Mira-PJ1

RICOH PJ
S2440/X2440/WX2440/S2650/X2650/
KW3680/S2660/S2670/X2670/KW3660/
S2680/X2680/S2690/X2690

Machine Codes:
Y0AF/Y0AL/Y0AQ/Y0AG/Y0AM/Y0AR/
Y0AH/Y0AJ/Y0AN/Y0B3/Y0AK/Y0AP/
Y0B1/Y0B2

Field Service Manual

Aug, 2016

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

1. Before disassembling or assembling parts of the machine and peripherals, make sure that the machine power cord is unplugged.
2. The wall outlet should be near the machine and easily accessible.
3. If any adjustment or operation check has to be made with exterior covers off or open while the main switch is turned on, keep hands away from electrified or mechanically driven components.
4. The machine drives some of its components when it completes the warm-up period. Be careful to keep hands away from the mechanical and electrical components as the machine starts operation.
5. Use brackets that are strong enough to support the projector. The projector weighs about 2.2 kg (4.85 lb.).
6. 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.

⚠WARNING

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

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

- The lamp contains mercury.

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

The following information is only for EU-member states:

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

TABLE OF CONTENTS

4. Troubleshooting

5. Firmware Update

1. Product Information

Specifications

General Specifications

No.	Item	Description
1	Technology	For PJ S2440/S2650/S2660/S2670/S2680/S2690: • DMD 12 degree .55" SVGA DMD,Type S450,DC3 For PJ X2440/X2650/X2670/X2680/X2690: • DMD 12 degree .55" XGA DMD,Type S450,DC3 For PJ WX2440/WX2440/KW3680/KW3660: • DMD,12 degree .65" WXGA,DMD,Type S450,DC3
2	Dimensions (W x D x H)	W112.5 x D105 x H40.5mm (not including focus ring, rubber foot & protruding parts)
3	Weight	2.2Kg
4	Power Supply	• Universal AC 100 -z 240V 50/60 Hz with PFC input
5	Power Consumption	• Operation mode-Bright mode: Typ. 230W, max.253W @110Vac Typ. 225W, max.248W @ 220Vac • Operation mode-ECO mode: Typ. 190W, max.209W @110Vac Typ. 187W, max.206W @ 220Vac
6	Keystone correction	• +/- 40 degree
7	Throw Ratio	For PJ S2440/S2650/S2660/S2670/S2680/S2690: For PJ X2440/X2650/X2670/X2680/X2690: • 1.94 ~ 2.15(D/W)@60" For PJ WX2440/WX2440/KW3680/KW3660: • 1.54 ~ 1.71(D/W)@60"
8	Projection lens	F# 2.5–3.26, f=20.913- 32.626mm@60"

No.	Item	Description
9	Lens Offset	115%±5%
10	Lamp	195W Lamp
11	Lamp life	Bright Mode • 5000 Hours Standard @190W, 50% Survival Rate ECO Mode • 6000 Hours Typical @160W, 50% Survival Rate Dynamic Mode: • 8000 Hours ECO+ Mode: • 10000 Hours
12	Number of active dots	For PJ S2440/S2650/S2660/S2670/S2680/S2690: • 800x600 For PJ X2440/X2650/X2670/X2680/X2690: • 1024x768 For PJ WX2440/WX2440/KW3680/KW3660: • 1280x800
13	System controller	• DDP4421
14	Video Compatibility	Standards : • NTSC: M/J,3.58MHz, 4.43 MHz • PAL: B, D, G, H, I, M, N, 4.43 MHz • SECAM: B, D, G, K, K1, L,4.25/4.4 MHz • SDTV:480i/p, 576i/p, • HDTV:720p(50/60Hz),1080i/p(50/60Hz)
15	Temperature	• Operating : 5 – 40 °C • ECO: 5 – 45 °C • Non-operation : -10°C – 60 °C

No.	Item	Description
16	Altitude	• Non-operation: Sea Level to 40,000 feet • Operating: Sea Level to 10,000 feet (@23°C); manual switch to high altitude mode @5000 feet • Operating Testing: 0~2500 ft, 5 – 40 °C 2500~5000 ft, 5 – 35 °C 5000~10000 ft, 5 – 30 °C

Compatible Mode

VGA Analog- Analog RGB Compatible

Modes	Resolution	V.Frequency [Hz]
VGA	640 x 480	60
VGA	640 x 480	67
VGA	640 x 480	72
VGA	640 x 480	85
SVGA	800 x 600	56
SVGA	800 x 600	60
SVGA	800 x 600	72
SVGA	800 x 600	85
SVGA	800 x 600	120
XGA	1024 x 768	48
XGA	1024 x 768	50
XGA	1024 x 768	60
XGA	1024 x 768	70
XGA	1024 x 768	75

Modes	Resolution	V.Frequency [Hz]
XGA	1024 x 768	85
XGA	1024 x 768	120
HDTV(720p)	1280 x 720	50
HDTV(720p)	1280 x 720	60
HDTV(720p)	1280 x 720	120
WXGA	1280 x 768	60
WXGA	1280 x 768	75
WXGA	1280 x 768	85
WXGA	1280 x 800	48
WXGA	1280 x 800	50
WXGA	1280 x 800	60
WXGA	1366 x 768	60
SXGA	1280 x 1024	60
SXGA	1280 x 1024	75
SXGA	1280 x 1024	85
SXGA+	1400 x 1050	60
UXGA	1600 x 1200	60
HDTV(1080p)	1920 x 1080	24
HDTV(1080p)	1920 x 1080	50
HDTV(1080p)	1920 x 1080	60
WUXGA	1920 x 1200	60
WUXGA	1920 x 1200	50

Input Signal for HDMI/DVI-D

Modes	Resolution	V.Frequency [Hz]
VGA	640 x 480	60
SVGA	800 x 600	60
SVGA	800 x 600	72
SVGA	800 x 600	85
SVGA	800 x 600	120
XGA	1024 x 768	50
XGA	1024 x 768	60
XGA	1024 x 768	70
XGA	1024 x 768	75
XGA	1024 x 768	85
XGA	1024 x 768	120
SDTV(480I)	720 x 480	60
SDTV(480P)	720 x 480	60
SDTV(576I)	720 x 576	50
SDTV(576P)	720 x 576	50
WSVGA(1024 x 600)	1024 x 600	60
HDTV(720p)	1280 x 720	50
WXGA	1280 x 768	60
WXGA	1280 x 768	75
WXGA	1280 x 768	85
WXGA	1280 x 800	60
WXGA	1280 x 800	120
WXGA	1280 x 800	50

Modes	Resolution	V.Frequency [Hz]
WXGA	1366 x 768	60
WXGA+	1440 x 900	60
WXGA+	1440 x 900	120
SXGA	1280 x 1024	60
SXGA	1280 x 1024	75
SXGA	1280 x 1024	85
SXGA	1440 X 900	60
SXGA+	1400 x 1050	60
SXGA+	1400 x 1050	85
SXGA+	1400 x 1050	120
UXGA	1600 x 1200	60
HDTV(1080i)	1920 x 1080	50
HDTV(1080i)	1920 x 1080	60
HDTV(1080p)	1920 x 1080	24
HDTV(1080p)	1920 x 1080	30
HDTV(1080p)	1920 x 1080	50
HDTV(1080p)	1920 x 1080	60
WUXGA	1920 x 1200	60
WUXGA	1920 x 1200	50

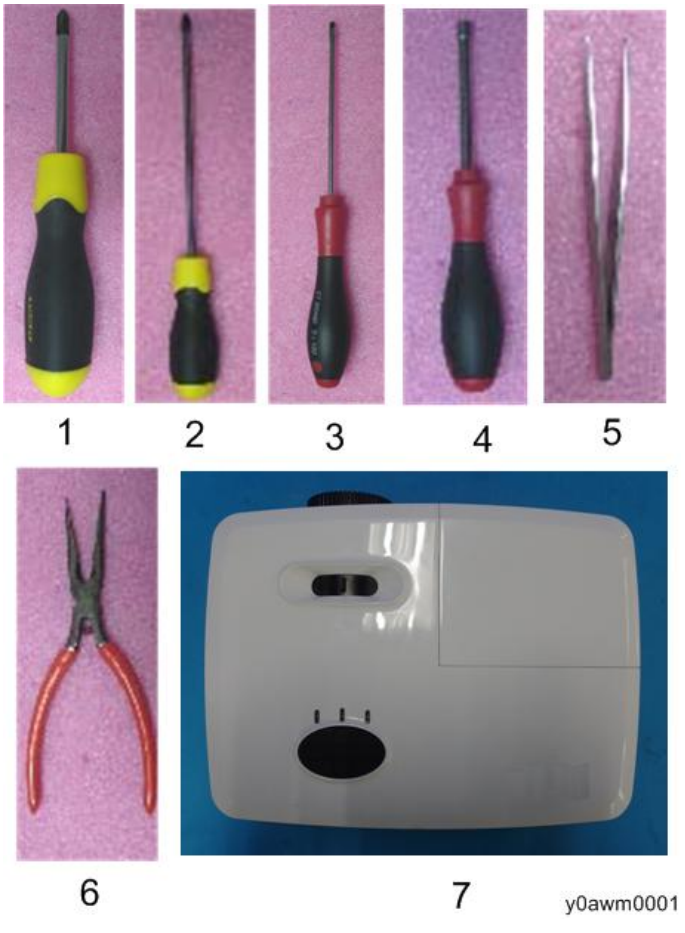
Note

- If the Computer Compatibility supportive signal is different from User's Manual, please refer to User's Manual.

2. Replacement

Equipment Needed

1. Screw Driver (+): 105
2. Screw Driver (+): 107
3. Screw Driver (-): 107
4. Hex Sleeves 5mm
5. Tweezers
6. Long-nosed Pliers
7. Projector



Part Replacement

Important

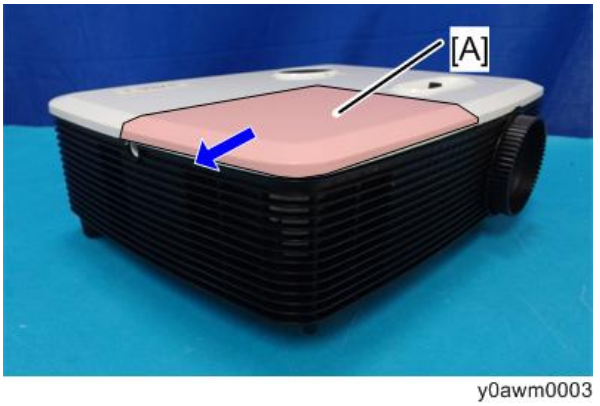
- Before you start: This process is protective level II. Operators should wear electrostatic chains.
- If you need to replace the main board, you have to get into service mode and record the LED usage hours (page 43 "Re-write Lamp Hours Usage").

Lamp Cover and Lamp Module

1. Loosen a screw on the left side of the unit (M3 x8.5 x1).

y0awm0002

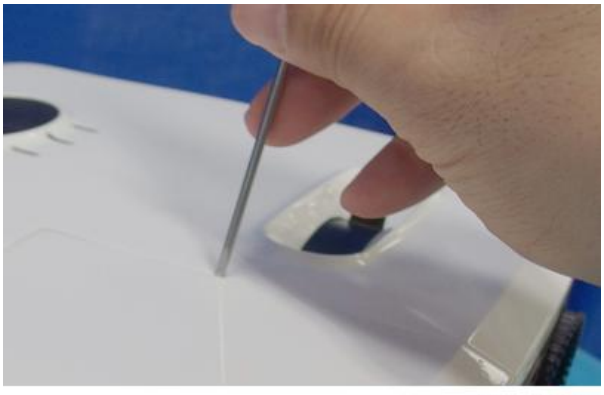
2. Slide and remove the lamp cover [A].



y0awm0003

Note

- If the lamp cover is difficult to slide, insert a flathead precision screwdriver into the gap to slide the cover.

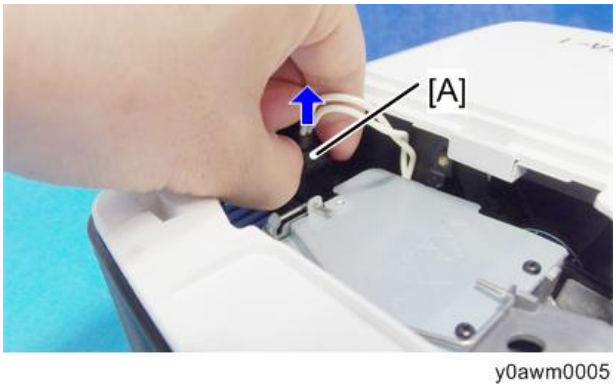


y0awm0003a

3. Loosen a screw on the lamp module [A] (M3.5 x8.5 x1).

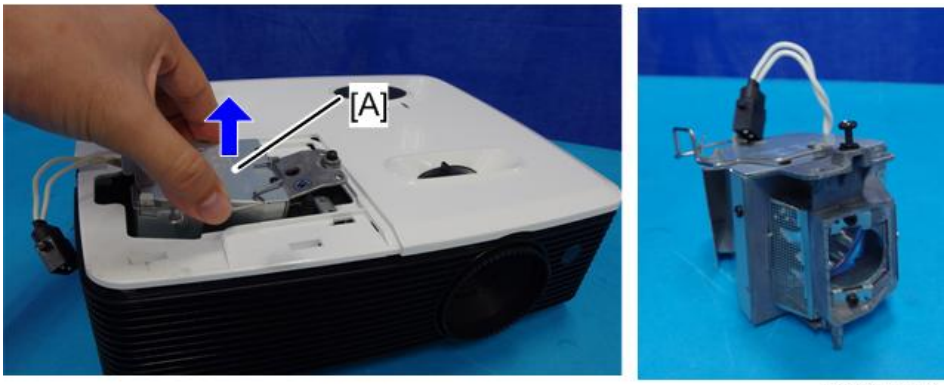
y0awm0004

4. Disconnect the plug [A] (x1).



y0awm0005

5. Remove the lamp module [A].



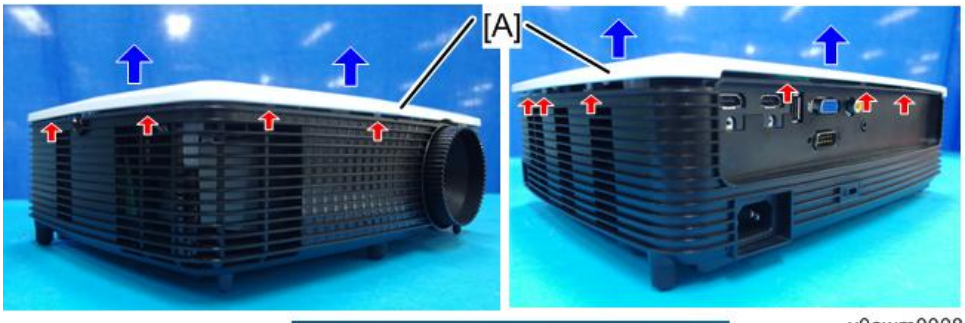
y0awm0006

Top Cover (with Zoom Lever and Keypad Rubber)

1. Remove screws from the bottom cover (M3 x8 x 6).

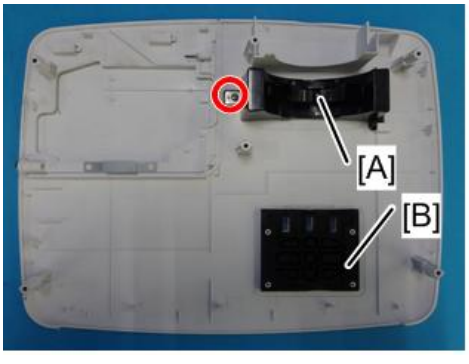
y0awm0007

2. Remove the top cover [A] (hook x10).



y0awm0008

3. Place the top cover upside down, and remove the zoom lever [A] and keypad rubber [B] (M3 x6 x1).



y0awm0009

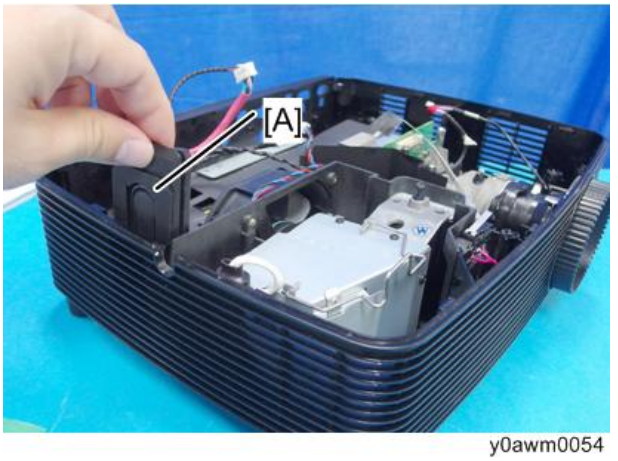
Speaker

1. Remove the top cover (page 14).

2. Disconnect the connector [A] from the main board.

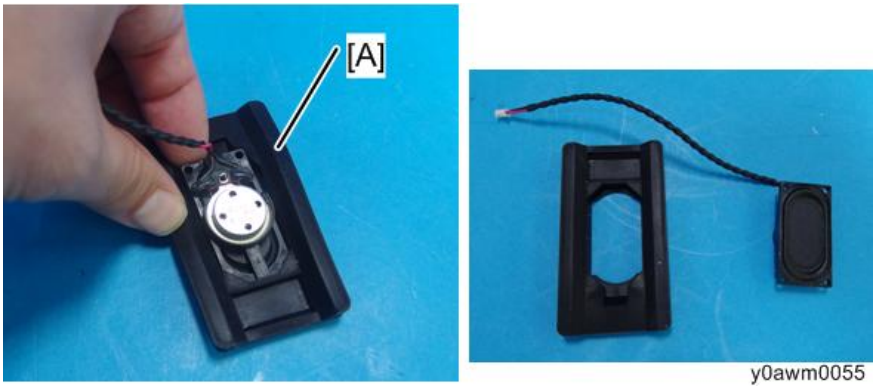
y0awm0053

3. Remove the speaker [A].



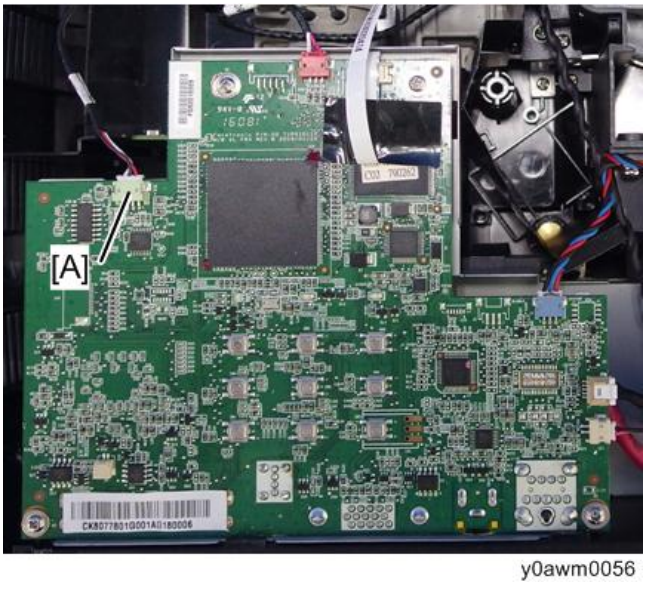
y0awm0054

4. Remove the speaker rubber [A].

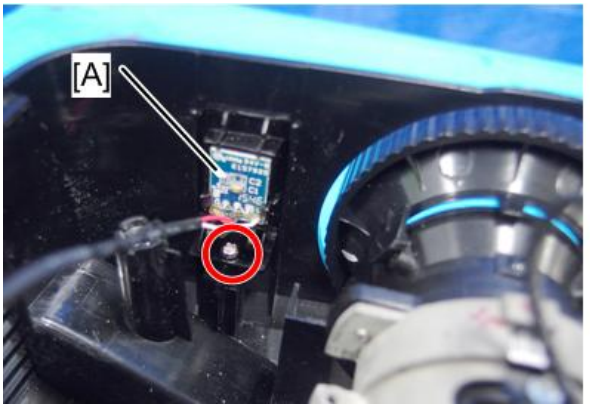


IR Sensor

1. Remove the top cover (page 14).
2. Disconnect the connector [A] from the main board.



3. Remove the IR sensor [A] (M2.6 x 6 x1).



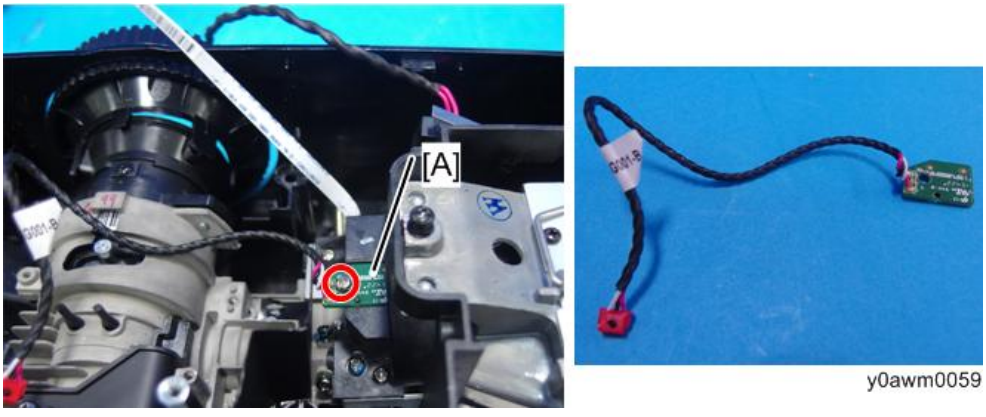
y0awm0057

Photo Sensor

1. Remove the top cover (page 14).
2. Disconnect the connector [A] from the main board.

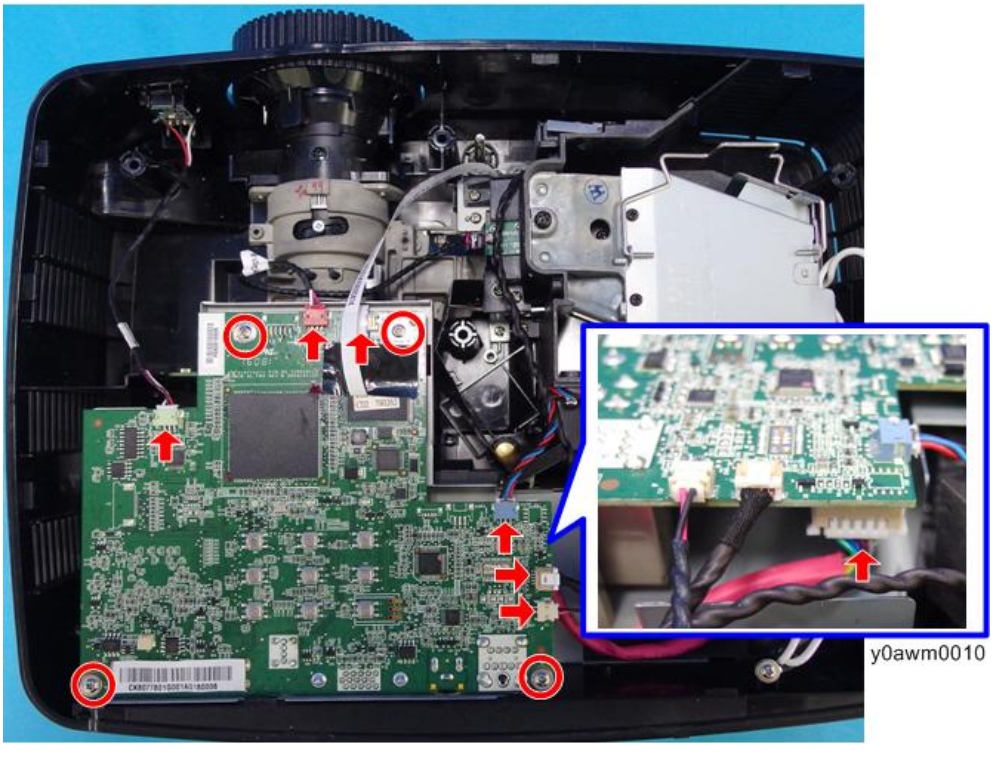
y0awm0058

3. Remove the photo sensor [A] (M2.6 x6 x1).



Main Board Unit (with RS-232C Connector and Shielding Bracket)

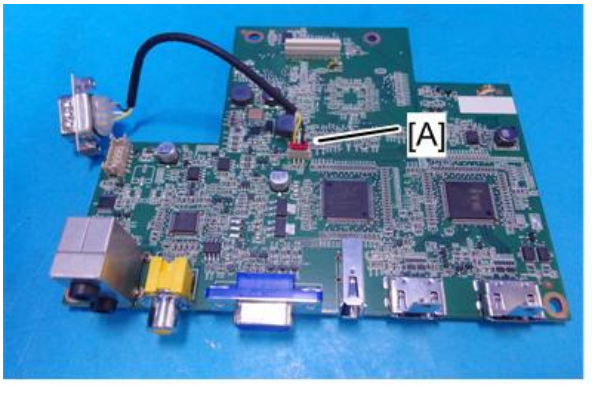
1. Remove the top cover (page 14).
2. Remove screws, and disconnect connectors and FFC (M2.6 x6 x4, x6, FFC x1).



3. **Remove screws (as red circles) and hex screws (as yellow circles) from the rear cover (M3 x5 x2, hex screws x4).**

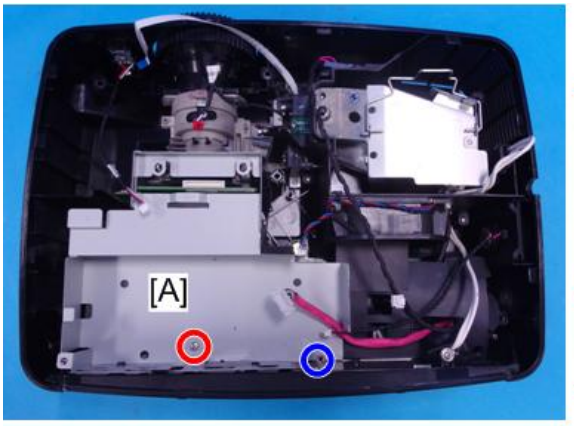
y0awm0011

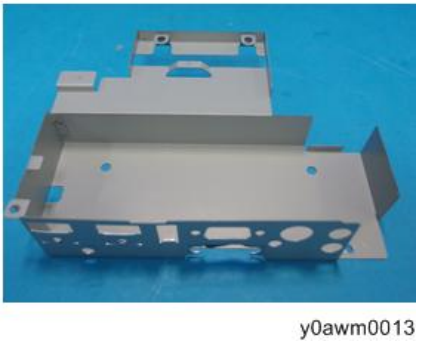
4. **Place the main board upside down, and remove the RS-232C connector [A] (x1).**



y0awm0012

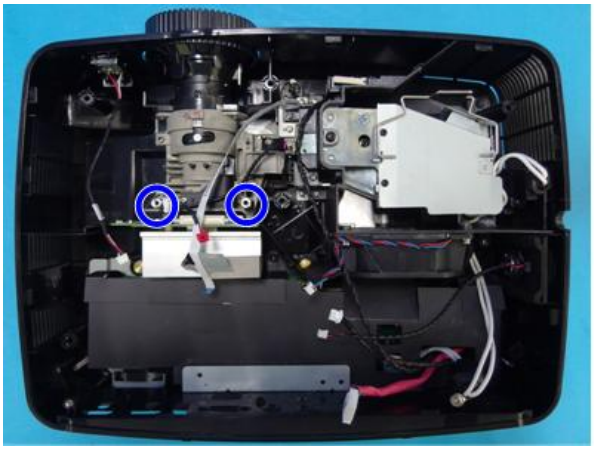
5. **Remove the shielding bracket [A] (M3 x5 x1, hexagon post x1).**





y0awm0013

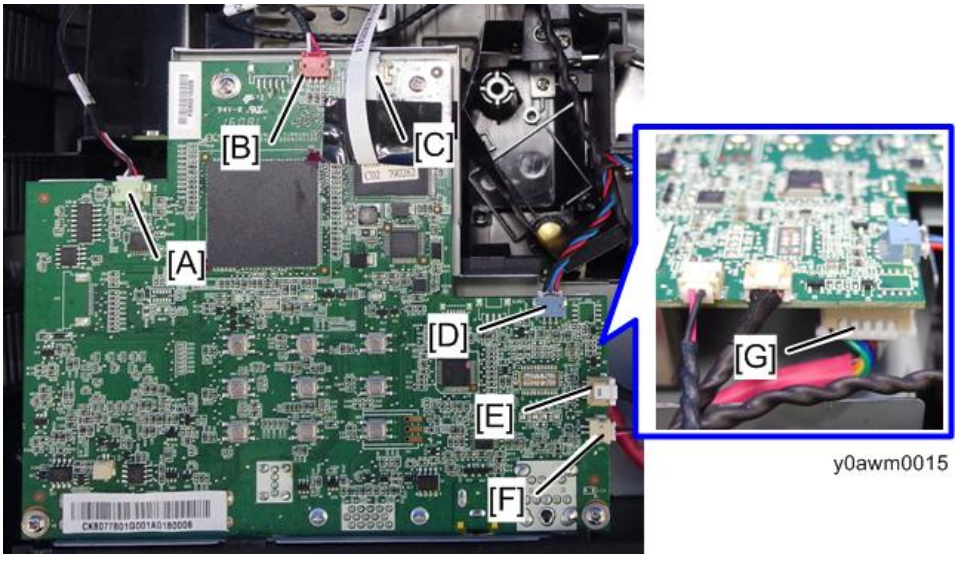
6. **Remove the 2 hexagon posts (hexagon post x2).**



y0awm0014

Details of each connector and FFC on the main board

Make sure cables plug into the correct ports when assembling the unit.



y0awm0015

Item	Port on Main Board	The connector feature	Figure
A	IR Sensor	Composed of Red/White/Black Wires (3-pin, white)	 y0awm0016

Item	Port on Main Board	The connector feature	Figure
B	Photo Sensor	Composed of Red/White/Black Wires (3-pin, red)	 y0awm0017
C	Color Wheel	FFC	 y0awm0018
D	Fan	Composed of Red/Blue/Black Wires (3-pin, white)	 y0awm0019
E	LVPS B	Black wire tube (5-pin)	 y0awm0021
F	Speaker	Composed of Red/Black Wires (2-pin, white)	 y0awm0020
G	LVPS A	Red wire tube (10-pin)	 y0awm0023

Lamp Housing Unit (with Thermal Switch, Fan and Interlock Switch)

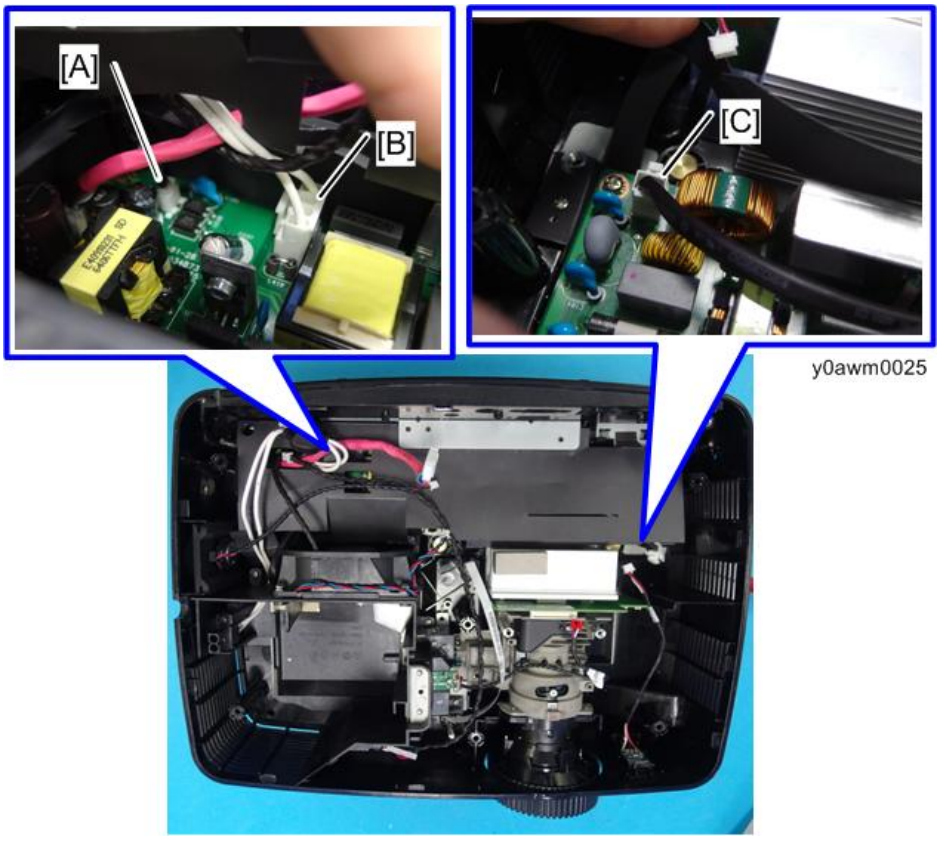
1. **Remove the lamp module (page 12).**
2. **Remove the top cover (page 14).**
3. **Remove the main board unit (page 19).**

4. **Remove the screws (M2.6 x6 x4).**

y0awm0024

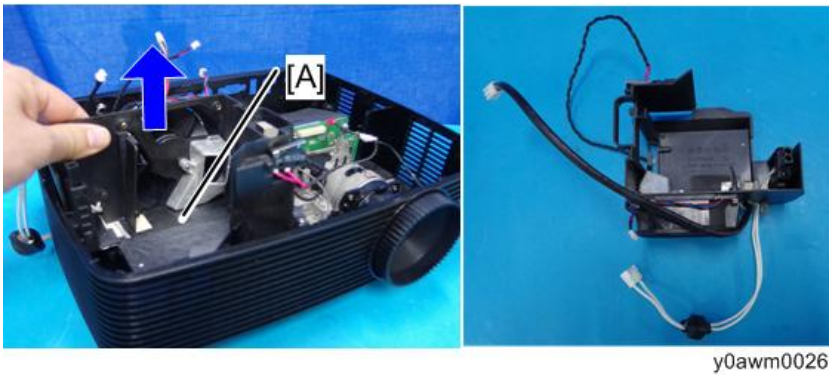
5. **Turn over the insulating sheet on the PSU, disconnect the connectors [A], [B], [C], and then pull out the cables to the outside of the insulating sheet (x3).**

   For how to turn over the insulating sheet, see page 30 "PSU (with Insulating Sheet and Bottom Shield Plate)".



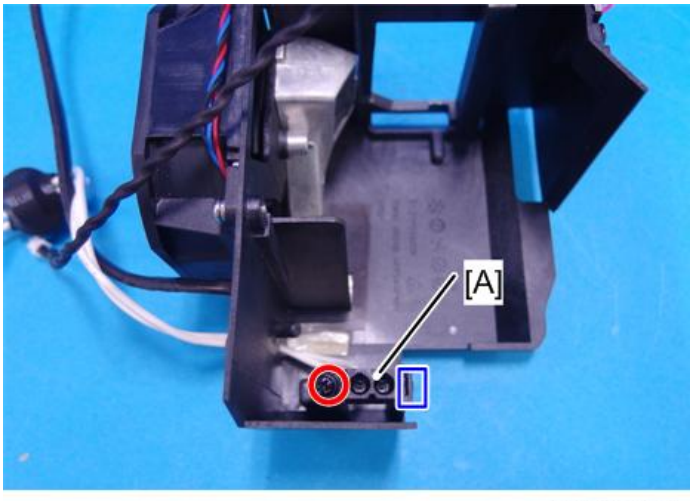
y0awm0025

6. **Remove the lamp housing [A].**



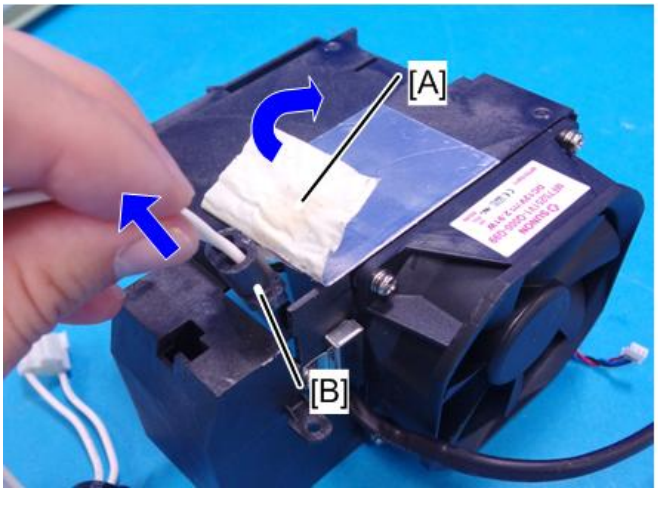
y0awm0026

7. Release the connector for lamp module [A] from the lamp housing (M2.6 x7 x1, hook x1).



y0awm0031a

8. Peel off the aluminum tape [A] on the bottom of the lamp housing as much as needed, and remove the lamp cable [B].

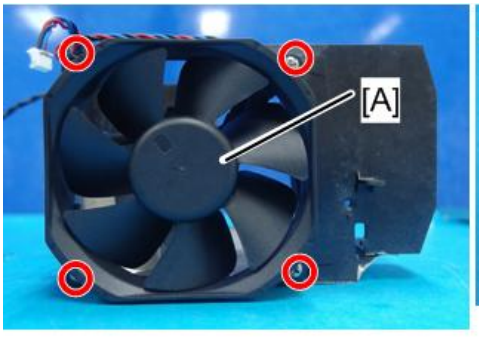


y0awm0031b

9. **Remove the thermal switch [A] (M2.6 x7 x1).**

y0awm0027

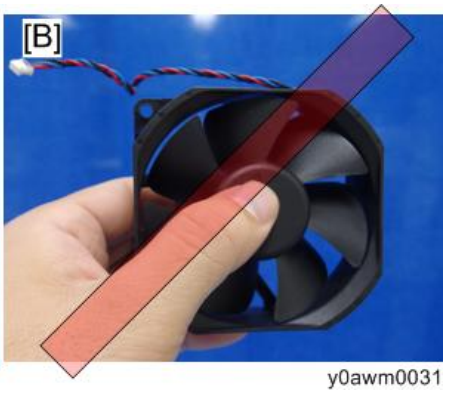
10. **Remove the fan [A] (M3 x10 x4).**



y0awm0030

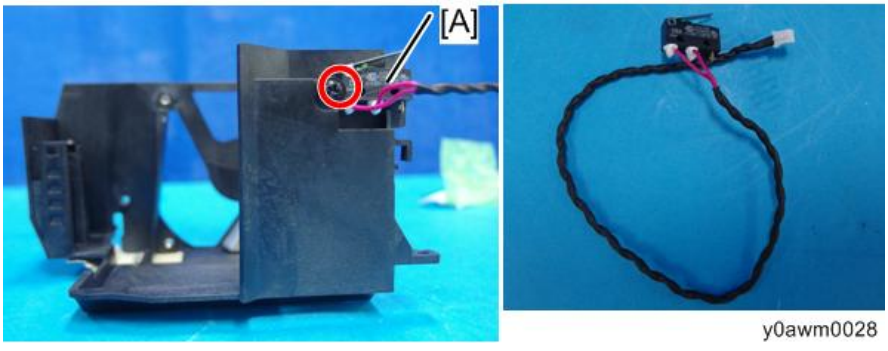
Note

- Hold the frame of the fan [A]. Holding the fan shaft [B] may cause a failure.



y0awm0031

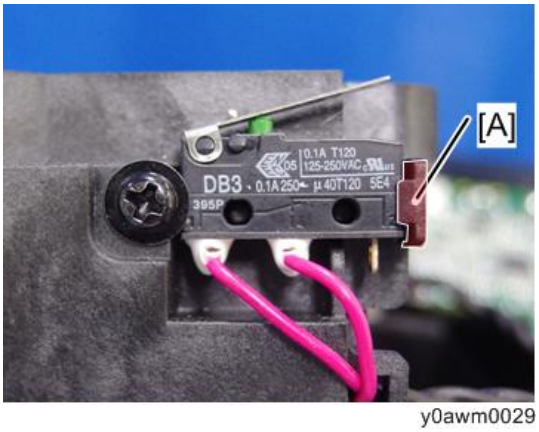
11. **Remove the interlock switch [A] (M2.6 x7 x1, hook x1).**



y0awm0028

Note

- As the hook [A] to fix the switch is fragile, take extra care when mounting and removing the switch.

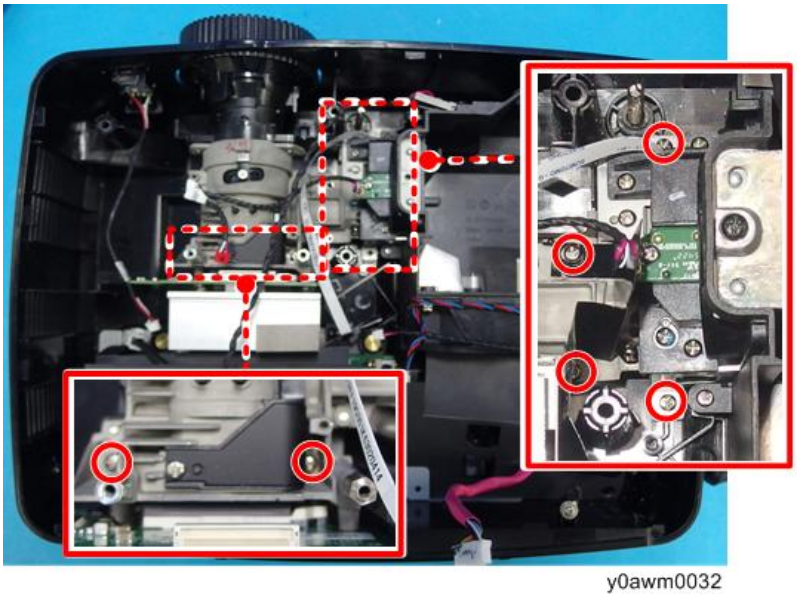


y0awm0029

Engine module (with Color Wheel Modules, Focus Ring and Lens)

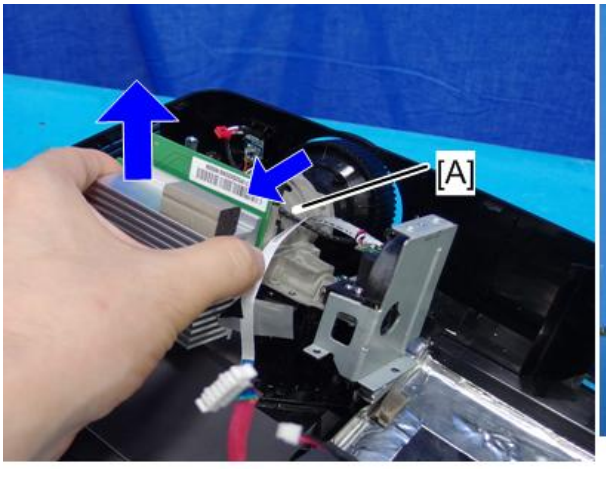
1. **Remove the lamp module (page 12).**
2. **Remove the top cover (page 14).**
3. **Remove the main board unit (page 19).**
4. **Remove lamp housing (page 22).**

5. **Remove screws (M2.6 x8 x4, M2.6 x6 x2).**



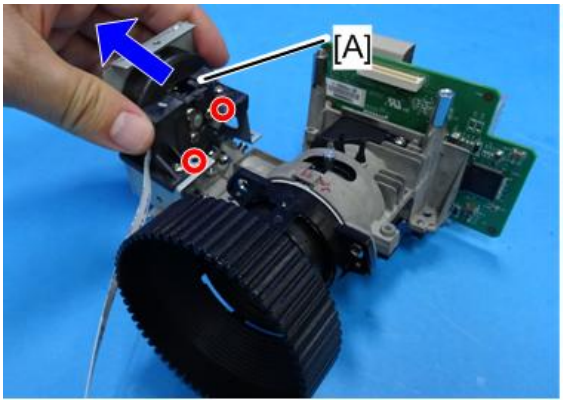
y0awm0032

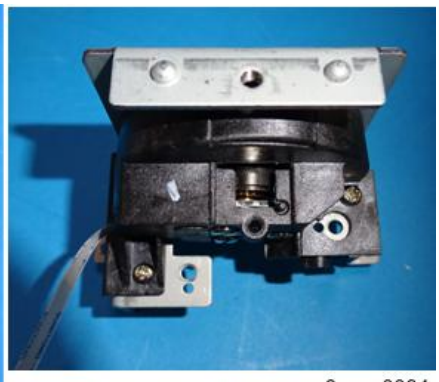
6. **Remove engine module [A].**



y0awm0033

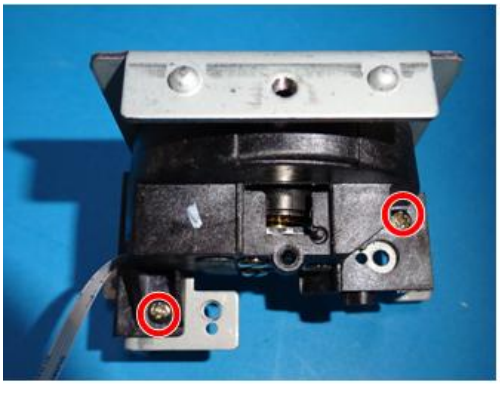
7. Remove the color wheel module [A] (M2.6 x6 x2).

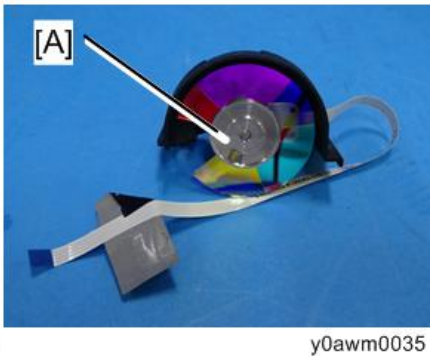




y0awm0034

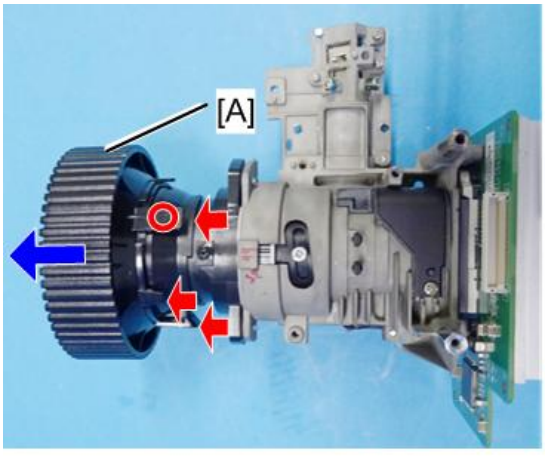
8. Remove the color wheel [A] (M2.6 x6 x2).





y0awm0035

9. Remove the focus ring [A] (Precision screw x1, hook x3).

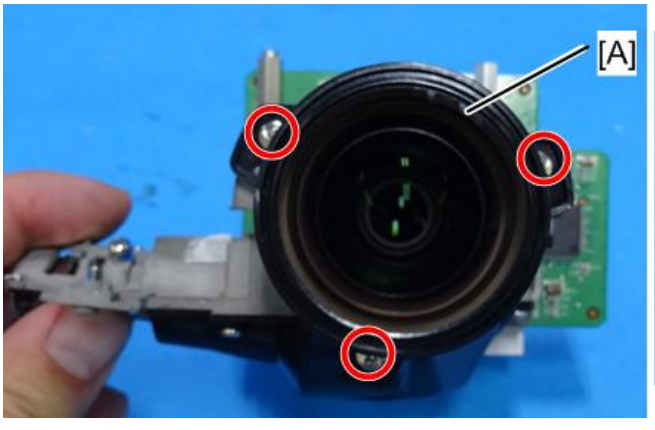


y0awm0036

10. Peel off the tape [A] as much as needed.

y0awm0037

11. Remove the lens [A] (M2.6 x6 x3).



y0awm0038

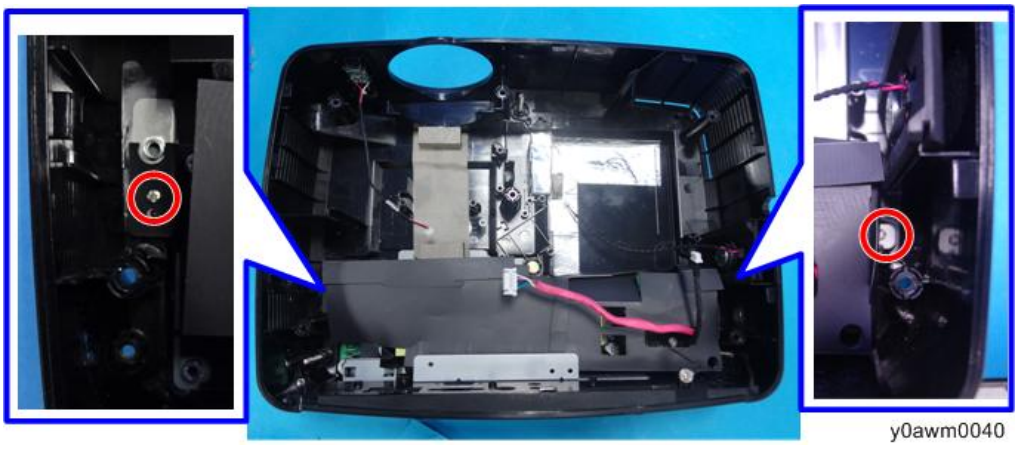
Note

- Before assembling the new engine, remove dust from the engine base with an air gun.

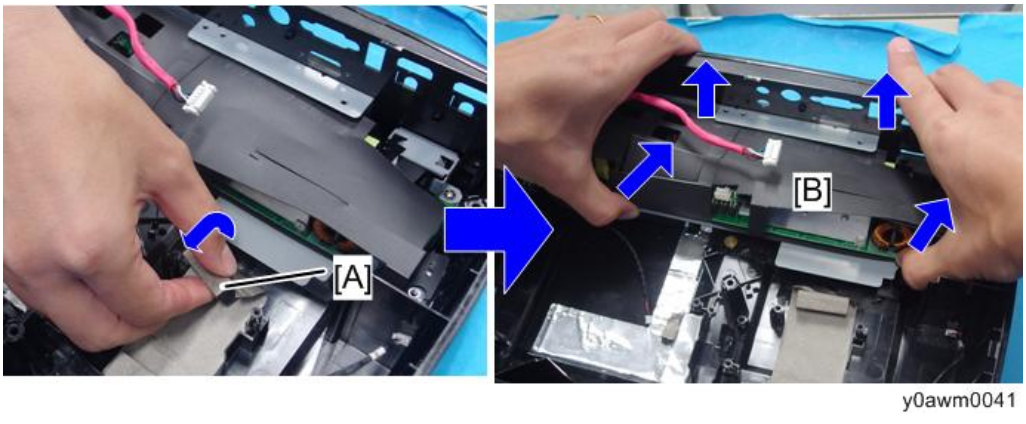
PSU (with Insulating Sheet and Bottom Shield Plate)

1. Remove the lamp module (page 12).
2. Remove the top cover (page 14).
3. Remove the main board unit (page 19
4. Remove lamp housing (page 22.
5. Remove the engine module (page 27).

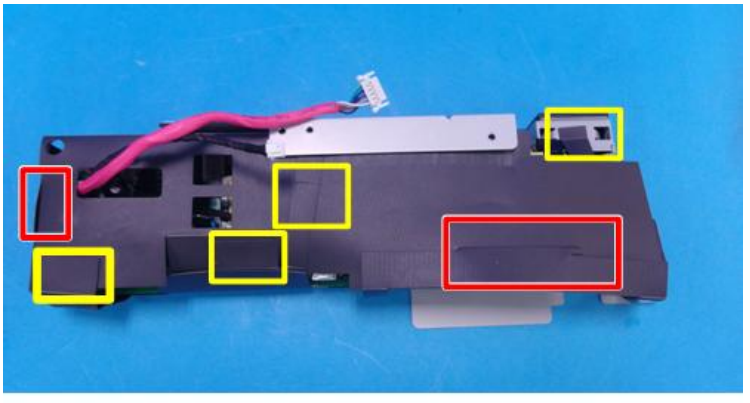
6. **Remove the two fixing screws on the bottom shield plate (M2.6 x6 x2).**



7. **Turn over the tape [A] that fixes the bottom cover, and remove the PSU unit [B] with the bottom shield plate.**

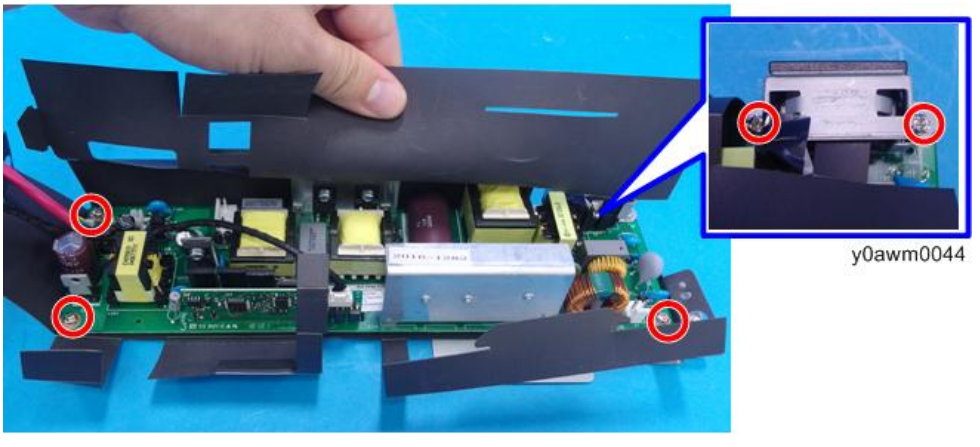


8. **Open the insulating sheet of the PSU unit.**
   - Red square: These parts are engaged by notches
   - Yellow square: These parts are stuck with an adhesive



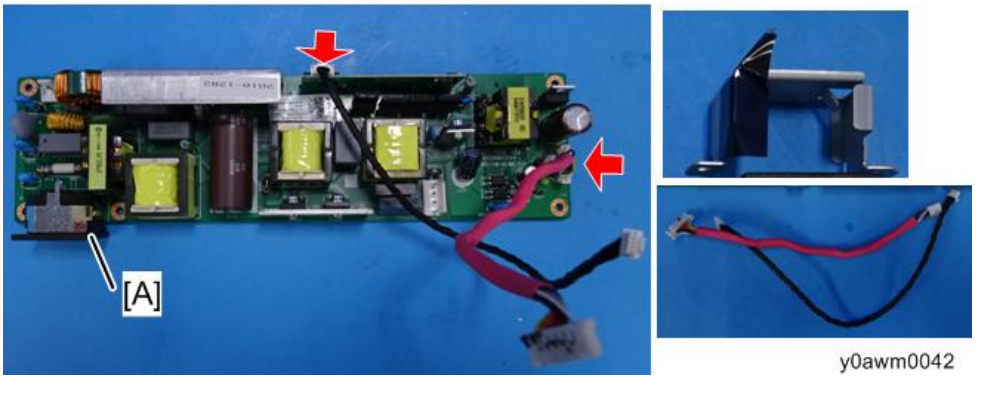
y0awm0043

9. Separate the PSU board from the bottom shield plate (M3 x8 x5).



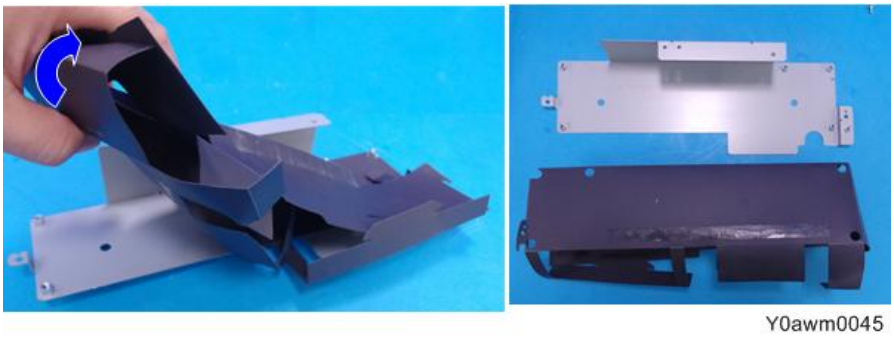
y0awm0044

10. Remove two cables and the bracket [A] at the power cable inlet (x2).



y0awm0042

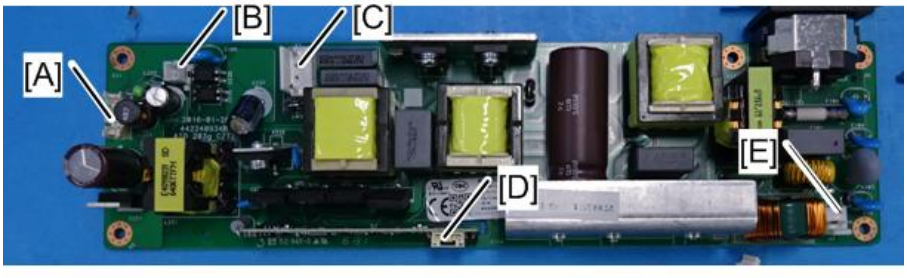
11. **Peel off the insulating sheet, which is fixed with an adhesive, from the bottom shield plate.**



Y0awm0045

Details of each connector on the PSU board

Make sure cables plug into the correct ports when assembling the unit.



Y0awm0046

Item	Port on Main Board	The connector feature	Figure
A	LVPS A	Red wire tube (10-pin)	 y0awm0047
B	Interlock switch	Composed of 2 black wires (2-pin)	 y0awm0048
C	Lamp cable	Composed of 2 white wires (2-pin, white)	 y0awm0049

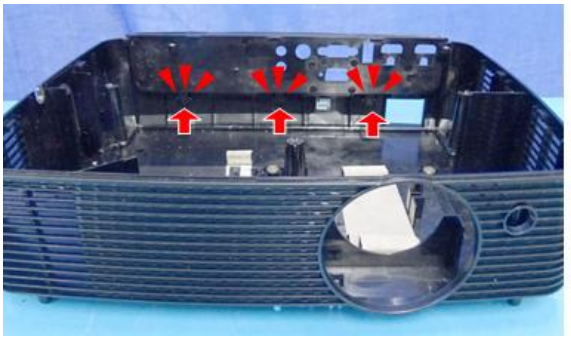
Item	Port on Main Board	The connector feature	Figure
D	LVPS B	Black wire tube (4-pin)	 y0awm0050
E	Thermal sensor	Black wire tube (5-pin)	 y0awm0051

Note

- When connecting a cable to the LVPS A, pay attention to the cable orientation. Place a mark on the connector when the cable is disconnected. If the cable is connected the wrong way around, the power supply may not be turned on.

I/O Cover

1. **Remove the lamp module (page 12).**
2. **Remove the top cover (page 14).**
3. **Remove the main board unit (page 19**
4. **Remove lamp housing (page 22**
5. **Remove the engine module (page 27).**
6. **Remove the PSU unit (page 30).**
7. **Remove the I/O cover (hook x3).**



y0awm0052

Adjustable Feet

1. **Remove the adjustable feet.**

y0awm0060

3. Adjustment

Required Action after Replacing Parts

After replacing parts, please execute the related items shown in the table below.

Adjustment	Changed parts					Description page
	Main Board	Firmware	Lamp Module	Engine Module	Fan	
Waveform Download	✓	✓			✓	page 39 "Waveform Download and Fan RPM Calibration"
Fan RPM Calibration	✓	✓			✓	
ADC Calibration	✓(*)	✓(*)				page 40 "ADC Calibration"
Version Update	✓	✓				page 42 "Test Inspection Procedure"
OSD Reset	✓	✓				
Reset Lamp Hours			✓			page 43 "Re-write Lamp Hours Usage"
Rod Adjustment				✓(*)		page 45 "Rod Adjustment"

(*) This action is not always required. Perform it only if the situation demands it.

After parts replacement or repair, check that the projector works properly.

Project images on the screen and check that they are not faulty.

Test Conditions

- Environmental brightness: Dark room less than 2 lux
- Product must be warmed up for 3 minutes.
- Screen size: 60 inches diagonal

Zone Definition

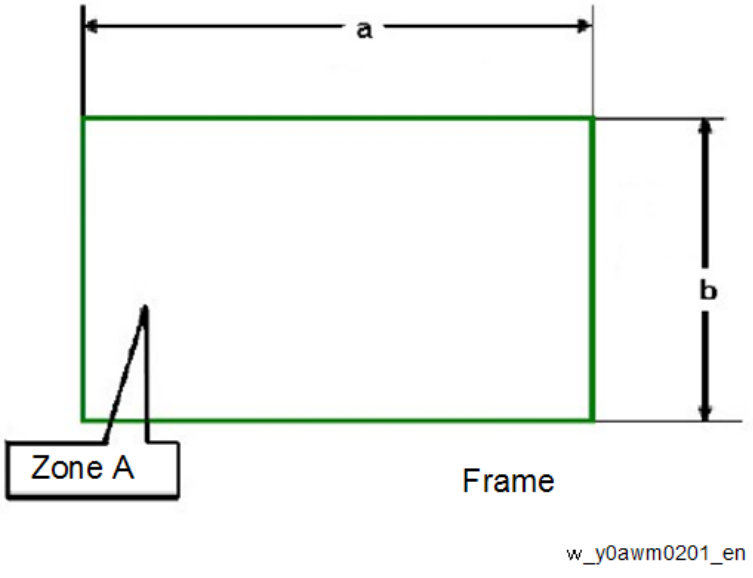


Figure:Zone A and Frame (as green line) Definition

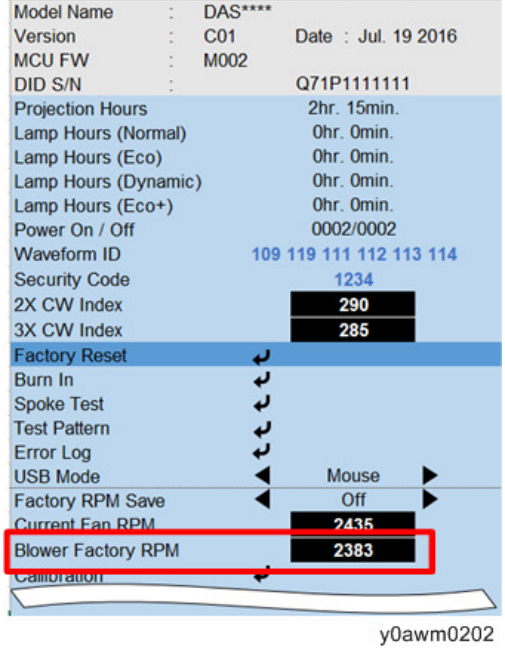
Waveform Download and Fan RPM Calibration

After replacing main board, fan, or upgrading the firmware, please do the following steps:

1. **Hold down the "power" button, then plug in the power cord.**
2. **Release the power button when the power LED is flashing red.**
3. **After several minutes, the projector will auto- power on, and the fan RPM calibration and auto waveform is finished.**

Note

- If the factory fan value doesn't show in service mode, please repeat steps 1 to 2 again.
- Make sure the "Blower Factory RPM" is in the range from 2100 to 2600.



y0awm0202

ADC Calibration

PC Calibration

After the Main Board is changed, PC Calibration should be done as well.

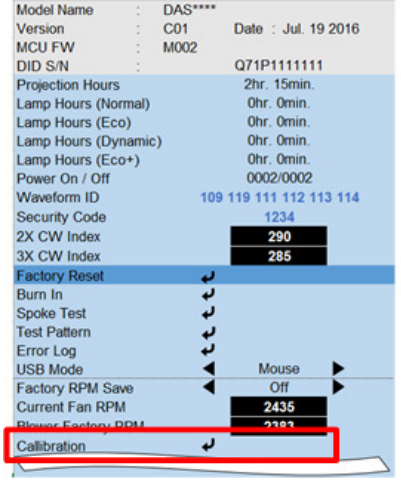
- Test equipment: video generator
- Test signal analog: 800 x 600@60Hz
- Test Pattern:94% White (up)/6% Black (down) (See below.)

y0awm0203

Calibration Procedure

1. **Press the "power" -> “up” -> "right" -> "up" -> "left" -> "Menu" buttons sequentially to get into service mode.**
2. **Choose "Calibration" and press the "Enter" button, then select "PC Calibration".**

   When "Success" appears, it means "ADC Calibration" is OK.



y0awm0204

3. **Choose "Menu" or "Exit" to leave service mode.**

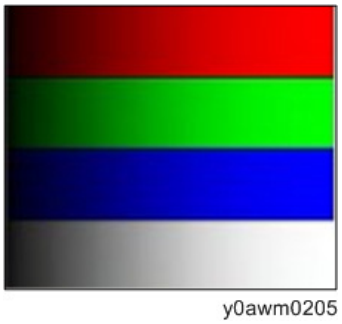
Note

- The calibration pattern should be in full screen.

Pattern Check

After finishing ADC adjustment, check the 64 gray RGBW pattern.

- Test signal: 800 x 600 @60Hz
- Test pattern: 64 gray RGBW (see below.)



y0awm0205

- Inspection item: Color saturation
- Criteria:
  - There should not be any lack of RGBW. The color should appear normal and sort in the right order.
  - Color levels should be sufficient and normal. (The unidentified color levels on both left and right sides should not be over 8 color levels.)

Test Inspection Procedure

Check Points

Check item	Check point
Firmware version	All firmware must be the latest version.
TB implementation	Related TB must be implemented.
Exterior	The exterior must be undamaged.
Logo	Missing logo, missing prints and blurred prints are unacceptable.
Lamp cover	It should be locked in the correct place.
Zoom in/out	The function should work smoothly.
Keypad	All keypad buttons must operate smoothly.

OSD Reset

After inspection is completed, we have to erase all saved change again and restore the OSD default setting.

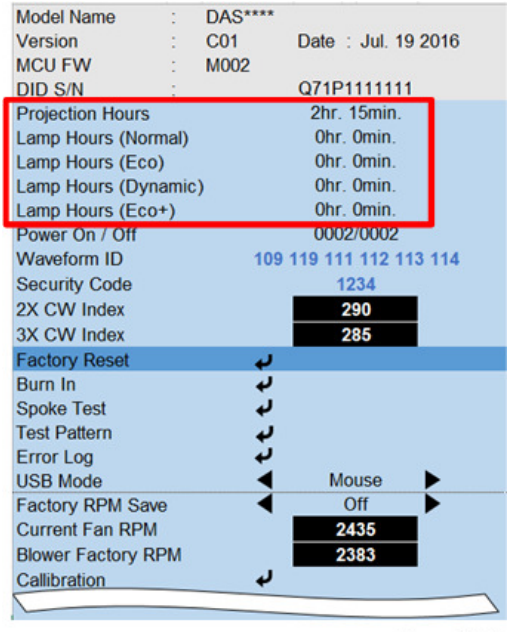
The following procedures will allow you to erase all end-users' settings and restore the default settings:

1. **Enter the OSD menu.**
2. **Choose "SETUP", and then execute the "Reset" function, and select "All".**

Re-write Lamp Hours Usage

1. **Get into service mode.**
   - Press "power" -> "up" -> "right" -> "up" -> "left" -> "Menu" to get into service mode.
   - Select "Exit", then press the "left" or "right" key six times.
2. **Re-write "Projection Hours".**

   Select Projection Hours and use the "left" or "right" buttons to re-write the projection hours.



y0awm0206

Note

- The "Left" key decreases lamp hours.
- The "Right" key increases lamp hours.

3. **Re-write "Lamp Hours (Normal)".**

   Select Lamp Hours (Bright) and use the "left" or "right" keys to re-write the lamp hours (Normal).
4. **Re-write "Lamp Hours (ECO)".**

   Select Lamp Hours (ECO) and use the "left" or "right" keys to re-write the lamp hours (ECO).
5. **Re-write "Lamp Hours (Dynamic)".**

   Select Lamp Hours (Dynamic) and use the "left" or "right" keys to re-write the lamp hours (Dynamic).
6. **Re-write "Lamp Hours (ECO+)".**

   Select Lamp Hours (ECO+) and use the "left" or "right" keys to re-write the lamp hours (ECO+).

7. Choose "Exit", and then press "Enter" to exit.

Rod Adjustment

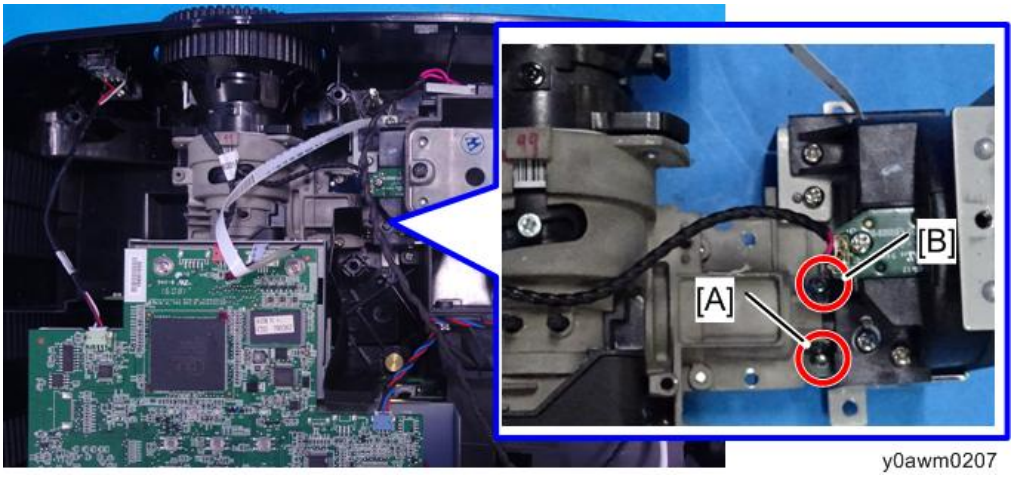
Environment

- The size of screen is 60".
- This process should be done in a dark environment (under 2 Lux).

Procedure

1. **Change the screen to "white screen".**
2. **Adjust the screws to readjust the image.**

   Screw [A] should be adjusted first, and then screw [B]. Adjust until the yellowish or bluish parts disappear.



3. **Inspect the image.**

   There should not be no abnormal color within the frame of the image visible by eye.

Note

- Avoid over adjusting the rod.
- After adjustment is finished, fix these screws with glue.

4. Troubleshooting

Main Procedure

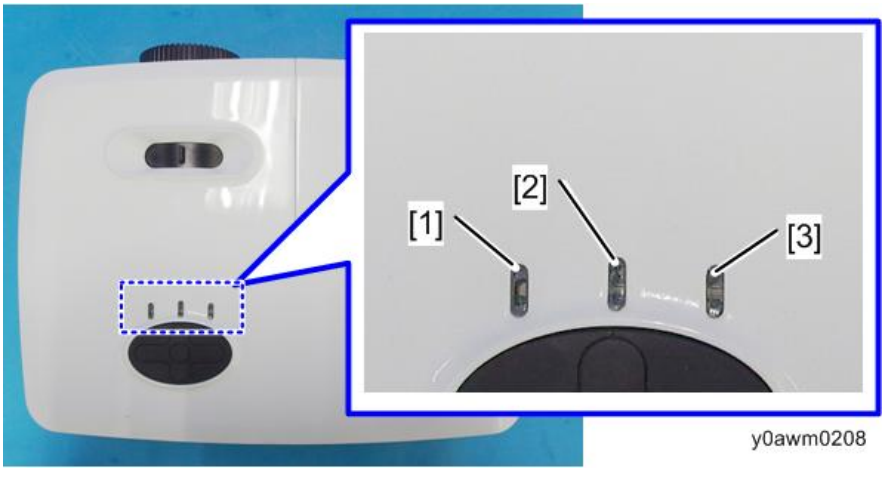
No.	Symptom	Procedure
1	No Power	• Ensure that the Power Cord and AC Power Outlet are securely connected. • Ensure that all connectors are securely connected and aren't broken. • Check the LVPS. • Check the Main Board.
2	Auto Shut Down	Ensure that the projector is not put on a soft pad and the air vent is not blocked. a. Lamp failed: Power LED (flashes red), Lamp LED lights red. • Check the Lamp. • Check the LVPS- Check the Main Board. b. Fan failed: Power LED (flashes red), Temp LED (flashes red) • Check whether you have executed Fan Calibration. • Check the Fan. • Check the Main Board. • Check the Color Wheel Module. • Check the Photo Sensor Board. c. Over Temp: Power LED (flashes red), Temp LED lights red. • Check the Fan. • Check the Main Board.

No.	Symptom	Procedure
3	No Light On	• Ensure that all connectors are securely connected and aren't broken. • Check the Lamp Cover, Interlock Switch. • Check the Lamp Module. • Check the LVPS. • Check the Main Board. • Check the Color Wheel. • Check the Photo Sensor Board.
4	No Image	• Ensure that the Signal Cable and Source work (If you connect multiple sources at the same time, use the "Source" button switch). • Ensure that all connectors are securely connected and aren't broken. • Check the Main Board. • Check the DMD Chip. • Check the Color Wheel. • Check the Engine Module.
5	Mechanical Noise	• Check the Color Wheel. • Check the Fan Module.
6	Line Bar/Line Defect	• Check the Main Board. • Check the DMD Chip.
7	Image Flicker	• Do "Reset (All data)" in the OSD Menu. • Ensure that the signal cables and source are working. • Check the Lamp Module. • Check the Color Wheel. • Check the Photo Sensor and clean the Photo Sensor. • Check the Main Board.

No.	Symptom	Procedure
8	Color Abnormal	• Do "Reset (All data)" in the OSD Menu. • Adjust the Color Wheel Index. • Check the Main Board. • Check the Color Wheel.
9	Poor Uniformity/Shadow	• Ensure that the projection screen is without dirt. • Ensure that the projection lens is clean. • Ensure that the Brightness is within spec. • Check the rod alignment. • Check the Engine Module.
10	Dead Pixel/Dust (Out of spec.)	• Ensure that the projection screen is without dirt. • Ensure that the projection lens is clean. • Clean the DMD Chip and the Engine Module. • Check the DMD Board. • Check the Engine Module.
11	Garbled Image	• Ensure that the signal cables and source work. • Check the Main Board.
12	Remote Controller Failed	Remote Controller a.Check the Battery. b.Check the Remote Controller. c.Check the IR Sensor Board. d.Check the Main Board.
13	Function Abnormal	• Do "Reset (All data)" in the OSD Menu. • Check the Main Board.
14	Audio Abnormal (For the projector has speaker)	• Ensure that the signal cables and source are working. • Ensure that your Projector is not in “Mute” mode. • Check the Main Board. • Check the Speaker.

No.	Symptom	Procedure
15	3D Image Abnormal	• Ensure that the 3D glasses are good and that the user is facing the projection correctly. • Ensure that the signal source is in 3D format. • Ensure that the 3D function of the projector OSD is on and 3D sync invert is on. • Check Main Board.

LED Lighting Message



1. **Power LED**
2. **Lamp LED**
3. **Temp LED**

Message	Power LED		Lamp LED	Temp LED
	Red	Green	Red	Red
Standby State (Input power cord)	Steady light	Off	Off	Off
Power on (Warming)	Off	Flashing	Off	Off
Lamp lighting	Off	Steady light	Off	Off
Power off (Cooling)	Off	Flashing	Off	Off
Error (Lamp Fail)	Flashing	Off	Steady light	Off
Error (Fan Fail)	Flashing	Off	Off	Flashing

Message	Power LED		Lamp LED	Temp LED
	Red	Green	Red	Red
Error (Over Temp)	Flashing	Off	Off	Steady light

5. Firmware Update

System Firmware Update

Equipment Needed

Software

1. DLP Composer Lite 11.2
2. Firmware (*.img)
3. FlashDeviceParameters-20141125

Hardware

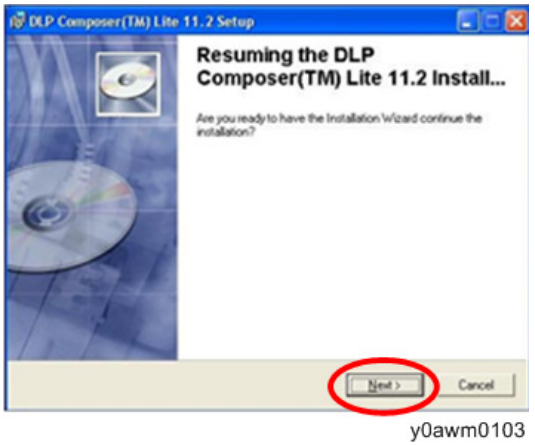
1. Projector
2. Power Cord
3. USB Cable (A to B)
4. PC

DLP Composer Lite Setup Procedure

1. **Start the "DLP Composer Lite V11.2 Setup" Program.**

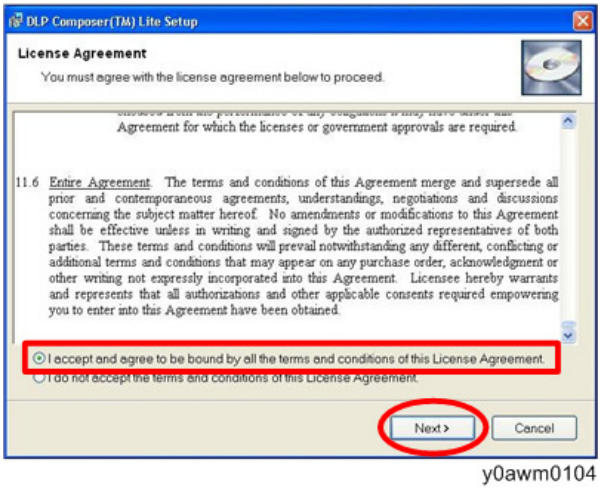
y0awm0102

2. **Click "Next".**



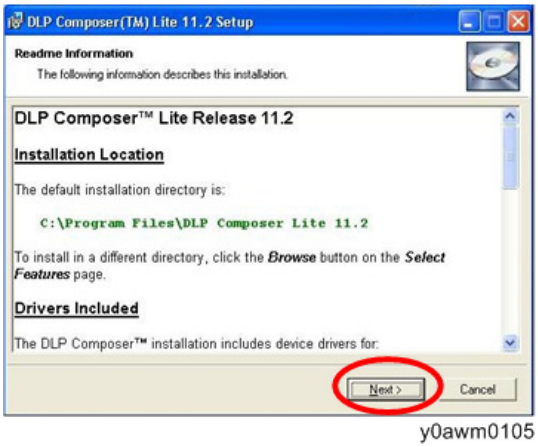
y0awm0103

3. **Read "License Agreement".**
   - Choose "I accept and agree to be bound by all the terms and conditions of this License Agreement".
   - Click "Next".



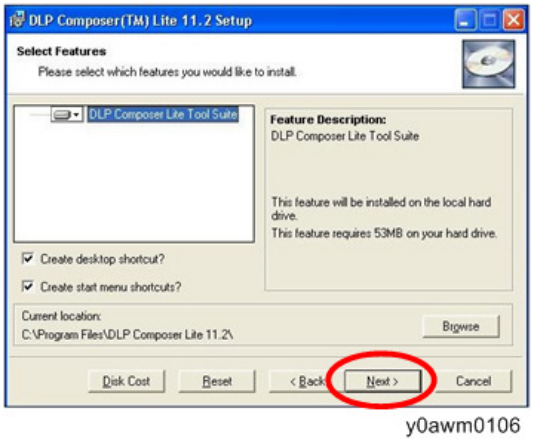
y0awm0104

4. Click "Next".



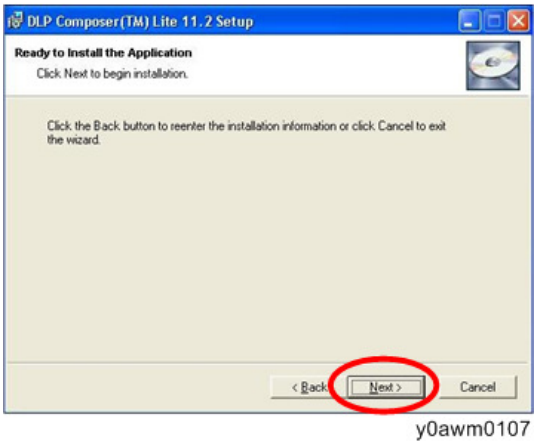
y0awm0105

5. Click "Next".



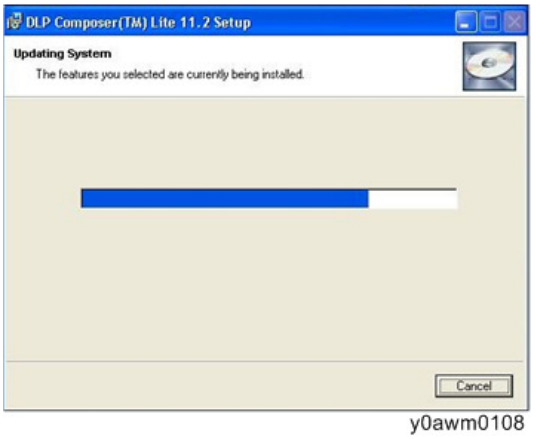
y0awm0106

6. Click "Next".



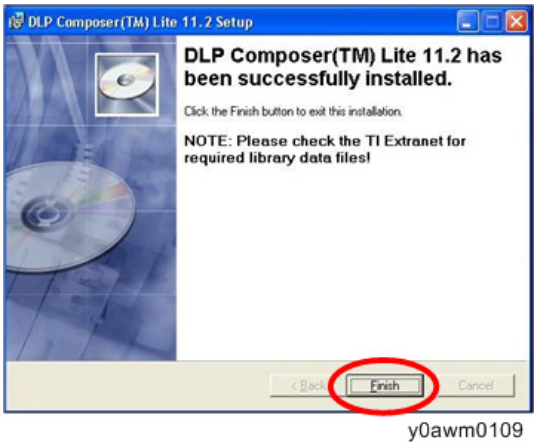
y0awm0107

7. The program is in "installing" status.



y0awm0108

8. Click "Finish".



y0awm0109

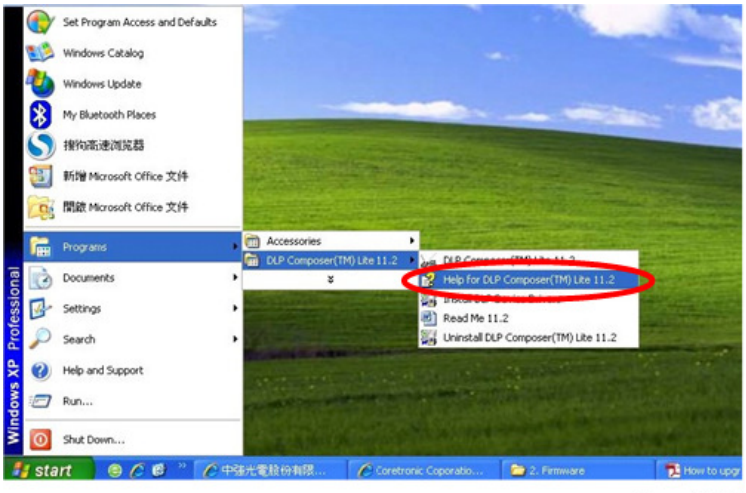
Get into Firmware Download Mode

Preparation of the projector

1. Hold down the "power" key then plug in the power cord.
2. After three LEDs are lit red, release the "power" button.
3. Connect the projector to the PC with the USB cable.

USB Driver Update Procedure

1. Execute "Install DLP Device Drivers" in the start menu.



y0awm0113

5

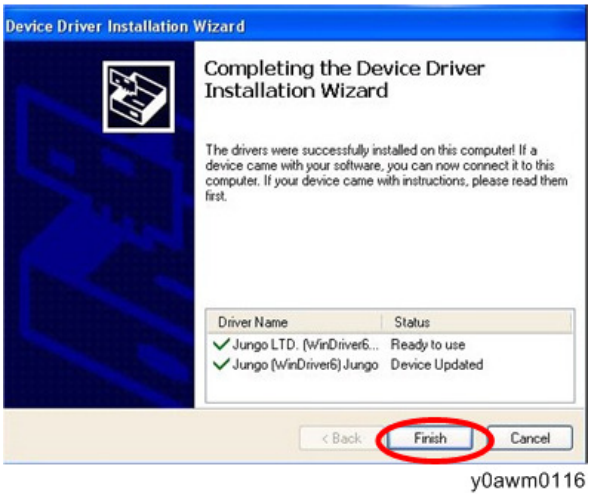
2. Select "Jungo WinDriver(WinXP)", then click "install".

y0awm0114

3. Click "Next".

y0awm0115

4. Click "Finish".



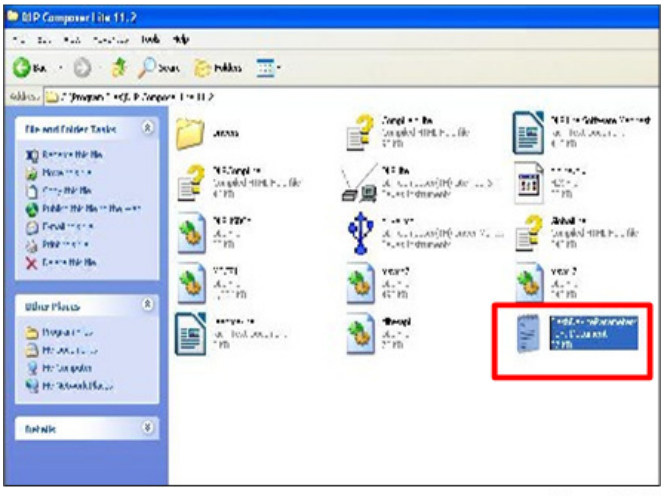
y0awm0116

System Firmware Update Procedure

1. Execute the "DLP ComposerTM Lite 11.2" file.

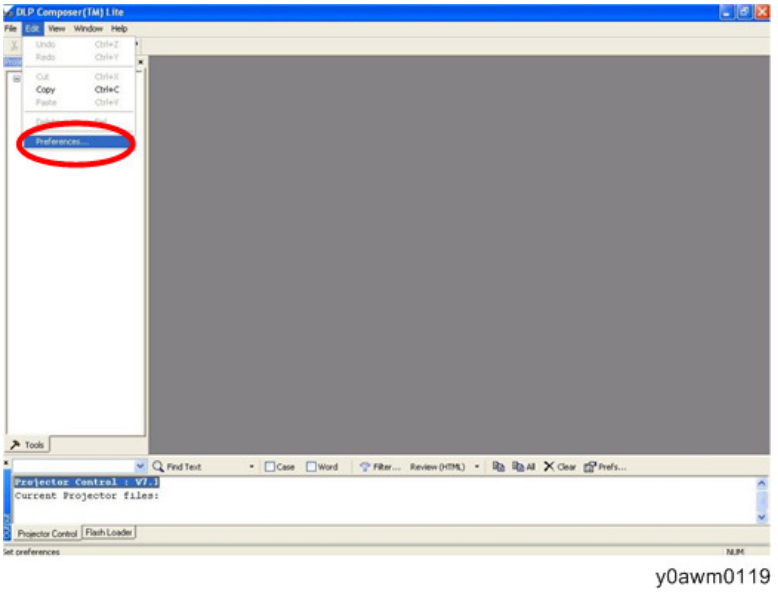
y0awm0117

2. Set the "FlashDeviceParameters".
   - Select the file "FlashDeviceParameters".
   - Put "FlashDeviceParameters" file into the folder where you setup "DLP Composer Lite 11.2".



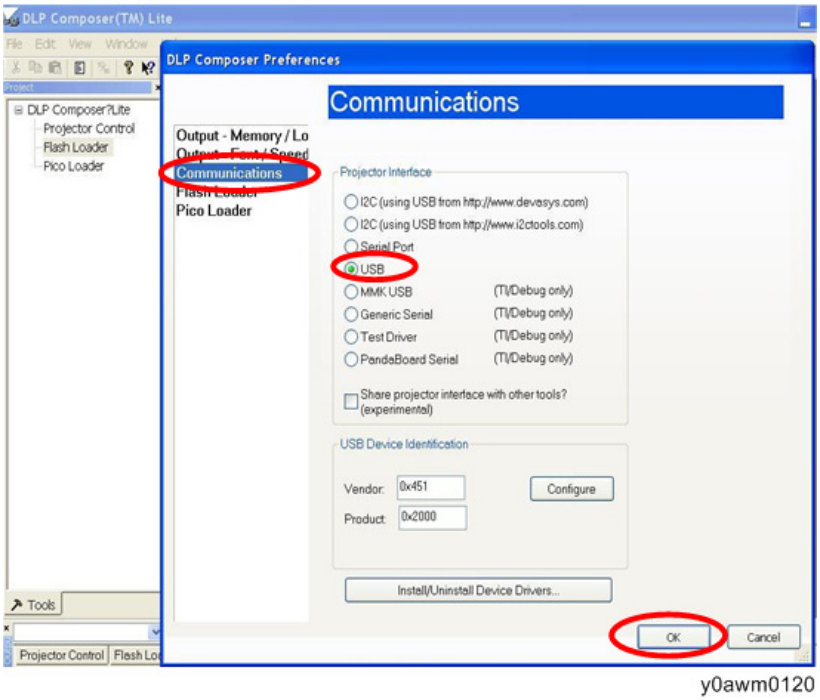
y0awm0118

3. **Select "Edit" > "Preferences".**



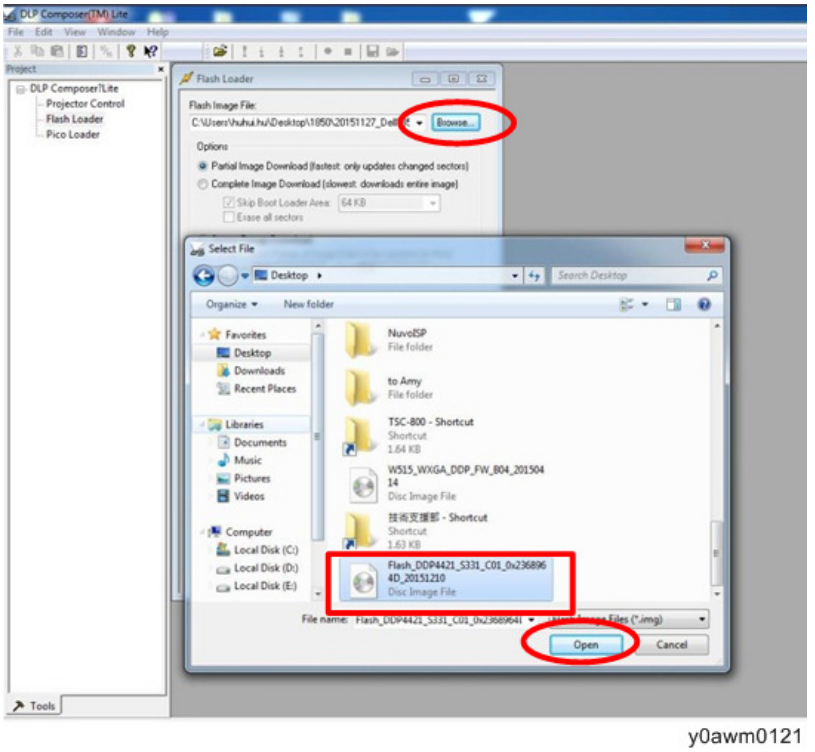
y0awm0119

4. **Click "Communications" to open the "Communications" setting dialog.**
    1. Select "USB".
    2. Click "OK".



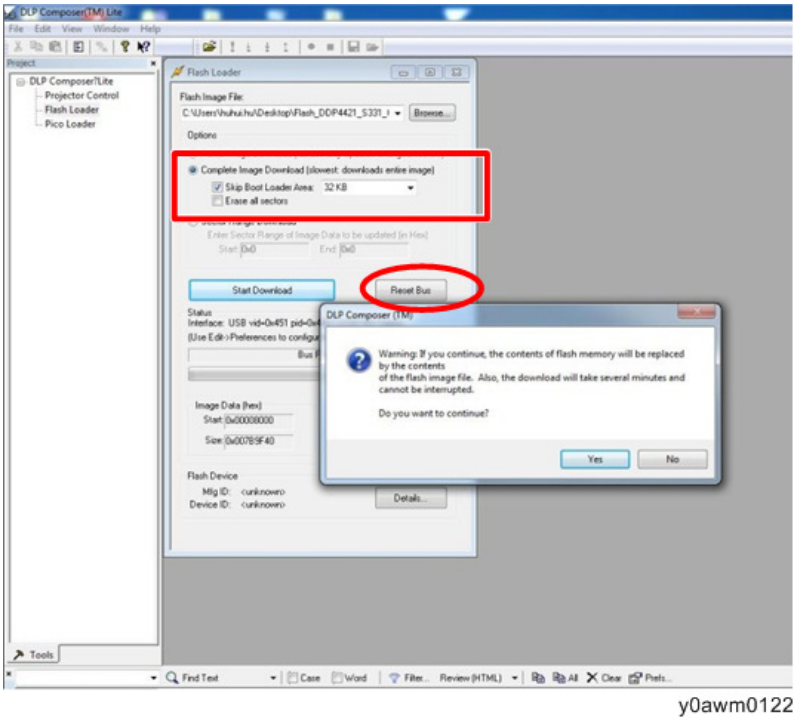
5. Choose "Flash Loader".

1. Click "Browse" to search for the firmware file (*.img).
2. Select the firmware file (*.img), and then click "Open".



y0awm0121

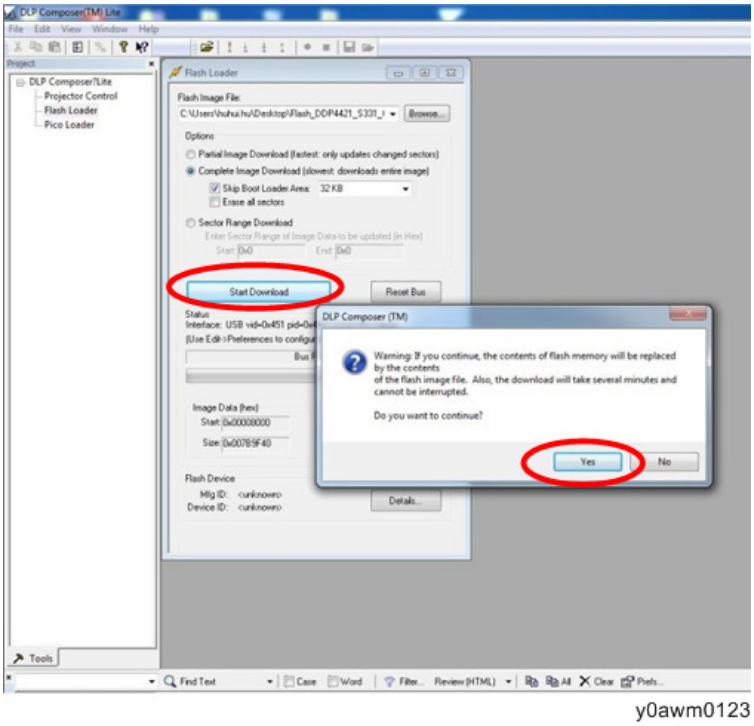
6. **Select the item skip Boot Loader Area.**
    1. Select "32KB".
    2. Click "Reset Bus" to erase the flash memory.



y0awm0122

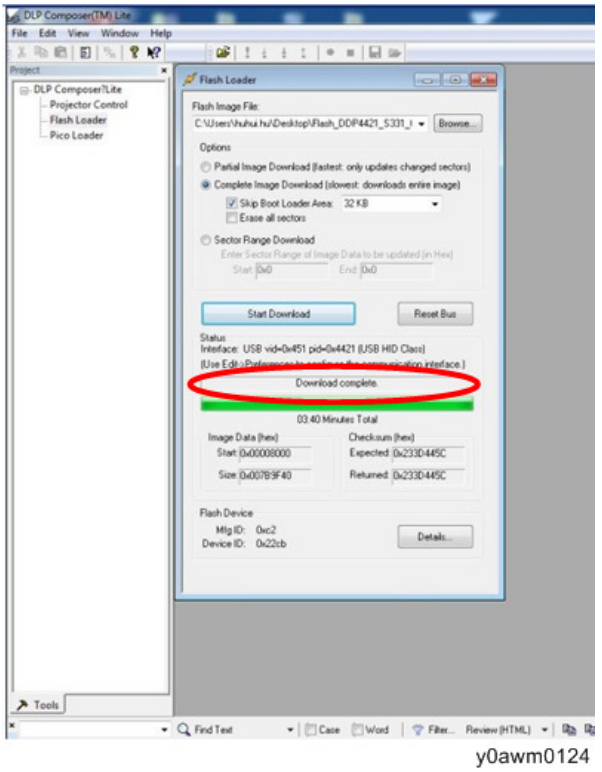
7. If the firmware is ready, click "Start Download" to execute the firmware update.

- Click "Yes" to erase the flash memory.



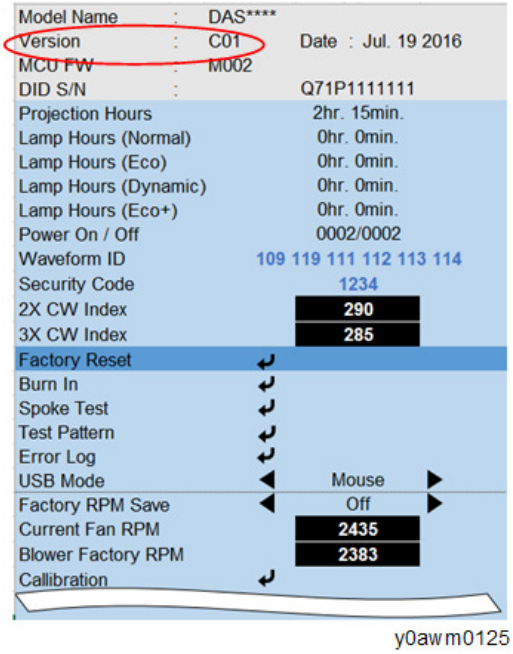
y0awm0123

8. **It takes about several minutes until the firmware update is finished. When finished, "Download completed" will appear on the screen.**
    - Unplug the USB cable and power cord.



y0awm0124

9. **Check the System firmware version.**
    - Plug the power cable in again, then restart the unit and get into the Service Mode to check the system firmware version.


Model Name : DAS****
Version : C01
Date : Jul. 19 2016
MCU FW : M002
DID S/N : Q71P1111111
Projection Hours 2hr. 15min.
Lamp Hours (Normal) 0hr. 0min.
Lamp Hours (Eco) 0hr. 0min.
Lamp Hours (Dynamic) 0hr. 0min.
Lamp Hours (Eco+) 0hr. 0min.
Power On / Off 0002/0002
Waveform ID 109 119 111 112 113 114
Security Code 1234
2X CW Index 290
3X CW Index 285
Factory Reset
Burn In
Spoke Test
Test Pattern
Error Log
USB Mode Mouse
Factory RPM Save Off
Current Fan RPM 2435
Blower Factory RPM 2383
Callibration

y0awm0125

MEMO

MEMO

MEMO