

Model Soleil-PJ1
Machine Codes: Y011/Y012
Field Service Manual

October, 2011

Important Safety Notices

Lead-Free Solder

This product is manufactured using lead-free solder as a part of a movement within the consumer products industry at large to be environmentally responsible. Lead-free solder must be used in the servicing and repair of this product.

WARNING

WARNING

- This product is manufactured using lead free solder. DO NOT USE LEAD BASED SOLDER TO REPAIR THIS PRODUCT! The melting temperature of lead-free solder is higher than that of leaded solder by 86 °F to 104 °F (30 °C to 40 °C). Use of a soldering iron designed for lead-based solders to repair product made with lead-free solder may result in damage to the component and or PCB being soldered. Great care should be made to ensure high-quality soldering when servicing this product – especially when soldering large components, through-hole pins, and on PCBs - as the level of heat required to melt lead-free solder is high.

Prevention of Physical Injury

1. Before disassembling or assembling parts of the machine and peripherals, make sure that the machine power cord is unplugged.
2. The wall outlet should be near the machine and easily accessible.
3. If any adjustment or operation check has to be made with exterior covers off or open while the main switch is turned on, keep hands away from electrified or mechanically driven components.
4. The machine drives some of its components when it completes the warm-up period. Be careful to keep hands away from the mechanical and electrical components as the machine starts operation.

Observance of Electrical Safety Standards

The machine and its peripherals must be serviced by a customer service representative who has completed the training course on those models.

Safety and Ecological Notes for Disposal

1. Dispose of replaced parts in accordance with local regulations.

⚠️ WARNING

- To prevent a fire or explosion, keep the machine away from flammable liquids, gases, and aerosols. A fire or an explosion might occur.

This product contains substances which are harmful to humans and the environment.

- The lamp contains mercury.

Please dispose of this product or used lamps in accordance with local regulations.

The following information is only for EU-member states:



The use of the symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office or your household waste disposal service.

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

Microsoft® and Windows® are registered trademarks of Microsoft Corporation in the United States and /or other countries.

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

Important Safety Notices.....	1
Lead-Free Solder.....	1
Prevention of Physical Injury.....	1
Observance of Electrical Safety Standards.....	1
Safety and Ecological Notes for Disposal.....	1
Symbols and Trademarks.....	3
Trademarks.....	3

1. Product Information

Specifications.....	7
Overview.....	8
Names of the Terminals on the Right Side.....	8

2. Installation

Installation Requirements.....	9
Using the Menus.....	11
Using the Menus.....	11

3. Replacement and Adjustment

Replaceable Part Hierarchy.....	15
Parts Replacement.....	17
Lamp Module.....	17
Intake Cover.....	18
Exhaust Fan Cover.....	19
Front Cover.....	19
Intake Inner Cover.....	20
Rear Cover.....	21
Top Cover.....	23
Terminal Cover.....	23
Remote Control Receiver Board.....	24
Speaker.....	26
Control Panel Board.....	26
Keys.....	27
PSU.....	28
Intake Fan.....	30
Network Board (Y012 only).....	31

Wireless LAN Module (Y012 only).....	31
Interface Board.....	32
Main Board.....	33
Exhaust Fan.....	34
Lamp Ballast.....	35
Lamp Power Cord.....	36
Optics Section.....	38
Lamp Fan.....	39
Lamp Cover Open Sensor.....	41
Temperature Sensor.....	41
Foot Adjuster.....	43
Electrical Adjustment.....	44
Adjustment Points vs Part Replaced.....	44
Preparation.....	45
Projector Setup.....	45
4. System Maintenance	
<hr/>	
Firmware Update.....	57
Updating the Firmware Using a Computer (Main Board only).....	57
Updating the firmware using a USB memory device (Y012 only).....	58
Network Service Menu.....	60
Displaying the Network Service Menu.....	60
Menu Items.....	60
5. Troubleshooting	
<hr/>	
LED Display.....	69
Error ID.....	72
Troubleshooting.....	75



1. Product Information

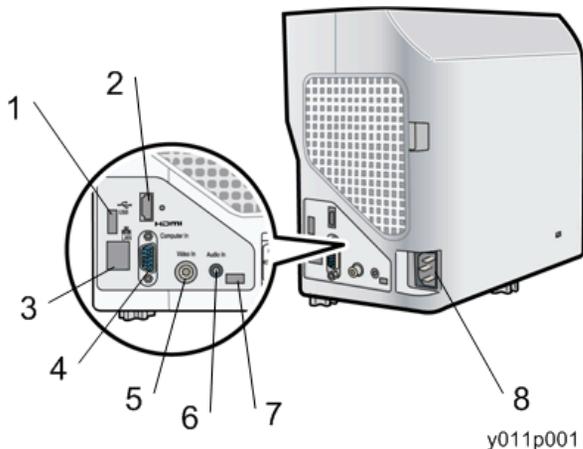
Specifications

See "Appendices" for the following information:

- General Specifications

Overview

1 Names of the Terminals on the Right Side



Name	Main Function
(1) USB port (Y012 only)	For connecting a USB memory device or USB device cable. A USB memory can be used for updating the firmware.
(2) HDMI™ port	For connecting an HDMI (High-Definition Multimedia Interface) cable.
(3) LAN port (Y012 only)	For connecting an Ethernet cable.
(4) Computer In port (Y/Pb/Pr)	For inputting RGB signals from a computer or component image signals (Y/Pb/Pr) from a video player.
(5) Video In port	For inputting image signals from a video player.
(6) Audio In port	For inputting audio signals from a computer or video player.
(7) Control port (USB mini-B)	For connecting to a computer. Used when updating the firmware (main board only).
(8) AC In socket	For connecting the power cord provided with the projector.

2. Installation

Installation Requirements

- Keep the machine away from humidity and dust. Otherwise a fire or an electric shock might occur.
- Do not place the machine on an unstable or tilted surface. If it topples over, an injury might occur.
- Do not place the product or use it in an environment where it might get wet such as from snow, rain, or being near water. Doing so could result in fire or electric shock.
- Do not place the power cord and connection cable in a way that might cause someone to trip and fall. The product might fall over and cause an injury.
- Do not place the product in a location where air flow is poor. Doing so may cause fire due to internal components becoming overheated.
- Do not place or store the product in a location where direct sunlight or heat generation might occur. The heat may deform or wear out the exterior parts or negatively affect internal parts. Doing so could result in fire.
- Do not expose the product to salt air or corrosive gas. Also, do not place the product in a laboratory or other location where a chemical reaction might occur. Doing so may cause the product to malfunction.
- Do not obstruct the machine's vents. Doing so risks fire caused by overheated internal components.
- Do not use any power sources other than those that match the specifications shown. Doing so could result in fire or electric shock.
- Do not use any frequencies other than those that match the specifications shown. Doing so could result in fire or electric shock.
- Do not damage, break, or modify the power cord. Also, do not place heavy objects on the power cord, or pull the cord or bend it severely. Doing so could result in fire or electric shock.
- When using an extension cord or power strip, only connect equipment whose total power consumption is within the power rating for the extension cord or power strip. If the power rating is exceeded, it may cause heat buildup and result in fire.
- Push the power plug all the way into the power outlet. Do not use a power outlet with a loose connection. Doing so may result in heat buildup. Plug the power cord in the correct direction into the base. If they are not plugged in correctly, it could result in smoke, fire, or electric shock.
- Avoid locations with oil or cigarette smoke. Doing so will make the optical parts dirty, shortening their lives, and darkening the screen.
- Moving the projector from a low-temperature room to a high-temperature room may cause condensation on the lens or internal parts. If you continue to use it in that situation, it may malfunction. Wait until the condensation naturally disappears.

- In a high-altitude location (higher than approximately 1500 m above sea level) where air is thin, cooling efficiency is reduced so use the projector with [High Altitude Mode] set to [On].

Using the Menus

Using the Menus

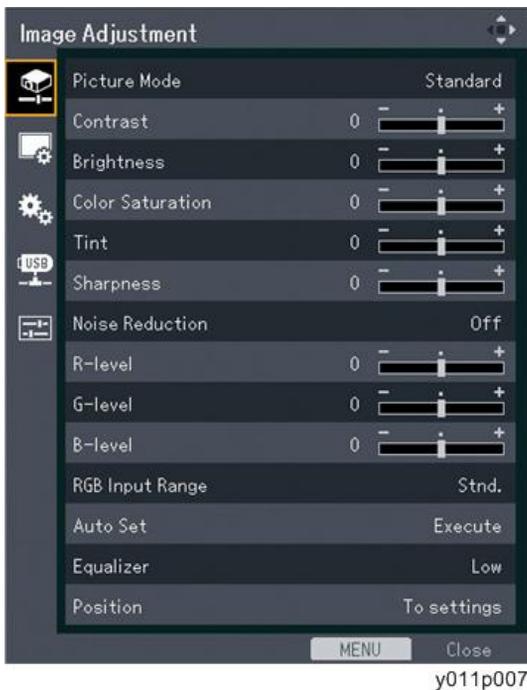
You can call up on-screen menus, and conduct a number of adjustments and settings using the MENU button on the control panel of the main unit and the remote control.

2

Setup using the Setting display

The menu shown below is for operation instructions purposes and might differ from the actual display.

1. Press the MENU button.



2. Select a menu tab using the ▲ and ▼ buttons.

There are 5 categories:

- 📺 Image Adjustment menu tab
- ⚙️ Display Settings menu tab
- ⚙️ Default Settings menu tab
- 🌐 Network/USB Settings menu tab (Y012 only)
- 📺 Display Status tab

If you select the Display Status tab, the status will be displayed at this point. No further operation is required.

3. Press the  button.



y011p008

4. Select the item to be changed using the  and  buttons.

If "To settings" is displayed on the right, the item has a submenu. Press the Enter button to display the submenu screen.

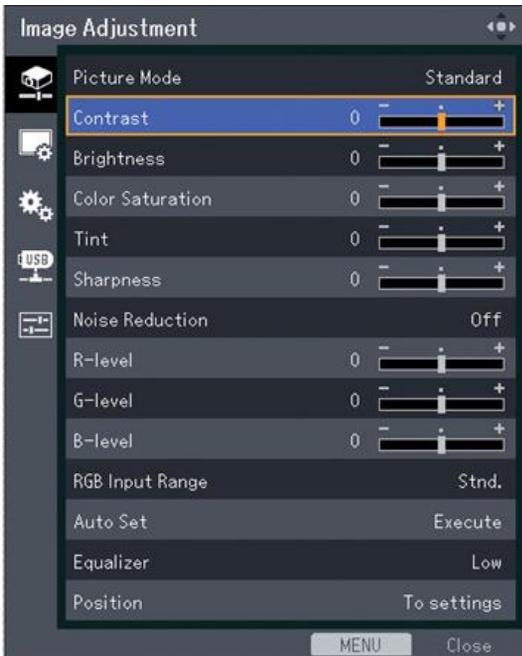
5. Press the Enter button.

If "Execute" is displayed to the right of the item you select, the function is executed in this step.

6. Change the settings.

The method for changing the settings depends on the item.

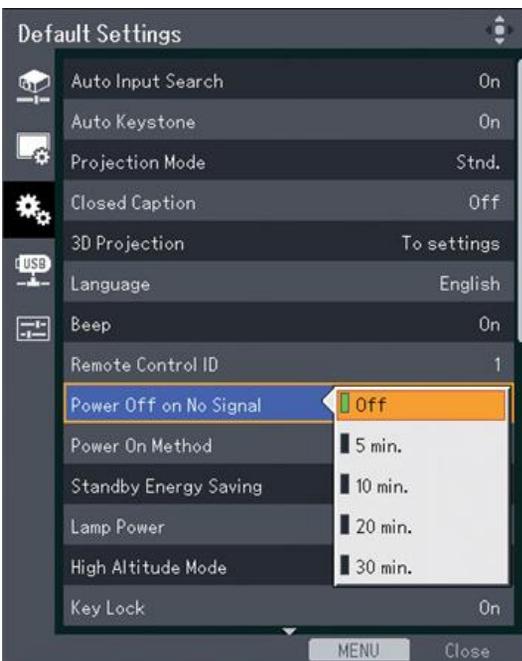
- Adjusting values using the values bar



y011p009

Change the value using the ◀ and ▶ buttons, and then press the Enter button.

- Selecting the value from a list



y011p010

Change the value using the ▲, ▼, ◀, and ▶ buttons, and then press the ENTER button.

- Inputting numbers

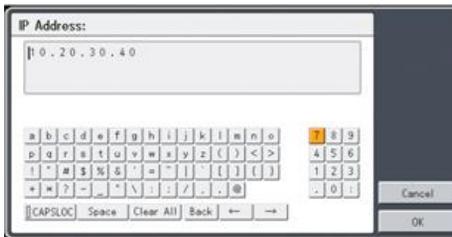


y011p011

Use the number buttons on the remote control to input numbers.

- Inputting text (Y012 only)

Use the keyboard that is displayed on screen to input text.



y011p012

↓ Note

- The control panel on the projector can be used for operations, but numbers for settings cannot be input.
- A confirmation screen appears before some functions are executed or some settings are changed.
- The Network/USB Settings menu has three submenu screens, [USB Settings], [Network Settings], and [Network Application Settings]. Open the submenu according to the settings you want to change, and then go to step 2 to change the settings.
- Changes to the settings are automatically applied when you close the menu screen. You do not need to press the Enter button.
- Settings in the Network/USB Settings menu are not applied until you select [Reflect] on the confirmation screen.

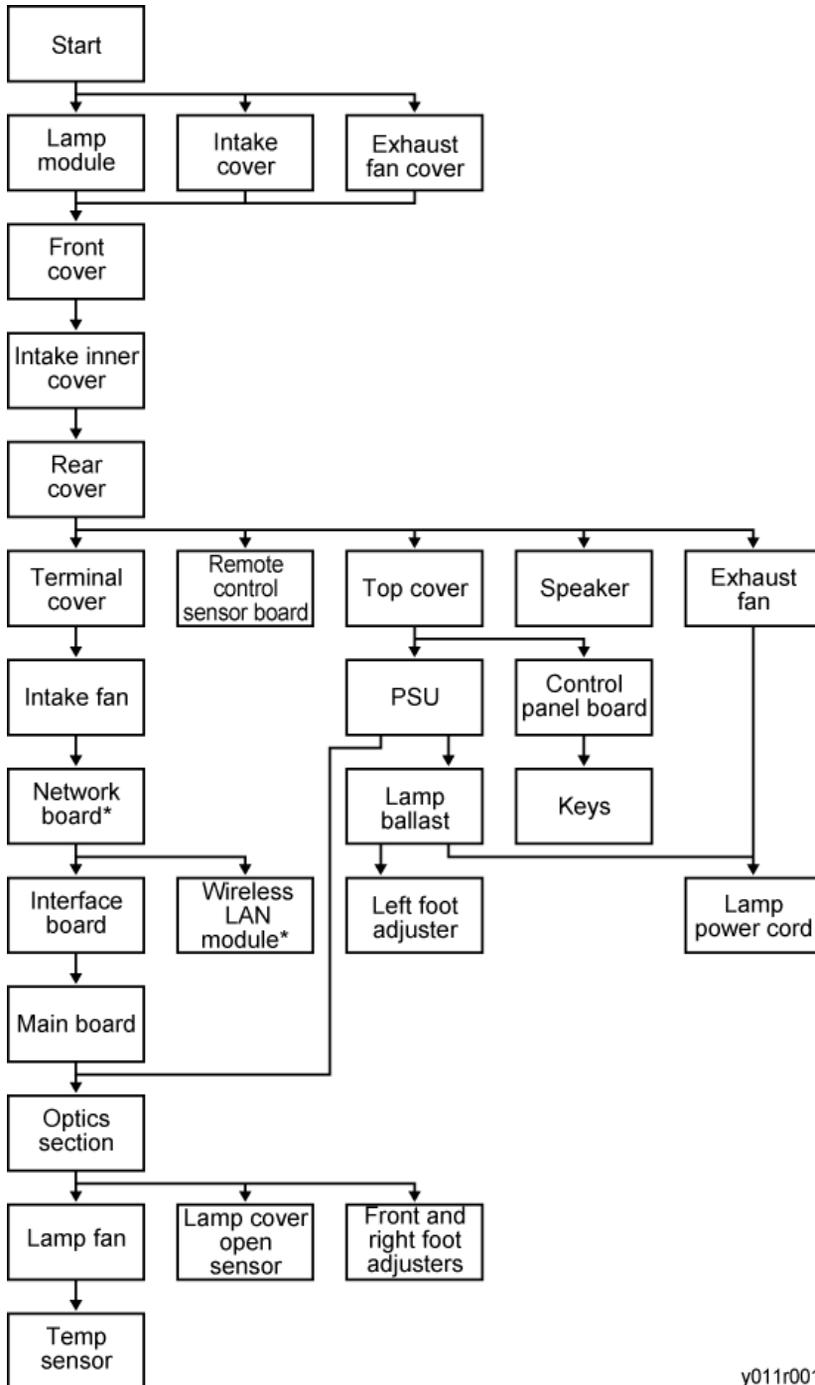
3. Replacement and Adjustment

Replaceable Part Hierarchy

The flow chart below shows what parts must be removed to access each replaceable part in the projector.

The parts on the first level (e.g., Lamp module) are accessible without removing any other parts.

The more levels down that a part is, the more parts you need to remove in order to access it.



y011r001

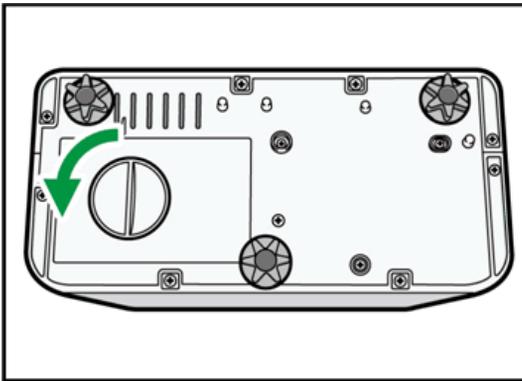
* Network board, Wireless LAN module: Y012 only.

Parts Replacement

You will need screwdrivers for the following types of screws: M2, M2.5, M2.6, M3.

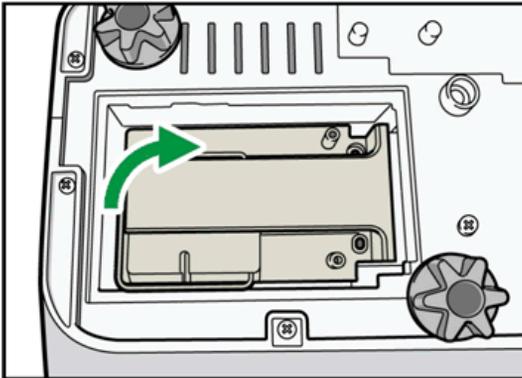
Lamp Module

1. Turn over the projector and place it on a flat surface so that you can see the bottom of the projector.



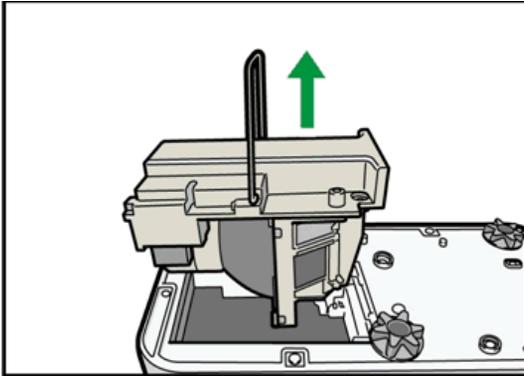
y011r006

2. Turn the knob counterclockwise, and then open the lamp cover.



y011r007

3. Raise the metal handle.



y011r008

4. Hold the handle, and then pull the lamp unit out of the projector.

Intake Cover



y011r021

1. While pressing the lever on the right side of the air filter, pull the intake cover [A] open.

Exhaust Fan Cover

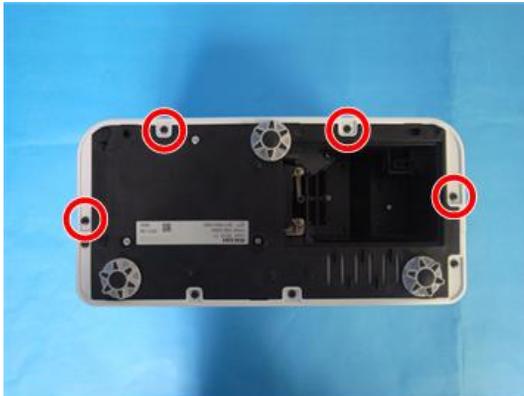


y011r022

1. Exhaust fan cover [A] (hooks x2).

Front Cover

1. Lamp cover (see p.17 "Lamp Module")
2. Intake cover (see p.18)
3. Exhaust fan cover (see p.19)



y011r023

4. Remove four screws.

3



y011r024

5. Remove a screw.



y011r025

6. Front cover [A] (🔩 x 1)

Intake Inner Cover

1. Front cover (🔩 p.19)



y011r026

2. Intake inner cover [A] (x 1)

Rear Cover

1. Intake inner cover (p.20)



y011r027

2. Remove four screws.



y011r028

3. Remove a screw.



y011r029

4. Remove a screw.



y011r030

5. Rear cover [A] (🔩 x 2)

Top Cover

1. Rear cover (🔧 p.21)



y011r031

2. Remove a screw.



y011r032

3. Top cover [A] (🔧 x 1)

Terminal Cover

1. Rear cover (🔧 p.21)

3



y011r033

2. Control port cover [A] (hooks x 2)

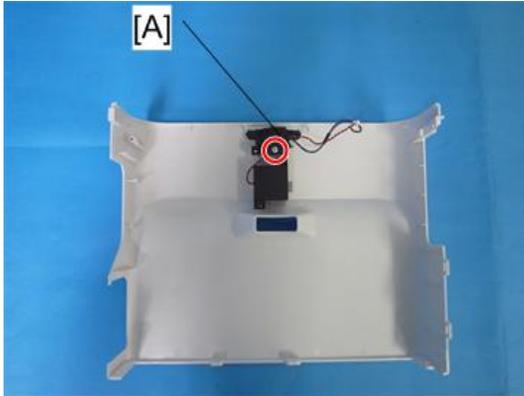


y011r034

3. Terminal cover [A] (⚙️ x 1)

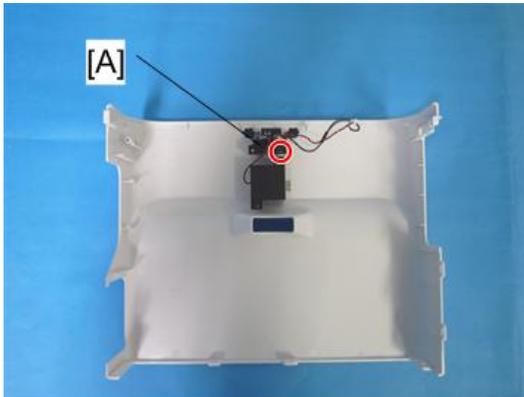
Remote Control Receiver Board

1. Rear cover (🔧 p.21)



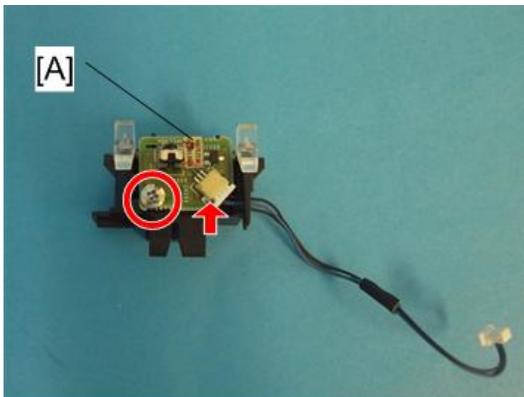
y011r035

2. Cover for remote control receiver board bracket [A] (🔩 x 1)



y011r036

3. Remote control receiver bracket [A] (🔩 x 1)

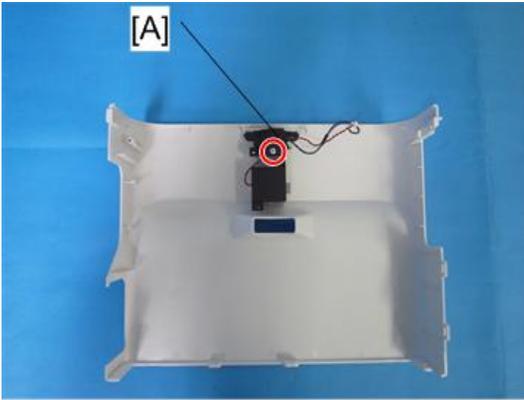


y011r037

4. Remote control receiver board [A] (🔩 x 1, 📏 x 1)

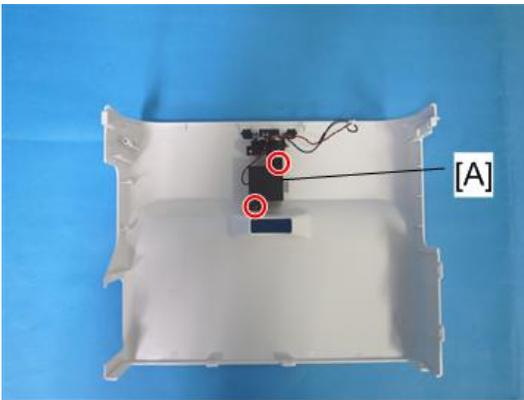
Speaker

1. Rear cover (🔧 p.21)



y011r035

2. Cover for remote control receiver board bracket [A] (🔧 x 1)

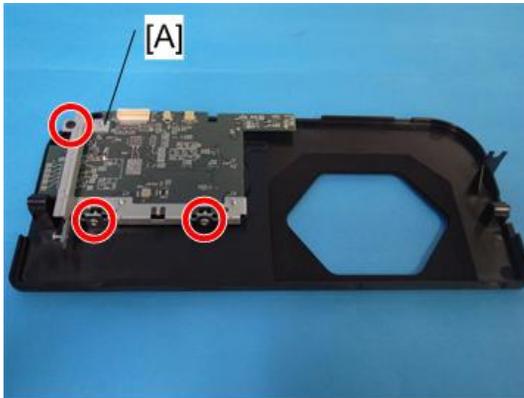


y011r038

3. Speaker [A] (🔧 x 2)

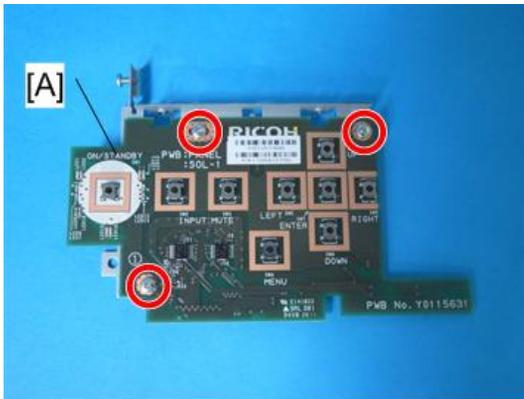
Control Panel Board

1. Top cover (🔧 p.23)



y011r039

2. Control panel board bracket [A] (🔩 x 3)



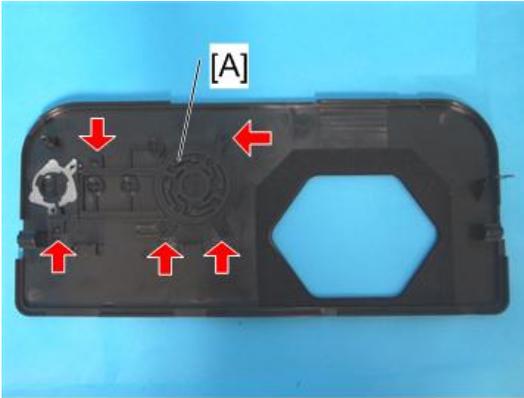
y011r040

3. Control panel board [A] (🔩 x 3)

Keys

1. Control panel board (🔩 p.26)

3



y011r080

2. Keys [A] (hooks x 5)

PSU

1. Top cover (p.23)
2. Terminal cover (p.23)



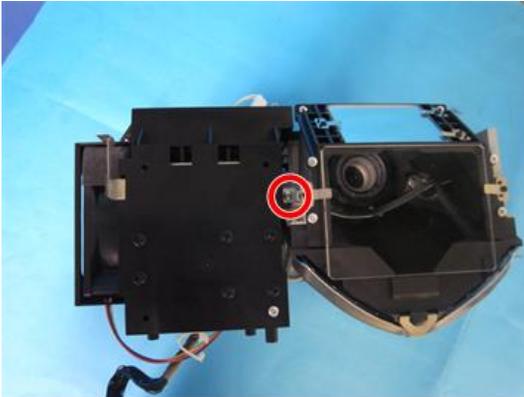
y011r041

3. Remove 2 screws, detach a connector, and move the power inlet.



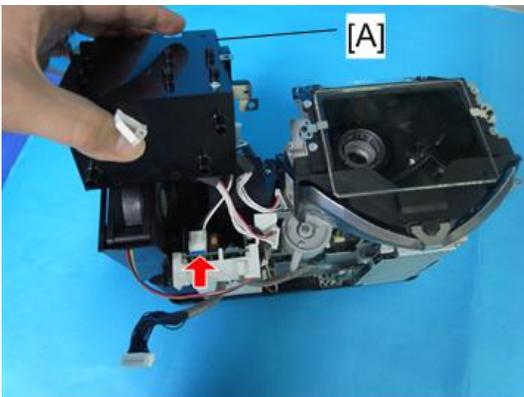
y011r042

4. Remove 2 screws, detach 2 connectors, and open a clamp.



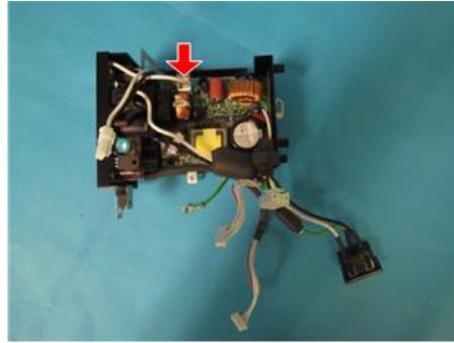
y011r043

5. Remove a screw.



y011r044

6. PSU [A] (🔌 x 1)

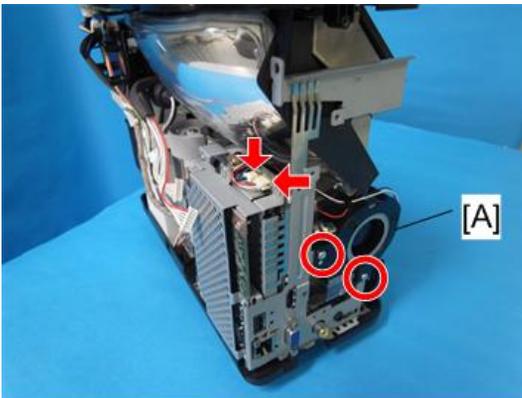


y011r045

7. Separate the PSU (🔧 x 2, 📏 x 1)

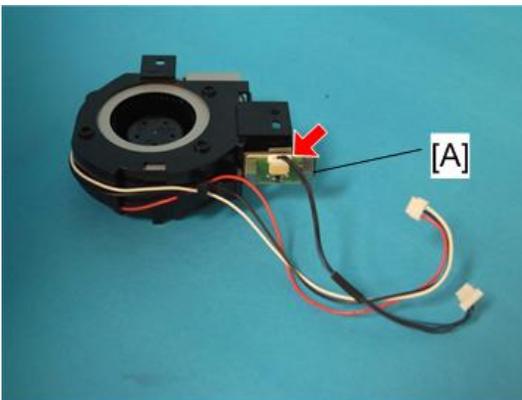
Intake Fan

1. Terminal cover (🔧 p.23)



y011r046

2. Intake fan (🔧 x 2, 📏 x 2)

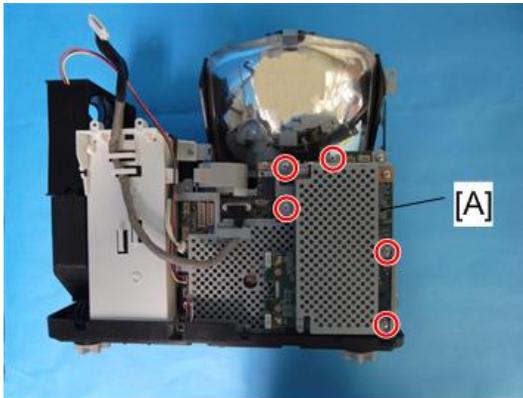


y011r047

3. Intake fan sensor [A] (🔧 x 1)

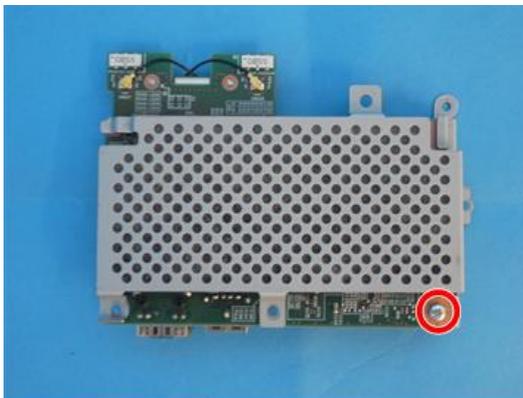
Network Board (Y012 only)

1. Intake fan (🔧 p.30)



y011r048

2. Network board with bracket (🔧 x 5)



y011r078

3. Network board (🔧 x 1)

Wireless LAN Module (Y012 only)

1. Network board (🔧 p.31)

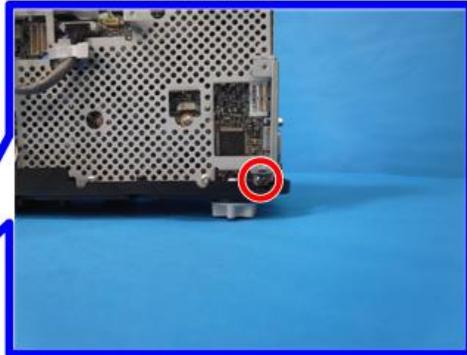


y011r079

- 2. Wireless LAN module (🔑 x 2, 📶 x 2)

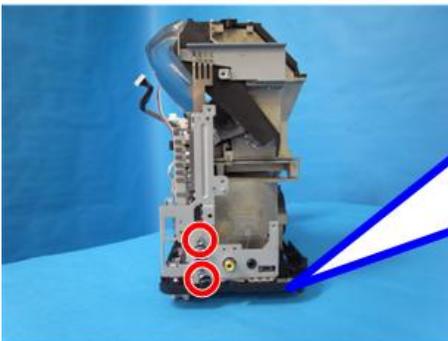
Interface Board

- 1. Y011: Intake fan (🔌 p.30). Y012: Network board (🔌 p.31).



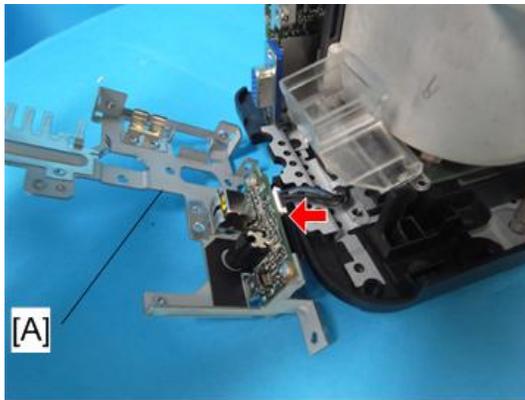
y011r049

- 2. Remove 2 screws.



y011r050

- Remove 3 screws.



y011r051

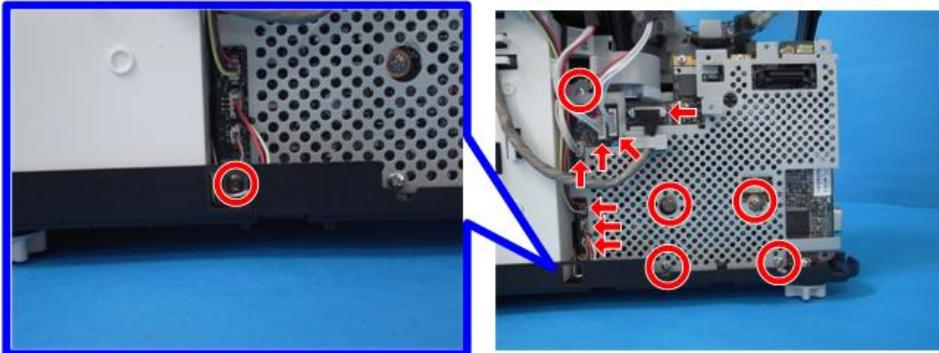
- Interface board [A] (🔌 x 1)

Main Board

When replacing the main board, you must enter the current value of color wheel index delay after installing the new board.

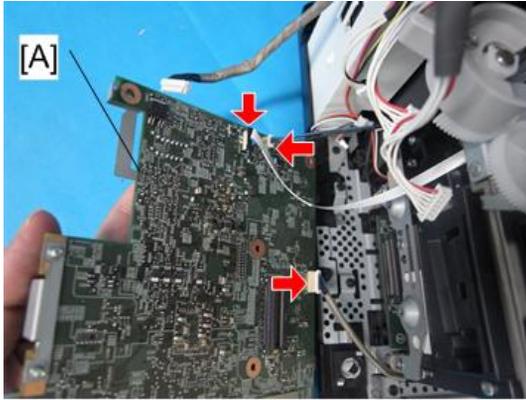
Make a note of the current value by displaying the Service status. (🔧 p.45 "Projector Setup")

- Interface board (🔌 p.32)



y011r052

- Remove 6 screws and detach 7 connectors.



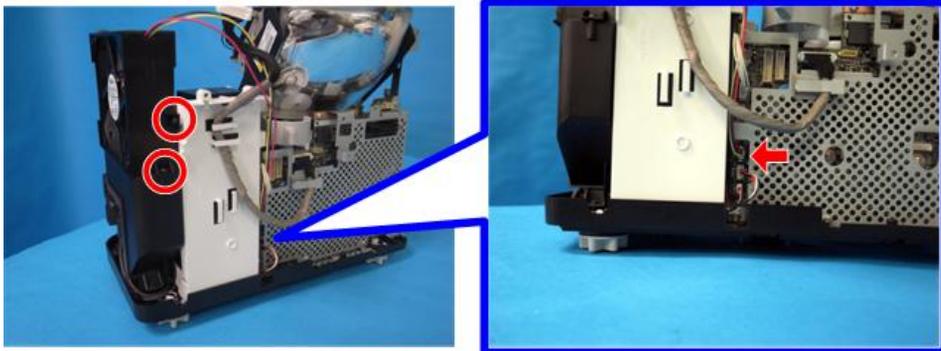
y011r053

3. Main Board [A] (📄 x 3)

After installing a new board, enter the value of color wheel index delay and perform keystone calibration and sub-contrast adjustment. (📄 p.44 "Electrical Adjustment")

Exhaust Fan

1. Rear cover (📄 p.21)



y011r054

2. Remove two screws and detach the connector.

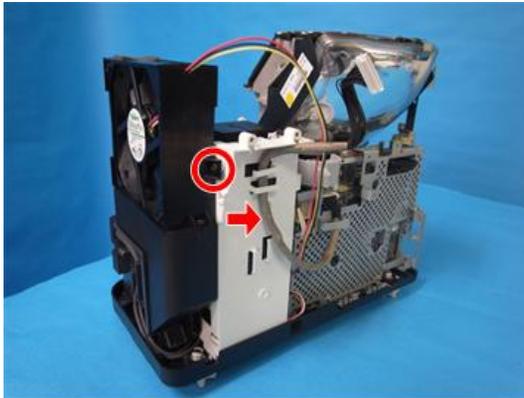


y011r055

3. Exhaust fan [A] (⚙️ x 1)

Lamp Ballast

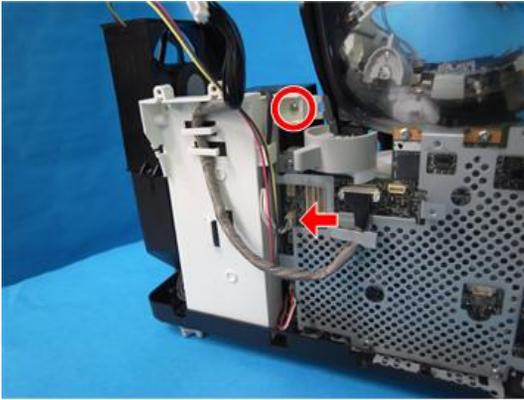
1. PSU (🔌 p.28)



y011r056

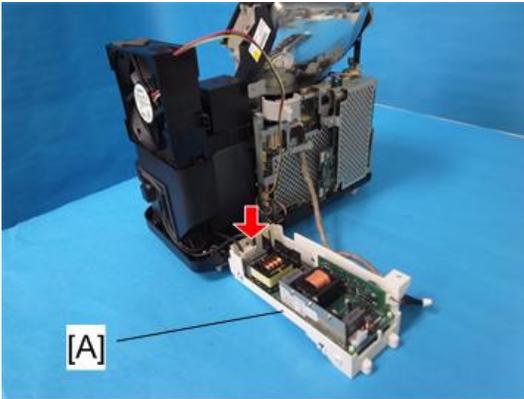
2. Remove a screw and a cable.

3



y011r057

3. Remove a screw and detach a connector.

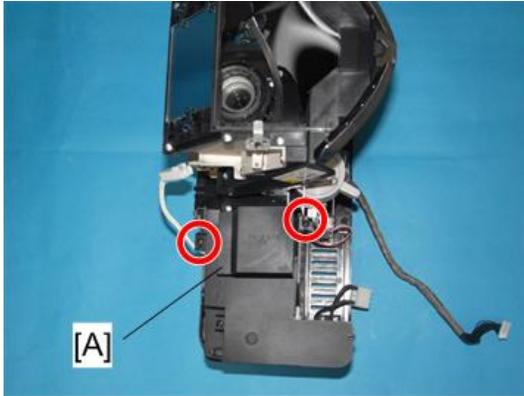


y011r058

4. Lamp ballast [A] (🔧 x 1)

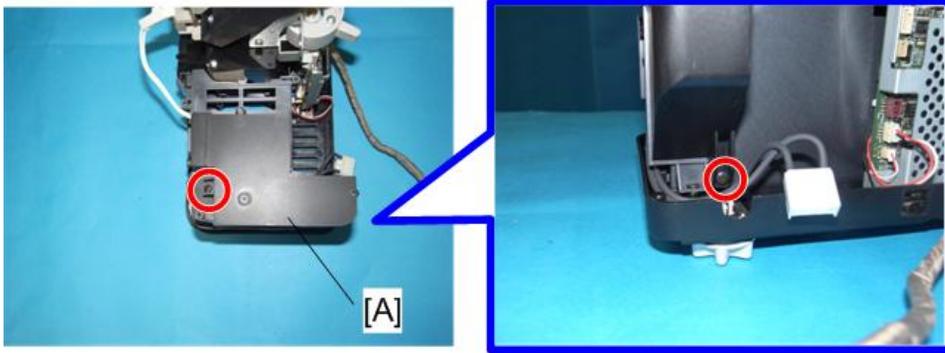
Lamp Power Cord

1. Exhaust fan (🔧 p.34)
2. Lamp ballast (🔧 p.35)



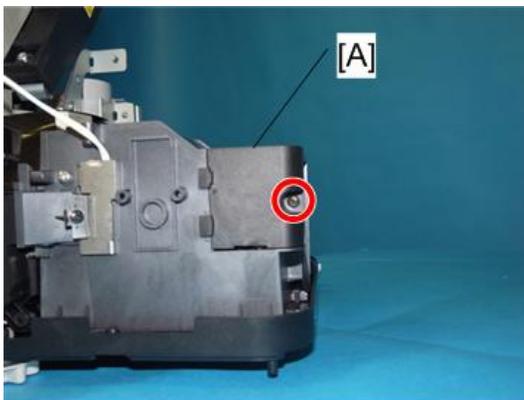
y011r059

3. Exhaust duct [A] (🔩 x 2)



y011r060

4. Exhaust duct [A] (🔩 x 2)



y011r061

5. Cover [A] (🔩 x 1)



y011r062

6. Lamp power cord [A] (🔧 x 1)

Optics Section

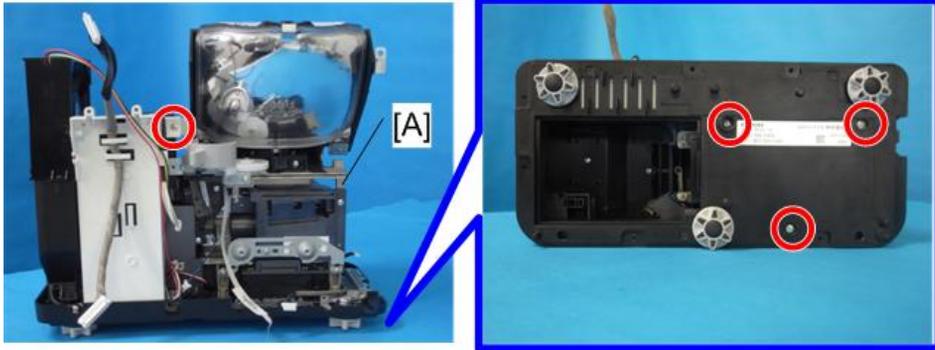
⬇ Note

- After replacing the optics section, you must the input the value of color wheel index delay that is specific to the new unit. The value is printed on the label attached to the unit. Make a note of the last three digits on the label shown in the figure, and enter it after replacement. (🖨 p.44 "Electrical Adjustment")



y011r081

1. Main board (🖨 p.33)
2. PSU (🖨 p.28)



y011r063

3. Optics Section [A] (⚙️ x 4)

⚠️ Note

- If placing the projector upside down, place it on a sheet of paper.
- When handling the optics section, hold the metal parts shown in the figure.

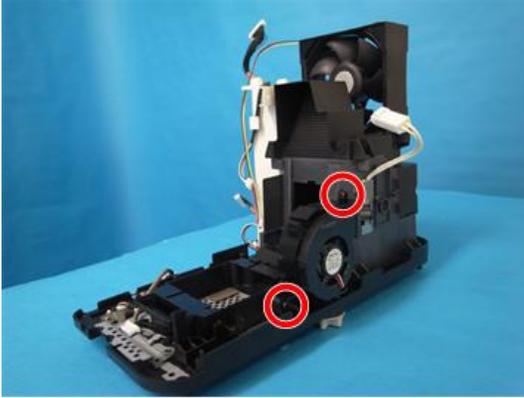


y011r064

- When installing the optics section, make sure the cables are not trapped under the leg of the optics section.

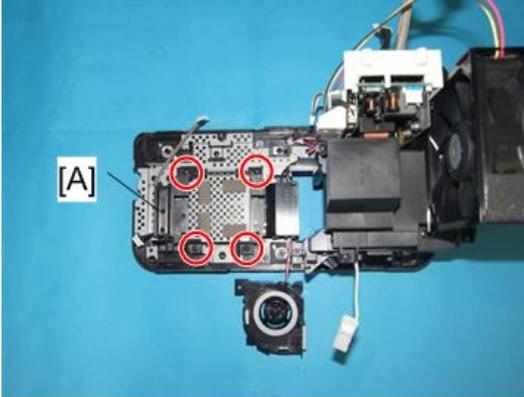
Lamp Fan

1. Optics section (⚙️ p.38)



y011r065

2. Remove 2 screws.



y011r066

3. Base for the optics section (🔩 x 4)

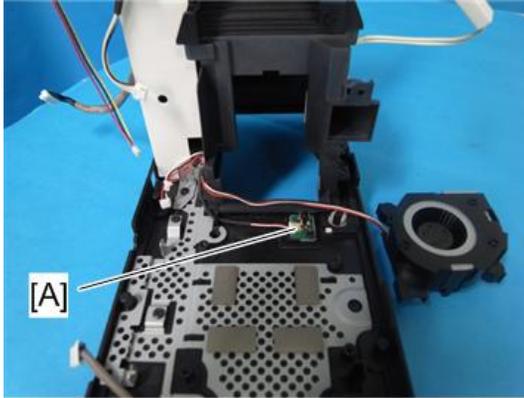


y011r067

4. Lamp fan [A]

Lamp Cover Open Sensor

1. Base for the optics section (see p.39 "Lamp Fan")

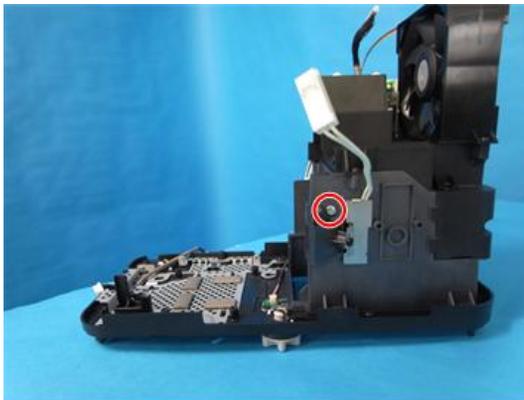


y011r068

2. Lamp cover open sensor [A]

Temperature Sensor

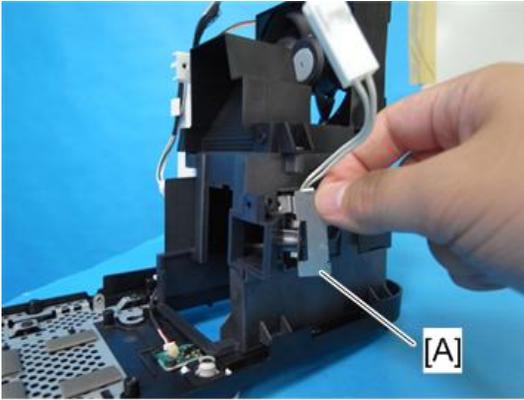
1. Lamp fan (see p.39)



y011r069

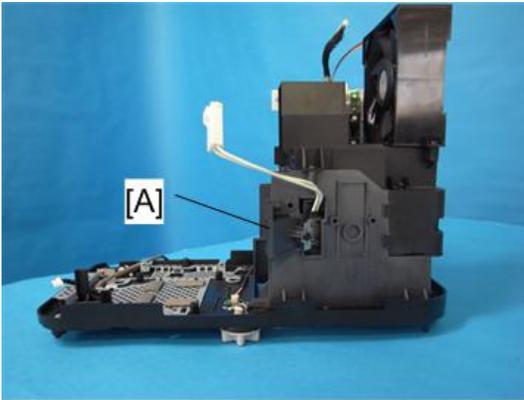
2. Remove a screw.

3



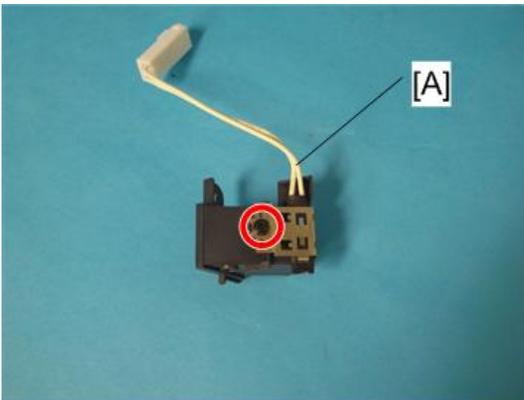
y011r070

3. Temperature sensor cover [A]



y011r071

4. Temperature sensor with bracket [A]

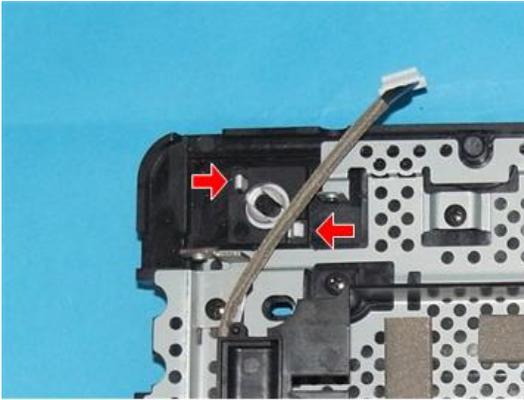


y011r072

5. Temperature sensor [A] (⚙ x 1)

Foot Adjuster

1. When removing the left foot adjuster, remove the lamp ballast (see p.35 "Lamp Ballast"). When removing the front or right foot adjuster, remove the optics section (see p.38 "Optics Section").



y011r073

2. Release two hooks to remove the foot adjuster.

Electrical Adjustment

Adjustment Points vs Part Replaced

The table below shows you the items to be adjusted according to the type of part you replaced.

	Keystone	Sub Contrast	Color wheel index delay
Main board	○	○	○
Control panel board	○	×	×
Optics section	○	×	○

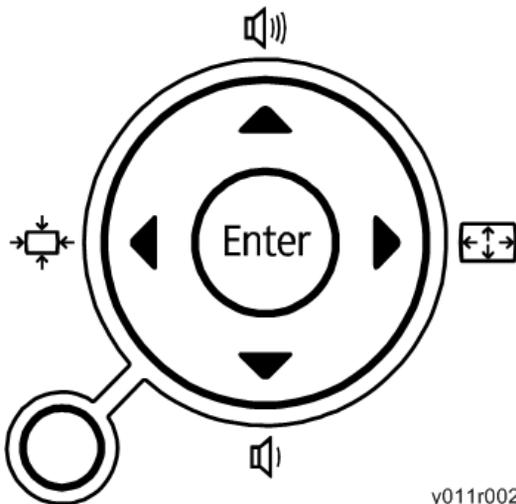
○: Adjustment is needed

×: Not necessary

Save Data to EEPROM (Common for all adjustments)

Before doing the adjustments in this section, save the current settings to EEPROM.

Press the , , , and  buttons of the projector simultaneously.



y011r002

Preparation

Test equipment

1. Personal computer
(Windows PC, OS: Windows 98SE, ME, 2000, XP)
2. Cables
RGB Cable and Control (USB A to mini-B) Cable
3. A protractor for Vertical Auto Keystone Calibration

3

Projector Setup

Plug in the power cord and press the [Power] button of the projector.

How to enter the Service Mode

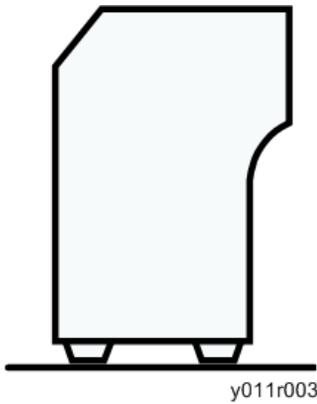
1. Press and hold the [Enter] and [Menu] buttons of the projector simultaneously for 2 seconds.
You will hear a short beep.
2. Press the  button on the projector.
3. Press the  button on the projector.
4. Press the  button on the projector.
5. Press and hold the [Enter] button on the projector for longer than 2 seconds.
When the projector enters the Service Mode, the buzzer beeps for 3 seconds.
If it doesn't beep, repeat from the beginning.
The projector remains in this mode until you disconnect the power cord.

How to display the Service status

After the projector has entered the service mode, press the [AV Mute] and  buttons simultaneously. Then, the following display appears.

If it doesn't appear, repeat from the beginning.

This mode remains until you press the [Menu] button.



2. Set the projector on a level surface.
3. Press the [Enter] button of the projector.

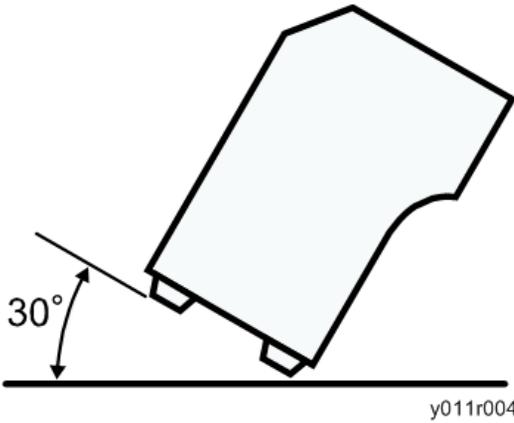
When the adjustment is successfully completed, the values changes from the default [0-0-2048].

(Example: See below)

Adjustment(KC,C/W)	
KC0	25 - 3353 - 2051
KC1	0 - 0 - 2048
KC2	0 - 0 - 2048
KC3	0 - 0 - 2048
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y011r011

If it fails, the values don't change from the default [0-0-2048].



4. Keep the projector at 30 degrees.

Adjustment(KC,C/W)	
KC0	25 - 3353 - 2051
KC1	0 - 0 - 2048
KC2	0 - 0 - 2048
KC3	0 - 0 - 2048
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y011r012

5. Select the KC1 item by pressing the **▼** button.

6. Press the [Enter] button of the projector.

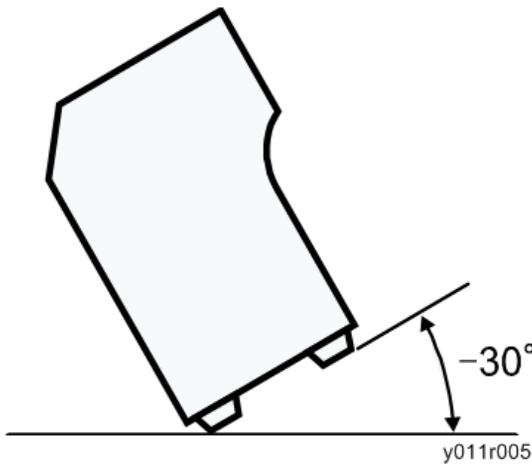
When the adjustment is successfully completed, the values changes from the default [0-0-2048].

(Example: See below)

Adjustment(KC,C/W)	
KC0	25 - 3353 - 2051
KC1	25 - 3354 - 1802
KC2	0 - 0 - 2048
KC3	0 - 0 - 2048
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y011r013

If it fails, the values don't change from the default [0-0-2048].



y011r005

7. Keep the projector at -30 degrees.

Adjustment(KC,C/W)	
KC0	25 - 3353 - 2051
KC1	25 - 3354 - 1802
KC2	0 - 0 - 2048
KC3	0 - 0 - 2048
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y011r014

8. Select the KC2 item by pressing the **▼** button.
9. Press the [Enter] button of the projector.

When the adjustment is successfully completed, the values changes from the default [0-0-2048].

(Example: See below)

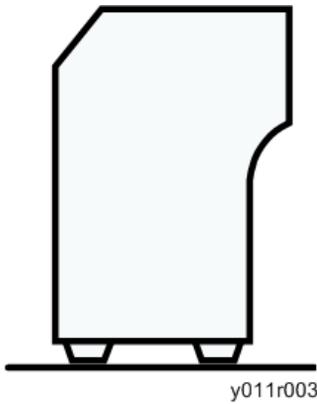
Adjustment(KC,C/W)	
KC0	25 - 3353 - 2051
KC1	25 - 3354 - 1802
KC2	25 - 3353 - 2299
KC3	0 - 0 - 2048
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y011r015

If it fails, the values don't change from the default [0-0-2048].

↓ Note

- When the projector is not tilted accurately +/- 30degrees, the adjustment values ([KC1] and [KC2]) do not change.



- Set the projector on a level surface and turn on the projector to shine the lamp through it for 30 minutes or more.

Adjustment(KC,C/W)	
KC0	25 - 3353 - 2051
KC1	25 - 3354 - 1802
KC2	25 - 3353 - 2299
KC3	0 - 0 - 2048
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y011r016

- Select the KC3 item by pressing the **▼** button.
- Press the [Enter] button of the projector.

When the adjustment is successfully completed, the values changes from the default [0-0-2048].

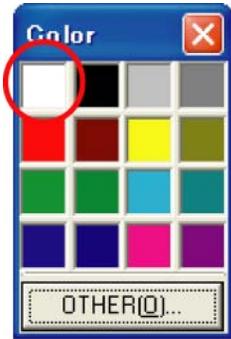
(Example: See below)

Adjustment(KC,C/W)	
KC0	25 - 3353 - 2051
KC1	25 - 3354 - 1802
KC2	25 - 3353 - 2299
KC3	24 - 3396 - 2049
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y011r017

Sub Contrast

Right-click to display the following color pallet. Click the [White] button.



y006r017

↓ Note

- Move the mouse cursor out of the screen to avoid an error.
1. Select the Sub contrast item by pressing the **▼** button.

Adjustment(KC,C/W)	
KC0	25 - 3353 - 2051
KC1	25 - 3354 - 1802
KC2	25 - 3353 - 2299
KC3	24 - 3396 - 2049
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y011r018

2. Press the [Enter] button of the projector.

When the adjustment is successfully completed, the values changes from the default [512-512-512].

(Example: See below)

Adjustment(KC,C/W)	
KC0	25 - 3353 - 2051
KC1	25 - 3354 - 1802
KC2	25 - 3353 - 2299
KC3	24 - 3396 - 2049
Sub contrast	1162 - 1157 - 1158
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y011r019

If it fails, the values don't change from the default [85].

Color wheel index delay

1. Select the C/W index delay item by pressing the  button.

Adjustment(KC, C/W)	
KC0	25 - 3353 - 2051
KC1	25 - 3354 - 1802
KC2	25 - 3353 - 2299
KC3	24 - 3396 - 2049
Sub contrast	1162 - 1157 - 1158
C/W index delay	50
[MENU]Quit	[<][>]Adjust

y011r077

- Adjust the value by pressing the  or  button.

Altitude

- Press the [Input] and  buttons simultaneously.
- Select the correct value by pressing the  or  button.

This setting is effective only when [High Altitude Mode] is [On] (over 1,500m (4,921ft)).

The factory setting value is [0] (30.0% up).

The value [1] (7.7% up) is for more than 500m (1,640ft) and under 1,000m (3,281ft).

The value [2] (15.4% up) is for more than 1,000m (3,281ft) and under 1,500m (4,921ft).

The value [3] (23.1% up) is for more than 1,500m (4,921ft) and under 2,000m (6,562ft).

The value [4] (30.8% up) is for more than 2,000m (6,562ft) and under 2,500m (8,202ft).

The value [5] (38.5% up) is for more than 2,500m (8,202ft) and under 3,000m (9,843ft).

The value [6] (46.2% up) is for more than 3,000m (9,843ft).

For example, in the case of 2,700m altitude, set the value to [5].

Adjustment(Altitude,Fan)		
Altitude	4	
Fan control	Auto	Manual
	Setting	Actual
Fan-1	143	5342rpm
Fan-2	150	2997rpm
Fan-3	166	5461rpm
		Actual
Temp-1		26deg
[MENU]Quit		[<]/[>]Adjust

y011r020

3. Press the MENU button.

4. System Maintenance

Firmware Update

Updating the Firmware Using a Computer (Main Board only)

Preparation

Before you begin firmware update, the SiLabs driver software must be installed on your computer.

1. Double-click the CP210xVCPInstaller.exe icon.



2. Click [Install].

Updating the firmware

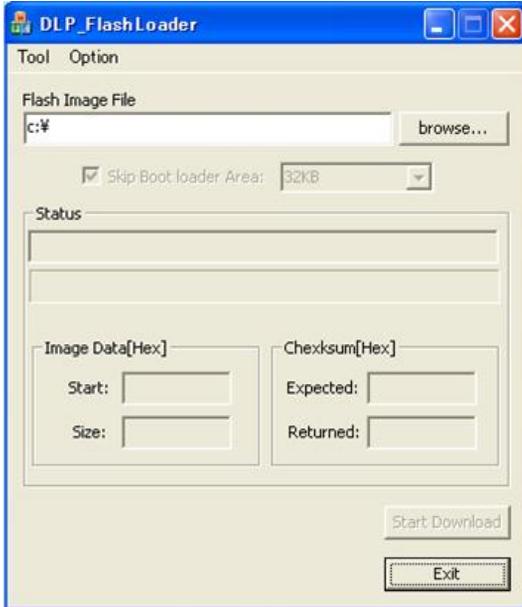
1. Make sure that the power cord of the projector is disconnected.



y011r075

2. Remove the control port cover [A] (hooks x 2).
3. Connect a USB cable to the control port.
4. Connect the other end of the USB cable to your computer.

5. While holding down the Input and Mute buttons, plug in the power cord.
6. Start DLP_FlashLoader on your computer.



4

7. Click [browse...] and select the firmware data (*.img file) you want to install.

Note

- "Skip Boot loader Area:" is selected by default. Do not change the setting unless otherwise indicated.

8. Click [Start Download].

When update is complete, the projector beeps for 3 seconds, and the "Returned:" area under "Checksum[Hex]" on the DLP_FlashLoader window displays the same value as the "Expected:" area.

Updating the firmware using a USB memory device (Y012 only)

You can update the firmware of the main board and the network board by using a USB memory device.

1. Copy the firmware data to the root directory of a USB memory device.

Note

- Use a firmware file with the file extension "sfw".
 - Do not put any other files in the root directory.
2. Check the power cord of the projector is disconnected.
 3. Connect the USB memory device to the projector.

4. While holding down the [Power] and [Input] buttons, plug in the power cord.
5. After checking the firmware data, the projector starts writing the firmware.
When the writing process starts, the power button, the lamp indicator and the temperature indicator flash sequentially.
6. When update process is successfully completed, the [Power] button lights up blue and the lamp and temperature indicators light up red and the projector restarts in normal mode.
When the update process fails, the [Power] button flashes blue and the lamp and temperature indicators flash red.

Network Service Menu

Displaying the Network Service Menu

1. Enter the service mode. (See p.45 "Projector Setup")
2. Press the MENU button.
3. Press  three times to display the "Network/USB Settings" menu.
4. Press .
5. Press  several times to display the "Network Application Settings" menu.

4

Menu Items

The following items can be set or displayed in the network service menu.

Item	Description
@Remote: Setup Status	Displays the setup status of @Remote function.
@Remote: Request No.	Input the request No. required for @Remote function setup.
@Remote: Service Test Call	Perform a test to check whether communication with the NRS (New Remote Service) gateway is possible.
@Remote: Perform Polling Manually	Perform communication server polling function manually.
@Remote: Perform Confirmation	Perform request No. confirmation to NRS (New Remote Service) gateway.

Item	Description
@Remote: Confirmation Response Result	Displays the result of request number confirmation. 0: Confirmation was successful. 1: Request number error. Check the entered request number. If the entered number is correct, the installation information may not have been registered in the NRS (New Remote Service) gateway. 3: Communication Error (proxy enabled). 4: Communication Error (proxy disabled). 5: Proxy error (authentication failure). 6: Communication Error. 8: Other errors. For details, see ""@Remote: Display Error Code"". 9: Confirmation in progress. The request number is being confirmed between the gateway and the machine. 10: Confirmation has not been done yet.
@Remote: Confirm Results Location	Displays the location notified from the NRS (New Remote Service) as response to request No. confirmation on @Remote function.
@Remote: Perform Registration	Perform @Remote registration.
@Remote: Registration Response Result	Displays the result of registration. 0: Registration completed. 1: Request number error. The information registered in the NRS (New Remote Service) gateway may be wrong. 2: Registration has already been completed. 3: Communication Error (proxy enabled). 4: Communication Error (proxy disabled). 5: Proxy error (authentication failure). 8: Other errors. For details, see ""@Remote: Display Error Code"". 9: Registration in progress. Registration is being done between the gateway and the machine. 10: Registration has not been done yet.
@Remote: Clear @Remote Setup	Return the @Remote set device to the unset condition.
@Remote: CE Call	Performs the CE Call at the start or end of the service.

Item	Description
@Remote: Display Error Code	Displays the error code, which shows the details of the error when the result of "@Remote: Confirmation Response Result", "@Remote: Registration Response Result", "@Remote: Scheduled Notify Result", or "@Remote: Error Notification Result" is "Other errors". Also, displays error codes for errors encountered when updating the certificate.
@Remote: Communication Permit	Select whether to allow @Remote communication or not.
@Remote: HTTP Proxy Usage	Set whether to use proxy on communication with NRS (New Remote Service) or not. HTTP=Hypertext Transfer Protocol
@Remote: Device ID2 Code	Displays device ID2 code.
@Remote: Common Certificate Write Operation	Performs the write operation of the common certificate for the @Remote function.
@Remote: Certificate Macro Version	Displays the macro version of the NRS (New Remote Service) certificate used on @Remote function.
@Remote: Certificate PAC Version	Displays the PAC version of the NRS (New Remote Service) certificate used on @Remote function.
@Remote: Certificate Subject	Displays the certificate subject of the NRS (New Remote Service) certificate used on @Remote function.
@Remote: Certificate Serial Number	Displays the certificate serial number of the NRS (New Remote Service) certificate used on @Remote function.
@Remote: Certificate Issuer	Displays the CommonName of NRS (New Remote Service) certificate Issuer used on @Remote function.
@Remote: Cert. Validity Not Before	Displays the validated date of the NRS (New Remote Service) certificate used on @Remote function. (The start date)
@Remote: Cert. Validity Not After	Displays the validated date of the NRS (New Remote Service) certificate used on @Remote function. (The end date)
@Remote: Certificate Update Request ID	Displays the request ID for certificate update.

Item	Description
@Remote: Certificate Update Status	<p>Certificate status for @Remote function.</p> <p>0: Normal state. No cause for update detected.</p> <p>1: Certificate update requested. notifyAuthKenChangeVer13 is sent to the regular gateway or rescue gateway, depending on the cause for update.</p> <p>2: Waiting for certificate reception. Waiting for reception of setAuthKey from the gateway by polling.</p> <p>3: Writing certificate. Saving the received certificate.</p> <p>4: Writing of the certificate completed. notifyAuthKeyChangeResult is sent to the regular gateway.</p> <p>5: Writing of the certificate failed. notifyAuthKeyChangeResult is sent to the regular or rescue gateway.</p> <p>6: Result notification failed. When SSL negotiation fails in the notification process in state 4, notifyAuthKeyChangeResult is sent to the rescue gateway.</p>
@Remote: Certificate Abnormal Problem	<p>Displays the cause for certificate update request notification for @Remote function.</p> <p>0: Normal state. Certificate update request not done.</p> <p>1: The date of expiry is drawing near.</p> <p>2: SSL error. An SSL error occurs when the certificate has expired.</p> <p>3: The common certificate must be replaced with an individual certificate.</p>

Item	Description
@Remote: Certificate Check Result	<p>Displays the result of certificate check upon installation and startup.</p> <p>(ten's digit)</p> <p>0: Normal</p> <p>1: Serial number abnormality</p> <p>2: ID2/serial number inconsistency</p> <p>3: Individual certificate abnormality</p> <p>4: Common certificate abnormality</p> <p>5: Rescue certificate abnormality</p> <p>(one's digit)</p> <p>0: The period between the current time and expiration time is longer than the configured margin.</p> <p>1: The period between the current time and expiration time is shorter than the configured margin.</p> <p>2: The period between the current time and expiration time is shorter than 3/4 of the configured margin.</p> <p>3: The period between the current time and expiration time is shorter than 1/2 of the configured margin.</p> <p>4: Certificate expired.</p> <p>5: The current date is before the start of validity. (This does not happen usually.)</p>
@Remote: Server Auth. CN Check	<p>Not used.</p>
@Remote: Notification Timing Type	<p>Displays the notification timing specified from the NRS (New Remote Service) gateway on @Remote function.</p>
@Remote: Scheduled Notify Result	<p>Displays the result of scheduled notification.</p> <p>0: Success (The date and time is displayed in "@Remote: Last Scheduled Notify Date".)</p> <p>3: Communication Error (proxy enabled).</p> <p>4: Communication Error (proxy disabled).</p> <p>5: Proxy error (authentication failure).</p> <p>8: Other errors. For details, see "@Remote: Display Error Code".</p>

Item	Description
@Remote: Error Notification Result	<p>Displays the result of error auto notification.</p> <p>0: Success</p> <p>3: Communication Error (proxy enabled).</p> <p>4: Communication Error (proxy disabled).</p> <p>5: Proxy error (authentication failure).</p> <p>8: Other errors. For details, see "@Remote: Display Error Code".</p>
@Remote: Next Scheduled Notify Date	<p>Displays the next scheduled notification date set from the NRS (New Remote Service) gateway.</p>
@Remote: Advance Notice of Expiry	<p>Displays the criterial value (seconds) to judge the term of validity for certificate.</p>
@Remote: Near Expiry Notify Date	<p>Displays the date to notify near expiry of certificate.</p>
@Remote: Last Scheduled Notify Date	<p>Displays the previous scheduled notification date.</p>
@Remote: Rescue Gateway URL Path	<p>Displays the rescue gateway URL path used on @Remote function.</p>
@Remote: Gateway URL Path	<p>The gateway URL for design debug, evaluation used on @Remote function.</p>
@Remote: Rescue Gateway SSL Usage	<p>Not used</p>
@Remote: Rescue Gateway Host	<p>Displays the URL (IP address) of the rescue gateway.</p>
@Remote: Rescue Gateway Port	<p>Not used</p>
@Remote: Communication Server Polling Interval	<p>Set the polling interval to NRS (New Remote Service) gateway.</p>
@Remote: HTTP Connection Timeout	<p>Connection timeout to NRS (New Remote Service) gateway.</p>

Item	Description
@Remote: HTTP Transmission Timeout	Transmission timeout to NRS (New Remote Service) gateway.
@Remote: HTTP Reception Timeout	Reception timeout from NRS (New Remote Service) gateway.
@Remote: Retry Interval on HTTP Connection	Connection retry interval when unable to connect to NRS (New Remote Service) gateway.
@Remote: Number of Retries on HTTP Connection	Number of connection retries when unable to connect to NRS (New Remote Service) gateway.
@Remote: HTTP Connection Req. Transmission Delay	The wait time for notification after sending notification request to the communication module. Req.=request
@Remote: Maximum Number of Multiparts	The maximum number of multipart messages sent and received with the NRS (New Remote Service) gateway.
@Remote: SSL Usage	Not used
@Remote: Gateway Port	Not used
@Remote: Gateway Host	To in-place the gateway host within the security device for design debug/evaluation.
Reset Administrator Password	Resets the administrator password.
Reset PJLink Password	Resets the PJLink password.

Note

- Error codes displayed in “@Remote: Display Error Code” indicate the following:
 - -12003 Registration has been attempted without confirmation.
 - -12004 Installation attempted without certificate or machine serial number
 - -12005 Confirmation or registration attempted but @remote communication is disabled or Cumin is malfunctioning.
 - -12006 Performed confirmation even though the Box is already installed.

- -12007 The request No. used for registration does not match the last confirmed No.
- 1 NRS Center is outside office hours.
- -2385 The international dialing prefix included in prefixboxTelNo is inappropriate.
- -2387 Unsupported by the center.
- -2389 DB failure.
- -2390 Program error
- -2391 One machine registered twice.
- -2392 Parameter error.
- -2393 An RC Gate not controlled.
- -2394 A device not controlled.
- -2395 RC Gate BoxID is incorrect.
- -2396 RC Gate DeviceID is incorrect.
- -2397 ID2 is incorrect.
- -2398 Request No. format is incorrect.
- -2399 Timeout between center and gateway (Certificate update result notification)
- 3: Communication Error (proxy enabled).
- 4: Communication Error (proxy disabled).
- 5: Proxy error (authentication failure).
- 8: Other errors.

5. Troubleshooting

LED Display

LED Display (Problems are shown by a combination of LED Indicators)

Status of Indicator Lights	Trouble	Cause	Solution
 y011t001	Standby power is not on.	There is a problem with the power supply or the main board.	Check the power supply. Check the connector. Check the main board.
 y011t002	Lamp error Lamp went out during use, or won't come on.	<ul style="list-style-type: none"> Lifetime of the lamp has ended. The rotation of the color wheel is not detected. The lamp ballast is defective. The temperature around the lamp ballast is high. 	<ul style="list-style-type: none"> Replace the lamp. Clean the inside of the projector. Replace the optics section. Replace the lamp ballast.
 y011t003 (Flashes at 2-second intervals)	Lamp off error The projector failed to switch off the lamp.	<ul style="list-style-type: none"> The processor in the lamp ballast is malfunctioning. The main processor is malfunctioning. 	Disconnect the power cord, and then connect it again.
 y011t003 (Flashes at 1-second intervals)	Lamp cover error Power went out during use, or power won't come on.	<ul style="list-style-type: none"> The lamp cover is not properly attached. The lamp cover open sensor is defective. 	<ul style="list-style-type: none"> Check if the lamp cover is properly attached. Check the lamp cover open sensor.

Status of Indicator Lights	Trouble	Cause	Solution
 <p>y011t005</p>	<p>Fan error</p> <p>Power went out during use.</p>	<p>Fan rotation speed is too low.</p> <p>DAC error of the fan IC.</p> <p>The number of flashes indicates the Fan No.</p> <p>Single flash repeated: FAN1 Intake Fan</p> <p>2 flashes repeated: FAN2 Exhaust Fan</p> <p>3 flashes repeated: FAN3 Lamp Fan</p>	<ul style="list-style-type: none"> • Check if the fan connector (intake fan: CN5, exhaust fan: CN7, lamp fan: CN8) is properly connected. • Replace the fan. • Replace the main board.
 <p>y011t006</p>	<p>Temperature error</p> <p>Power went out during use.</p>	<ul style="list-style-type: none"> • Internal overheating. The temperature around the intake fan is 42 degrees C or higher. • Temperature sensor is defective. 	<ul style="list-style-type: none"> • Check the environment, e.g. whether there is any heat source near the projector. • Check if the temperature sensor connector (CN10) is properly connected. • Replace the temperature sensor board. • Replace the main board.
 <p>y011t007</p>	<p>Hardware error</p> <p>Power went out during use.</p>	<p>There are problems with the main board.</p>	<p>Check the main board and the cable connections.</p>

Status of Indicator Lights	Trouble	Cause	Solution
 y011t009	Installation error	The projector is tilted at angle of 30 degrees or more.	<ul style="list-style-type: none"> • Check the projector condition. • Check if the control panel connector is properly connected.
 y011t009	Firmware update error	The firmware has not been properly written.	Perform the firmware update procedure again. If the problem persists, replace the network board and the main board.

Note

- The [Power] button is located on top of the projector. The indicators are on the front of the projector.
- The [Power] button and indicators light up or flash red or blue. "🔴" means they are flashing.

Error ID

The error ID shown on the Service status display indicates the cause of the error.

Error ID	Meaning	Cause	Solution
1	Lamp error	<ul style="list-style-type: none"> • Lifetime of the lamp has ended. • The rotation of the color wheel is not detected. • The lamp ballast is defective. • The temperature around the lamp ballast is high. 	<ul style="list-style-type: none"> • Replace the lamp. • Clean the inside of the projector. • Replace the optics section. • Replace the lamp ballast.
2	Lamp cover error	<ul style="list-style-type: none"> • The lamp cover is not properly attached. • The lamp cover open sensor is defective. 	<ul style="list-style-type: none"> • Check if the lamp cover is properly attached. • Check the lamp cover open sensor.
3	Lamp off error	<ul style="list-style-type: none"> • The processor in the lamp ballast is malfunctioning. • The main processor is malfunctioning. 	Disconnect the power cord, and then connect it again.
4	Fan 1 error	<ul style="list-style-type: none"> • Fan rotation speed is too low. • DAC error of the fan IC. 	<ul style="list-style-type: none"> • Check if the fan connector (CN5) is properly connected. • Replace the intake fan. • Replace the main board.
5	Fan 2 error	<ul style="list-style-type: none"> • Fan rotation speed is too low. • DAC error of the fan IC. 	<ul style="list-style-type: none"> • Check if the fan connector (CN7) is properly connected. • Replace the exhaust fan. • Replace the main board.
6	Fan 3 error	<ul style="list-style-type: none"> • Fan rotation speed is too low. • DAC error of the fan IC. 	<ul style="list-style-type: none"> • Check if the fan connector (CN8) is properly connected. • Replace the lamp fan. • Replace the main board.

Error ID	Meaning	Cause	Solution
7	Temp error	<ul style="list-style-type: none"> The temperature around the intake fan is 42 degrees C or higher. Temperature sensor is defective. 	<ul style="list-style-type: none"> Check the environment, e.g. whether there is any heat source near the projector. Check if the temperature sensor connector (CN10) is properly connected. Replace the temperature sensor board. Replace the main board.
8	Installation error	The projector is tilted at angle of 30 degrees or more.	<ul style="list-style-type: none"> Check the projector condition. Check if the control panel connector is properly connected.
9	Memory read error	A data access error occurred while accessing the EEPROM on the main board.	Replace the main board.
10	Audio processor error	A data access error occurred while accessing the audio device.	Replace the main board.
11	Video processor error	A data access error occurred while accessing the video decoder.	Replace the main board.
12	A/D converter error	A data access error occurred while accessing the A/D converter.	Replace the main board.
13	HDMI receiver error	A data access error occurred while accessing the HDMI receiver.	Replace the main board.

Error ID	Meaning	Cause	Solution
14	Tilt sensor error	A data access error occurred while accessing the tilt sensor.	<ul style="list-style-type: none"> • Check if the connector between the control panel board and the main board (CN3) is properly connected. • Replace the control panel board.
15	Color wheel error	<ul style="list-style-type: none"> • The color wheel stopped after the lamp turned on. • Color wheel rotation speed is too low after the lamp turned on. 	<ul style="list-style-type: none"> • Check if the color wheel sensor connector (CN2) is properly connected. • Check if the color wheel motor connector (CN14) is properly connected. • Clean the inside of the projector. • Replace the main board. • Replace the optics section.
16	DMD error	<ul style="list-style-type: none"> • DMD temperature is abnormal. • DMD drive voltage is too low. 	Replace the optics section.
17	DDP2431 error	The main processor is malfunctioning.	<ul style="list-style-type: none"> • Disconnect the power cord, and then connect it again. • Replace the main board.
18	Network communication error (Y012 only)	DDP2431 - DM3725 communication error.	<ul style="list-style-type: none"> • Check the connection with the network board. • Replace the network board.
19	Network device error (Y012 only)	DDP2431 device error	Replace the network board.
20	Network I/O device error (Y012 only)	DM3725-Shockley communication error.	Replace the network board.

Troubleshooting

Use this section to diagnose problems with the projector.

Problem	Solutions
Power does not turn on.	<ul style="list-style-type: none"> • Make sure the power plug or connector is connected correctly. • Make sure the lamp cover is mounted correctly. For details, see the Operating Instructions.
Power turns off during use.	<ul style="list-style-type: none"> • Make sure the environment in which the projector is being used is within the acceptable temperature range. • Make sure the vents are not blocked.
No image.	<ul style="list-style-type: none"> • Make sure the input signal is switched correctly if “Auto Input Search” in “Default Settings” is set to “Off”. For details, see the Operating Instructions. • Make sure the mute function is not turned on. For details, see the Operating Instructions. • Check the settings of Brightness in Image Adjustment. For details, see the Operating Instructions. • Make sure the computer or AV equipment is connected to the projector correctly. For details, see the Operating Instructions. • Make sure the computer's image output is switched correctly. For details, see the Operating Instructions. • Make sure the computer or AV equipment is working properly.

Problem	Solutions
No sound.	<ul style="list-style-type: none"> • Press the Input button. For details, see the Operating Instructions. • Make sure the mute function is not turned on. For details, see the Operating Instructions. • Check the speaker's volume adjustment. For details, see the Operating Instructions. • Make sure the computer or AV equipment is connected to the projector correctly. For details, see the Operating Instructions. • Make sure the computer or AV equipment is working properly.
Image is not projected normally.	<ul style="list-style-type: none"> • Make sure the input signal is compatible with the projector. For details, see "Appendices". • Check the status of the video tape or other video source.
Image is blurred. Image is partially out of focus.	<ul style="list-style-type: none"> • Make sure the projection window is clean. For details, see the Operating Instructions. • Check the focus adjustment. For details, see the Operating Instructions. • Make sure the projection distance is within the projector's range. For details, see the Operating Instructions. • Check the installation angles of the projector and screen. For details, see the Operating Instructions. • Check the settings of "Sharpness" and "Phase" in "Image Adjustment". For details, see the Operating Instructions.

Problem	Solutions
Image is dark.	<ul style="list-style-type: none"> • Check the settings of “Brightness” and “Contrast” in “Image Adjustment”. For details, see the Operating Instructions. • Make sure the lamp is not near the end of its service life. For details, see the Operating Instructions. • Check the settings of “RGB Input Range” in “Image Adjustment”. For details, see the Operating Instructions. • Make sure “3D Projection” in “Default Settings” is set to “Off”. For details, see the Operating Instructions.
Color is faded. Tint is poor.	<ul style="list-style-type: none"> • Check the settings of “Color Saturation”, “R-level”, “G-level”, and “B-level” in “Image Adjustment”. For details, see the Operating Instructions. • Make sure the screen is clean. • Check the settings of “Wall Color Correction” in “Display Settings”. For details, see the Operating Instructions. • Make sure the lamp is not near the end of its service life. For details, see the Operating Instructions.
The projector's operation keys do not respond.	<ul style="list-style-type: none"> • Make sure “Key Lock” in “Default Settings” is not set to “On”. For details, see the Operating Instructions.

Problem	Solutions
The remote control does not respond.	<ul style="list-style-type: none"> • Make sure the ID assigned to the remote control and in the settings of "Remote Control ID" in "Default Settings" are the same. For details, see the Operating Instructions. • Make sure the batteries in the remote control are not dead. • Make sure the batteries are correctly loaded into the remote control. For details, see the Operating Instructions. • Make sure the remote control is inside its effective range. c • Make sure there is nothing placed between the remote control and the projector. • Make sure the remote control receiver is not exposed to strong light.
No images from USB devices. (Y012 only)	<ul style="list-style-type: none"> • Make sure the USB memory device is connected correctly. • Make sure the connected USB memory device is compatible with the projector. • Make sure there are JPEG or MPEG files saved on the USB memory device. • Make sure the compression format, file size, and other conditions are compatible with the projector. For details, see the Operating Instructions.
Wired LAN is disabled. (Y012 only)	<ul style="list-style-type: none"> • Check the settings of "Wired LAN Settings" in "Network Settings" under "Network/USB Settings". For details, see the Operating Instructions.

Problem	Solutions
<p>Wireless LAN is disabled. (Y012 only)</p>	<ul style="list-style-type: none"> • Check the settings of “Wireless LAN Settings” in “Network Settings” under “Network/USB Settings”. For details, see the Operating Instructions. • Make sure there is nothing placed between the computer and the projector. • Make sure the operating system of the computer is compatible with Network Utility. Log on to the computer using administrator privileges to configure the wireless LAN settings using “Simple 1:1 Connection” or a USB memory device. For details, see the Operating Instructions. • Make sure that the projector is not in standby.

MEMO

Model Soleil-PJ1
Machine Codes: Y011/Y012
Appendices

Dec, 2011

TABLE OF CONTENTS

1. Appendix: Specifications

- General Specifications.....3
- List of General Specifications.....3
- List of Supported Signals.....4



1. Appendix: Specifications

General Specifications

1

List of General Specifications

Component	Specifications
Power consumption	Y011: 291 W or less Y012: 300 W or less
Weight	Approx. 3.0 kg (6.7 lb.)
External dimensions (not including protruding parts)	257 × 144 × 221 mm (10.1 × 5.7 × 8.7 inches)
Operating environment	Temperature: 5 to 35°C (73 to 95°F), Humidity: 30 to 70%
Display element	<ul style="list-style-type: none">• Display method Single-chip DLP®• Panel size 0.65 inches• Pixels 1,024,000 pixels (1280 H × 800 V)
Projection method	Ultra short-focus lens/mirror projection method
Lamp	High-pressure mercury lamp (Standard mode: 225 W, Eco mode: 170 W)
Projection screen size	48 to 80 inches
Projection distance	12 to 25 cm (4.6 to 9.8 inches)
Speaker	2 W (Mono)

Component	Specifications
Connection ports	<ul style="list-style-type: none"> • COMPUTER In port Mini D-SUB15 × 1 • HDMI port (HDCP compliant)* HDMI × 1 • Video In port RCA_1 pin × 1 • Audio In port Mini Jack × 1 • Control port USB TYPE-mini-B × 1 • USB port (Y012 only) TYPE-A × 1 USB 2.0 High-speed Output voltage: DC 5 V Supply current: 500 mA • LAN port (Y012 only) RJ-45 10BASE-T/100BASE-TX/1000BASE-T

* HDCP (High-bandwidth Digital Content Protection) is a copyright protection method to encrypt digital signals across the DVI/HDMI interface and prevent unauthorized copying. The HDCP specification was developed and is licensed by Digital Content Protection, LLC. The HDMI port on this projector is HDCP compliant and can project digital video content protected by HDCP. Updates to the HDCP specification may void this compliance and prevent access to protected data. If this occurs, it is not caused by the projector.

Separately sold product

Ricoh Replacement Lamp Type 3

List of Supported Signals

List of supported signals (Computer input)

This projector supports the following RGB signals. Note, however, that depending on the computer model, the screen may show flicker or streaking. Please adjust the projector if this happens.

Mode	Resolution		Frequency		
	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
640 × 480	640	480	59.940	31.469	25.175
			72.809	37.861	31.500
			75.000	37.500	31.500
			85.008	43.269	36.000
720 × 400	720	400	85.039	37.927	35.500
800 × 600	800	600	56.250	35.156	36.000
			60.317	37.879	40.000
			72.188	48.077	50.000
			75.000	46.875	49.500
			85.061	53.673	56.250
832 × 624	832	624	74.550	49.725	57.283
848 × 480	848	480	60.000	31.020	33.750
1024 × 768	1024	768	60.004	48.363	65.000
			70.069	56.476	75.000
			75.029	60.023	78.750
			84.997	68.678	94.500
			74.700	60.134	79.857
1152 × 864	1152	864	75.000	67.500	108.000
1152 × 870	1152	870	75.062	68.682	100.001
1280 × 720	1280	720	60.000	45.000	74.250

Mode	Resolution		Frequency		
	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
1280 × 768	1280	768	59.995	47.396	68.250
			59.870	47.776	79.500
			74.893	60.289	102.250
			84.837	68.633	117.500
1280 × 800	1280	800	59.910	49.306	71.000
			59.810	49.702	83.500
			74.934	62.795	106.500
			84.880	71.554	122.500
1280 × 960	1280	960	60.000	60.000	108.000
			75.019	75.019	126.032
			85.002	85.937	148.500
1280 × 1024	1280	1024	60.020	63.981	108.000
			75.025	79.976	135.000
			85.024	91.146	157.500
1360 × 768	1360	768	60.015	47.712	85.500
1366 × 768	1366	768	60.000	48.000	72.000
			59.790	47.712	85.500
1400 × 1050	1400	1050	59.948	64.744	101.000
			59.978	65.317	121.750
			74.867	82.278	156.000

Mode	Resolution		Frequency		
	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
1440 × 900	1440	900	59.901	55.469	88.750
			59.887	55.935	106.500
			74.984	70.635	136.750
			84.842	80.430	157.000
1600 × 900	1600	900	60.000	60.000	108.000
1600 × 1200	1600	1200	60.000	75.000	162.000
1680 × 1050	1680	1050	59.883	64.674	119.000
			59.954	65.290	146.250

Note

- Signals whose resolution exceeds the native resolution mentioned below will be compressed. For this reason, some information may be lost and/or image quality may be affected.
 - Y011/Y012: 1280 × 800 dots

List of supported signals (Y/P_B/P_R input)

Mode	Resolution		Frequency		
	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
480i (525i)	720	242.5	59.940	15.734	13.500
480p (525p)	720	483	59.940	31.469	27.000
576i (625i)	720	288	50.000	15.625	13.500
576p (625p)	720	576	50.000	31.250	27.000
720 / 50p	1280	720	50.000	37.500	74.250
720 / 60p	1280	720	60.000	45.000	74.250
1080 / 50i	1920	540	50.000	28.125	74.250

Mode	Resolution		Frequency		
	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
1080 / 60i	1920	540	60.000	33.750	74.250
1080 / 50p	1920	1080	50.000	56.250	148.500
1080 / 60p	1920	1080	60.000	67.500	148.500

List of supported signals (Video input)

Mode	Frequency
	Vertical (Hz)
NTSC	59.940
PAL	50.000
SECAM	50.000
PAL-M	59.940
PAL-N	50.000
PAL60	59.940
NTSC4.43	59.940

List of supported signals (HDMI input)

Since the resolutions or frequencies input from a computer or picture device vary and may be different from the signals listed below, the images may not appear correctly or some signal formats may not be detected properly and even it may fail to display the images. If that happens, set your computer or the device so that an input signal listed below can be received.

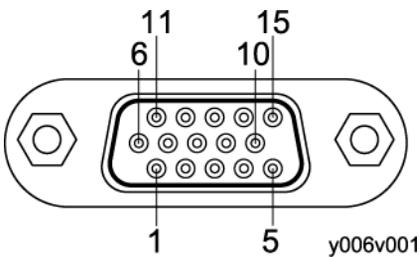
Mode	Resolution		Frequency		
	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
480i (525i)	720	242.5	59.940	15.734	13.500
576i (625i)	720	288	50.000	15.625	13.500

Mode	Resolution		Frequency		
	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
480p (525p)	720	483	59.940	31.469	27.000
576p (625p)	720	576	50.000	31.250	27.000
720 / 50p	1280	720	50.000	37.500	74.250
720 / 60p	1280	720	60.000	45.000	74.250
1080 / 50i	1920	540	50.000	28.125	74.250
1080 / 60i	1920	540	60.000	33.750	74.250
1080 / 24p	1920	1080	24.000	27.000	74.250
1080 / 30p	1920	1080	30.000	33.750	74.250
1080 / 50p	1920	1080	50.000	56.250	148.500
1080 / 60p	1920	1080	60.000	67.500	148.500
640 × 480	640	480	59.940	31.469	25.175
			72.809	37.861	31.500
			75.000	37.500	31.500
			85.008	43.269	36.000
720 × 400	720	400	85.039	37.927	35.500
800 × 600	800	600	56.250	35.156	36.000
			60.317	37.879	40.000
			72.188	48.077	50.000
			75.000	46.875	49.500
			85.061	53.673	56.250
832 × 624	832	624	74.550	49.725	57.283
848 × 480	848	480	60.000	31.020	33.750

Mode	Resolution		Frequency		
	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
1024 × 768	1024	768	60.004	48.363	65.000
			70.069	56.476	75.000
			75.029	60.023	78.750
			84.997	68.678	94.500
			74.700	60.134	79.857
1152 × 864	1152	864	75.000	67.500	108.000
1152 × 870	1152	870	75.062	68.682	100.001
1280 × 720	1280	720	60.000	45.000	74.250
1280 × 768	1280	768	59.995	47.396	68.250
			59.870	47.776	79.500
			74.893	60.289	102.250
			84.837	68.633	117.500
1280 × 800	1280	800	59.910	49.306	71.000
			59.810	49.702	83.500
			74.934	62.795	106.500
			84.880	71.554	122.500
1280 × 960	1280	960	60.000	60.000	108.000
			75.019	75.019	126.032
			85.002	85.937	148.500
1280 × 1024	1280	1024	60.020	63.981	108.000
			75.025	79.976	135.000
			85.024	91.146	157.500
1360 × 768	1360	768	60.015	47.712	85.500

Mode	Resolution		Frequency		
	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
1366 × 768	1366	768	60.000	48.000	72.000
			59.790	47.712	85.500
1400 × 1050	1400	1050	59.948	64.744	101.000
			59.978	65.317	121.750
			74.867	82.278	156.000
1440 × 900	1440	900	59.901	55.469	88.750
			59.887	55.935	106.500
			74.984	70.635	136.750
			84.842	80.430	157.000
1600 × 900	1600	900	60.000	60.000	108.000
			60.000	75.000	162.000
1680 × 1050	1680	1050	59.883	64.674	119.000
			59.954	65.290	146.250

Pin assignment of Computer In terminal



Mini D sub 15 Pin connector

Pin No.	Pin description: During RGB input	Pin description: During Y/P _B /P _R input
1	Video signal (R)	Color difference signal (P _R)

Pin No.	Pin description: During RGB input	Pin description: During Y/P _B /P _R input
2	Video signal (G)	Luminance signal (Y)
3	Video signal (B)	Color difference signal (P _B)
4	GND	-
5	GND	-
6	GND(R)	GND(P _R)
7	GND(G)	GND(Y)
8	GND(B)	GND(P _B)
9	N.C	-
10	GND	-
11	N.C	-
12	I ² C Data	-
13	Horizontal sync signal	-
14	Vertical sync signal	-
15	I ² C CLOCK	-

Input Signal

- RGB input
 - RGB signals: 0.7 V (p-p) 75 ohm
 - Horizontal sync signal: TTL level (Pos/neg polarity)
 - Vertical sync signal: TTL level (Pos/neg polarity)
- Y/P_B/P_R input
 - Y signal: 1.0 V (p-p) 75 ohm
 - P_B/P_R signals: 0.7 V (p-p) 75 ohm

CONTROL terminal

Interface format

Communication method	RS-232C, 115,200bps, No Parity, Data Length: 8 bits; Stop Bit Length: 1 bit
Communication format	#(23h)' + Command + CR (0Dh) Only 1 command valid per communication. For the available commands, see "Main commands".
Data format	For input commands, only ASCII-compliant all-uppercase alphanumeric characters supported.
Replies	<ul style="list-style-type: none"> Acknowledge (Aborted) '=(3Dh)' + Command(3byte) + ':(3Ah)' + 'E(45h)' + 'R(52h)' + 'O(30h)' + CR(0Dh) No acknowledge '=(3Dh)' + 'E(45h)' + 'R(52h)' + 'O(30h)' + CR(0Dh) For details of Acknowledge (Normally ended), see "Main commands".

Main commands

Item	Command	Acknowledge (Normally ended) *
Power on	PON	=PON:SC0
Power off	POF	=POF:SC0
Icon display on	ICN:1	=ICN:1
Icon display off	ICN:0	=ICN:0
Auto setting (RGB input)	PAT	=PAT:SC0
Status display on	DON	=DON:SC0
Status display off	DOF	=DOF:SC0
RGB input	INP:1	=INP:1
Y/Pb/Pr input	INP:2	=INP:2

Item	Command	Acknowledge (Normally ended) *
HDMI input	INP:5	=INP:5
Video input	INP:9	=INP:9
Network input (Y012 only)	INP:12	=INP:12
USB input (Y012 only)	INP:13	=INP:13

* CR is added to the end of "Acknowledge (Normally ended)".

Note

- A USB driver must be installed to control the projector using the control port.

MEMO

MEMO