# PJ WX4152/ WX4152N/ WX4152NI Machine Codes: Y0A1/Y0A2/Y0A3

### **Field Service Manual**

### **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**

• 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**

- 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.
- 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.
- 5. Use brackets that are strong enough to support the projector. The projector weighs about 3.0 kg (6.7 lb.).
- The projector must be installed in a location that is sturdy enough to support the full weight of the projector and brackets.

#### 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.

#### **MARNING**

• 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:

Ê	Screw
	Connector

#### Trademarks

Microsoft®, Windows®, and Excel 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.

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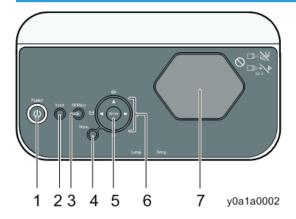
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### 1. Product Information

#### **Overview**

#### **Projector Parts and Their Functions**

#### Control Panel (Top View)



#### 1. [Power] button

Turns the projector on and off. You can confirm the status of the projector with the indicator.

- On: Power is on.
- Off: Power is off.
- Flashing at long intervals: Standby.
- Flashing at short intervals: Starting up or cooling.

#### 2. [Input] button

Switches the signal input. For details about how to switch the input signal.

#### 3. [AV Mute] button

Temporarily blanks the screen and mutes the audio.

#### 4. [Menu] button

Displays the menu screen. Press it again to close the menu screen.

#### 5. [Enter] button

Enters the selected item or mode.

6. Arrow buttons

1

The  $\blacktriangleleft$  and  $\blacktriangleright$  buttons are used to adjust the keystone distortion. The  $\blacktriangle$  and  $\blacktriangledown$  buttons are used to adjust the volume. These buttons are also used to operate the menu screen and the value bar.

#### 7. Projection window

Enlarges and projects the image.

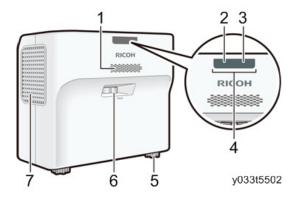


• The top of the projector is covered with a protective film when it is shipped. Remove the film before using the projector.

#### Front and Left-Side View

#### **MARNING**

• Do not obstruct the machine's vents. Doing so risks fire caused by overheated internal components.



#### 1. Speaker

Outputs the audio input from an external device.

2. Lamp indicator

Shows the status of the lamp. For details, see page 139 "Indicator Display List".

3. Temp indicator

Shows the status of the temperature inside the projector.

4. Remote control receiver

Receives the signal from the remote control.

5. Adjustable feet

Adjusts the angle of the projection.

6. Focus lever

Adjusts the focus of the image.

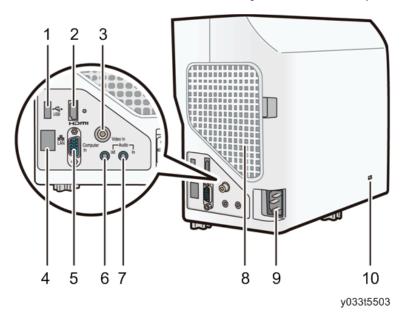
7. Exhaust vents

Releases hot air from inside the projector.

#### Rear and Right-Side View

#### **ACAUTION**

• Do not obstruct the machine's vents. Doing so risks fire caused by overheated internal components.



#### 1. USB port

For connecting a USB memory device or USB device cable.

2. HDMI<sup>TM</sup> port

For inputting HDMI signals from a computer or video player.

3. Video In port

For inputting image signals from a video player.

4. LAN port

For connecting an Ethernet cable.

5. Computer In port (Y/Pb/Pr)

For inputting RGB signals from a computer or component image signals (Y/Pb/Pr) from a video player.

6. Audio Out port

For outputting audio signals to an external speaker.

7. Audio In port

For inputting audio signals from a computer or video player.

8. Intake vents

For circulating air from the outside to cool the projector.

9. AC In socket

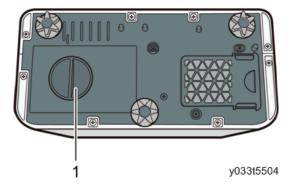
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For connecting the power cord provided with the projector.

10. Security slot (Kensington slot)

For connecting an anti-theft cable.

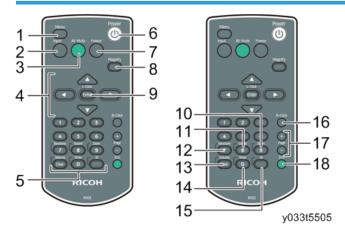
#### **Bottom View**



#### 1. Lamp cover

Remove to replace the lamp.

#### **Remote Control**



#### 1. [Menu] button

Displays the menu screen. Press it again to close the menu screen.

#### 2. [Input] button

Switches the signal input. The signal that is input changes each time the button is pressed.

#### 3. [AV Mute] button

Temporarily blanks the screen and mutes the audio.

4. Arrow buttons

Used to operate the menu screen and the value bar.

5. Number buttons

Used to enter numbers.

6. [Power] button

Turns the projector on and off.

7. [Freeze] button

Temporarily freezes the image.

8. [Magnify] button

Displays the magnification ratio bar. Press it, and then specify the magnification ratio using the and buttons.

9. [Enter] button

Enters the selected item or mode.

10. [Zoom] button

Displays the digital zoom bar. Press it, and then adjust the size of the projected image using the  $\triangleleft$  and buttons.

11. [Sound]] button

Displays the sound quality selection screen. Press it, and then select the sound quality using the and buttons.

12. [Keystone] button

Displays the keystone adjustment bar. Press it, and then adjust the keystone distortion using the and buttons.

13. [Volume] button

Displays the volume control bar. Press it, and then adjust the volume of the speaker using the  $\triangle$  and  $\nabla$  buttons.

14. [Timer] button

Displays the presentation timer.

15. [ID] button

Registers the remote control ID.

16. [R-Click] button

This button is not used.

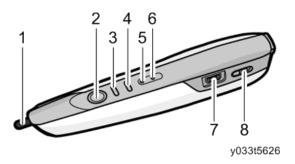
17. [Page] buttons

Changes slides, such as in a PowerPoint presentation. Press [-] to go to the next page. Press [+] to go to the previous page. These buttons can be used when the mouse remote control receiver is connected to a computer.

#### 18. [Eco] button

Displays the [Eco Mode] screen. On the [Eco Mode] screen, you can specify the energy saving settings for the lamp.

#### Electronic Pen (PJ WX4152NI)



#### 1. Pen nib switch

Used to write, draw, and select operations on the projected screen. This switch is functionally equivalent to the left button of a computer mouse.

#### 2. Left button

Similar to the left button of a computer mouse.

#### 3. Right button

Similar to the right button of a computer mouse.

#### 4. Point adjustment button

Used to adjust the point position of the pen nib when the pen is held in a different way. The standard position of the point is the center of the pen, and it moves each time this button is pressed. The order in which the point moves is as follows: up, down, and to the center.

#### 5. Battery indicator

Indicates the battery status of the electronic pen.

The battery indicator keeps lighting while charging and goes off when the charge is completed.

#### 6. Communication indicator

Indicates the communication status of the electronic pen.

This indicator flickers in red until the projector recognizes the electronic pen.

When the projector recognizes the electronic pen, the indicator lights up in green or flickers rapidly.

#### 7. USB connecter

Used to connect the electronic pen charge cable.

#### 8. Power switch

Switches the power of the electronic pen between on and off.

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## Machine Code and Peripherals Configuration

#### **Machine Code**

Model name	Product code	Machine code	Product management code	Remarks
PJ WX4152	NA: 432102 Europe and Asia: 432105	Y0A1	666157	
PJ WX4152N	NA: 432103 Europe and Asia: 432106	YOA2	666158	
PJ WX4152NI	NA: 432104 Europe and Asia: 432107	YOA3	666159	
IPSiO PJ Cradles Type 1	308960	Y10800	666420	
IPSiO PJ Smart Stand Type 1	308961	Y10900	666420	
RICOH PJ Replacement Lamp Type 1 1	512628	Y21600	666600	
RICOH PJ Replacement Filter Type4	512629	Y21700	666610	

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[A] PJ Wall Mount Bracket Type 1

[B] PJ WX4152/WX4152N/WX4152NI

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## **General Specifications**

### List of General Specifications

Component	Specifications
Power consumption	Standard mode: 313 W Eco mode: 154 W
Power consumption (Standby mode)	Regular standby mode: 0.3 W  Network standby mode (Wired LAN): 1.4 W  Network standby mode (Wired/Wireless LAN): 1.8 W
Weight	Approx. 3.0 kg (6.7 lb.)
External dimensions (not including protruding parts)	257 x 144 x 221 mm (10.1 x 5.7 x 8.7 inches)
Operating environment	Temperature: 5 to 35°C (73 to 95°F), Humidity: 30 to 70%
Power requirements	<ul> <li>Europe and Asia</li> <li>220–240 V, 1.7 A, 50/60Hz</li> <li>NA</li> <li>120 V, 3.7 A, 60Hz</li> </ul>
Display element	<ul> <li>Display method Single-chip DLP®</li> <li>Panel size 0.65 inches</li> <li>Pixels 1,024,000 pixels (1280 H x 800 V)</li> </ul>
Projection method	Ultra short-focus lens/mirror projection method
Lamp	High-pressure mercury lamp (Standard mode: 250 W, Eco mode: 150 W)
Projection screen size	48 to 80 inches
Projection distance	12 to 25 cm (4.6 to 9.8 inches)

Component	Specifications
Speaker	2 W (Mono)
Connection ports	Computer In port
	Mini D-Sub15 x 1
	HDMI port (HDCP compliant)*
	HDMI x 1
	Video In port
	RCA_1 pin x 1
	Audio In port
	Mini Jack x 1
	Audio Out port
	Mini Jack x 1
	Control port
	USB TYPE-mini-B x 1
	USB port
	TYPE-A x 1
	USB 2.0 High-speed
	Output voltage: DC 5 V
	Supply current: 500 mA
	LAN port
	RJ-45
	10BASE-T/100BASE-TX/1000BASE-T
Wireless LAN	Based on IEEE 802.11a/b/g/n

<sup>\*</sup> 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.

### **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.

	Resolution		Frequency		
Mode	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
640 × 350	640	350	70.07	31.46	25.17
640 × 350	040		85.08	37.86	31.50
			59.93	31.46	25.17
640 × 400	640	400	70.07	31.46	25.17
			85.08	37.86	31.50
			59.93	31.46	25.17
			72.81	37.86	31.50
			75.00	37.50	31.50
			85.01	43.27	36.00
640 × 480	640	480	69.45	34.72	28.23
			90.04	45.83	38.13
			89.91	47.92	39.87
			99.99	53.00	44.94
			66.67	35.00	30.24
720 × 350	720	350	70.08	31.47	28.32
	720		59.94	31.47	28.32
720 × 400		400	70.08	31.47	28.32
			85.04	37.93	35.50

	Resolution		Frequency		
Mode	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
720 × 480	720	480	59.94	31.47	28.32
			56.25	35.16	36.00
			60.32	37.88	40.00
			72.19	48.08	50.00
			75.00	46.88	49.50
			85.06	53.67	56.25
800 × 600	800	600	94.89	59.97	62.37
			80.02	50.33	53.15
			90.05	56.82	59.55
			100.02	63.61	68.19
			70.10	44.58	44.94
			100.20	64.02	67.61
832 × 624	832	624	74.55	49.72	57.28
848 × 480	848	480	60.00	31.02	33.75
960 × 720	960	720	60.00	44.76	55.86
	1024 768	768	60.00	48.36	65.00
			70.07	56.48	75.00
			75.03	60.02	78.75
1024 × 768			85.00	68.68	94.50
			74.70	60.14	79.86
			90.03	72.83	100.22
			99.78	80.52	110.15
1024 × 800	1024	800	84.01	70.82	97.45

	Resolution		Frequency		
Mode	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
			43.60	46.00	66.51
			60.04	53.74	79.53
			70.02	63.86	94.51
1152 × 864	1152	864	75.00	67.50	108.00
			79.52	72.04	112.39
			85.01	77.10	121.51
			100.69	91.33	143.93
1152 × 870	1152	870	75.06	68.68	100.00
1152 × 900	1152	900	76.64	71.81	108.00
	1000	700	60.00	45.00	74.25
			69.47	52.52	88.97
1280 × 720			71.57	54.11	91.66
1280 × 720	1280	720	74.60	56.40	95.54
			85.07	64.31	109.97
			100.05	76.34	131.91
			59.99	47.40	68.25
1200 × 740	1200	740	59.87	47.78	79.50
1280 × 768	1280	768	74.89	60.29	102.25
			84.84	68.63	117.50
			59.91	49.31	71.00
1280 × 800	1280	800	59.81	49.70	83.50
1200 ^ 600	1200	000	74.93	62.79	106.50
			84.88	71.55	122.50

	Resolution		Frequency		
Mode	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
			60.00	60.00	108.00
1000 000	1000	0/0	71.94	72.08	122.25
1280 × 960	1280	960	75.02	75.02	126.03
			85.00	85.94	148.50
			60.02	63.98	108.00
			60.08	65.36	122.88
1280 × 1024	1280	1024	72.04	76.86	132.82
1200 ^ 1024	1280	1024	75.02	79.98	135.00
			80.00	85.76	149.57
			85.02	91.15	157.50
1360 × 768	1360	768	60.02	47.71	85.50
	1366	7/0	59.95	55.87	106.38
1366 × 768			59.87	65.02	122.24
1300 ^ 708	1300	768	60.00	48.00	72.00
			59.79	47.71	85.50
			59.95	64.74	101.00
1400 × 1050	1400	1050	59.98	65.32	121.75
			74.87	82.28	156.00
			59.90	55.47	88.75
			59.89	55.93	106.50
1440 × 900	1440	900	74.98	70.64	136.75
			84.84	80.43	157.00
			59.86	66.93	129.57

	Resol	lution	Frequency		
Mode	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
			60.00	60.00	108.00
			60.01	55.93	119.91
1600 × 900	1600	900	69.98	65.50	140.44
			71.99	67.52	144.77
			75.23	70.71	151.61
			60.01	63.61	136.39
1600 × 1024	1600	1024	70.35	74.57	159.88
			72.51	76.86	164.79
1600 × 1200	1600	1200	51.87	74.79	161.55
1000 × 1200	1600	1200	60.00	75.00	162.00
1400 × 1050	1400	1050	59.88	64.67	119.00
1680 × 1050	1680	1050	59.95	65.29	146.25



• Images with a resolution greater than  $1280 \times 800$  are compressed when displayed, so some of the information may be lost or the image may deteriorate.

### List of supported signals (Y/P<sub>b</sub>/P<sub>r</sub> computer input)

	Resolution		Frequency		
Mode	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

	Resolution		Frequency		
Mode	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
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 / 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)

	Resolution		Frequency		
Mode	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock (MHz)
NTSC	720	240	59.940	15.734	13.500
PAL	720	288	50.000	15.625	13.500
SECAM	720	288	50.000	15.625	13.500
PAL-M	720	240	59.940	15.734	13.500
PAL-N	720	288	50.000	15.625	13.500
PAL60	720	240	59.940	15.734	13.500
NTSC4.43	720	240	59.940	15.734	13.500
60 Hz (mono)	720	240	59.940	15.734	13.500
50 Hz (mono)	720	288	50.000	15.625	13.500

#### 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.

	Resolution			Frequency		
Mode	Horizontal (pixel)	Vertical (pixel)	Horizontal (Hz)	Vertical (kHz)	Clock (MHz)	
480i	720	242.5	59.940	15.734	13.500	
576i	720	288	50.000	15.625	13.500	
480p	720	483	59.940	31.469	27.000	
576p	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 / 25p	1920	1080	25.000	28.125	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 × 350	640	350	70.07	31.46	25.17	
040 × 350	040	350	85.08	37.86	31.50	
			59.93	31.46	25.17	
640 × 400	640	400	70.07	31.46	25.17	
			85.08	37.86	31.50	

	Resolution		Frequency		
Mode	Horizontal	Vertical	Horizontal	Vertical	Clock
	(pixel)	(pixel)	(Hz)	(kHz)	(MHz)
			59.93	31.46	25.17
			72.81	37.86	31.50
			75.00	37.50	31.50
640 × 480	640	480	85.01	43.27	36.00
			69.45	34.72	28.23
			90.04	45.83	38.13
			66.67	35.00	30.24
720 × 480	720	480	59.94	31.47	28.32
			56.25	35.16	36.00
			60.32	37.88	40.00
			72.19	48.08	50.00
			75.00	46.88	49.50
800 × 600	800	600	85.06	53.67	56.25
			94.89	59.97	62.37
			80.02	50.33	53.15
			90.05	56.82	59.55
			100.02	63.61	68.19
832 × 624	832	624	74.55	49.72	57.28
848 × 480	848	480	60.00	31.02	33.75
960 × 720	960	720	60.00	44.76	55.86
700 * 720	700	720	75.02	55.96	69.84

	Reso	lution	Frequency		
Mode	Horizontal	Vertical	Horizontal	Vertical	Clock
	(pixel)	(pixel)	(Hz)	(kHz)	(MHz)
			60.00	48.36	65.00
			70.07	56.48	75.00
1024 × 768	1024	<i>7</i> 68	75.03	60.02	78.75
1024 ^ 700	1024	700	85.00	68.68	94.50
			74.70	60.14	79.86
			90.03	72.83	100.22
1024 × 800	1024	800	84.01	70.82	97.45
	1152	864	43.60	46.00	66.51
			60.04	53.74	79.53
			70.02	63.86	94.51
1152 × 864			75.00	67.50	108.00
			79.52	72.04	112.39
			85.01	<i>77</i> .10	121.51
			100.69	91.33	143.93
1152 × 870	1152	870	75.06	68.68	100.00
			60.00	45.00	74.25
			69.47	52.52	88.97
1000 700	1000	700	71.57	54.11	91.66
1280 × 720	1280	720	74.60	56.40	95.54
			85.07	64.31	109.97
			100.05	76.34	131.91

	Reso	lution	Frequency		
Mode	Horizontal	Vertical	Horizontal	Vertical	Clock
	(pixel)	(pixel)	(Hz)	(kHz)	(MHz)
			59.99	47.40	68.25
1280 × 768	1280	768	59.87	47.78	79.50
1200 ^ 700	1200	700	74.89	60.29	102.25
			84.84	68.63	117.50
			59.91	49.31	71.00
1280 × 800	1000	800	59.81	49.70	83.50
1280 × 800	1280	800	74.93	62.79	106.50
			84.88	71.55	122.50
		960	60.00	60.00	108.00
1200 × 040	1280		71.94	72.08	122.25
1280 × 960			75.02	75.02	126.03
			85.00	85.94	148.50
			60.02	63.98	108.00
			72.04	76.86	132.82
1280 × 1024	1280	1024	75.02	79.98	135.00
			80.00	85.76	149.57
			85.02	91.15	157.50
1360 × 768	1360	768	60.02	47.71	85.50
			59.95	55.87	106.38
1266 × 740	1244	740	59.87	65.02	122.24
1366 × 768	1366	768	60.00	48.00	72.00
			59.79	47.71	85.50

	Resol	lution	Frequency		
Mode	Horizontal	Vertical	Horizontal	Vertical	Clock
	(pixel)	(pixel)	(Hz)	(kHz)	(MHz)
			59.95	64.74	101.00
1400 × 1050	1400	1050	59.98	65.32	121.75
			74.87	82.28	156.00
			59.90	55.47	88.75
			59.89	55.93	106.50
1440 × 900	1440	900	74.98	70.64	136.75
			84.84	80.43	157.00
			59.86	66.93	129.57
			60.00	60.00	108.00
			60.01	55.93	119.91
1600 × 900	1600	900	69.98	65.50	140.44
			71.99	67.52	144.77
			75.23	70.71	151.61
			60.01	63.61	136.39
1600 × 1024	1600	1024	70.35	74.57	159.88
			72.51	76.86	164.79
1600 × 1200	1600	1200	51.87	74.79	161.55
1000 * 1200	1000	1200	60.00	75.00	162.00
1680 × 1050	1680	1050	59.88	64.67	119.00
1000 ^ 1030	1000	1030	59.95	65.29	146.25

#### **3D Format**

#### Computer input

	Reso	olution	Frequency		
Mode	Horizontal (pixel)	Vertical (pixel)	Vertical (Hz)	Horizontal (kHz)	Clock
640 × 480	640	480	59.940	31.469	25.175
800 × 600	800	600	60.317	37.879	40.000
1024 × 768	1024	768	60.004	48.363	65.000
1280 × 960	1280	960	60.000	60.000	108.000
1280 × 1024	1280	1024	60.020	63.981	108.000
1360 × 768	1360	768	60.015	47.712	85.500
1366 × 768	1044	1366 768	60.000	48.000	72.000
1300 × 708	1366	/08	59.790	47.712	85.500
1440 × 900	1440	900	59.901	55.469	88.750
1440 × 900	1440	900	59.887	55.935	106.500
1600 × 900	1600	900	60.000	60.000	108.000
1600 × 1200	1600	1200	60.000	75.000	162.000
1400 × 1050	1680	1050	59.883	64.674	119.000
1680 × 1050	1080	1050	59.954	65.290	146.250

#### Y/Pb/Pr Input

A.A. I.	3D format			
Mode	Frame Sequential	Side by Side	Top and Bottom	
480i@60	Yes	Yes	Yes	
576i@50	Yes	Yes	Yes	

Н

Mode	3D format				
Mode	Frame Sequential	Side by Side	Top and Bottom		
480p@60	No	Yes	Yes		
576p@50	No	Yes	Yes		
720 / 60p	No	Yes	Yes		
1080 / 60i	No	Yes	Yes		
1080 / 60p	No	Yes	Yes		

#### Video Input

	3D format			
Mode	Frame Sequential	Side by Side	Top and Bottom	
480i@60	Yes	No	No	
576i@50	Yes	No	No	

#### **HDMI - 3D Format**

	Frequency		3D Transmission method		
Mode	Vertical (Hz)	Clock (MHz)	Frame Packing	Side-by-Side	Top and Bottom
720 / 50-	50	148.5	Yes	No	No
720 / 50p	50	74.25	No	No	Yes
/20 / 60n	59.940 /	148.35 / 148.50	Yes	No	No
	40,000	74.176 / 74.25	No	No	Yes

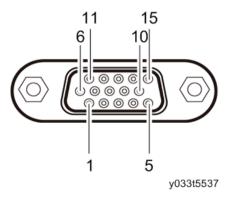
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	Frequency		3D Transmission method		
Mode	Vertical (Hz)	Clock (MHz)	Frame Packing	Side-by-Side	Top and Bottom
1080 / 24p	23.976 / 24.000	148.35 / 148.50	Yes	No	No
		74.176 / 74.25	No	No	Yes
1080 / 50i	50	74.25	No	Yes	No
1080 / 60i	59.940 / 60.000	74.176 / 74.25	No	Yes	No

### Specifications for Ports

#### **Computer In Port**

Pin assignment



Pin No.	Pin description				
rin ino.	During RGB input	During Y/Pb/Pr input			
1	Video signal (R)	Color difference signal (Pr)			
2	Video signal (G)	Luminance signal (Y)			
3	Video signal (B)	Color difference signal (Pb)			
4	N.C	-			

Pin No.	Pin description			
FIII INO.	During RGB input	During Y/Pb/Pr input		
5	GND	-		
6	GND(R)	GND(Pr)		
7	GND(G)	GND(Y)		
8	GND(B)	GND(Pb)		
9	N.C	-		
10	GND	-		
11	N.C	-		
12	I <sup>2</sup> C Data	-		
13	Horizontal sync signal	-		
14	Vertical sync signal	-		
15	I <sup>2</sup> C CLOCK -			

#### Input Signal

• RGB input

RGB signals: 0.7V (p-p),  $75\,\Omega$ 

Horizontal sync signal: TTL level (Pos/neg polarity)
Vertical sync signal: TTL level (Pos/neg polarity)

• Y/Pb/Pr input

Y signal : 1.0V(p-p),75  $\Omega$ 

Pb, Pr signals :0.7V(p-p),75  $\Omega$ 

#### **Control Port**



- The control port is for service representatives or administrators of the projector.
- A USB driver must be installed to control the projector using the control port. For details, contact your service representative.

Interface format

Item Outline Communication method RS-232C, 115,200bps, No Parity, Data Length: 8 bits; Stop Bit Length: 1bit Communication format #(23h)' + Command + CR (ODh)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. • Acknowledge (Aborted) Replies '=(3Dh)' + Command(3byte) + ':(3Ah)' + 'E(45h)' + 'R(52h)' + '0(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

ltem	Item Command	
Power on	PON	=PON:SC0
Power off	POF	=POF:SC0
Guidance display on	ICN:1	=ICN:1
Guidance 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
Computer input	INP:1	=INP:1
HDMI input	INP:5	=INP:5

ltem	Command	Acknowledge (Normally ended) *
Network input (PJ WX4152N/WX4152NI)	INP:12	=INP:12

 $<sup>^{\</sup>star}$  CR is added to the end of "Acknowledge (Normally ended)".

# 2. Installation

# **Installation Requirements**

- Do not place vases, plant pots, cups, toiletries, medicines, small metal objects, or containers holding water or any other liquids, on or close to this machine. Fire or electric shock could result from spillage or if such objects or substances fall inside this machine.
- Keep the product and attachments out of the reach of children. If the product is near children, it
  might fall over and cause an injury.
- 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 use the product on soft material such as paper or cloth that might get sucked into the intake vents. Doing so may cause heat buildup inside the product, resulting in malfunction, burns, or fire.
- 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 place low heat resistant material near the exhaust vents. Hot air may come from the exhaust vents, resulting in damage to the product or an accident.
- 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.
- Do not place the product on other equipment or vice versa. Doing so may cause heat buildup inside the product or cause the other equipment to malfunction.
- Do not use the product in an upright position. Doing so may cause injury if it falls over.

#### Pattern of Installation

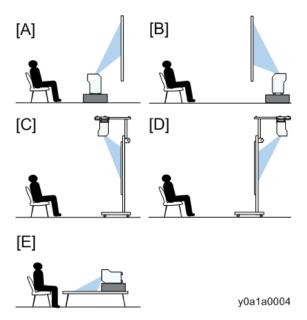
# **MARNING**

- If a machine is incorrectly installed on a wall or ceiling, it may fall down and cause an injury.
- · Contact your sales or service representative if you want to install a machine on a wall or ceiling.

You can position the projector in one of four ways.

Select the setting according to the position of the projector in Projection Mode under "Default Settings 2".

Position	Position of the projector
1. Standard	The projector is placed in front of a screen onto which the images are projected.
2. Rear	The projector is placed behind a screen onto which the images are projected.
3. Ceiling	The projector is mounted on the ceiling in front of a screen onto which the images are projected.
4. Rear Ceiling	The projector is mounted on the ceiling behind a screen onto which the images are projected.
5. Tabletop	The projector is placed in such a way to use the top surface of a table as the screen, and project the image on the tabletop.

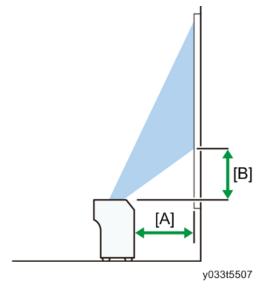


- [A] 1. Standard
- [B] 2. Rear
- [C] 3. Ceiling
- [D] 4. Rear Ceiling
- [E] 5. Tabletop

# Relationship Between the Projection Distance and the Screen Size

The size of the projected image varies according to the distance from the projector to the screen.

Refer to the following tables to position the projector in a suitable position. The projection sizes presented in tables are for a full size image without keystone adjustment. The projection distance becomes shortest when the zoom lever is at the end of the wide side, and longest when the zoom lever is at the end of the tele side.



Projection size	[A] Projection distance	[B] Projection height
48 inches	12cm(4.6 inches)	9cm(3.6 inches)
60 inches	17cm(6.5 inches)	12cm(4.5 inches)
80 inches	25cm(9.8 inches)	16cm(6.1 inches)

# **Projector Installation**

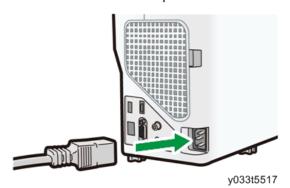
## Accessories

Read This First  Ultra Short Throw Projector Setting Guide  Start Guide  Start Guide (Interactive Function) (PJ WX4152NI only)	y033t5538
Remote control  AAA battery LRO3 x 2	y03315539
CD-ROM	y033t5540
RGB cable	y033t5541
Power cord	y033t5628
Warranty card	y033t5543

Carrying bag	y033t5544
Interactive Function Accessories (PJ WX4152NI or	nly)
Computer USB adapter	y033t5523
Electronic pen	y033t5526
Electronic pen charge cable	y033t5550
AAA Ni-MH rechargeable batteries x 2	y033t5545

### Connecting the Power cord / Ground wire

1. Insert the connector of the power cord set into the AC In socket on the projector.



2. Connect the ground wire and insert the power plug into a power outlet.

#### Connecting Equipment to the Projector

# **ACAUTION**

• 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.

Various equipments can be connected to the projector.

Turn off the power to any equipment before connecting it to the projector. Be sure to read the manual for the applicable equipment before connecting it to the projector.

#### Connecting a Computer

# **ACAUTION**

• 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.

#### Using an RGB cable

Connect an RGB cable to the Computer1 In port of the projector and to the RGB output of a computer.

To output audio from the speaker on the projector, connect an audio cable to the Audio In port of the projector and to the audio output of a computer.



- UNote
  - Use the RGB cable provided with the projector.
  - You can also use the Computer In/Monitor Out port to input RGB signals if [Computer 2 Terminal] in [Default Settings 2] is specified as [Input].

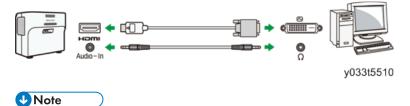
#### Using an HDMI cable

Connect an HDMI cable to the HDMI ports of the projector and the computer.



#### Using a DVI-to-HDMI cable

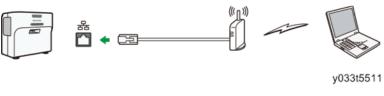
To input a DVI signal to the projector, connect a DVI-to-HDMI cable to the HDMI port of the projector and to the DVI output of a computer. To output audio from the speaker on the projector, connect an audio cable to the Audio In port of the projector and to the audio output of a computer.



• You can use a DVI-to-HDMI conversion adapter instead of a DVI-to-HDMI cable.

#### Using an Ethernet cable (PJ WX4152N/WX4152NI)

Connect an Ethernet cable to the Ethernet interface of the projector and to a network device such as a hub. To use the projector via a network, you must specify settings such as the IP address.



**U**Note

• Use an Ethernet cable that is shielded.

#### Using a wireless LAN (PJ WX4152NI/WX4152N)

PJ WX4152N/WX4152NI are equipped with a wireless connectivity function.



#### **Connecting AV Equipment**

Use a cable that supports the signal being input when connecting AV equipment.

#### Using an HDMI cable

Connect an HDMI cable to the HDMI ports of the projector and the AV equipment.



- Some devices may not operate properly when connected using HDMI.
- Use only an HDMI cable that has the HDMI logo. To input 1080p image signals, use a high-speed HDMI cable. A conventional HDMI cable may not work properly.

#### Using a video cable

Connect a video cable to the Video In port of the projector and to the video output of AV equipment. To output audio from the speaker on the projector, connect an audio cable to the Audio In Port of the projector and to the audio output of AV equipment.



#### Using a D-sub to component video cable

Connect a D-sub to component video cable to the Computer 1 In port of the projector and to the Y/Pb/Pr output of the AV equipment. To output audio from the speaker on the projector, connect an audio cable to the Audio In Port of the projector and to the audio output of AV equipment.



#### Connecting an External Speaker

You can output the audio signals to the external speaker. To connect an external speaker, connect an audio cable to the Audio Out port of the projector and the audio output of an external speaker.





- There is no sound output from the projector's speaker when an external speaker is connected.
- You can adjust the sound output from the external speaker by using the [Volume] button.

#### Connecting a Smartphone/Tablet (PJ WX4152N/WX4152NI only)





- PJ WX4152N/WX4152NI are Miracast compatible. You can display the screen of a mobile terminal such as a smart phone or a tablet on the projector screen with Miracast.
- Also, you can display the video or audio sent from the mobile terminal on the projector screen when you connect the projector to a DLNA compatible device.
- For details, see the Operating Instructions.

### Using the Menus

This section explains the methods for changing the menu screen using the remote control.

1. Press the [Menu] button.

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



w\_y033t5551

If you select the Display Status tab, you can confirm the information in this step.

- 3. Press the button.
- 4. Select the item to be changed using the  $\triangle$  and  $\nabla$  buttons.
- 5. Press the [Enter] button.

If [To settings] is displayed on the right, the item has a submenu. Select an item on the submenu, and then 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.
  - Adjusting values using the values bar
     Change the value using the and buttons, and then press the Enter button.



W\_y033t5552

Selecting the value from a list
 Change the value using the ▲, ▼, ◄ and ▶ buttons, and then press the [Enter] button.



w\_y033t5553

Inputting numbers

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



w\_y033t5554

Inputting text (PJ WX4152N/WX4152NI)

Use the keyboard that is displayed on screen to input text. You can also use the number buttons on the remote control to input numbers.



w y033t5630

- 7. If a confirmation screen appears, select [OK], and then press the [Enter] button.
- 8. Press the [Menu] button.
- 9. If a confirmation screen appears, select [Reflect], and then press the [Enter] button.



- The Network/USB Settings menu tab includes the USB Settings menu, Network Settings menu, and Network Application Settings menu. Open the menu according to the settings you want to change, and then go to Step 2 to change the settings.
- · The menu screen closes automatically thirty seconds after the last operation. 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.
- The menu screen is not accessible if you are projecting images from a USB memory device or server. Stop projecting the images to open the menu screen.

#### Interactive Function

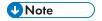


- To use the interactive function, you must use an RGB cable or an HDMI cable to connect the
  projector and computer. You cannot use the interactive function if another type of cable is used for
  the connection.
- The interactive function cannot be used when a screen is displayed on the Windows extended desktop.

#### Set the interactive function

The interactive function allows you to operate a computer connected to the projector directly on the projection screen. You can also write and draw on a projected screen using the included software "RICOH PJ Interactive Software".

To use the interactive function, the following settings are required.



- You only need to perform Steps 1 to 3 to use the electronic pen to operate the computer from its projected image.
- You must perform Steps 1 to 4 to write and draw on the screen.



Step	Setting Contents
1	Set Interactive Mode to [On].

Step	Setting Contents
2	Register the computer USB adapter to the projector.
3	Enable the projector to recognize the electronic pen.
4	Install RICOH PJ Interactive Software on a computer.

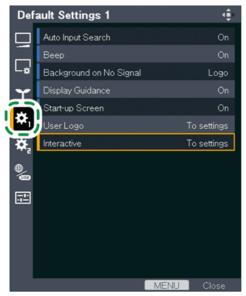
# **Enabling Interactive Mode**

In Interactive Mode, the projector can recognize the electronic pen and the computer USB adapter.

We recommend disabling wireless LAN communication when you enable Interactive Mode.

To disable wireless LAN communication, select [Wired LAN] or [Disable] in [Network Interface] under [Network Settings].

- 1. Turn on the projector to project the screen.
- 2. Press the [Menu] button.
- 3. Select [Default Settings 1], and then press the ▶ button.



- w\_y033t5521
- 4. Select [Interactive], and then press the [Enter] button.
- 5. Select [Interactive Mode], and then press the [Enter] button.

6. Select [On], and then press the [Enter] button.



w v033t5522

7. Press the [Menu] button twice to close the menu screen.

### Registering the Computer USB Adapter

# **ACAUTION**

 Keep computer USB adapter out of reach of children. If a child accidentally swallows a computer USB adapter, consult a doctor immediately.

To use the computer USB adapter in Interactive Mode, the adapter must be registered to the projector.

Once the computer USB adapter is registered to the projector, there is no need to register it again. You can use the computer USB adapter with any computer that is connected to the projector.

The following operating environment is required to use the computer USB adapter.

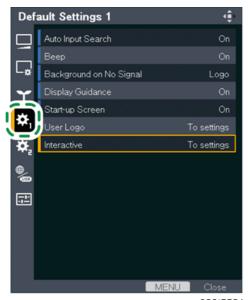
- PC Operating System: Windows 7/Windows 8/Windows 8.1/Windows 10
- USB port: USB Type A \*Do not use a USB hub.
- 1. Have a computer USB adapter at hand



y033t5523

2. Turn on the projector.

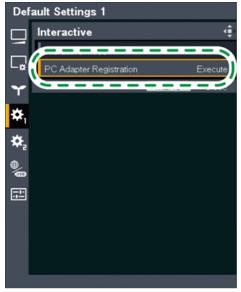
- 3. Connect the computer to the projector using an RGB cable or an HDMI cable.
- 4. Project the computer screen on the projector screen.
- 5. Press the [Menu] button.
- 6. Select [Default Settings 1], and then press the ▶ button.



w\_y033t5521

- 7. Select [Interactive], and then press the [Enter] button.
- 8. Check that [Interactive Mode] is set to [On].

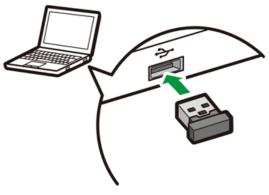
#### 9. Select [PC Adapter Registration] and press the [Enter] button.



w\_y033t5524

#### 10. Install the computer USB adapter into the computer.

Upon being installed, the computer USB adapter flickers twice every 0.5 seconds.



y033t5525

#### • If registration succeeds

The message "Registration has completed." appears. The computer USB adapter flickers every two seconds. Press the [Enter] button to close the message.

#### • If registration fails

If there are any obstacles between the projector and computer, the attempt to perform registration will fail.

Registration should complete in under 2 minutes. If it does not complete after 2 minutes, remove the USB adapter from the computer, and then insert it again.

2

11. Press the [Menu] button twice to close the menu screen.

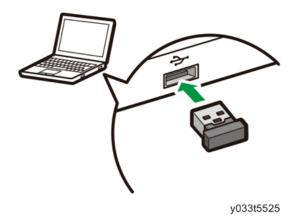


• Do not register computer USB adapters for multiple projectors at the same time. The computer USB adapter might not be registered correctly.

#### Enabling the Projector to Recognize the Electronic Pen

Once the projector recognizes the electronic pen, you can directly operate the computer display on the screen.

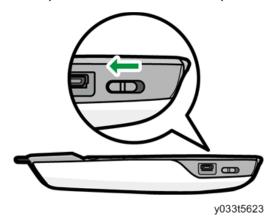
- 1. Turn on the projector.
- 2. Connect the computer to the projector using an RGB cable or an HDMI cable.
- 3. Project the computer screen on the projector screen.
- 4. Install the computer USB adapter into the computer.



**U** Note

 When the registered computer USB adapter is installed into the computer, the adapter flickers once every 0.5 seconds. Then, when the computer USB adapter is connected to the projector, the adapter flickers once every two seconds. If the adapter flickers twice every 0.5 seconds, you need to register it on the projector.

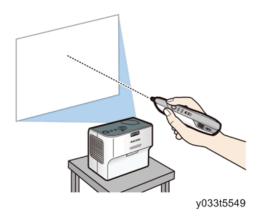
#### 5. Turn the power switch of the electronic pen to "On".



The communication indicator on the electronic pen will then flicker.

If the communication indicator fails to flicker, check that the rechargeable battery is installed in the electronic pen. If a battery is installed, recharge it.

#### 6. Point the pen nib toward the projected screen.



#### • If registration succeeds

The projected computer screen pointer moves according to the movements of the electronic pen. Also, the communication indicator on the electronic pen lights up or flickers green rapidly and the computer USB adapter lights up.

#### • If registration fails

- Check how you are holding the electronic pen. If you are holding the top or the bottom of the pen, the projector is unable to recognize the electronic pen correctly.
- Check that the pen nib is not pointing at a shadow. If the pen nib is pointing at a shadow or if it is not pointing at the screen, then the projector is unable to recognize the electronic pen correctly.

2

• If the electronic pen is not recognized correctly after the direction of the pen is corrected or even when you hold the electronic pen correctly, check the procedure from Step 1.

## **Installing RICOH PJ Interactive Software**

RICOH PJ Interactive Software allows you to write and draw on a projection screen. When you use RICOH PJ Interactive Software, install it on a computer. For details about how to use RICOH PJ Interactive Software, see Operating Instructions (Interactive Function).

The following operating environment is required to use RICOH PJ Interactive Software.

ltem	Specifications
Operating System	Windows 7 Home Premium / Professional / Ultimate / Enterprise SP1 or later (32 bit / 64 bit)
	Windows 8 / Pro / Enterprise (32 bit / 64 bit)
	Windows 8.1 / Pro / Enterprise (32 bit / 64 bit)
	Windows 10 Home / Pro / Enterprise / Education (32 bit / 64 bit)
CPU	Intel® Core <sup>TM</sup> 2 Duo 2 GHz or more recommended
	(Minimum: Intel Core Solo U1300)
HDD	9 GB or more free space recommended (Minimum: 2 GB)
Memory	Windows 7 / 8 (32 bit): 3 GB or more recommended (Minimum: 1 GB)
	Windows 7 / 8 (64 bit): 4 GB or more recommended (Minimum: 2 GB)
	Windows 8.1 (32 bit): 3 GB or more recommended (Minimum: 1 GB)
	Windows 8.1 (64 bit): 4 GB or more recommended (Minimum: 2 GB)
	Windows 10 (32 bit): 3 GB or more recommended (Minimum: 1 GB)
	Windows 10 (64 bit): 4 GB or more recommended (Minimum: 2 GB)

- To install RICOH PJ Interactive Software on a computer, log on as a user with administrator privileges.
- 1. Insert the CD-ROM in the CD-ROM drive of your computer.
- 2. Specify a language and model name, and then click [Select].
- 3. Click [PJ Interactive Software].
- 4. Select the language for the installation, and then click [OK].

- 5. If .NET Framework 4 is not installed on your computer, click [Install].
  - If .NET Framework 4 has already been installed, the message [Install] does not appear. Proceed to the next step.
- 6. Click [Next].
- 7. Select "I accept the terms in the license agreement", and then click [Next].
- 8. Specify the installation folder, and then click [Next].
- 9. Click [Install].
- 10. Click [Finish].



- If the [User Account Control] dialog box appears during the installation procedure, click [Yes] or [Continue].
- To uninstall RICOH PJ Interactive Software, use the program delete function in [Control Panel] to delete "RICOH PJ Interactive Software".

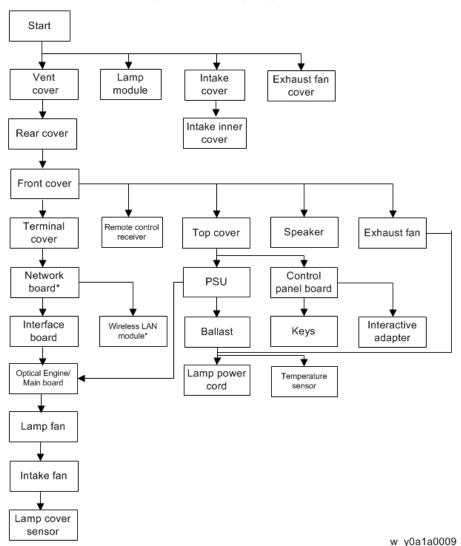
# 3. Replacement and Adjustment

# 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.



# **Special Tools**

Make sure that technicians are equipped with the following tools, which will be necessary in order to update the main firmware, and to perform adjustments that are necessary after replacing the optical engine or main board.

- 1. USB cable
- 2. PC
- 3. USB storage device

#### 3

# **Parts Replacement**

#### **Vent Cover**

1. Slide out the direction of blue arrow and remove the vent cover [A].



# Lamp Unit

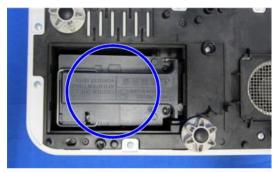
 Place a soft sheet such as a waste cloth on the flat surface to avoid damage and set the projector to be able to show the bottom.



- Since the lamp unit is still heated just after the power is turned off, make sure to replace the lamp unit at least one hour or more after the power cord is unplugged.
- 2. Turn the knob counterclockwise, and then open the lamp cover.



y033t5002



y033t5003

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



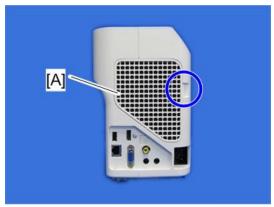
**U**Note

• About processing the used lamp: This machine's lamp uses a very small amount of inorganic mercury which is harmful for the environment. When handling the used lamp, take care to prevent damage and ask the customer to process as required by local ordinances or regulations.

#### 3

### Intake Cover

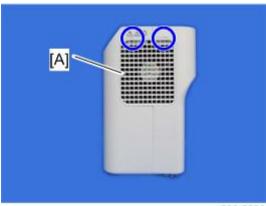
1. While pressing the tab on the right side, remove the intake cover [A].



y033t5098

### **Exhaust Fan Cover**

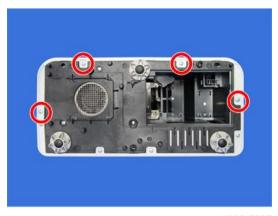
1. Exhaust fan cover [A] (Two tabs)



y033t5006

#### **Rear Cover**

- 1. Lamp cover (page 61 "Lamp Unit")
- 2. Intake cover (page 63 "Intake Cover")
- 3. Exhaust fan cover (page 63 "Exhaust Fan Cover")



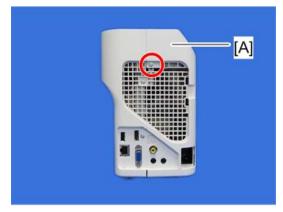
y033t5007

5. Remove a screw on the right side.



y033t5008

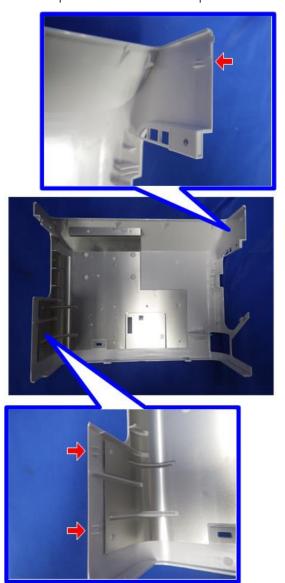
- 6. Remove a screw on the left side.
- 7. Rear cover [A]



y033t5009



• Check the position of the hooks in the photo below before removing.



y0a1a0011

# Intake Inner Cover

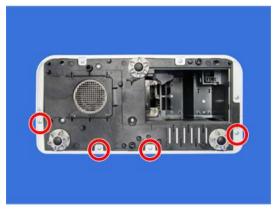
1. Rear cover (page 63 "Rear Cover")



y033t5010

# Front Cover

- 1. Rear cover (page 63 "Rear Cover")
- 2. Remove four screws.



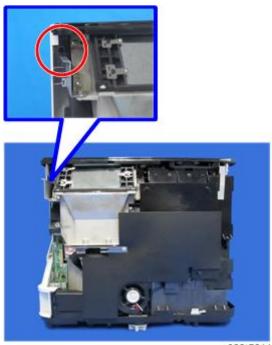
y033t5154

### 3. Remove a screw [A] of the left side.



y033t5153

#### 4. Remove a screw.



y033t5011



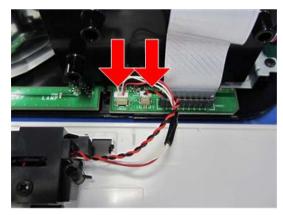
• When reassembling, attach the nut and washer as shown in the photo below.





y0a1a0012

# 5. Front cover ( x2)



y033t5012

# Top Cover

- 1. Rear cover (page 63 "Rear Cover")
- 2. Front cover (page 66 "Front Cover")

# 3. Top cover [A] (♠x1, ♣x1)



y033t5013



# Terminal Cover

1. Front cover (page 66 "Front Cover")



y033t5015

# Remote Control Receiver Board

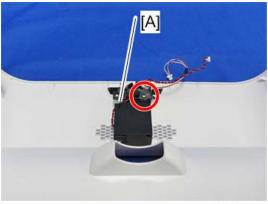
- 1. Front cover (page 66 "Front Cover")
- 2. Cover for remote control receiver [A] ( $\mathscr{F}$ x1)



y033t5016

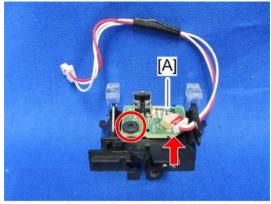
Q

3. Remove the remote control receiver [A] with bracket (  $\slash\hspace{-0.6em}\mathbb{P} x1$  ).



y033t5095

4. Remote control receiver board [A] (  $x_1, x_2$ 

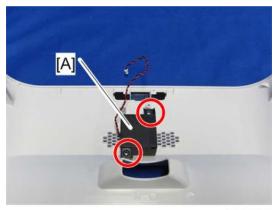


y033t5017

# Speaker

1. Front cover (page 66 "Front Cover")

# 2. Speaker [A] ( \*x2)



y033t5018



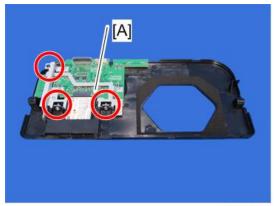
y033t5019

# Control Panel Board

### 1. Top cover (page 68 "Top Cover")

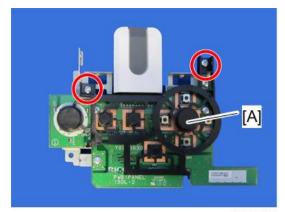
#### 3

# 2. Control panel board with bracket [A] ( $\mathscr{F}x3$ )

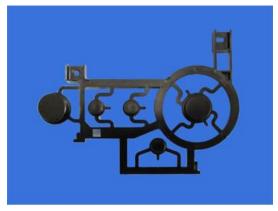


y033t5020

# 3. Key [A] (🖁 x2)

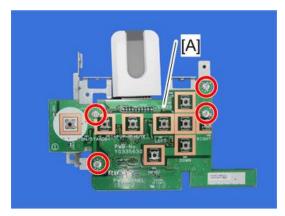


y033t5021

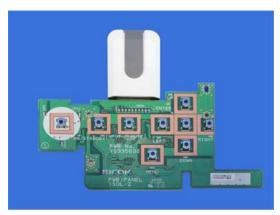


y033t5022

## 4. Control panel board [A] (Fx4)



y033t5023

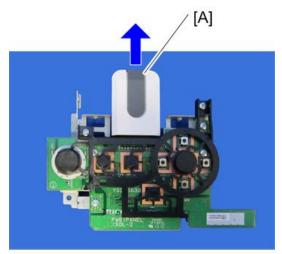


y033t5024

### Interactive Adapter

- 1. Top cover (page 68 "Top Cover")
- 2. Control panel board with the bracket (page 72 "Control Panel Board")

### 3. Interactive adapter [A]



y033t112



y033t5025

### PSU

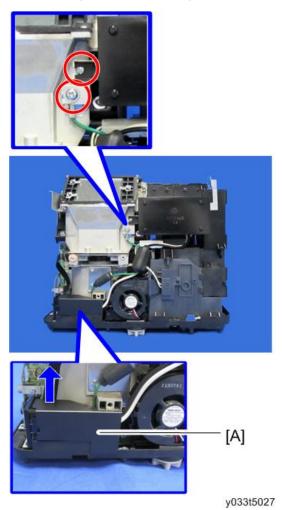
- 1. Front cover (page 66 "Front Cover")
- 2. Top cover (page 68 "Top Cover")

# 3. Shield cover [A] of the rear side ( $\mathscr{F}x2$ )



- 4. Remove a screw of the ground wire.
- 5. Remove a screw on the rear side of PSU.

### 6. Remove the power socket [A] upward.

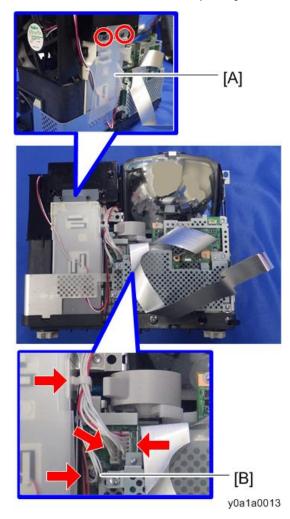


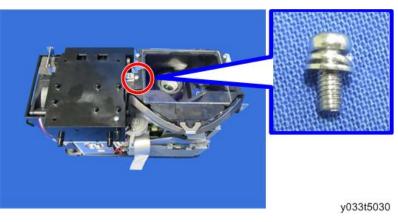
7. Remove a connector.



y033t5028

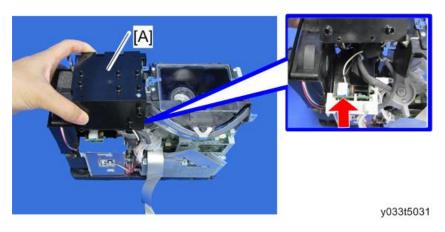
- 8. Remove two screws, a plastic sheet [A] and three connectors and open one clamp on the front side of the PSU.
  - Remove the connector [B] with pushing the tab.





9. PSU [A] (Ballast side: 🕮 x1, PSU board side 🕮 x1)

Ballast side:



PSU board side



y033t532

# 10. Divide the PSU into main PSU and sub PSU ( $\mathscr{F}\mathbf{x}\mathbf{2}$ ).



y033t5033

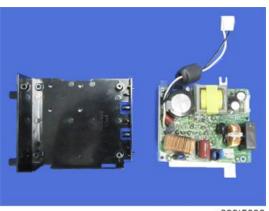
# 11. Main PSU (⋛x4)



y033t5036

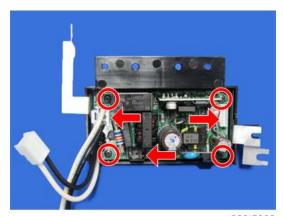


y033t50037



y033t5038

# 12. Sub PSU (⋛x4, 🕮x3)



y033t5039

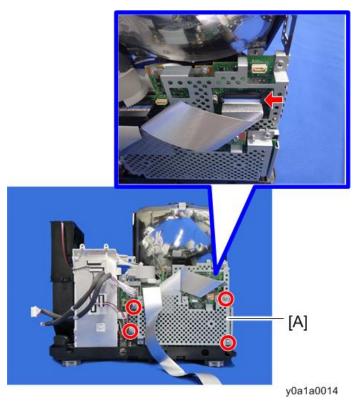


y033t5040

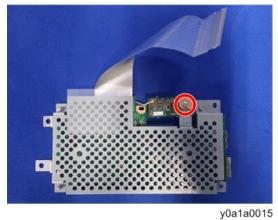
## Network Board (PJ WX4152N/WX4152NI)

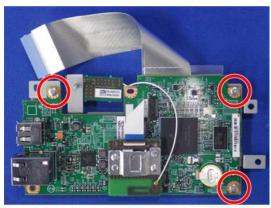
1. Top cover (page 68 "Top Cover")

# 2. Network board [A] with the bracket ( $\mathscr{F}$ x4, $\mathsf{P}$ x1)



# 3. Network board ( \*x4)





y0a1a0016

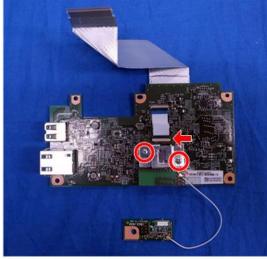


y0a1a0017

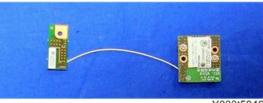
# Wireless LAN Module (PJ WX4152N/WX4152NI)

1. Network board (page 81 "Network Board (PJ WX4152N/WX4152NI)")

## 2. Wireless LAN module (Fx2, X1)



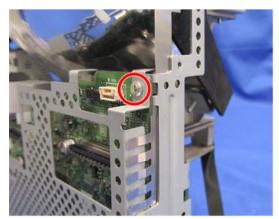
y0a1a0018



Y033t5046

### Interface Board

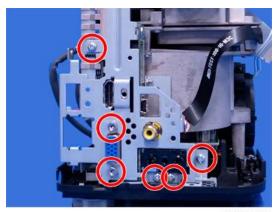
- 1. Network board (page 81 "Network Board (PJ WX4152N/WX4152NI)")
- 2. Interface board of the left side ( $\Re x11$ ,  $\Im x3$ )



y033t5152



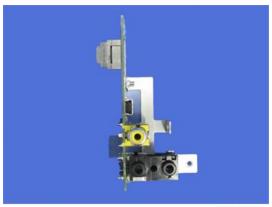
y033t5047



y033t5048



Y033t5049

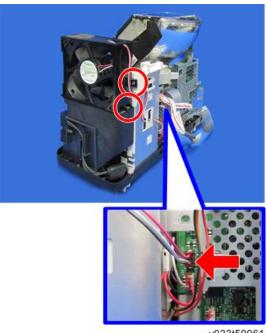


Y033t5051

## Exhaust Fan

- 1. Front cover (page 66 "Front Cover")
- 2. Exhaust fan [A] (🖟 x3, 🕮 x1)

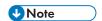




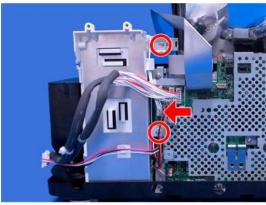
y033t50061

# Lamp Ballast

- 1. PSU (page 75 "PSU")
- 2. Remove two screws and a connecter.



• Remove the connector with pushing the tab.



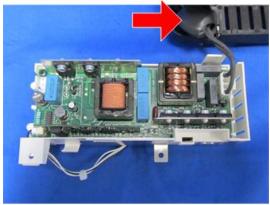
y033t5062

### 3. Remove a screw.



y033t5063

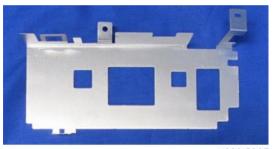
### 4. Lamp ballast unit ( x1)



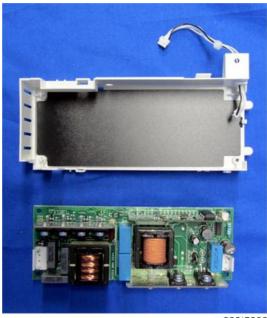
y033t5064

# 5. Lamp ballast (Px1)





y033t5065

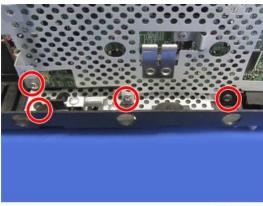


y033t5066

### **Main Board**

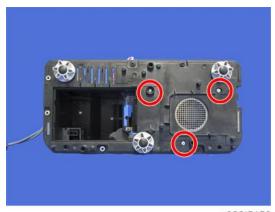


- When replacing the main board, you must enter the current value of color wheel index delay and adjust the keystone after installing the new board. (page 106 "Keystone Calibration"), (page 113 "Color Wheel Index Delay")
- The value of color wheel index delay can be confirmed by the label attached on the optical unit. (page 93 "Optical Unit")
- 1. Interface board (page 84 "Interface Board")



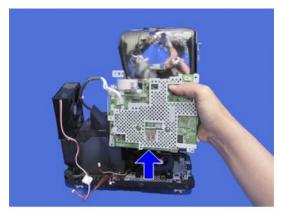
y033t5155

3. Remove three screw of the bottom.



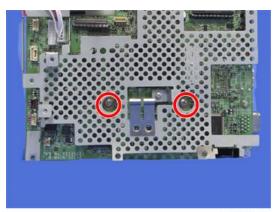
y033t5156

4. Remove the optical unit and main board upward.



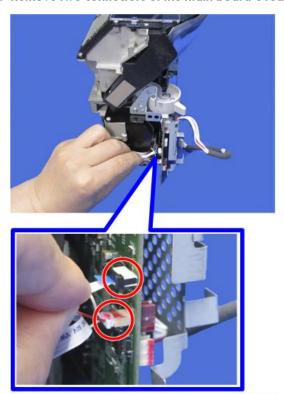
y033t5157

### 5. Remove two screws.

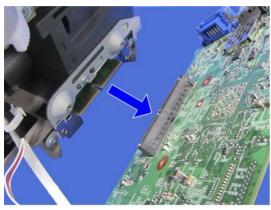


y033t5158

### 6. Remove two connectors of the main board's rear side.

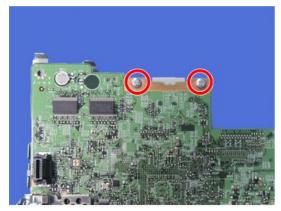


y033t5159



y033t5160

8. Remove the bracket (Fx2).



y033t5161



y033t5162

### **Optical Unit**



- After replacing the optical unit, you must input the value of color wheel index delay that is specific
  to the new unit and do the keystone adjustment. (page 106 "Keystone Calibration"), (page 113
  "Color Wheel Index Delay")
- 1. Remove with the main board (page 89 "Main Board").
- 2. Divide the main board from the optical unit (page 89 "Main Board").
- After replacing, input the value of color wheel index delay and the do the keystone adjustment.



- If placing the optical unit upside down, place it on the soft sheet like a waste cloth.
- When handling the optics unit, hold the metal parts shown in the figure.
- When installing the optics unit, make sure the cables are not trapped under the leg of the
  optical unit.







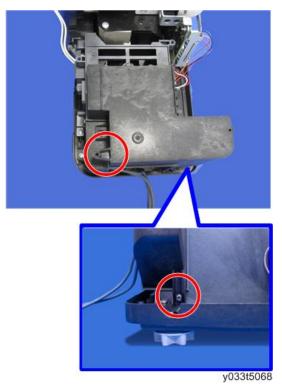
y033t5101

### Lamp Power Cord

- 1. Exhaust fan (page 86 "Exhaust Fan")
- 2. Lamp ballast (page 87 "Lamp Ballast")
- 3. Upper part of Exhaust duct (Fx2)



# 4. Lower part of Exhaust duct (Fx2)

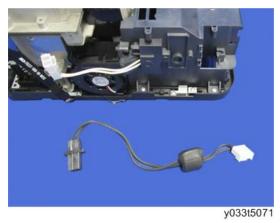


# 5. Lamp power cover [A] ( \$\hat{p} x1)



# 6. Lamp power cord [A] ( \$\begin{align\*} x 1 \)

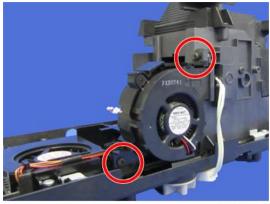




# Lamp Fan

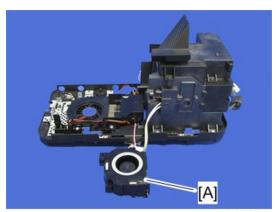
### 1. Optical unit (page 93 "Optical Unit")

### 2. Remove the two screws.



y033t5076

- 3. Intake fan (page 97 "Intake fan")
- 4. Lamp fan [A] (🕮 x 1)

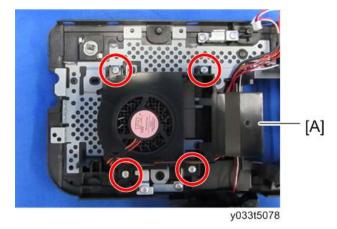


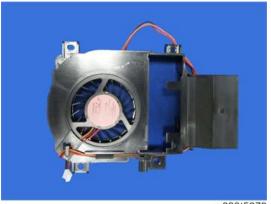
y033t5077

## Intake fan

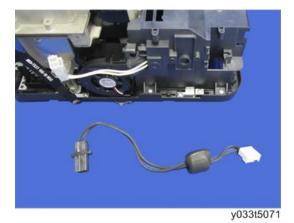
1. Remove the two screws on the lamp fan. (page 96 "Lamp Fan")

## 2. Intake fan [A] (🖁 x4)





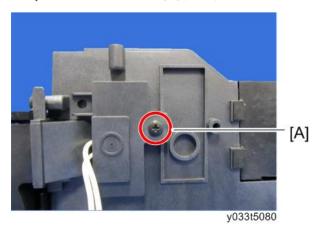
y033t5079



# Temperature Sensor (Thermistor)

1. PSU (page 75 "PSU")

## 2. Temperature sensor cover [A] (Fx1)



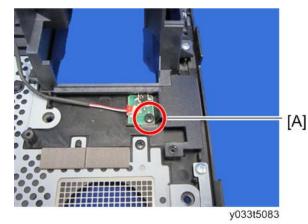
3. Temperature sensor [A] ( $\mathscr{F}x2$ )



# Lamp Cover Open Sensor

1. Intake fan (page 97 "Intake fan")

2. Lamp cover open sensor [A] (Px1)

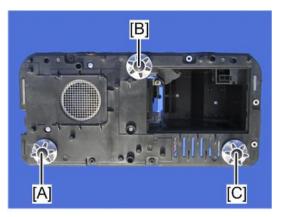




## Foot adjuster

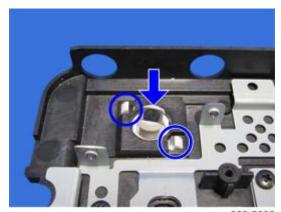
 When removing the front right foot adjuster [A], remove the ballast (page 87 "Lamp Ballast").

When removing the rear foot adjuster [B] and front left foot adjuster [C], remove the optical unit (page 93 "Optical Unit").



y033t5163

### 2. Foot adjuster (Two tabs)



y033t5085



y033t5086

### Adjustment Points vs Part Replaced

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

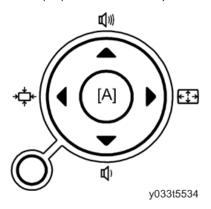
Part	Keystone	Sub Contrast	Color wheel index delay
Main board	Yes	No	Yes
Control panel board	No	No	No
Optical unit	Yes	No	Yes

For this model, Sub Contrast is adjusted at the factory and no further adjustment is required.

When the network board is replaced, the set time will be cleared. Set the time as necessary.

### Save Data to EEPROM (Common for all adjustments)

After performing adjustments, save the new settings to the EEPROM. Press the  $\triangle$ ,  $\nabla$ ,  $\triangleleft$ , and  $\triangleright$  buttons of the projector simultaneously.



[A] Enter

A beep sounds upon completion of saving data.



- When using the remote controller, operate as follows.
  - 1. Press the [Enter] button four times.
  - 2. Press the [1] button four times.

- 3. Press the [Enter] button four times.
- 4. Press the [1] button four times.

#### **Preparation**

#### Test equipment

- 1. PC (Personal computer)
  - (Windows PC, OS: Windows 8/7/Vista/XP)
- 2. Cables
  - RGB Cable and Control (USB A to mini-B) Cable
- 3. A protractor for Vertical Auto Keystone Calibration

### **Projector Setup**

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

#### How to enter the Service Mode

 Press and hold the [Enter] and [Menu] buttons of the projector simultaneously for 2 seconds.

You will hear a short beep.



- When the setting of the [Beep] in the [Default Settings 1] is set to [Off], you will not hear
  it.
- 2. Press the dutton on the projector.
- 3. Press the V button on the projector.
- 4. Press the **A** 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.



- When using the remote controller, operate as follows.
  - 1. Press the [Enter] button five times.
  - 2. Press the [1] button five times.
  - 3. Press the [Enter] button three times.

4. Press the [1] button three times.

#### How to display the Service status

After the projector has entered the service mode, press the [AV Mute] and  $\triangle$  buttons simultaneously. Then, the following "Service status" window appears.

When pressing the [Menu] button, it will guit.

If it doesn't appear, repeat from the beginning. This mode remains until you press the [Menu] button.



- When using the remote controller, operate as follows.
  - 1. Press the [Enter] button eight times.
  - 2. Press the [1] button eight times.

Service status			[MENU] Quit
Version (Main-PIC)		0056XXXXXX - XXXX	
Version (Network)			XXXXXXX
Version (DDP API)	02.01.0B	Version (Audio)	s1.0 - n1.0 - m1.0
Total time	0H-49M-01S	Model	PJWX4152N
User lamp time	0H-49M-01S	Serial No.	B393XXXXXXXX
Lamp reset count	0	Engine No.	S203XXXXXXX
Lamp voltage	84 V	Region Code	DOM
Lamp wattage	210 W	Sub contrast	1180 - 1203 - 1208
		C/W index delay	350
KC0	25 - 3345 - 2055	Altitude	0
KC1	25 - 3347 - 1805	Temp (intake)	27 deg
KC2	25 - 3346 - 2302		
KC3	25 - 3422 - 2052	[Lamp Msg] display Enable	
Fan1 (intake)	3510 rpm	[Filter Msg] display Enable	
Fan2 (lamp)	4681 rpm	[Password] function Enable	
Fan3 (exhaust)	2409 rpm	[HDMI overscan] function Disab	
		Shut down	0
Error log (PIC)	FF-FF-FF-FF	Error count (Main)	) 0
Error log (Main)		0- 0- 0- 0- 0- 0- 0- 0-	0-0-0-0-0-0-0-0

y0a1a0020

Total time: Total time that the projector has been used (Unit: hr/m/s)

\*Total time that the lamp has been lighted (not reset by lamp replacement)

User lamp time: Time of the lamp has been used.

Lamp reset count: Reset count for the time that the lamp has been used.

Lamp voltage: Power voltage of the lamp

Lamp wattage: Wattages of the lamp

KCO: Value of keystone adjustment 0

KC1: Value of keystone adjustment 1

KC2: Value of keystone adjustment 2

3

KC3: Value of keystone adjustment 3

Fan 1 (intake): Rotation count of intake fan

Fan2 (lamp): Rotation count of exhaust fan

Fan3 (exhaust): Rotation count of exhaust fan

Error log (PIC): Display of the error ID log that is recorded by the standby micro computer.

Error log (Main): Display of the error ID log that is recorded by the main board software

Model: Model name

Serial No.: Serial number

Engine No.: Serial number of the optical engine

Region Code: Delivered area code

Sub contrast: Adjusted value of sub contrast

C/W index delay: Synchronized adjustment between the color wheel index and the video signals

Altitude: Adjustment of altitude

Temp (intake): Temperature of intake

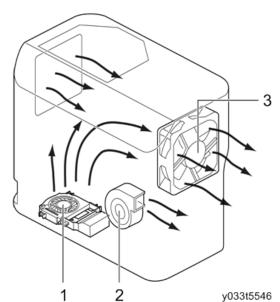
[Lamp Msg] display: Display of the lamp message [Filter Msg] display: Display of the filter message

[Password] function: Enable/Disable of the password setting

[HDMI overscan] function: Enable/Disable of the use of HDMI over scan mode

Shut down: Number of the projector shut down

Error count (Main): Number of times errors have occurred (Sum of the counts for each error type)



- 1. Fan1 (Intake fan)
- 2. Fan2 (Lamp fan)
- 3. Fan3 (Exhaust fan)

## **Keystone Calibration**

 Press the [Input] button and buttons of the projector simultaneously in the service mode.

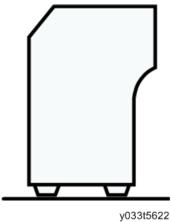


• When using the remote controller, press the [Enter] button twelve times, and then press the [1] button four times.

Adjustment(KC,C/W)	
KC0 (normal)	25 - 3375 - 2048
KC1 (back)	25 - 3375 - 1792
KC2 (front)	25 - 3375 - 2304
KC3 (30 min)	25 - 3375 - 2048
Sub contrast	512 - 512 - 512
C/W index delay	50
,	
[MENU]Quit	[ENTER]Execute

y0a1a0021

## 2. Set the projector on a level surface.



## 3. Press the [Input] button of the projector.

When the adjustment is successfully completed, the values changes from the default [25-3375-2048].

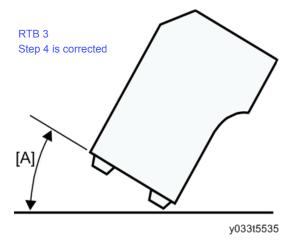
(Example: See below)

Adjustment(KC,C/W)	
KC0 (normal)	25 - 3353 - 2051
KC1 (back)	25 - 3375 - 1792
KC2 (front)	25 - 3375 - 2304
KC3 (30 min)	25 - 3375 - 2048
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y0a1a0022

If it fails, the values don't change from the default [25-3375-2048].

# 4. Keep the projector at 20 degrees.



[A] 20 degrees

# 5. Select the [KC1] item by pressing the ▼ button.

Adjustment(KC,C/W)	
KC0 (normal)	25 - 3353 - 2051
KC1 (back)	25 - 3375 - 1792
KC2 (front)	25 - 3375 - 2304
KC3 (30 min)	25 - 3375 - 2048
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y0a1a0023

## 6. Press the [Input] button of the projector.

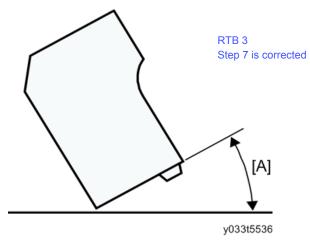
When the adjustment is successfully completed, the values changes from the default [25-3375-1792].

(Example: See below)

Adjustment(KC,C/W)	
KC0 (normal)	25 - 3353 - 2051
KC1 (back)	25 - 3354 - 1802
KC2 (front)	25 - 3375 - 2304
KC3 (30 min)	25 - 3375 - 2048
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y0a1a0024

If it fails, the values don't change from the default [25-3375-1792].



[A] -20 degrees

8. Select the KC2 item by pressing the ▼ button.

Adjustment(KC,C/W)	
KC0 (normal)	25 - 3353 - 2051
KC1 (back)	25 - 3354 - 1802
KC2 (front)	25 - 3375 - 2304
KC3 (30 min)	25 - 3375 - 2048
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y0a1a0025

9. Press the [Input] button of the projector.

When the adjustment is successfully completed, the values changes from the default [25-3375-2304].

(Example: See below)

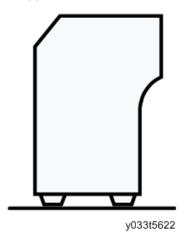
Adjustment(KC,C/W)	
KC0 (normal)	25 - 3353 - 2051
KC1 (back)	25 - 3354 - 1802
KC2 (front)	25 - 3353 - 2299
KC3 (30 min)	25 - 3375 - 2048
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

y0a1a0026

If it fails, the values don't change from the default [25-3375-2304].



- When the projector is not tilted accurately +/- 20 degrees, the adjustment values ([KC1] and [KC2]) do not change.
- 10. Set the projector on a level surface and turn on the projector to shine the lamp through it for 30 minutes or more.



# 11. Select the KC3 item by pressing the ▼ button.

Adjustment(KC,C/W)		
KC0 (normal)	25 - 3353 - 2051	
KC1 (back)	25 - 3354 - 1802	
KC2 (front)	25 - 3353 - 2299	
KC3 (30 min)	25 - 3375 - 2048	
Sub contrast	512 - 512 - 512	
C/W index delay	50	
[MENU]Quit	[ENTER]Execute	

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# 12. Press the [Input] button of the projector

When the adjustment is successfully completed, the values changes from the default [25-3375-2048].

Adjustment(KC,C/W)	
KC0 (normal)	25 - 3353 - 2051
KC1 (back)	25 - 3354 - 1802
KC2 (front)	25 - 3353 - 2299
KC3 (30 min)	24 - 3396 - 2049
Sub contrast	512 - 512 - 512
C/W index delay	50
[MENU]Quit	[ENTER]Execute

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If it fails, the values don't change from the default [25-3375-2048].

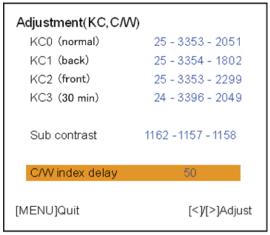


 This adjustment can also be done manually using the Backup/Restore Tool. (page 121 "Data Backup/Restore")

## **Color Wheel Index Delay**



- This adjustment is only needed when replacing the optical unit or the main board. Do not make this adjustment in other case.
- Press and hold the [Input] and buttons of the projector simultaneously in the service mode.
- 2. Select the C/W index delay item by pressing the ▼ button.

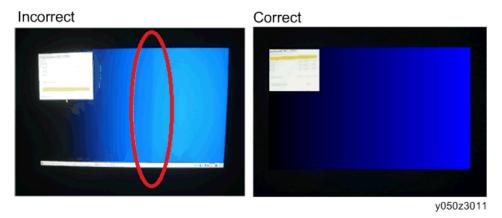


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3. Adjust the value by pressing the  $\triangleleft$  or  $\triangleright$  button.



• When you input the value of color wheel index delay, you must display the color pattern sample and input the normal value.



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

 Press and hold the [Input] and \(\neg \) buttons of the projector simultaneously in the service mode.



v0a1a0029

2. Select the correct value by pressing the  $\P$  or  $\blacktriangleright$  button.

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].

# Resetting a password

A password is used to limit the use of the projector for anyone who does not know the password or when the projector is stolen. Keep this purpose in mind when resetting a password.

### When using the operation panel on the projector

 Connect the power cable and hold down the [Power] button to display the password input window.

- 2. Press and hold the [Enter] and [Menu] buttons of the projector simultaneously for two seconds.
- 3. Press the V button two times.
- 4. Press the button.
- 5. Press and hold the [Enter] button for two seconds.

The password will reset.

### When using the remote control

- 1. Connect the power cable and hold down the [ON/STANDBY] button to display the password input window.
- 2. Press the [1] button three times.
- 3. Press the [Enter] button four times.
- 4. Press the [1] button five times.
- 5. Press the [Enter] button four times.

The password will reset.



- If the password failed to be reset, repeat the procedure from step 1.
- The password will be "000000" after reset.

# 4. System Maintenance

# Firmware Update

# Updating the firmware using a USB memory device (PJ WX4152N/WX4152NI)

You can update the two firmware files (one for the main board and one for the network board) by using a USB memory device.



The version number of the System firmware is composed of the following elements:
 Version number of the Main firmware with the "00" at the end omitted, -(hyphen), Version number of the Network firmware with the "00" at the end omitted.

For example, if the version number of the System firmware is 10001606-1004:

The version number of the Main firmware is 1000160600.

The version number of the Network firmware is 100400.

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



- 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.

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.

5. When update process is successfully completed, the [Power] button lights up blue and the lamp and temperature indicators light up red.



- When the power setting during standby is "Quick On", the projector will restart.
- Hold down the [Input] button while updating the firmware. The LED indicator will change the lightning pattern and you can confirm the progress of the firmware update.

Both the Main firmware and Network firmware are being updated: The [Power] button and the lamp and temperature indicators light up.

The Main firmware update has been completed and the Network firmware is being updated: The [Power] button and the lamp indicators light up.

The Network firmware update has been completed and the Main firmware is being updated: The [Power] button lights up.

When the update process fails, the [Power] button flashes blue and the lamp and temperature indicators flash red.

Check that the firmware is updated to the most recent version via the service status window.

## Updating the Firmware Using a Computer (PJ WX4152)

You can update the main board firmware by using the tool with a computer.

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



- You need the following tools when updating the firmware of the customer's projector.
- Ricoh Projector FW Update Tool (File name: ProjectorUpdateTool)
- Driver software
- Firmware to update
- USB cable (USB A / mini-B) to connect the projector and PC.
- Check the firmware release information how to get the most recent firmware.
- 1. Install the driver to a computer.

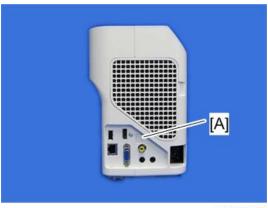
Double-click the CP210xVCPInstaller.exe icon and click the [Install] button. A COM port is created during this step.



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2. Check the power cord of the projector is disconnected.

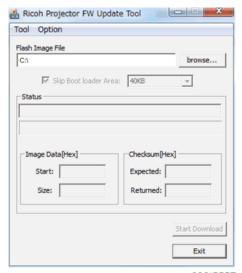
3. Remove the control terminal cover [A] (tabs  $\times$  2).



y033t5150

[A]: The control terminal cover

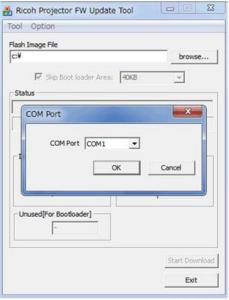
- 4. Connect the other end of the USB cable to your computer.
- 5. While holding down the [Input] and [AV Mute] buttons, plug in the power cord.
- 6. Start Ricoh Projector FW Update Tool on your computer.



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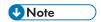
7. Click [Tool] and then [COM Port]. Select the number of the COM Port that has been created in Step 1, and then click [OK].

Check the number of the created COM Port from [Control Panel] - [Hardware and Sound] - [Device Manager] - [Ports (COM & LPT)].



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



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

### 9. Click [Start Download].

When update is complete, the "Returned:" area under "Checksum[Hex]" on the Ricoh Projector FW Update Tool window displays the same value as the "Expected:" area.

10. Confirm the version of firmware.

#### How to check the firmware version:

Hold down the [Menu] buton at once and  $\nabla$  button several times on the default settings window, and select the Display Status tab.

### 4

# Data Backup/Restore

When replacing the main board or the optical unit, the backup/restore tool can be used for backing up and restoring projector settings.



• This product requires that the backup/restore tool's version is Ver. 1.6.0.0 or later.

### What to Do When Replacing Parts

### When replacing the main board

Before replacement: Perform "Data Backup" and "Keystone Backup".

After replacement: Perform "Data Restore" and "Keystone Restore".

- If Backup/Restore is finished successfully, manual adjustments of the following items are unnecessary.
- If Backup/Restore cannot be executed (for example, when "Data backup" cannot be performed because a board is faulty), adjust the following items manually.

#### Items to be adjusted when replacing the main board

- 1. Color wheel index delay
- 2. Keystone Calibration
- 3. Serial number Setup (input the machine number)

### When replacing the optical unit

Before replacement: Perform "Keystone Backup".

After replacement: Perform "Keystone Restore".

- If Backup/Restore is finished successfully, manual keystone calibration is unnecessary.
- If Backup/Restore cannot be executed, perform keystone calibration manually.

#### Items to be adjusted when replacing the optical unit

- 1. Color wheel index delay, which is specific to the new unit
- 2. Keystone Calibration

<sup>\*</sup>In both cases, color wheel index delay must be adjusted manually.

# How to Use the Backup/Restore Tool

### Downloading the tool

- 1. Download the "Backup Tool" from SRES-BB.
- 2. After extracting the package, Execute "Y0119100\*.exe". The following files will appear.
  - ServiceTool\_DataBackupRestore.EXE (the backup/restore tool)
  - USB-Serial\_Driver\_XP-Vista-7.EXE (driver software required when connecting the projector and the computer)

### Installing the USB Driver

- Execute "USB-Serial\_Driver\_XP-Vista-7.EXE" and open the "SiLabs\_XP-Vista-7" folder that is created.
- Open the folders in the following order: "SiLabs" "MCU" "CP210x" "Windows\_XP\_S2K3\_Vista\_7".
- 3. Execute "Windows\_XP\_S2K3\_Vista\_7.exe" in the "Windows\_XP\_S2K3\_Vista\_7" folder.
- 4. Click [Install] button.



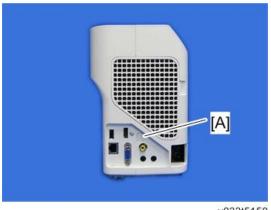
w y033t5556

5. Confirming that "Installation completed successfully" is displayed, and then click [OK].

#### Connecting the projector to a computer

- Turn on the projector and set "Power on Standby" in the "Energy Savings Settings Menu" to "Q'ck On".
  - \* If it was set to "Eco", change it back to "Eco" after your work is done.
- 2. Press the [Power] button of the projector to set the projector in standby status.
  - \*Standby status: The [Power] button flashes at 1 or 3 second intervals.

3. Connect the projector and the computer with a USB cable (USB Type A / Type mini-B).

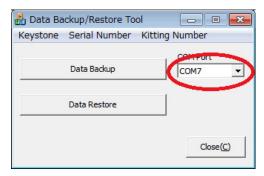


y033t5150

[A] USB port (Type mini-B)

### Starting the Backup / Restore Tool

- 1. Execute "ServiceTool\_DataBackupRestore.EXE" and open the "ServiceTool\_DataBackupRestore" folder.
- 2. Execute "ServiceTool.exe".
- 3. Select the COM port that is used for connection between the projector and the computer.

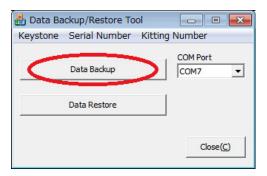




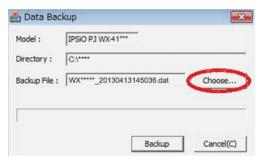
• How to determine the COM port: Right-click "Computer" and open "Device Manager" in "Properties". Check "Ports (COM & LPT)".

## How to Perform Data Backup

1. Click [Data Backup].



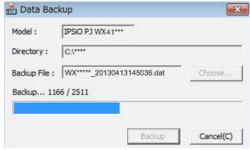
2. Only when changing the destination folder: Click [Choose], and then select where to save the file.



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3. Click [Backup].

Backup will take 3 to 4 minutes.



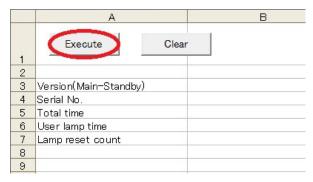
w\_y033t5602

4. When "Backup Complete." is displayed, click [OK].



### How to Check the Data Backup

- ${\bf 1. \ Open\ "Data\_BackupRestore\_"\ *}.xls"\ in\ the\ "ServiceTool\_DataBackupRestore"\ folder.$ 
  - \* Macros must be enabled.
- 2. Open the "Backup" worksheet and click [Execute] on the sheet.

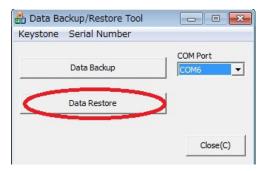


3. Select the backup file "PJ WX4152\_\*\*\*\*\*\*\*\*\*\*\*.dat". (\*\* indicate the date and time.)

The file name above is an example. " WX4152\_" may be either of the following, depending on the projector model.

- WX4152NI
- WX4152N
- WX4152
- 4. Acquired data will be displayed on the Excel Window.

1. Click [Data Restore].



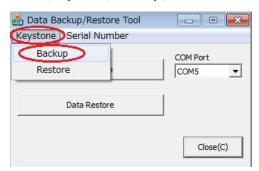
2. Click [Choose] and select the backup file "PJ WX4152\_\*\*\*\*\*\*\*\*\*\*.dat".

The file name above is an example. "WX4152\_" may be either of the following, depending on the projector model.

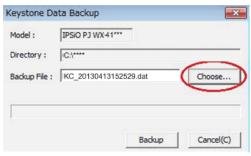
- WX4152NI
- WX4152N
- WX4152
- 3. Click [Restore].
- 4. When "Restore Complete." is displayed, click [OK].

### How to Perform Keystone Backup

1. Select [Keystone]-[Backup].



2. Only when changing the destination folder: Click [Choose], and then select where to save the file.



w y033t5603

3. Click [Backup].

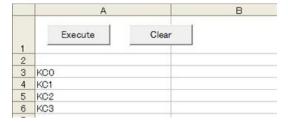
(Backup will take 1 to 2 minutes.)

4. When "Backup Complete." is displayed, click [OK].



### How to Check the Keystone Backup

- Open "Data\_BackupRestore\_\*\*.xls" in the "ServiceTool\_DataBackupRestore" folder.
   Macros must be enabled.
- 2. Open the "Keystone" worksheet and click [Execute] on the sheet.



- 3. Select the backup file "KC\_\*\*\*\*\*\*\*\*\*\*.dat". (\*\* indicate the date and time.)
- 4. Acquired data will be displayed on the Excel Window.

### How to Perform Keystone Restore

1. Select [Keystone]-[Restore].



2. Make sure that [Use Backup Data] radio button is selected and click [Choose]. Then, select the backup file "KC\_\*\*\*\*\*\*\*\*\*\*.dat".



w y033t5604

If you cannot back up the settings from the old board, select [Manual] and enter the following values.

• KC0: 25 3375 2048

• KC1: 25 3375 1792

• KC2: 25 3375 2304

• KC3: 25 3375 2048

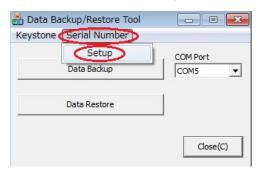
3. Click [Restore].

4. When "Restore Complete." is displayed, click [OK].

# 4

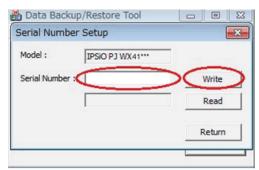
## Serial number Setup

1. Select [Serial Number]-[Setup].



2. For "Serial Number", enter the serial number (11 digits including the hyphen). Then, click [Write].

Example: 47XA-111111



w\_y033t5609

# **Service Status**

Even when the lamp does not light due to a broken lamp (projection does not start), the service status information including the lamp time and the total time can be acquired and displayed by using the Service Status Tool without replacing the lamp.

## Using the service status tool



 Before starting this work, download "Backup/Restore Tool", install the USB driver on the computer, and connect the projector to the computer. (page 121 "Data Backup/Restore")

### Acquiring the service status information

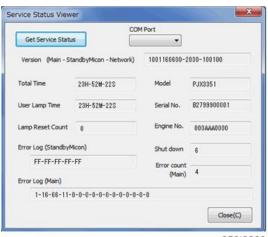
- 1. Put the projector in the standby state. (The power can stay ON.)
- 2. Start ServiceTool\_DataBackupRestore.EXE (the Service tool).



w y050t3202

3. Select [Service Status Tool], and click [Start].

[Service Status Viewer] that acquires the service status information appears.



w\_y050t3203

- 4. Select the COM port used for connecting the projector and the computer.
- 5. Click [Get Service Status] to display the following service status information.

ltem	Display name	
Main version	Version (Main-StandbyMicon-Network)	
Standby microcomputer version	Version (Main-StandbyMicon-Network)	
NW version	Version (Main-StandbyMicon-Network)	
Total time	Total projector usage time since installation	
Lamp time	Time that the currently installed lamp has been used	
Lamp reset count	Lamp Reset Count	
Model name	Model	
Serial number	Serial No.	
Engine number	Engine No.	
Abnormal shutdown count	Shut down	
Main error count	Error count(Main)	
Standby microcomputer error log	Error Log (StandbyMicon)	
Main error log	Error Log (Main)	

# **Network Service Menu**

# Displaying the Network Service Menu

- 1. Enter the service mode. (page 103 "Projector Setup")
- 2. Press the [MENU] button.
- 3. Press ▼ button five times to display the "Network/USB Settings" menu.
- 4. Press button.
- 5. Press ▼ button several times to display the "Network Application Settings" menu.

### Menu Items

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

ltem	Description	
Reset Administrator Password Resets the administrator password		
Reset PJLink Password	Resets the PJLink password.	

# Menu List

# Image Adjustment Menu

ltem	Default
Picture Mode	Standard
Select the picture mode.	
This function is not available when you select [On] in [3D Projection] under [Display/Sound Settings] or [On] in [Interactive Mode] under [Default Settings 1].	
Bright	
This image mode makes it easier to see the projection in bright locations.  • Standard	
This is the standard image mode.	
• Photo	
Photos appear more natural in this mode.	
• Video	
Video is smoother in this mode.	
DICOM Sim. Mode	
In this image mode, the images are adjusted to simulate the DICOM format. DICOM is a global standard for storing and transmitting medical images. DICOM is used for computer tomography (CT), magnetic resonance imaging (MRI), and endoscope images.	
However, this mode only simulates these formats, so the image may be projected differently from the original DICOM format. Use this mode only for education. It should not be used for actual diagnoses.	
Contrast	0
Adjust the image contrast. The greater the value, the stronger the image contrast.	
Brightness	0
Adjust the image brightness. The greater the value, the brighter the image.	

ltem	Default
Sharpness	0
Adjust the sharpness of the image. The greater the value, the sharper the image.	
R-level	0
Adjust the level of red in the image. The greater the value, the stronger the color red is in the image.	
G-level	0
Adjust the level of green in the image. The greater the value, the stronger the color green is in the image.	
B-level	0
Adjust the level of blue in the image. The greater the value, the stronger the color blue is in the image.	
Color Saturation	0
Adjust the color saturation of the image. The greater the value, the richer the image.	
This function is available when you select [Y/Pb/Pr] or [Video] as an input signal.	
Tint	0
Adjust the tint of the image.	
This function is available when you select [Y/Pb/Pr], [HDMI] (Y/Pb/Pr signals), or [Video] as an input signal.	
Noise Reduction	Off
Specify whether or not to use the function to reduce the Y/Pb/Pr (480i/576i) or video signal noise.	
This function is available when you select [Y/Pb/Pr] (480i/576i) or	
[Video] as an input signal.	

ltem	Default
RGB Input Range	Auto
Select the RGB input range.	
This function is available when you select [HDMI] (RGB signals) as an input signal.	
Auto	
The projector switches RGB input range according to the settings of the connected equipment.	
Standard	
Select this mode when the color black in the image is light.	
• Full	
Select this mode when dark parts in the image are too dark.	
Auto Set Signals	-
Automatically adjust the items in [Detailed Signal Settings].	
This function is available when you select [Computer] as an input signal.	
Detailed Signal Settings > Phase	0 to 31 *1
Adjust to eliminate image flicker.	
This function is available when you select [Computer] as an input signal.	
Detailed Signal Settings > Frequency	0
Adjust to eliminate moiré patterns and flicker when you project images with thin vertical-stripes.	
This function is available when you select [Computer] as an input signal.	
Detailed Signal Settings > H-position	0
Adjust the horizontal position of the image.	
This function is available when you select [Computer] as an input signal.	
Detailed Signal Settings > V-position	0
Adjust the vertical position of the image.	
This function is available when you select [Computer] as an input signal.	
Detailed Signal Settings > Clamp Pulse 1	0 to 255 *1
Adjust the clamp pulse position.	
This function is available when you select [Computer] as an input signal.	

# Display / Sound Settings Menu

ltem	Default
Auto Keystone	On
Specify whether or not to implement keystone correction automatically depending on the angle of the projector's position.	
Keystone	0
Adjust for keystone distortion.	
To decrease the width of the bottom of the projected image, decrease the value. To decrease the width of the top of the projected image, increase the value.	
Zoom	100%
Reduce the size of the image if the projected image is larger than the screen. The image can be reduced in a range of 80 to 100% using the digital zoom function.	

<sup>\*1</sup> The default of [Phase], [Clamp Pulse 1], and [Clamp Pulse 2] is variable because the projector automatically adjusts these settings according to the input signal.

ltem	Default
Aspect	Normal
Select the aspect ratio of the image.	
This function is not available when you select [USB Memory] or [Server] as an input signal. When you select [Network PC] or [Miracast] as an input signal, this function is available only while you are projecting the screen of a computer or a smart device.	
When splitting the screen into parts and projecting from multiple computers in the discussion mode of QuickProjection, the aspect setting is applied to each part. You cannot change the aspect setting while projecting from multiple computers.	
• Normal	
Display in full screen without changing the input signal aspect ratio.	
• 16:9	
Display using 16:9 aspect ratio (1280 x 720 resolution).	
• Full	
Display using 1280 x 800 resolution.	
Native	
Display the image without changing the resolution of the input signal.	
This setting is available when you select [Computer], [HDMI] (RGB signals), [Network PC], or [Miracast] as an input signal.	
• Zoom	
Display the image width as the projection screen	
Display Position	-
Move the image if the projected image is smaller or larger than the projection screen size. You can move the image using the $\triangle$ , $\nabla$ , $\triangleleft$ , and $\triangleright$ buttons.	
This function is not available when you select [Network PC], [USB Memory], [Server], or [Miracast] as an input signal.	

ltem	Default
Wall Color Mode	Off
Select the image hue according to the projection surface when the image is being projected on something other than a screen.	
• Off	
Whiteboard	
Beige	
• Gray	
Blackboard (Green)	
3D Projection > 3D Projection	Off
Specify whether or not to use 3D projection.	
The image will be slightly darker if this is set to [On].	
3D projection and interactive mode cannot be enabled simultaneously. If you change this setting to [On], [Interactive Mode] in [Default Settings 1] is switched to [Off].	
3D Projection > L/R Reverse	Normal
Specify whether or not to reverse left and right in a 3D image.	
Normal	
Reverse	
3D Projection > 3D Format	Auto
Select a 3D format.	
Select [Auto] when the 3D signals are input through HDMI. If the image does not project in 3D even if [Auto] is selected, change the setting to match the 3D format of the signal being input.	
Auto	
Frame Sequential	
Side by Side	
Top and Bottom	
Frame Packing	

ltem	Default
Closed Caption	Off
The projector supports closed captioning, which allows subtitles to be displayed at the bottom of the picture. This is pursuant to the regulations set forth by the US Federal Communications Commission (FCC).	
Select [CC-1] to [CC-4] to display the dialogue and narration of TV programs and videos that are closed captioned.	
This function is available when you select [Video] as an input signal.	
• Off	
• CC-1	
• CC-2	
• CC-3	
• CC-4	
Sound Quality	Standard
Select the sound quality of the audio that is playing. This function applies to the built-in speaker on the projector only. If you use an external speaker, you cannot change the sound quality with this function.	
Standard	
Dialog and music are carefully balanced.	
Narration	
This mode is suitable for listening to dialog.	
Music	
This mode is suitable for listening to music.	

İtem	Default
Lamp Power	Stnd.
Select the lamp power level.	
To save energy, select the eco mode. To make images brighter, select the standard mode.	
The lamp power is switched to the standard mode regardless of this setting when [DICOM Sim. Mode], [3D Projection], or [Interactive Mode] is enabled.	
• Eco	
• Stnd.	
Lamp Pwr on No Signal	Eco
Specify whether or not to lower the lamp power when there is no input signal. If you select [Eco], the projector lowers the lamp power thirty seconds after the input signal disappears.	
• Eco	
• Stnd.	
Image Eco	On
Specify whether or not to switch the lamp power automatically depending on the brightness of the image.	
This function does not work when [DICOM Sim. Mode], [3D Projection], or [Interactive Mode] is enabled.	
Power Off on No Signal	20 min.
Select the amount of time from the last input signal or operation until the projector enters standby mode.	
• Off	
• 5 min.	
• 10 min.	
• 20 min.	
• 30 min.	

ltem	Default
Power on Standby	Eco
Specify whether or not to save energy while in standby.	
• Eco	
You can save energy while in standby, but start-up time is slower.	
Q'ck On	
You can turn on the projector quickly, but the standby energy level is higher.	
NW Settings on Standby (PJ WX4152N/WX4152NI)	Wired LAN
Select a network function to be enabled while in standby. You can save energy by disabling the network function.	
This function is available when you select [Eco] in [Power on Standby].	
Do not Use	
Disable the wired LAN and the wireless LAN while in standby to save energy. To use the wired LAN or the wireless LAN, press the [Power] button to turn on the projector.	
Wired LAN	
You can turn on the projector from standby mode via a wired LAN.	
Wired/Wireless LAN	
You can turn on the projector from standby mode via a wired LAN or wireless LAN.	



- The image may flicker, depending on the characteristics of the lamp, when the lamp power is cut by the lamp settings. If this happens, specify the lamp settings as follows:
  - Lamp Power: Stnd.
  - Lamp Pwr on No Signal: Stnd.
  - Image Eco: Off

ltem	Default
Auto Input Search	On
Specify whether or not to switch to another input signal that the projector detects when you press the [Input] button.	
Веер	On
Specify whether or not to beep during use.	
Background on No Signal	Logo
Select the image display when there is no input signal.	
• Logo	
Blue	
• None	
Display Guidance	On
Specify whether or not to display the guidance for operating the projector.	
Start-up Screen	On
Specify whether or not to display the start-up screen when the projector is turned on.	
User Logo > Register Logo	-
Register a user logo. Project the image to be registered as a user logo, and then execute this function. User logos can be displayed in the start-up screen or as the background when there are no input signals. You can register an image with a resolution of up to 1280 x 800 pixels.	
This function is available when you select [Computer], or [HDMI] (RGB signals) as the input signal. When you select [Network PC] or [Miracast] as the input signal, this function is available for the computer or smart device screen you project.	
User Logo > Confirm Logo	-
Display the registered user logo.	
User Logo > Reset Logo	-
Delete the registered user logo.	

ltem	Default
Interactive > Interactive Mode (PJ WX4152NI only)	Off
Specify whether or not to enable the interactive mode. For details about the interactive mode, see page 83 "Using the Interactive Function (RICOH PJ WX4152NI only)".	
The interactive mode and 3D projection cannot be enabled simultaneously. If you change this setting to [On], [3D Projection] in [Display/Sound Settings] is switched to [Off].	
Interactive > PC Adapter Registration (PJ WX4152NI only)	-
Register the computer USB adapter to the projector to use the interactive mode. For details about how to register the computer USB adapter.	
This function is not available when you select [Video] as an input signal.	

## Default Settings 2 Menu

ltem	Default
Language	English
Select the display language.	
Available languages are as follows:	
English, Japanese, Spanish, Russian, French, Portuguese, German, Italian, Dutch, Polish, Swedish, Norwegian, Danish, Romanian, Turkish, Arabic, Thai, Indonesian, Traditional Chinese.	
Current Time > Date/Time	(Not programmed)
Specify the current date and time.	
Current Time > Date/Time	+0:00
Specify the time zone of the location where the projector is used by selecting the time difference from UTC (Coordinated Universal Time).	
Power Timer > Timer Projection	Off
Specify whether or not to enable the power timer function.	
When you enable this function, the projector automatically starts	
projection and turns off at the specified time. If you select [On], specify [Projection Day] and [Projection Time] to enable this function.	

ltem	Default
Power Timer > Projection Day	(Not programmed)
Select a day of the week to start projecting using the power time function.	
Power Timer > Projection Time	(Not programmed)
Specify the time to start and end projecting using the power timer function. An interval of at least ten minutes is required between the startup time and the end time.	
Projection Mode	Standard
Select the projection method according to how the projector is positioned.	
<ul> <li>Standard</li> <li>Select this mode when the projector is placed in front of a screen.</li> <li>Rear</li> </ul>	
Select this mode when the projector is placed behind a screen.	
Ceiling	
Select this mode when the projector is mounted on the ceiling in front of a screen.	
Rear Ceiling	
Select this mode when the projector is mounted on the ceiling behind a screen.	
Remote Control ID	1
Select the projector remote control ID. Specify the ID for each projector when operating multiple projectors using one remote control.  1 2 3	
Direct Power On	Off
Select the power on method of the projector.  • Off  Turn the projector on when the [Power] button is pressed.	3"
• On	
Automatically turn on the projector when the power cord is connected.	

ltem	Default
Start on Input Detection	On
Specify whether or not to start projecting automatically if the signals are input while in standby.	
High Altitude Mode	Off
The number of fan rotations is high when set to [On]. The air is thin at high elevations, so the cooling efficiency of the projector is reduced. Select [On] when using the projector at an altitude of more than 1,500 meters (4,921 feet). Do not select [On] when the altitude is less than 1,500 meters (4,921 feet).	
Key Lock	Off
Specify whether or not to lock the buttons on the control panel. You can change this setting to [Off] by pressing the [AV Mute] button on the projector's control panel for 10 seconds.	
Reset All	-
Reset all menus to their defaults.	
This function cannot restore the default settings of [User Logo] in [Default Settings 1], [Current Time] and [Startup Password] in [Default Settings 2], [Administrator Authentication] and [Administrator Password] in [Network Application Settings].	
Startup Password > Register Password	000000
Enter a 6-digit password. The current password is required to change the password.	
Startup Password > Password Protect	Off
Specify whether or not to enter a password when the projector is turned on. If this is selected, a password must be entered when the projector is turned on after the power cord has been unplugged. However, a password is not required when turning the projector on from the standby mode.	
A password is required to change this setting.	

## USB Settings Menu (PJ WX4152N/WX4152NI)

This section explains the items in the USB Settings menu under the Network/USB Settings menu tab.

You can also specify and check the items in the USB Settings menu using Web Image Monitor.

However, the following items are available only on the menu screen.

- [Remove USB Mem.] in [Settings]
- [USB Memory Free Space (KB)] and [USB Memory Access Status] in [Display Status]

On Web Image Monitor, you can check [Network/USB Func. Firmware Version] on the top page.

## Settings

Still Image

ltem	Default
Display Effect	None
Select the display effect for switching the image.	
• None	
• Push	
The current image is pushed off by the next image.	
• Wipe	
The current image is wiped off by the next image.	
• Fade	
The current image fades out and the next image fades in.	
Display Interval (sec.)	5 seconds
Enter the slide show switching interval from 5 to 999 seconds.	

## Moving Image

Item	Default
Repeat	Off
Specify whether or not to repeat video playback.	

#### Common

Item	Default
Auto Start Slideshow	Off
Specify whether or not to start a slide show automatically when the projector is connected to the USB device.	
Remove USB Mem.	-
The USB device can be removed when this command is executed.	

#### **Display Status**

#### **USB** Memory

Item	Default
USB Memory Free Space (KB)	-
Display the space available on the USB device (Displayed in KB).	
USB Memory Access Status	-
Display whether or not the USB device can be accessed.	

#### Firmware Version

ltem	Default
Network/USB Func. Firmware Version	-
Display the firmware version of the network and USB functions.	

## Network Settings Menu (PJ WX4152N/WX4152NI)

This section explains the items in the Network Settings menu under the Network/USB Settings menu tab. You can also specify and check the items in the Network Settings menu using Web Image Monitor.

However, the following items are available only on the menu screen.

- [Simple Wireless LAN Setup], [EAP Type], [Import Client Certificate], [Client Certificate User Name], [Client Certificate List], [Import CA Certificate], [CA Certificate List], [Delete Client/CA Certificate], [MS-CHAP v2 User Name], [MS-CHAP v2 Password], [Windows Domain Name], [Server Certificate Authentication], [Intermediate CA Permission], [WPA/WPA2-EAP Connection Check], and [Reset Wireless LAN Settings] in [Wireless LAN]
- [Network Setting Wizard] in [Setup Wizard]

On Web Image Monitor, you can check [Network/USB Func. Firmware Version] on the top page.

#### Wired LAN

#### Wired LAN Settings

ltem	Default
Wired LAN	Enable
Specify whether to enable or disable wired LAN.	

ltem	Default
Transmission Speed	Auto-Negotiation
Select a wired LAN speed that matches your network environment. It is recommended that [Auto-Negotiation] be selected.	
Auto-Negotiation	
10BASE-T Full Duplex	
10BASE-T Half Duplex	
100BASE-TX Full Duplex	
100BASE-TX Half Duplex	

## TCP/IP Settings

Item	Default
DHCP	Enable
Specify whether to enable or disable DHCP.	
The IP address is allocated automatically from the DHCP server when [Enable] is selected. When [Disable] is selected, enter the IP address, subnet mask, and default gateway manually.	
IP Address	0.0.0.0
Enter the projector's IP address.	
Subnet Mask Enter the subnet mask.	0.0.0.0
Default Gateway  Enter the default gateway.	0.0.0.0
Elliel lile delduli galeway.	

## Wireless LAN (PJ WX4152N/WX4152NI)

## Simple Settings

ltem	Default
Simple Wireless LAN Setup	-
Acquire the wireless LAN settings registered in the access point, and specify infrastructure mode wireless LAN settings for the projector automatically.	
This function may not work depending on the access point.	

## Wireless LAN Settings

ltem	Default
Wireless LAN	Enable
Specify whether to enable or disable wireless LAN.	
Communication Mode	Adhoc
Select the wireless LAN communication mode.	
Infrastructure	
Select this mode when you want to connect the projector to a wireless LAN network. You need to specify [SSID] and items in [Security] and [TCP/IP Settings] in this mode.	
• Adhoc	
Select this mode when you want to connect the projector and the computer directly. The projector specifies [SSID] and items in [Security] and [TCP/IP Settings] automatically in this mode.	
SSID	(blank)
Enter the SSID to connect to a wireless LAN network when	
[Infrastructure] is selected. Enter up to 32 characters.	
Channel	11
Select the channel to use when [Adhoc] is selected.	
Select the channel that matches the type of wireless LAN being used.	
The channels available might differ depending on the country.	
• 2.4 GHz: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	

## TCP/IP Settings

ltem	Default
DHCP	Disable
Specify whether to enable or disable DHCP.	
The IP address is allocated automatically from the DHCP server when [Enable] is selected. If you select [Disable], manually enter the IP address, subnet mask, and default gateway.	
IP Address	0.0.0.0
Enter the projector's IP address.	

ltem	Default
Subnet Mask	0.0.0.0
Enter the subnet mask.	
Default Gateway	0.0.0.0
Enter the default gateway.	

## Security

ltem	Default
Authentication Method	Open System
Select the wireless LAN authentication method.	
Open System	
WEP Shared Key	
WPA/WPA2-PSK	
WPA2-PSK	
WPA/WPA2-EAP	
WPA2-EAP	
Encryption Method	No Encryption
Select the wireless LAN encryption method.	
No Encryption	
Communication is not encrypted. You can select [No Encryption] if you select [Open System] in [Authentication Method].	
• WEP	
You can select [WEP] if you select [Open System] in [Authentication Method].	
[WEP] is selected automatically when you select [WEP Shared Key] in [Authentication Method].	
TKIP/CCMP	
[TKIP/CCMP] is selected automatically when you select [WPA/WPA2-PSK] or [WPA/WPA2-EAP] in [Authentication Method].	
• CCMP	
[CCMP] is selected automatically when you select [WPA2-PSK] or [WPA2-EAP] in [Authentication Method].	

ltem	Default
Transmission WEP Key Number	1
Select the key number used to authenticate and encrypt transmissions when you select [WEP] in [Encryption Method].	
• 1	
• 2	
• 3	
• 4	
Network Key	(blank)
Enter the WEP key when you select [Open System] or [WEP Shared Key] in [Authentication Method] and select [WEP] in [Encryption Method].	
When using 64 bit WEP, up to 10 characters can be used for hexadecimal and up to 5 characters for ASCII. When using 128 bit WEP, up to 26 characters can be used for hexadecimal and up to 13 characters for ASCII.	
Enter PSK when [WPA/WPA2-PSK] or [WPA2-PSK] is selected in [Authentication Method].	
When using a PSK, up to 64 characters can be used for hexadecimal and 8 to 63 characters for ASCII.	
ЕАР Туре	EAP-TLS
Specify the WPA/WPA2-EAP type when [WPA/WPA2-EAP] or [WPA2-EAP] is selected in [Authentication Method]. You can select EAP-TLS or EAP-PEAP.	
• EAP-TLS	
A client certificate and a CA certificate must be imported to the projector.	
• EAP-PEAP	
A CA certificate must be imported to the projector.	
Import Client Certificate	-
Imports the client certificate used for WPA/WPA2-EAP or WPA2-EAP when [EAP-TLS] is selected in [EAP Type].	

ltem	Default
Client Certificate User Name	(blank)
Enter the client certificate user name used for WPA/WPA2-EAP or WPA2-EAP when [EAP-TLS] is selected in [EAP Type].	
This setting is optional. If it is blank, the default value of the certificate will be used to decrypt the certificate.	
Client Certificate List	-
Displays a list of imported client certificates.	
Import CA Certificate	-
Imports a CA certificate when [WPA/WPA2-EAP] or [WPA2-EAP] is selected in [Authentication Method].	
CA Certificate List	-
Displays a list of imported CA certificates.	
Delete Client/CA Certificate	-
Deletes all imported client and CA certificates.	
MS-CHAP v2 User Name	(blank)
Enter the MS-CHAP v2 user name when [EAP-PEAP] is selected in [EAP Type]. You can enter up to 31 characters including spaces.	
MS-CHAP v2 Password	(blank)
Enter the MS-CHAP v2 password when [EAP-PEAP] is selected in [EAP Type]. You can enter up to 128 characters including spaces.	
Windows Domain Name	(blank)
Enter the Windows domain name when [EAP-PEAP] is selected in [EAP Type]. You can enter up to 64 characters including spaces. "@" and backslashes cannot be used.	
Server Certificate Authentication	Enable
Specify whether to enable or disable server certificate authentication.	
Intermediate CA Permission	Enable
Specify whether to enable or disable intermediate CA permission.	
WPA/WPA2-EAP Connection Check	-
Checks the WPA/WPA2-EAP connection.	

## Reset Wireless LAN Settings

tem	Default
Reset Wireless LAN Settings	-
The following wireless LAN settings are reset to their defaults: Communication Mode, SSID, Channel, Authentication Method, Encryption Method, Transmission WEP Key Number, Network Key, DHCP, IP Address, Subnet Mask, Default Gateway.	

#### **LAN Common**

Specify the wired LAN and wireless LAN settings.

Preferred Default Gateway (PJ WX4152N/WX4152NI)

tem	Default
Preferred Default Gateway	Wired LAN
Select the network interface for the projector that is connected to both wired and wireless LAN.	
Wired LAN	
Wireless LAN	

## DNS Settings (PJ WX4152N/WX4152NI)

ltem	Default
Host Name	-
Display the projector's host name.	
The [Projector Name] in [Projector ID] is used as the projector's host name.	
Domain Name	(blank)
Enter the projector's domain name. Enter up to 63 characters.	

Projector Search Settings (PJ WX4152N/WX4152NI)

ltem	Default
Projector Search	Enable
Specify whether or not to search for the projector automatically when the projector and the device connected to the projector are on the same network.	

## HTTP Server Settings (PJ WX4152N/WX4152NI)

ltem	Default
HTTP Port	80
Enter an HTTP port that is between 1 and 65535.	

## Projector ID (PJ WX4152N/WX4152NI)

ltem	Default
Projector Name	RPJxxxxxx * 1
Enter an ID to identify the projector on the network. Enter up to 16 characters. You can use alphanumeric characters, hyphens, and periods for projector names. Only a letter can be used for the first character of the projector's name. Hyphens and periods cannot be entered consecutively and cannot be used for the last character of the projector's name.	
Identification Code	0000 to 9999 *2
Enter the 4-digit identification code for connecting the projector and the computer using QuickProjection.	

<sup>\*1</sup> xxxxxx is the last six digits of the wired LAN's MAC address.

## Setup Wizard (PJ WX4152N/WX4152NI)

Item	Default
Network Setting Wizard	-
Open Network Setting Wizard. For details about Network Setting Wizard.	

<sup>\*2</sup> Each projector has a unique identification code as the default setting.

#### **Display Status**

Wired LAN (PJ WX4152N/WX4152NI)

ltem	Default
Current wired LAN settings are displayed. You can confirm the following items:	-
Connection Status, MAC Address, Transmission Speed, IP Address, Subnet Mask, Default Gateway	

#### Wireless LAN (PJ WX4152N/WX4152NI)

ltem	Default
Current wireless LAN settings are displayed. You can confirm the following items:	-
Connection Status, Radio Field Intensity, MAC Address, Access Point BSSID, Communication Mode, Transmission Speed, Channel, SSID, Authentication Method, Encryption Method, IP Address, Subnet Mask, Default Gateway	

#### Firmware Version

Item	Default
Network/USB Func. Firmware Version	-
Display the firmware version of the network and USB functions.	

## Network Application Settings Menu (PJ WX4152N/WX4152NI)

This section explains the items in the Network Application Settings menu under the Network/USB Settings menu tab.

You can also specify and check the items in the Network Application Settings menu using Web Image Monitor. However, the following items are available only on the menu screen.

- [Crestron WebUI User Auth.], [Crestron WebUI User Password], [Crestron WebUI Admin. Auth.],
   [Crestron WebUI Admin. Password], [Control System IP Address], [Control System IP ID], and
   [Control System Port] in [Administration Tools]
- [DLNA Certification Mode] in [Server]

On Web Image Monitor, you can check [Network/USB Func. Firmware Version] on the top page.

## **Administration Tools**

## Web Image Monitor

ltem	Default
Web Image Monitor	Enable
Specify whether or not to allow the projector settings to be changed and checked using a web browser. To enable this setting, you must restart Web Image Monitor after making the change.	

## AMX Device Discovery

ltem	Default
AMX Device Discovery	Disable
Specify whether or not to allow the projector to be controlled and monitored by AMX Device Discovery. To use this function, an AMX controller is required in your network environment. For details about AMX Device Discovery, see the AMX LLC website.	

## Crestron RoomView

Item	Default
Crestron RoomView	Disable
Specify whether or not to allow the projector to be controlled and monitored by Crestron RoomView.	
Crestron WebUI User Auth.	Off
Specify whether or not to restrict access to Crestron WebUI with a password.	
Crestron WebUI User Password	(blank)
Enter the password for Crestron WebUI user authentication up to 26 characters.	
Crestron WebUI Admin. Auth.	Off
Specify whether or not to restrict access to the tools screen on Crestron WebUI with a password.	
Crestron WebUI Admin. Password	(blank)
Enter the password for Crestron WebUI administrator authentication up to 26 characters.	

4

ltem	Default
Control System IP Address	0.0.0.0
Enter the IP address of Crestron Control System.	
Control System IP ID	3
Enter the IP ID to connect to Crestron Control System.	
Control System Port	41794
Enter the port number for communicating to Crestron Control System.	

## **PJLink**

Item	Default
PJLink Authentication	Off
Specify whether or not to set PJLink authentication.	
PJLink Password	(blank)
Enter a password used when setting the PJLink authentication that Is up to 32 characters.	

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ltem	Default
Administrator Authentication	Off
Specify whether or not to set administrator authentication. An administrator password is required to change this setting.	
If administrator authentication is set, a password is required for the following operations:	
<ul> <li>Changing [Transmission WEP Key Number], [Network Key], [EAP Type], [Client Certificate User Name], [MS-CHAP v2 User Name], [MS-CHAP v2 Password], [Windows Domain Name], [Server Certificate Authentication], [Intermediate CA Permission], [Crestron WebUI User Auth.], [Crestron WebUI User Password], [Crestron WebUI Admin. Auth.], [Crestron WebUI Admin. Password]</li> </ul>	
Using the simple wireless LAN setup function and Network Setting Wizard	
Importing, deleting, or displaying client or CA certificates	
Turning the projector on or off via a network	
Changing the settings using Web Image Monitor	
Executing [Reset Security Settings]	
Administrator Password	(blank)
Enter the administrator password. Up to 32 alphanumeric characters can be used. The current password is required to change the administrator password.	
Application Authentication	Off
When projecting images using an application installed on a smart device, specify whether or not to enter the application password.	
Application Password	(blank)
Enter the password to be used for Application Authentication.	
Up to 32 alphanumeric characters can be used.	

ltem	Default
Reset Security Settings	-
Reset the values of the following settings protected by Administrator Authentication:	
[Transmission WEP Key Number], [Network Key], [EAP Type], [Client Certificate User Name], [MS-CHAP v2 User Name], [MS-CHAP v2 Password], [Windows Domain Name], [Server Certificate Authentication], [Intermediate CA Permission], [Crestron WebUI User Auth.], [Crestron WebUI User Password], [Crestron WebUI Admin. Auth.], [Crestron WebUI Admin. Password], [PJLink Authentication], and [PJLink Password].	

## Miracast

## Miracast

ltem	Default
Check Connection Terminal	Do not Skip
Select whether or not to allow connecting to the projector by operating only on the smart device and not requiring any confirmation procedure on the projector.	

## Server

## Remote Projection Control

ltem	Default
Remote Projection Control	Enable
Specify whether or not to enable the Remote Projection Control function. The Remote Projection Control function allows you to project images from a tablet computer or a smartphone via a network.	

## Still Image

ltem	Default
Display Effect	None
Select the display effect for switching the image.	
• None	
Push	
The current image is pushed off by the next image.	
• Wipe	
The current image is wiped off by the next image.	
• Fade	
The current image fades out and the next image fades in.	
Display Interval (sec.)	5 seconds
Enter the slide show switching interval from 5 to 999 seconds.	

## Moving Image

Item	Default
Repeat	Off
Specify whether or not to repeat video playback.	
DLNA Certification Mode	Disable
Specify whether the projector works as a DLNA-certified device.	
The projector is certified to DLNA 1.5 guidelines for still images.	
Enable	
The projector works as a DLNA-certified device. Of the video files sent from the DLNA server, those files that are not DLNA compatible are shown on the file list of the Server Projection screen.	
• Disable	
The projector works according to its own specifications. It does not work as a DLNA-certified device. All the video files delivered from the DLNA server appear in the file list of the Server Projection screen.	

## **Display Status**

 $\mathsf{PJLink}$ 

ltem	Default
PJLink Class	-
Display the PJLink class.	

## Firmware Version

Item	Default
Network/USB Func. Firmware Version	-
Display the firmware version of the network and USB functions.	

## **Administrator Authentication**

Item	Default
Reset Administrator Password	-
Reset the administrator password.	
Reset PJLink Password	-
Reset the PJLink password.	

# 5. Troubleshooting

# **LED Display / Error ID**

If a problem occurred on the projector, the type of error can be checked by the following three types of notification.

No.	Notification	How to confirm the error status	
1	Light on the [Power] button and the LED indicator, and a beep sound	Check the status of the indicator.  Refer to the following "Error list" table.	
2	Error ID displayed on the error log screen	<ul> <li>Check the error ID in the following ways</li> <li>Output the error log.</li> <li>Display the main error log screen.</li> <li>Display the PIC error log screen.</li> </ul>	
3	Error ID displayed on the service status screen.	Display the service status and check the error ID.  (Refer to "Chapter 3. Replacement and Adjustment" > "Electrical Adjustment" > "How to display the Service status")	

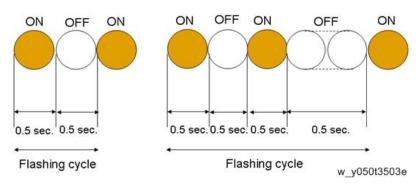
#### Error list

Descriptions used in the following table.

- ¼ means flashing.
- The interval of the flash indicates the period of time since the LED lights until it lights again.

Ex.1) 1 flash at 1 sec. interval

Ex. 2) 2 flashes at 5 sec. interval



- If the cause is not identified, first try the solutions that do not require parts replacement.

  Example: For Error ID "36", first try "applying vibration to the lamp unit by shaking it 5 times side to side about 30 cm across," and, if the problem is not solved, replace the lamp next.
- If the cause is not identified and this manual shows the order in which you should try the solutions, follow the instructions.

Example: Error ID "1".

Error ID	Status / LED display	Cause	Solution
	[Status] The lamp does not turn on correctly. [LED display]  [A] [B]  y033t5530  [A] Lamp [B] Temp	The lamp temperature is high.	Wait for the projector to cool down.
		Mercury bridge*1	Apply vibration to the lamp unit by shaking it 5 times side to side about 30 cm across. (page 61 "Lamp Unit")
1			after you perform the procedure arts as described below in the order
		Lamp defect / failure / life expired	Replace the lamp. (page 61 "Lamp Unit")
		Ballast defect / failure	Replace the ballast. (page 87 "Lamp Ballast")
		PSU defect / failure	Replace the PSU. (page 75 "PSU")
		Main board defect	Replace the main board. (page 89 "Main Board")

RTB 3

Error	Status / LED display	Cause	Solution
36	[Status] The lamp does not turn on correctly. [LED display]  [A] [B]  y0a1a0030  [A] Lamp [B] Temp	Mercury bridge* 1 has occurred.	<ul> <li>Apply vibration to the lamp unit by shaking it 5 times side to side about 30 cm across.</li> <li>Replace the lamp. (page 61 "Lamp Unit")</li> </ul>
	Flashing interval: 1 second [Status]	Replace the parts as d	lescribed below, in the order of
use. [LED dis	The lamp turned off during use. [LED display]	Lamp defect / failure / life expired	Replace the lamp. (page 61 "Lamp Unit")
	[A] [B]	Ballast defect / failure	Replace the ballast. (page 87 "Lamp Ballast")
	y0a1a0031 [A] Lamp [B] Temp Flashing interval: 1 second	PSU defect / failure	Replace the PSU. (page 75 "PSU")
61	[Status] The lamp turned off during use. [LED display]  [A] [B]  y0a1a0032	The lamp is degraded.	Replace the lamp. (page 61 "Lamp Unit")
	[A] Lamp [B] Temp Flashing interval: 1 second		

Error ID	Status / LED display	Cause	Solution
63	[Status] The lamp turned off during use. [LED display]  [A] [B]  y0a1a0033  [A] Lamp [B] Temp Flashing interval: 1 second	The ballast temperature is high.	<ul> <li>Wait for the projector to cool down.</li> <li>Replace the ballast. (page 87 "Lamp Ballast")</li> </ul>
65	[Status] The lamp turned off during use. [LED display]  [A] [B]  y0a1a0034  [A] Lamp [B] Temp Flashing interval: 1 second	The distance between electrodes has been reduced through repeated on/off of lamp power. Lamp defect / failure	<ul> <li>Wait for the projector to cool down.</li> <li>Replace the lamp. (page 61 "Lamp Unit")</li> </ul>
2	[Status] The lamp turned off during use, or does not turn on.  [LED display]  [A] [B]  y033t5531  [A] Lamp [B] Temp  Flashing interval: 1 second	The lamp cover is not properly attached.	<ul> <li>Attach the lamp cover properly.</li> <li>Replace the lamp cover. (page 61 "Lamp Unit")</li> </ul>

Error ID	Status / LED display	Cause	Solution
62	[Status] The lamp turned off during use, or does not turn on.  [LED display]  [A] [B]  y033t5531  [A] Lamp [B] Temp  Flashing interval: 0.2 seconds	PSU defect / failure	Replace the PSU. (page 75 "PSU")
64	[Status] The lamp turned off during use, or does not turn on.  [A] [B]  y033t5531  [A] Lamp [B] Temp  Flashing interval: 0.2 seconds	Ballast defect	Replace the ballast. (page 87 "Lamp Ballast")
66	[Status] The lamp turned off during use, or does not turn on.  [LED display]  [A] [B]  y033t5531  [A] Lamp [B] Temp Flashing interval: 0.2 seconds	PSU defect / failure	Replace the PSU. (page 75 "PSU")

Error ID	Status / LED display	Cause	Solution
68	[Status] The lamp turned off during use, or does not turn on.  [LED display]  [A] [B]  y033t5531  [A] Lamp [B] Temp	Ballast defect	Replace the ballast. (page 87 "Lamp Ballast")
	Flashing interval: 0.2 seconds		
-	[Status] The lamp turned off during use, or does not turn on.  [LED display]  [A] [B]  y033t5529  [A] Lamp [B] Temp  Flashing interval: 0.2 seconds	Hardware error	Replace the main board. (page 89 "Main Board")
71- 77	[Status] The lamp turned off during use, or does not turn on.  [LED display]  [A] [B]  y033t5531  [A] Lamp [B] Temp  Flashing interval: 0.2 seconds	Ballast defect	Replace the ballast. (page 87 "Lamp Ballast")

Error ID	Status / LED display	Cause	Solution
-	[Status] The lamp turned off during use, or does not turn on. [LED display] None	The PSU temperature is abnormal.	<ul> <li>Clean the intake / exhaust section and wait for the projector to cool down.</li> <li>Reconsider the installation location. (Avoid installing the projector inside a small, closed box, or at a place where the projector intakes the exhaust air from another projector, etc.)</li> <li>Replace the PSU. (page 75 "PSU")</li> </ul>
-	[Status] The lamp turned off during use, or does not turn on. [LED display] None	The temperature is abnormal.	<ul> <li>Clean the intake / exhaust section and wait for the projector to cool down.</li> <li>Reconsider the installation location. (Avoid installing the projector inside a small, closed box, or at a place where the projector intakes the exhaust air from another projector, etc.)</li> </ul>
3	[Status] The lamp does not turn off or the screen is blacked out. [LED display]  [A] [B]  y033t5531  [A] Lamp [B] Temp Flashing interval: 0.2 seconds	Ballast defect	Replace the ballast. (page 87 "Lamp Ballast")

Error ID	Status / LED display	Cause	Solution
4	[Status]  "Fan Error" was displayed and the lamp turned off.  [LED display]  [A] [B]  y033t5532  [A] Lamp [B] Temp  Flashing interval: 1 time in 5 seconds	Fan defect	Replace the intake fan. (page 97 "Intake fan")
5	[Status]  "Fan Error" was displayed and the lamp turned off.  [LED display]  [A] [B]  y033t5532  [A] Lamp [B] Temp  Flashing interval: 2 times in 5 seconds	Fan defect	Replace the lamp fan. (page 96 "Lamp Fan")

Error ID	Status / LED display	Cause	Solution
6	[Status]  "Fan Error" was displayed and the lamp turned off.  [LED display]  [A] [B]  y033t5532  [A] Lamp [B] Temp  Flashing interval: 3 times in 5 seconds	Fan defect	Replace the exhaust fan. (page 86 "Exhaust Fan")
	[Status] "Temperature Error" was displayed and the lamp	Dust is clogging the intake / exhaust section.	Clean the intake / exhaust section and wait for the projector to cool down.
7	turned off. [LED display]  [A] [B]  y033t5547  [A] Lamp [B] Temp  Flashing interval: 1 time in 5 seconds	It cannot be cooled by the intake air because the ambient temperature is high or exhaust is not possible.	Reconsider the installation location. (Avoid installing the projector inside a small, closed box, or at a place where the projector intakes the exhaust air from another projector, etc.)

Error ID	Status / LED display	Cause	Solution
9	[Status]  "Temperature Error" was displayed and the lamp turned off.  [LED display]  [A] [B]  y033t5547  [A] Lamp [B] Temp	Hardware defect / failure	Replace the main board. (page 89 "Main Board")
	Flashing interval: 1 time in 5 seconds		
	[Status] "Hardware Error" was displayed and the lamp turned off. [LED display]		
10	[A] [B] y0a1a0035  [A] Lamp [B] Temp Flashing interval: 0.2 seconds	Hardware defect / failure	Replace the main board. (page 89 "Main Board")

Error ID	Status / LED display	Cause	Solution
11	[Status]  "Hardware Error" was displayed and the lamp turned off.  [LED display]  [A] [B]  y0a1a0035  [A] Lamp [B] Temp  Flashing interval: 0.2 seconds	Hardware defect / failure	Replace the main board. (page 89 "Main Board")
12	[Status]  "Hardware Error" was displayed and the lamp turned off.  [LED display]  [A] [B]  y0a1a0035  [A] Lamp [B] Temp  Flashing interval: 0.2 seconds	Hardware defect / failure	Replace the main board. (page 89 "Main Board")

Error ID	Status / LED display	Cause	Solution
13	[Status]  "Hardware Error" was displayed and the lamp turned off.  [LED display]  [A] [B]  y0a1a0035  [A] Lamp [B] Temp  Flashing interval: 0.2 seconds	Hardware defect / failure	Replace the main board. (page 89 "Main Board")
15	[Status]  "Hardware Error" was displayed and the lamp turned off.  [LED display]  [A] [B]  y0a1a0035  [A] Lamp [B] Temp Flashing interval: 0.2 seconds	Color wheel sensor defect / failure	Replace the optical engine. (page 93 "Optical Unit")

Error ID	Status / LED display	Cause	Solution
16	[Status]  "Hardware Error" was displayed and the lamp turned off.  [LED display]  [A] [B]  y0a1a0035  [A] Lamp [B] Temp  Flashing interval: 0.2 seconds	DMD defect / failure	Replace the main board. (page 89 "Main Board")
17	[Status]  "Hardware Error" was displayed and the lamp turned off.  [LED display]  [A] [B]  y0a1a0035  [A] Lamp [B] Temp  Flashing interval: 0.2 seconds	Hardware defect / failure	Replace the main board. (page 89 "Main Board")
14	[Status]  "The hardware error has occurred. The keystone adjustment is not available." was displayed and the keystone adjustment does not work.  Projection is possible after the message is closed.	Hardware defect / failure	Replace the control panel board. (page 72 "Control Panel Board")

Error ID	Status / LED display	Cause	Solution
	[Status] "The hardware error has occurred. The interactive	Connection error of the projector adapter	Check the connection of the projector adapter.
32	function is not available." was displayed and the interactive function does not work. Projection is possible after the message is closed. [LED display] None	Projector adapter defect / failure	Replace the projector adapter.
34	[Status]  "The hardware error has occurred. The power timer function is not available."  was displayed and the power timer function does not work.  Projection is possible after the message is closed.  [LED display]  None	Hardware defect / failure	Replace the network board. (page 81 "Network Board (PJ WX4152N/WX4152NI)")
37	[Status]  "The hardware error has occurred. The power timer function is not available." was displayed and the power timer function does not work.  Projection is possible after the message is closed.  [LED display]  None	Hardware defect / failure	Replace the main board. (page 89 "Main Board")

Error ID	Status / LED display	Cause	Solution
35	[Status]  "The hardware error has occurred. The power timer function is not available." was displayed and the power timer function does not work.  Projection is possible after the message is closed.  [LED display]  None	Battery has run out on the network board	Replace the network board. (page 81 "Network Board (PJ WX4152N/WX4152NI)")
18	[Status]  "The network error has occurred. The network and USB memory functions are not available." was displayed and the network or	Software error	<ul> <li>Turn off the power and turn it back on.</li> <li>Turn off the power and update the firmware. (page 81 "Network Board (PJ WX4152N/WX4152NI)")</li> </ul>
	USB memory function does not work.  Projection is possible after the message is closed except for the network or USB memory.  [LED display]  None	Hardware error	Replace the network board. (page 81 "Network Board (PJ WX4152N/WX4152NI)")

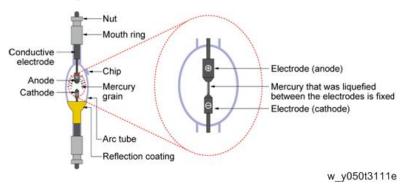
Error ID	Status / LED display	Cause	Solution
	[Status]  "The network error has occurred. Turn off the power and turn on. When the same error occurs again, please	Software error	<ul> <li>Turn off the power and turn it back on.</li> <li>Turn off the power and update the firmware. (page 117 "Firmware Update")</li> </ul>
19	contact the service center." was displayed and the network or USB memory function does not work. Projection is possible after the message is closed except for the network or USB memory. [LED display] None	Hardware error	Replace the network board. (page 81 "Network Board (PJ WX4152N/WX4152NI)")
	[Status] Firmware update via USB memory does not end normally. [LED display]	Updated with the firmware of another model	Make sure that only one firmware file (.sfw) for the target model is in the root directory of the USB memory, and update the firmware again.
-	[A] [B] y033t5533  [A] Lamp [B] Temp Flashing interval: 0.9 seconds	Hardware error	<ul> <li>Replace the main board. (page 89 "Main Board")</li> <li>Replace the network board. (page 81 "Network Board (PJ WX4152N/WX4152NI)")</li> </ul>

## \*1: Mercury bridge

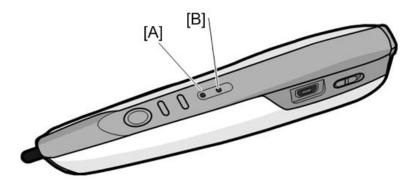
This projector uses a high-pressure mercury lamp as a light source. Mercury is used inside, which is in a liquid state at normal temperature, and in a gasified state when the lamp is lit.

The gasified mercury returns to a liquid state when the lamp is turned off. At that time, there are very rare cases where the liquefied mercury adheres between the electrodes, which may cause short-circuit between the electrodes. This phenomenon is called "mercury bridge". (See figure below)

In such a case, the lamp cannot be lit. Generally, this problem tends to occur when the power is forcibly turned off (Example: Disconnecting the AC cable while the power is on, power outage occurring, breaker being thrown).



#### **Electronic Pen**



y033t5201

[A]: LED1
[B]: LED2

Status	LED 1	LED2
Not registered by the projector/ Currently being registered by the projector	-	Flashes red.
Registration completed	-	Lights up in green or flashes rapidly.
Charging	Lights up in green.	-

# Interactive Function Error Messages

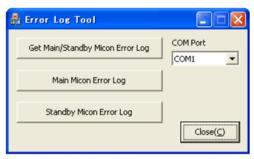
Message	Cause	Solution
The PC USB adapter for the interactive function may not be connected yet.	The electronic pen has been registered to the projector before the computer USB adapter is registered to the projector.	Turn off the electronic pen, register the computer USB adapter to the projector, and then register the electronic pen again.
The electronic pen is not working correctly.	The projector failed to register the computer USB adapter.	To try the registration process again, remove the computer USB adapter, and then click [OK].  • Make sure that the computer USB adapter is set correctly.  • Make sure that there are no obstacles between the projector and the computer.  • Be sure to attach the computer USB adapter within five seconds of pressing the [Enter] button.
Please wait.	The channel for wireless connection is being switched automatically.	Wait until the message disappears.
	The message disappears when the wireless LAN connection channel is fixed.	

# **Error Log**

#### **Output Error Log**

1. Select [Error Log Tool].

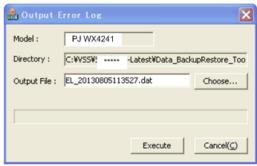
The [Error Log Tool] main screen is displayed.



y050z5000

- 2. Select the [COM port] connecting the projector in the [COM Port] list box.
- 3. Click the [Get Main/Standby Micon Error Log] button.

The [Output Error Log] screen is displayed.



y050z5001

Model: Model name of the connected projector.

4. Click the [Choose...] button.

The screen to choose the directory to save the output log file is displayed.

Directly: Path for saving the log file

Output file: File name to save

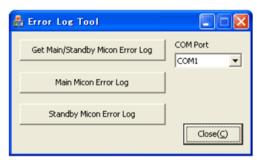
5. Click the [Execute] button.

The output error log is saved.

# Display the Main Micon Error Log Viewer

1. Select [Error Log Tool].

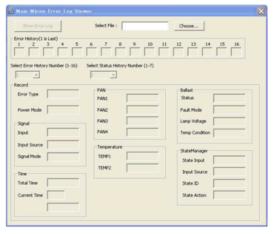
The [Error Log Tool] main screen is displayed.



y050z5000

- 2. Select the [COM port] connecting the projector in the [COM Port] list box.
- 3. Click the [Main Micon Error Log] button.

The [Main Micon Error Log Viewer] screen is displayed.



y050z5002

4. Click the [Choose...] button.

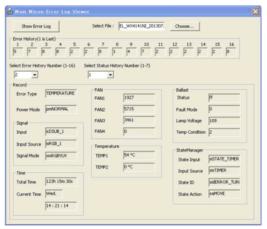
The screen to choose the log file is displayed.

Select File: Error log file name.

5. Click the [Show Error Log] button.

The output error log is displayed.

5

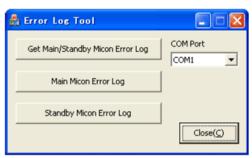


y050z5003

# Display the [Standby Micon Error Log Viewer]

1. Select [Error log Tool]

The [Error Log Tool] main screen is displayed.



y050z5000

- 2. Select the [COM port] connecting the projector in the [COM Port] list box.
- 3. Click the [Standby Micon Error Log] button.

The [Standby Micon Error Log Viewer] (PIC error log screen) is displayed.



y050z5004

## 4. Click the [Choose...] button.

The screen to choose the log file is displayed.

Select File: Error log file name.

## 5. Click the [Show Error Log] button.

The output error log is displayed.



y050z5005

#### How to see the "Error log (PIC)"

Displayed on the [Service status] window. AA-BB-CC-DD-EE

AA: Total number (hexadecimal) of Errors This is increased by one for each error

BB: Error meaning\*

CC: Not used

DD: Not used

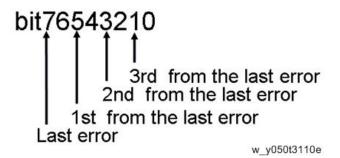
EE: Not used

\*Error meaning

It shows the cause of the error as a two-bit number

01: Network

10: Main



Since the service status screen is displayed in hexadecimal, convert from the above displayed binary number.

If you use the Error log Tool, you do not need to convert.

# **Check Point of Each Problem for Solution**

# Projector

Use this section to diagnose problems with the projector.

Problem	Solutions
Power does not turn on.	Make sure the power plug or connector is connected correctly.
	Make sure the lamp cover is mounted correctly.
	page 61 "Lamp Unit"
Power turns off during use.	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> <li>Make sure the input signal is switched correctly if [Auto Input Search] in [Default Settings 1] is set to [Off].</li> </ul>
	Make sure the AV mute function is not turned on.
	Check the settings of [Brightness] in [Image Adjustment].
	<ul> <li>Make sure the computer or AV equipment is connected to the projector correctly.</li> </ul>
	<ul> <li>Make sure the computer's image output is switched correctly.</li> </ul>
	<ul> <li>Make sure the computer or AV equipment is working properly.</li> </ul>
No sound.	Make sure the input signal is switched correctly if [Auto
	Input Search] in [Default Settings 1] is set to [Off]. For details about how to switch the input signal.
	Make sure the AV mute function is not turned on.
	Check the speaker's volume adjustment.
	<ul> <li>Make sure the computer or AV equipment is connected to the projector correctly.</li> </ul>
	Make sure the computer or AV equipment is working properly.

Problem	Solutions
Image is not projected normally.	Make sure the input signal is compatible with the projector.
	Check the status of the video tape or other video source.
	Execute [Auto Set Signals] in [Image Adjustment].
	Check the settings of the computer's graphics driver. For details, see the manual provided with the computer.
Image is blurred.	Make sure the projection window is clean.
Image is partially out of focus.	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.
Image is dark.	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.

Problem	Solutions
Color is faded. Tint is poor.	<ul> <li>Check the settings of [Color Saturation], [R-level], [G-level], and [B-level] in [Image Adjustment].</li> <li>For details, see the Operating Instructions.</li> <li>Make sure the screen is clean.</li> <li>Check the settings of [Wall Color Correction] in [Display Settings].</li> <li>For details, see the Operating Instructions.</li> <li>Make sure the lamp is not near the end of its service life.</li> </ul>
	For details, see the Operating Instructions.
The projector's operation keys do not respond.	Make sure [Key Lock] in [Default Settings] is not set to [On]  For details, see the Operating Instructions.
The remote control does not respond.	<ul> <li>Make sure the ID assigned to the remote control and in the settings of [emote Control ID] in [fault Settings] re the same.</li> <li>For details, see the Operating Instructions.</li> <li>Make sure the batteries in the remote control are not dead.</li> <li>Make sure the batteries are correctly loaded into the remote control.</li> <li>For details, see the Operating Instructions.</li> <li>Make sure the remote control is inside its effective range.</li> <li>Make sure there is nothing placed between the remote control and the projector.</li> <li>Make sure the remote control receiver is not exposed to strong light.</li> </ul>
Display language is unknown.	Press the [Menu] button, and then select the display language in [Language / XXX] (XXX indicates the current display language) on the tab.
No images from USB devices. (WX4152N/WX4152NI)	<ul> <li>Make sure the USB memory device is connected correctly.</li> <li>For details about supported USB memory standards, file sizes, and specifications for still images/moving images, see the Operating Instructions.</li> </ul>

Problem	Solutions
Wired LAN is disabled. (WX4152N/WX4152NI)	Check the settings of [Wired LAN Settings] in [Network Settings] under "Network/USB Settings".  For details, see the Operating Instructions.
Wireless LAN is disabled. (WX4152N/WX4152NI)	Check the settings of [Wireless LAN Settings] in [Network Settings] under [Network/USB Settings].
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<ul> <li>Make sure there is nothing placed between the computer and the projector.</li> </ul>
	<ul> <li>Make sure the operating system of the computer is compatible with QuickProjection.</li> </ul>
	<ul> <li>To project images by ad hoc wireless communication, log on to the computer with administrator privileges.</li> </ul>
	Make sure that the projector is not in standby.
	<ul> <li>Move the projector and access points closer to each other.</li> </ul>
	<ul> <li>Make sure the access point and projector are close to each other, and move devices that emit radio signals such as microwave ovens further away.</li> </ul>

## Interactive Function

If you cannot use the interactive function, follow the steps below in the specified order to troubleshoot the problem.

Step	Check item	Solutions
1	Check the projector to make sure that power is supplied to it.	If the projector is not supplied with power, check the power cord for connection and turn on the power.
2	Check to see whether the projector is in Interactive Mode.	If Interactive Mode is set to [Off], switch it to [On]. For details about how to check whether the projector is in Interactive Mode, as well as how to spec.

Step	Check item	Solutions
3	Check to see whether the computer USB adapter is connected to in the computer.	If the computer USB connector is not connected, connect it to one of the USB ports on the computer.
4	Check to see whether the computer USB adapter inserted in the computer is registered to the projector.	When registered, the computer USB adapter flickers once every 0.5 seconds. Then, when the projector and the computer USB adapter are recognized, the adapter flickers once every two seconds.
5	Check that the connected to the projector using RGB cables or an HDMI cable.	The interactive function becomes inoperable if anything other than RGB cables or an HDMI cable is used.
6	Check that the computer screen is projected on the projector screen.	The electronic pen is not recognized unless the computer screen is projected.
7	Check to see whether the power switch of the electronic pen is set to "On".	If the power switch of the electronic pen is set to "Off", turn it to "On".
8	Check to see whether the battery of the electronic pen is out of charge.	When the power switch on the electronic pen is turned on, the communication indicator on the electronic pen flickers. If the indicator fails to flicker, check that a rechargeable battery is installed in the electronic pen. If a rechargeable battery is installed, recharge it.

Step	Check item	Solutions
9	Point the electronic pen nib toward the projected screen and check to see whether the electronic pen is recognized by the projector.	If the electronic pen is recognized correctly, the pointer on the projection screen will move in unison with the movement of the electronic pen.

When the projected screen cannot be operated as wanted, do the following solutions.

Problem	Solutions
The location the pen nib points at does not correspond with what is displayed on the screen.	<ul> <li>Change the display settings using the computer's graphic driver, so that the screen projected is not scaled by the computer. (Example: Display &gt; General Settings &gt; Scaling &gt; Maintain Display Scaling)</li> </ul>
	<ul> <li>Change the computer output settings so that only the projector screen is displayed.</li> <li>For details about settings, see the computer manual.</li> </ul>

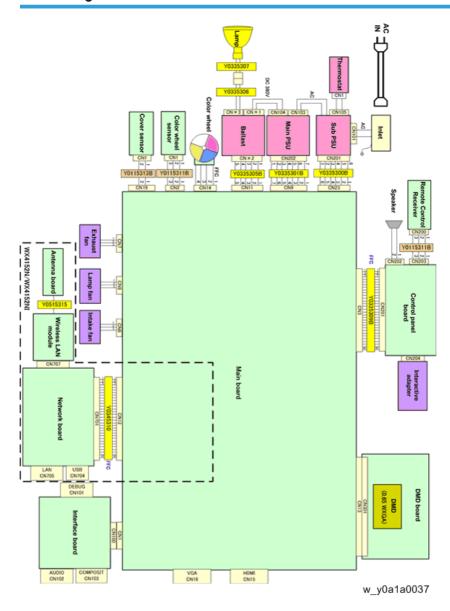
# Electronic Pen

Problem	Solutions
The electronic pen is not working correctly.	The electronic pen may not work correctly if it is pointed at a shadowed area on the screen. Try to keep the screen from being shadowed and point it at an unshadowed area.
The electronic pen is not working correctly.	The electronic pen may not work correctly if the surrounding area is too bright. Dim the surrounding lights.
The electronic pen is not working correctly.	The Interactive Tool Kit may not work correctly if other Bluetooth/wireless LAN devices are used nearby.  Try not to use the kit in the vicinity of such devices.

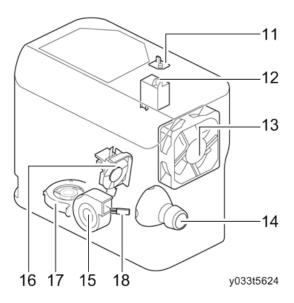
# 6. Appendices

# **Mechanism Outline**

# **Block Diagram**



- 1. Control panel board
- 2. PSU (Main)
- 3. Lamp ballast
- 4. PSU (Sub)
- 5. DMD board
- 6. Interface board
- 7. Wireless LAN module (PJ WX4152N/ WX4152NI)
- 8. Network board (PJ WX4152N/ WX4152NI)
- 9. Main board
- 10. Lamp Cover Open Sensor



- 11. Remote control receiver board
- 12. Speaker
- 13. Exhaust fan
- 14. Lamp unit
- 15. Lamp fan
- 16. Color wheel motor
- 17. Intake fan
- 18. Temperature Sensor

## Interactive Function

The interactive function consists of the electronic pen and PC USB adapter.

User can write images on the screen with the draw software and save it.



• The electronic pen can substitute a mouse. But, as it is difficult to attain the similar positional accuracy as a mouse, use a computer when you need to perform computer-side operations.



y033t5200

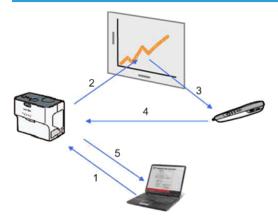
#### **Features**

- 1. Supporting any projection screens.
- 2. Not need the calibration.
- 3. Not according to distance.

## **MARNING**

- For safe operation, follow the warnings below regarding the batteries used in the pen. If you use the batteries incorrectly, it may result in fire or injury due to batteries leaking or exploding.
- Do not use batteries other than the ones specified.
- Correctly insert batteries according to the polarity (+ / -).
- Do not charge non-rechargeable batteries.
- Do not heat or throw the batteries into fire or water.
- · Do not connect the positive and negative terminals on a battery with a wire
- Remove the batteries that are past their suggested use period or that are depleted.
- Remove the batteries when they will not be used for extended periods.
- Keep the batteries out of the reach of children. Children may swallow or choke on the batteries. If this happens, contact a doctor immediately.
- Dispose of used batteries correctly at your local community waste collection/recycling centre.

## **System Configuration**



y033t5202

- 1. Image sources (VGA, HDMI port).
- 2. Show the images embedded the pattern.
- 3. Electronic pen catch the light of image.
- 4. Send the measurements via 2.4 GHz wireless LAN.
- 5. Send the position of the electronic pen via 2.4 GHz wireless LAN (HD mouse).

MEMO

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