Model Rigel-PJ1 nx/nw

Machine Codes:
Y015/Y016

Field Service Manual

6 January, 2012

Important Safety Notices

⚠CAUTION

- RISK OF ELECTRIC SHOCK DO NOT OPEN
- 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.

⚠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 is 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 is 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 walloutlet 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.

Symbols and Trademarks

This manual uses several symbols and abbreviations. The meaning of those symbols and abbreviations are as follows:

	See or Refer to
	Screw
	Connector

Trademarks

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Other product names used herein are for identification purposes only and may be trademarks of their respective companies. We disclaim any and all rights involved with those marks.

TABLE OF CONTENTS

4. System Maintenance

5. Troubleshooting

1. Product Information

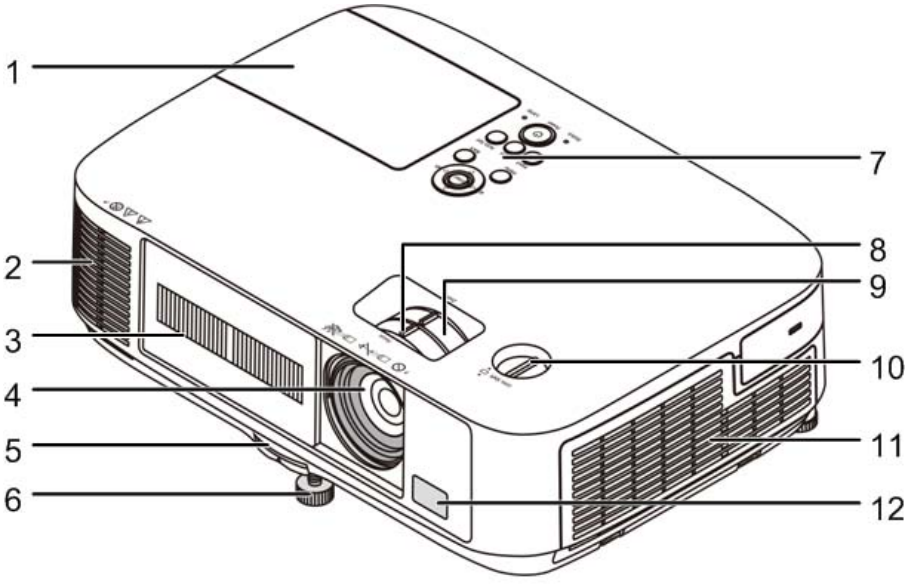
Specifications

See "Appendices" for the following information:

- General Specifications

Overview

Front / Top

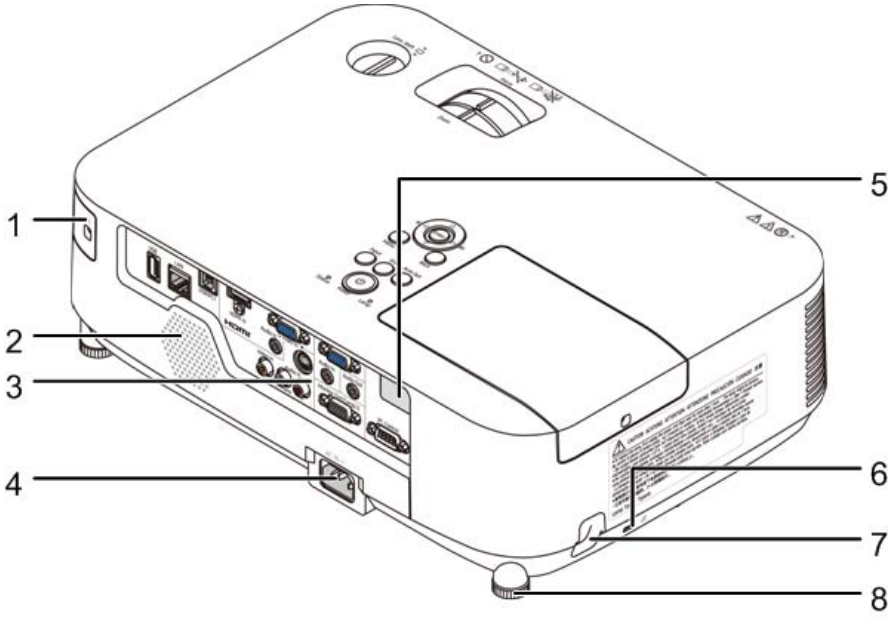


y0150030

1	Lamp Cover
2	Ventilation (outlet)
3	Lens Cover
4	Lens
5	Adjustable Tilt Foot Lever
6	Adjustable Tilt Foot
7	Controls
8	Focus Lever
9	Zoom Lever
10	Lens Shift Dial (Vertical)
11	Ventilation (inlet) / Filter Cover

12	Remote Sensor

Rear



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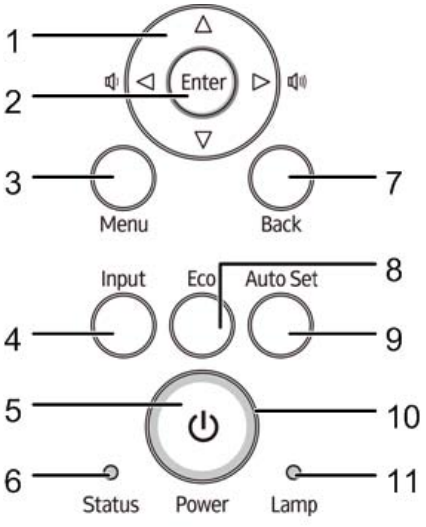
1	Port Cover for USB Wireless LAN Unit
2	Monaural Speaker
3	Terminal Panel
4	AC Input
5	Remote Sensor
6	Built-in Security Slot
7	Security chain opening
8	Rear Foot

Top Features



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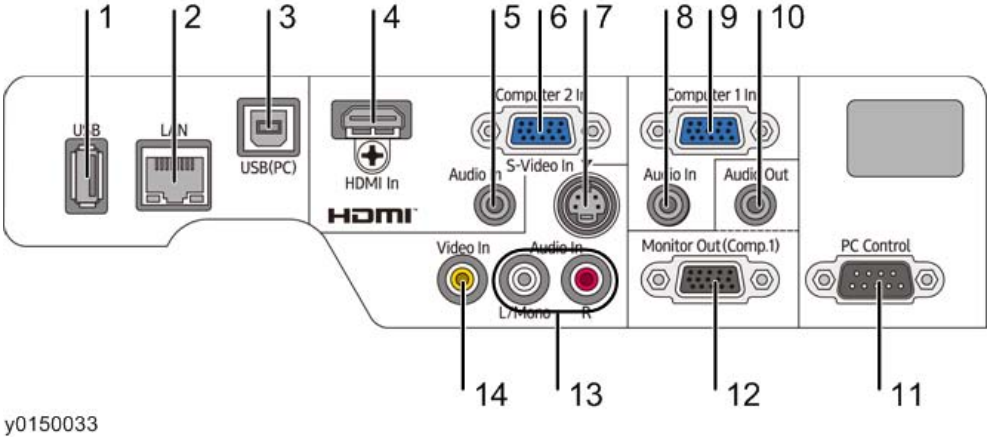
1	▲▼◀▶ Buttons Used for both volume adjustment and trapezoid correction (Keystone Buttons).	• While an on-screen menu is displayed, you can use the ▲, ▼, ◀, and ▶ buttons to select the item you want to set or adjust. • When the on-screen menu is not displayed, the ◀ and ▶ buttons can be used to adjust the volume level, and the ▲and ▼ buttons can be used to adjust the trapezoid in the vertical direction.
2	Enter Button	Proceeds to the next hierarchical menu in the currently displayed on-screen menu. Applies the selected item while the confirmation message is displayed.
3	Menu Button	Displays an on-screen menu for setting or adjusting a variety of items.
4	Input Button	Detects the signal input. Automatically checks for signal inputs in the following order: [COMPUTER 1]→[COMPUTER 2]→[COMPUTER 3]→[HDMI]→[DisplayPort]→[VIDEO]→[S-VIDEO]→[Viewer]→[COMPUTER 1]. If it detects a signal input, it projects the input.

5	Power Button	Turn the projector on and then off (standby). To turn the projector off (standby), then press the Power button one time. When the confirmation message appears on the screen, press the Power button again.
6	Status Indicator	p.119
7	Back Button	Returns to the previous hierarchical menu in the currently displayed on-screen menu. When the cursor is placed over the main menu, the menu closes. When a confirmation message appears, the operation is canceled.
8	Eco Button	Displays the screen for selecting the lamp power level.
9	Auto set Button	Automatically adjust the projector to an optimal state for projection of a computer screen image.
10	Power Indicator	p.119
11	Lamp Indicator	p.119

Terminal Panel Features



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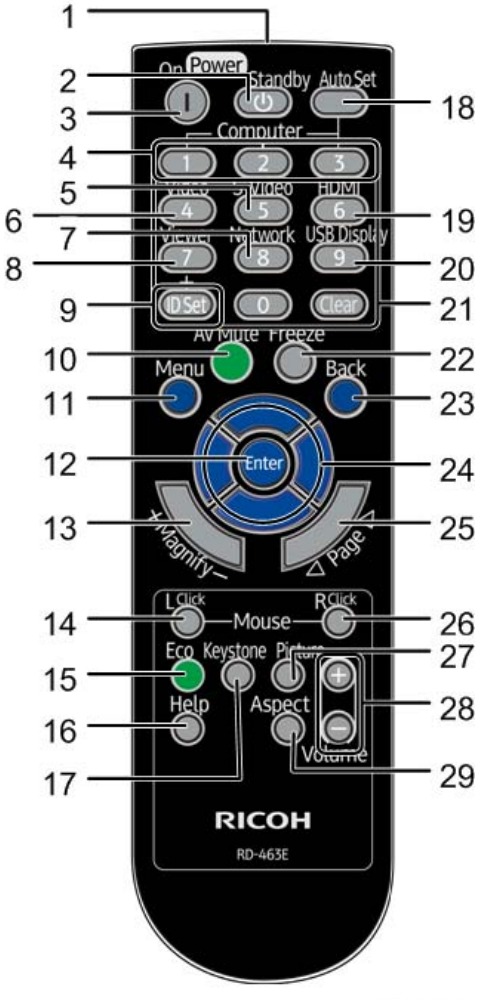
1	USB Port (Type A)
2	LAN Port (RJ-45)
3	USB (PC) Port (Type B)
4	HDMI In Connector (Type A)

5	Computer 2 Audio In Mini Jack (Stereo Mini)
6	Computer 2 In / Component Input Connector (Mini D-Sub 15 Pin)
7	S-Video In Connector (Mini DIN 4 Pin)
8	Computer 1 Audio In Mini Jack (Stereo Mini)
9	Computer 1 In / Component Input Connector (Mini D-Sub 15 Pin)
10	Audio Out Mini Jack (Stereo Mini)
11	PC Control Port (D-Sub 9 Pin)
12	Monitor Out (Comp.1) Connector (Mini D-Sub 15 Pin)
13	Video/S-Video Audio In (L/Mono, R) Connectors (RCA)
14	Video In Connector (RCA)

Part Names of the Remote Control



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1	Infrared Transmitter	–
2	Power Standby Button	Pressing the Power button once displays the power-off confirmation message. Pressing the Power button a second time turns the projector off (standby).
3	Power On Button	Confirm that the projector is in standby (the Power indicator is lit orange*), and then turn it on. * When Standby mode is set to "Normal".

4	Computer 1/2/3 Button	Select the COMPUTER1/2 input or a component. (Computer 3 button is not available.)
5	S-Video Button	Select the S-VIDEO input.
6	Video Button	Select the VIDEO input.
7	Network Button	Select the Network.
8	Viewer Button	Select the Viewer.
9	ID Set Button	The remote controller that comes with this projector can be used to control multiple projectors. These buttons are used to set the control ID of an individual projector.
10	AV Mute Button	Turns off both video and audio temporarily. Pressing the button again turns the video and audio back on.
11	Menu Button	Displays an on-screen menu for setting or adjusting a variety of items.
12	Enter Button	Proceeds to the next hierarchical menu in the currently displayed on-screen menu. Applies the selected item while the confirmation message is displayed.
13	Magnify (+)(−) Button	Used to zoom in and out on the screen.
14	L Click Button*1	Used when the machine is connected to a computer via a USB cable. Acts as the left mouse button.
15	Eco Button	Displays the screen for selecting the lamp power level.
16	Help Button	Displays the information screen.
17	Keystone Button	Displays the screen for adjusting the trapezoid.
18	Auto Set Button	Automatically adjust the projector to an optimal state for projection of a computer screen image.
19	HDMI Button	Select the HDMI input.
20	USB Display Button	Select the USB Display.

21	Numeric Keypad Button/Clear Button	The remote controller that comes with this projector can be used to control multiple projectors. These buttons are used to enter the ID (or set the control ID) of an individual projector. The Clear button can be used to clear the set control ID.
22	Freeze Button	Displays the current video image as a still image. Pressing the button again returns to normal video display.
23	Back Button	Returns to the previous hierarchical menu in the currently displayed on-screen menu. When the cursor is placed over the main menu, the menu closes. When a confirmation message appears, the operation is canceled.
24	▲▼◀▶ Button*2	Used to adjust display position when the screen is enlarged by using the partial enlargement button or by performing an operation in the on-screen menu . This button is also used as the computer mouse (remote mouse) when the machine is connected to a computer via a USB cable.
25	Page △/▽ Button*1	Used to switch the viewer between thumbnail views. This button is also used when the machine is connected to a computer via a USB cable.
26	R Click Button*1	Used when the machine is connected to a computer via a USB cable. Acts as the right mouse button.
27	Picture Mode Button	Each time the button is pressed in the on-screen menu, the picture adjustment item displayed in [PICTURE] of the [ADJUST] menu changes. The first item is [PRESET], followed by [CONTRAST], [BRIGHTNESS], [SHARPNESS], [COLOR SATURATION], and finally [TINT].
28	Volume (+)(−) Button	Adjusts the volume of the internal speaker. Also adjusts the volume of output sent to the audio output port. Pressing the button again resets the volume.
29	Aspect Button	Displays a set of aspect adjustment items.

*1 Used to operate the computer when the mouse receiver is connected to the computer.

*2 Used as the computer mouse when the mouse receiver is connected to the computer.

2. Installation

Installation Requirements

⚠WARNING

- Do not use any other object than the projector's sliding lens cover to cover the lens while the projector is on.
- Doing so can cause the object to get extremely hot, and possibly resulting in a fire or damage due to the heat emitted from the light output.

Place the projector in a horizontal position

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The tilt angle of the projector should not exceed 10 degrees, nor should the projector be installed in any way other than the desktop and ceiling mount, otherwise lamp life could decrease dramatically.

Fire and Shock Precautions

- Ensure that there is sufficient ventilation and that vents are unobstructed to prevent the build-up of heat inside your projector. Allow at least 4 inches (10cm) of space between your projector and a wall.
- Do not try to touch the ventilation outlet on the left front (when seen from the front) as it can become heated while the projector is turned on and immediately after the projector is turned off. Parts of the projector may become temporarily heated if the projector is turned off with the Power button or if the AC power supply is disconnected during normal projector operation.

  Use caution when picking up the projector.
- Prevent foreign objects such as paper clips and bits of paper from falling into your projector. Do not attempt to retrieve any objects that might fall into your projector. Do not insert any metal objects such as a wire or screwdriver into your projector. If something should fall into your projector, disconnect it immediately and have the object removed by a qualified service personnel.
- Do not place any objects on top of the projector.
- Do not touch the power plug during a thunderstorm. Doing so can cause electrical shock or fire.

- The projector is designed to operate on a power supply of 100-240V AC 50/60 Hz. Ensure that your power supply fits this requirement before attempting to use your projector.
- Do not look into the lens while the projector is on. Serious damage to your eyes could result.
- Keep any items (magnifying glass etc.) out of the light path of the projector. The light path being projected from the lens is extensive, therefore any kind of abnormal objects that can redirect light coming out of the lens, can cause an unpredictable outcome such as a fire or injury to the eyes.
- Do not place any objects, which are easily affected by heat, in front of a projector exhaust vent.

  Doing so could lead to the object melting or getting your hands burned from the heat that is emitted from the exhaust.
- Handle the power cord carefully. A damaged or frayed power cord can cause electric shock or fire.
  - Do not use any power cord other than the one supplied with the projector.
  - Do not bend or tug the power cord excessively.
  - Do not place the power cord under the projector, or any heavy object.
  - Do not cover the power cord with other soft materials such as rugs.
  - Do not heat the power cord.
  - Do not handle the power plug with wet hands.
- Turn off the projector, unplug the power cord and have the projector serviced by a qualified service personnel under the following conditions:
  - When the power cord or plug is damaged or frayed.
  - If liquid has been spilled into the projector, or if it has been exposed to rain or water.
  - If the projector does not operate normally when you follow the instructions described in this user's manual.
  - If the projector has been dropped or the cabinet has been damaged.
  - If the projector exhibits a distinct change in performance, indicating a need for service.
- Disconnect the power cord and any other cables before carrying the projector.
- Turn off the projector and unplug the power cord before cleaning the cabinet or replacing the lamp.
- Turn off the projector and unplug the power cord if the projector is not to be used for an extended period of time.
- When using a LAN cable (only models with the RJ-45 LAN port):

  For safety, do not connect to the connector for peripheral device wiring that might have excessive voltage.

⚠CAUTION

- Do not use the tilt-foot for purposes other than originally intended. Misuses such as gripping the tilt-foot or hanging on the wall can cause damage to the projector.

- Do not send the projector in the soft case by parcel delivery service or cargo shipment. The projector inside the soft case could be damaged.
- Select [HIGH] in Fan mode if you continue to use the projector for consecutive days. (From the menu, select [SETUP] → [OPTIONS(1)] → [FAN MODE] → [HIGH].)
- Do not try to touch the ventilation outlet on the left front (when seen from the front) as it can become heated while the projector is turned on and immediately after the projector is turned off.
- Do not turn off the AC power for 60 seconds after the lamp is turned on and while the Power indicator is blinking blue. Doing so could cause premature lamp failure.

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 short, heat, or take apart batteries.
- Do not 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.

Note for US Residents

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

Lamp Replacement

- Use the specified lamp for safety and performance.
- To replace the lamp, follow all instructions provided on User's Manual (☛Replacing the Lamp and the Filters (page 146)).
- Be sure to replace the lamp and filter when the message [THE LAMP HAS REACHED THE END OF ITS USABLE LIFE. PLEASE REPLACE THE LAMP AND FILTER.] appears. If you continue to use the lamp after the lamp has reached the end of its usable life, the lamp bulb may shatter, and pieces of glass may be scattered in the lamp case. Do not touch them as the pieces of glass may cause injury.

  If this happens, contact your dealer for lamp replacement.

A Lamp Characteristic

The projector has a high-pressure mercury lamp as a light source.

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

⚠CAUTION

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

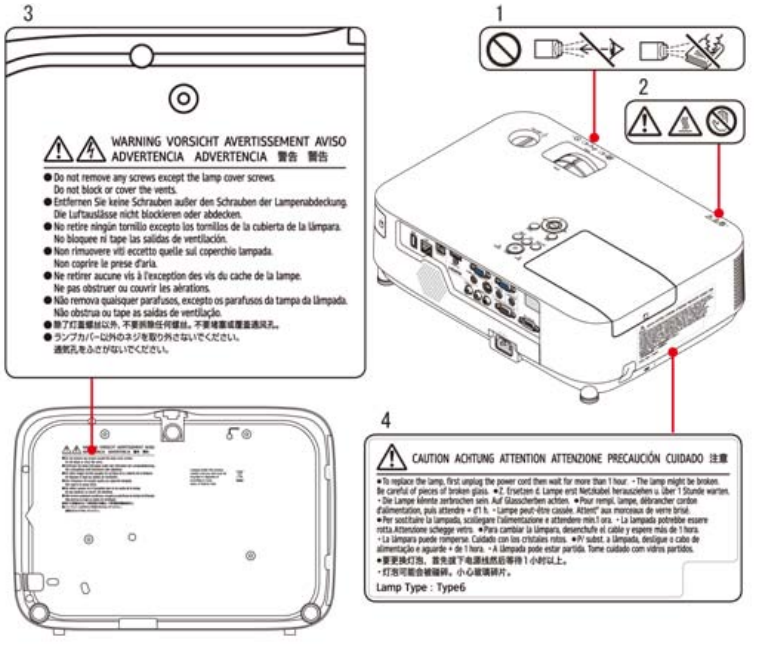
About High Altitude mode

- Set [FAN MODE] to [HIGH ALTITUDE] when using the projector at altitudes approximately 5500 feet/1600 meters or higher.

  Using the projector at altitudes approximately 5500 feet/1600 meters or higher without setting to [HIGH ALTITUDE] can cause the projector to overheat and the protector could shut down. If this happens, wait a couple minutes and turn on the projector.
- Using the projector at altitudes less than approximately 5500 feet/1600 meters and setting to [HIGH ALTITUDE] can cause the lamp to overcool, causing the image to flicker. Switch [FAN MODE] to [AUTO].
- Using the projector at altitudes approximately 5500 feet/1600 meters or higher can shorten the life of optical components such as the lamp.

Safety Labels of This Machine

1. Do not look into the lens while the projector is on. Serious damage to your eyes could result. Do not use any other object than the projector's sliding lens cover to cover the lens while the projector is on. Doing so can cause the object to get extremely hot, and possibly resulting in a fire or damage due to the heat emitted from the light output.
2. Do not try to touch the ventilation outlet on the left front (when seen from the front) as it can become heated while the projector is turned on and immediately after the projector is turned off. Parts of the projector may become temporarily heated if the projector is turned off with the Power button or if the AC power supply is disconnected during normal projector operation. Use caution when picking up the projector.
3. Do not remove any screws except the lamp cover screws. Do not block or cover the vents.
4. To replace the lamp, first unplug the power cord then wait for more than 1 hour. The lamp might be broken. Be careful of pieces of broken glass.


3
WARNING VORSICHT AVERTISSEMENT AVISO
ADVERTENCIA ADVERTENCIA 警告 警告
● Do not remove any screws except the lamp cover screws.
Do not block or cover the vents.
● Entfernen Sie keine Schrauben außer den Schrauben der Lampenabdeckung.
Die Luftauslässe nicht blockieren oder abdecken.
● No retire ningún tornillo excepto los tornillos de la cubierta de la lámpara.
No bloquee ni tape las salidas de ventilación.
● Non rimuovere viti eccetto quelle sul coperchio lampada.
Non coprire le prese d'aria.
● Ne retirer aucune vis à l'exception des vis du cache de la lampe.
Ne pas obstruer ou couvrir les aérations.
● Não remova quaisquer parafusos, excepto os parafusos da tampa da lâmpada.
Não obstrua ou tape as saídas de ventilação.
● 除了灯盖螺丝以外，不要拆除任何螺丝。不要堵塞或覆盖通风孔。
● ランプカバー以外のネジを取り外さないでください。
通気孔をふさがないでください。
1
2
4
CAUTION ACHTUNG ATTENTION ATTENZIONE PRECAUCIÓN CUIDADO 注意
● To replace the lamp, first unplug the power cord then wait for more than 1 hour. • The lamp might be broken.
Be careful of pieces of broken glass. ● Z. Ersetzen d. Lampe erst Netzkabel herausziehen u. über 1 Stunde warten.
• Die Lampe könnte zerbrochen sein. Auf Glasscherben achten. ● Pour remplacer la lampe, débrancher le cordon
d'alimentation, puis attendre + d'1 h. • Lampe peut-être cassée. Attent" aux morceaux de verre brisé.
● Per sostituire la lampada, scollegare l'alimentazione e attendere min.1 ora. • La lampada potrebbe essere
rotta.Attendere schegge vetro. ● Para cambiar la lámpara, desenchufe el cable y espere más de 1 hora.
• La lámpara puede romperse. Cuidado con los cristales rotos. ● Pr subst. a lâmpada, desligue o cabo de
alimentação e aguarde + de 1 hora. • A lâmpada pode estar partida. Tome cuidado com vidros partidos.
● 更换灯泡，首先拔下电源线然后等待 1 小时以上。
• 灯泡可能会被碰碎。小心玻璃碎片。
Lamp Type : Type6

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3. Replacement and Adjustment

Cautions for Maintenance Service

Method of starting the set without TOP COVER and LAMP COVER

How to start the set under the condition that the LAMP COVER and TOP COVER are removed

The Lamp Cover switch of this model is mounted on the PCB Main Ass'y.

The set cannot be started if the **LAMP COVER** and **TOP COVER** are left removed.

This is because the Lamp Cover switch can be turned OFF only if the **LAMP COVER** is removed.

In addition, the PCB Shutter (lens cover) is installed on the Top Cover. When the Top Cover is removed, the status of AV mute is assumed.

Follow the steps shown below when intending to start up the set under the condition that the **LAMP COVER** and **TOP COVER** are removed.

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1. **Provide for carton (or cardboard paper)**

   Length: 35 - 40 (mm), Depth: 100 - 120 (mm), Thickness: 1 - 2 (mm)

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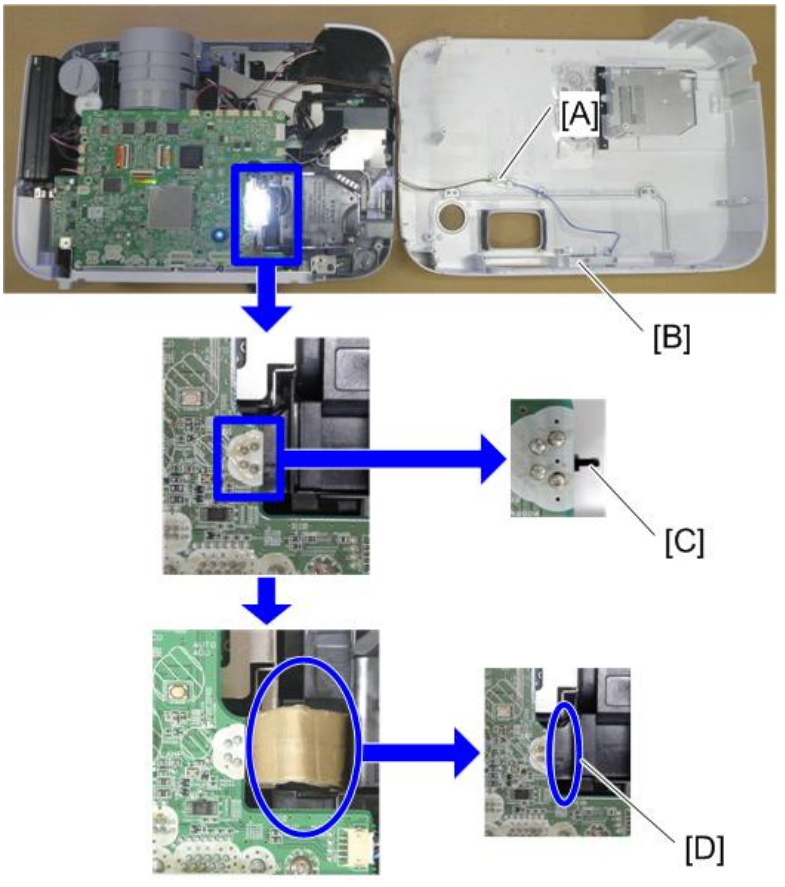
2. **Fold the carton (or cardboard paper) in the center in Character V.**



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[A] : 3P extension board and 3P extension connector

[B] : The lens cover is left opened.

[C] : LAMP COVER SWITCH (ON by PUSH)

[D] : Insert the carton

3. **Insert the carton (or cardboard paper) folded in Character V in the right side of the Lamp Cover switch.**

   (Insert it along the Lamp Cover switch.)

4. **Connect the PCB Main Ass'y and the PCB Shutter with the 3P extension board and extension connector.**

5. **The lens cover should be left opened.**

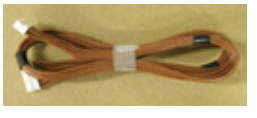
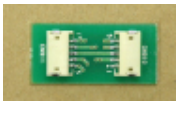
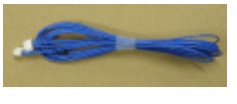
⚠CAUTION

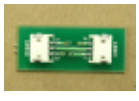
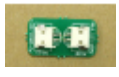
- When installing the **LAMP COVER** and **TOP COVER** on the set, the **TOP COVER** only should be mounted first. Then, the **LAMP COVER** can be mounted.
- If the installation work is carried out in the state that the **LAMP COVER** is mounted on the **TOP COVER**, the Lamp Cover switch may be damaged by the embossed part of the **LAMP COVER**.

Special Tools

- RS232C cable (cross)
- LAN cable (Category 5 or higher)

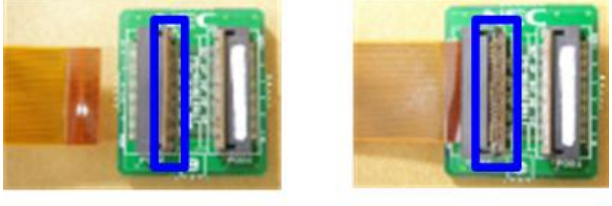
Adjusting jig for Adjustment of the optical axis

Item name	Application	Q'ty	Part No.	Photo taken from life
Extension connector (40P)	For LCD PANEL (R/G/B : 600mm)	3	Y0135213	
Extension connector PWB (40P)	For LCD PANEL (R/G/B)	3	Y0135214	
Extension connector (16P)	For Power supply (POPW : 500mm) POWER SUPPLY-DC	1	Y0155209	
Extension connector PWB (16P)	For Power supply (POWER SUPPLY-DC)	1	Y0155210	
Extension connector (5P)	For Power supply (POLC : 900mm) POWER SUPPLY-BALLAST	1	Y0135207	
Extension connector PWB (5P)	For Power supply (POWER SUPPLY-BALLAST)	1	Y0135208	
Extension connector (4P)	For FAN (POF1/POF3/POF4 : 900mm)	3	Y0135205	
Extension connector PWB (4P)	For FAN (POF1/POF3/POF4)	3	Y0135206	

Item name	Application	Q'ty	Part No.	Photo taken from life
Extension connector (3P)	For FAN (POF2/POF5 : 900W) For SHUTTER SW (PORMMF : 900mm)	3	Y0135203	
Extension connector PWB (3P)	For FAN (POF2/POF5) For SHUTTER SW	3	Y0135204	
Extension connector (2P)	For THERMISTOR (POTH-E/POTH-I : 900mm)	2	Y0135201	
Extension connector PWB (2P)	For THERMISTOR POTH-E/POTH-I)	2	Y0135202	
SPACER RL2 T0.1 (PB52)	Spacer for CLG/CLB/RL2 adjustment	–	Y0133125	
SPACER RL2 T0.2 (PB52)		–	Y0133126	
SPACER RL2 T0.3 (PB52)		–	Y0133127	
SPACER RL2 T0.5 (PB52)		–	Y0133128	
SPACER RL2 T1.0 (PB52)		–	Y0133129	

Cautions:

- How to install the FFC cable



y0131026

Photo seen from above

y0131027

Insert the FFC cable in the relevant connector on the PWB.

Let the embossed part (framed part in blue, shown below) fall down in the direction of the red arrow.

* The embossed pat for fixing the FFC cable is fragile. Handle it with care when installing or removing the FFC cable.

Parts Replacement

Lamp Unit

y0151001

1. Loosen the screw and remove the Lamp cover (×1).

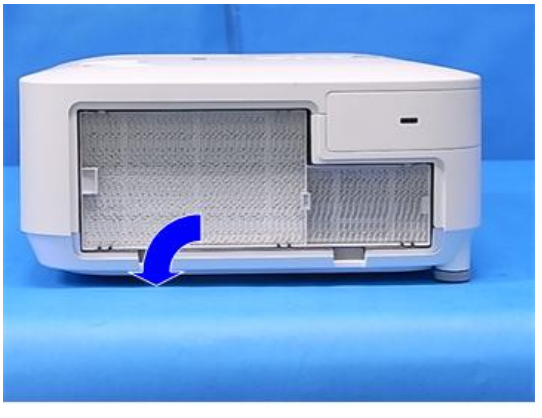
y0151002

2. Loosen the screw and remove the Lamp unit (×2).

Filters

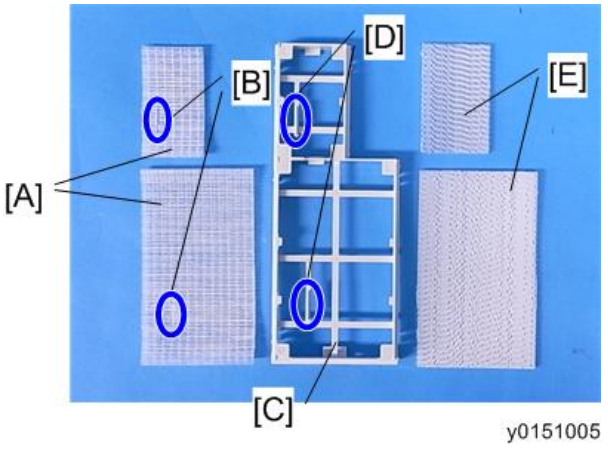
y0151003

1. **Remove the Filter cover.**



y0151004

2. **Remove the Filters.**



y0151005

[A] : Air filter A

[B] : Notch

[C] : Filter holder

[D] : Projection

[E] : Air filter B

Note

- When installing filter [A] in the holder, align the notch of the filter with the projection on the holder.

Port Cover for USB Wireless LAN Unit

y0151061

1. **Loosen the screw and remove the Port cover for USB wireless LAN unit (×1).**

Top Cover

⚠CAUTION

- The PCB Shutter and PCB Main Ass'y mounted on the inside of the top cover are connected by a lead. Remove them carefully, making sure the top cover faces down towards the lens side.

1. **Remove the Lamp unit (p.31).**

2. **Remove the Filters (p.32).**

y0151006

y0151007

3. **Top cover [A] (×8)**

When removing the top cover, make sure to keep the lens cover open.

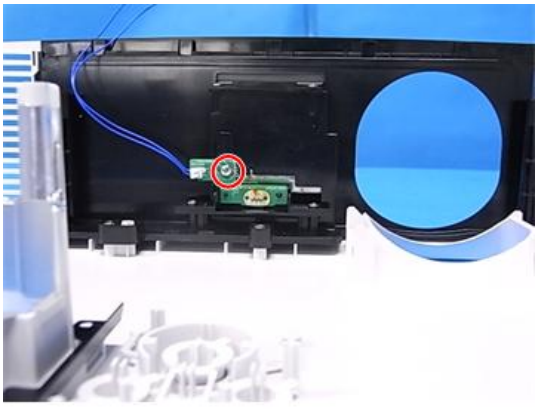
It might be difficult to remove the cover due to projections inside the chassis. Be careful not to damage the cover or other parts when removing the cover from inside the chassis.

y0151008

There is a cable connecting the TopCover to the main unit. Exercise care when removing the TopCover.

PCB Shutter

1. **Top cover (p.33).**

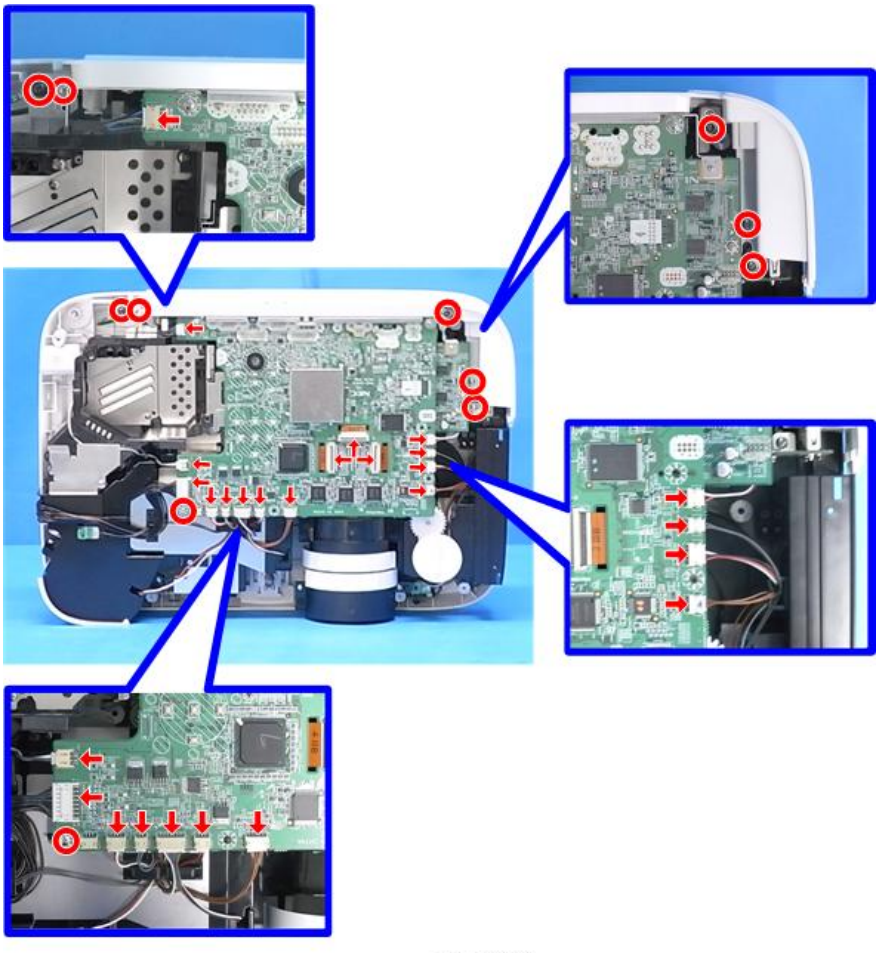


y0151009

2. **Remove the PCB Shutter (×1, ×1).**

Rear Panel and Speaker

1. Top cover (☛ p.33).

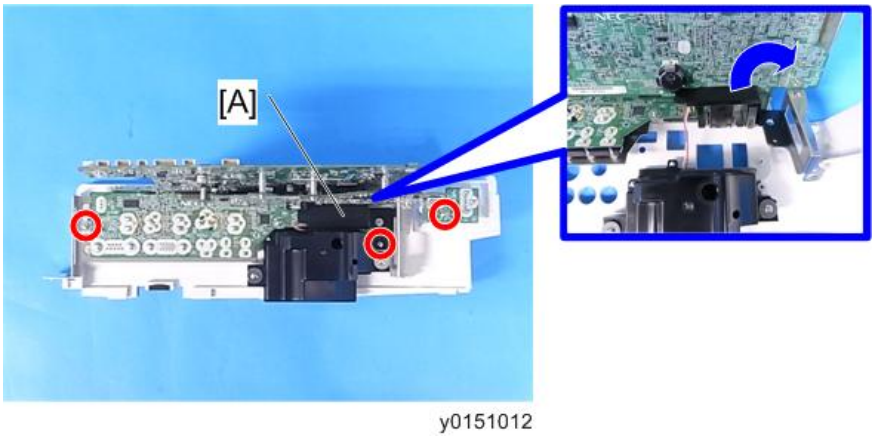


y0151010

2. **Remove the Main board unit (×6, ×15).**

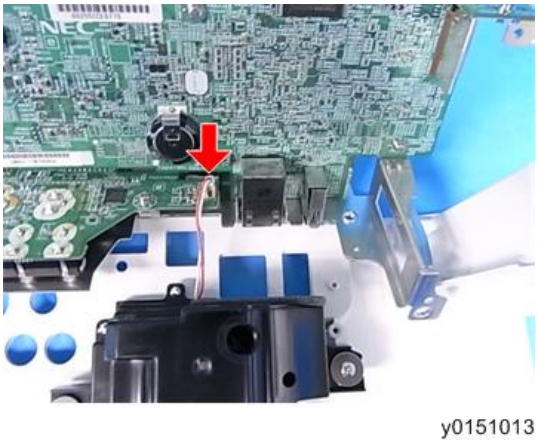
y0151011

3. **Remove the screw (×1).**



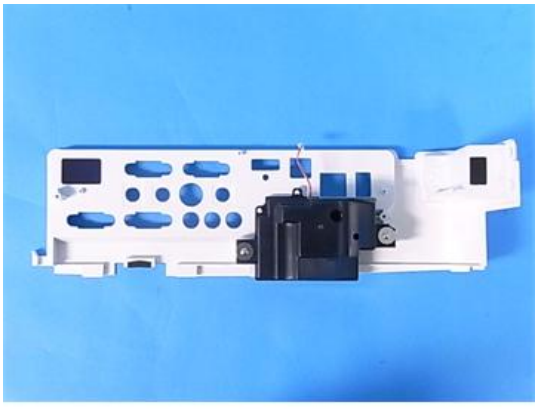
y0151012

4. **Remove the bracket [A] (×3).**



y0151013

5. **Remove the connector (×1).**



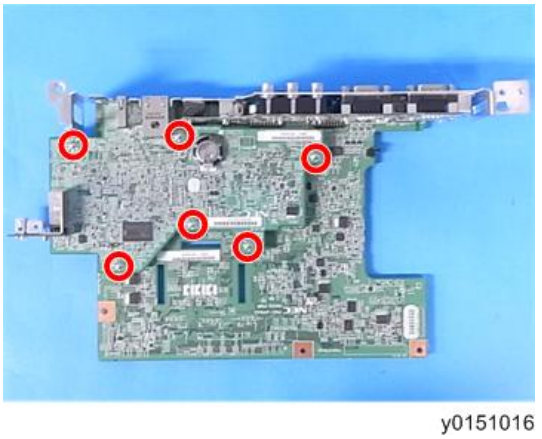
y0151014

PCB Main Ass'y

Note

- Require the software adjustment, When replacing the PCB Main Ass'y (p.76). Please do the "Copying of all data", before removing the PCB Main Ass'y.

1. **PCB Main Ass'y (p.36).**



y0151016

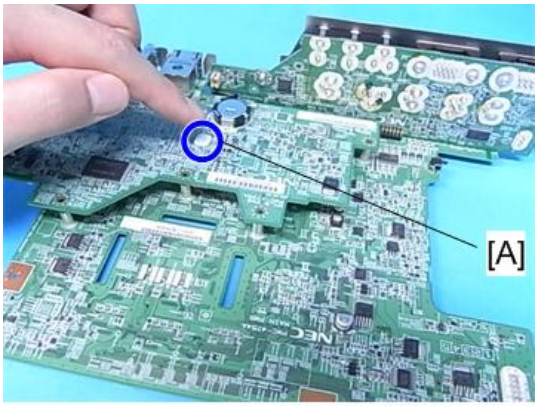
2. **Remove the PCB Network (×6)**

PCB Network

⚠CAUTION

- Keep the PCB Network away from conductive materials such as metal.

1. PCB Network (☛ p.38).



y0151017

Note

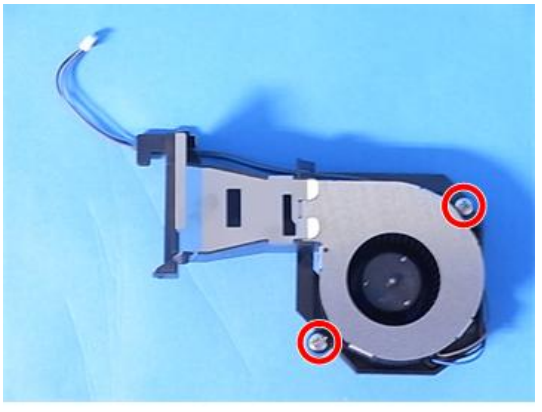
- When assembling the main board, align the position of the PCB Main Ass'y and PCB Network on-board connectors and press the portion marked [A] to fasten them securely.

Lamp Fan

1. Rear Panel and Speaker (☛ p.36).

y0151018

2. **Remove the Lamp fan unit (×2).**

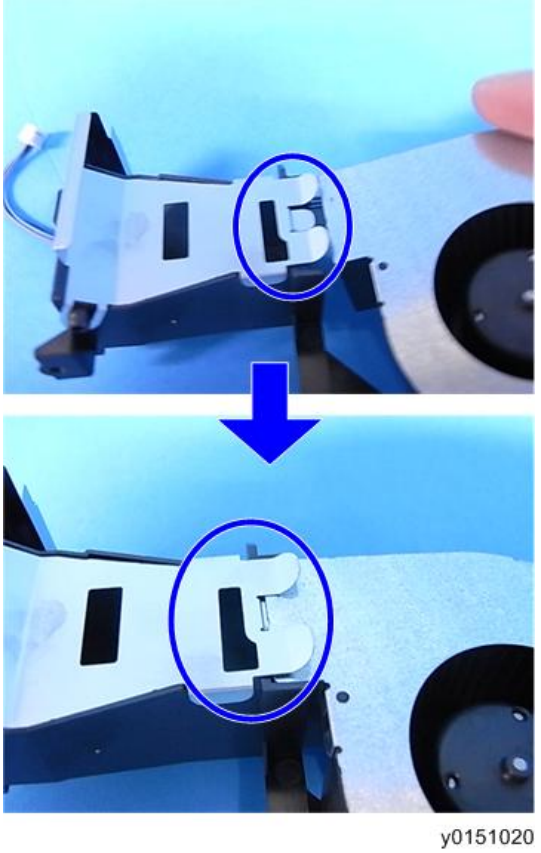


y0151019

3. **Remove the Lamp fan (×2).**

Note

- When assembling the lamp fan, pay careful attention to where the bracket is inserted.



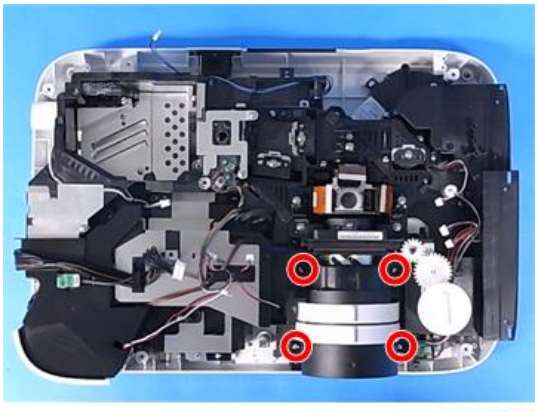
y0151020

OPT Base

Note

- After replacing the OPT Base, Require the Software adjustment and Adjustment of the optical axis.

1. **PCB Main Ass'y (p.38).**



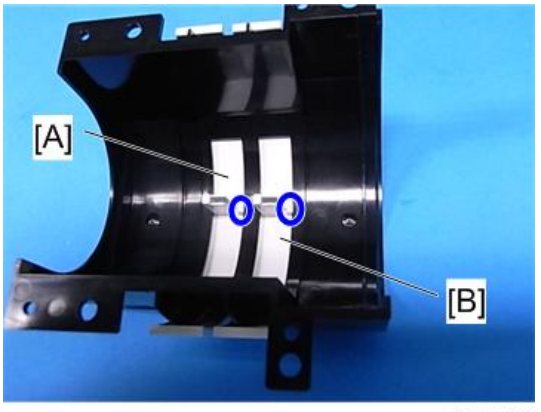
y0151021

2. **Remove the Lens holder (top) (×4).**

y0151022

3. **Remove the OPT Base (×2).**

Assembling the lens holder (top)

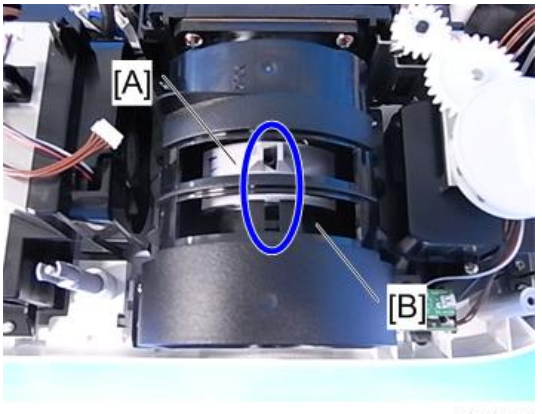


y0151023

1. **Press the latch portion to remove zoom lever [A] and focus lever [B].**

Note

- The zoom and focus levers use the same parts. These parts can be used interchangeably.



y0151024

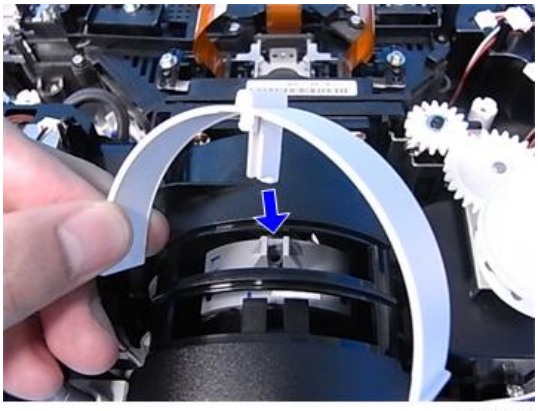
2. **Place the lens cover over the OPTBase and screw it into place.**

[A] : Zoom ring

[B] : Foucus ring

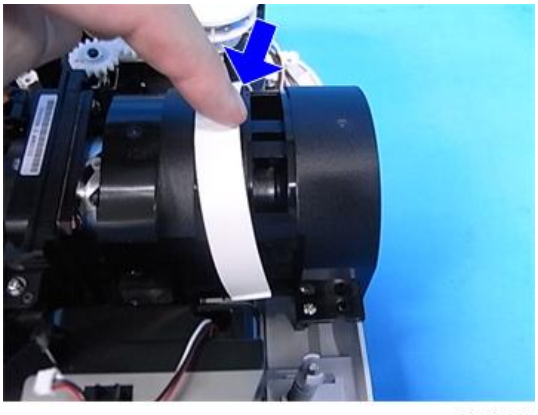
Note

- Before placing the lens cover, align the zoom and focus rings with the center of the optical unit.



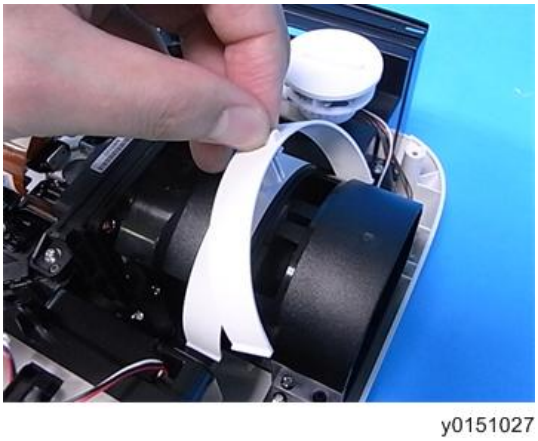
y0151025

3. Align the protrusion of the zoom lever with the notch on the zoom ring.



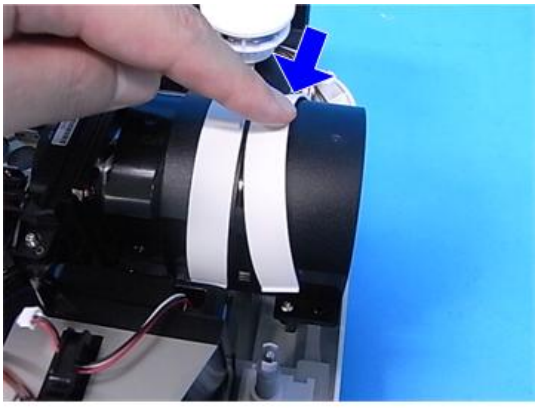
y0151026

4. With the lever inclined on the engine side, push in the lens side until you hear it snap.



y0151027

5. In the same way, install the focus lever.



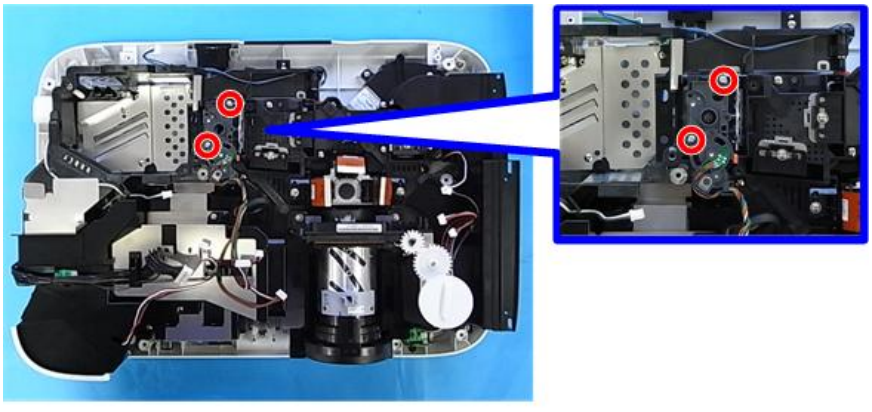
y0151028

IRIS Unit

1. PCB Main Ass'y (p.38).

y0151029

2. **Remove the barrier (×2).**



y0151030

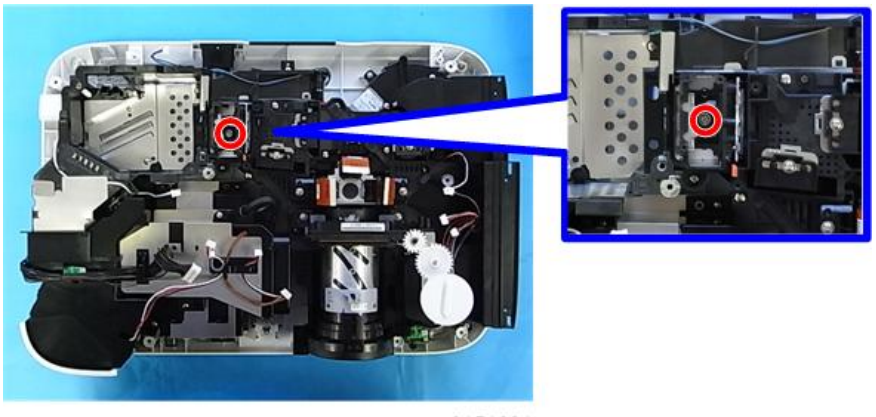
3. **Remove the IRIS unit (×2).**

Note

- When removing or installing the IRIS Unit, be careful not to damage the Integrator.

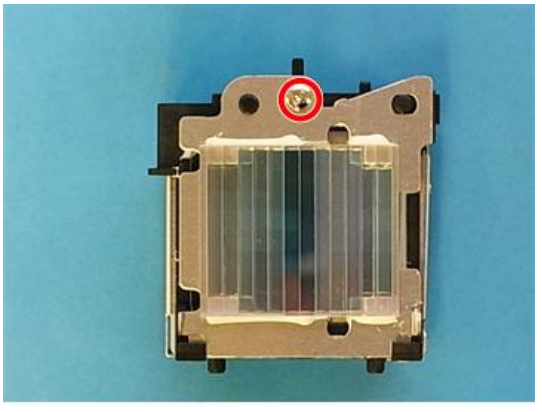
PS-Converter

1. **Remove the IRIS unit (p.44).**



y0151031

2. Remove the Integrator unit (×1).

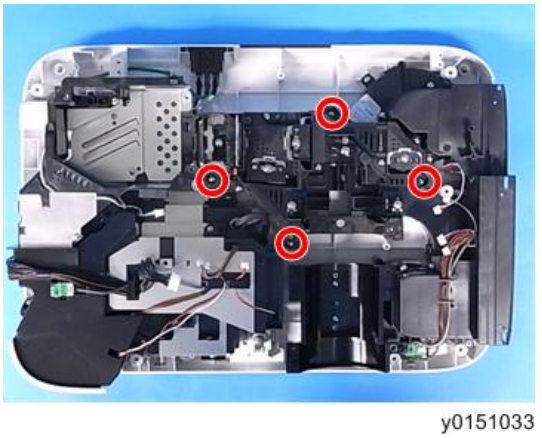


y0151032

3. Remove the PS converter (×1).

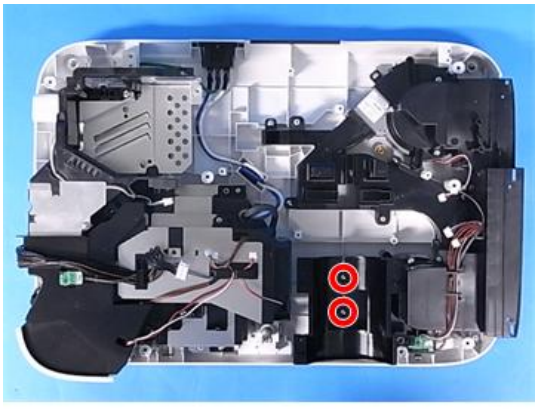
LCD Fan 1

1. Remove the Lamp fan (p.39).
2. Remove the OPT Base (p.41).
3. Remove the IRIS unit (p.44).



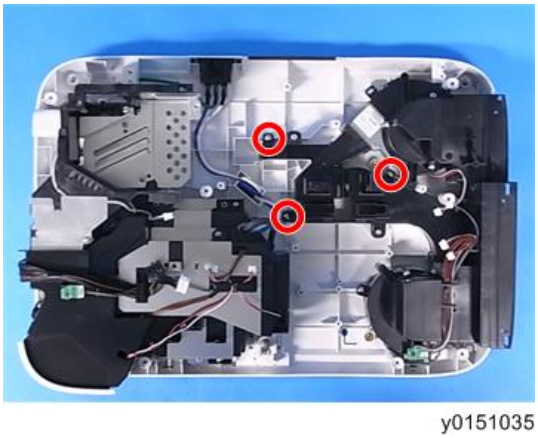
y0151033

4. **Remove the Engine unit (×4).**



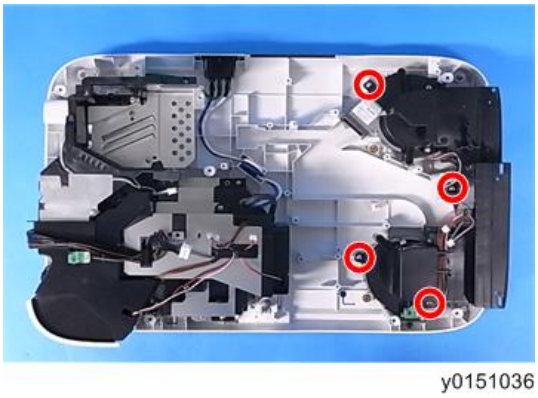
y0151034

5. **Remove the Lens holder (bottom) (×2).**



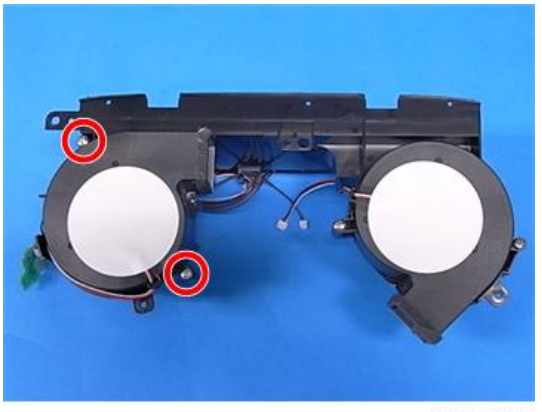
y0151035

6. **Remove the duct (×3).**



y0151036

7. Remove the LCD fan unit (×4).

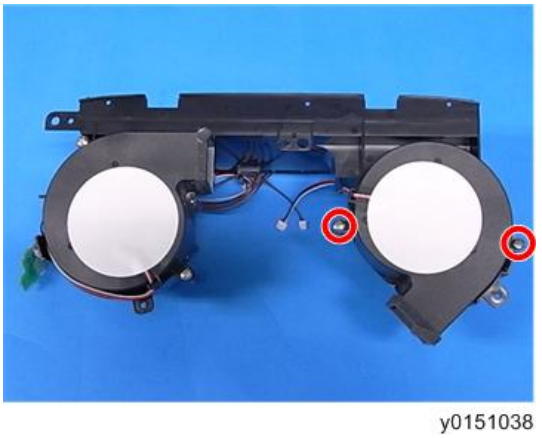


Y0151037

8. Remove the LCD fan (×2).

LCD Fan 2

1. Remove the LCD fan unit (p.46).

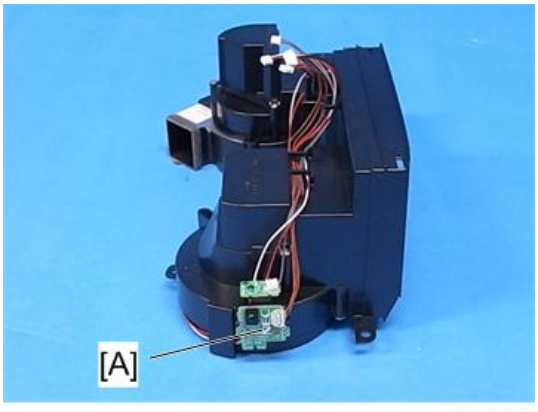


y0151038

2. Remove the LCD fan 2 (×2).

PCB Remocon

1. **Remove the LCD fan unit (☛ p.48).**

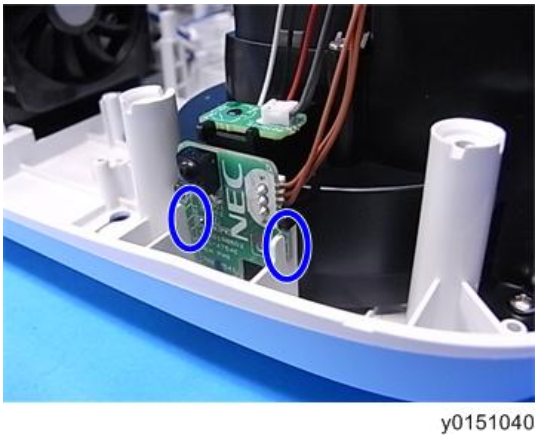


y0151039

2. **Remove the PCB remocon [A].**

Note

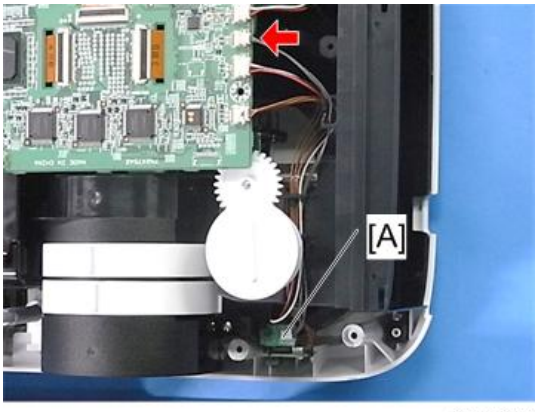
- When assembling the board, properly insert the PCB Remocon into the notch.



y0151040

Intake Temp Sensor

1. Top cover (☛ p.33).

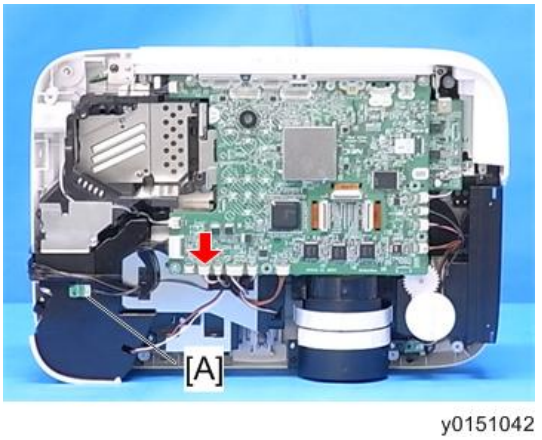


y0151041

2. Remove the intake temp sensor [A] (×1).

Exhaust Temp Sensor

1. Top cover (☛ p.33).

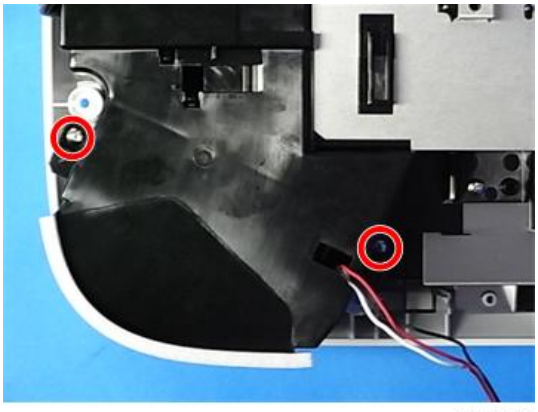


y0151042

2. Remove the Exhaust temp sensor (×1).

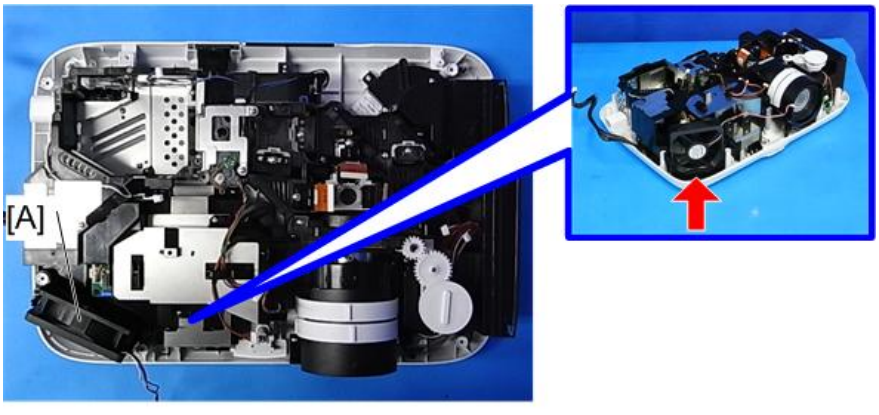
Exhaust Fan

1. Remove the Exhaust temp sensor (☛ p.50).



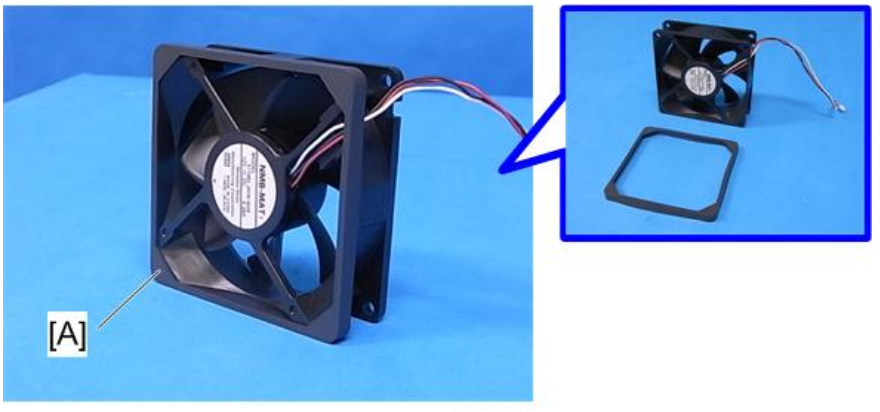
y0151043

2. Remove the Exhaust fan cover (×2).



y0151044

3. **Remove the Exhaust fan.**



y0151045

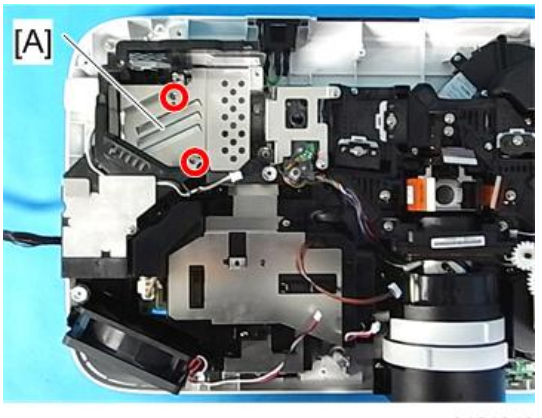
4. **Remove the rubber buffer.**

Note

- The rubber buffer is reused when replacing parts. Handle it carefully.

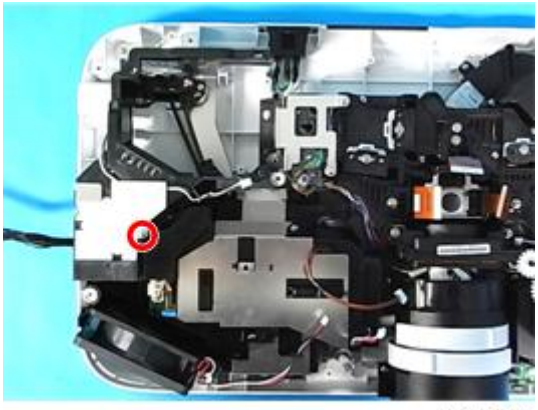
Thermostat

1. **Remove the Lamp fan (☛ p.39).**
2. **Remove the Exhaust fan cover (☛ p.51).**



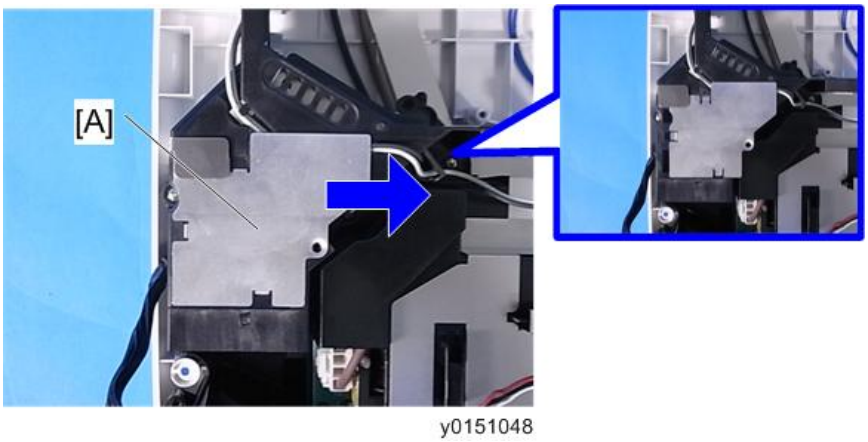
y0151046

3. Remove the bracket [A] (×2).



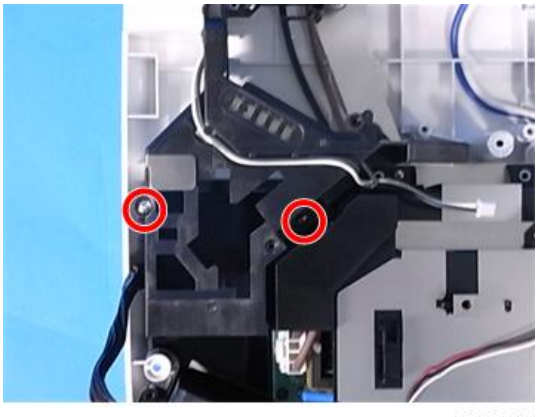
y0151047

4. Remove the screw (×1).



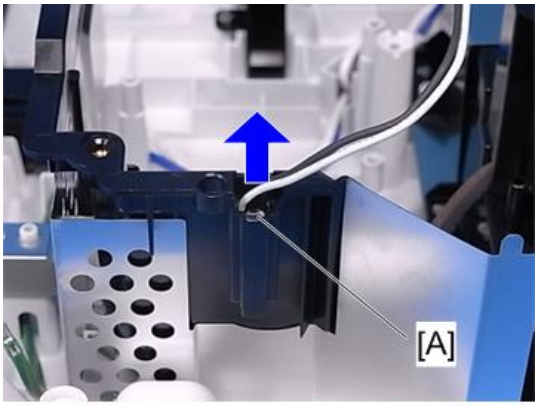
y0151048

5. Remove the barrier.



y0151049

6. **Remove the bracket (×2).**

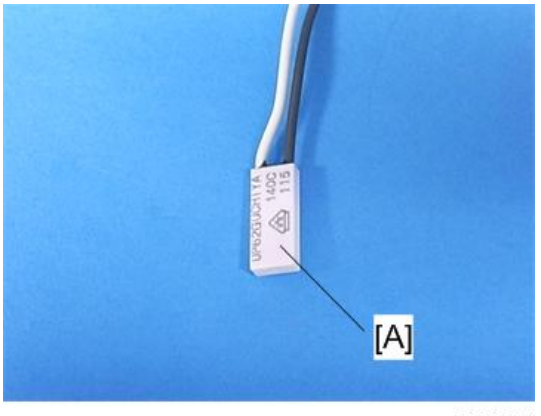


y0151050

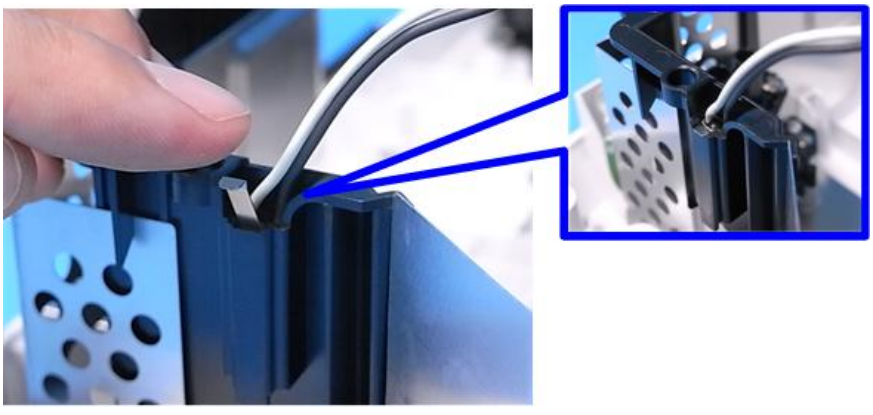
7. **Remove the pin [A] and Thermostat.**

Note

- When assembling the projector, position the print side of the Thermostat to face you.
- Firmly insert the pin all the way.



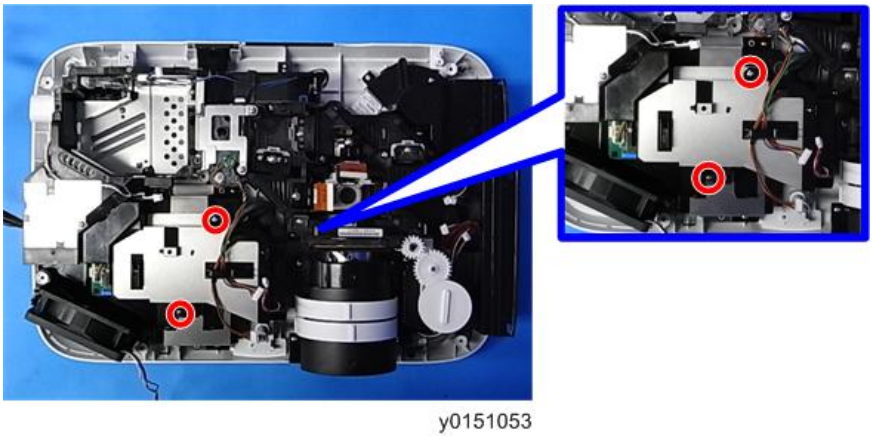
y0151051



y0151052

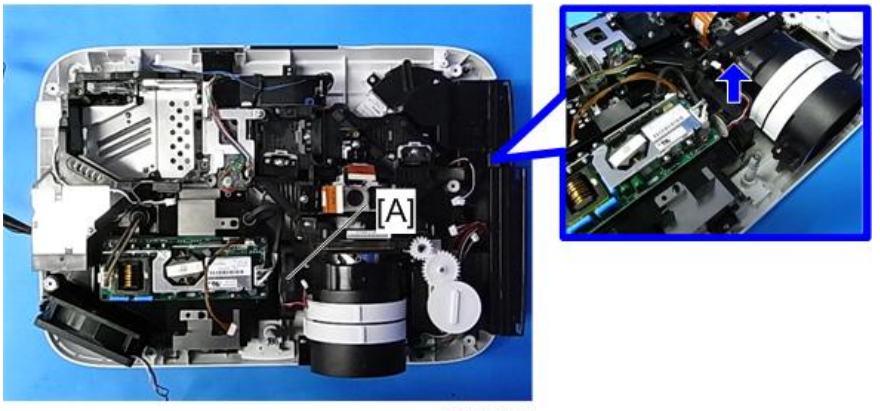
PSU Fan

1. Remove the Exhaust fan cover (p.51).



y0151053

2. Remove the bracket (×2).

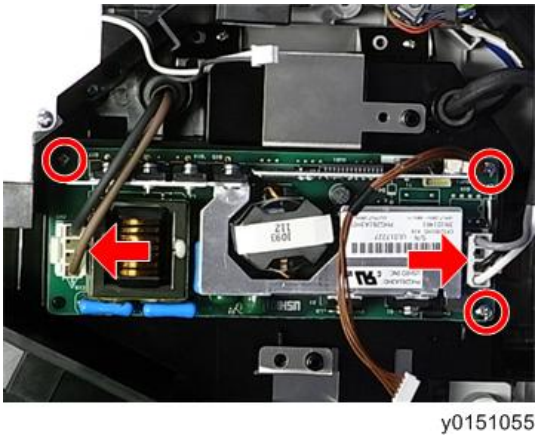


y0151054

3. Remove the PSU fan [A].

Power Supply-Ballast

1. Remove the PSU Fan (p.55).



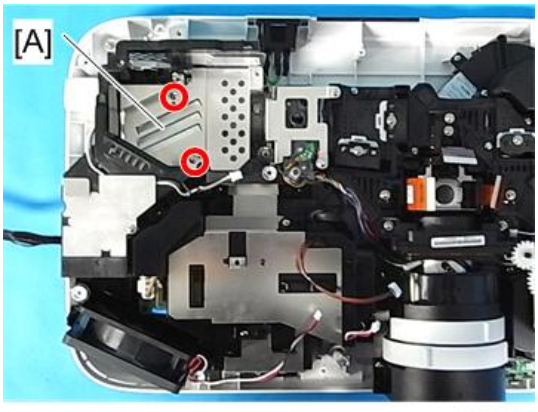
y0151055

2. Remove the Power supply-ballast (×3, ×2).

Power Supply-DC

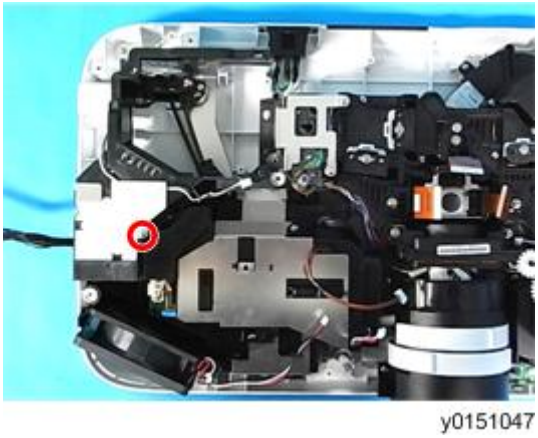
1. Remove the Lamp fan (p.39).

2. Remove the Power Supply-Ballast (p.56).



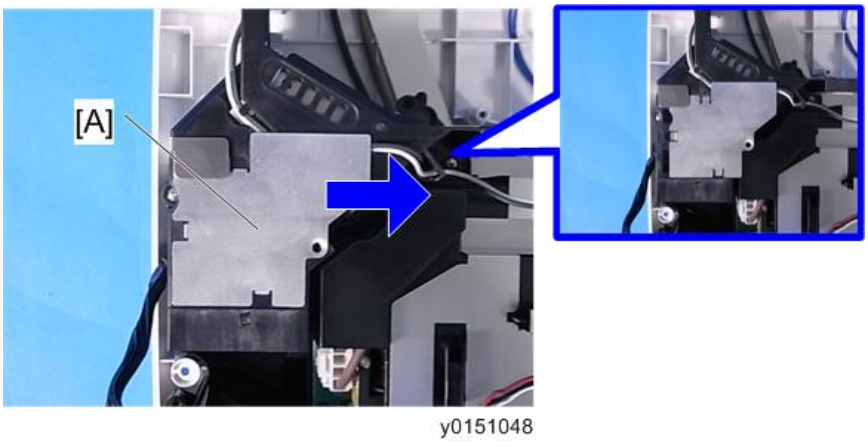
y0151046

3. Remove the bracket [A] (×2).



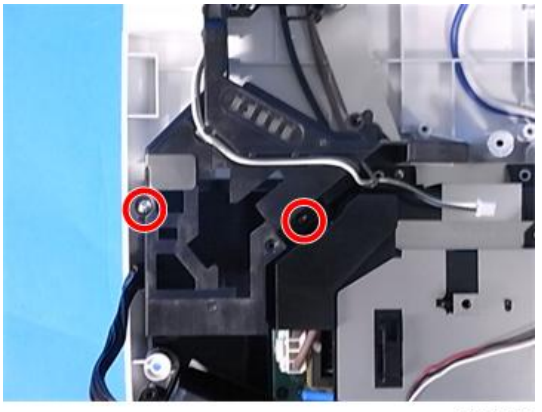
y0151047

4. Remove the screw (×1).



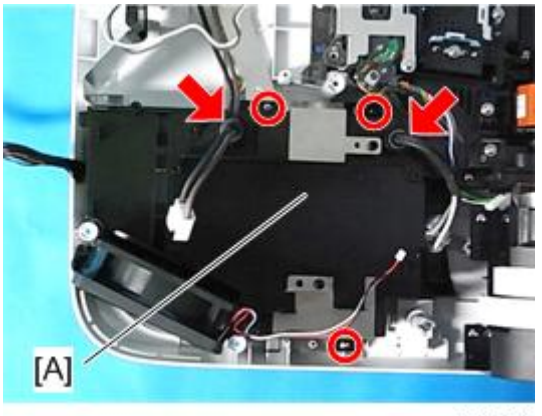
y0151048

5. **Remove the barrier.**



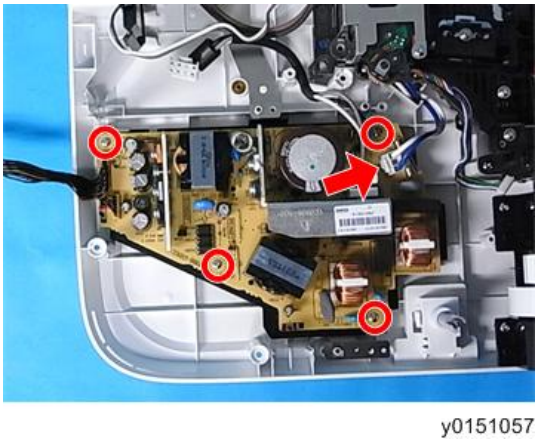
y0151049

6. **Remove the bracket (×2).**



y0151056

7. **Remove the bracket [A] (×3).**



y0151057

8. **Remove the Power supply-DC (×4 ×1).**

Bottom Cover

1. Remove the LCD fan unit (☛ p.46).
2. Remove the Thermostat (☛ p.52).
3. Remove the Power supply-DC (☛ p.56).

Replacement of Optical Parts

Adjustments needed after the replacement of parts are as specified in the table below.

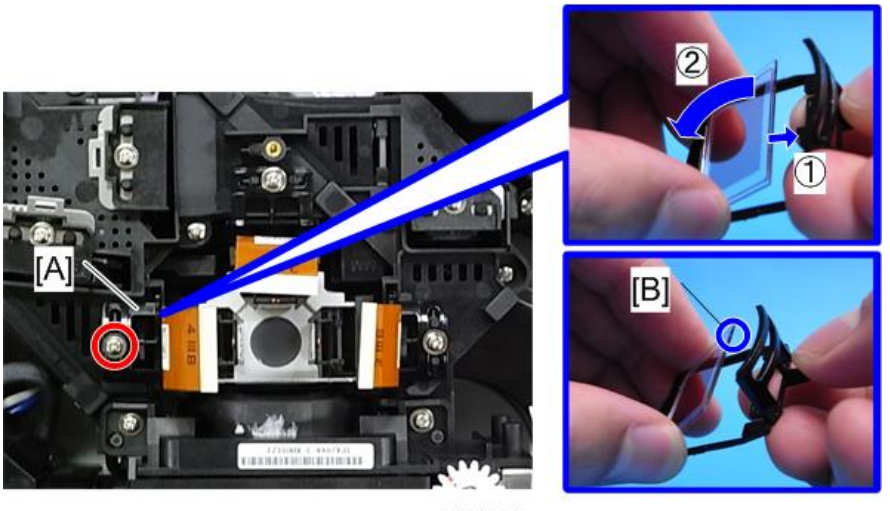
● : Adjustment needed

○ : Need checking

Adjustment parts	Disassembly/replacement of parts			
	Polarizing parts			OPT BASE
	R	G	B	
RL2 adjustments				○
CLG adjustments				○
CLB adjustments				○
POLARIZER R SASSY	●			●
POLARIZER G SASSY		●		●
POLARIZER B SASSY			●	●

Polarizer-B

1. **Remove the PCB Main Ass'y (☛ p.38).**



y0151058

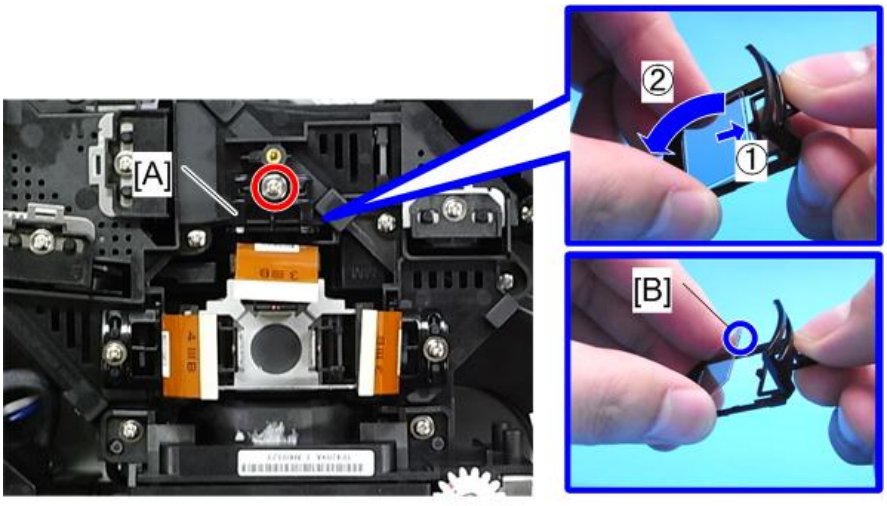
2. **Remove the Polarizer-B [A] (×1).**

   [B] : Make sure to note the direction in which the Polarizer-B is set in the holder. You will notice a mark in the area enclosed by the blue circle in the figure.

Polarizer-G

PJ X5360N

1. **Remove the PCB Main Ass'y (p.38).**



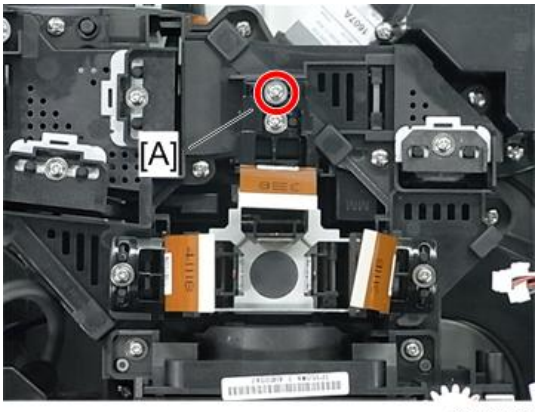
y0151059

2. **Remove the Polarizer-G [A] (×1).**

   [B] : Make sure to note the direction in which the Polarizer-G is set in the holder. You will notice a mark in the area enclosed by the blue circle in the figure.

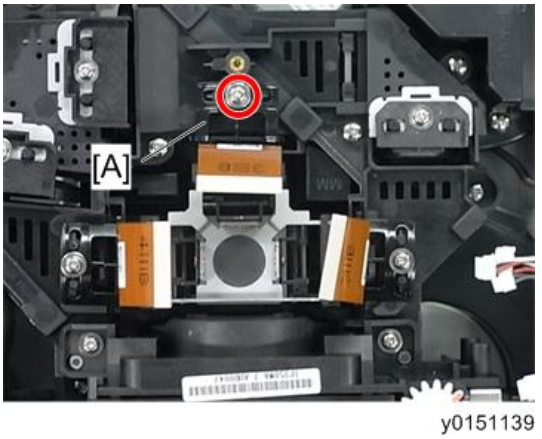
PJ WX5350N

1. **Remove the PCB Main Ass'y (p.38).**



y0151138

2. **Remove the Filter (G) [A] (×1).**



y0151139

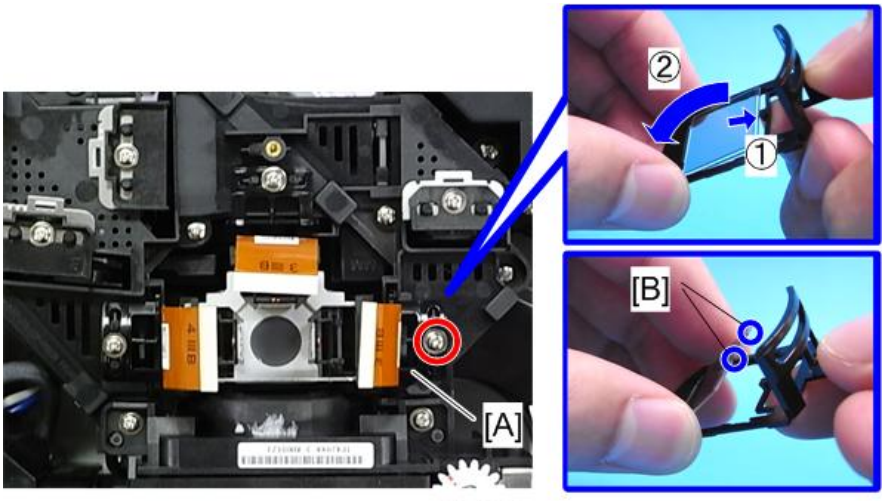
3. **Remove the Polarizer-G [A] (×1).**

Note

- Polarizer-G No need to adjust filter.
- Insertion and removal of the polarizing plate is the same as PJ X5360N.

Polarizer-R

1. **Remove the PCB Main Ass'y (p.38).**



y0151060

2. **Remove the Polarizer-R [A] (×1).**

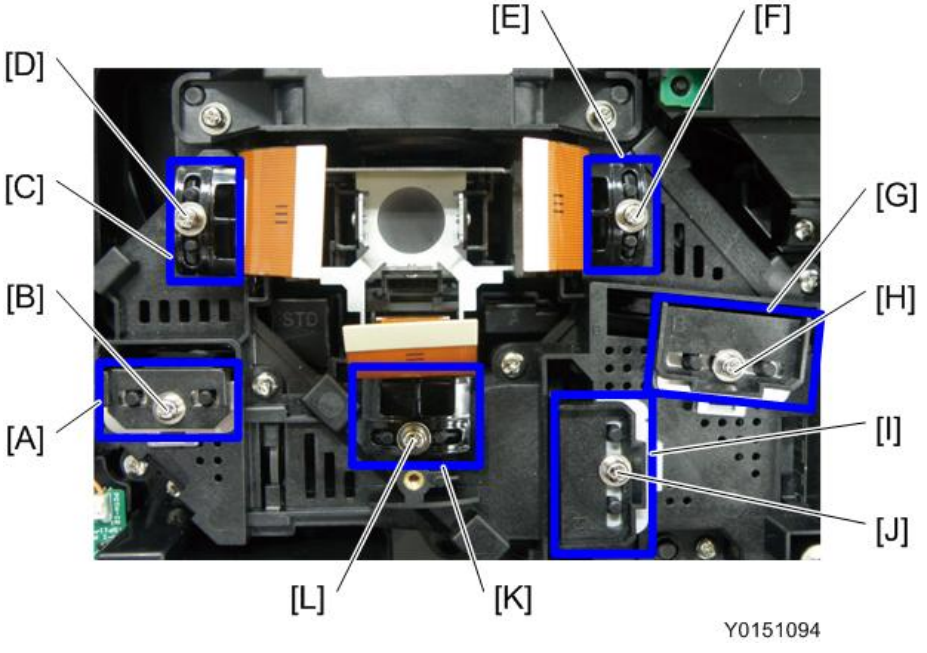
   [B] : Make sure to note the direction in which the Polarizer-R is set in the holder. You will notice a mark in the area enclosed by the blue circle in the figure.

Optical Parts Adjustment

Adjustments needed after the replacement of polarization plates.

Adjusting and fixing parts

PJ X5360N



[A] : RL2

[B] : RL2 Fixing screw

[C] : Polarization plate (R)

[D] : Polarization plate fixing screw (R)

[E] : Polarization plate (B)

[F] : Polarization plate fixing screw (B)

[G] : CLB

[H] : CLB fixing screw

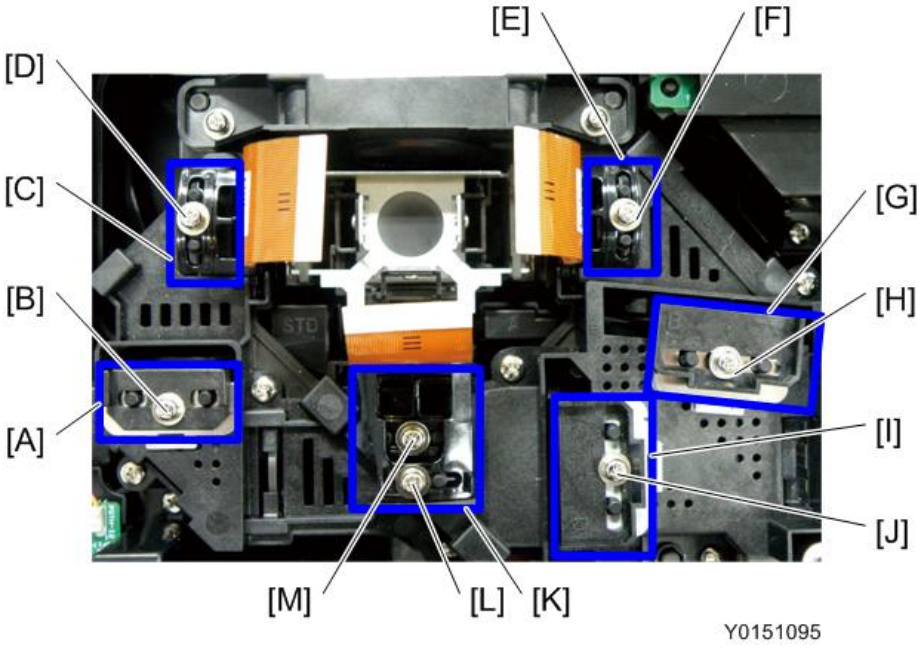
[I] : CLG

[J] : CLG Fixing screw

[K] : Polarization plate (G)

[L] : Polarization plate fixing screw (G)

PJ WX5350N



[A] : RL2

[B] : RL2 Fixing screw

[C] : Polarization plate (R)

[D] : Polarization plate fixing screw (R)

[E] : Polarization plate (B)

[F] : Polarization plate fixing screw (B)

[G] : CLB

[H] : CLB fixing screw

[I] : CLG

[J] : CLG Fixing screw

[K] : Polarization plate (G) / Filter (G)

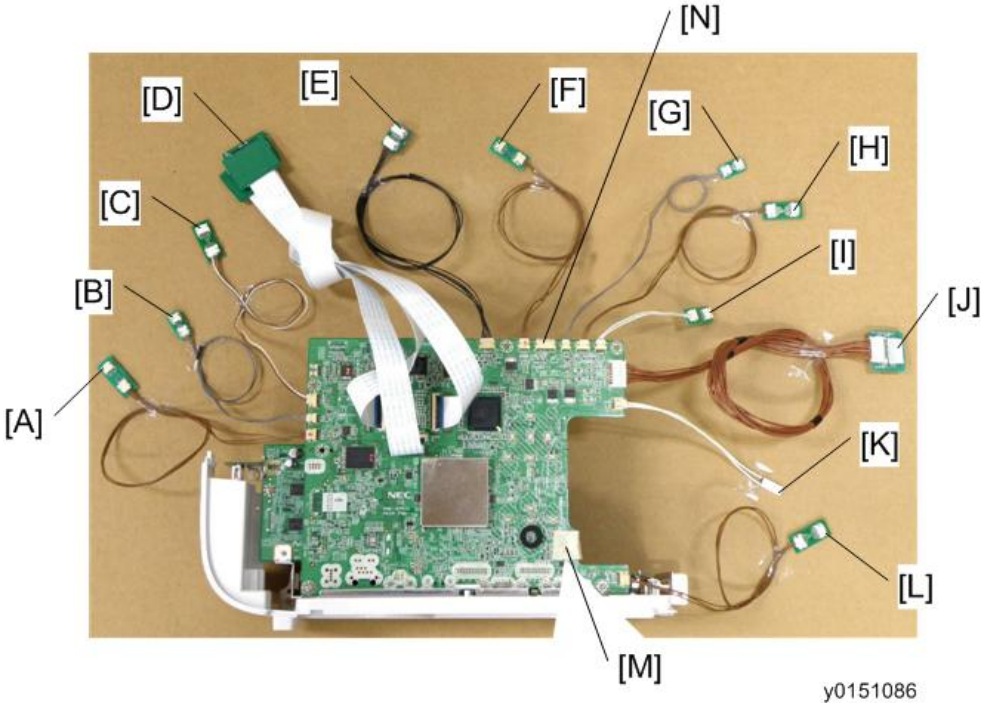
[L] : Filter (G) fixing screw

[M] : Polarization plate fixing screw (G)

Adjustment of the optical axis (Shadow adjustment)

If the projection test (☛ Shadow adjustment flow) succeeds after the Polarization plates are replaced, there is no need to perform Shadow Adjustment.

1. **Remove the PCB Main Ass'y (☛ p.38).**



[A] : To FAN POF2 (3P)

[B] : To TH-I PWB (2P)

[C] : To FAN POF1(4P)

[D] : To R/G/B LCD (40P)

[E] : To BS(5P)

[F] : To FAN POF5 (3P)

[G] : To TH-E (2P)

[H] : To FAN POF4 (4P)

[I] : To PCB Shutter (3P)

[J] : To PS (16P)

[K] : THERMOSTAT

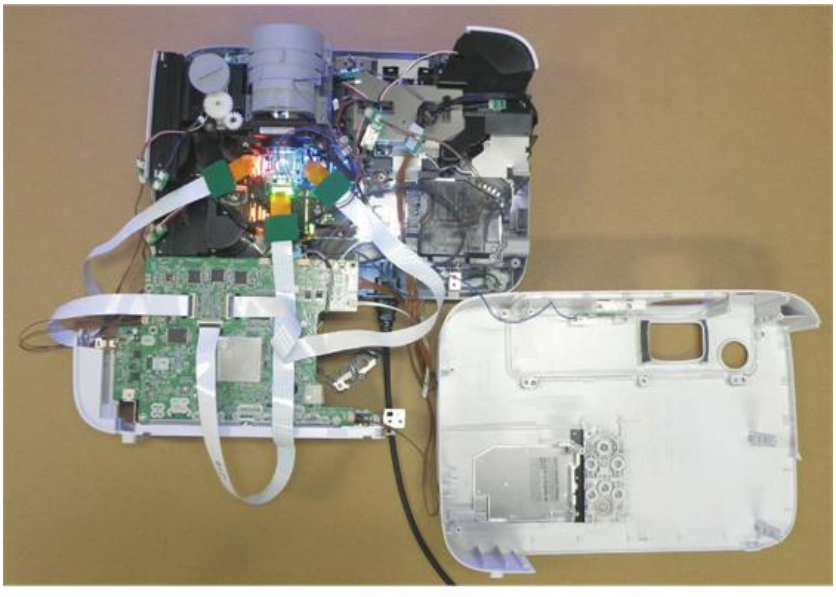
[L] : To FAN POF3 (4P)

[M] : Turn the lamp switch ON. (Maintain the ON state by means of an adhesive tape.)

[N] : To IRIS Unit

* Refer to “Special Tools”.

2. Install the extension connectors and Thermostat on the PCB Main Ass'y that has been dislodged.



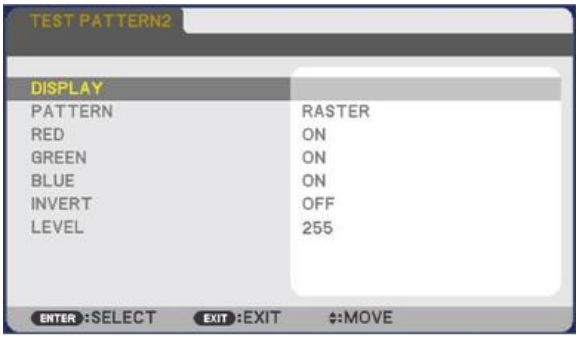
y0151087

3. Connect the respective connectors of the set with the extension connector PWB.

EXPERT (Test Pattern)

Y0151088

Test Pattern (Display)



Y0151089

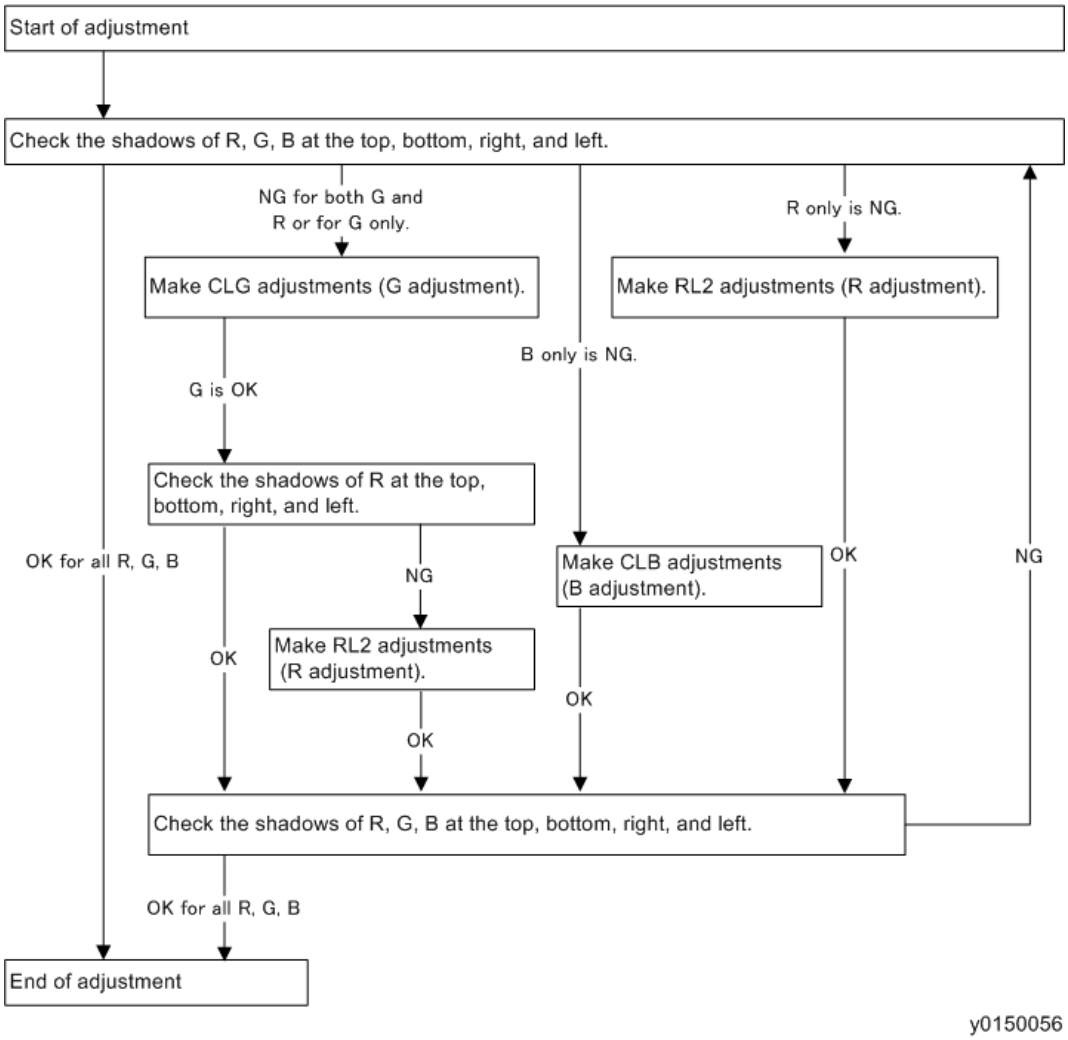
4. **Start the set. Display an internal pattern (all-white signal).**

   (Set the machine to EXPERT or SERVICE mode, then select [SETUP] to display [TEST PATTERNDISPLAY].)

5. **Make shadow adjustments.**

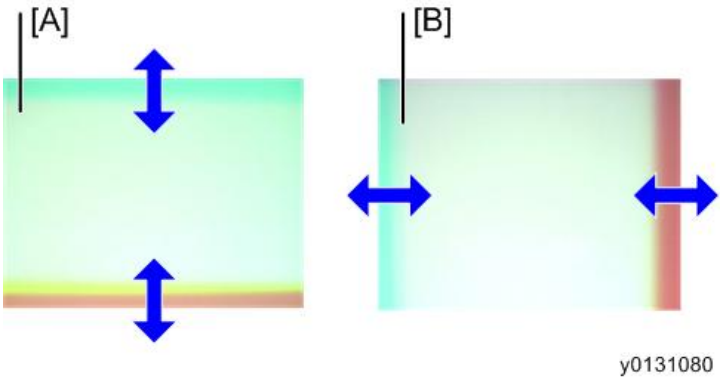
6. **After the completion of adjustments, recover the original status.**

Shadow adjustment flow



Handling of margin in shadow adjustment

During shadow adjustment, adjust the margin so that it is balanced vertically and horizontally. If adjustments are carried out from the LCD panel, this margin cannot be seen directly. Therefore, try to move the shadow until its top, bottom, right, or left part appears. By doing so, examine how much shadow is existing vertically and horizontally. Stop moving the shadow where its margin seems to be well balanced.



[A] : Shadow in vertical direction

[B] : Shadow in vertical direction

Neutral setup position for each adjuster block

- CLG

  Vertical :

  The holder (CLG) shall be positioned at the height of two spacers (RL2) T1.0.

  Horizontal :

  Bosses of Cover (OPT) are located in the right and left holder (CLG) holes, each in the center position.

- RL2

  Vertical :

  The holder (RL2) is held at the height of only one spacer (RL2) T1.0.

  Horizontal :

  Bosses of Cover (OPT) are located in the right and left holder (RL2) holes, each in the center position.

- CLB

  Vertical :

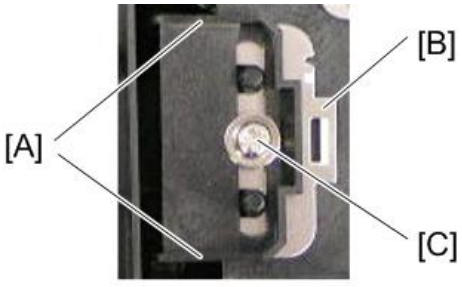
  The holder (CLB) shall be positioned at the height of two spacers (RL2) T1.0 and one spacer (RL2) T0.5.

  Horizontal :

  Bosses of Cover (OPT) are located in the right and left holder (CLB) holes, each in the center position.

Operation of each adjusting part (see "Adjusting and fixing parts")

CLG adjustment



Y0151090

[A] : Handle part of the holder (CLG)

[B] : Spacer (RL2)

[C] : Fixing screw

Vertical direction:

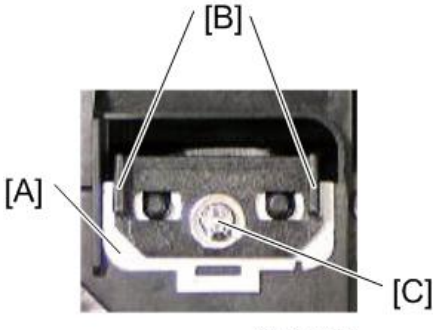
1. Loosen the CLG fixing screw (in 1 position) sufficiently.
2. Change the spacer (RL2) thickness and adjust the shadow margin so that it is vertically equalized. Arrange the spacer so that its total quantity can be reduced.

Horizontal direction:

1. Hold the handle part of the holder (CLG) by hand and move the holder to the right and left in order to adjust the shadow margin so that it is horizontally equalized.
2. After adjustments, fix the CLG fixing screw (1 position).

   The tightening torque shall be 0.35 ± 0.05N • m.

RL2 adjustment



Y0151091

[A] : Spacer (RL2)

[B] : Handle part of the holder (RL2)

[C] : Fixing screw

Vertical direction:

1. Loosen the RL2 fixing screw (1 position) sufficiently.

2. Change the spacer (RL2) thickness and adjust the shadow margin until it is vertically equalized.

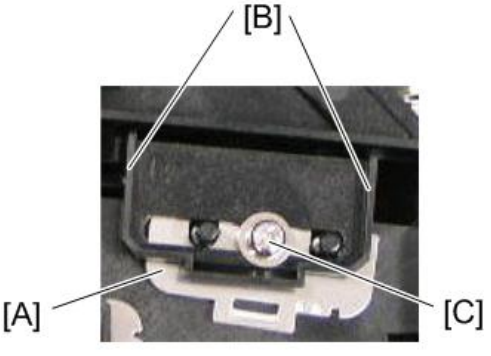
   Arrange the spacer so that its total quantity can be reduced.

Horizontal direction:

1. Hold the handle part of the holder (RL2) by hand and move the holder to the right and left in order to adjust the shadow margin so that it is horizontally equalized.
2. After adjustments, fix the RL2 fixing screw (1 position).

   The tightening torque shall be 0.35 ± 0.05N • m.

CLB adjustment



[A] : Spacer (RL2)

[B] : Handle part of the holder (CLB)

[C] : Fixing screw

Vertical direction:

1. Sufficiently loosen the CLB fixing screw (1 position).
2. Change the thickness of the spacers (RL2) and make adjustments so that the shadow margin becomes uniform vertically. Try to decrease the number of spacers.

Horizontal direction:

1. Move the top section of the holder (CLB) to the right and left by hand. Make adjustments so that the shadow margin becomes uniform horizontally.

   After the completion of adjustments, fasten the CLB fixing screw (1 position).

   The tightening torque shall be 0.35 ± 0.05N • m.

Shadow adjustment for each color

- Vertical shadow adjustment for G and R

  Move the holder (CLG) vertically and eliminate the vertical shadow. (Equally balanced in vertical directions)

(Make adjustments until the portions in magenta color are eliminated vertically and uniformly in the projector screen.)

- Horizontal shadow adjustment for G and R

  Move the holder (CLG) horizontally and eliminate the horizontal shadow. (Equally balanced in horizontal directions)

  (Make adjustments until the portions in magenta color are eliminated horizontally and uniformly in the projector screen.)

- Vertical shadow adjustment for B

  Move the holder (CLB) vertically and eliminate the vertical shadow. (Equally balanced in vertical directions)

  (Make adjustments until the portions in yellow color are eliminated vertically and uniformly in the projector screen.)

- Horizontal shadow adjustment for B

  Move the holder (CLB) horizontally and eliminate the horizontal shadow. (Equally balanced in horizontal directions)

  (Make adjustments until the portions in yellow color are eliminated horizontally and uniformly in the projector screen.)

- Horizontal shadow adjustment for R

  Move the holder (RL2) vertically and eliminate the vertical shadow. (Equally balanced in vertical directions)

  (Make adjustments until the portions in cyan color are eliminated vertically and uniformly in the projector screen.)

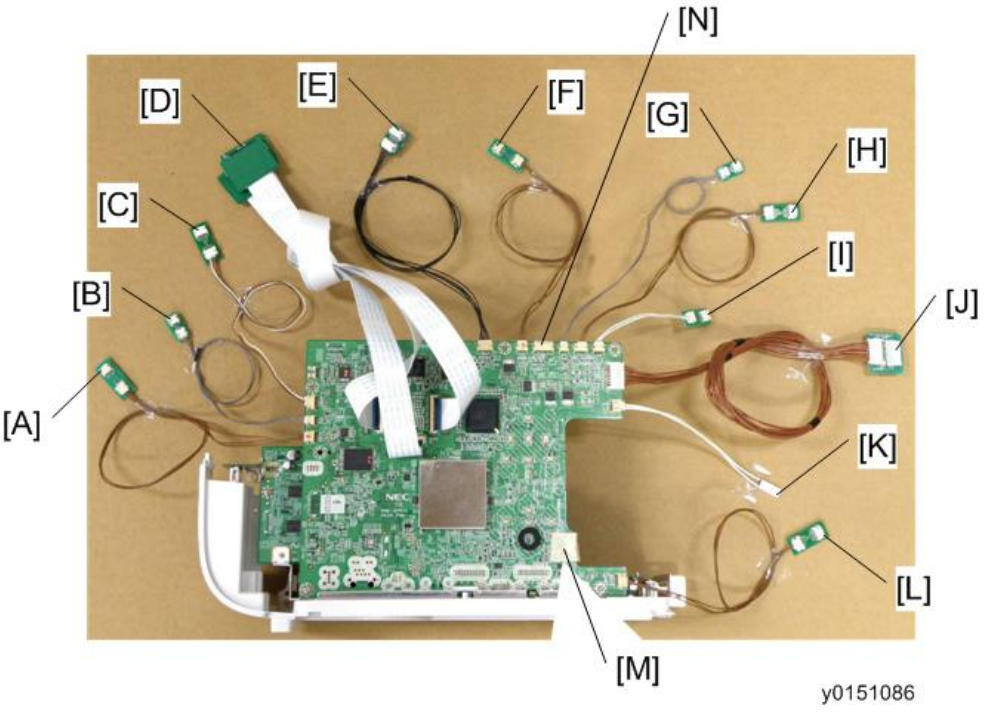
- Vertical shadow adjustment for R

  Move the holder (RL2) horizontally and eliminate the horizontal shadow. (Equally balanced in horizontal directions)

  (Make adjustments until the portions in cyan color are eliminated horizontally and uniformly in the projector screen.)

Adjustment of the polarization plate (Contrast adjustment)

Outlined description of adjusting work



[A] : To FAN POF2 (3P)

[B] : To TH-I PWB (2P)

[C] : To FAN POF1(4P)

[D] : To R/G/B LCD (40P)

[E] : To BS(5P)

[F] : To FAN POF5 (3P)

[G] : To TH-E (2P)

[H] : To FAN POF4 (4P)

[I] : To PCB Shutter (3P)

[J] : To PS (16P)

[K] : THERMOSTAT

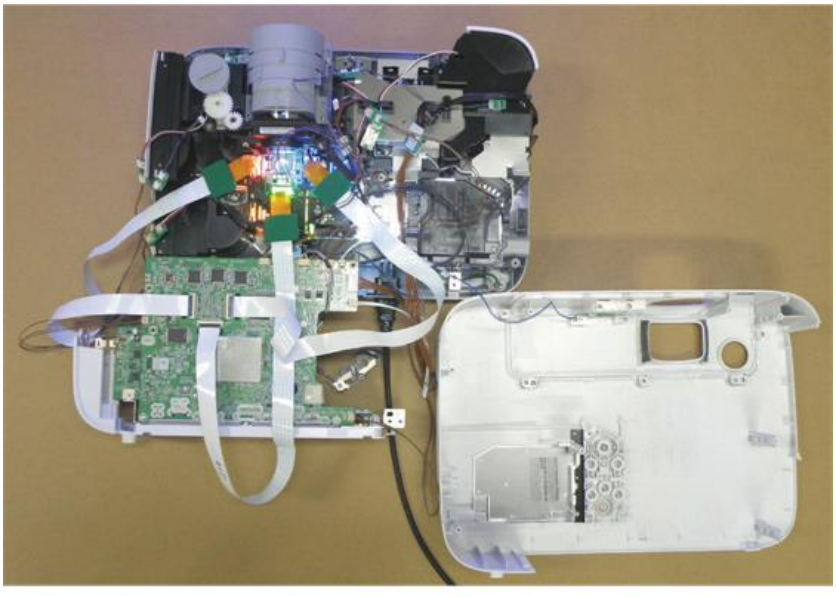
[L] : To FAN POF3 (4P)

[M] : Turn the lamp switch ON. (Maintain the ON state by means of an adhesive tape.)

[N] : To IRIS Unit

* Refer to “Special Tools”.

1. **Install the extension connectors and Thermostat on the PCB Main Ass'y that has been dislodged.**



y0151087

2. **Connect the respective connectors of the set with the extension connector PWB.**

Y0151093

3. **Start the set. Display an internal pattern (all-black signal).**

   (Select Install and Setup on the menu screen and set the background at Black Background.)

4. **Adjust the polarization plate.**
5. **After the completion of adjustments, return the set to its original state. Method of adjustment (see "Adjusting and fixing parts")**

Electrical Adjustment

Adjustments needed after the replacement of Main PWB is as specified in the table below.

● : Adjustments needed

○ : Data Read/Write

△ : This is needed, depending on the situation.

			PCB Main Ass'y	OPT Base
Data writing				
	Data for each model		●	–
	EDID Data		●	–
	Serial number and Model number		●	–
Data Read/Write				
	All Data	Flicker Data	○	–
		VT Data	○	–
		Uniformity Data	○	–
		Color Correction Data	○	–
		Wall Collor Data	○	–
		Usage Time Data	○	–
Flicker adjustment				
	Floor		△	●
	Ceiling		△	●

Description of adjustment items

- Version up field Data for each model (PJ Upgrader)

  Writes data, such as the model name, used to identify the model.

  If the value is incorrect. an image from the PC may not be displayed correctly (for example, may be ghosted).

- Data for each model (PJ Upgrader 2)

Writes BIOS data, Firmware, Firm and data for each CPU, set device (IC) values, a temperature table for cooling, and adjusted VT values.

- EDID Data

  Writes Model-related data for each model used for communication with a PC.

  If this value is incorrect, the PC may be unable to recognize a XGA/WXGA mode.

- Serial number and Model number

  Writes the serial number and model name of the product.

- Flicker adjustment

  Writes the electrical characteristic values of each individual OPT Base.

Procedures for the replacement of the PCB Main Ass'y

Outline of adjustment procedules

Before the replacement of PCB Main Ass'y.

1. **Copying of all data**

After the replacement of PCB Main Ass'y

1. **Data writing for each model is carried out**

   Software : PJUpgrader2vupf, PJUpgrader2

2. **Writing of copied All Data**

   Software : PC control software for service

3. **EDID data writing is carried out**

   Software : EDID Writer

4. **Data writing for Serial number and Model number**

   Software : SN WRITER

Important

- When all data cannot be copied

After the replacement of PCB Main Ass'y

1. Data writing for each model is carried out (PJUpgrader2vupf, PJUpgrader2)
2. Flicker adjustments, Usage Time setup (PC control software for service)
3. EDID data writing is carried out (EDID Writer)
4. Data writing for Serial number and Model number (SN WRITER)

PC control software for service

Outline of software descriptions

This is the PC control software for servicing adjustments to be conducted during the replacement of the PCB Main Ass'y or LDC panel (OPT BASE).

This software makes it possible to perform the following adjustments:

- Adjustment of Flicker
- Modification of usage time for the Usage Time (Lamp, Filter, Panel, and Projector)
- READ/WRITE of factory ADJ data (Flicker, VT, Uniformity, Color Correction, Wall Color) and Usage Time data

Personal computer setting intended to obtain the adjusting pattern screen outputs

- Personal computer's resolution, frequency, and the No. of colors

  Make settings for VESA XGA (1024 ×768) 60Hz, high color (16 bits) or above.
- Method of adjusting pattern screen display

  The available Test Patterns are all built into the projector.

Software installation procedures

This software is composed of the following items:

- Service adjusting software
- Various DLL files

Follow the instructions below to install the files on the PC.

1. **Copy all files into any folder.**

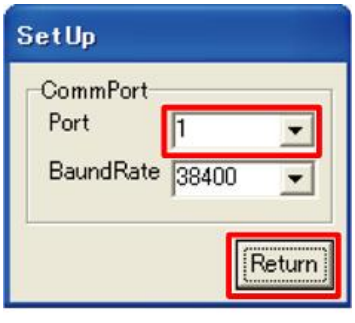
Starting and ending methods for adjustments

<Method of adjustment starting>

1. Assure a condition that PJ and PC are connected through a serial cable and start the service adjustment software.

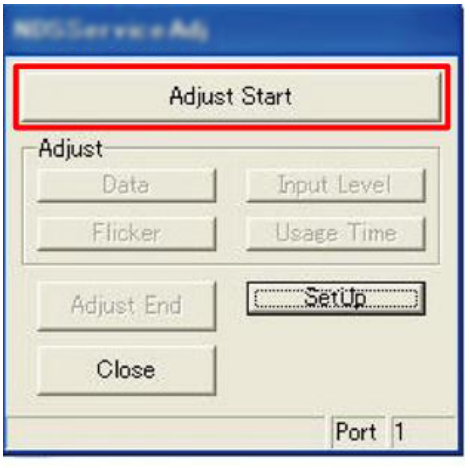
y0151117

2. Click [Setup] button to open the Setup window.



y0151118

3. **Select the COM port connected to the PJ in the [Port] box. Set the baud rate match the setting of the PJ. Press [Return] button when the setting is completed.**



y0151119

4. **Click "Adjust Start" to start initial data reading.**

   * Each adjusting button will be enabled when models are correctly identified.

<Method of adjustment ending>

When the adjustment described below, from the procedure "Replacement of the PCB Main Ass'y", "Replacement of the OPT BASE" and "Miscellaneous" is done, click [Adjust End] button.

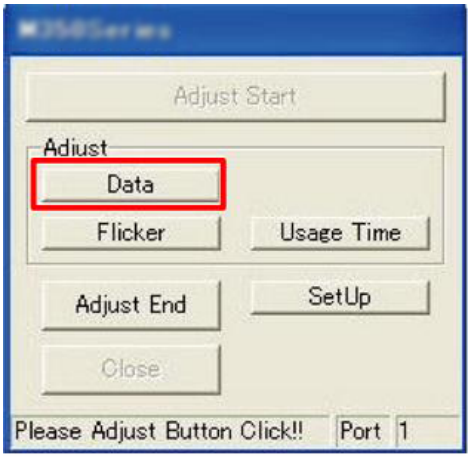
* When adjustments of another set are further intended, operation should be started with [Adjust Start].

* If you try to adjust another set without making [Adjust End], there will be an error as a result of model discrimination.

* Click [Close] button to terminate the program.

Copying and Writing All Data

<All Data copying>



y0151120

Click [Data] button of the service software with the PJ Power in standby to open the Data window.

According to (1) and (2) below, follow the steps of All Data Read / Write.

All Data mentioned here denote the respective factory adjusting data (Flicker, VT, Uniformity, Color Correction, Wall Color), and Usage Time.

y0151121

y0151122

1. All Data Read

Read the PCB Main Ass'y data currently used before replacement and save them in a file.

Check mark the [All data], and click [Read] button. Name the file and save.

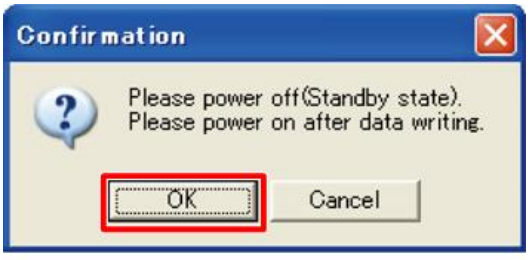
y0151123

The procedure is done when a message box "It completed." is displayed.

* In a certain faulty state, data cannot be saved. In such a case, follow the steps of [Miscellany].

<All Data writing>

y0151124



y0151125

1. **All Data Write**

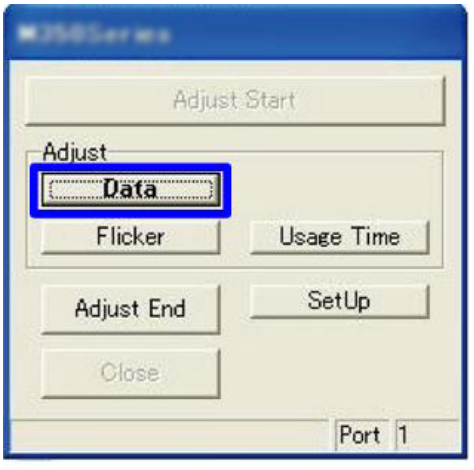
   After exchanging PCB Main Ass'y, click [Write] button to select the saved file.

   When a message "Please Power Off (Standby state)." is displayed, make sure that the PJ Power is in standby, then click [OK] button.

y0151126

y0151127

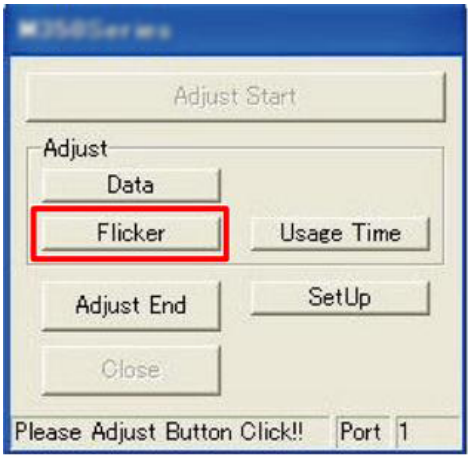
The procedure is done when a message box "It completed." is displayed.



y0151128

* When executing data writing, [Data] indicated in the main window turns to bold text.

Adjustment of Flicker



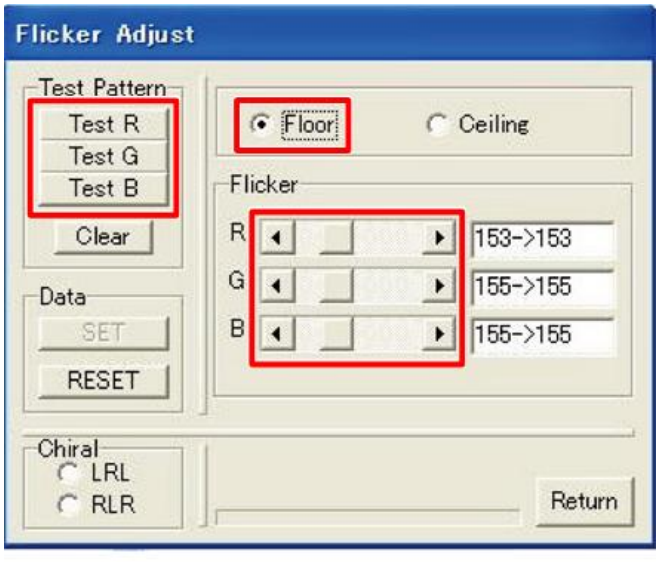
y0151129

Click [Flicker] button of the service software to open the Flicker Adjust window.

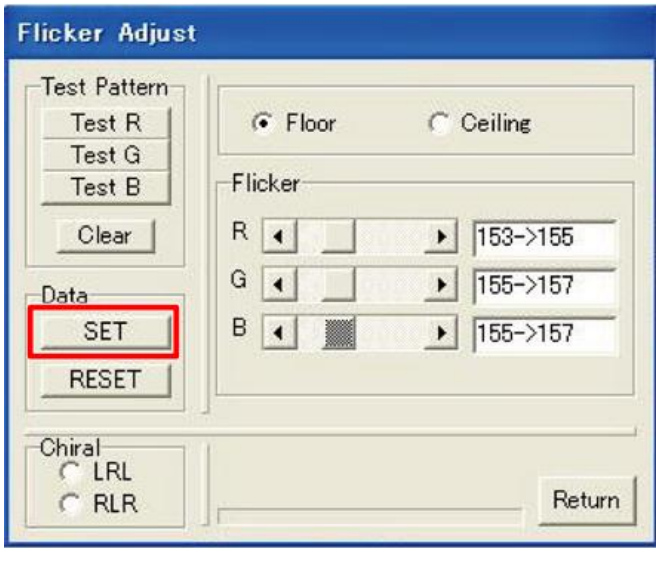
Make Flicker adjustments according to (1) ~ (3) below.

1. **Adjustment start**

   Keeping the PJ power supply turned ON, maintain the condition of aging for five minutes.



y0151130



y0151131

2. Adjustment of Floor

Check [Floor].

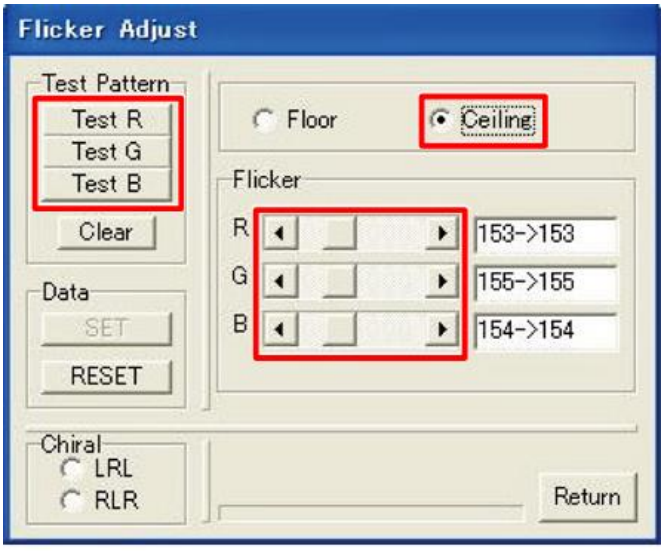
Display Red raster signal by clicking [Test R] button in the [Test Pattern] box. Adjust R-scroll bar so that the flicker in the middle of the window becomes smallest.

Display Green raster signal by clicking [Test G] button in the [Test Pattern] box. Adjust G-scroll bar so that the flicker in the middle of the window becomes smallest.

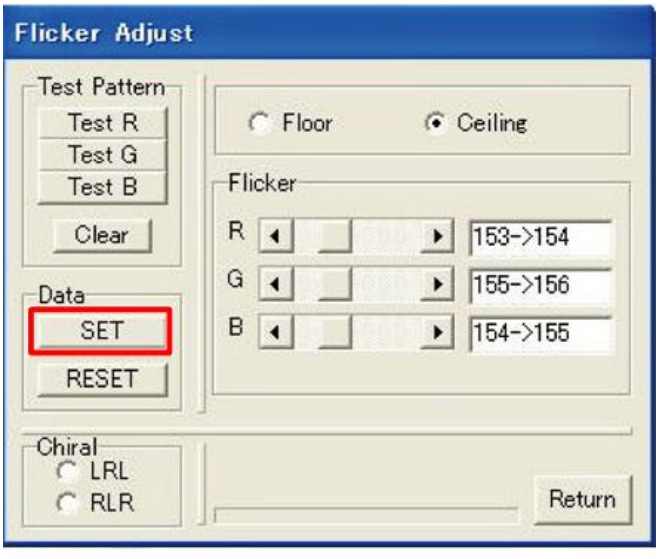
Display Blue raster signal by clicking [Test B] button in the [Test Pattern] box. Adjust B-scroll bar so that the flicker in the middle of the window becomes smallest.

When flicker adjustment is done, click [SET] button in the [Data] box to write the adjusted value.

* When displaying Test pattern, in case flicker is not clearly displayed because of the horizontal lines, click [Test R/G/B] button a few times to clear the lines.



y0151132



y0151133

3. Adjustment of Ceiling

Check [Ceiling].

Display Red raster signal by clicking [Test R] button in the [Test Pattern] box. Adjust R-scroll bar so that the flicker in the middle of the window becomes smallest.

Display Green raster signal by clicking [Test G] button in the [Test Pattern] box. Adjust G-scroll bar so that the flicker in the middle of the window becomes smallest.

Display Blue raster signal by clicking [Test B] button in the [Test Pattern] box. Adjust B-scroll bar so that the flicker in the middle of the window becomes smallest.

When flicker adjustment is done, click [SET] button in the [Data] box to write the adjusted value.

* When displaying Test pattern, in case flicker is not clearly displayed because of the horizontal lines, click [Test R/G/B] button a few times. It clears the lines.

* When adjustment for each Floor and Ceiling is done ([SET] is clicked), the Floor / Ceiling characters turn to red.

* To restore the data to the state before the adjustment, click [RESET] button. The data will restore to the initial setting, and the characters return to black.

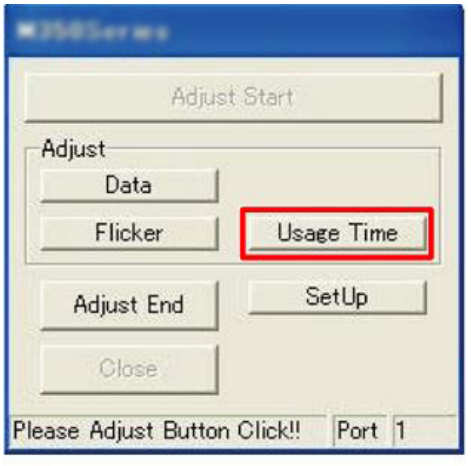
* The value displayed by the side of the scroll bar indicates; the original value in the left side of the arrow, the current value in the right side of the arrow.

* The data adjusted with the scroll bar is temporary data. For the PJ to store the data, click [SET] button to write in Flash ROM.

* To adjust the machine, you do not need to turn the it upside down.

Usage Time Setup

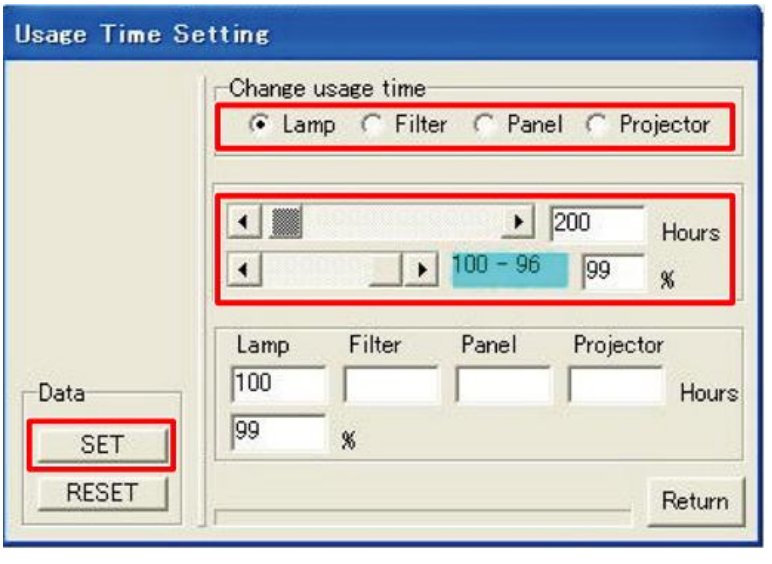
- If the present Usage Time for the Lamp / Projector is different from the actual Usage Time, the following setup is made to recover the correct Usage Time.
- When Usage Time Read / Write is carried out at the time of PCB Main Ass'y replacement, the correct Usage Time is also copied for the Lamp / Projector. Therefore, no more setting is required.
- However, this function should not be used unless the correct Usage Time is known.



y0151134

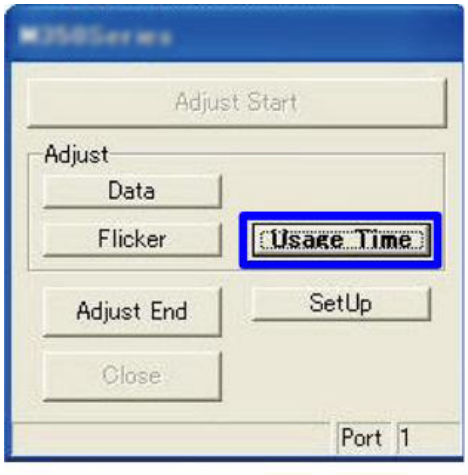
Click [Usage Time] button of the service software with the PJ Power in standby to open Usage Time Setting window.

Make Usage Time setup according to (1) below.



y0151135

y0151136



y0151137

1. **Setting**

   Select a type of Usage Time to be changed in the [Change Usage Time].

   Set time using the scroll bar, then click [SET] in the Data Box.

   When a message [Please Power Off (Standby state).] is displayed, make sure that the PJ Power is in standby, then click [OK] button.

   Using scroll bars, adjust [Hours] and remaining [%] for Lamp Usage Time, and [Hours] for Usage Time.

   * When Usage Time is changed, the changed time will be displayed in the editor below.

   * To restore the time, click [RESET] button. It restores to the initial data.

   * When changing Usage Time, [Usage Time] indicated in the main window turns to bold text.

2. **Select a type of Usage Time to be changed in the [Change Usage Time]. Set time using the scroll bar, then click [SET] in the Data Box.**

   Using scroll bars, adjust [Hours] and remaining [%] for Lamp Usage Time, and [Hours] for Usage Time.

   * When Usage Time is changed, the changed time will be displayed in the editor below.

* To restore the time, click [RESET] button. It restores to the initial data.

Error messages

- "TIME OUT (ACK) !"

  This is a communication error in conjunction with the PJ.

  Check the Serial Port Number, BaundRate, and whether the PJ main Power is turned ON.

- "TIME OUT (Data) !", "RsRead Error," , "Data Send Error!!", "DATA READ ERROR", **"Model check Error (Data Read)!!"**

  This is a communication error in conjunction with the PJ.

  Check the connection, and error occurrence in the PJ, then retry.

  In case it occurs 2 or 3 times consecutively, reboot the PC.

- "Comm Open Error"

  This is a failure in opening the serial port.

  Check the Serial Port Number.

  Make sure that there is no other application using the same Serial Port.

- "TIME OUT (Comm Close Error) !", "Comm Close Error"

  This is a failure in closing the serial port.

  Confirm if there is any application that occupies the serial port.

  In case it occurs 2 or 3 times consecutively, reboot the PC.

- "File format error", "Address error"

  The data format of the file specified when executing data writing from the file is not correct.

  Make sure that it is a file read in PJ X5360N/PJ WX5350N.

- "ACK Error!!"

  Check the status of the PJ, and retry.

  * For instance, you may have done an operation with Power OFF, which should have been done with Power ON.

  In case it occurs 2 or 3 times consecutively, reboot the PC.

  If not recovering from this error after operating the above, the PJ may be in trouble.

- "Model name error!!"

  The target PJ is not PJ-X5360N or PJ-WX5350N.

- "Model check Error (2)!!"

  The current target PJ is not the one executed [Adjust Start].

  Restart from [Adjust Start], in case adjusting current target PJ.

- "Comparison error"

  The data is not successfully written. Retry writing.

In case it occurs 2 or 3 times consecutively, reboot the PC.

If not recovering from this error after operating the above, the PJ may be in trouble.

Model-Specific Data Writing Procedure

Model-specific data writing procedure

1. **Model-related data for each model**

   Writing software : PJUpgrader2.exe

   File name to be written : *********_mdata.bin

2. **Initial setting of writing software**

   [COM port] : Set the COM port of used PC.

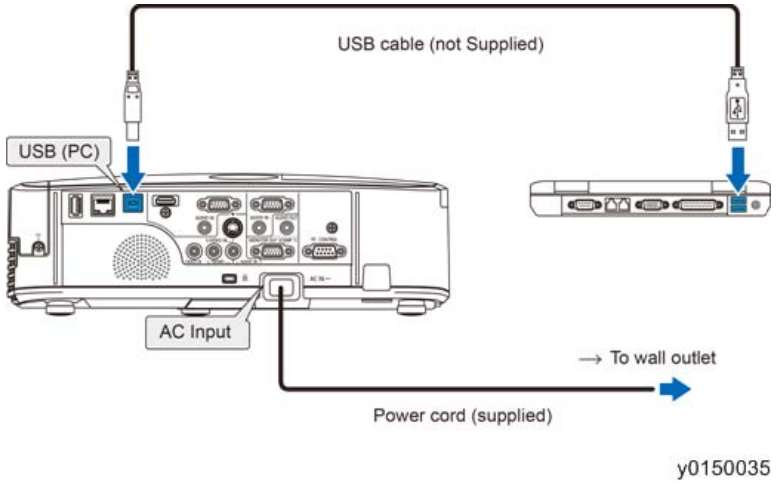
   [Baud rate] : Match the setting of the PJ.

Operation Procedure

Prior to operation, install the writing software (PJUpgrader2.exe) and copy the files of the writing model (*****_mdata.bin).

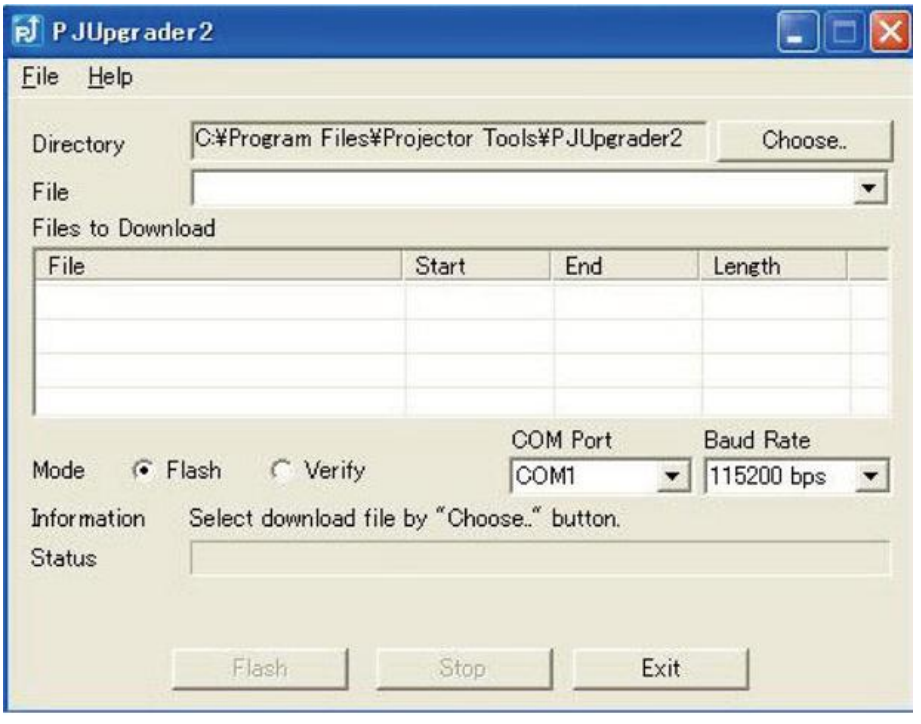
Writing of model-related data for each model

RTB 10
Corrected



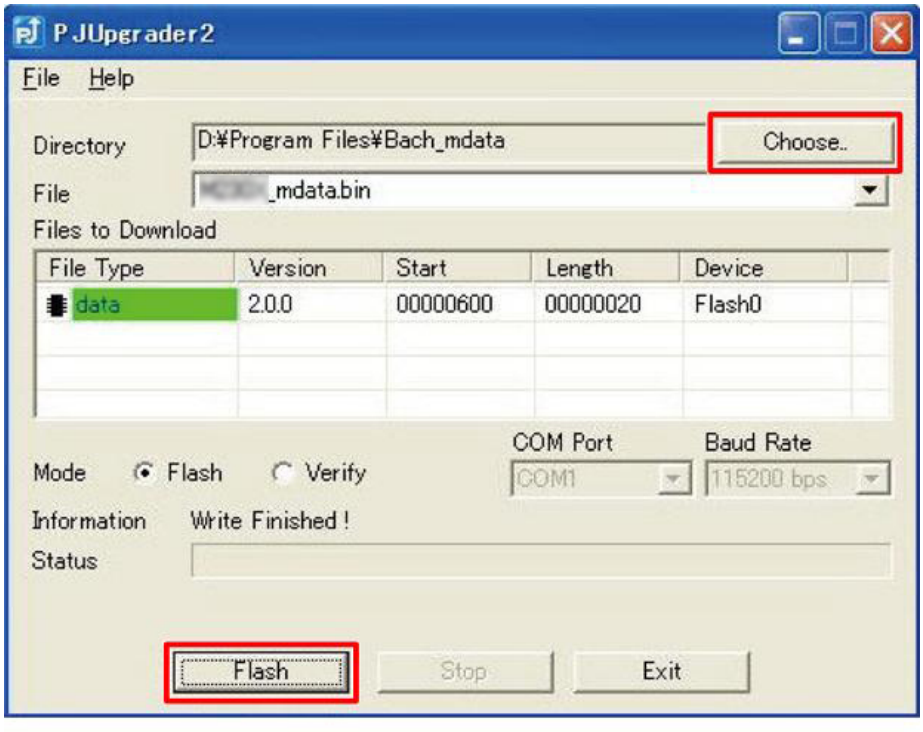
1. **Connect PJ and PC with an USB cable.**
2. **Turn the power ON, pressing the [MENU] and [EXIT] keys of the main unit simultaneously. (AC source turned on)**

3. **Release the [MENU] and [EXIT] keys when the Power LED blinks in green.**



y0151096

4. **Start up PJUpgrader2.exe previously installed.**



y0151097

5. **Press [choose....] button to select the file (*****_mdata_******.bin) to be written.**
6. **Check that the set and PC are properly connected each other, then press [Flash] button.**

   Message "Do you start flash write?" is displayed.
7. **When [Yes(Y)] button is pressed, writing is started.**

   (Progress bar showing writing situation is displayed.)

y0151098

8. **Message "Write Finished!" is displayed, when completed. Press [OK] button to finish the operation.**

9. **Turn the Power OFF for the PJ main unit.**
10. **Disconnect the USB cable.**

Error Messages

- Attestation failure. (-1001)

  When rewriting the version up field, it is required to set the projector in writing only mode in advance.

- The model information of the file conflicts with that of the connected projector. (-1002)

  Check the projector connecting to the selected file.

  The projector connected is not that the selected file can write for.

Procedure for rewriting EDID data

Outline software descriptions

This is PC control software to rewrite EDID data of PCB Main Ass'y supporting PJ X5360N/ WX5350N.

Equipment to be used and environment

Equipment to be used

- EDID rewriting software

  EDIDWrite.exe

- EDID data (Digital) ("***" in the file name denotes the version.)

  X5360N_EDID_HDMI_V***

  WX5350N_EDID_HDMI_V***

- EDID data (Analog) ("***" in the file name denotes the version.)

  X5360N_EDID_DSUB_V***

  WX5350N_EDID_DSUB_V***

- PC

  A Windows XP / 2000 operable PC, which enables a serial cable and RGB (analog) video connection with the PJ.

- Serial cable

  D-SUB9pin-D-SUB9pin, Cross (reverse) cable

- RGB video cable

  D-SUB15pin

Software installation procedures

1. **Installing EDIDwriter**

   Copy all files of “EDIDwriter” into any folder.

2. **Installing EDIDdata**

   Copy each EDID data to any folder, and execute.

Rewrite procedure

* Make sure to follow the procedure below to rewrite the data.

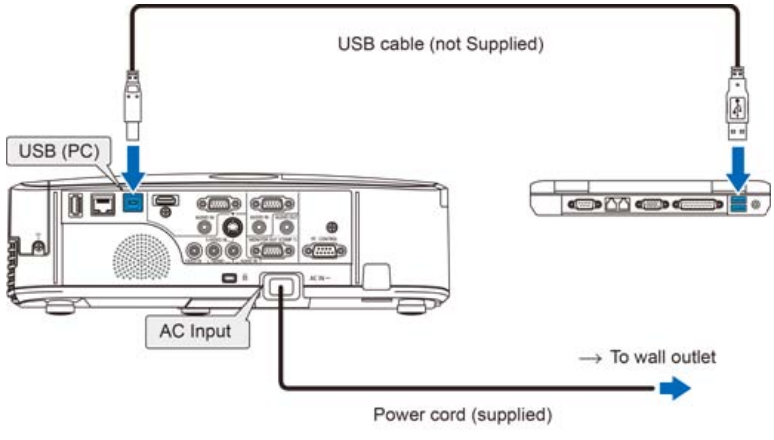
Note

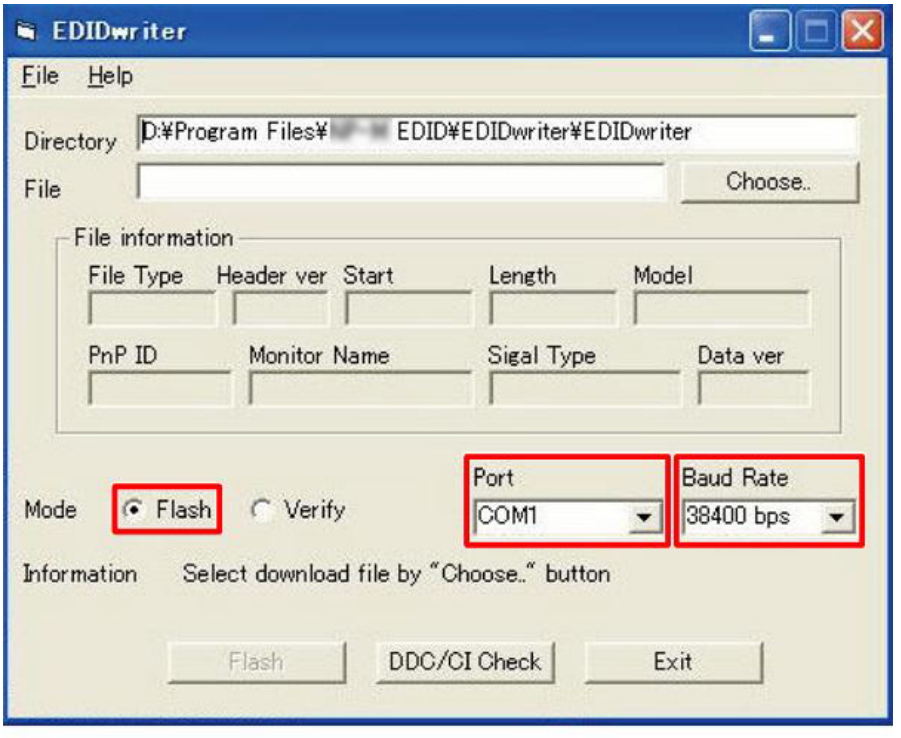
- After exchanging PCB Main Ass’y, first adjust PCB Main Ass’y. (PCB Main Ass’y adjustment: Use PC control software for service.)

1. Rewrite HDMI terminal EDID.
2. Rewrite D-SUB terminal EDID.

Rewriting HDMI terminal EDID

RTB 10
Corrected





y0151099

1. **Initial setting**

   Turn the Power OFF for the PJ main unit. (AC source turned on)

   Connect the PJ and the PC with a serial cable, referring to "2. Equipment to be used and environment" Then activate "EDIDwriter".

   - Mode

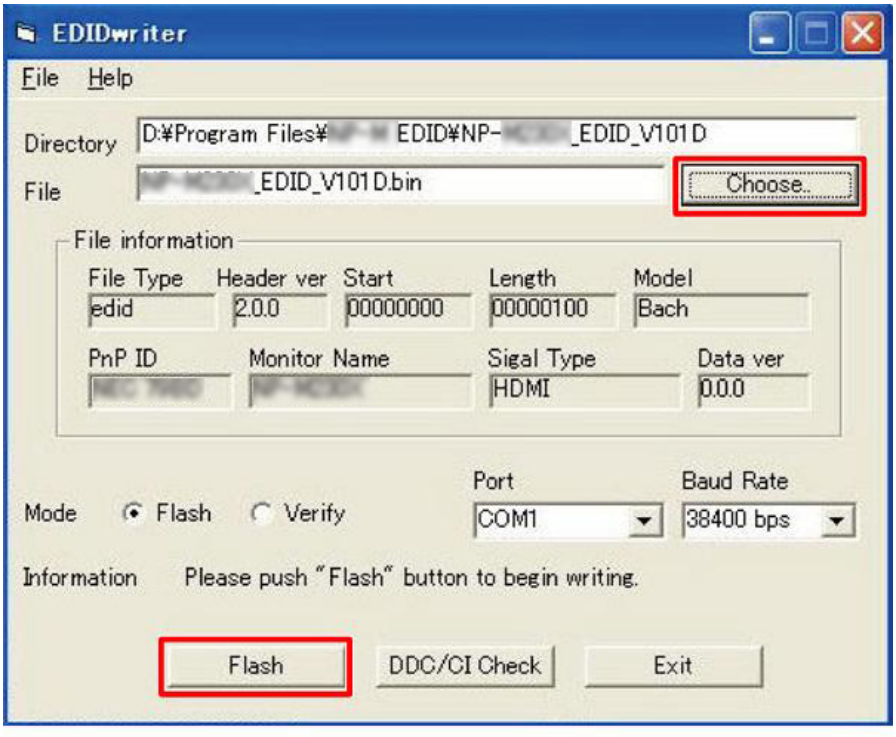
     Select "Flash".

   - Port

     Select the corresponding Com Port for the target PC.

   - Baud Rate

     Match the setting of the PJ.



y0151100

2. Selecting a writing file

Click "Choose.." button to select the file.

* Select HDMI EDID data from File name "yyyy_ EDID_HDMI_V***.bin". (yyyy:Model, xxx:version).

- Comparison Table of Model Names and EDID File Names of HDMI

Model Name	EDID File Name
PJ-X5360N	X5360N_EDID_HDMI_V***.bin
PJ-WX5350N	WX5350N_EDID_HDMI_V***.bin

* The asterisks *** of the fine name denote a version.

3. Transferring to Data Writing Mode

Make sure that the PJ is in ON state.

y0151101

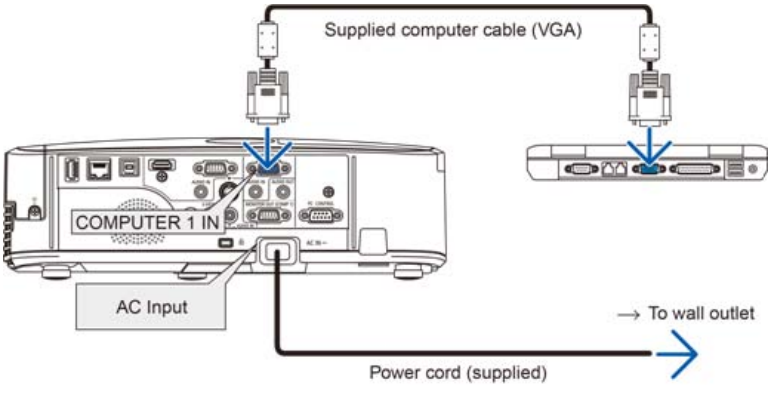
4. Rewriting data

Make sure that the PJ and the PC are properly connected, and then click "Flash" button. Rewriting HDMI terminal EDID is started.

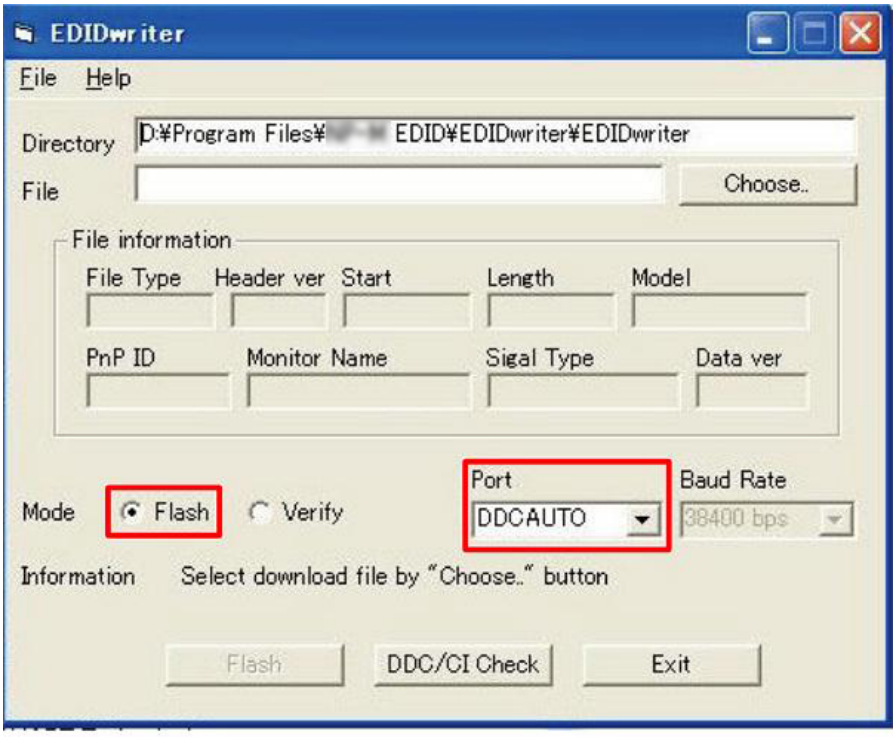
When writing is completed, the message "Write Finished!" will be displayed.

Click "OK" button to finish the procedure.

Rewriting D-SUB terminal EDID



y0150037



y0151102

1. Initial setting

Turn the Power OFF for the PJ main unit. (AC source turned on)

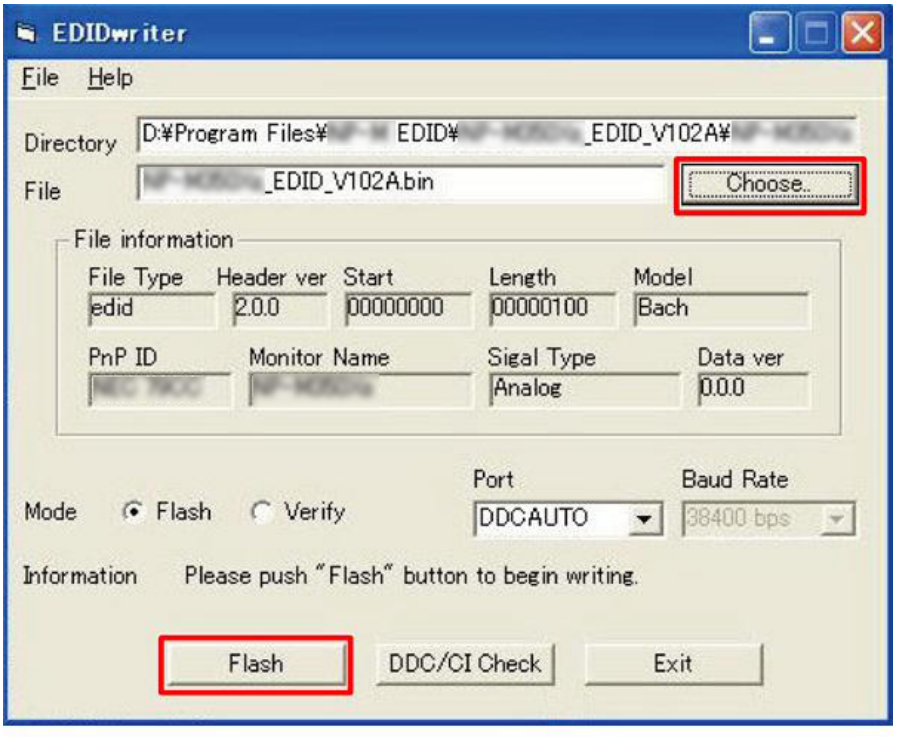
Connect the PJ and the PC with a RGB cable, referring to "2. Equipment to be used and environment". Then activate "EDIDwriter".

- Mode

  Select "Flash".

- Port

  Set "DDCAUTO".



y0151104

2. Selecting a writing file

Click "Choose.." button to select the file.

* Select D-SUB EDID data from File name "yyyy_ EDID_DSUB_V***.bin". (yyyy:Model series name, xxx: version)

- Comparison Table of Model Names and Analog EDID File Names

Model Name	EDID File Name
PJ-X5360N	X5360N_EDID_DSUB_V***.bin
PJ-WX5350N	WX5350N_EDID_DSUB_V***.bin

* The asterisks *** of the fine name denote a version.

3. Transferring to Data Writing Mode

Turn the PJ Power ON, and transfer to Service Mode.

Moving to another service mode

The [ENTER PASSCODE] menu is displayed when the keys are pressed in the order of [Help] → [Enter] → [Help] → [Enter] → [Help] → [Enter] → [Menu] for 3 seconds.

Press the select keys in the order of [▲] → [▶] → [◀] → [▶] → [▶] → [▶] → [▲] → [▲]→ [Enter].

Press the [Menu] key to obtain a menu display and confirm that [SERVICE] is displayed in lower part of the menu.

y0151105

4. **Rewriting data**

Make sure that the PJ and the PC is properly connected, and then click "Flash" button.

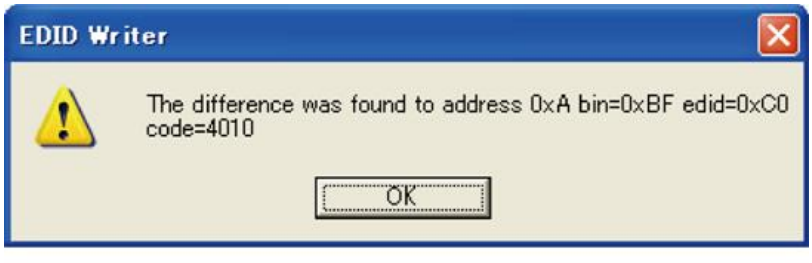
It is not necessary that the PC image is displayed on the PJ at this time.

When writing is completed, the message "Write Finished!" will be displayed.

Click "OK" button to finish the procedure.

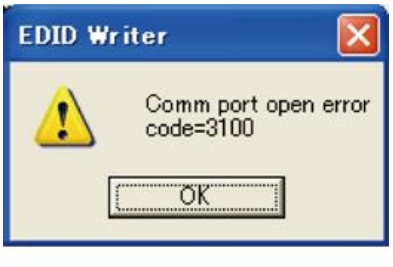
When the PJ is equipped with multiple D-SUB input terminals (Computer IN), execute data rewriting for each terminal.

In the case of failure in EDID writing, such as the PJ being not in service mode or the like, there is a display of “The difference was found to address 0x?? bin=0x?? edid=0x??”.



y0151106

Error message



y0151107

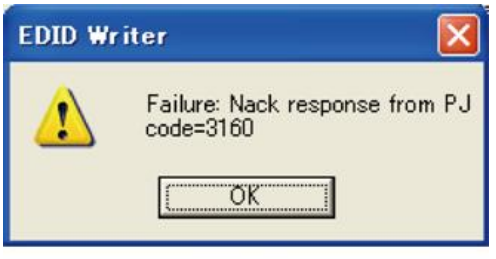
The serial port has failed to open.

Check whether any available serial port has been selected.

y0151108

There is no response from the PJ.

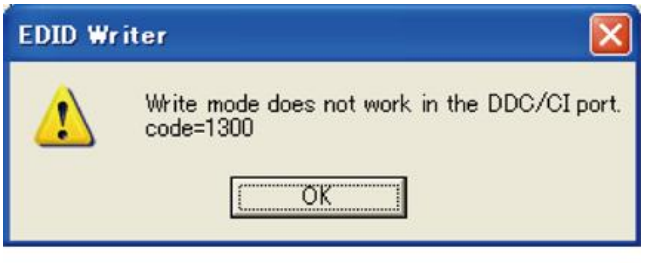
Check whether the PC and the PJ are connected through a serial cable.



y0151109

There was a Nack response from the PJ.

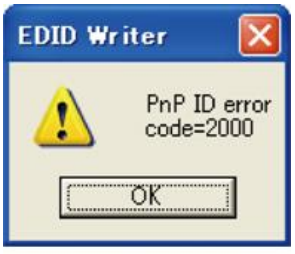
Check the condition of PJ power supply and the baud rate.



y0151110

Writing in the EDID of HDMI is impossible from the DDC/CI board.

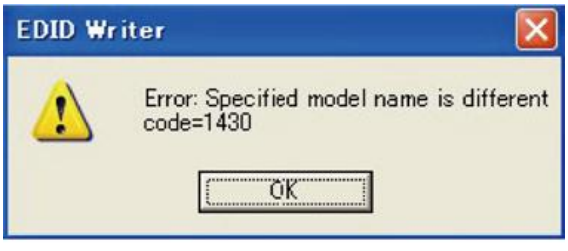
Select the serial port.



y0151111

The PJ is not found.

Check whether the PC and the PJ are connected through an RGB cable.



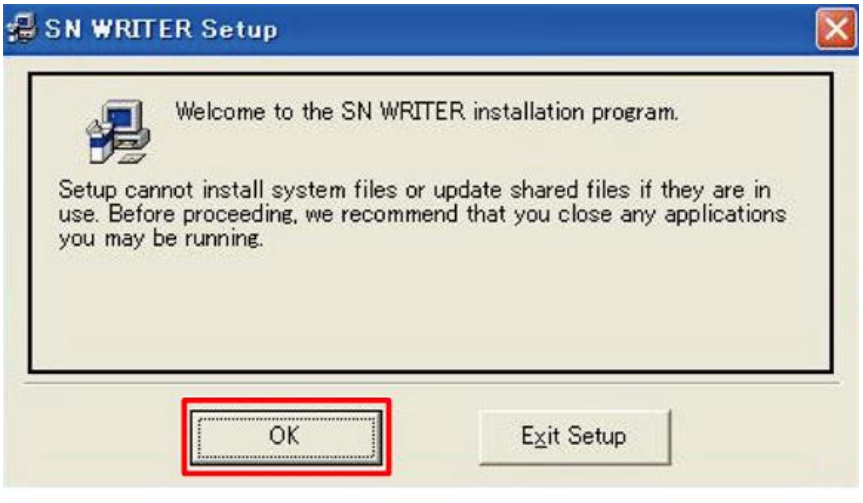
y0151112

A wrong model is specified.

Check the model.

Procedure for writing of a serial number and a model number

Software installation



y0151113

y0151114

Decompress snwriter000002.zip; and execute the established set-up.exe to install it in the PC.

(For the destination folder for installation, either half-size or full-size font characters are acceptable.)

Writing of a serial number and a model number

1. **Connect the Projector to computer through an RS-232C cable (Reverse) (D-SUB9pin - D-SUB9pin). Turn on the power supply of the Projector.**
2. **Click " snwriter.exe " that is saved in the directory (C:¥Program Files¥Projector Tools ¥SN WRITER¥).**
3. **In the specified format, the model number and the serial number are entered in the column of [A]. When the "Write" button is pressed, these data are transferred to the projector and serial number writing is completed.**

   Specified format :

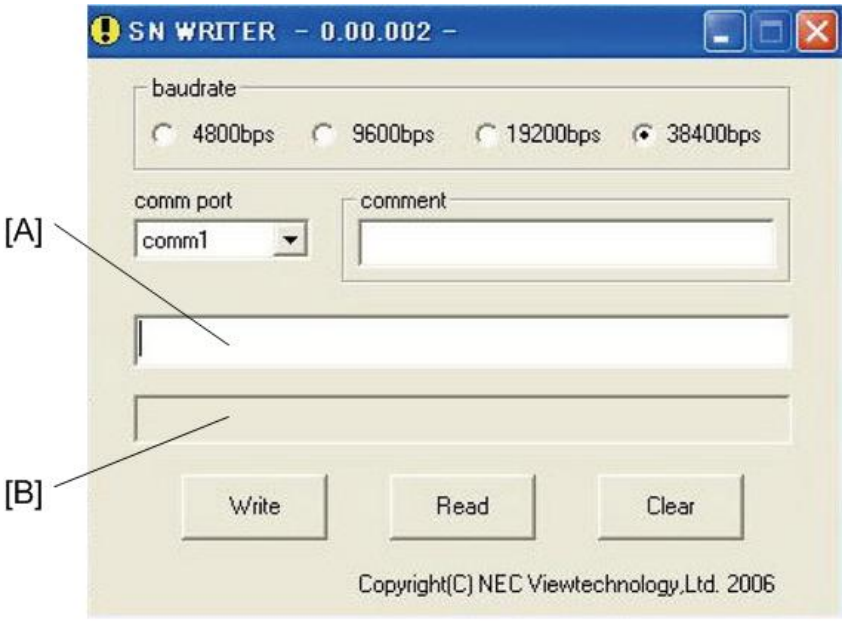
   Attach the asterisks ("*") to the head and the tail.

   Provide a space between the model number and the serial number.

   ⚠CAUTION

   - After the completion of writing, no verification is performed. Therefore, press the "Read" button separately to confirm the result of writing.

Data readout

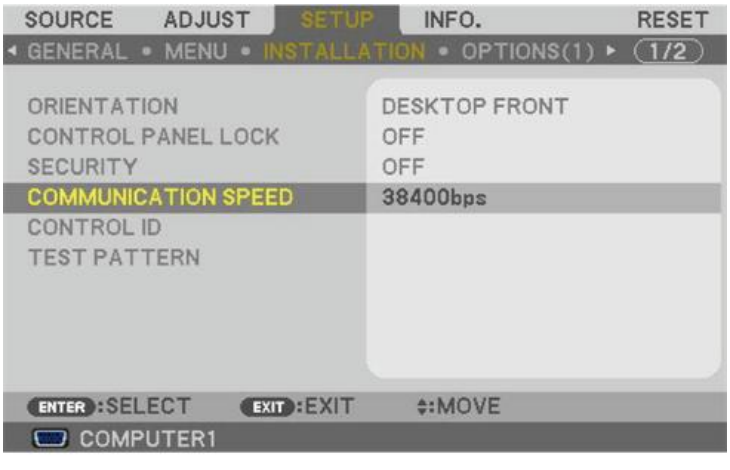


y0151115

The data (model number and serial number) written in the projector are read out.

When the "Read" button is pressed, the data read out of the projector are displayed in Column [B] in the specified format.

In regard to "baud rate" that is indicated in the above-mentioned screen, make confirmation on the menu screen specified below.



y0151116

Procedures for the replacement of the OPT Base

After the replacement of PCB Main Ass'y

1. Flicker adjustments (☛PC control software for service)

4. System Maintenance

Firmware Upgrade

A LAN cable is needed to upgrade the firmware.

Before upgrading the firmware, make sure to prepare the following:

- LAN cable
- Notebook PC (on which Internet Explorer 6.0 or later is installed)

Upgrading the firmware

1. **Connect the PC to the projector via a wired or wireless LAN.**
   * You can use PING to check whether the PC is successfully connected to the LAN.
2. **Select [MENU] → [INFO.] → [WIRED LAN] or[WIRESS LAN]to check the IP address.**
3. **Place the projector in standby mode.**
   * On the projector, set [STANDBY MODE] to [NORMAL].
4. **Start Internet Explorer and open the "http://xxx.xxx.x.xx/upload.html" page.**
   * Replace xxx.xxx.x.xx with the IP address that was confirmed in Step 2.

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5. **When the "Projector Update" page appears, press the [Browse] button.**

6. Select the file and press the [UPDATE] button.

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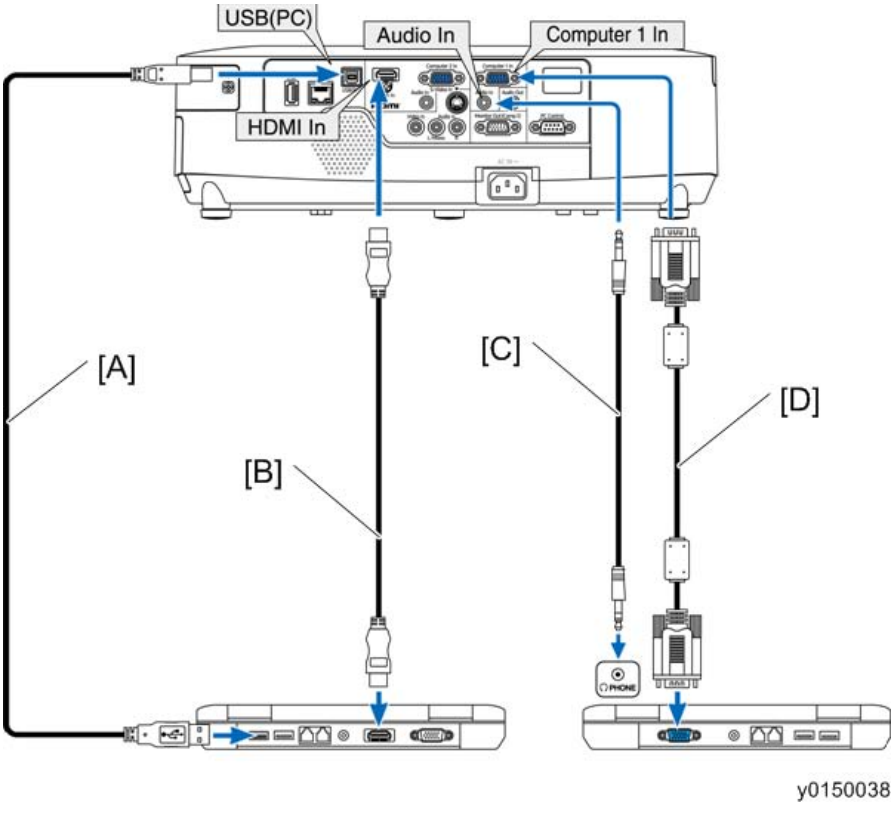
7. When the confirmation dialog box appears, press the [OK] button.
8. When the message "File written successfully" appears in the history section, press the [REBOOT] button to restart the projector.
9. To update multiple files, repeat steps 5 to 7 for each file you want to update.
10. Do not turn off the projector or disconnect the LAN cable before the update is complete. Otherwise, the projector may not restart.

Functional Test

Connecting a Computer

Signals supported by Plug & Play (DDC2)

INPUT		
Computer 1 In	Computer 2 In	HDMI
analog	analog	digital
Yes	Yes	Yes



[A] : A commercially available USB cable (compatible with USB 2.0 specifications)

[B] : HDMI cable (not supplied), Use High Speed HDMI® Cable.

[C] : Stereo mini-plug audio cable (not supplied)

[D] : Computer cable (VGA) (supplied)

To mini D-Sub 15-pin connector on the projector. It is recommended that you use a commercially available distribution amplifier if connecting a signal cable longer than the cable supplied.

Note

- For Macintosh, use a commercially available pin adapter (not supplied) to connect to your Mac's video port.

Note

- When [VIEWER], [NETWORK], or [USB DISPLAY] is selected for [INPUT], sound from the Computer 2 Audio In mini jack will be output through the speaker.
- Select the source name for its appropriate input connector after turning on the projector.

Input connector	Input button on the projector cabinet	Button on the remote control
Computer 1 In	COMPUTER1	Computer 1
Computer 2 In	COMPUTER2	Computer 2
HDMI In	HDMI	HDMI
USB (PC)	USB DISPLAY	USB Display

Note

- An image may not be displayed correctly when a Video or S-Video source is played back via a commercially available scan converter.
- This is because the projector will process a video signal as a computer signal at the default setting. In that case, do the following.
- * When an image is displayed with the lower and upper black portion of the screen or a dark image is not displayed correctly : Project an image to fill the screen and then press the Auto Set button on the remote control or the projector cabinet.

Note

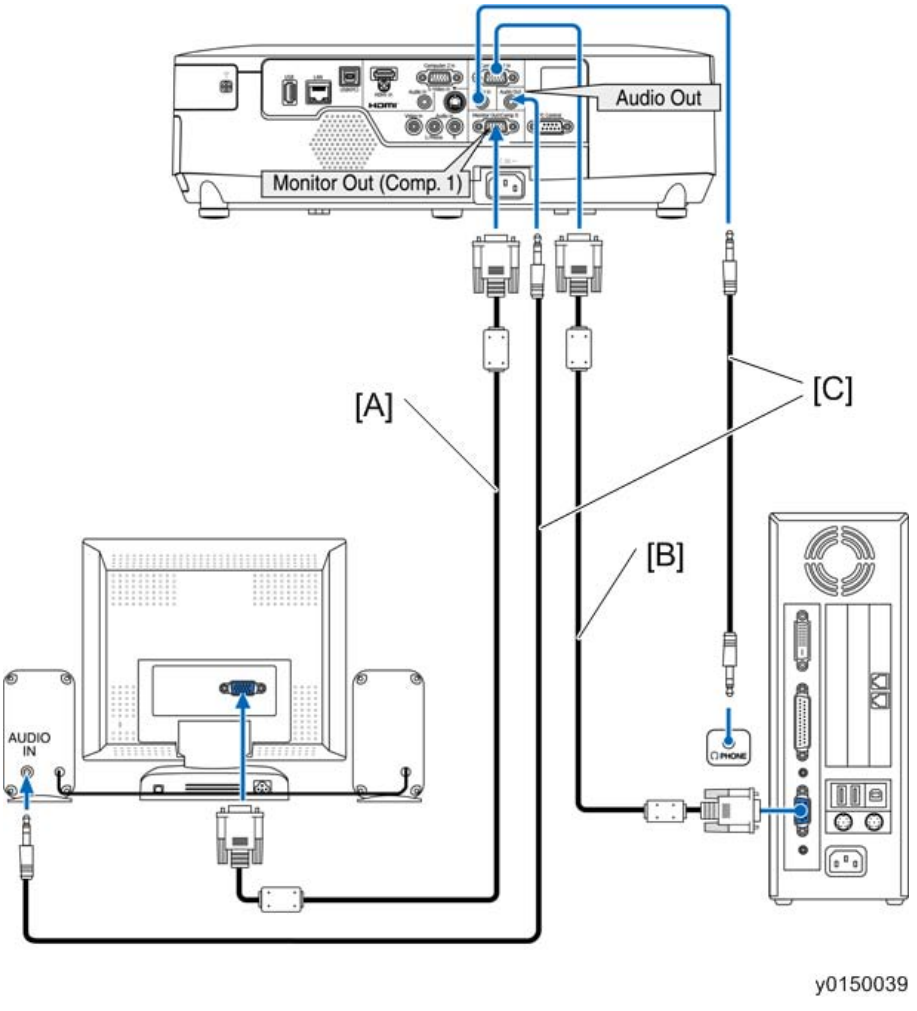
- When Viewing a DVI Digital Signal
  - Use a DVI-to-HDMI cable compliant with DDWG (Digital Display Working Group) DVI (Digital Visual Interface) revision 1.0 standard. The cable should be within 197"/5 m long.
  - Turn off the projector and the PC before connecting the DVI-to-HDMI cable.
  - To project a DVI digital signal: Connect the cables, turn the projector on, then select the HDMI input. Finally, turn on your PC. Failure to do so may not activate the digital output of the graphics card resulting in no picture being displayed. Should this happen, restart your PC.

- Some graphics cards have both analog RGB (15-pin D-Sub) and DVI (or DFP) outputs. Use of the 15-pin D-Sub connector may result in no picture being displayed from the digital output of the graphics card.
- Do not disconnect the DVI-to-HDMI cable while the projector is running. If the signal cable has been disconnected and then reconnected, an image may not be correctly displayed. Should this happen, restart your PC.

Note

- HDMI input signal
- Disconnecting and connecting the HDMI cable may result in no picture being displayed from the HDMI equipment while the projector is running.
- Should this happen, select the HDMI input again.
- <Two ways to select the HDMI input>
  - Press the HDMI button on the remote control.
  - Press the Menu button on the projector cabinet, then select [HDMI] from [INPUT].

Connecting an External Monitor



[A] : Computer cable (VGA) (not supplied)

[B] : Computer cable (VGA) (supplied)

[C] : Stereo mini-plug audio cable (not supplied)

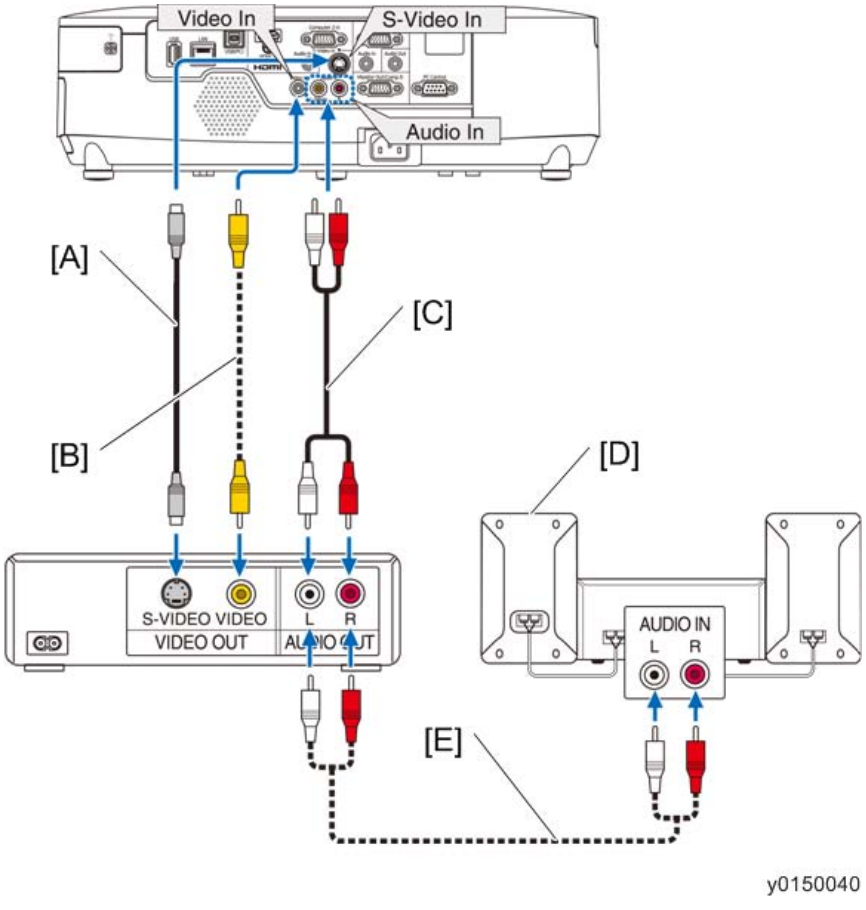
You can connect a separate, external monitor to your projector to simultaneously view on a monitor the computer analog image you're projecting.

Note

- Daisy chain connection is not possible.
- When audio equipment is connected, the projector speaker is disabled.

Connecting a DVD Player or Other AV Equipment

Connecting Video/S-Video Input



[A] : S-Video cable (not supplied)

[B] : Video cable (not supplied)

[C] : Audio cable (not supplied)

[D] : Audio equipment

[E] : Audio cable (not supplied)

- Select the source name for its appropriate input connector after turning on the projector.

Input connector	Input button on the projector cabinet	Button on the remote control
VIDEO IN	VIDEO	Video
S-VIDEO IN	S-VIDEO	S-Video

Note

- The Audio In L and R jacks (RCA) are shared between the Video and S-Video inputs.

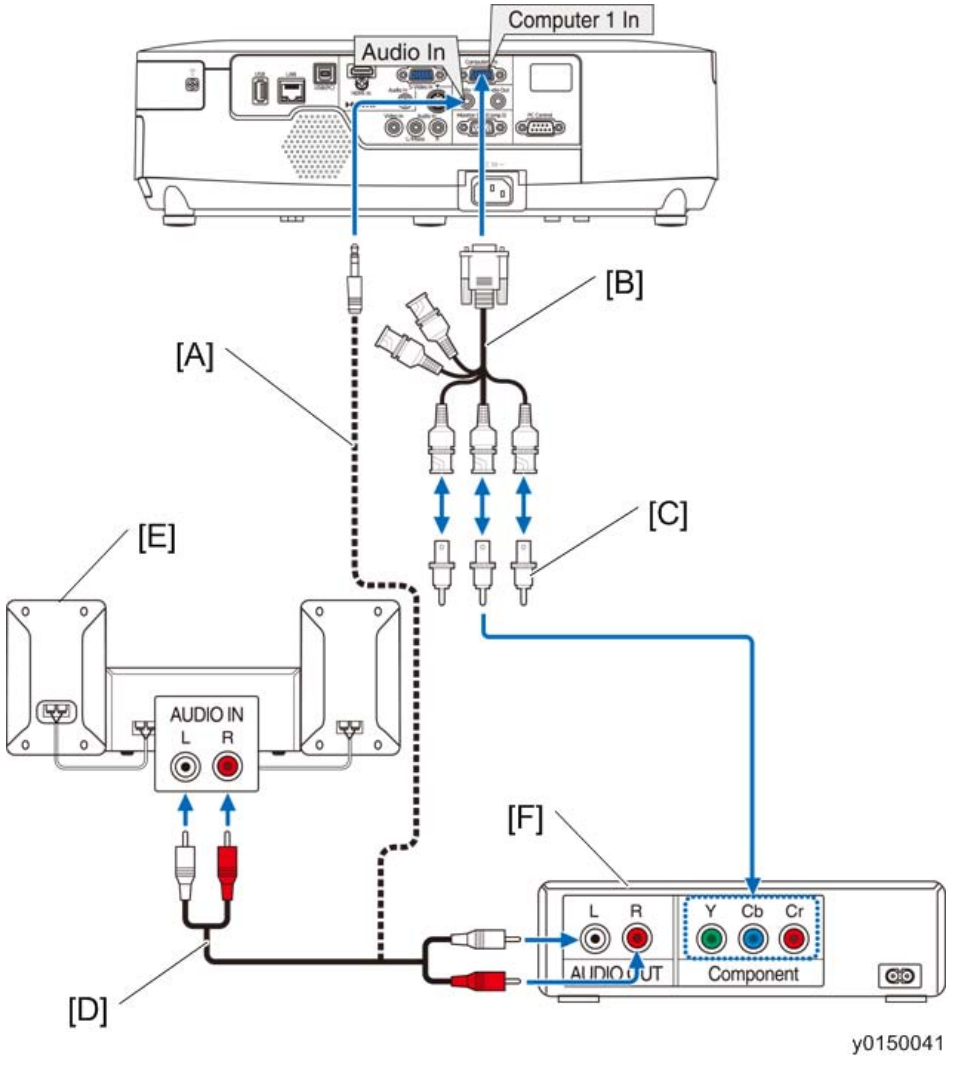
Note

- Refer to your VCR owner's manual for more information about your equipment's video output requirements.

Note

- An image may not be displayed correctly when a Video or S-Video source is played back in fast-forward or fast-rewind via a scan converter.

Connecting Component Input



[A] : Stereo mini plug - to - RCA audio cable (not supplied)

[B] : Monitor cable Stereo mini plug - to - RCA able Mini D-sub 15P-BNC (not supplied)

[C] : Conversion adapter BNC-pin (not supplied) To Y/Cb/Cr output Green(Y)/Blue(Cb)/Red (Cr)

[D] : Audio cable (not supplied)

[E] : Audio Equipment

[F] : DVD player

A component signal will be automatically displayed. If not, from the menu, select [SETUP] → [OPTIONS(1)] → [SIGNAL SELECT] → [COMPUTER1] or [COMPUTER2], and then place a check mark in the Component radio button.

Select the source name for its appropriate input connector after turning on the projector.

Input connector	Input button on the projector cabinet	Button on the remote control
COMPUTER 1 IN	COMPUTER 1	Computer 1
COMPUTER 2 IN	COMPUTER 2	Computer 2

⚠CAUTION

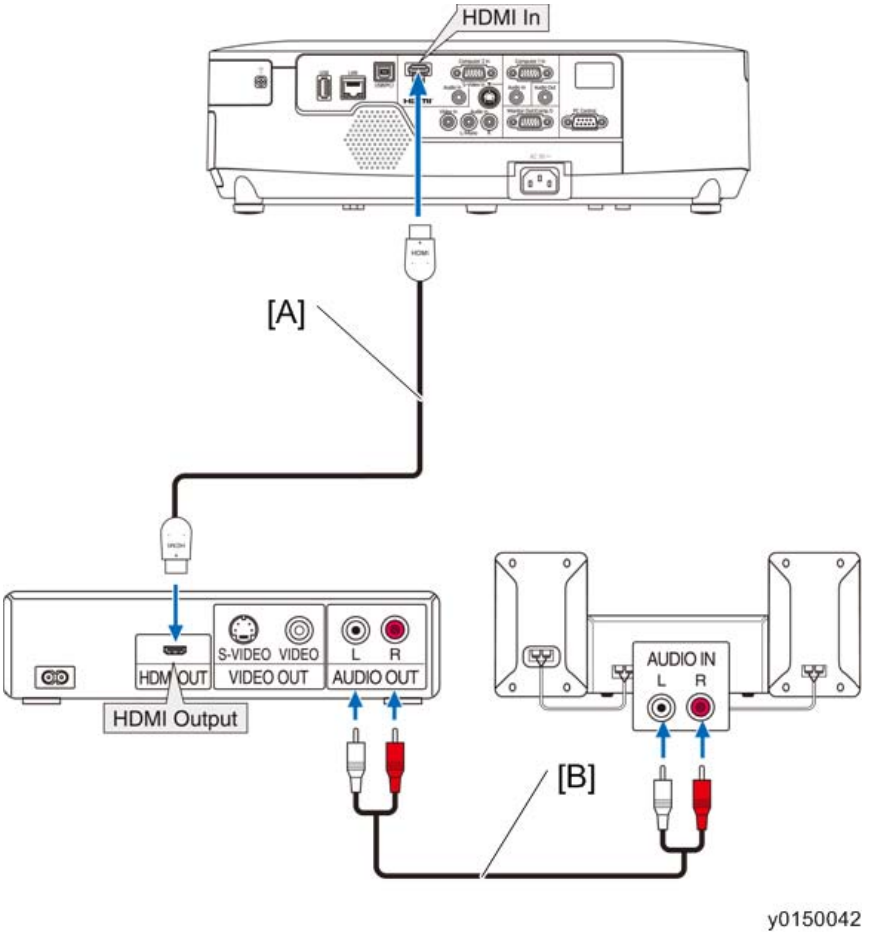
- Refer to your DVD player's owner's manual for more information about your DVD player's video output requirements.

Connecting HDMI Input

You can connect the HDMI output of your DVD player, hard disk player, Blu-ray player, or notebook type PC to the HDMI In connector of your projector.

Note

- The HDMI In connector supports Plug & Play (DDC2B).



[A] : HDMI cable (not supplied) Use High Speed HDMI® Cable.

[B] : Audio cable (not supplied)

Input connector	Input button on the projector cabinet	Button on the remote control
HDMI IN	HDMI	HDMI

Note

- For users of audio video equipment with an HDMI connector:
- Select “Enhanced” rather than “Normal” if HDMI output is switchable between “Enhanced” and “Normal”.
- This will provide improved image contrast and more detailed dark areas.
- For more information on settings, refer to the instruction manual of the audio video equipment to be connected.

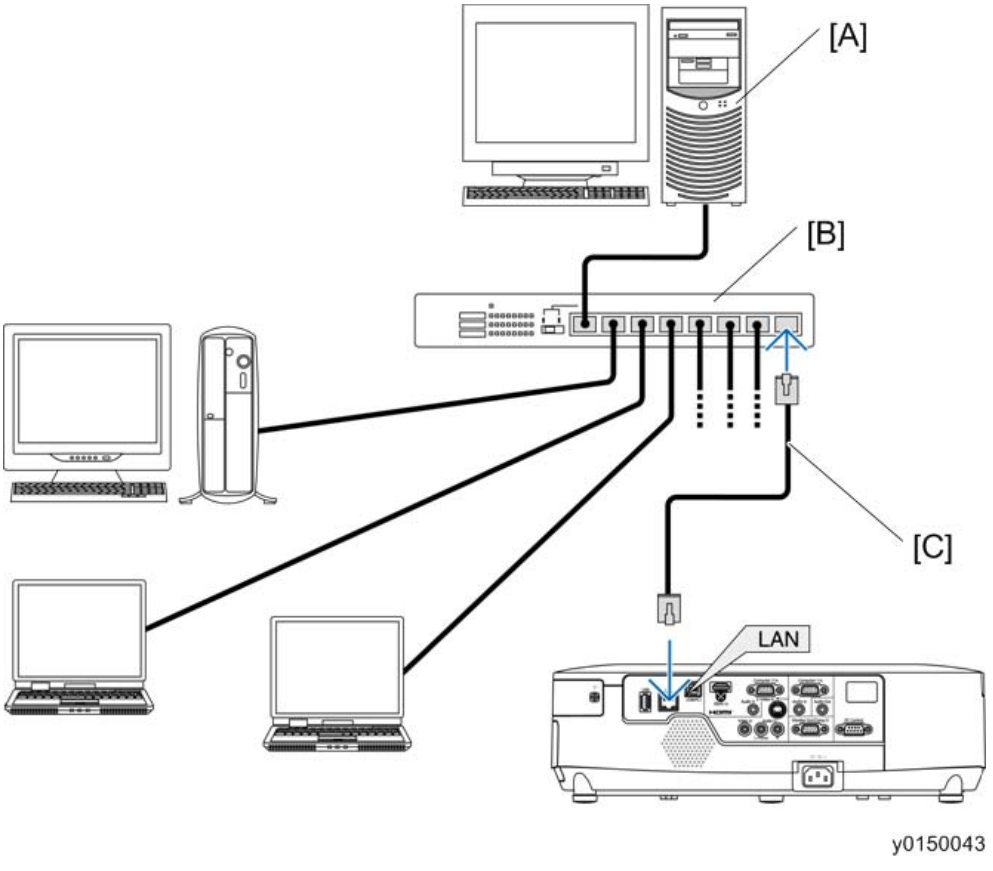
- When connecting the HDMI In connector of the projector to the DVD player, the projector's video level can be made settings in accordance with the DVD player's video level. In the menu select [HDMI SETTINGS] → [RGB INPUT RANGE] and make necessary settings.
- If the HDMI input sound cannot be heard, in the menu select [HDMI SETTINGS] → [AUDIO SELECT] → [HDMI].

Connecting to a Wired LAN

The projector comes standard with a LAN port (RJ-45) which provides a LAN connection using a LAN cable.

To use a LAN connection, you are required to set the LAN on the projector menu. Select [APPLICATION MENU] → [NETWORK SETTINGS] → [WIRED LAN].

Example of wired LAN connection



[A] : Server

[B] : Hub

[C] : LAN cable (not supplied) (Use a Category 5 or higher LAN cable.)

Input signals

Signal level

RGB signal	0.7Vp-p/75Ω
Component signal	1.0Vp-p/75Ω (Signal Y)
	0.7Vp-p/75Ω (Cb/Cr, Signal Pb/Pr)
VIDEO signal	1.0Vp-p/75Ω
S-VIDEO signal	1.0Vp-p/75Ω (Signal Y)
	0.286Vp-p/75Ω (Signal C burst level)
Sync signal	TTL Level (Positive/Negative polarity)/ 1kΩ
Audio signal	0.5Vrms/22kΩ or more

RGB signal frequencies

Horizontal sync frequency	15-100kHz
Vertical sync frequency	50 - 120Hz
Maximum resolution	UXGA (1600*1200)

HDMI digital signals

Maximum resolution	WSXGA+ (1680*1050) @60Hz

Component signals

- 525i, 625i, 480p, 576p (DVD output signal)
- 720p, 1080i, 1080p (HDTV signal)

Video input color system

- NTSC3.58/NTSC4.43/PAL/PAL-M/PAL-N/PAL-60/SECAM

5. Troubleshooting

LED Display

Indicator Messages

Power Indicator

Indicator Condition		Projector Condition	Note
Off		The main power is off	–
Blinking light	Blue (short flashes)	The projector is getting ready to turn on.	Wait for a moment.
	Blue (long flashes)	Off Timer is enabled.	–
Steady light	Blue	The projector is turned on.	–
	Orange	[NORMAL] is selected for [STANDBY MODE]	–
	Red	[POWER-SAVING] is selected for [STANDBY MODE]	–

Status Indicator

Indicator Condition	Projector Condition	Note
Off	Normal or Standby ([POWER-SAVING] for [STANDBY MODE])	–

Blinking light	Red (cycles of 1)	Lamp cover error or lamp housing error	Replace the lamp cover or lamp housing correctly.
	Red (cycles of 2)	Temperature error	The projector is overheated. Move the projector to a cooler location.
	Red (cycles of 3)	Power error	Power unit is not working properly. Contact your dealer.
	Red (cycles of 4)	Fan error	Fans will not work correctly.
	Red (cycles of 6)	Lamp error	Lamp fails to light. Wait a full minute and then turn on again.
	Red (cycles of 9)	[DYNAMIC CONTRAST] error	Dynamic Contrast function is not working properly. Contact your dealer.
	Orange (cycles of 1)	Network conflict	Both the built-in wired LAN and the wireless LAN cannot be connected to the same network at the same time. To use both built-in wired LAN and wireless LAN at the same time, connect them to different networks.
	Green	Re-firing the lamp (The projector is cooling down.)	The projector is re-firing. Wait for a moment.
Steady light	Green	Standby ([NORMAL] for [STANDBY MODE])	–
	Orange	CONTROL PANEL LOCK is on.	You have pressed cabinet button when Control Panel Lock is on.
		CONTROL ID error	Remote control ID and projector ID are not matched.

Lamp Indicator

Indicator Condition		Projector Condition	Note
Off		Normal	–
Blinking light	Red	Lamp has reached its end of life. Lamp replacement message will be displayed.	Replace the lamp.

Steady light	Red	Lamp has been used beyond its limit. The projector will not turn on until the lamp is replaced.	Replace the lamp.
	Green	[LAMP POWER] is set to [AUTO ECO] or [ECO1]	–

Over-Temperature Protection

If the temperature inside the projector rises too high, the over-temperature protector will automatically turn off the lamp with the Status indicator blinking (2-cycle On and Off.)

Should this happen, do the following:

- Unplug the power cord after the cooling fans stop.
- Move the projector to a cooler location if the room where you are presenting is particularly too warm.
- Clean the ventilation holes if they are clogged with dust.
- Wait about 60 minutes until the inside of the projector becomes cool enough.

Service Mode

List of functions

Function	EXPERT	SERVICE
VS BEGIN	○	○
CLAMP TIMING	○	○
SYNC PROTECTION UPPER	○	○
SYNC PROTECTION LOWER	○	○
VIDEO FILTER	○	○
TEST PATTERN2	○	○
COLOR UNIFORMITY	×	○
WHITE UNIFORMITY (All white color unevenness adjustment function)	×	○
SYNCHRONIZE	○	○
REF. WHITE BALANCE	○	○
KEYSTONE CONFIGURATION (Horizontal adjustment)	×	○
MESSAGE	○	○
CLEAR PANEL HOURS	×	○
SET UP-PING	○	×

Mode changeover

Expert mode

(For setting subcontractor: any mode that can be released to a subcontractor)

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- In the state of Power ON, press each key in the order of [HELP] → [▲] → [◀] → [HELP].
- Press the [MENU] key to display the menu and confirm that [Expert] is displayed below the menu.

Service mode

(for service)

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- In the state of Power ON, press each key in the order of [HELP] → [ENTER] → [HELP] → [ENTER] → [HELP] → [ENTER] → [MENU] for 3 seconds each. Then, a menu of [ENTER PASSCODE] is displayed.

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Press the select keys in the order of [▲] → [▶] → [◀] → [▶] → [▶] → [▶] → [▲] → [▲] → [ENTER].

Press the [MENU] key to display the menu and confirm that [Service] is displayed below the menu.

How to withdraw from the mode

- If the [EXIT] key is pressed twice in the state that no menu is displayed, the original state will be recovered.

- Recover the standby state by pressing the [POWER] key. When this action is taken, the original status can also be recovered at the time of next starting.

Contents of display

When the service mode or the expert mode is assumed, the menu is added with the functions specified below.

- Mode display

  The present mode is displayed at the right side on the bottom of the menu screen.

- Addition of the adjusting functions to the menu top

  The adjusting functions usually not displayed come to be displayed. Then, adjustments become possible.

  In the expert mode, the function for an expert menu can be selected.

  In the service mode, the function for an expert menu or a service menu can be selected.

  In addition, [Clear Panel Hours] is added to "Reset."

- Modification of processing for existing functions

  In the service mode, the items to be initialized are increased for the All Data Reset.

Additional functions (extract)

SETUP–EXPERT1 Tab

TEST PATTERN2

A test pattern can be set up or displayed. The setting, such as pattern, color, and level of the test pattern to display can be changed over with PATTERN/RED/GREEN/BLUE/INVERT/LEVEL in the test pattern items. After the test pattern setting is selected, the test pattern will be displayed, when the DISPLAY is carried out.

Test pattern changeover and such operation are possible during test pattern display by means of a remote control.

- Up/Down key: Test pattern changeover (Raster → Cross hatch → Gray Bars →)
- Right/Left key: Level adjustment
- Menu: Red On/Off
- Aspect: Green On/Off
- PIC-Mute: Blue On/Off
- Enter: Invert On/Off
- EXIT: Test pattern cancel

In the gray bars, ON/OFF switching is impossible for Red, Green, Blue, and Invert.

When a test pattern is displayed in the state that no input signal is applied, Picture Management setup is effected in the High Bright mode.

SETUP–EXPERT2 Tab

Mesage

Display or non-display of the following messages is set up:

Function error: [This function cannot be used.]

Control Panel Lock Turn On: [Keys of the main unit are now locked.]

Control Panel Lock Disable: [The key-locked main unit has been unlocked.]

Power management: [It is 3 minutes before power OFF.]

Sleep timer: [It is 3 minutes before power OFF.]

Filter Message: [It's the time to clean the filter.]

TEMP MESSAGE: [There is unusual temperature rise in the projector. Clean the filter.]

Lamp Message: [It is time for lamp replacement. Earlier replacement is recommended according to the Instruction Manual.]

The initial value after "All Data Reset" is ON.

Security functions

- Keyword setting only is required for security. (The memory card cannot be used.)
- The keyword is a combination of the UP, DOWN, RIGHT, and LEFT keys.

How to cancel the security functions

If the user forgets the keyword and cannot use the projector, it is necessary to make queries to the service station to get the keyword.

For the security-canceling tool, the decoded keyword is indicated in alphanumerical characters. Since the keyword for this model uses the up/down/right/left keys, it is necessary to decode the indicated alphanumerical characters into such up/down/right/left keys.

When the keyword indicated by the security-canceling tool has to be transferred to the user, refer to the next table and decode the numerals into the up/down/right/left keys.

Displayed keyword	Key data sent to the user
1	UP

Displayed keyword	Key data sent to the user
3	DOWN
4	LEFT
5	RIGHT

MM Viewer and Network Area

List of functions

MM function	EXPERT	SERVICE
Viewer – Check pattern	○	○
Network – PING	○	○
IMAGE EXPRESS UTILITY – Detailed setup	○	○
DESKTOP CONTROL UTILITY – Detailed setup	○	○
Network setup – Wireless LAN – Detailed setup (simplified connections)	○	○
Network setup – Wireless LAN – Detailed setup (easy access points)	○	○
Network setup – Wireless LAN – Detailed setup (profile)	○	○
Network setup – Firewall	○	○
Network service – HTTP server	○	○
Network service – PJLink	○	○
Network service – SNMP	○	○
Network service – PC control	○	○
Application error log output	×	○

Additional Functions

Viewer – Check Pattern

The video data saved in the PJ are displayed.

Network – PING

When an address is put in the IP Address item for execution, the result is displayed in the Result item.

To take this action repeatedly, a check mark should be put in the "Repeat" CheckBox. To suspend this action, press the Stop button.

Image express utility – Detailed setup

Designate the IEU Port number of IEU Lite / Image (UDP) / Image (TCP) / Search / User Management / Desktop Control.

Desk control utility – Detailed setup

- DCU No Password mode

  DCU can be used without any password.

Network setup – Wireless LAN – Detailed setup (simplified connections)

- Baud rate

  Baud rate is selected for simplified connections.

- Transmission output (%)

  Transmission output is specified for simplified connections.

Network setup – Wireless LAN – Detailed setup (easy access points)

- Transmission output (%)

  Transmission output is specified for easy access points.

Network setup – Wireless LAN – Detailed setup (profile)

- Mode (2.4GHz)

  Mode is selected for profile connections.

- Baud rate (Mbps)

  Baud rate is selected for profile connections.

- Transmission output (%)

  Transmission output is specified for profile connections.

Network setup – Firewall

- Effective

  Effective/ Non-Effective is specified.

  When "Effective" is selected, all inbound packets of TCP/UDP/ICMP come to be blocked out. An access-enabled IP address or a subnet is registered in the profile.

- Profile

  Profile1 ~ Profile4 is specified.

- Subnet registration

  A subnet is registered.

- Host address

  A host address is registered.

- Host subnet mask

  A host subnet mask is specified when a checkmark is given to the subnet being registered.

Network service – HTTP server

- Port

  A port number is specified. In the case of "Initialize" operation, the initial value is recovered.

Network service – PJLink

- Port

  A port number is specified. In the case of "Initialize" operation, the initial value is recovered.

Network service – SNMP

- Effective

  Effective/ Non-Effective of SNMP is specified.

Network service – PC control setup

A port number is specified. In the case of "Initialize" operation, the initial value is recovered.

Application error log output

1. The following root folder is established in the USB memory.

   "MM_KDMP_FOLDER"

2. The projector is set in the service mode.
3. The USB memory, where the "MM_KDMP_FOLDER" folder has been established, is inserted in the projector.
4. An application error log output is generated in the USB memory.

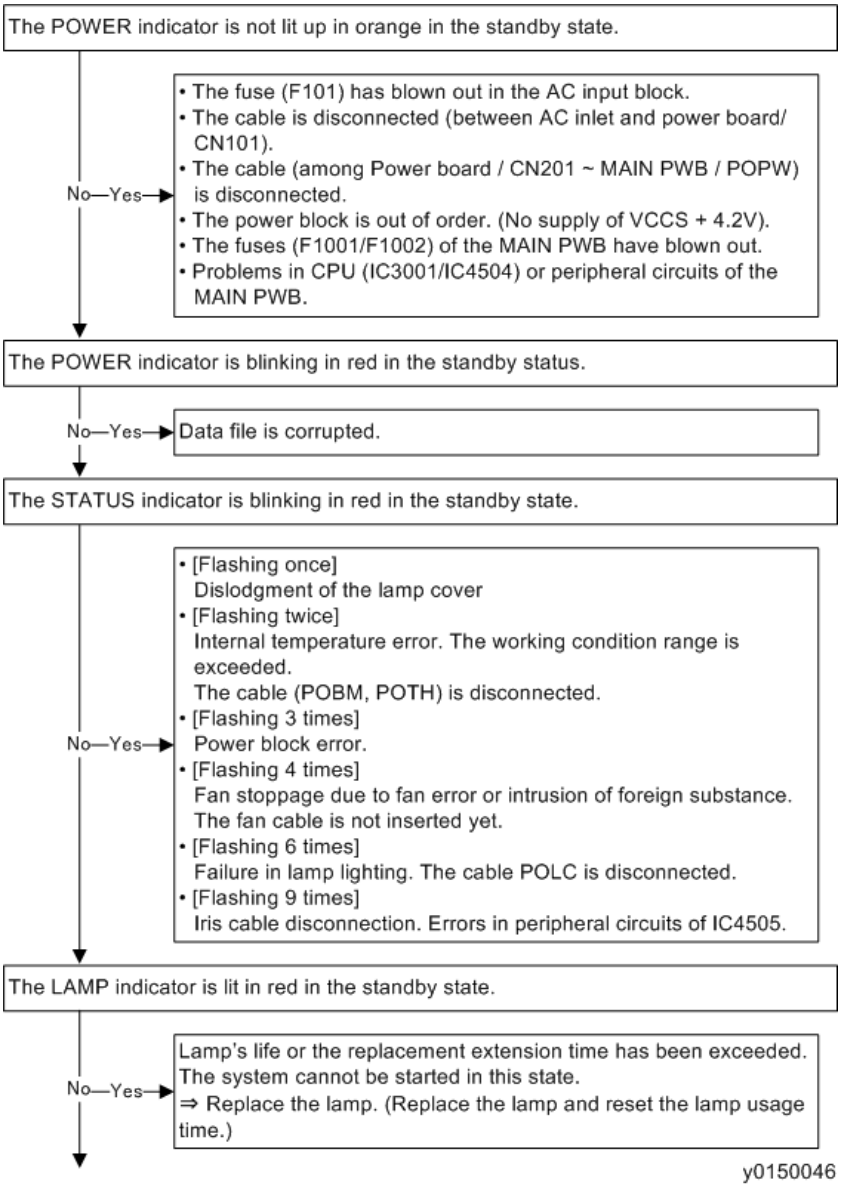
Troubleshooting Guide

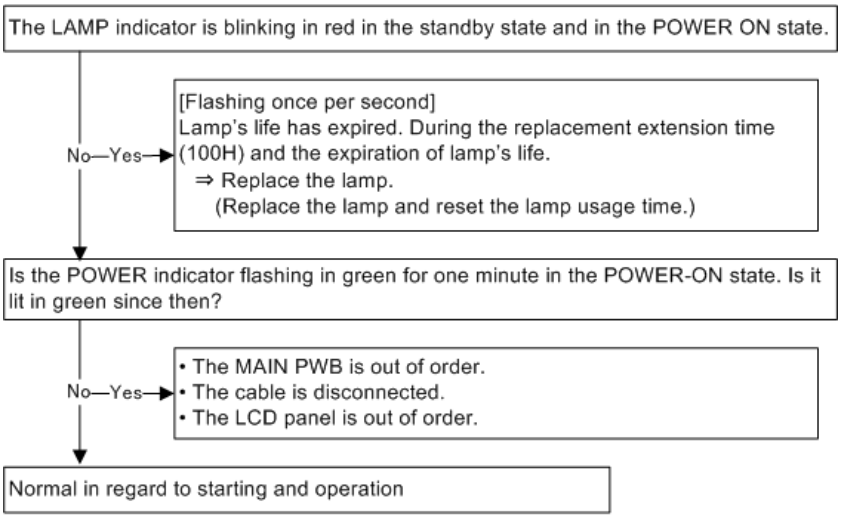
Operation check

It is possible to conduct a certain level of fault diagnosis in normal state of operation check.

Before removing the top cover, check the indicator.

Factors related to starting





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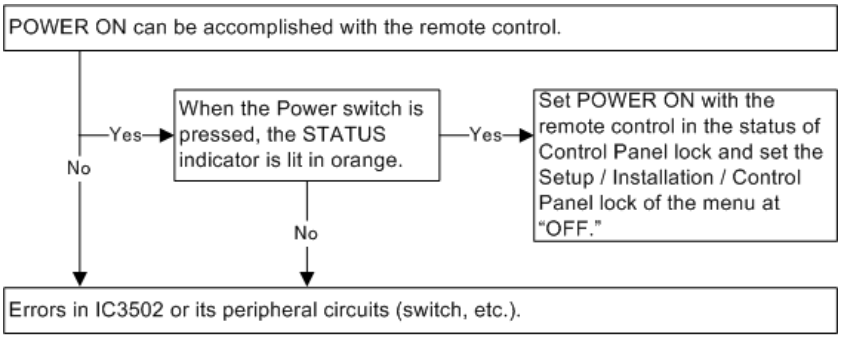
Factors related to operation

These items are often caused by confusion such that the menu setup has been wrongly made.

1. The Power is not ON even though the Power switch is pressed in the standby state (POWER LED lit in orange, and STATUS LED in green)



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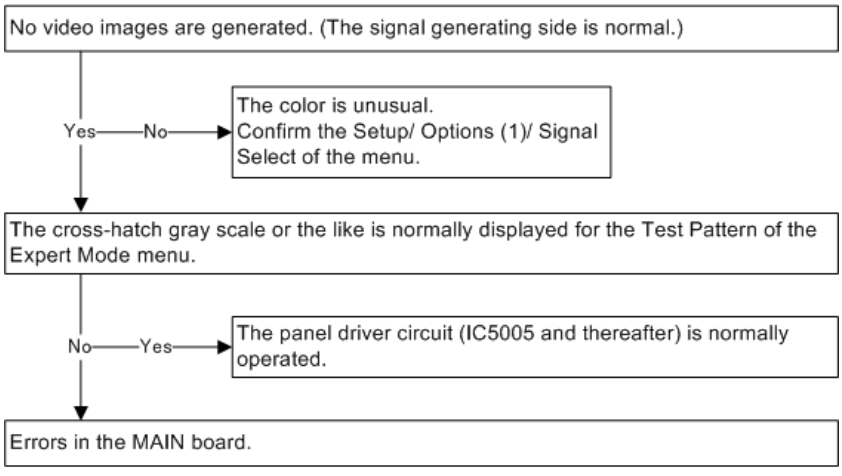
2. Normal video display is not presented with the COMPUTER1/COMPUTER2 (ANALOG) input (RGB/Component).



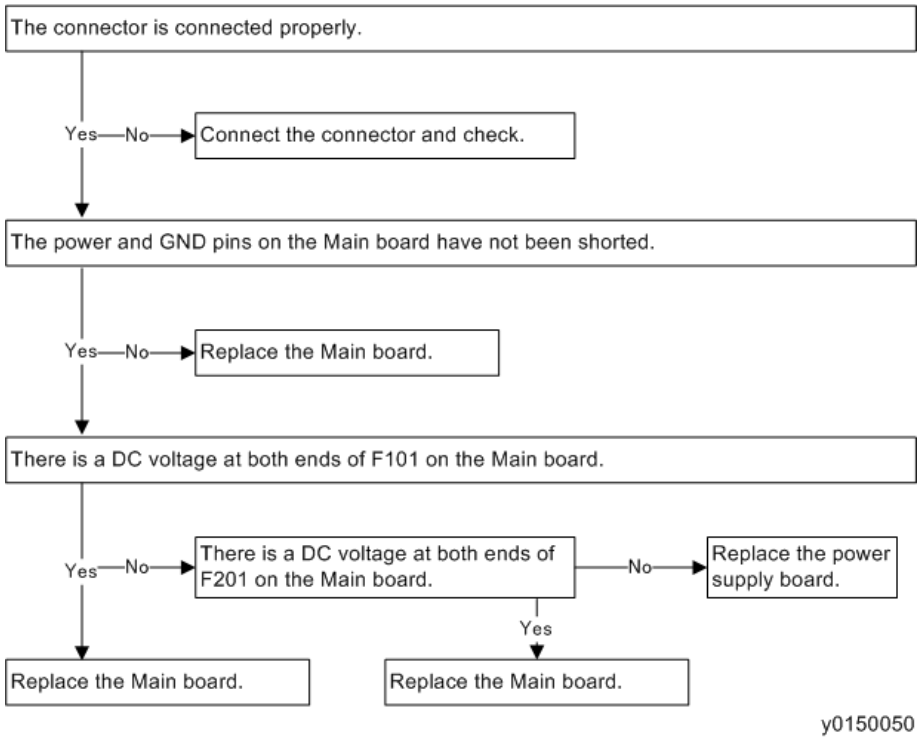
* Confirmation for the Test Pattern display of the Expert Mode menu is effective as an examination program even at the time of input entry at the Video / S-Video terminal.

5

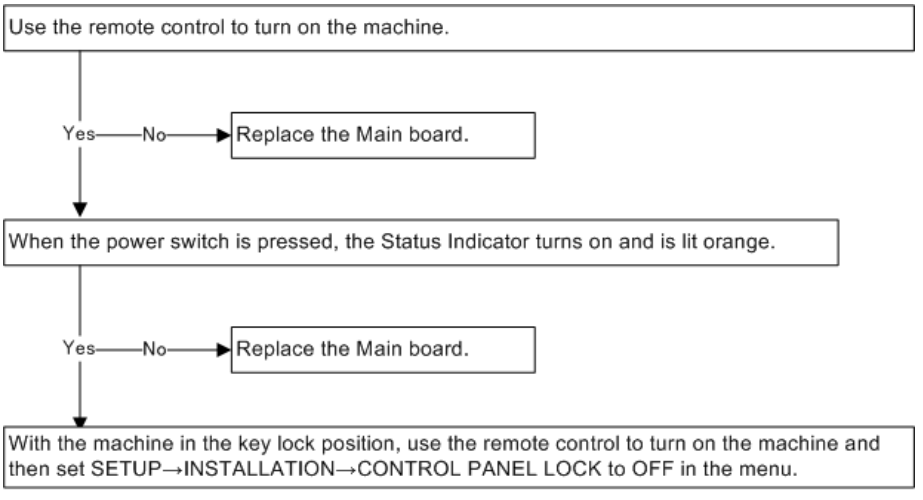
Power block

If the power does not start. (Power LED is not lit)

RTB 6
This flow chart was changed



If the power does not start. (Power LED is not blue)



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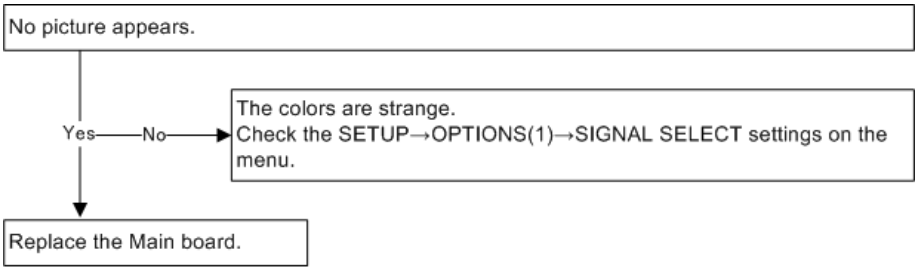
For Video

The picture is not displayed correctly Com1/Com2.



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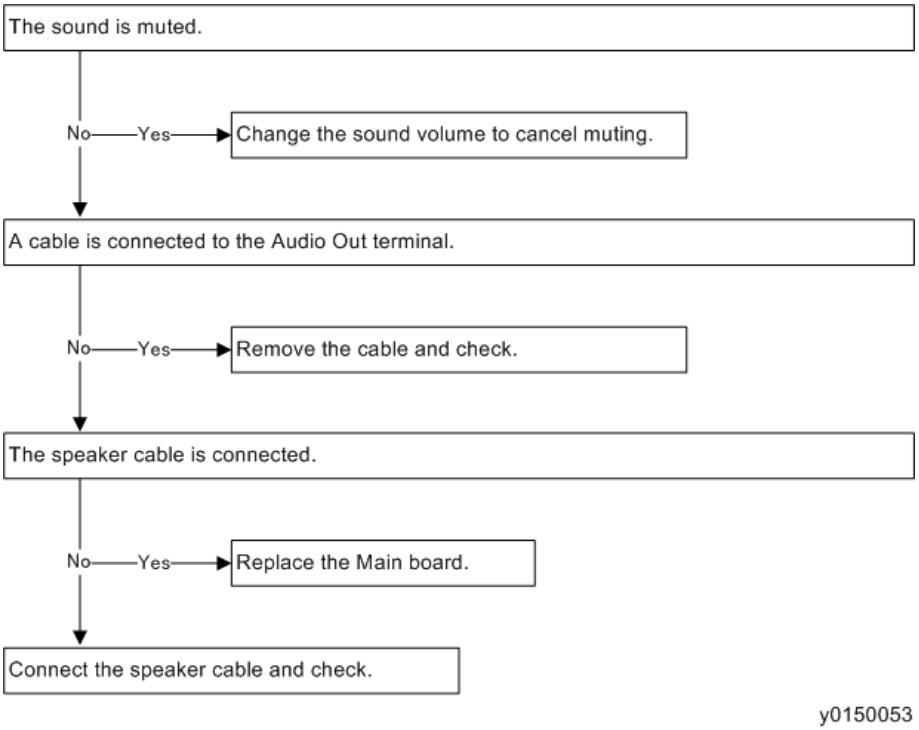
For Audio

Does not output sound from the speaker.



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Error Log

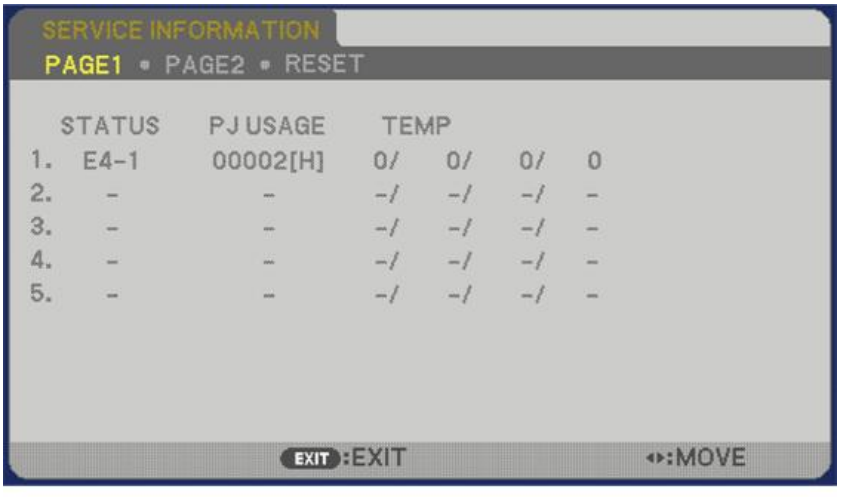
Error Log Screen Image

Displaying an error log screen

The error log screen is displayed by long-pressing the [MENU] button five seconds or more in user, expert, or service mode.

Service Information: Page-1

User mode / Expert mode



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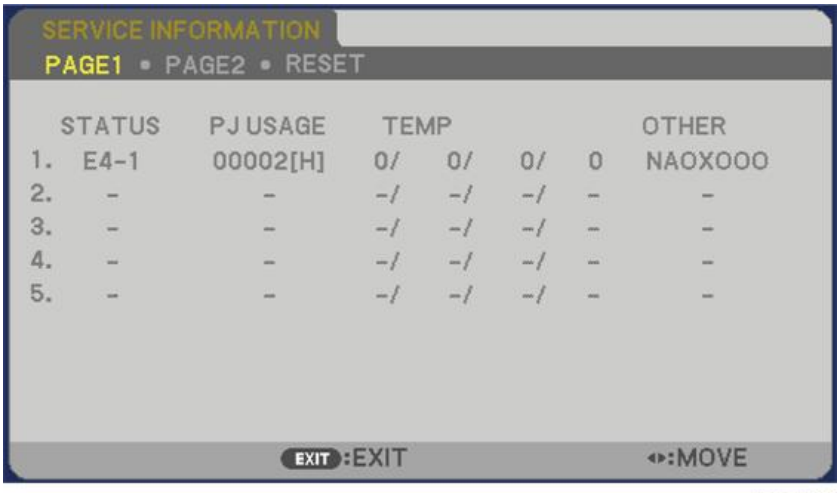
Service mode: Display of other areas added



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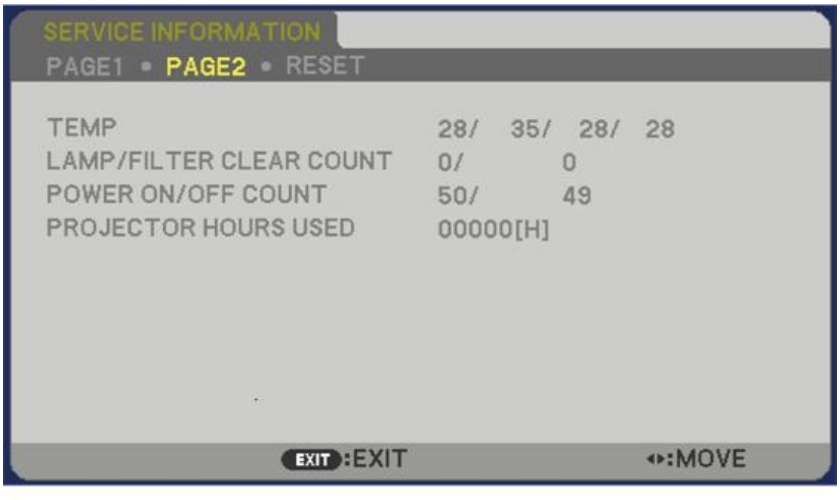
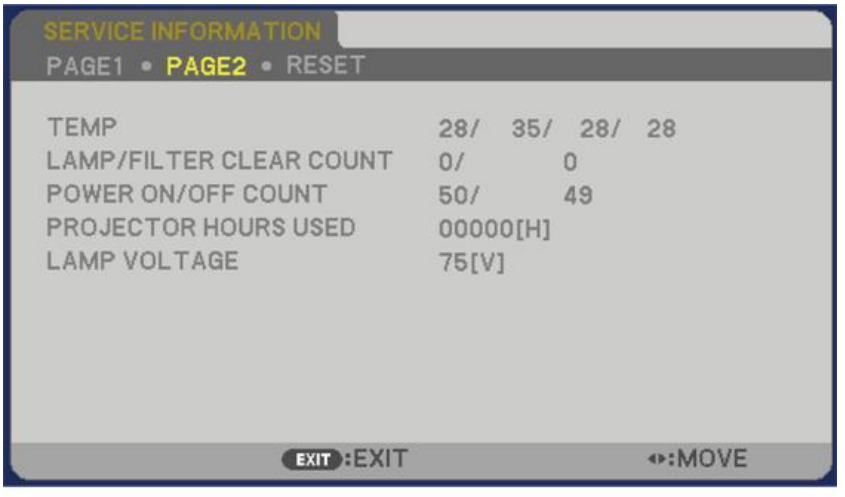
Service Information: Page-2

User mode / Expert mode



y0151070

Service mode: Display of lamp voltage added



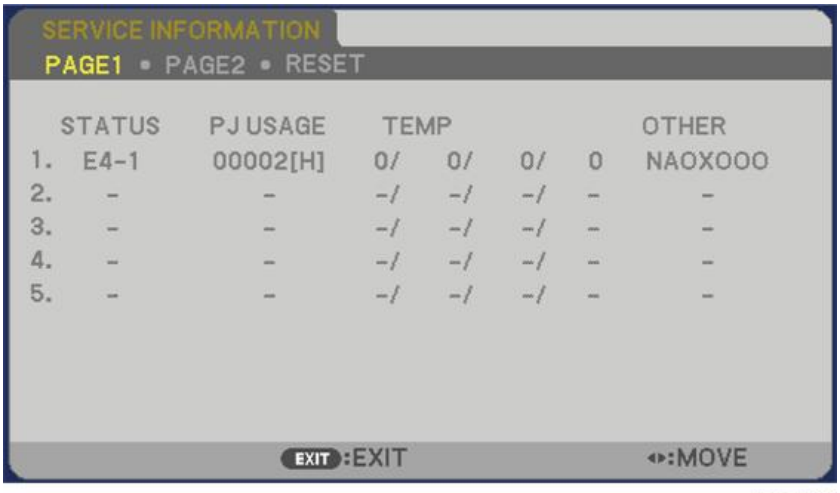
y0151071

Service Information: Reset

Not related to the menu mode

y0151072

Contents of Error Log (Page1) Display



y0151069

* Cleared with All Data Reset from the service menu.

Status Columns

List of Phenomena caused by Power OFF due to Errors

Display symbol	Meaning	Details	Possible cause
E1-1	Status LED blinking once	Cover malfunction	Lamp cover
E2-1	Status LED blinking twice	Temperature error	Bimetal error
E2-2	Status LED blinking twice	Temperature error	Thermal error
E3-1	Status LED blinking 3 times	Power source error	Nil
E4-1	Status LED blinking 4 times	Fan stop	Nil
E4-2	Status LED blinking 4 times	Super-capacitor error	Nil
E6-1	Status LED blinking 6 times	Lamp failure in lighting (except communication error)	Lamp
E6-3	Status LED blinking 6 times	Lamp failure in lighting (communication error)	Ballast/ connector

Display symbol	Meaning	Details	Possible cause
E9-1	Status LED blinking 9 times	Iris error (calibration)	Iris

PJ Usage Columns

Display of projector usage time (Projector Hours Used) when an error emerges

TEMP Columns

Display of temperature information when an error emerges

Displayed in the order of [Suction Air], [Lamp], [Exhaust Air], [Ballast] from left to right.

Other Columns

* Display of Service Menu only

Display can differ according to the error phenomenon arising.

- For Fan error

  Symbol consisting of 2 alphanumerical characters plus the number of fans (8 for Plato)

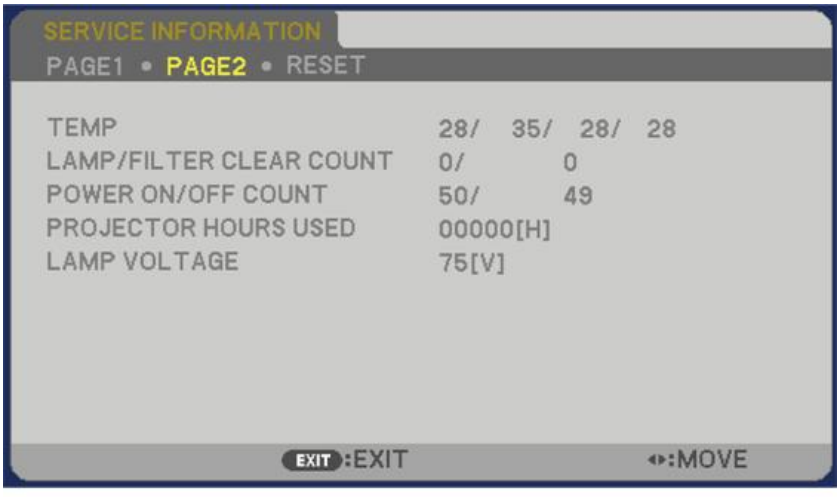
Eco mode (1 character)	Normal	"N"
	Auto	"A"
	Eco1	"E"
	Eco2	"L"
Fan mode (1 character)	Auto	"A"
	High	"H"
	Altitude	"T"
Error Fan	Normal	"O"
	Error	"X"

  * "O" is displayed for the unused fan area.

- For other errors

  No particular indications

Contents of Error Log (Page2) Display



y0151071

TEMP Columns

Present temperature information is displayed.

Displayed in the order of [Suction Air], [Lamp], [Exhaust Air], [Ballast] from left to right.

Lamp/Filter Clear Count

The number of reset actions is displayed in regard to Lamp Usage / Filter Usage.

Displayed in the order of [No. of reset actions for Lamp Usage] and [No. of reset actions for Filter Usage].

Cleared with All Data Reset from the Service menu.

Power ON/OFF Count

The number of user's lamp ON/OFF actions is displayed.

Initialized with Reset – Clear Lamp Hours.

Projector Hours Used

Present Projector Hours Used is displayed.

The same as Projector Hours Used displayed in the Expert menu.

Lamp Voltage: Indicated exceeding the Service Power

The present status of lamp ballast voltage is displayed.

Contents of Error Log (Reset) Display

y0151072

ALL DATA

All Data Reset is executed according to the User Menu mode.

Model Rigel-PJ1
Machine Codes: Y015/Y016

Appendices

6 January, 2012

TABLE OF CONTENTS

1. Appendix: Specifications

1. Appendix: Specifications

General Specifications

List of General Specifications

Optical

	PJ X5360N	PJ WX5350N
LCD Panel	0.63 inch LCD with Micro Lens Array (Aspect Ratio 4:3)	0.59 inch LCD with Micro Lens Array (Aspect Ratio 16:10)
Resolution*1	1024 × 768 pixels (XGA)	1280 × 800 pixels (WXGA)
Lens	Manual zoom and focus	
	Zoom Ratio = 1.7 F1.7–2.0 f = 17.4–29.0 mm	
Lens Shift (Vertical)	0-0.5V	0-0.6V
Lamp	265 W AC (195 W in ECO1)	
Light Output*2*3	4200 lumens	3500 lumens
	ECO1: 75%	ECO1: 75%
Contrast Ratio*3 (full white: full black)	2000:1	
Image Size (Diagonal)	25–300 inches/0.64 m–7.6 m	
Projection Distance (Min.–Max.)	26–543 inches/0.65–13.8 m	27–573 inches/0.69–14.6 m
Projection Angle	0°–16.5° (wide)/0°–9.8° (tele)	

*1 Effective pixels are more than 99.99%.

*2 This is the light output value (lumens) when the [PRESET] mode is set to [BRIGHT]. If any other mode is selected as the [PRESET] mode, the light output value may drop slightly.

*3 Compliance with ISO21118-2005

Electrical

	PJ X5360N	PJ WX5350N
Inputs	2 × RGB/Component (D-Sub 15 P), 1 × HDMI Type A (HDMI® Connector) HDCP supported*4, 1 × S-Video (DIN 4 P), 1 × Video (RCA), 1 × (L/R) RCA Audio, 2 × Stereo Mini Audio	
Outputs	1 × RGB (D-Sub 15P), 1 × Stereo Mini Audio	
PC Control	1 × PC Control Port (D-Sub 9P)	
Wired LAN Port	1 × RJ-45 (10BASE-T/100BASE-TX)	
Wireless LAN Port (Optional)	IEE 802.11 b/g/n (optional Wireless LAN Unit [NP02LM Series] required)	
USB Port	1 × Type A, 1 × Type B	
Color Reproduction	10-bit signal processing (1.07 billion colors) (VIEWER, NETWORK: Colors, 16.7 million colors)	
Compatible Signals	Analog: VGA/SVGA/XGA/XGA+/WXGA/WXGA+/SXGA/SXGA+/UXGA 480i/480p/576i/576p/720p/1080i/1080p HDMI: VGA/SVGA/XGA/WXGA/SXGA/480p/576p/720p/1080i/1080p	
Video Bandwidth	RGB: 80 MHz (Max.)	
Horizontal Resolution	540 TV lines: NTSC/NTSC4.43/PAL/PAL-M/PAL-N/PAL60 300 TV lines: SECAM	
Scan Rate	Horizontal: 15 kHz to 100 kHz (RGB: 24 kHz or over) Vertical: 50 Hz to 120 Hz (HDMI: 50 Hz to 85 Hz)	
Sync Compatibility	Separate Sync	
Built-in Speaker	10W (monaural)	
Power Requirement	100–240V AC, 50/60Hz	
Input Current	3.9 - 1.7 A	

		PJ X5360N	PJ WX5350N
Power Consumption	ECO MODE OFF (NORMAL)	358 W (100-130 V)/343 W (200-240 V)	
	ECO1 MODE	271 W (100-130 V)/264 W (200-240 V)	
	STANDBY (NORMAL)	9 W (100-130 V/200-240 V)	
	STANDBY (POWERSAVING)	0.2 W (100-130 V)/0.4 W (200-240 V)	

*4 HDMI® (Deep Color, Lip Sync) with HDCP

What is HDCP/HDCP technology?

HDCP is an acronym for High-bandwidth Digital Content Protection. High bandwidth Digital Content Protection (HDCP) is a system for preventing illegal copying of video data sent over a Digital Visual Interface (DVI).

If you are unable to view material via the HDMI input, this does not necessarily mean the projector is not functioning properly.

With the implementation of HDCP, there may be cases in which certain content is protected with HDCP and might not be displayed due to the decision/intention of the HDCP community (Digital Content Protection, LLC).

Mechanical

	PJ X5360N	PJ WX5350N
Installation Orientation	Desktop/Front, Desktop/Rear, Ceiling/Front, Ceiling/Rear	
Dimensions	15.7" (W) × 4.5" (H) × 10.9" (D) /398 mm (W) × 115 mm (H) × 276 mm (D) (not including protrusions)	
Weight	8.6 lbs/3.9 kg	

	PJ X5360N	PJ WX5350N
Environmental Considerations	Operational Temperatures : 41° to 104°F (5° to 40°C), (ECO mode selected automatically at 95°F to 104°F/35°C to 40°C) 20% to 80% humidity (non-condensing) Storage Temperatures : 14° to 122°F (-10° to 50°C), 20% to 80% humidity (non-condensing)	
Regulations	UL/C-UL Approved (UL 60950-1, CSA 60950-1) Meets DOC Canada Class B requirements Meets FCC Class B requirements Meets AS/NZS CISPR.22 Class B Meets EMC Directive (EN55022, EN55024, EN61000-3-2, EN61000-3-3) Meets Low Voltage Directive (EN60950-1, TÜV Approved) CE	

The specifications are subject to change without notice.

List of Supported Signals

Analog RGB

Signal	Resolution (dots)	Aspect Ratio	Refresh Rate (Hz)
VGA	640 × 480	4 : 3	60/72/75/85/iMac
SVGA	800 × 600	4 : 3	56/60/72/75/85/iMac
XGA	1024 × 768 *1	4 : 3	60/70/75/85/iMac
XGA+	1152 × 864	4 : 3	60/70/75/85
WXGA	1280 × 768 *2	15 : 9	60
	1280 × 800 *2	16 : 10	60
	1360 × 768 *3	16 : 9	60
	1366 × 768 *3	16 : 9	60
Quad-VGA	1280 × 960	4 : 3	60/75

Signal	Resolution (dots)	Aspect Ratio	Refresh Rate (Hz)
SXGA	1280 × 1024	5 : 4	60/75
SXGA+	1400 × 1050	4 : 3	60
WXGA+	1440 × 900	16 : 10	60
WXGA++	1600 × 900 *3	16 : 9	60
UXGA	1600 × 1200	4 : 3	60/65/70/75
WSXGA+	1680 × 1050	16 : 10	60
HD	1280 × 720	16 : 9	60
Full HD	1920 × 1080	16 : 9	60
MAC 13"	640 × 480	4 : 3	67
MAC 16"	832 × 624	4 : 3	75
MAC 19"	1024 × 768	4 : 3	75
MAC 21"	1152 × 870	4 : 3	75
MAC 23"	1280 × 1024	5 : 4	65

HDMI

Signal	Resolution (dots)	Aspect Ratio	Refresh Rate (Hz)
VGA	640 × 480	4 : 3	60
SVGA	800 × 600	4 : 3	60
XGA	1024 × 768 *1	4 : 3	60
WXGA	1280 × 768 *2	15 : 9	60
	1280 × 800 *2	16 : 10	60
	1366 × 768 *3	16 : 9	60
Quad-VGA	1280 × 960	4 : 3	60
SXGA	1280 × 1024	5 : 4	60
SXGA+	1400 × 1050	4 : 3	60

Signal	Resolution (dots)	Aspect Ratio	Refresh Rate (Hz)
WXGA+	1440 × 900	16 : 10	60
WXGA++	1600 × 900	16 : 9	60
WSXGA+	1680 × 1050	16 : 10	60
HDTV(1080p)	1920 × 1080	16 : 9	50/60
HDTV(1080i)	1920 × 1080	16 : 9	50/60
HDTV(720p)	1280 × 720	16 : 9	50/60
SDTV(480p)	720 × 480	4 : 3 / 16 : 9	60
SDTV(576p)	720 × 576	4 : 3 / 16 : 9	50

Component

Signal	Resolution (dots)	Aspect Ratio	Refresh Rate (Hz)
HDTV(1080p)	1920 × 1080	16 : 9	50/60
HDTV(1080i)	1920 × 1080	16 : 9	50/60
HDTV(720p)	1280 × 720	16 : 9	50/60
SDTV(480p)	720 × 480	4 : 3 / 16 : 9	60
SDTV(576p)	720 × 576	4 : 3 / 16 : 9	50
SDTV(480i)	720 × 480	4 : 3 / 16 : 9	60
SDTV(576i)	720 × 576	4 : 3 / 16 : 9	50

Composite Video/S-Video

Signal	Aspect Ratio	Refresh Rate (Hz)
NTSC	4 : 3	60
PAL	4 : 3	50
PAL60	4 : 3	60
SECAM	4 : 3	50

*1 Native resolution on XGA model (PJ X5360N)

*2 Native resolution on WXGA model (PJ WX5350N)

*3 The projector may fail to display these signals correctly when [NORMAL]

is selected for [ASPECT] in the on-screen menu.

The factory default is [NORMAL] for [ASPECT]. To display these signals, select [16:9] for [ASPECT].

Note

- Sync on Green and Composite sync signals are not supported.
- Signals other than those specified in the table above may not be displayed correctly. If this should happen, change the refresh rate or resolution on your PC. Refer to Display Properties help section of your PC for procedures.

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