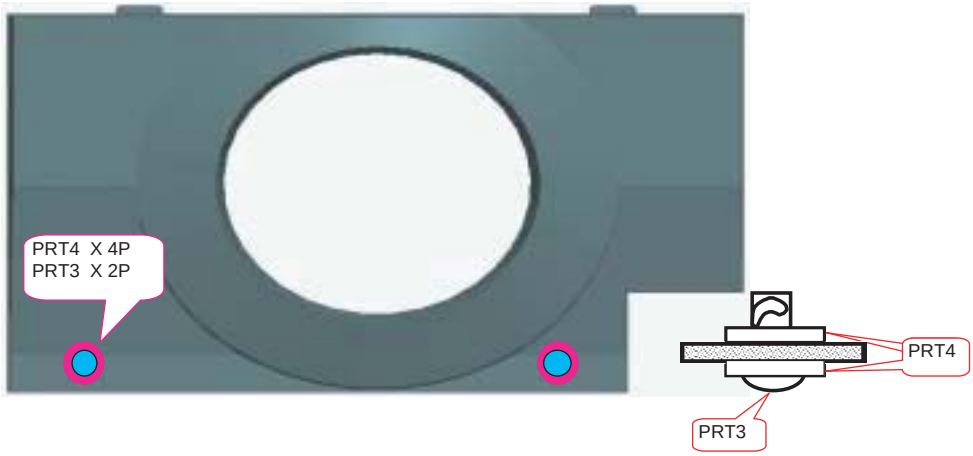
① Stick the Cushion (30*18*T5) to the Front Panel C.
(This cushion is intended to press the Tamp SW.)

② Adjust and stick the center part of the CONDUCTIVE CLOTH TAPE to the circular end of the Front Panel C.



③ Adjust and stick the edge part of the ACERATE CLOTH TAPE approximately to the center part of the CONDUCTIVE CLOTH TAPE.

④ When the Washer (Tm-137-2) is attached with the SCR (TL-243-2), mount this SCR on the Front Panel C.

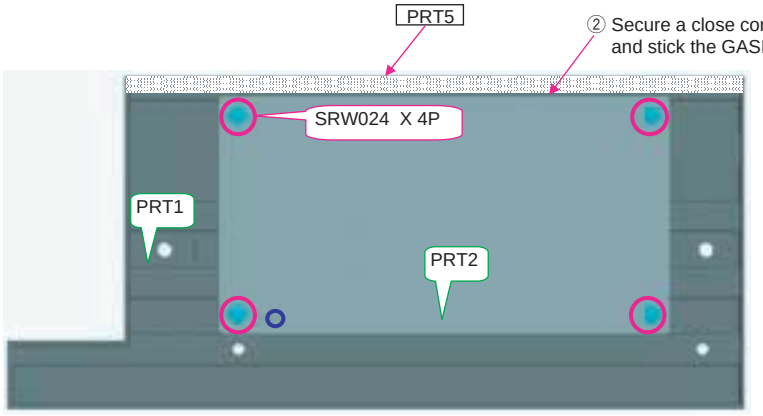


Front Panel D Sassy

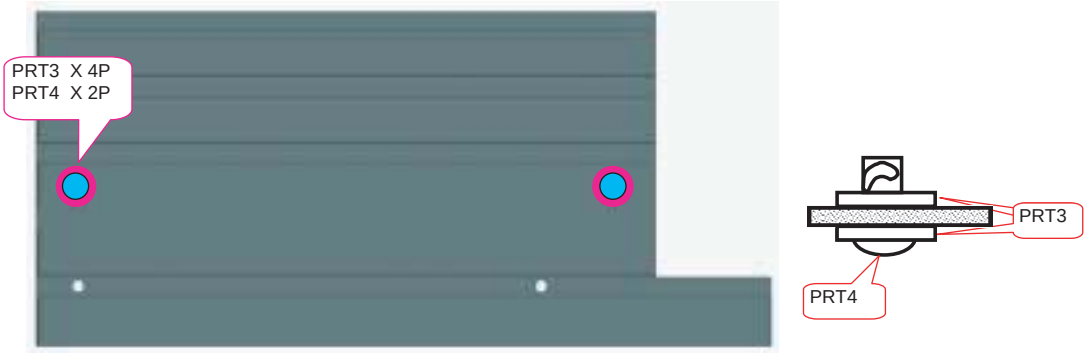
Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FRONT PANEL D	24D14161	1	
PRT2		SHIELD PLATE(FRONT)	24H56652	1	
	SRW024	PI-CPIMS*4*10*3KF	24V00461	4	
PRT3		SCR(TL-243-2)	24N08071	2	
PRT4		WASHER(TM-137-2)	24C08391	2	
PRT5		GASKET(STG8-10)	24C05341	1	L=325mm

Caution : External parts shall be handled carefully so that they are not damaged.

① Install the Shield Plate (Front) on the Front Panel D Assy.



③ When the Washer (Tm-137-2) is attached with the SCR (TL-243-2), mount this SCR on the Front Panel D Assy.

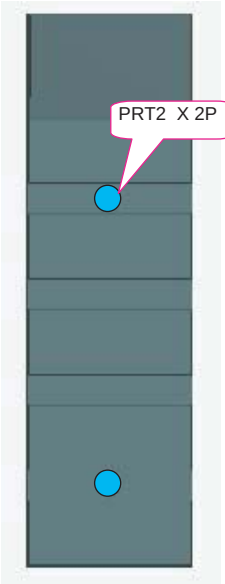


Front Panel E Sassy

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		FRONT PANEL E	24D14171	1	
PRT2	SRW069	SPECIAL SCREW(M4*18)	24N08431	2	

Caution : External parts shall be handled carefully so that they are not damaged.

① Mount the Special Screw (M4*8) on the Front Panel E.



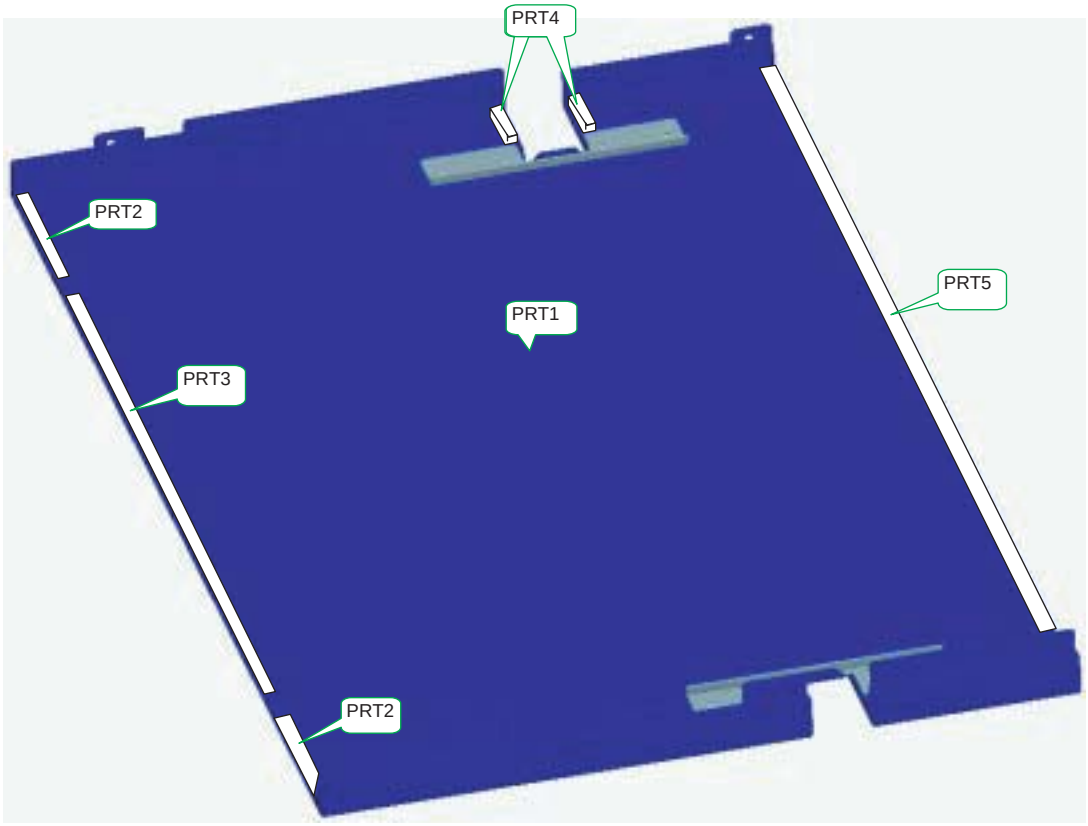
Top Panel F Sassy

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		TOP COVER F ASSY	24PS5251	1	
PRT2		GASKET(STG0.5-8)	24C07561	2	80mm
PRT3		GASKET(STG0.5-8)	24C07561	1	480mm
PRT4		GASKET(STG7-10)	24C08591	2	30mm
PRT5		GASKET(STG0.5-8)	24C07561	1	680mm

Caution : External parts shall be handled carefully so that they are not damaged.

Caution : EMI (Electromagnetic Interference: Radio interference noise)

① Cut the Gasket (STG0.5-8) into the respective lengths of 80mm and 480mm, and stick them to the Top Cover F Assy.
② Cut the Gasket (STG7-10) into a length of 30mm and stick it to the Top Cover F Assy.



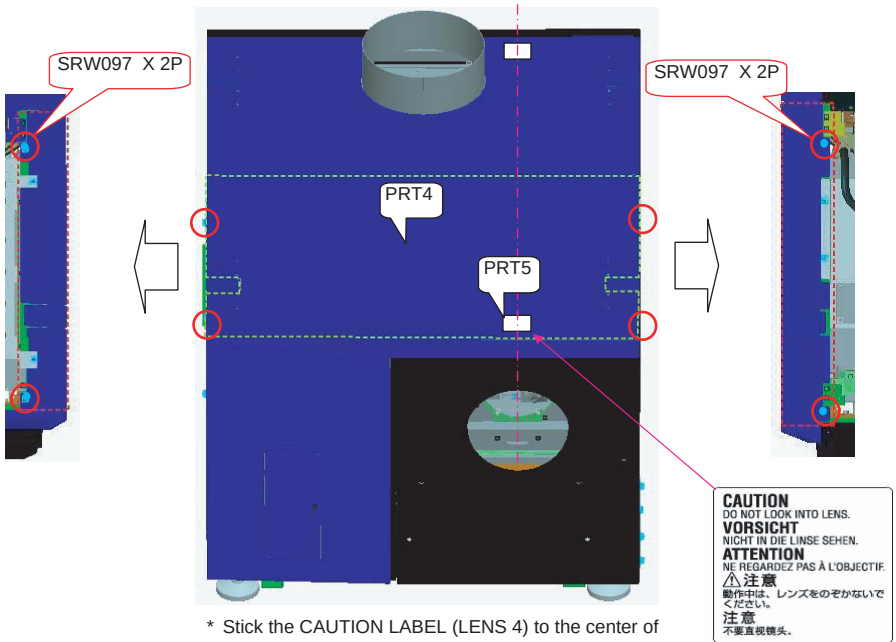
MT Front CDE & Top F

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		Front Panel C Sassy	82N94231	1	
				2	Lockup shall be carried out.
PRT2		Front Panel D Sassy	82N94241	1	
				2	Lockup shall be carried out.
PRT3		Front Panel E Sassy	82N94251	1	
				2	Torque check
PRT4		Top Panel F Sassy	82N94301	1	
	SRW097	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
PRT5		CAUTION LABEL(LENS 4)	24L62581		

Caution : External parts shall be handled carefully so that they are not damaged.

① Install the Front Panel C Sassy.
After the installation, fix it with accessory screws.

② Install the Side Panel RF Sassy and the Side Panel LF Sassy.



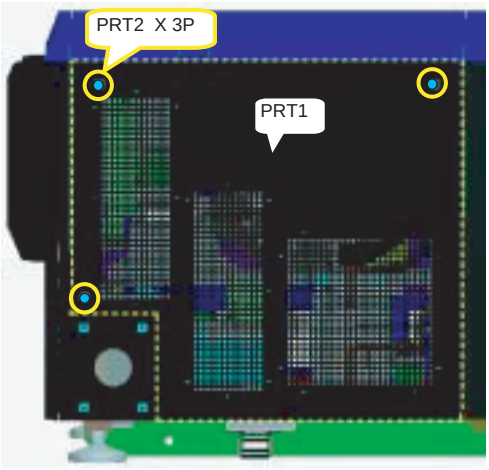
* Stick the CAUTION LABEL (LENS 4) to the center of the lens, in the position 10mm from the edge of the Top Panel F Sassy.
In the direction where characters can be read correctly from the lens side

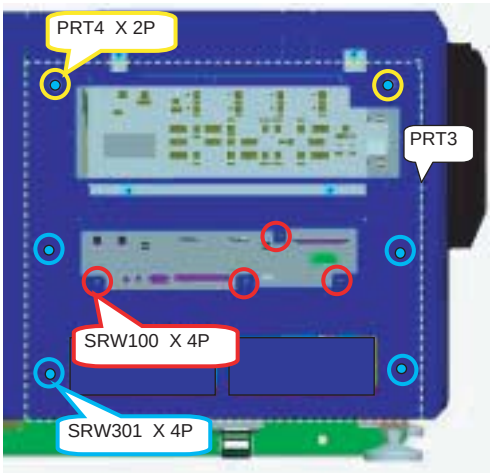
MT Rear RF & LF

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		Side Panel RF Sassy	82N94281	1	
PRT2		SPECIAL SCREW(M4*18)	24N08431	3	Torque check
				1	
PRT3		Side Panel LF Sassy	82N94261	1	
PRT4		SPECIAL SCREW(M4*18)	24N08431	2	Torque check
	SRW100	SCREW,PL-CPIMS*3*8*3GF	24V00111	4	
	SRW301	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
PRT5		CAUTION LABEL(LAMP MAINTE)	24L63951	1	
PRT6			92203051		L=40mm

Caution : External parts shall be handled carefully so that they are not damaged.

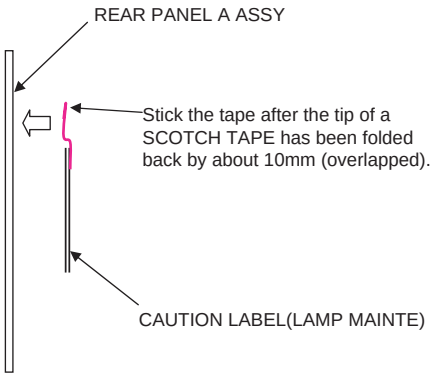
① Install the Side Panel RF Sassy and the Side Panel LF Sassy.





② Before installing the Side Panel LF Sassy, peel off the protection sheet from the ornamental plate (KEY).

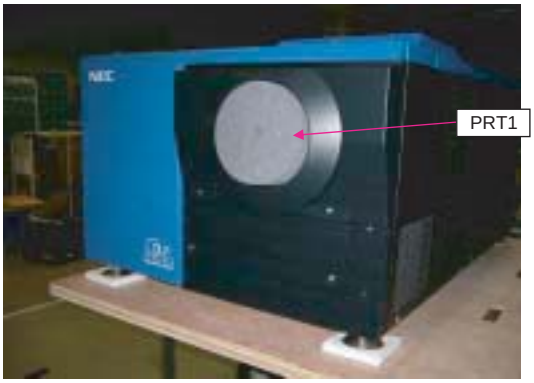
③ Stick the CAUTION LABEL (LAMP MAINTE) to the center part of the Rear Panel A Assy by means of a SCOTC TAPE or the like.
The TAPE shall not overlap the characters.
The tip of the tape shall be folded back by approximately 10mm.



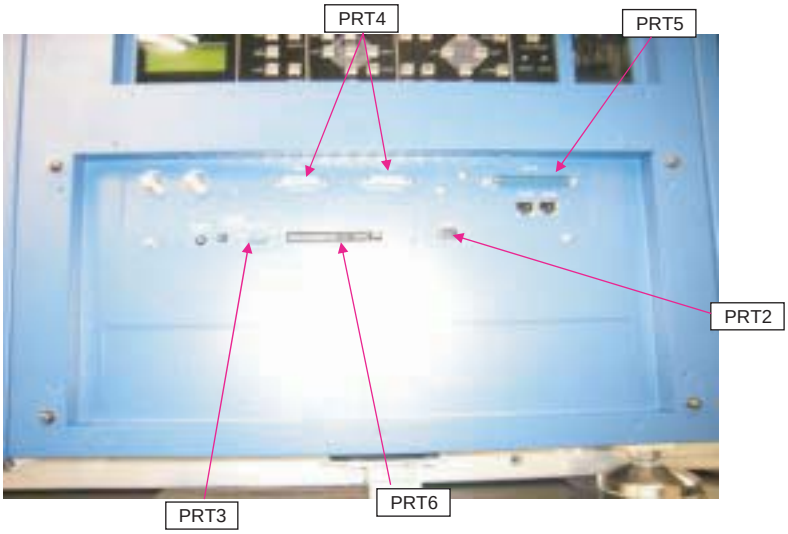
DUST CAP

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		CAP	24J25081	1	
PRT2		DUST CAP(USB)	24C08991	1	
PRT3		DUST CAP(D-SUB 9)	24C09011	1	
PRT4		DUST CAP(D-SUB 15)	24C09021	2	
PRT5		DUST CAP(D-SUB 37)	24C09031	1	
PRT6		PC-DUMMY-CARD WT	24FT8872	1	
PRT2			24L63951	1	

① Mount a CAP on the SET main body.



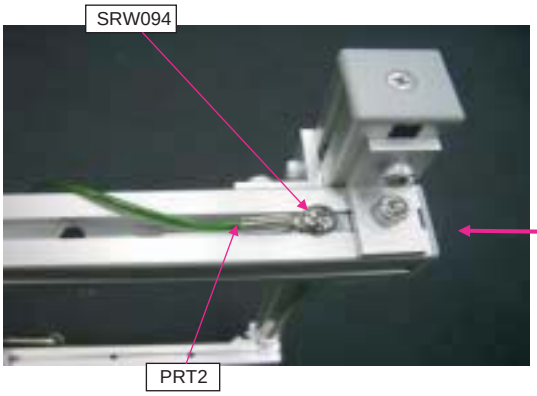
② Attach the DUST cap to the terminal block of the SET main body.

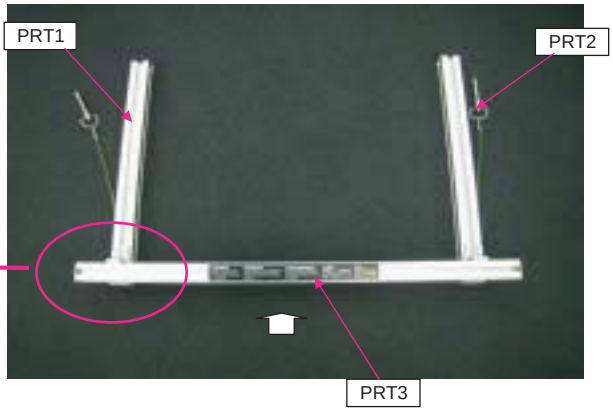


HANDLE

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		HANDLE	24BS7841	2	
PRT2		BALL LOCK PIN(BJ775-08040	24C08871	4	
	SRW094	PL-CPIMS*4*10*3KF	24V00461	4	Torque check
PRT3		CAUTION LABEL(HANDLE)	24L63911	2	

① Attach the CAUTION LABEL (HANDLE) and the ball lock pin to the HANDLE.





② The BALL LOCK PIN shall be mounted so that it stands upright along the HANDLE.
(To be mounted on both sides)

③ The CAUTION LABEL shall be stuck so that it is positioned in the center of the HANDLE.
Direction for adhesion shall be such that the label is legible from the direction of the arrow.

④ Install the HANDLE on the set main body.
(When the handle has been inserted fully, insert the BALL LOCK PIN from the side so that the handle cannot be drawn out.)

⑤ Insert the BALL LOCK PIN so that the HANDLE cannot be drawn out.

PACKING

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
PRT1		STOPPER	24282431	2	
PRT2		TAPE,SCOTCH NO.214	92203051	0.01	
PRT3		BAND,P.PROPYLEN 15.5MM	92203857	0.01	
PRT4		LABEL(HDPE)	24L63251	4	
PRT5		LABEL(CARTON)T	24L63921	1	
		LABEL(CARTON)L	24L63932	1	
		LABEL(CARTON)R	24L63942	1	
		SHEET,PROTECTION(L=3500)	24M21161	2	
		CARTON BOX ASSY	24MV1781	1	
		A	82N94951	1	

For more details, refer to the packing specification [01544041-H].

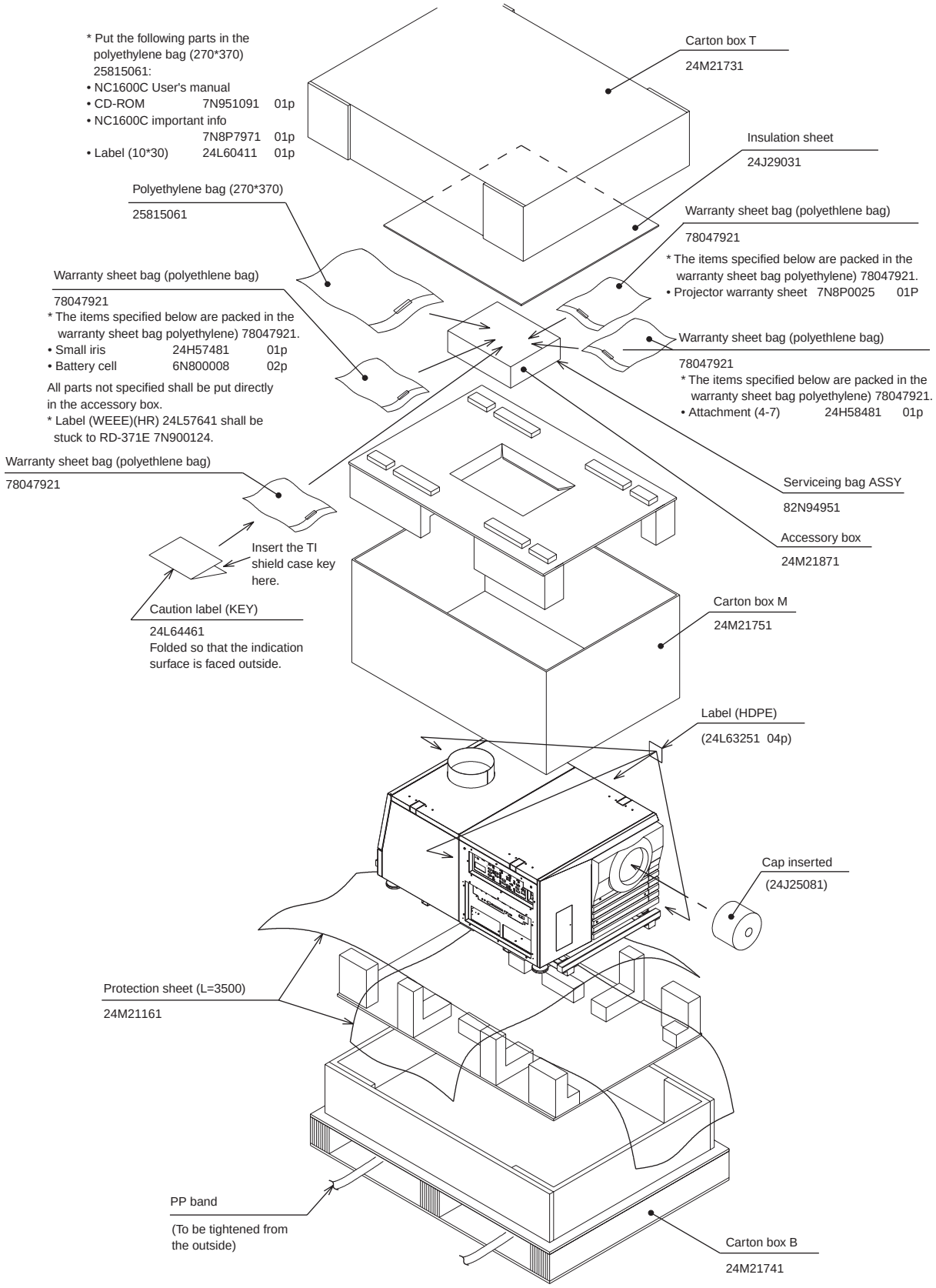
SERVICE

Diagram symbol	Circuit symbol	Part name	Part code	Q'ty	Remarks
		BAG,POLYTHLENE (270X370	25815061	1	
		ALKALINE BATTERY LR6(JE)	68151006	2	
PRT1		WARRANTY ENVELOPE(100*220	78047921	4	
PRT2		CELLO TAPE 24W*35M	92203030	0.01	
PRT3		TAPE,SCOTCH NO.214	92203051	0	
PRT4		BAND(TY-29M)	24C08551	4	
PRT5		ATTACHMENT(4-7)	24H58481	1	
		SMALL IRIS(NC1600C)	24H61201	1	
		INSULATION SHEET(700*700)	24J29031	1	
		LABEL(WEEE)(HR)	24L57641	1	
		LABEL(10*30)	24L60411	2	
		CAUTION LABEL(KEY)	24L64461	1	
		PARTS BOX	24M21871	1	
		BATTERY ALKALINE(GP15A)AA	6N800008	2	
		CABLE REMOTE CONTROL 16M	7N520057	1	
		PROJECTOR WARRANTY(SHEET)	7N8P7491	1	
		NC1600C IMPORTANT INFO	7N8P7972	1	
		REM-T HAND UNIT RD-371E	7N900124	1	
		NC1600C MANUAL CD-ROM	7N951092	1	

For more details, refer to the section of packaging method.

1. NC1600C

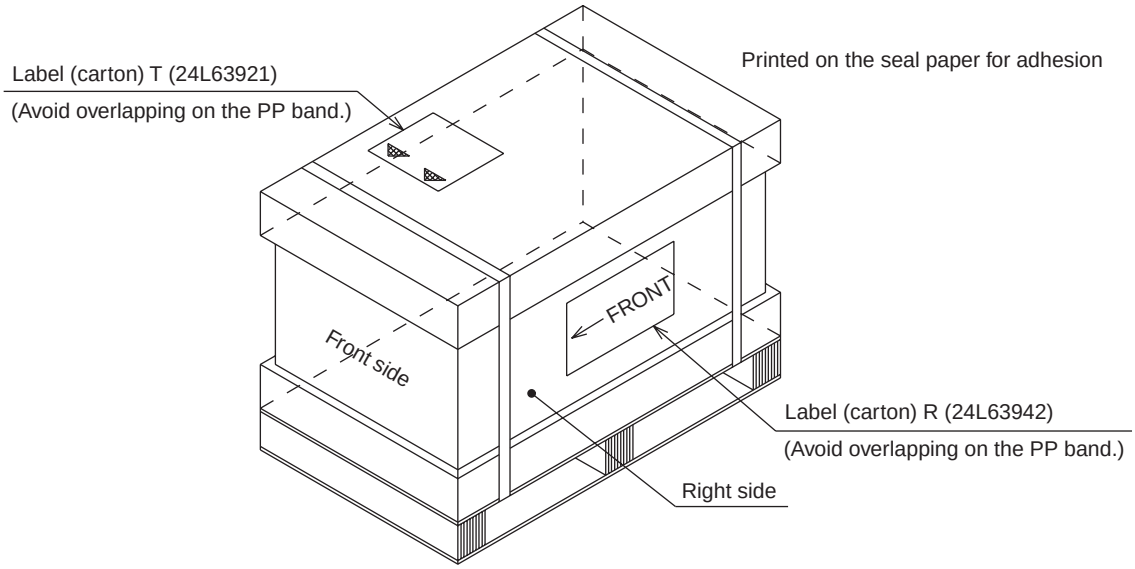
Packing Details 1.

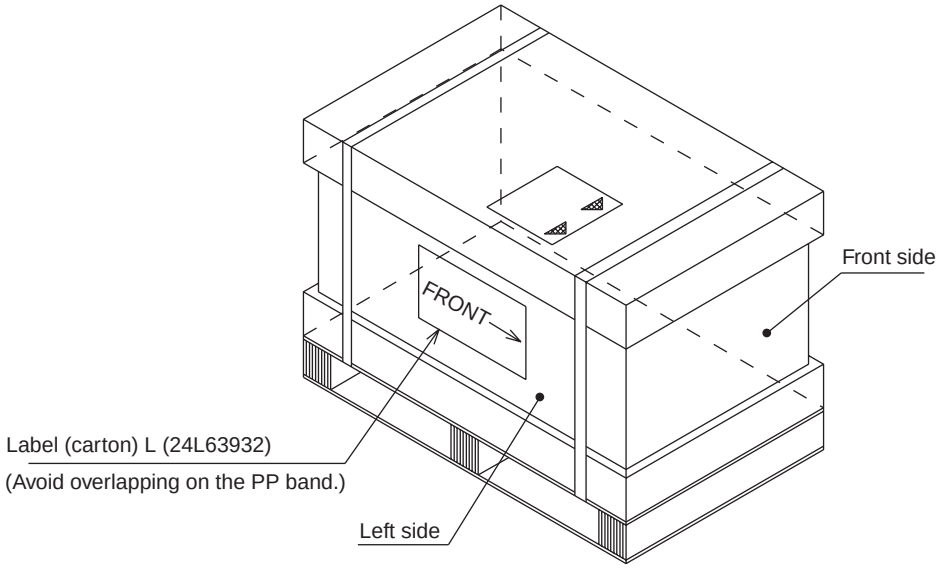


Lasty, wind the PP band and tighten it with the stopper (PP band) (24282431).

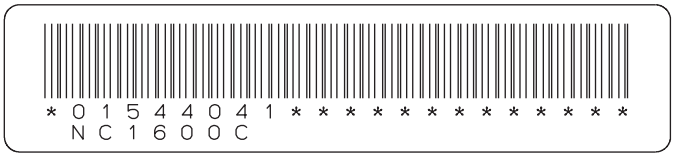
Packing Details 2.

- Label sticking position (* The front surface is defined as the lens side of the set.)





The required items shall be printed on the barcode serial label (16761791), which shall then be stuck to both sides of the corrugated cardboard box. It shall be stuck to Label (carton).
(Stuck inside the [ ]) (The contents of printing shall conform to the instructions given by the Production Enginering Division.)



SPARE PARTS PRICE LIST WITH NEW PARTS MARKING.
Model Name:NC1600C
(Product Code:01154041)

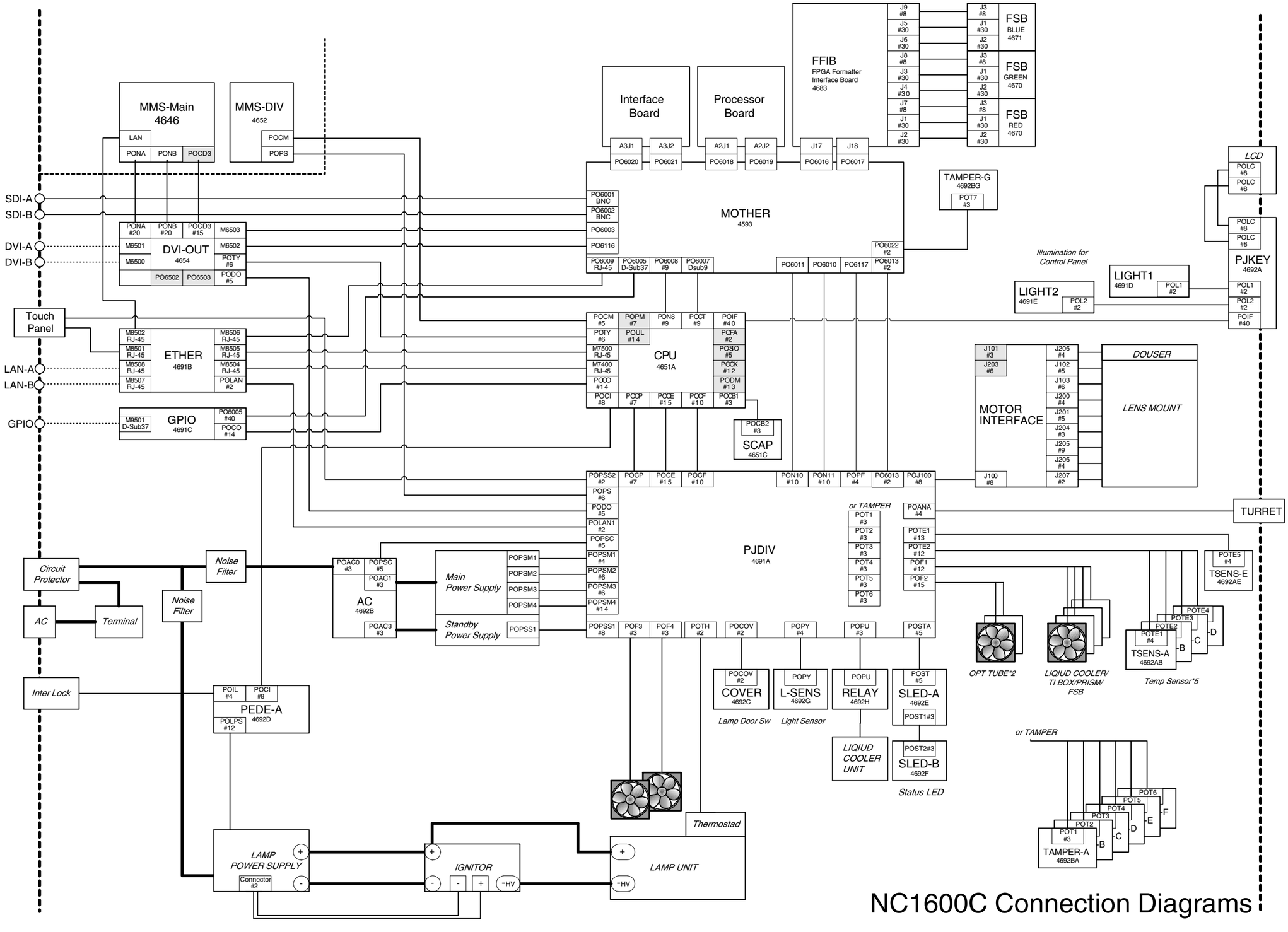
"N"mark means new part to previous.

ITEM	N	PART NO.	DESCRIPTION	REMARK
1		12JS0271	COLD MIRROR	
2	N	12JT1791	UV GLASS(PA67)	
3	N	12JT2301	REFLECTOR(PA67)	
4	N	24BS7771	OPT ENGINE(PA67)	
5	N	24BS7781	WATER COOLED UNIT(PA67)	
6	N	24BS7791	LENS MOUNT(PA67)	
7	N	24BS7841	HANDLE	
8		24C02841	CABLE CLIP(FCA-10)	
9		24C05331	GASKET(STG1-7)	
10		24C05351	GASKET(STG10-10)	
11		24C06051	GASKET(STG2-10)	
12		24C06081	GASKET(STG15-10)	
13	N	24C07471	OMEGA LOCK(OLS-80)	
14		24C07561	GASKET(STG0.5-8)	
15		24C07621	PLUNGER(PH-48)	
16		24C08271	SPRING(ST-7(TG))	
17		24C08381	STRAP(1K-57)	
18		24C08391	WASHER(TM-137-2)	
19		24C08421	GUARD(FAN)(80)	
20		24C08441	GASKET(STG3-5)	
21		24C08591	GASKET(STG7-10)	
22		24C08871	BALL LOCK PIN(BJ775-0804)	
23		24C08881	FOOT(RP-70M14)	
24		24C08991	DUST CAP(USB)	
25		24C09011	DUST CAP(D-SUB 9)	
26		24C09021	DUST CAP(D-SUB 15)	
27		24C09031	DUST CAP(D-SUB 37)	
28	N	24C09131	KEY(TL-96L)	
29	N	24C09141	CUSHION	
30	N	24C09311	GASKET(STG1-5)	
31	N	24D14151	FRONT PANEL C	
32	N	24D14161	FRONT PANEL D	
33	N	24D14171	FRONT PANEL E	
34		24FT8872	PC-DUMMY-CARD WT	
35		24H56652	SHIELD PLATE(FRONT)	
36	N	24H61071	CAM(LOCK)TI	
37		24HS3981	BRACKET(FA)ASSY	
38		24HS3991	BRACKET(FB)ASSY	
39		24HS4011	BRACKET(FD)ASSY	
40		24HS4041	BRACKET(FF)ASSY	
41	N	24HS4401	BRACKET(FB)B ASSY	
42	N	24HS4411	BRACKET(FE)B ASSY	
43		24J25081	CAP	
44		24J28381	FILTER A	
45		24J28391	FILTER B	
46		24J29571	GASKET(USB)	
47		24J30881	CUSHION(30*18*T5)	

48	N	24K26381	DIFFUSER	
49		24L49921	LABEL(HEAT)	
50		24L62591	CAUTION LABEL(LAMP)	
51	N	24L63652	INSTRUCTION NAME PLATE	
52		24N08071	SCR(TL-243-2)	
53	N	24N08431	SPECIAL SCREW(M4*18)	
54		24P04471	FRONT PANEL F	
55	N	24P05481	COVER(REAR PANEL)	
56	N	24P05491	FILTER CASE(REAR)	
57	N	24PS5241	FRONT PANEL A ASSY	
58	N	24PS5251	TOP COVER F ASSY	
59	N	24PS5261	TOP COVER R ASSY	
60	N	24PS5271	SIDE PANEL LF ASSY	
61	N	24PS5281	SIDE PANEL LR ASSY	
62	N	24PS5291	SIDE PANEL RF ASSY	
63	N	24PS5301	SIDE PANEL RR ASSY	
64	N	24PS5311	REAR PANEL A ASSY	
65	N	24PS5321	REAR PANEL B ASSY	
66	N	24PS5331	DUCT(TOP)ASSY	
67	N	24PS5341	SIDE PANEL RF(CABLE)ASSY	
68		24V00111	SCREW,PL-CPIMS*3*8*3GF	
69		24V00661	PIWA*4*3GF	
70		3N100921	POWER SUPPLY(LEB100F-0524	
71	N	3N101231	POWER SUPPLY(AC6-2HECB-0	
72	N	3N101241	POWER SUPPLY	
73	N	3N101251	IGNITER SS-140GMNE	
74		3N170096	DCFAN 2406KL	
75		3N170098	DCFAN 4715KL	
76		3N170100	DCFAN 9BAM24GD2-2	
77	N	3N170122	DCFAN BL6771	
78	N	3N170123	DCFAN 9G0824G1D03	
79		7N520057	CABLE REMOTE CONTROL 16M	
80		7N8P7491	PROJECTOR WARRANTY(SHEET)	
81	N	7N8P7972	NC1600C IMPORTANT INFO	
82		7N900124	REM-T HAND UNIT RD-371E	
83		7N950851	INTERFACE 2506940-0002	
84		7N950861	PROCESSOR 2506937-0002	
85	N	7N951092	NC1600C MANUAL CD-ROM	
86		81L07V01	DVI-OUT_PWB PWB ASSY	
87		81L23CA3	CPU PWB ASSY	
88		81L23CC3	SCAP PWB ASSY	
89		81L23L01	LCD_MODULE ASSY	
90	N	82N94121	PRISM ASSY	
91	N	81N94B01	FSBB_PWB PWB ASSY	
92	N	81N94F01	FFIB_PWB PWB ASSY	
93	N	81N94M01	MOTHER_PWB PWB ASSY	
94	N	81N94R01	FSBR_PWB PWB ASSY	
95	N	81N94YA1	PJDIV PWB ASSY	
96	N	81N94YB1	ETHER PWB ASSY	
97	N	81N94YC1	GPIO PWB ASSY	
98	N	81N94YD1	LIGHT1 PWB ASSY	
99	N	81N94YE1	LIGHT2 PWB ASSY	
100	N	81N94ZA1	PJKEY PWB ASSY	
101	N	81N94ZAA	TSENS-A PWB ASSY	
102	N	81N94ZAB	TSENS-B PWB ASSY	
103	N	81N94ZAC	TSENS-C PWB ASSY	same board
104	N	81N94ZAD	TSENS-D PWB ASSY	
105	N	81N94ZAE	TSENS-E PWB ASSY	
106	N	81N94ZB1	AC PWB ASSY	

	107	N	81N94ZBATAMPER-A PWB ASSY	same board
	108	N	81N94ZBBTAMPER-B PWB ASSY	
	109	N	81N94ZBCTAMPER-C PWB ASSY	
	110	N	81N94ZBDTAMPER-D PWB ASSY	
	111	N	81N94ZBETAMPER-E PWB ASSY	same board
	112	N	81N94ZBFTAMPER-F PWB ASSY	
	113	N	81N94ZBGTAMPER-G PWB ASSY	
	114	N	81N94ZBHTAMPER-H PWB ASSY	
	115	N	81N94ZC1 COVER PWB ASSY	
	116	N	81N94ZD1 PEDE-A PWB ASSY	
	117	N	81N94ZE1 SLED-A PWB ASSY	
	118	N	81N94ZF1 SLED-B PWB ASSY	
	119	N	81N94ZG1 L-SENS PWB ASSY	

CONNECTION DIAGRAM



Connector pin array

CPU PWB (PWC-4651) 1/2

POIF Connect to PLKEY PWB

1	GND
2	
3	I2C CLK
4	I2C Data
5	5V Standby
6	
7	3.3V Standby
8	
9	GND
10	
11	KEY matrix (KEYIN1)
12	KEY matrix (KEYIN0)
13	KEY matrix (KEYIN3)
14	KEY matrix (KEYIN2)
15	KEY matrix (KEYOUT0)
16	NC
17	KEY matrix (KEYOUT2)
18	KEY matrix (KEYOUT1)
19	KEY matrix (KEYOUT4)
20	KEY matrix (KEYOUT3)
21	Status LED (Red) CTL (L : Light)
22	Status LED (Green) CTL (L : Light)
23	Power LED (Red) CTL (L : Light)
24	Power LED (Green) CTL (L : Light)
25	GND
26	
27	5V Standby
28	
29	LCD CTL (B6)
30	LCD CTL (B7)
31	LCD CTL (B4)
32	LCD CTL (B5)
33	LCD CTL (E)
34	Detect Backlight SW (L: ON H: OFF)
35	LCD CTL (RS)
36	LCD CTL (RXW)
37	GND
38	
39	Reset (3.3V constant)
40	IR (3.3V pulse)

POCF Connect to PJDIV PWB

1	I2C CLK
2	I2C Data
3	GND
4	3wire CLK
5	3wire Data
6	3wire CS1
7	3wire CS2
8	3wire CS3
9	GND
10	GND

POCE Connect to PJDIV PWB

1	Lamp stop (L : OK H : NG)
2	Power BIT in (L: Main PS ON H: Main PS OFF)
3	GND
4	NC
5	FD1 for Pump (Pulse: OK Non pulse: NG)
6	NC
7	FD2 for Pump (Pulse: OK Non pulse : NG)
8	Pump CTL (L: Pump ON H: Pump OFF)
9	FD3 for Pump (Pulse: OK Non pulse: NG)
10	GND
11	Rear status LED (Red) CTL (L: ON H: OFF)
12	Rear status LED (Green) CTL (L: ON H: OFF)
13	Power good status (L: OK H: Fail)
14	Power good CTL (L: OK H: Fail)
15	Interlock status (L: Interlock OK H: Interlock NG)

POCP Connect to PJDIV PWB

1	5V Standby
2	
3	GND
4	NC
5	GND
6	5V Main
7	GND

CPU PWB (PWC-4651) 2/2

PON8 Connect to MOTHER PWB

1	TI I/F (Reset) (L : Reset H : Normal)
2	NC
3	TI I/F (CT1) (RS-232C for Inside)
4	TI I/F (RT1) (RS-232C for Inside)
5	TI I/F (TX1) (RS-232C for Inside)
6	TI I/F (RX1) (RS-232C for Inside)
7	NC
8	NC
9	GND

POCT Connect to MOTHER PWB via D-SUB9P (RS232C)

1	NC
2	TI I/F (RX) (RS-232C)
3	TI I/F (TX) (RS-232C)
4	NC
5	GND
6	NC
7	TI I/F (RT) (RS-232C)
8	TI I/F (CT) (RS-232C)
9	NC

POCI Connect to PEDE-A PWB

1	5V Standby
2	GND
3	RS-232C (PSTX_PJRX)
4	RS-232C (PSRX_PJTX)
5	INTERLOCK (L : Interlock OK H : Interlock NG)
6	STATUS (Not used) (3.3V constant)
7	LAMP BIT (L : Lamp ON H : Lamp OFF)
8	GND

POC0 Connect to GPIO PWB

1	EXT_GPIN_1_P (Open collector) output
2	EXT_GPIN_2_P (Open collector) output
3	EXT_GPIN_3_P (Open collector) output
4	EXT_GPIN_4_P (Open collector) output
5	EXT_GPIN_5_P (Open collector) output
6	EXT_GPIN_6_P (Open collector) output
7	EXT_GPIN_7_P (Open collector) output
8	EXT_GPIN_8_P (Open collector) output
9	GND
10	
11	
12	5V Standby
13	
14	

POTY Connect to DVI-OUT PWB

1	I-CTL Input select (L : MM2000B H : DVI)
2	I2C (CLK)
3	I2cC (Data)
4	I2C_CTLA for I2C switch
5	I2C CTLB for I2C switch
6	GND

PODM Connect to MOTOR PWB

1	5V Main
2	GND
3	Move- (L : Motor active H : Motor stop)
4	STATUS of MOTOR PWB (L : NG H : OK)
5	GND
6	Serial CLK (I2C and 3wire common use)
7	I2C Data
8	3wire Data
9	ADCE for A/D
10	GND
11	Douser CTL (L : ON H : OFF)
12	Douser Status (L : NG H : OK)
13	A/D channel select (L : Focus/Zoom H : Shift)

DVI-OUT PWB (PWC-4654)

PONA Connect to MM2000B (Option)

1	Video signal LVDS (RA–)
2	Video signal LVDS (RA+)
3	GND
4	Video signal LVDS (RB–)
5	Video signal LVDS (RB+)
6	GND
7	Video signal LVDS (RC–)
8	Video signal LVDS (RC+)
9	GND
10	Clock LVDS (RCK–)
11	Clock LVDS (RCK+)
12	GND
13	Video signal LVDS (RD–)
14	Video signal LVDS (RD+)
15	GND
16	Video signal LVDS (RE–)
17	Video signal LVDS (RE+)
18	GND
19	NC
20	NC

PONB Connect to MM2000B (Option)

1	Video signal LVDS (RA–)
2	Video signal LVDS (RA+)
3	GND
4	Video signal LVDS (RB–)
5	Video signal LVDS (RB+)
6	GND
7	Video signal LVDS (RC–)
8	Video signal LVDS (RC+)
9	GND
10	Clock LVDS (RCK–)
11	Clock LVDS (RCK+)
12	GND
13	Video signal LVDS (RD–)
14	Video signal LVDS (RD+)
15	GND
16	Video signal LVDS (RE–)
17	Video signal LVDS (RE+)
18	GND
19	NC
20	NC

POPD Connect to PJDIV PWB

1	5V Main DVI-OUT PWB
2	GND
3	3.3V (Regulated)
4	GND
5	Power BIT (L: Power ON H: Power OFF)

POTY Connect to CPU PWB

1	I-CTL Input select (L : MM2000B H : DVI)
2	I2C (CLK)
3	I2c (Data)
4	I2C_CTLA for I2C switch
5	I2C CTLB for I2C switch
6	GND

PJDIV PWB (PWC-4691A) 1/4

POPSS1 Connect to Standby PS

1	GND
2	
3	24V Standby
4	
5	GND
6	
7	5V Standby
8	

POPSS2 Connect to Tach panel (Option)

1	24V Standby
2	GND

POPSM1 Connect to Main PS

1	3.3V Main
2	
3	GND
4	

POPSM2 Connect to Main PS

1	5V main
2	GND
3	
4	5V Main
5	
6	GND

POPS Connect to MM2000B (Option)

1	5V main
2	GND
3	
4	5V Main
5	
6	GND

POPSM3 Connect to MOTHER PWB

1	12V main
2	GND
3	24V Main
4	GND
5	

POPSM4 Connect to Main PS

1	GND
2	FAN Stop in Main PS (L : Normal H : Fan Stop)
3	3.3V module fail of Main PS (L : Normal H : Fail)
4	GND
5	Feedback line of 3.3V voltage
6	5V module fail of Main PS (L : Normal H : Fail)
7	GND
8	Feedback line 5V voltage
9	12V module fail of Main PS (L : Normal H Fail)
10	GND
11	Feedback line of 12V voltage
12	24V module fail of Main PS (L : Normal H : Fail)
13	GND
14	Feedback line of 24V voltage

POCP Connect to CPU PWB

1	5V Standby
2	
3	GND
4	NC
5	GND
6	5V Main
7	GND

PODO Connect to DVI-OUT PWB

1	5V Main
2	GND
3	3.3V (Regulated)
4	GND
5	Power BIT (L : Power ON H : Power off)

POLAN Connect to EHTER PWB

1	5V Standby
2	GND

PON10 Connect to MOTHER PWB

1	Power good (L : Power OK H : Power NG)
2	GND
3	12V Main for TI board
4	GND
5	5V Main for TI board
6	GND
7	3.3V Main for TI board
8	GND
9	3.3V Main for TI board
10	GND

PON11 Connect to MOTHER PWB

1	Power good (L : Power OK H : Power NG)
2	GND
3	12V Main for TI board
4	GND
5	5V Main for TI board
6	GND
7	3.3V Main for TI board
8	GND
9	3.3V Main for TI board
10	GND

POPF Connect to MOTHER PWB

1	Feedback line of 3.3v voltage
2	GND
3	Feedback line of 5.5V voltage
4	GND

PJDIV PWB (PWC-4691A) 2/4

POF1 Connect to FANs

1	24V Main for FAN0
2	GND for FAN0
3	FAN stop for FAN0 (L : OK H : NG)
4	24V Main for FAN1
5	GND for FAN1
6	FAN stop for FAN1 (L : OK H : NG)
7	24V Main stop for FAN2
8	GND for FAN2
9	FAN stop for FAN2 (L : OK H : NG)
10	24V Main for FAN3
11	GND for FAN3
12	FAN stop for FAN3 (L : OK H : NG)

POF2 Connect to FANs

1	24V Main for FAN4
2	GND for FAN4
3	FAN stop for FAN4 (L : OK H : NG)
4	24V Main for FAN5
5	GND for FAN5
6	Fan stop for FAN5 (L : OK H : NG)
7	24V Main for FAN6
8	GND for FAN6
9	FAN stop for FAN6 (L : OK H : NG)
10	24V Main for FAN7
11	GND for FAN7
12	FAN stop for FAN7 (L : OK H : NG)
13	24V Main for FAN8
14	GND for FAN8
15	FAN stop for FAN8 (L : OK H : NG)

POPU Connect to Pump via RELAY PWB

1	12V (Regulated) for Pump
2	GND for Pump
3	FD for Pump (Pulse : OK Non pulse : NG)

POCF Connect to CPU PWB

1	I2C CLK
2	I2C Data
3	GND
4	3wire CLK
5	3wire Data
6	3wire CS1
7	3wire CS2
8	3wire CS3
9	GND
10	Detect for lose connection (L : OK H : NG)

POCE Connect to CPU PWB

1	Lamp stop (L : OK H : NG)
2	Power BIT in (L : Main PS ON H : Main PS OFF)
3	GND
4	NC
5	FD1 for Pump (Pulse : OK Non pulse : NG)
6	NC
7	FD2 for Pump (Pulse : OK No pulse : NG)
8	Pump CTL (L : Pump ON H : Pump OFF)
9	FD3 for Pump (Pulse : OK Non pulse : NG)
10	GND
11	Rear status LED (Red) CTL (L : ON H : OFF)
12	Rear status LED (Green) CTL (L : ON H : OFF)
13	Power good status (L : OK H : Fail)
14	Power good CTL (L : OK H : Fail)
15	Interlock status (L : Interlock OK H : Interlock NG)

PJDIV PWB (PWC-4691A) 3/4

POANA Connect to Motor for anamorphic lens turret

1	Motor+ (24V : With anamo 0V : Without anamo)
2	
3	Motor- (0V : With anamo 24V : Without anamo)
4	

POAFS Connect to A-SENS-A PWB and A-SENS-B PWB

1	AC-FAN1 Detect (L : OK H : FAN stop)
2	GND
3	
4	AC-FAN2 Detect (L : OK H : FAN stop
5	GND
6	

POCOV Connect to COVER PWB

1	Lamp door Detect (L : OK H : Door open)
2	GND

POTH Connect to THERMO SW

1	Lamp Temp Detect (L : OK H : Over Temp)
2	GND

POSTA Connect to SLED-A PWB

1	GND
2	
3	Rear Status LED (Red) cathode (L : Light)
4	Rear Status LED (Green) cathode (L : Light)
5	GND

POPSC Connect to AC PWB

1	Main PS CTL (L : Main PS ON H : Main PS OFF)
2	
3	
4	5V Standby for AC Relay
5	Main PS CTL (L : Main PS ON H : Main PS OFF)

POTE1 Connect to T-SENS PWBs

1	5V Standby
2	I2C Clock
3	I2C Data
4	GND
5	5V Standby
6	I2C Clock
7	I2C Data
8	GND
9	5V Standby
10	I2C Clock
11	I2C Data
12	GND
13	NC

POTE2 Connect to T-SENS PWBs

1	5V Standby
2	I2C Clock
3	I2C Data
4	GND
5	5V Standby
6	I2C Clock
7	I2C Data
8	GND
9	5V Standby
10	I2C Clock
11	I2C Data
12	GND

POPY Connect to SENS PWB

1	12V Main for SENS PWB
2	GND for SENS PWB
3	Brightness (0V (Dark) to 9V (Light))
4	GND for SENS PWB

PJDIV PWB (PWC-4691A) 4/4

POT1 Connect to TAMPER PWB

1	Tamper OK : Short to GND Tamper NG : Open
2	GND
3	Tamper OK : Open Tamper NG : Short to GND

POT2 Connect to TAMPER PWB

1	Tamper OK : Short to GND Tamper NG : Open
2	GND
3	Tamper OK : Open Tamper NG : Short to GND

POT3 Connect to TAMPER PWB

1	Tamper OK : Short to GND Tamper NG : Open
2	GND
3	Tamper OK : Open Tamper NG : Short to GND

PO6013 Connect to MOTHER PWB

1	Tamper OK : Open Tamper NG : Short to GND
2	GND

POT4 Connect to TAMPER PWB

1	Tamper OK : Short to GND Tamper NG : Open
2	GND
3	Tamper OK : Open Tamper NG : Short to GND

POT5 Connect to TAMPER PWB

1	Tamper OK : Short to GND Tamper NG : Open
2	GND
3	Tamper OK : Open Tamper NG : Short to GND

POT6 Connect to TAMPER PWB

1	Tamper OK : Short to GND Tamper NG : Open
2	GND
3	Tamper OK : Open Tamper NG : Short to GND

ETHER PWB (PWC-4691B)

POLAN	Connect to PJDIV PWB
1	5V Standby for ETHER PWB
2	GND for ETHER PWB

GPIO PWB (PWC-4691C)

PO6005 Connect to MOTHER PWB

1	EXT_GPIN_1_P (Photocoupler anode)
2	EXT_GPIN_2_P (Photocoupler anode)
3	EXT_GPIN_3_P (Photocoupler anode)
4	EXT_GPIN_4_P (Photocoupler anode)
5	EXT_GPIN_5_P (Photocoupler anode)
6	EXT_GPIN_6_P (Photocoupler anode)
7	EXT_GPIN_7_P (Photocoupler anode)
8	EXT_GPIN_8_P (Photocoupler anode)
9	EXT_GPOUT_1_P (Photocoupler collector)
10	EXT_GPOUT_2_P (Photocoupler collector)
11	EXT_GPOUT_3_P (Photocoupler collector)
12	EXT_GPOUT_4_P (Photocoupler collector)
13	EXT_GPOUT_5_P (Photocoupler collector)
14	EXT_GPOUT_6_P (Photocoupler collector)
15	EXT_GPOUT_7_P (Photocoupler collector)
16	EXT_PROJ_GOOD_P (Photocoupler anode)
17	Reserved
18	Reserved
19	Reserved
20	EXT_GPIN_1_N (Photocoupler cathode)
21	EXT_GPIN_2_N (Photocoupler cathode)
22	EXT_GPIN_3_N (Photocoupler cathode)
23	EXT_GPIN_4_N (Photocoupler cathode)
24	EXT_GPIN_5_N (Photocoupler cathode)
25	EXT_GPIN_6_N (Photocoupler cathode)
26	EXT_GPIN_7_N (Photocoupler cathode)
27	EXT_GPIN_8_N (Photocoupler cathode)
28	EXT_GPOUT_1_N (Photocoupler cathode)
29	EXT_GPOUT_2_N (Photocoupler cathode)
30	EXT_GPOUT_3_N (Photocoupler cathode)
31	EXT_GPOUT_4_N (Photocoupler cathode)
32	EXT_GPOUT_5_N (Photocoupler cathode)
33	EXT_GPOUT_6_N (Photocoupler cathode)
34	EXT_GPOUT_7_N (Photocoupler cathode)
35	EXT_PROJ_GOOD_N (Photocoupler cathode)
36	Reserved
37	Reserved
38	NC
39	NC
40	NC

POC0 Connect to CPU PWB

1	EXT_GOIN_1_P (Open collector) output for CPU PWB
2	EXT_GOIN_2_P (Open collector) output for CPU PWB
3	EXT_GOIN_3_P (Open collector) output for CPU PWB
4	EXT_GOIN_4_P (Open collector) output for CPU PWB
5	EXT_GOIN_5_P (Open collector) output for CPU PWB
6	EXT_GOIN_6_P (Open collector) output for CPU PWB
7	EXT_GOIN_7_P (Open collector) output for CPU PWB
8	EXT_GOIN_8_P (Open collector) output for CPU PWB
9	GND for GPOI PWB
10	
11	
12	5V Standby for GPIO PWB
13	
14	

LIGHT1 PWB (PWC-4691D)

POL1 Connect to PJKEY PWB

1	POWER for LED (L : OFF H : ON)
2	GND for LED

LIGHT2 PWB (PWC-4691E)

POL2 Connect to PJKEY PWB

1	POWER for LED (L : OFF H : ON)
2	GND for LED

PJKEY PWB (PWC-4692A)

POCL Connect to LCD module

1	GND for LCD module
2	5V Standby for LCD module
3	LCD VLC (GND)
4	LCD CTL (RS)
5	LCD CTL (RXW)
6	LCD CTL (E)
7	NC
8	NC
9	NC
10	NC
11	LCD CTL (B4)
12	LCD CTL (B5)
13	LCD CTL (B6)
14	LCD CTL (B7)
15	LCD CTL (Backlight LED) (L : OFF H : ON)
16	GND for LCD (Backlight LED) module

POL1 Connect to LIGHT1 PWB

1	POWER for LED (L : OFF H : ON)
2	GND for LED

POL2 Connect to LIGHT2 PWB

1	POWER for LED (L : OFF H : ON)
2	GND for LED

POIF Connect to CPU PWB

1	GND for PJKEY PWB
2	
3	I2C CLK
4	I2C Data
5	5V Standby for PJKEY PWB
6	
7	3.3V Standby for PJKEY PWB
8	
9	GND for PJKEY PWB
10	
11	KEY matrix (KEYIN1)
12	KEY matrix (KEYIN0)
13	KEY matrix (KEYIN3)
14	KEY matrix (KEYIN2)
15	KEY matrix (KEYOUT0)
16	NC
17	KEY matrix (KEYOUT2)
18	KEY matrix (KEYOUT1)
19	KEY matrix (KEYOUT4)
20	KEY matrix (KEYOUT3)
21	Status LED (Red) CTL (L : Light)
22	Status LED (Green) CTL (L : Light)
23	Power LED (Red) CTL (L : Light)
24	Power LED (Green) CTL (L : Light)
25	GND for PJKEY PWB
26	
27	5V Standby for PJKEY PWB
28	
29	LCD CTL (B6)
30	LCD CTL (B7)
31	LCD CTL (B4)
32	LCD CTL (B5)
33	LCD CTL (E)
34	Detect Backlight SW (L : ON H : OFF)
35	LCD CTL (RS)
36	LCD CTL (RXW)
37	GND for PJKEY PWB
38	
39	Reset (3.3V constant)
40	IR (3.3V pulse)

AC PWB (PWC-4692B)

POAC0 Connect to AC Noise filter

1	L1 (AC Primary) (AC200-240V)
2	GND (Primary)
3	L2 (AC Primary) (AC200-240V)

POAC1 Connect to Standby PS

1	L1 (AC Primary) (AC200-240V)
2	GND (Primary)
3	L2 (AC Peimary) (AC200-240V)

POAC3 Connect to Main PS

1	L1 (AC Primary) (AC200-240V) Switched by Relay
2	L2 (AC Primary) (AC200-240V)

POAC4 Connect to Main PS

1	GND (Primary)
2	

POPSC Connect to PJDIV PWB

1	NC
2	Main PS CTL (L : Main PS ON H : Main PS OFF)
3	
4	5V Standby for AC Relay
5	Main PS CTL (L : Main PS ON H : Main PS OFF

COVER PWB (PWC-4692C)

POCO Connect to PJDIV PWB

1	Lamp door Detect (L : OK H : Door open)
2	GND

PEDE-A PWB (PWC-4692D)

POCI Connect to CPU PWB

1	5V Standby for PEDE-A PWB
2	GND for PEDE-A PWB
3	RS-232C (PSTX_PJRX)
4	RS-232C (PSRX_PJTX)
5	INTERLOCK (L : Interlock ON H : Interlock NG)
6	STATUS (Not used) (3.3V constant)
7	LAMP BIT (L : Lamp ON H : Lamp OFF)
8	GND for PEDE-A PWB

POLPS Connect to Lamp PS

1	5V Standby
2	INTERLOCK (L : Interlock OK H : Interlock NG)
3	5V Standby
4	GND
5	5V Standby
6	LAMP BIT (L : Lamp ON H : Lamp OFF)
7	5V Standby
8	GND
9	RS232C (PSTX_PJRX)
10	GND
11	RS-232C (PSRX_PJTX)
12	GND

POIL Connect to terminal block for INTERLOCK

1	5V Standby
2	INTERLOCK+ (Photocoupler anode)
3	INTERLOCK- (Photocoupler cathode)
4	GND

SLED-A PWB (PWC-4692E)

POST Connect to PJDIV PWB

1	5V Standby for Rear Status LED (Red and Green)
2	
3	Rear Status LED (Red) cathode (L : Light)
4	Rear Status LED (Green) cathode (L : Light)
5	GND

POST1 Connect to SLED-B PWB

1	5V Standby for Rear Status LED (Red and Green)
2	
3	Rear Status LED (Red) cathode (L : Light)
4	Rear Status LED (Green) cathode (L : Light)

SLED-B PWB (PWC-4692F)

POST2 Connect to SLED-B PWB

1	5V Standby for Rear Status LED (Red and Green)
2	
3	Rear Status LED (Red) cathode (L : Light)
4	Rear Status LED (Green) cathode (L : Light)

L-SENS PWB (PWC-4692G)

POPY	Connect to PJKEY PWB
1	12V Main for SENS PWB
2	GND for SENS PWB
3	Brightness (0V (Dark) to 9V (Light))
4	GND for SENS PWB)

RELAY PWB (PWC-4692H)

POPU Connect to PJDIV PWB

1	12V (Regulated) for Pump
2	GND for Pump
3	FD for Pump (Pulse : OK Non pulse : NG)

POPU1 Connect to Pump

1	GND for Pump
2	12V (Regulated) for Pump
3	FD for Pump (Pulse : OK Non pulse : NG)

TSENS-**PWB (PWC-4692**) (** - from AA to AH)

POTE* Connect to PJDIV PWB (* = 1 to 8)

1	5V Standby
2	I2C Clock
3	I2C Data
4	GND

TAMPER-** PWB (PWC-4692**) (** = from BA to BH)

POT* Connect to PJDIV PWB (* = 1 to 8)

1	Tamper OK : Short to GND Tamper NG : Open
2	GND
3	Tamper OK : Open Tamper NG : Short to NG

MOTHER PWB (PWC-4593M3)

PON10 Connect to MOTHER PWB

1	Power good (L : Power OK H : Power NG)
2	GND
3	12V Main for TI board
4	GND
5	5V Main for TI board
6	GND
7	3.3V Main for TI board
8	GND
9	3.3V Main for TI board
10	GND

PON11 Connect to MOTHER PWB

1	Power good (L : Power OK H : Power NG)
2	GND
3	12V Main for TI board
4	GND
5	5V Main for TI board
6	GND
7	3.3V Main for TI board
8	GND
9	3.3V Main for TI board
10	GND

PO6008 Connect to CPU PWB

1	OEM_PH_RESETZ (L : Rest H : Normal)
2	OEM_RS232_DTR
3	OEM_RS232_CTS
4	OEM_RS232_TD
5	OEM_RS232_RTS
6	OEM_RS232_RD
7	OEM_RS232_DSR
8	NC
9	OEM_RS232_GND

PO6117 Connect to PJDIV PWB

1	Feedback line of 3.3V voltage
2	GND
3	Feedback line of 5V voltage
4	GND
5	NC

PO6022 Connect to Tamper SW

1	OEM_KEY_ER_N
2	OEM_KEY_ER_P

PO6013 Connect to PJDIV PWB

1	OEM_KEY_ER_N
2	OEM_KEY_ER_P

EFIB PWB (PWC-4683) 1/3

POJ7 Connect to FSB-R PWB

1	VCC2.5V
2	GND
3	VCC12V
4	GND
5	VCC3.3V
6	GND
7	VCC2.5V
8	GND

POJ1 Connect to FSB-R PWB

1	SAT_DATA_P0
2	SAT_DATA_P1
3	SAT_DATA_N0
4	SAT_DATA_N1
5	GND
6	SAT_DATA_P2
7	SAT_DATA_P3
8	SAT_DATA_N2
9	SAT_DATA_N3
10	GND
11	SAT_TXDATA_P
12	SAT_DIN
13	SAT_TXDATA_N
14	SAT_CCLK
15	SAT_CLK_P
16	GND
17	SAT_CLK_N
18	SPARE_LVDS0
19	SAT_PWRGOOD
20	SPARE_LVDS1
21	SAT_DONE
22	SAT_DATA_P4
23	SAT_DATA_P5
24	SAT_DATA_N4
25	SAT_DATA_N5
26	GND
27	SAT_DATA_P6
28	SAT_DATA_P7
29	SAT_DATA_N6
30	SAT_DATA_N7

POJ2 Connect to FSB-R PWB

1	SAT_DATA_P8
2	SAT_DATA_P9
3	SAT_DATA_N8
4	SAT_DATA_N9
5	GND
6	SAT_DATA_P10
7	SAT_DATA_P11
8	SAT_DATA_N10
9	SAT_DATA_N11
10	GND
11	SAT_RXDATA_P
12	SAT_RESETZ
13	SAT_RXDATA_N
14	SAT_PROG_B
15	SAT_RXCLK_P
16	GND
17	SAT_RXCLK_N
18	SPARE_LVTTL0
19	SAT_INIT_B
20	SPARE_LVTTL1
21	GND
22	SAT_DATA_P12
23	SAT_DATA_P13
24	SAT_DATA_N12
25	SAT_DATA_N13
26	GND
27	SAT_DATA_P14
28	SAT_DATA_P15
29	SAT_DATA_N14
30	SAT_DATA_N15

36	OPIX [6]
37	OPIX [7]
38	GND
39	OPIX [8]
40	OPIX [9]
41	GND
42	OPIX [10]
43	OPIX [11]
44	GND
45	OPIX [12]
46	OPIX [13]
47	GND
48	OPIX [14]
49	OPIX [15]
50	GND

36	EPIX [6]
37	EPIX [7]
38	GND
39	EPIX [8]
40	EPIX [9]
41	GND
42	EPIX [10]
43	EPIX [11]
44	GND
45	EPIX [12]
46	EPIX [13]
47	GND
48	EPIX [14]
49	EPIX [15]
50	GND

EFIB PWB (PWC-4683) 2/3

POJ8 Connect to FSB-G PWB

1	VCC2.5V
2	GND
3	VCC12V
4	GND
5	VCC3.3V
6	GND
7	VCC2.5V
8	GND

POJ3 Connect to FSB-G PWB

1	SAT_DATA_P0
2	SAT_DATA_P1
3	SAT_DATA_N0
4	SAT_DATA_N1
5	GND
6	SAT_DATA_P2
7	SAT_DATA_P3
8	SAT_DATA_N2
9	SAT_DATA_N3
10	GND
11	SAT_TXDATA_P
12	SAT_DIN
13	SAT_TXDATA_N
14	SAT_CCLK
15	SAT_CLK_P
16	GND
17	SAT_CLK_N
18	SPARE_LVDS0
19	SAT_PWRGOOD
20	SPARE_LVDS1
21	SAT_DONE
22	SAT_DATA_P4
23	SAT_DATA_P5
24	SAT_DATA_N4
25	SAT_DATA_N5
26	GND
27	SAT_DATA_P6
28	SAT_DATA_P7
29	SAT_DATA_N6
30	SAT_DATA_N7

POJ4 Connect to FSB-G PWB

1	SAT_DATA_P8
2	SAT_DATA_P9
3	SAT_DATA_N8
4	SAT_DATA_N9
5	GND
6	SAT_DATA_P10
7	SAT_DATA_P11
8	SAT_DATA_N10
9	SAT_DATA_N11
10	GND
11	SAT_RXDATA_P
12	SAT_RESETZ
13	SAT_RXDATA_N
14	SAT_PROG_B
15	SAT_RXCLK_P
16	GND
17	SAT_RXCLK_N
18	SPARE_LVTTL0
19	SAT_INIT_B
20	SPARE_LVTTL1
21	GND
22	SAT_DATA_P12
23	SAT_DATA_P13
24	SAT_DATA_N12
25	SAT_DATA_N13
26	GND
27	SAT_DATA_P14
28	SAT_DATA_P15
29	SAT_DATA_N14
30	SAT_DATA_N15

36	OPIX [6]
37	OPIX [7]
38	GND
39	OPIX [8]
40	OPIX [9]
41	GND
42	OPIX [10]
43	OPIX [11]
44	GND
45	OPIX [12]
46	OPIX [13]
47	GND
48	OPIX [14]
49	OPIX [15]
50	GND

36	EPIX [6]
37	EPIX [7]
38	GND
39	EPIX [8]
40	EPIX [9]
41	GND
42	EPIX [10]
43	EPIX [11]
44	GND
45	EPIX [12]
46	EPIX [13]
47	GND
48	EPIX [14]
49	EPIX [15]
50	GND

EFIB PWB (PWC-4683) 3/3

POJ9 Connect to FSB-B PWB

1	VCC2.5V
2	GND
3	VCC12V
4	GND
5	VCC3.3V
6	GND
7	VCC2.5V
8	GND

POJ5 Connect to FSB-R PWB

1	SAT_DATA_P0
2	SAT_DATA_P1
3	SAT_DATA_N0
4	SAT_DATA_N1
5	GND
6	SAT_DATA_P2
7	SAT_DATA_P3
8	SAT_DATA_N2
9	SAT_DATA_N3
10	GND
11	SAT_TXDATA_P
12	SAT_DIN
13	SAT_TXDATA_N
14	SAT_CCLK
15	SAT_CLK_P
16	GND
17	SAT_CLK_N
18	SPARE_LVDS0
19	SAT_PWRGOOD
20	SPARE_LVDS1
21	SAT_DONE
22	SAT_DATA_P4
23	SAT_DATA_P5
24	SAT_DATA_N4
25	SAT_DATA_N5
26	GND
27	SAT_DATA_P6
28	SAT_DATA_P7
29	SAT_DATA_N6
30	SAT_DATA_N7

POJ6 Connect to FSB-R PWB

1	SAT_DATA_P8
2	SAT_DATA_P9
3	SAT_DATA_N8
4	SAT_DATA_N9
5	GND
6	SAT_DATA_P10
7	SAT_DATA_P11
8	SAT_DATA_N10
9	SAT_DATA_N11
10	GND
11	SAT_RXDATA_P
12	SAT_RESETZ
13	SAT_RXDATA_N
14	SAT_PROG_B
15	SAT_RXCLK_P
16	GND
17	SAT_RXCLK_N
18	SPARE_LVTTL0
19	SAT_INIT_B
20	SPARE_LVTTL1
21	GND
22	SAT_DATA_P12
23	SAT_DATA_P13
24	SAT_DATA_N12
25	SAT_DATA_N13
26	GND
27	SAT_DATA_P14
28	SAT_DATA_P15
29	SAT_DATA_N14
30	SAT_DATA_N15

36	OPIX [6]
37	OPIX [7]
38	GND
39	OPIX [8]
40	OPIX [9]
41	GND
42	OPIX [10]
43	OPIX [11]
44	GND
45	OPIX [12]
46	OPIX [13]
47	GND
48	OPIX [14]
49	OPIX [15]
50	GND

36	EPIX [6]
37	EPIX [7]
38	GND
39	EPIX [8]
40	EPIX [9]
41	GND
42	EPIX [10]
43	EPIX [11]
44	GND
45	EPIX [12]
46	EPIX [13]
47	GND
48	EPIX [14]
49	EPIX [15]
50	GND

FSD R/G PWB (PWC-4670)

POJ3 Connect to FFIB PWB

1	VCC2.5V
2	GND
3	VCC12V
4	GND
5	VCC3.3V
6	GND
7	VCC2.5V
8	GND

POJ1 Connect to FFIB PWB

1	SAT_DATA_P0
2	SAT_DATA_P1
3	SAT_DATA_N0
4	SAT_DATA_N1
5	GND
6	SAT_DATA_P2
7	SAT_DATA_P3
8	SAT_DATA_N2
9	SAT_DATA_N3
10	GND
11	SAT_TXDATA_P
12	SAT_DIN
13	SAT_TXDATA_N
14	SAT_CCLK
15	SAT_CLK_P
16	GND
17	SAT_CLK_N
18	SPARE_LVDS0
19	SAT_PWRGOOD
20	SPARE_LVDS1
21	SAT_DONE
22	SAT_DATA_P4
23	SAT_DATA_P5
24	SAT_DATA_N4
25	SAT_DATA_N5
26	GND
27	SAT_DATA_P6
28	SAT_DATA_P7
29	SAT_DATA_N6
30	SAT_DATA_N7

POJ2 Connect to FFIB PWB

1	SAT_DATA_P8
2	SAT_DATA_P9
3	SAT_DATA_N8
4	SAT_DATA_N9
5	GND
6	SAT_DATA_P10
7	SAT_DATA_P11
8	SAT_DATA_N10
9	SAT_DATA_N11
10	GND
11	SAT_RXDATA_P
12	SAT_RESETZ
13	SAT_RXDATA_N
14	SAT_PROG_B
15	SAT_RXCLK_P
16	GND
17	SAT_RXCLK_N
18	SPARE_LVTTL0
19	SAT_INIT_B
20	SPARE_LVTTL1
21	GND
22	SAT_DATA_P12
23	SAT_DATA_P13
24	SAT_DATA_N12
25	SAT_DATA_N13
26	GND
27	SAT_DATA_P14
28	SAT_DATA_P15
29	SAT_DATA_N14
30	SAT_DATA_N15

FSD B PWB (PWC-4671)

POJ3 Connect to FFIB PWB

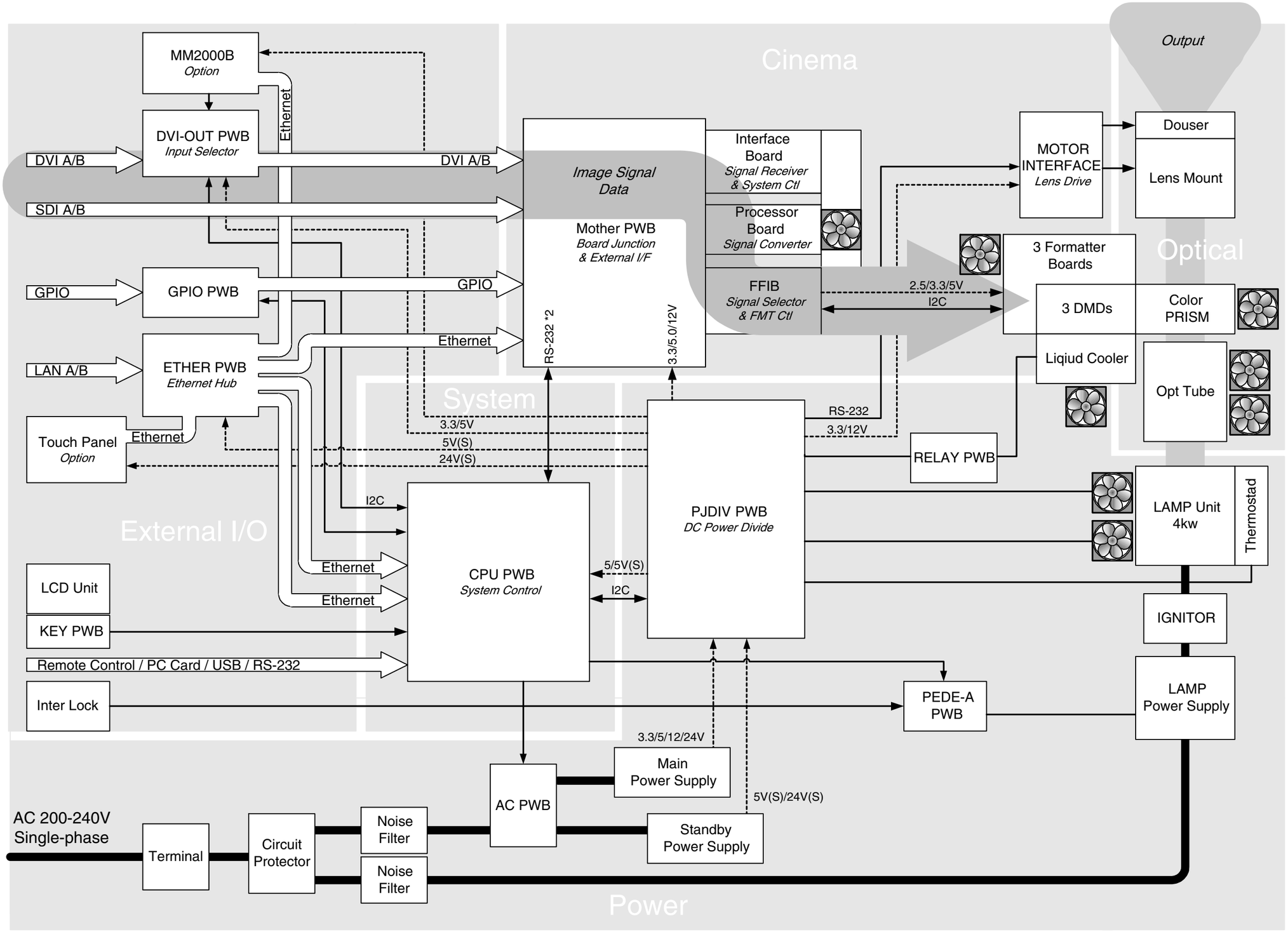
1	VCC2.5V
2	GND
3	VCC12V
4	GND
5	VCC3.3V
6	GND
7	VCC2.5V
8	GND

POJ1 Connect to FFIB PWB

1	SAT_DATA_P0
2	SAT_DATA_P1
3	SAT_DATA_N0
4	SAT_DATA_N1
5	GND
6	SAT_DATA_P2
7	SAT_DATA_P3
8	SAT_DATA_N2
9	SAT_DATA_N3
10	GND
11	SAT_TXDATA_P
12	SAT_DIN
13	SAT_TXDATA_N
14	SAT_CCLK
15	SAT_CLK_P
16	GND
17	SAT_CLK_N
18	SPARE_LVDS0
19	SAT_PWRGOOD
20	SPARE_LVDS1
21	SAT_DONE
22	SAT_DATA_P4
23	SAT_DATA_P5
24	SAT_DATA_N4
25	SAT_DATA_N5
26	GND
27	SAT_DATA_P6
28	SAT_DATA_P7
29	SAT_DATA_N6
30	SAT_DATA_N7

POJ2 Connect to FFIB PWB

1	SAT_DATA_P8
2	SAT_DATA_P9
3	SAT_DATA_N8
4	SAT_DATA_N9
5	GND
6	SAT_DATA_P10
7	SAT_DATA_P11
8	SAT_DATA_N10
9	SAT_DATA_N11
10	GND
11	SAT_RXDATA_P
12	SAT_RESETZ
13	SAT_RXDATA_N
14	SAT_PROG_B
15	SAT_RXCLK_P
16	GND
17	SAT_RXCLK_N
18	SPARE_LVTTL0
19	SAT_INIT_B
20	SPARE_LVTTL1
21	GND
22	SAT_DATA_P12
23	SAT_DATA_P13
24	SAT_DATA_N12
25	SAT_DATA_N13
26	GND
27	SAT_DATA_P14
28	SAT_DATA_P15
29	SAT_DATA_N14
30	SAT_DATA_N15



NC1600C Block Diagrams

NC1600C Optional Lamp Bulb, Replacement Procedure and Cautions

Replacement of the LAMP bulb shall be carried out, without fail, by an authorized person.
Unauthorized persons are prohibited to carry out this work.

Be sure to follow the procedure below for replacement of NC1600S optional lamp bulb. Failure to observe these instructions may result in trouble including injuries, burns, and blindness. Therefore, adhere to the procedures without fail.
We shall have no liability for any damage of any kind caused by nonconformity with this instruction manual and the cautions.
Refer to the replacement procedure and cautions regarding each lamp bulb for replacing other lamp bulbs.

– Replacement Procedures –

Be sure to read the sections 1 and 2 below carefully before replacement of optional lamp bulbs.

■ Preparations and precautions

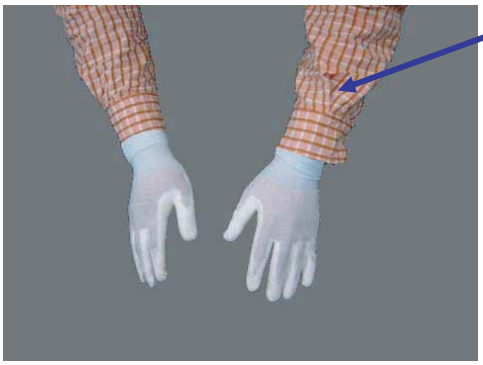
1. Preparations

(1) Protection

Constantly pressurized lamp bulb poses the risk of a burst. The risk increases regarding the lamp bulb lasting for more than the average life due to glass degradation. When the rear panel of the main unit is opened and the lamp bulb is connected or disconnected, be sure to wear a protection mask, protection gloves, and long-sleeved heavy clothes.
The protection mask and protection gloves are available as a service part with the product numbers shown below. Long-sleeved heavy clothes shall be prepared at user's side.

POLYCABONATE FACE GUARD : (92339589)

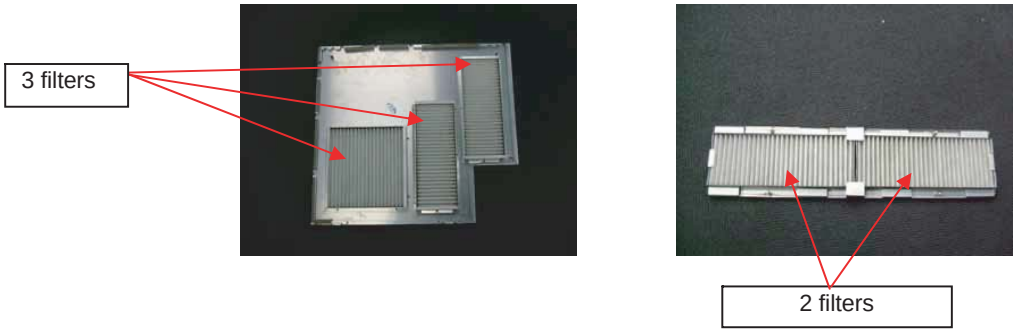
PROTECTION GLOVE (KEVLER GLOVE) : (92339590)



(2) Filter preparation

Filter replacement is also performed at the same time as lamp bulb replacement.
The filter is available as an optional part with the product number shown below.

NC-16AF01 (01165150)



(3) Special tools

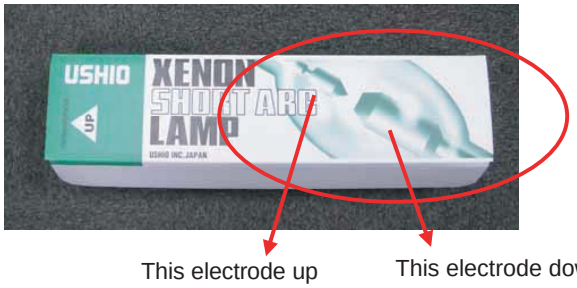
The following special tools are required for lamp bulb replacement.
Each special tool is available as a service part with the product number shown below.

Socket wrench (17 mm):
Ball driver (3 mm):
Ball driver (5 mm):
Phillips screwdriver

2. Cautions

(1) Transport and storage of lamp bulb

Put a lamp bulb in the specialized plastic protection case and then put it into the corrugated cardboard packaging box for transport and storage of lamp bulbs in a working space. Point the bigger electrode side downward as shown in the illustration on the packaging box. Be sure to keep the surface marked with "UP" up when the box is transported and stored.



(2) Lamp bulb replacement

Warning 1:

Never turn on the lamp before closing the rear panel completely. Do not see the light of the lamp directly while the lamp is turned on for optical axis adjustment.

Warning 2:

To avoid electric shock, be sure to turn off the lamp and the power of the system before lamp bulb replacement.

Warning 3:
The lamp house in operation is considerably hazardous. Handle the lamp house after letting it cool to room temperature for burn prevention.
As a lamp bulb cooling guideline, wait for more than 60 minutes after fan stops by turning off the lamp, then handle the lamp house after ensuring that the lamp bulb and lamp house cool down sufficiently.
This electrode up This electrode down

Warning 4:
Constantly pressurized lamp bulb poses the risk of a burst. Lamp bulb dropping, even 10 cm in height, may result in a burst. In addition, the impact between the bulb and the metal part of the lamp cover or other hard parts may result in a burst.
When system maintenance is performed, be sure to wear a protection mask, protection gloves, and long-sleeved heavy clothes, and handle the lamp bulb after letting it cool to room temperature to avoid injuries and damages to the system.

Caution 1:
Never touch the glass parts of the lamp bulb. Failure to observe this may degrade the performance and life of the lamp bulb. In case of touching with hand or becoming dirty, wipe the part with clean MIRACLE CLOTH containing dehydrated alcohol. MIRACLE CLOTH is available as a service part with the product number shown below.
MIRACLE CLOTH: (92339585)

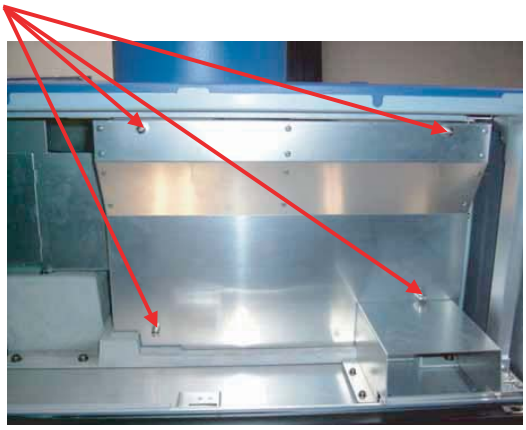
Caution 2:
The use of a lamp bulb other than specified one or an unauthorized modified lamp bulb may result in serious malfunctions or defects in safety and quality. Be sure to use the specified lamp bulb and follow this instruction manual and the cautions.

■ Replacement procedures

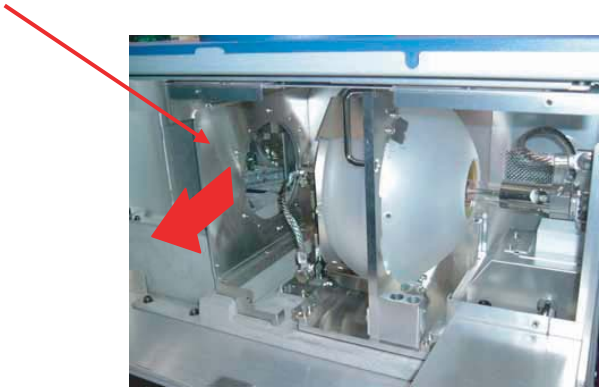
1. View the operating times of the lamp bulb and reflector on the display screen of the main unit and note down them (refer to the installation manual for how to call up operating time).

2. Open the rear panel of the main unit. Use the attached key.

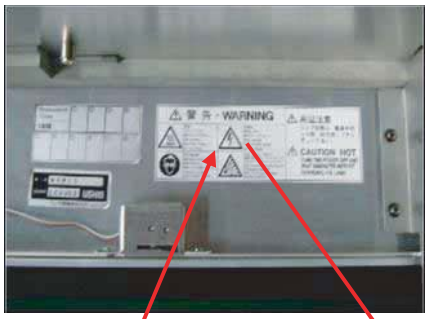
3. Loosen four screws of the lamp cover and remove the cover.



4. Pull out the cover glass toward you and take it out.



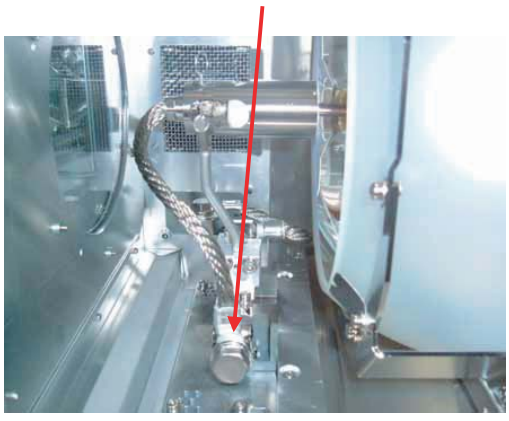
5. Fill in the operating time of the lamp bulb that you noted down on the "Lamp replacement time" label stuck to the front side of the lamp cover. If the total operating time on the label is more than 8,000 hours, this means the recommended replacing time for the reflector. In this case, replace the lamp bulb together with the reflector. However, if users manage the lamps independently in a movie theater or the like, for example, replace the reflector when the total operating time of the lamp bulb specified on the "Lamp operating time" management table or the "Lamp replacement time" label has exceeded 8,000 hours, whichever is earlier. We do not guarantee against any degradation in luminance and other performance if lamp house replacement is not performed after the lamp house has been used for more than 8000 hours.



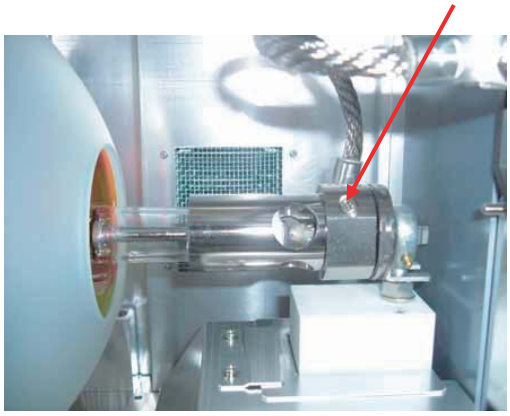
Replacement Times 交換回数	1	2	3	4
	650	920	870	

5	6	7	8	9	10

6. Remove the screw securing the core wire from the lamp bulb at the outlet side with a 17 mm socket wrench to remove the core wire from the lamp house.



7. Loosen the hexagon socket head cap screws (4mm) at the lamp bulb connecting part with the ball driver (3 mm).



8. Remove the lamp bulb from the lamp bulb connecting part with holding the both metal parts of the bulb.

Remove the bulb from the reflector.
Exercise care to avoid hitting the bulb against the reflector, lamp cover, or other hard parts.

Never touch the glass parts of the lamp bulb and the reflector mirror surface. In case of touching them, wipe the parts as per Caution 1.

9. Put the removed lamp bulb in the specialized case (this case was used to contain the lamp bulb at the time of purchase) and lock the case.
   Then, put the case in the specialized packaging box.
   Follow the Caution 1 for packaging, transporting, and storing.

Specialized case

Specialized packaging box

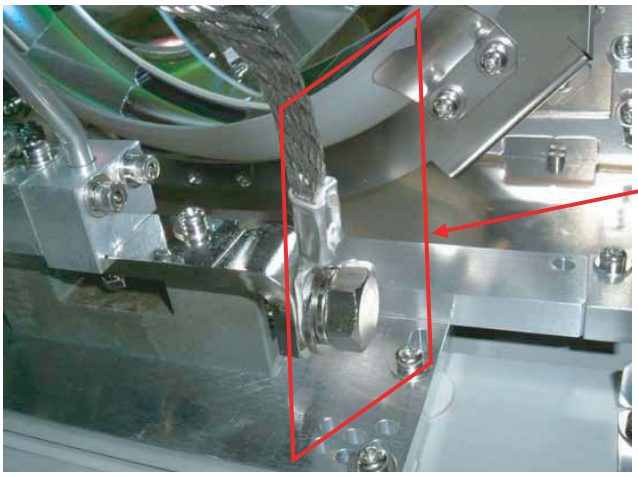
10. Perform the procedure of new lamp bulb connection that is the reverse of the removal.
    Step order: 8 → 7 → 6 → 5 → 3 → 2 → 1

    (Caution in Step 8)

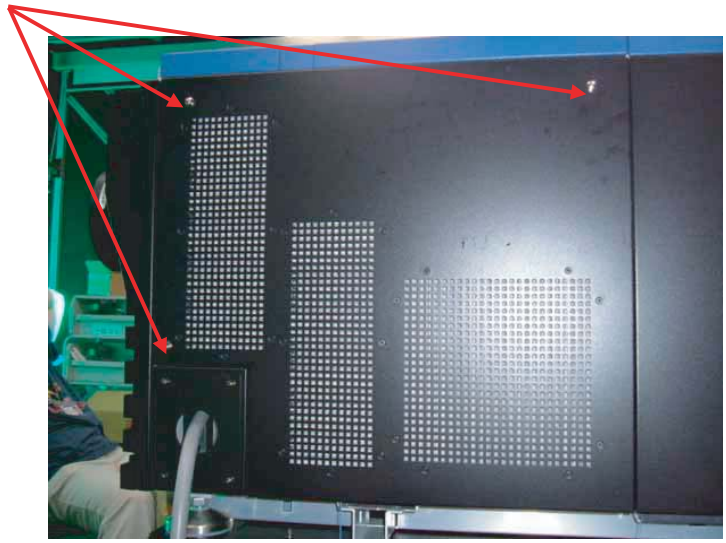
    Exercise care to avoid hitting the bulb against the reflector, lamp cover, or other hard parts.
    Never touch the glass parts of the lamp bulb and the reflector mirror surface.

    (Caution in Steps 6)

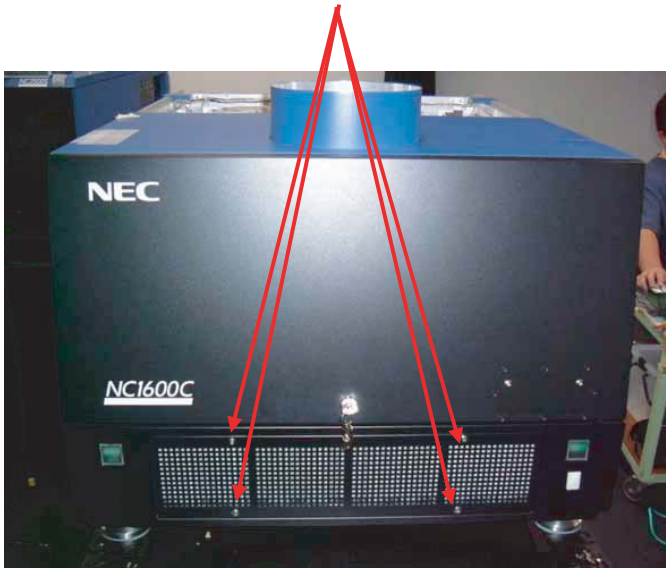
    Run the core wires carefully according to the notes below.
    (1) There is no contact between the core wire and lamp house.
    (2) The surface of the core wire shall seat below the head of the screw.



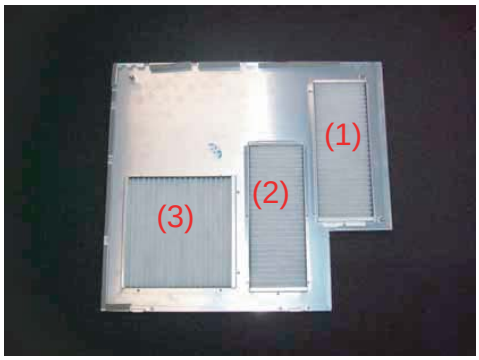
11. Replace the filter.
    (1) Loosen three screws that are attached to the side panel and remove this side panel.

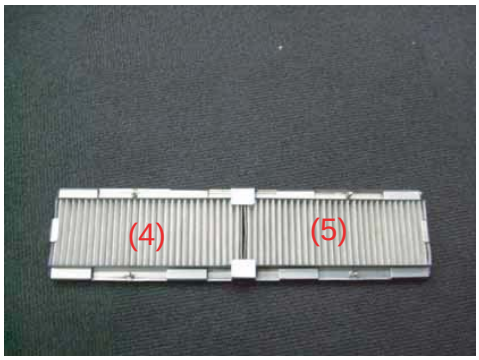


    (2) Loosen four screws that are attached to the rear panel B and remove this rear panel B.



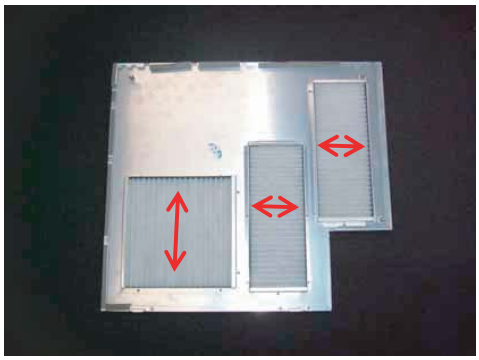
(3) Remove the filters. (5 pieces, just hooked in the frame)

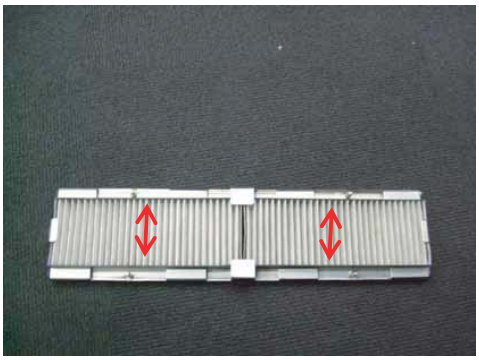




(4) Install filters. Pay attention to the directions of the filters.
The arrow directions marked on the filters shall match with the direction shown in the picture (the direction from the outside of the panel to the inside).

The folding pattern shall be match with the picture below.





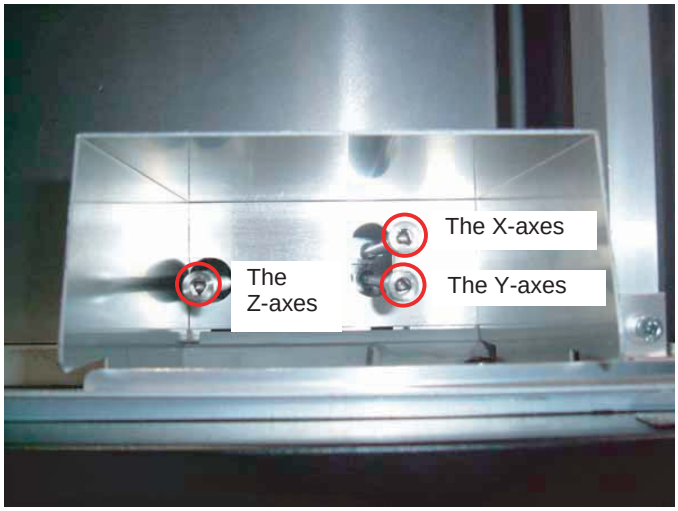
(5) Install the side panel, and rear panel.

12. Make an entry of a new lamp bulb on the display screen of the main unit (refer to the installation manual for the method).

13. After lamp bulb replacement, turn on the power of the main unit and repeat 15-minute ON and 5-minute OFF twice to make sure that the replacement has been successfully performed.

14. Adjust the optical axis of the lamp bulb.
Turn on the power of the main unit, and the lamp lights.
(1) Remove the optical axis adjustment cover from the rear panel of the main unit (2 pieces of screws).

(2) Call up "Bulb Alignment" on the menu of the main unit (refer to the installation manual for the call-up method).
Turn the axis adjustment screws with a 5 mm balldriver to set the displayed value to the maximum.
Adjust all of 3 adjustment screws (X-, Y-, and Z-axes).



(3) Put the cover on and turn off the power of the main unit.

15. Disposal procedure
    Used lamp bulbs including high-pressurized xenon gas have the risk of a burst. Be sure to break the glass parts of the bulbs before disposal.
    The disposal procedure is described below.
    (1) Put a used lamp bulb in the specialized protection case and lock the case without fail.
    (2) Put the specialized protection case in the specialized packaging box, and tape it tightly to prevent the box from opening.
    (3) Hold the packaging box at a height of approximately 1 meter horizontally and drop it to the hard floor.
    (4) Shake the box to make sure that the lamp bulb is broken.
    (5) Dispose of the bulb as industrial waste. In this regard, follow your local rules and regulations as required.

That's all

Adjustments during Prism Assy Replacement (Optical)

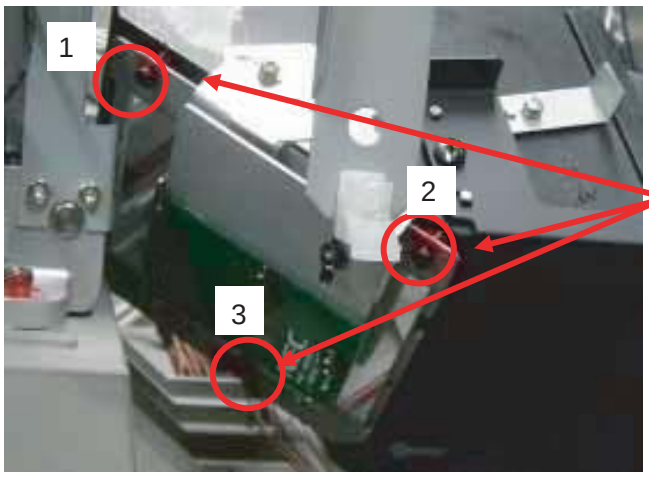
A. Optical adjustments (Fold mirror adjustments)

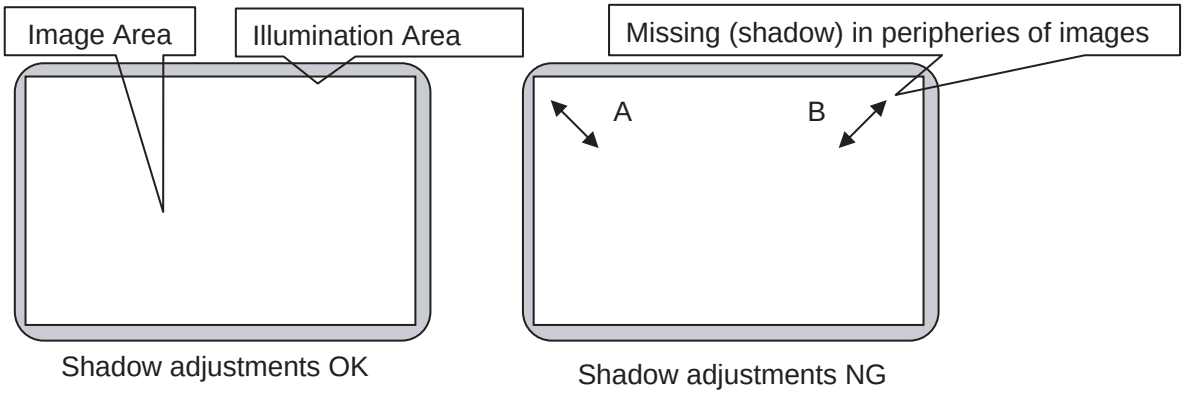
If any shadow appears in the display area at the time of prism Assy replacement, adjust the angle of the fold mirror at the optical engine block and arrange the balance in a good order between the illumination area and the display area so that vertical and horizontal symmetry can be secured.

1) Display “white” of the test pattern.
2) Adjust the focus.
3) Mount the fold mirror, turn the screws (in 3 positions), and make adjustments to obtain an all-white screen where no missing (shadow) is seen in the peripheries of the projected images.

Left side of the projector

Fold mirror, enlarged





4) If shadow is seen in Direction “A”, turn Mounting Screw “3” for adjustments. In the case of “B”. turn Mounting Screws “1” and “2” for adjustments.
5) After the completion of adjustments, install the fold mirror with screws (3 positions) and fix these screws by means of a locking agent.

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