Praesepe-PJ1

RICOH PJ XC4660/LX3800UST/LX3806UST/ LX3607UST/WXC4660/WUC4650/ LU3800UST/LU3806UST/LU3807UST/ LW3800UST/LW3806UST/LW3807UST

Machine Codes: Y0C8/Y0C9

Field Service Manual

February, 2018

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Content

Important Safety Notices

Important Safety Notices

Prevention of physical injury

1. Before disassembling or assembling parts of the main machine and peripherals, make sure that the power cord of the main machine 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.

⚠WARNING

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

Health safety conditions

This machine, which uses a high voltage power source, can generate ozone gas. High ozone density is harmful to human health. Therefore, the machine must be installed in a well-ventilated room.

Observance of electrical safety standards

This 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

Dispose of replaced parts in accordance with local regulations.

Specification

Technical specifications for Praesepe-PJ1 series

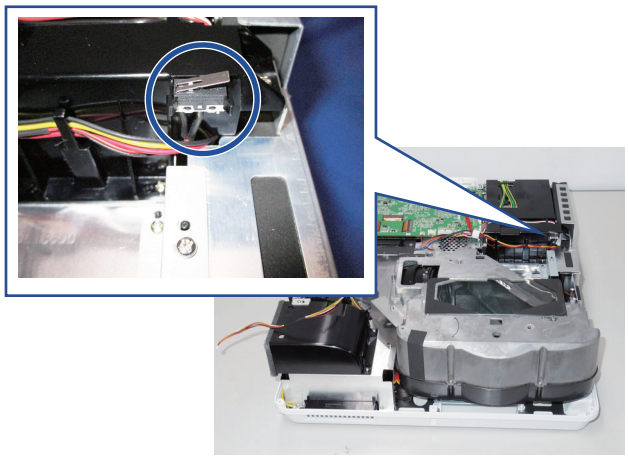
Mechanical properties	Dimensions (W×H×D)	447.0mm x 425mm x 153mm
	Net Weight	11.0Kg
	Adjustable foot	4˚
LCD resolution	LCD system	0.79" TFT, active matrix, 3-panel 0.76" TFT active matrix, 3-panel 0.76" TFT active matrix, 3-panel
	LCD resolution	1024X768 /1280X800/1920X1200
Compatible signals	Color standard	PAL, SECAM, NTSC, NTSC4.43, PAL-M, PAL-N,PAL-60
	HDTV signal	480i, 480p, 576i, 576p, 720p, 1035i, 1080i, 1080P
	Scanning frequency	Horizontal frequency: 15 kHz–100 KHz; Vertical frequency: 48–85 Hz
Optical elements	Image size (diagonal lines)	XGA(75"-138"), WXGA/WUXGA(70"-130"), adjustable
	Projection distance	XGA:0.516m-0.908m WXGA:0.510m-0.903m WUXGA:0.510m-0.903m
	Lens (Standard Lens)	F=1.78 - 1.83, f=4.92 - 5.18mm, Manual zooming and focusing, Zoom times: 1. 05
	Lamp power	450W(ECO. mode < 0.5W)
Terminal	VGA IN 1	Mini D-sub 15pin x1
	VGA IN 2	Mini D-sub 15pin x1
	VGA OUT	Mini D-sub 15pin x1
	HDMI	HDMI A type 19 pin
	HDMI 2 (MHL)	HDMI A type 19 pin
	LAN	100 Base-TX (100Mbps)/10 Base-T (10Mbps), RJ45
	USB-B	USB connector (B type x1)
	USB-A	USB connector (A type x1)
	RS-232 terminal	D-sub 9 pin x1
	AUDIO IN	Mini Stereo 3.5mm x1
	AUDIO OUT	Mini Stereo 3.5mm x1
	MONO(R/L)	RCA connector * 2
	VIDEO	RCA connector * 1
Power	Voltage and power consumption	AC 100–240 V (Max.5.5A), 50/60 Hz
	Fuse	10A/250V
	Internal speaker	10W RMS 8ohm, *2
Operating environment	Operating temperature	0°C~40°C(35~ ECO)
	Storage Temperature	-20°C~60°C(-10˚C ~ 60˚C)
	High land	2700m
Remote control	Battery	AAA ALKALINE TYPE x 2
	Operating Range	±15° about 6 m or about 8 m straight
	Dimensions	110mm(L)X50mm(W)X20mm(H)
	Net Weight	38g
Accessories	Remote control and batteries AC power cord (US Type x 1 / Euro Type x 1) VGA cable	

- *The aforesaid specification is subject to change without prior notice.*
- *Liquid crystal panel is made on the basis of high standard, where 99.99% of the pixels are effective. Due to the nature of the liquid crystal panel, a fraction of the pixels (0.01% or less) may be ineffective.*

Circuit protection

The projector has the following security operation circuit protection functions. If there is any abnormal in the inside of the projector, one of the following protection circuit action will make your projector shut down automatically .

Top cover switch



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Indicator status

When the temperature inside the projector is too high or the cooling fan stops rototating or loss of power , the projector will shut down automatically.

LED indicator

❶ POWER indicator

– The power indicator turns steady red when your projector is in standby mode.

– It turns steady green when your projector is in normal operation.

– It flashes green when your projector is in power control mode(standby) mode.

❷STATUS indicator

- It flashes red when internal temperature of your projector is out of operation range.

❸FILTER indicator

It turns red when the filter needs be replaced.

■ Light indicator status

Check light indicator to learn status of your projector.

Light indicator			Status of your projector
POWER Green /Red	STATUS	FILTER	
○	○	○	Your projector is in Off status (without AC power supply).
●	○	○	Your projector is in standby status. Press Standby button to turn it on.
●	○	○	Your projector is in normal status.
✳	○	○	It is ready for standby or the lamp is cooling. You may power on your projector only after the lamp is fully cooled and the POWER light indicator stops flashing.
✳	○	○	Your projector is in Ready mode.
●	●	○	Your projector detects abnormal situation and cannot power on. Unplug the AC power cord and connect it again before powering on your projector. If it powers off again, please unplug the cord and call your dealer or service center for maintenance or inspection. Do not let it continue operating as this may lead to electric shock or fire.
✳	●	○	Your projector detects lamp abnormality and cools down.
●	●	○	Your projector detects lamp abnormality and switches into standby mode.
✳	✳	○	Your projector cannot power on, as its internal temperature is too high. You may power it on after it is fully cooled, temperature backs to normal, and the POWER light indicator turns red.
●	✳	○	You may power is fully cooled with temperature backs to normal.
○	○	●	The filter requires cleaning

● ...Green ● ...Red ● ...Yellow ○ ...Turns off

✳ ...Flashing green ✳ ...Flashing red ✳ ...Flashing yellow

Maintenance

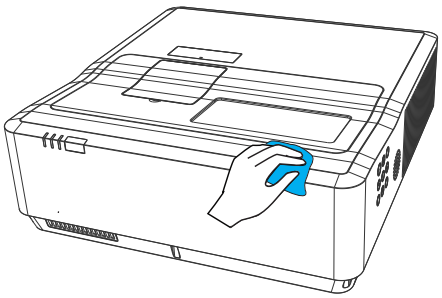
Before replacing components

- Please make sure to cut off the power and unplug the power cord from the power outlet when you make maintenance or replacement of components about your projector.

Maintenance

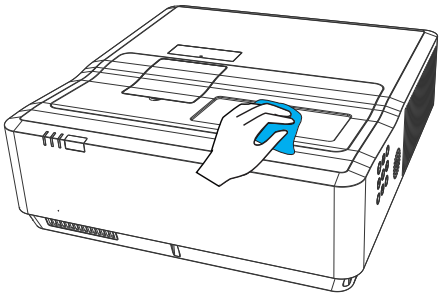
■ Clean casing of your projector

- Gently wipe the casing with clean and soft cloth.If you need to clean the dust, Select the dry cloth to wipe your product brfore you wipe cloth soaked with water before and wring dry.
- Gently wipe the casing with clean and soft cloth.
- DO NOT use gasoline, thinner, or rubbing alcohol, other solvents, kitchen detergent or chemical cloth may change or scratch the casing surface.
- Place your projector in proper container after use to protect it from dirt and dust and being scratched.



■ Projection window

- Gently wipe the projection window with clean and soft cloth.
- DO NOT use a rough or humid, greasy or dusty cloth.
- DO NOT wipe the projection window forcefully as it is fragile.



⚠ Note:
Projection window is fragile. Avoid unnecessary collision or excessive force when wiping it ,otherwise it may scratch the surface. Please take care!

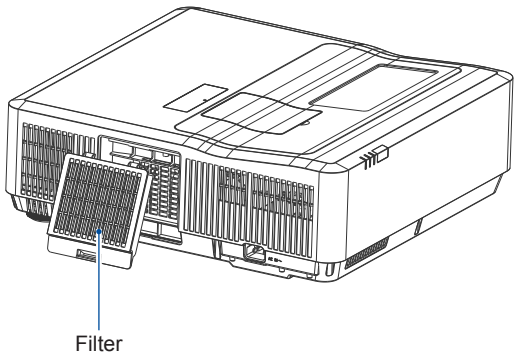
■ Clear the filter

Clean the filter under the following circumstances.

- Clean the filter immediately whenever the replacement information displays or the Filter Warning indicator icon is on.
- Clean the filter immediately when the warning indicator is on as the internal high temperature of the projector due to the clogged filter thus making the projector working failure.

Please follow these steps to clean your filter:

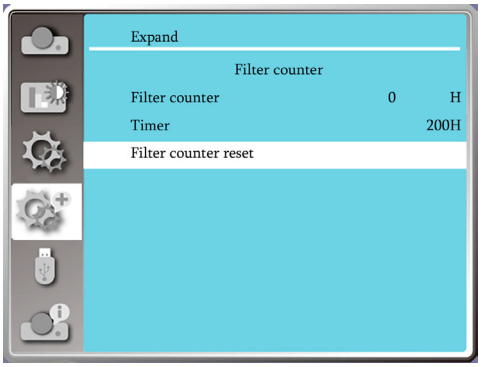
1 Power off your projector and unplug from AC power source.
2 Remove dust from the surface of the projector and around the air intake hole.
3 Remove the filter components.
4 Remove the filter from filter case.
5 Gently clean it with a brush.
6 Replace the filter. Make sure it has been fully inserted.
7 Reset the filter counter.



✓ Note:
- Make sure to install the filter correctly as it may damage the projector due to the dust.
- Replace with the new filter, when the filter is damaged or exiting some dirt even after cleaning it.
- The projector can't power on properly if the filter case is installed correctly.

■ Reset the filter counter

Reset the filter counter before you changing the filter.



1 Press MENU button and the OSD displays. Press ◀▶ button to select S menu, press ▶ button or OK.
2 Press ▲▼ button to select "Filter Counter", press ▶ or OK button. Press ▲▼ button to select “Reset the filter counter” and press OK. The “Reset filter counter?” message displays. Select Yes to proceed.
3 In another pop-up dialog box, select Yes to reset the filter counter.

✓ Note:
- Please cut off the power before changing the filter.
- Make sure the projector is stable and in a safe working environment to prevent the filter from falling, when you install the filter.
- DO NOT operate the projector once you removing the filter component. Otherwise, the dust attached to the lens assembly will damage the image quality.
- DO NOT place small objects into the air intake as it may result in the projector working failure.
- Replace the filter with the specified type.
- Reset the filter counter before changing the filter, as the projector may power off to ensure the security.
- Please contact the authorized dealer to purchase the the filter component.

Note:
DONOT replace the lamp when it is hotty .Make sure to replace it at least 1hour later after using it.
The lamp model internal cover will be getting hot in use. Please take care to avoid the unnecessary burning.

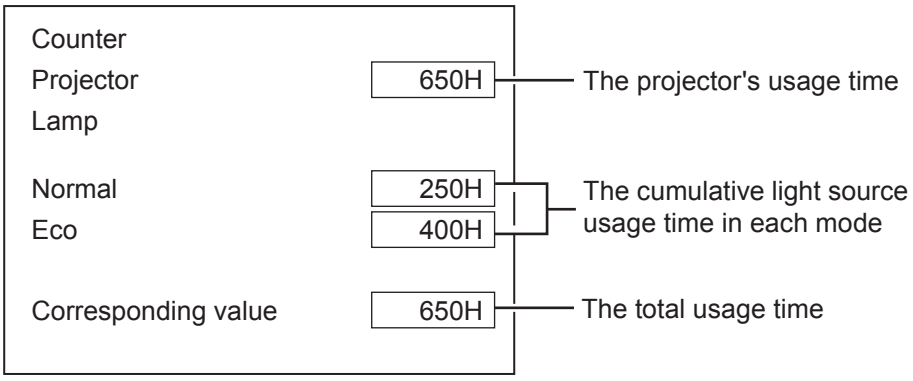
How to check the light source usage time

It time to replace the light source when the light source usage time (Corresponding value) come to 20000 hours.
Use the following formula to calculate the light source time .
Light source usage time(Corresponding value)=Teco +Tnormal

Tnormal : Usage time in normal mode
Teco : Usage time Eco. mode

Follow steps below to check the light source usage time.

1) Press the POWER ⏻/| button more than 20 seconds in the projector or on the remote control.
2) The projector's usage time and light source usage time will be displayed on the screen, just as follows:



Safety function instruction

This projector provides Closed caption, Key lock and PIN code lock ensure your projector's operation safety. Only when users enter the correct password can you open your projector when you has set up the three security features.You won't start the projector without password. In case of the above issues, please reset such three security features according to the following reset procedure, and then re-check.

Function	Description
Closed caption	Set up it on the top panel or remote controller. Select the Closed caption function will make you unable to power on your projector . Initial setup: Closed caption Off
Key lock	Prevent unauthorized personnel from operating your projector. Initial Password: 111
PIN code lock	Prevent unauthorized personnel from changing the LOGO. Initial Password: 111

Standby mode instruction

The projector has two kinds of standby mode, namely Eco.mode and the Normal mode. In the two mode, the following functions will be limited as shown in the table. Please switch to Standby mode on the Setting menu.

Normal mode.....You can still charge the projector, even if you have turned off it.
Eco. mode .....Select Eco. mode without network. And the network function will work failure after you turn off the projector.

Once you select the Eco. mode, some function will be limited.

Limited functions in standby mode

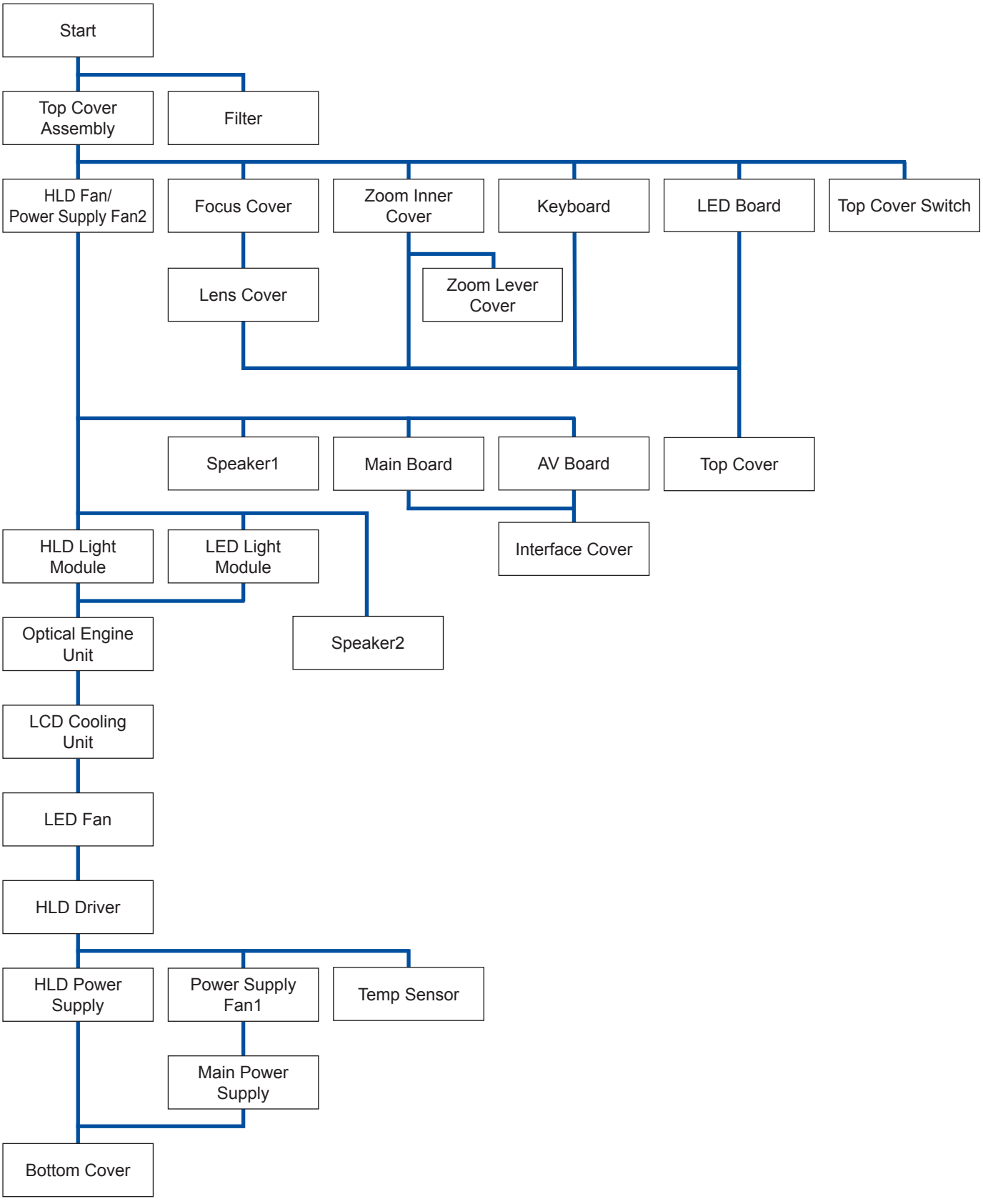
Function	Eco. mode	Network mode
Serial control	✓*1	✓*1
Network	--	✓
Monitor output	--	--
Audio output	--	--
Auto startup	✓	✓

*1 :Only be effective when plugged into power.

Replacement Procedures

Replaceable Part Hierarchy

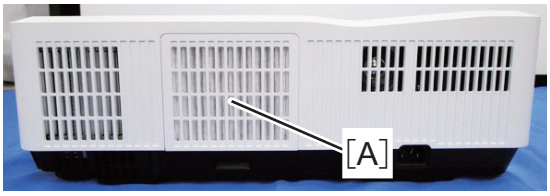
The flow chart below shows what parts must be removed to access each replaceable part in the projector.
The parts on the first level (e.g., Top cover assembly) are accessible without removing any other parts.
The more levels down that a part is, the more parts you need to remove in order to access it.



Covers

1. Top Cover Assembly

1. Remove the filter cover [A].



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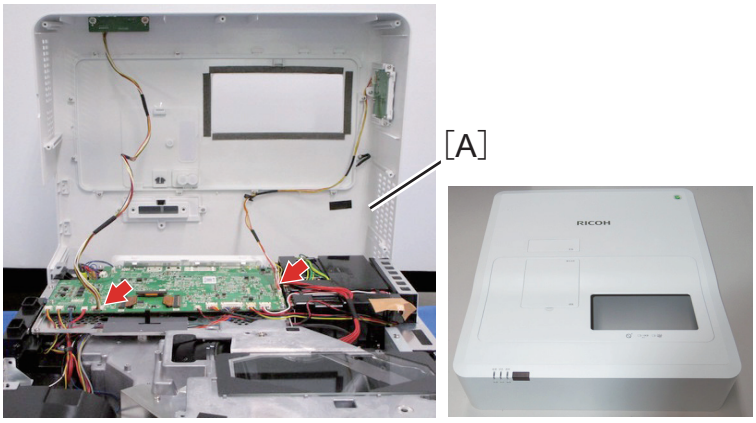
2. Remove the screws.

×14

y0ch0005

3. Remove the top cover assembly [A].

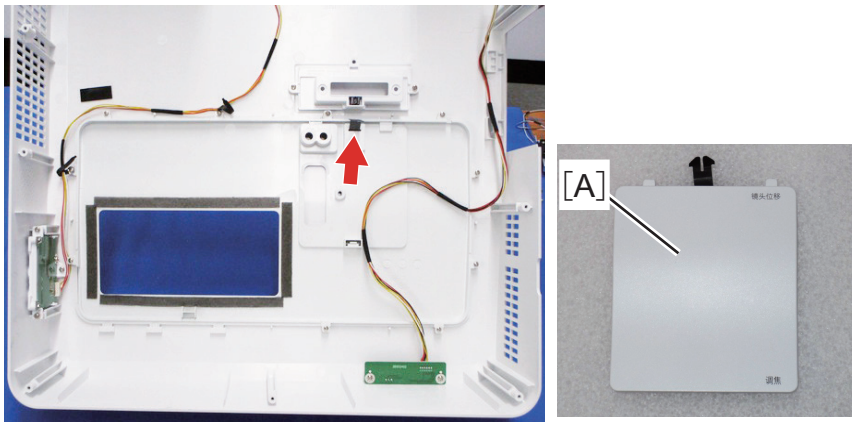


×2

y0ch0024

2. Focus Cover

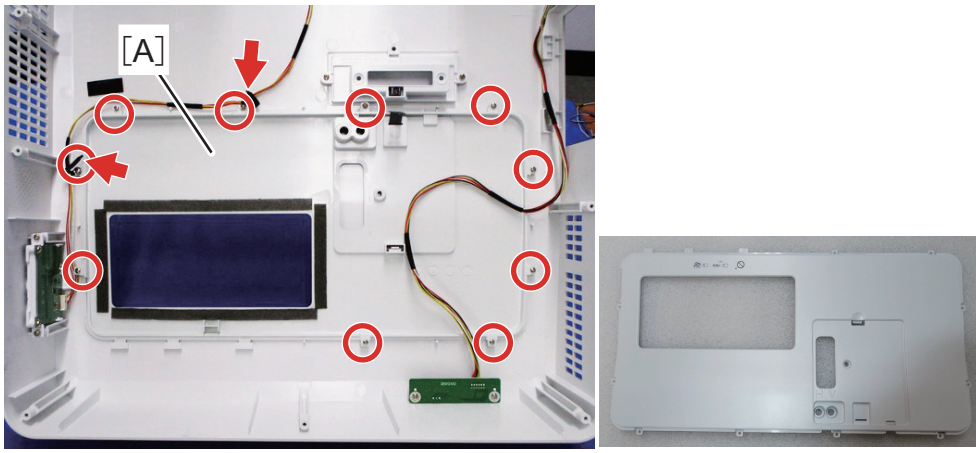
1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Remove the focus cover [A].



y0ch0211

3. Lens Cover

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Focus cover (page 14 "2. Focus Cover")
3. Remove all the clamps.
4. Remove the lens cover [A].

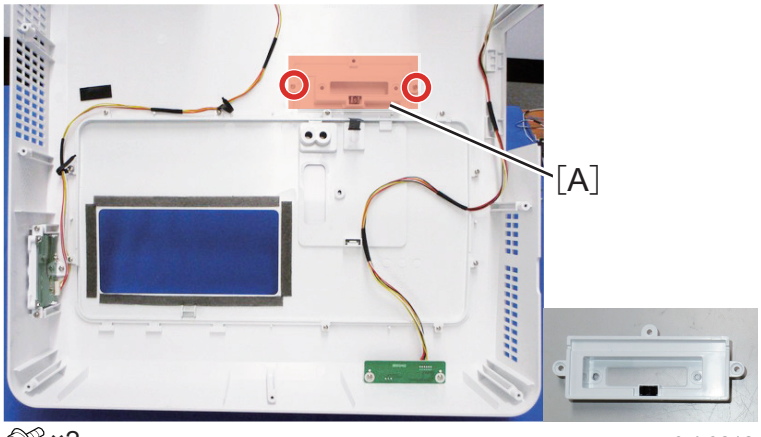


×10 ×2

y0ch0210

4. Zoom Inner Cover

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Remove the zoom inner cover [A].

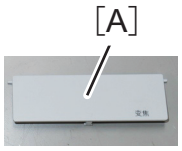


×2

y0ch0212

5. Zoom Lever Cover

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Zoom inner cover (page 14 "4. Zoom Inner Cover")
3. Replace the zoom lever cover [A] with new one.



y0ch1352

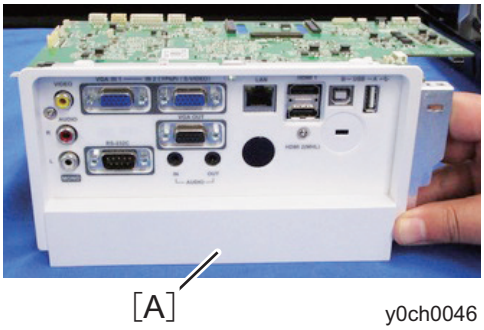
6. Top Cover

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Focus cover (page 14 "2. Focus Cover")
3. Lens cover (page 14 "3. Lens Cover")
4. Zoom inner cover (page 14 "4. Zoom Inner Cover")
5. Keyboard (page 19 "1. Keyboard")
6. LED board (page 20 "2. LED Board")
7. Replace the top cover [A] with new one.

y0ch1370

7. Interface Cover

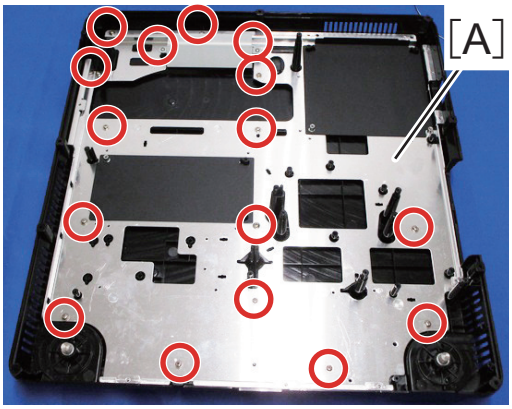
1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Main board components (page 28 "2. HLD Fan/Power Supply Fan2")
3. Main board (page 20 "3. Main Board")
4. AV board (page 20 "4. AV Board")
5. Replace the interface cover [A] with new one.



y0ch0046

8. Bottom Cover

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Optical engine duct (page 28 "2. HLD Fan/Power Supply Fan2")
3. HLD light module (page 18 "1. HLD Light Module")
4. LED light module (page 18 "2. LED Light Module")
5. Optical engine unit (page 17 "1. Optical Engine Unit")
6. LCD cooling unit (page 32 "3. LCD Cooling Unit")
7. LED fan (page 33 "4. LED Fan")
8. Drive board assembly (page 22 "7. HLD Driver")
9. HLD power supply (page 23 "8. HLD Power Supply")
10. Power supply fan1 (page 34 "5. Power Supply Fan1")
11. Main power supply (page 25 "9. Main Power Supply")
12. Remove the bottom cover [A].



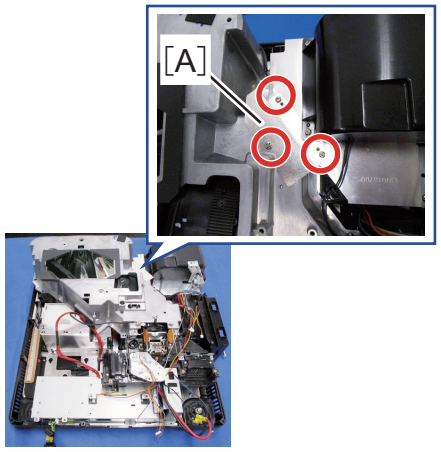
×16

y0ch0222

Optical Engine Unit

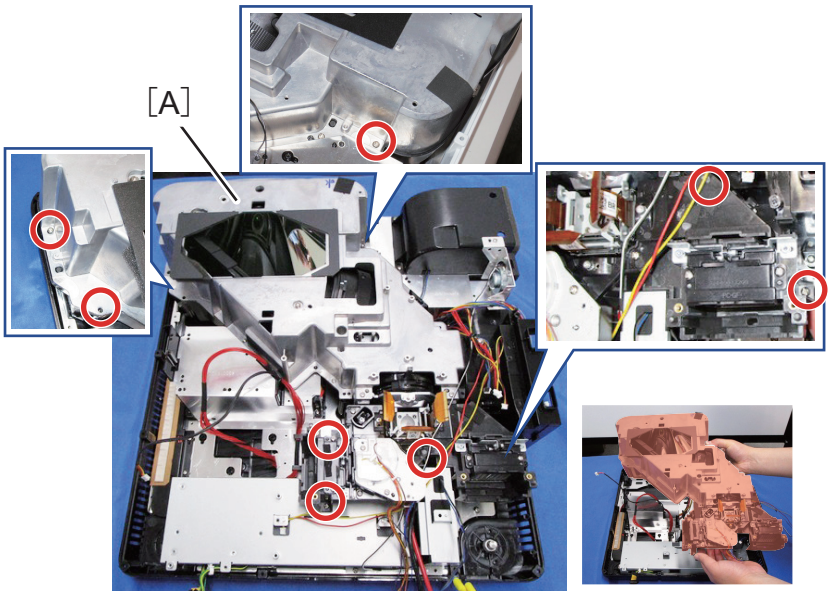
1. Optical Engine Unit

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Optical engine duct (page 28 "2. HLD Fan/Power Supply Fan2")
3. HLD light module (page 18 "1. HLD Light Module")
4. LED light module (page 18 "2. LED Light Module")
5. Remove the bracket [A].



×3 y0ch0109

6. Remove the optical engine unit [A].

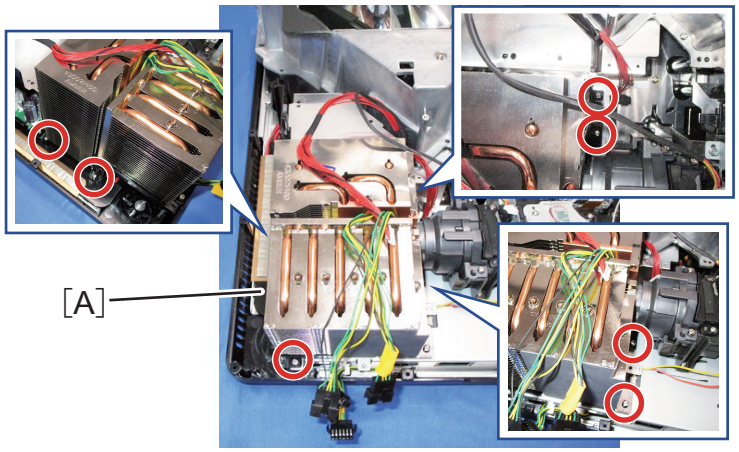


×8 y0ch0112

Light Module

1. HLD Light Module

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Optical engine duct (page 28 "2. HLD Fan/Power Supply Fan2")
3. Remove the HLD light module [A].

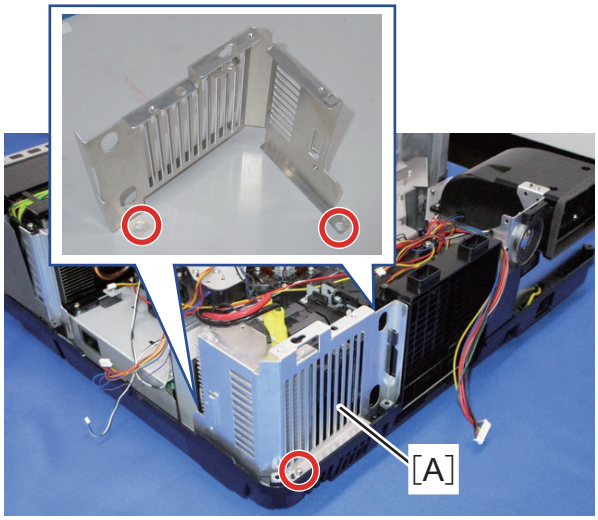


×7

y0ch0093

2. LED Light Module

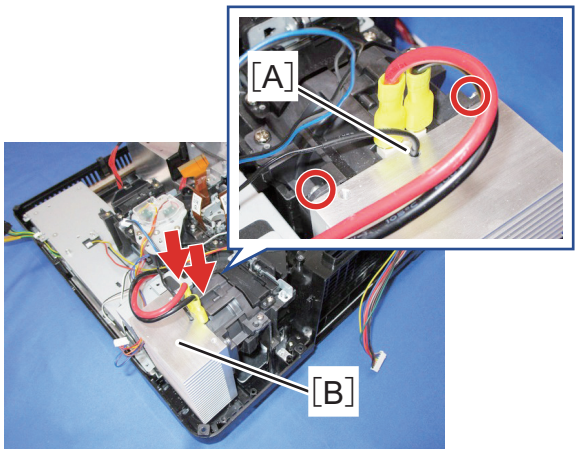
1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Optical engine duct (page 28 "2. HLD Fan/Power Supply Fan2")
3. Remove the LED light source bracket [A].



×3

y0ch0067

4. Remove the temp sensor [A].
5. Remove the LED light module [B].

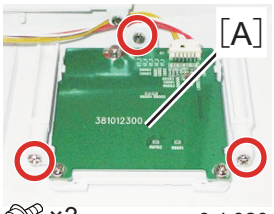


×2 ×2 y0ch0106

PCBs/Speaker

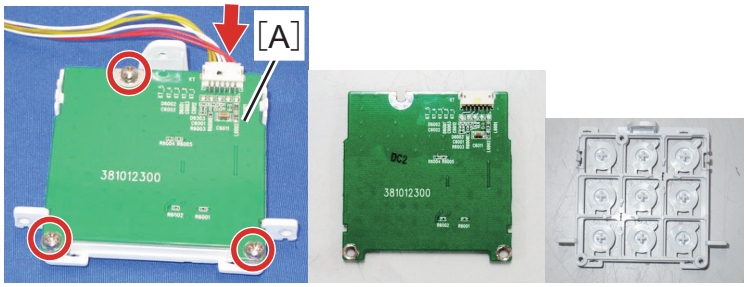
1. Keyboard

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Remove the keyboard unit [A].



×3 y0ch0201

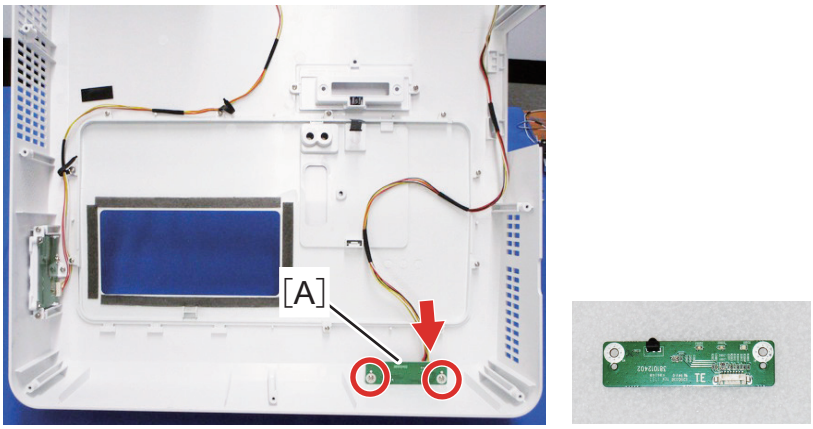
3. Remove the keyboard [A].



×3 ×1 y0ch0203

2. LED Board

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Remove the LED board [A].

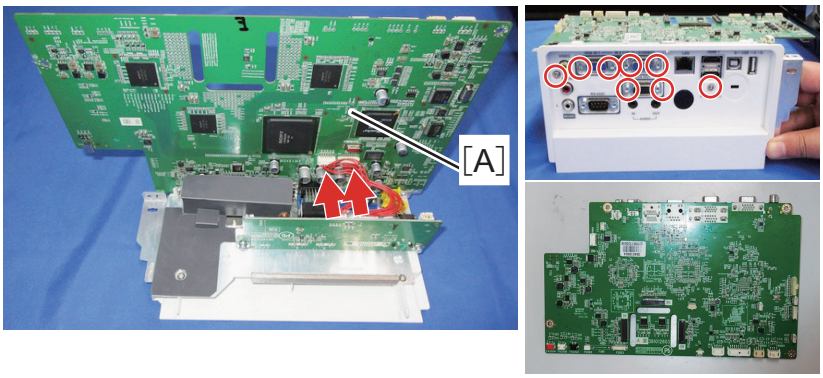


×2 ×1

y0ch0213

3. Main Board

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Main board components (page 28 "2. HLD Fan/Power Supply Fan2")
3. Remove the main board [A].

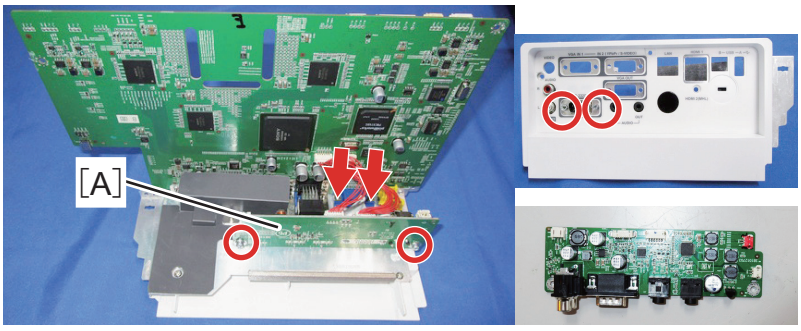


×8 ×2

y0ch0045

4. AV Board

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Main board components (page 28 "2. HLD Fan/Power Supply Fan2")
3. Remove the AV board [A].

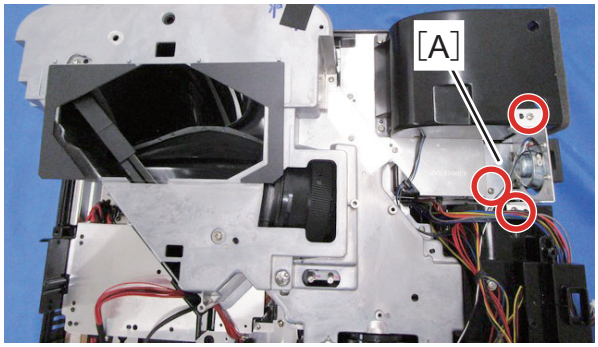


×4 ×2

y0ch0043

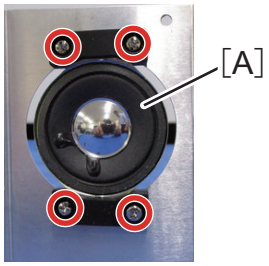
5. Speaker1

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Main board bracket (page 28 "2. HLD Fan/Power Supply Fan2")
3. Remove the speaker1 and rubber [A].



×3 y0ch0110

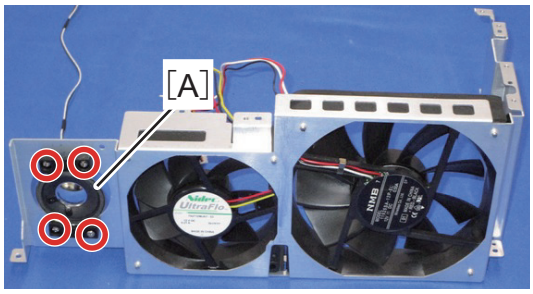
4. Remove the speaker1 [A].



×4 y0ch0218

6. Speaker2

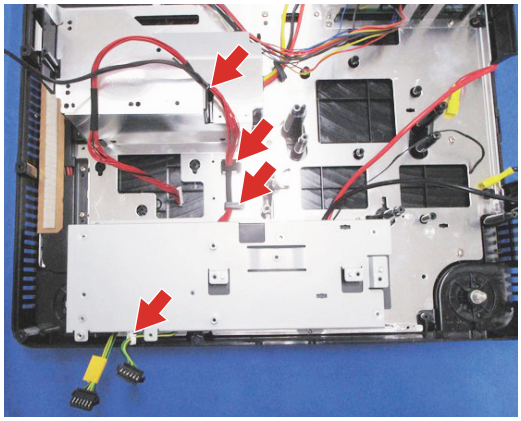
1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Optical engine duct (page 28 "2. HLD Fan/Power Supply Fan2")
3. Remove the speaker2 [A].



×4 y0ch0215

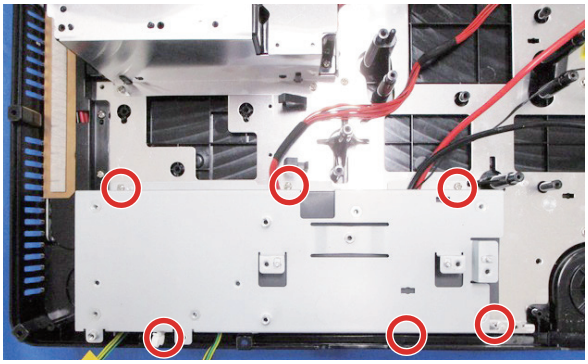
7. HLD Driver

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Optical engine duct (page 28 "2. HLD Fan/Power Supply Fan2")
3. HLD light module (page 18 "1. HLD Light Module")
4. LED light module (page 18 "2. LED Light Module")
5. Optical engine unit (page 17 "1. Optical Engine Unit")
6. LCD cooling unit (page 32 "3. LCD Cooling Unit")
7. LED fan (page 33 "4. LED Fan")
8. Remove all the clamps.



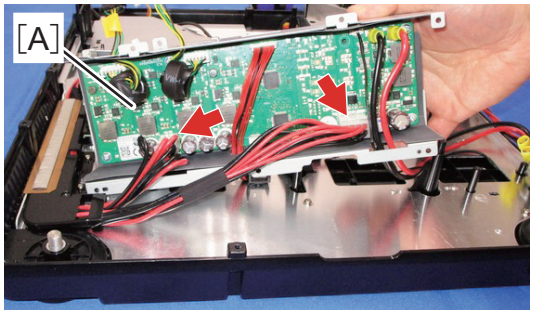
×4 y0ch0141

9. Remove all the screws.



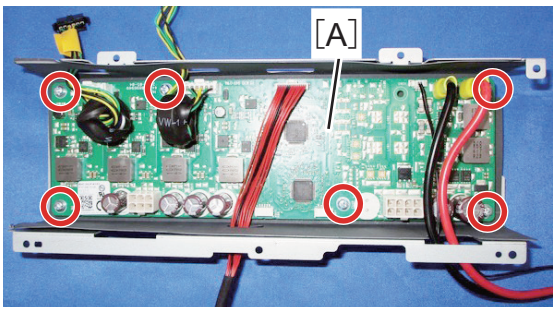
×6 y0ch0152

10. Remove the drive board assembly [A].



×2 y0ch0153

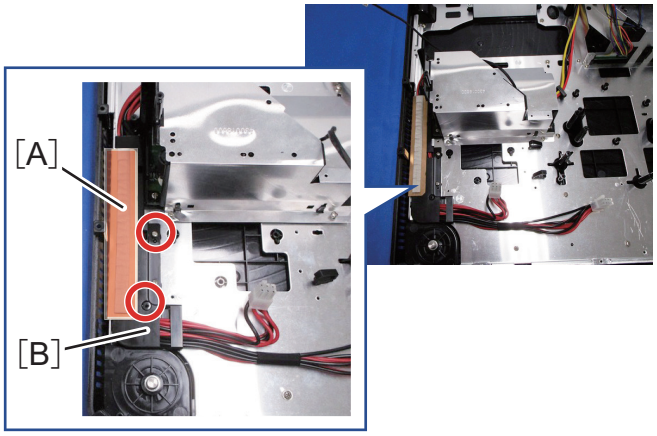
11. Remove the HLD driver [A].



×6 y0ch0154

8. HLD Power Supply

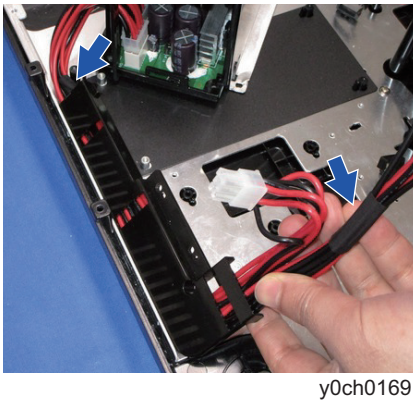
1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Optical engine duct (page 28 "2. HLD Fan/Power Supply Fan2")
3. HLD light module (page 18 "1. HLD Light Module")
4. LED light module (page 18 "2. LED Light Module")
5. Optical engine unit (page 17 "1. Optical Engine Unit")
6. LCD cooling unit (page 32 "3. LCD Cooling Unit")
7. LED fan (page 33 "4. LED Fan")
8. Drive board assembly (page 22 "7. HLD Driver")
9. Remove the conductive plate [A].
10. Loosen the screws.
11. Remove the harness cover [B].



×2 y0ch0159

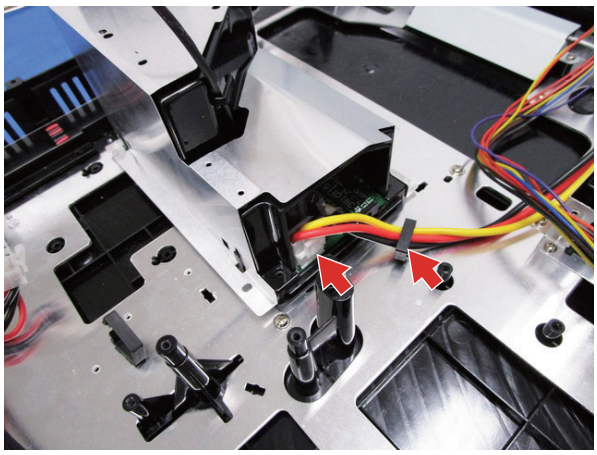
✓ **Note:**

- When attaching the harness cover, set the harness protecting tape in the position indicated with the arrow. Setting it in any different position may cause damage to the harness.



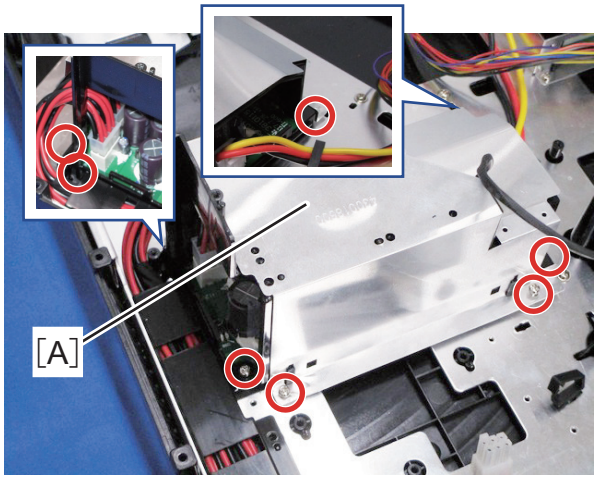
y0ch0169

12. Remove the clamp and connector.



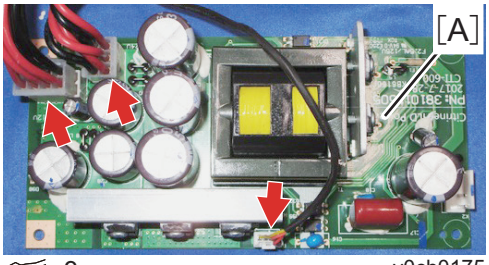
×1 ×1 y0ch0166

13. Remove the shield [A].



×7 y0ch0163

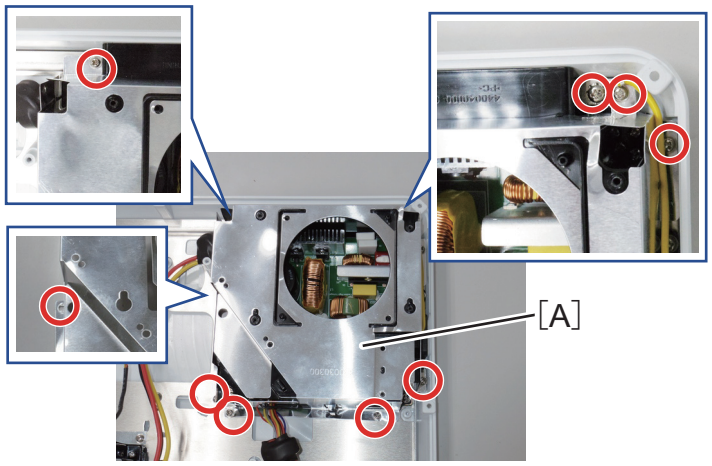
14. Remove the HLD power supply [A].



×3 y0ch0175

9. Main Power Supply

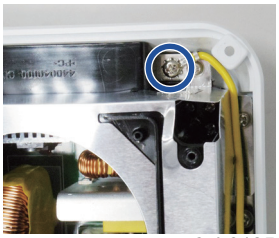
1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Optical engine duct (page 28 "2. HLD Fan/Power Supply Fan2")
3. HLD light module (page 18 "1. HLD Light Module")
4. LED light module (page 18 "2. LED Light Module")
5. Optical engine unit (page 17 "1. Optical Engine Unit")
6. LCD cooling unit (page 32 "3. LCD Cooling Unit")
7. LED fan (page 33 "4. LED Fan")
8. Drive board assembly (page 22 "7. HLD Driver")
9. Power supply fan1 (page 34 "5. Power Supply Fan1")
10. Remove the shield [A].



×9 y0ch0182

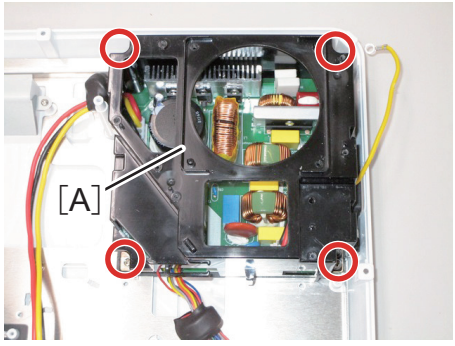
✓ **Note:**

● Use a short screw to connect the earth cable.



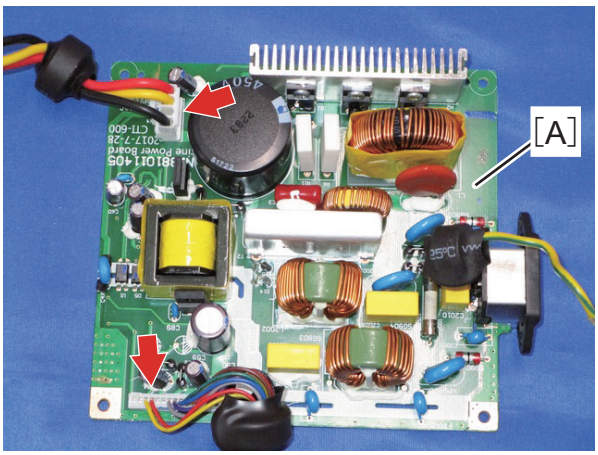
y0ch0185

11. Remove the bracket [A].



×4 y0ch0187

12. Remove the main power supply [A].

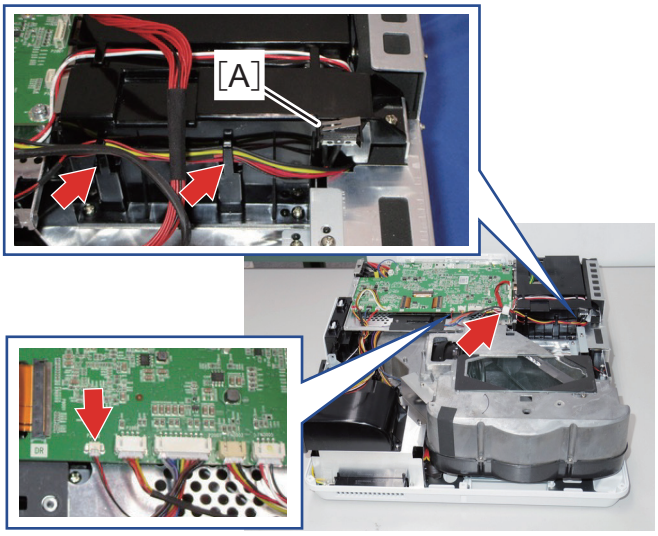


×2 y0ch0197

Sensor

1. Top Cover Switch

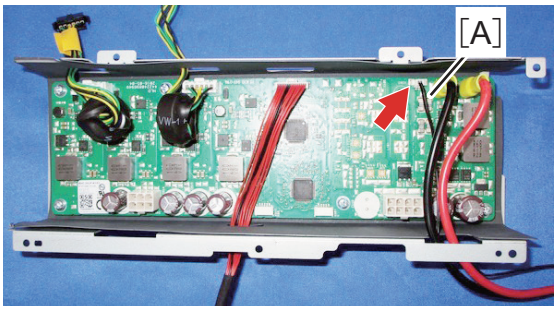
1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Remove the top cover switch [A].



×1 ×3 y0ch1337

2. Temp Sensor

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Optical engine duct (page 28 "2. HLD Fan/Power Supply Fan2")
3. HLD light module (page 18 "1. HLD Light Module")
4. LED light module (page 18 "2. LED Light Module")
5. Optical engine unit (page 17 "1. Optical Engine Unit")
6. LCD cooling unit (page 32 "3. LCD Cooling Unit")
7. LED fan (page 33 "4. LED Fan")
8. Drive board assembly (page 22 "7. HLD Driver")
9. Remove the temp sensor [A].

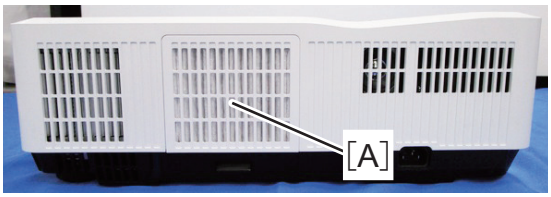


×1 y0ch0155

Fans/Filter

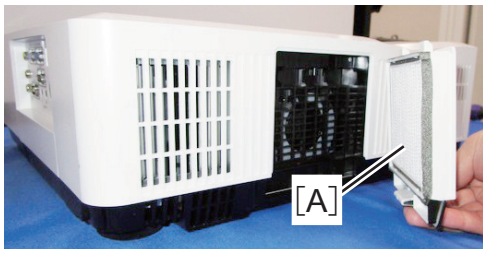
1. Filter

1. Remove the filter cover [A].



y0ch0017

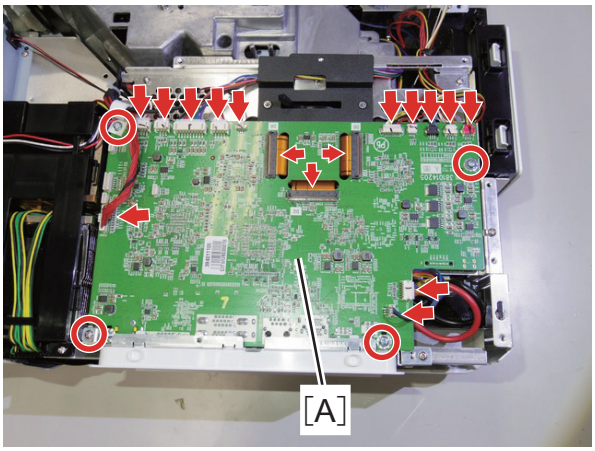
2. Remove the filter [A].

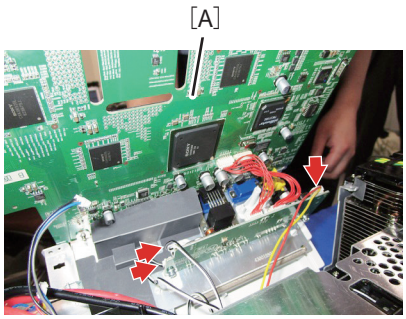


y0ch0019

2. HLD Fan/Power Supply Fan2

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Remove the main board components [A].

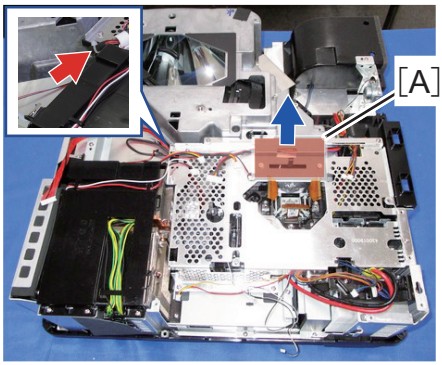




×4 ×19

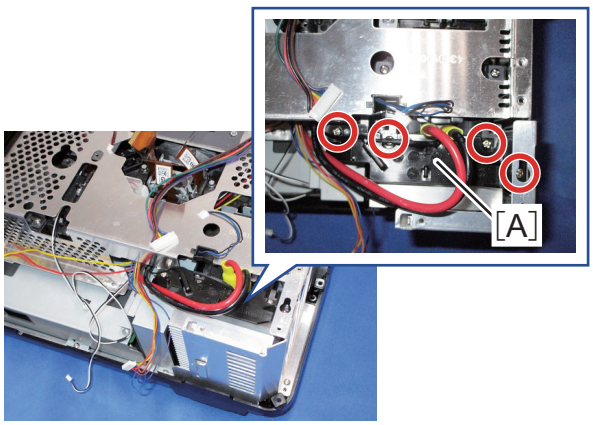
y0ch0030

3. Cut the banding band.
4. Remove the plastic cover to avoid the harness of the zoomring section [A].



y0ch0053

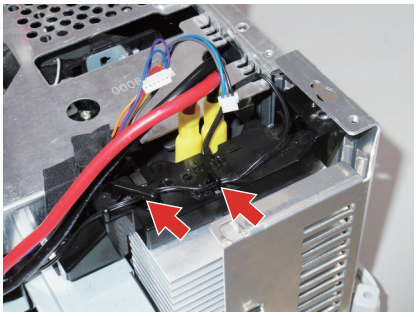
5. Remove the LED bracket [A].



×4

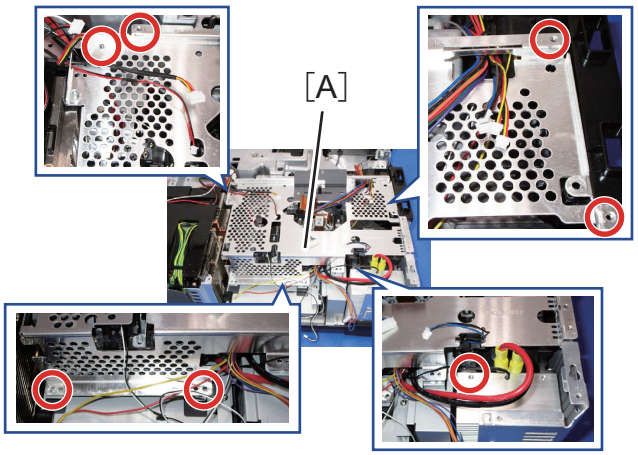
y0ch0057

6. Pull out the temp sensor cable.



×2 y0ch1380

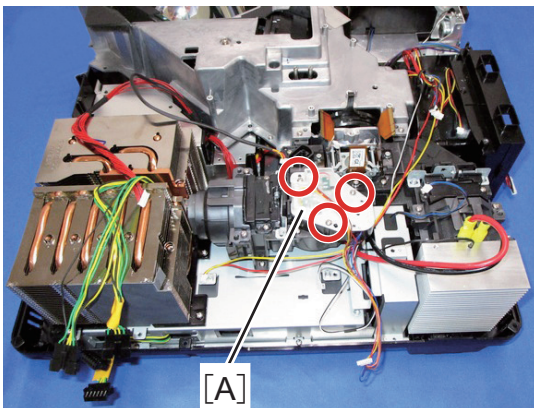
7. Remove the main board bracket [A].



×7 y0ch0060

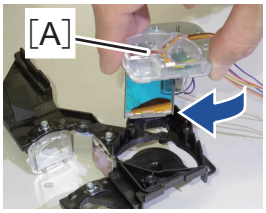
✓ **Note:**

● When replacing the shutter [A], remove the screws shown in the figure.



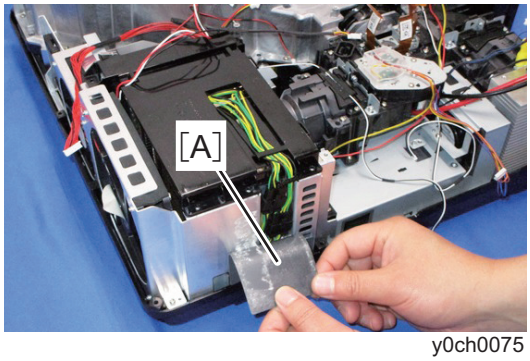
×3 y0ch0090

● Remove the shutter [A] by lightly turning it clockwise.



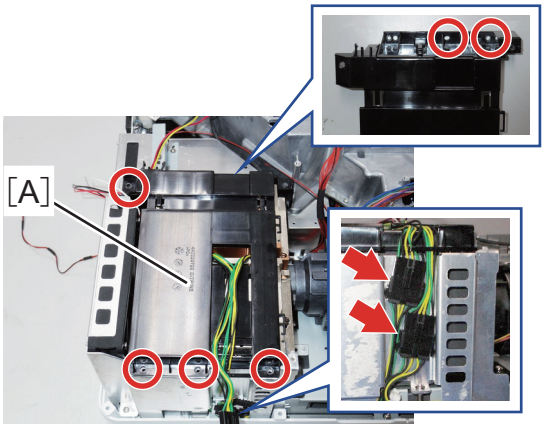
y0ch1395

8. Remove the protecting sheet [A].



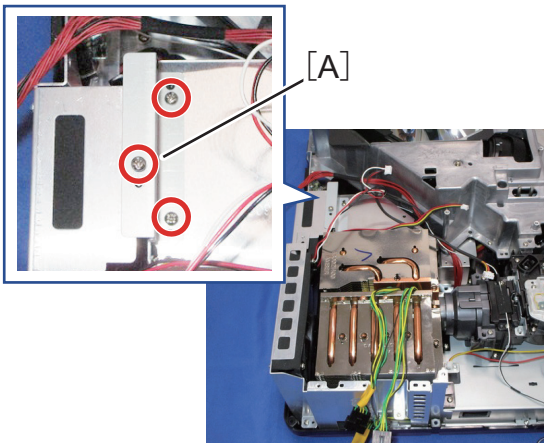
y0ch0075

9. Remove the radiator cover [A].



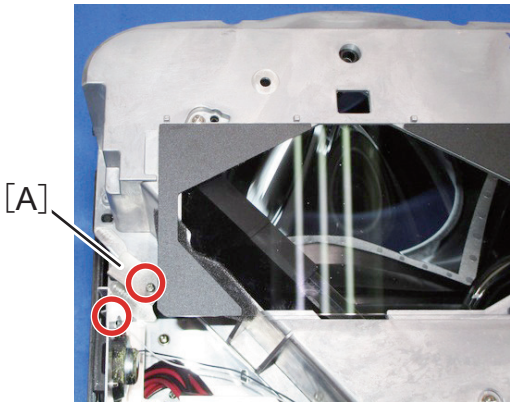
×6 ×2 y0ch0072

10. Remove the exhaust fan bracket [A].



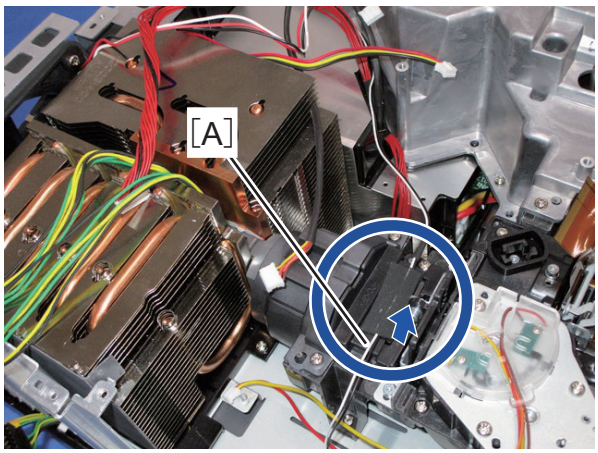
×3 y0ch0080

11. Remove the bracket [A].



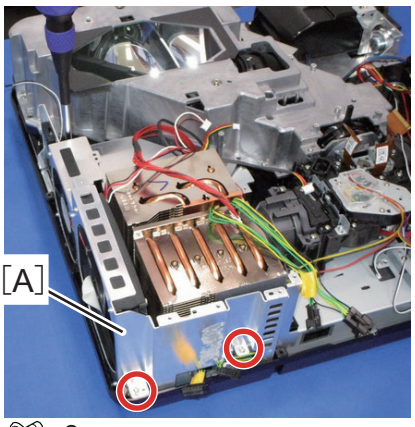
×2 y0ch0081

12. Pull up to remove the speaker wire [A].



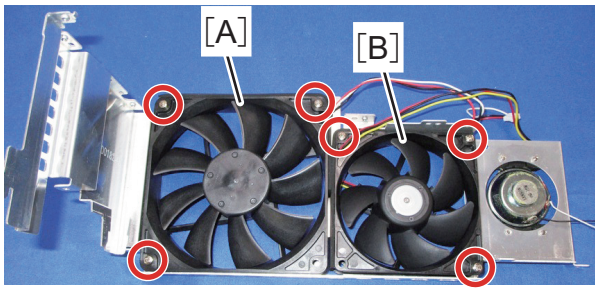
y0ch0083

13. Remove the optical engine duct [A].



×2 y0ch0088

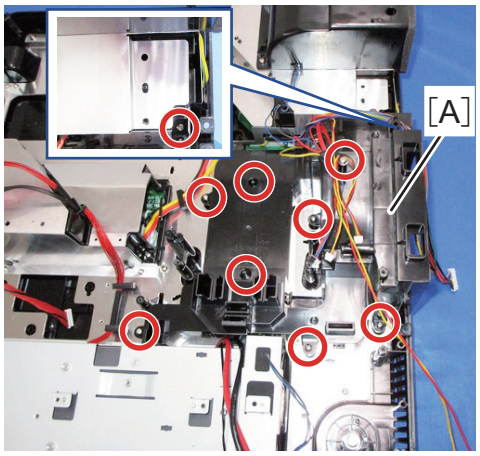
14. Remove the HLD fan [A].
15. Remove the power supply fan2 [B].



×6 y0ch0219

3. LCD Cooling Unit

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Optical engine duct (page 28 "2. HLD Fan/Power Supply Fan2")
3. HLD light module (page 18 "1. HLD Light Module")
4. LED light module (page 18 "2. LED Light Module")
5. Optical engine unit (page 17 "1. Optical Engine Unit")
6. Remove the LCD cooling unit [A].

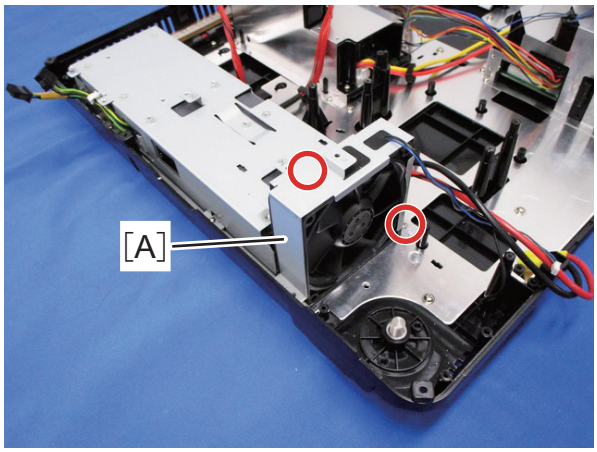


×9

y0ch0124

4. LED Fan

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Optical engine duct (page 28 "2. HLD Fan/Power Supply Fan2")
3. HLD light module (page 18 "1. HLD Light Module")
4. LED light module (page 18 "2. LED Light Module")
5. Optical engine unit (page 17 "1. Optical Engine Unit")
6. LCD cooling unit (page 32 "3. LCD Cooling Unit")
7. Remove the LED fan [A].

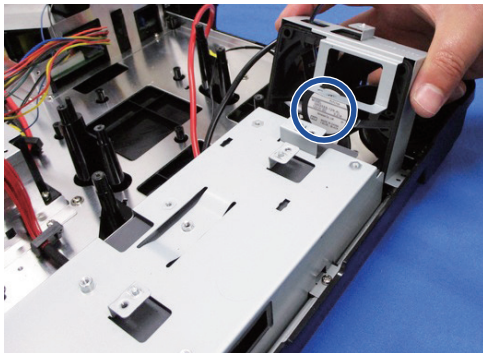


×2

y0ch0136

✓ **Note:**

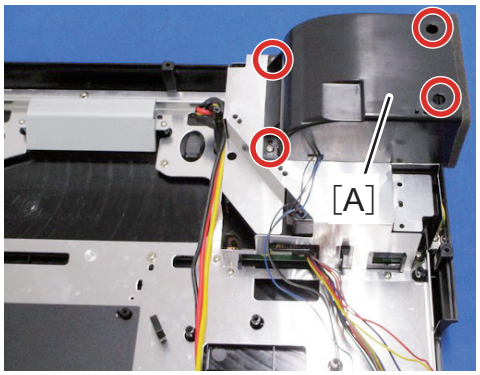
● When attaching the LED fan, set its seal side to face the board.



y0ch0140

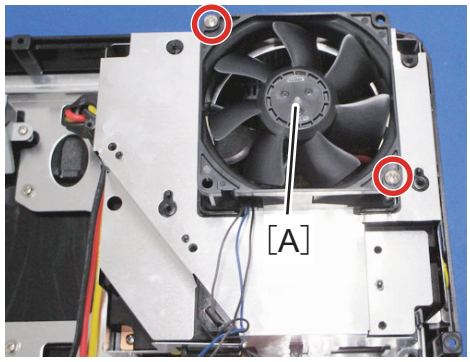
5. Power Supply Fan1

1. Top cover assembly (page 13 "1. Top Cover Assembly")
2. Optical engine duct (page 28 "2. HLD Fan/Power Supply Fan2")
3. HLD light module (page 18 "1. HLD Light Module")
4. LED light module (page 18 "2. LED Light Module")
5. Optical engine unit (page 17 "1. Optical Engine Unit")
6. LCD cooling unit (page 32 "3. LCD Cooling Unit")
7. LED fan (page 33 "4. LED Fan")
8. Drive board assembly (page 22 "7. HLD Driver")
9. Remove the duct [A].



×4 y0ch0177

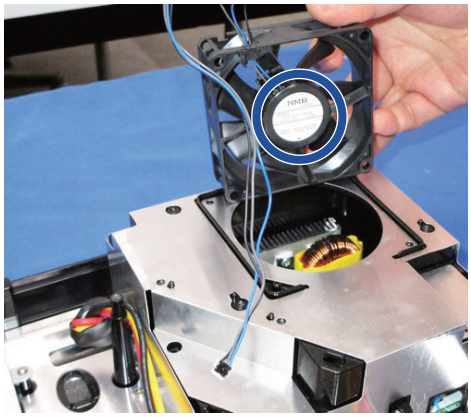
10. Remove the power supply fan1 [A].



×2 y0ch0179

✓ **Note:**

● When attaching the power supply fan1, set its seal side to face the board.



y0ch0180

Adjustment after replacement parts

● : Adjustment ❍: Check

		Remove / Replace parts						
		LCD/ Prism	Condenser lens(OUT)	Polarizing			POWER board	MAIN board
				R	G	B		
Optical adjustment	Optical center adjustment	❍	●					
Electrical adjustment	ADC adjustment							●
	Fan voltage adjustment							●
	Check and set the screen type	❍						●
	Anti-voltage adjustment							●
	Keystone adjustment							●

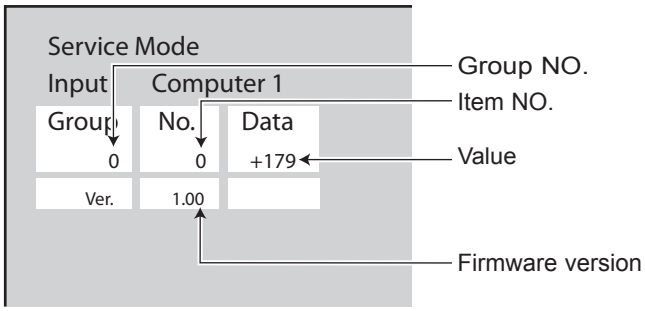
✓ **Note:**
* 1 When adjusting the EEPROM data transmission, the following data will be transferred from the original data to the new board:
- Service adjustment data (fan voltage regulator / flicker frequency adjustment)
- Uneven color correction data
- Gamma correction data

Electrical adjustment

Service adjustment menu operation

1) Enter service mode

Press the Menu and ▼button for more than 3 seconds. Then the service mode menu will display to enter to the service mode shown as follows.



2) Adjust the data on the service mode

Press the Menu button to adjust the items , Press ▲or ▼button to change the value.

✓ **Note:**
You can refer to the Service adjustment data table for detailed description about the grpou,item and value.

3) Exit service mode

Press the ⏻/I button to exit service mode.

Circuit adjustment

✓ **Note:**
The circuit has been accurately adjusted at the factory. DO NOT attempt to adjust the following circuit as it may cause serious damage to property and product safety unless you have to adjust it during maintenance. Before adjustment, please turn on the projector to preheat at least 10 minutes.

✓ **Caution:**
Take the UV radiation measures to protect the eyes and skin during maintenance.

✓ **Note:**
Make sure to complete these adjustments within 25 minutes to protect against UV radiation.

1.ADC adjustment

Input signal

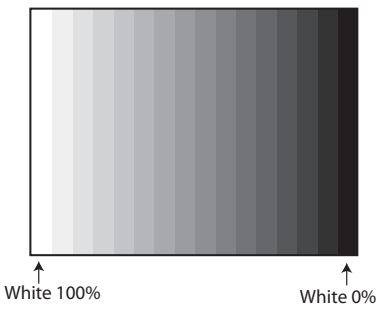
VGA ..... 0.7Vp-p/75W, 16 steps gray scale
Component .....1.0Vp-p/75W, 100% full color bar or16 steps gray scale (Component signal)

Input signal Style

VGA input

1. Select the VGA channel, then input 16 steps gray scale;
2. Enter into service mode, then select group 260, item 0.And set the value from "0" to "1".
3. After the preceding operations are completed, the screen displays "OK".

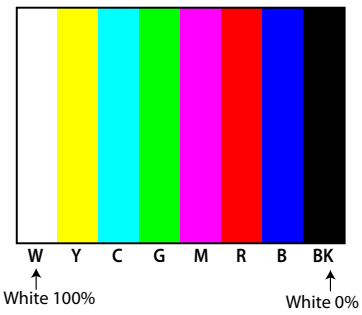
16 gray scale



COMPONENT input

1. Select the COMPONENT channel, then input 18 colorbar of 100% full in the color table;
2. Enter into service mode, then select group 260, item 0.And set the value from "0" to "1".
3. After the preceding operations are completed, the screen displays "OK".

8 colorbar of 100% full
in color table



✓ **Note:**
* Refer to "Service adjustment menu operation" for entering service mode and adjust the service data.

2.Fan voltages adjustment

Equipment Digital voltmeter

1. Enter service mode.
2. Select the item 250. According to the following adj. item to change the value of the test value.

Group-Item	Test point	Adj. value
250 - 0	FAN-A1	4.0 ±0.1Vdc
250 - 1	FAN-A1	12.5 ±0.1Vdc
250 - 2	FAN-B1	4.0 ±0.1Vdc
250 - 3	FAN-B1	12.5 ±0.1Vdc
250 - 4	FAN-C1	4.0 ±0.1Vdc
250 - 5	FAN-C1	12.5 ±0.1Vdc
250 - 6	FAN-D1	4.0 ±0.1Vdc
250 - 7	FAN-D1	12.5 ±0.1Vdc
250 - 8	FAN-E1	4.0 ±0.1Vdc
250 - 9	FAN-E1	12.5 ±0.1Vdc

✓ **Note:**
You need to make the above adjustments When replacing the fan board or motherboard.

3. Check and set the screen type

Please confirm which type your projector's LCD screen is firstly based on the LCD screen / Prism components disassembly in the Optical components disassembly before setting.

1. Enter service mode.
2. Check the LCD screen type.
   Select group 290, item 0 to check the value below:
   Value=0 : LCD screen type of L type
   Value=20 : LCD screen type of R type

✓ **Note:**
If the LCD screen type you have installed display different from the above, you need to adjust as the following steps.

3. LCD screen type mode setup
   - Select group 290, item 1.
   - Set the value according to the LCD screen type's setting values from10 to 0 or 20.The value may back to10 instantly if it reach to 0 or 20.

✓ **Note:**
You need to make the above adjustments when replacing the optical components or main board.

4.Anti-voltage adjustment

1. Enter service mode.
2. Select group 30. According to the following description to change the data value to obtain the minimum flashing value.

Group-Item	Adj. value
30 - 3	Flashing red
30 - 4	Flashing green
30 - 5	Flashing blue

5.Keystone correction

Input signal No signal

1. Adjust the pad to the minimum angle and place the projector horizontally. Enter service mode.
2. Select group 102 item 3 and change its value from 0 to 5.
3. Press the SELECT button for keystone correction.
4. After the preceding operations are completed, the screen displays "OK".
5. Press any key on the projector or on the remote controller and "OK" disappears. (The value for group102 item 3 is restored from 5 to 0.)

✓ **Note:**
You need to make the above adjustments when replacing the optical components or main board.

Trouble shooting

Light indicator and projector status

Light indicator indicates the projector status.
If you have met kinds of unexpected problems when you operate the projector, please do as the following table says to check the operation of the projector. Check light indicator to learn status of your projector to ensure your projector in the best state. Take proper maintenance measures according to the light indicator status.

■ Light indicator status

Check light indicator to learn status of your projector.

Light indicator			Status of your projector
POWER Green /Red	STATUS	FILTER	
○	○	○	Your projector is in Off status (without AC power supply).
●	○	○	Your projector is in standby status. Press Standby button to turn it on.
●	○	○	Your projector is in normal status.
✳	○	○	It is ready for standby or the lamp is cooling. You may power on your projector only after the lamp is fully cooled and the POWER light indicator stops flashing.
✳	○	○	Your projector is in Ready mode.
●	●	○	Your projector detects abnormal situation and cannot power on. Unplug the AC power cord and connect it again before powering on your projector. If it powers off again, please unplug the cord and call your dealer or service center for maintenance or inspection. Do not let it continue operating as this may lead to electric shock or fire.
✳	●	○	Your projector detects lamp abnormality and cools down.
●	●	○	Your projector detects lamp abnormality and switches into standby mode.
✳	✳	○	Your projector cannot power on, as its internal temperature is too high. You may power it on after it is fully cooled, temperature backs to normal, and the POWER light indicator turns red.
●	✳	○	You may power is fully cooled with temperature backs to normal.
○	○	●	The filter requires cleaning

● ...Green ● ...Red ● ...Yellow ○ ...Turns off

✳ ...Flashing green ✳ ...Flashing red ✳ ...Flashing yellow

✓ **Note:**

- It is likely to something wrong inside the projector if the warning indicator still on or flashing after taking measures above. Please turn off the projector, otherwise it may result in electric shock or fire.
- DO NOT turn on the projector when you have checked something abnormal. Unplug the AC power cord quickly, insert again, then turn on the projector. If the projector is shutting down once again, that means that there is some serious problem with it. Do not continue to operate the projector,or it may result in electric shock or fire.

No power

We can identify the abnormal area through light indicator status.
Connect the AC power cord, press ⏻/I button to check light indicator.

- All light indicators will be Off indicates the main board abnormal. Please check the main board circuit and component.
  - Check AC power cord, F2001(Fuse), Filter board, POWER substrate.

- The WARNING and POWER indicator flashes red, indicating that the projector inside is too hot. PLS check the air filter and remove the three openings of the air inlet and exhaust nearby. When the POWER indicator stops flashing, try to turn on the projector again.
  The sensor in the machine monitors the temperature and temperature of the projector in real time.

- The WARNING indicator is yellow, indicating abnormal condition of cooling fan or secondary line. PLS check the status of the fan, power circuit and drive signal.
  When the PJ is abnormal, P_FAIL signal (Error < 2V), FAN_ERR signal (Error < 2V) and signal (Error < 2V) will be connnected into IC1001.
  - PLS chenck the secondary power supply if the P_FAIL signal < 2V.
  - PLS chenck the FAN and its related circuit if the FAN_ERR signal < 2V.

LED light source switch
Make sure the panel pad and top case are installed correctly.
If not, LED indicator will be off just for security reasons.

Power on abnormal

Follow the steps below for check:

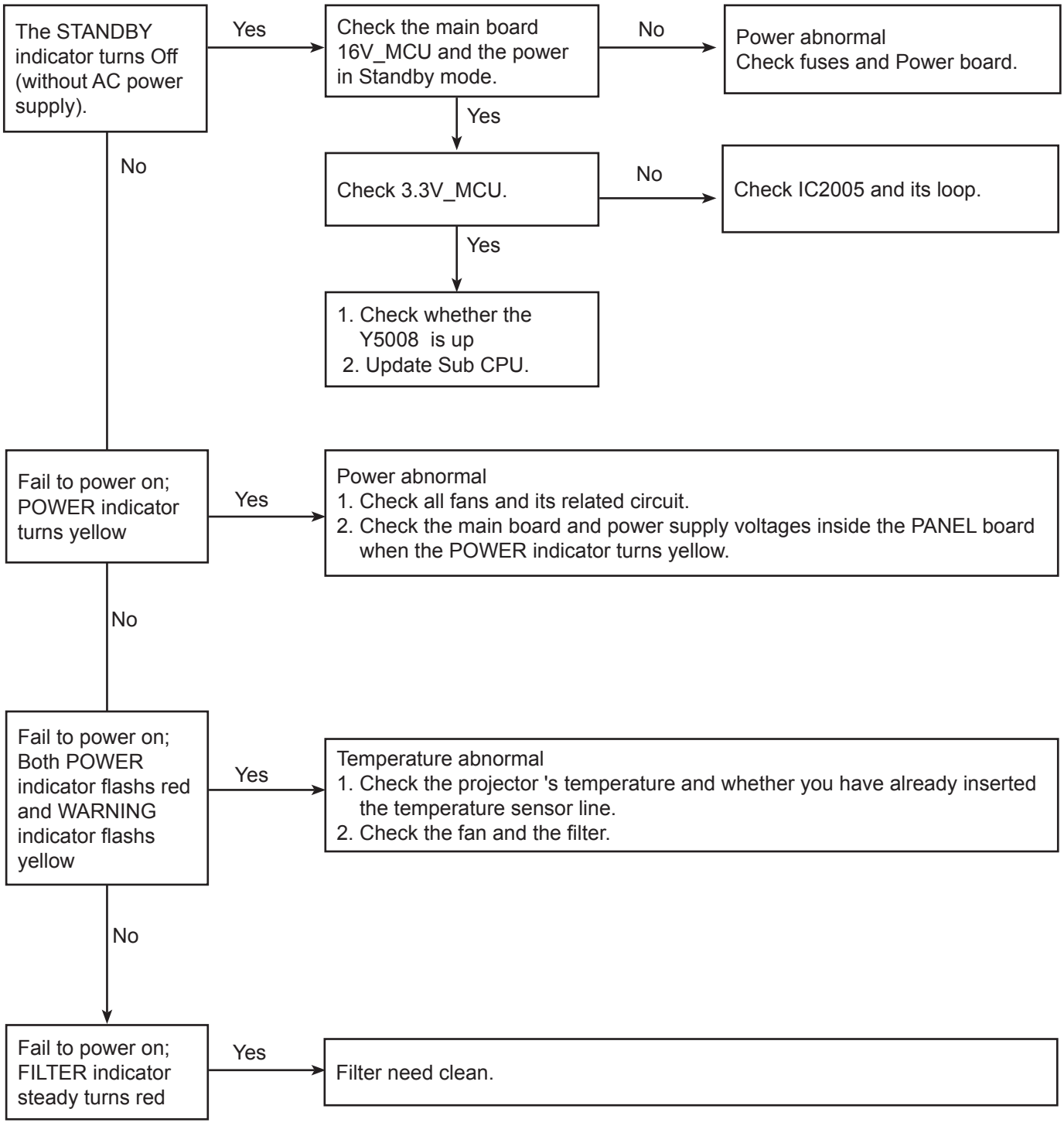
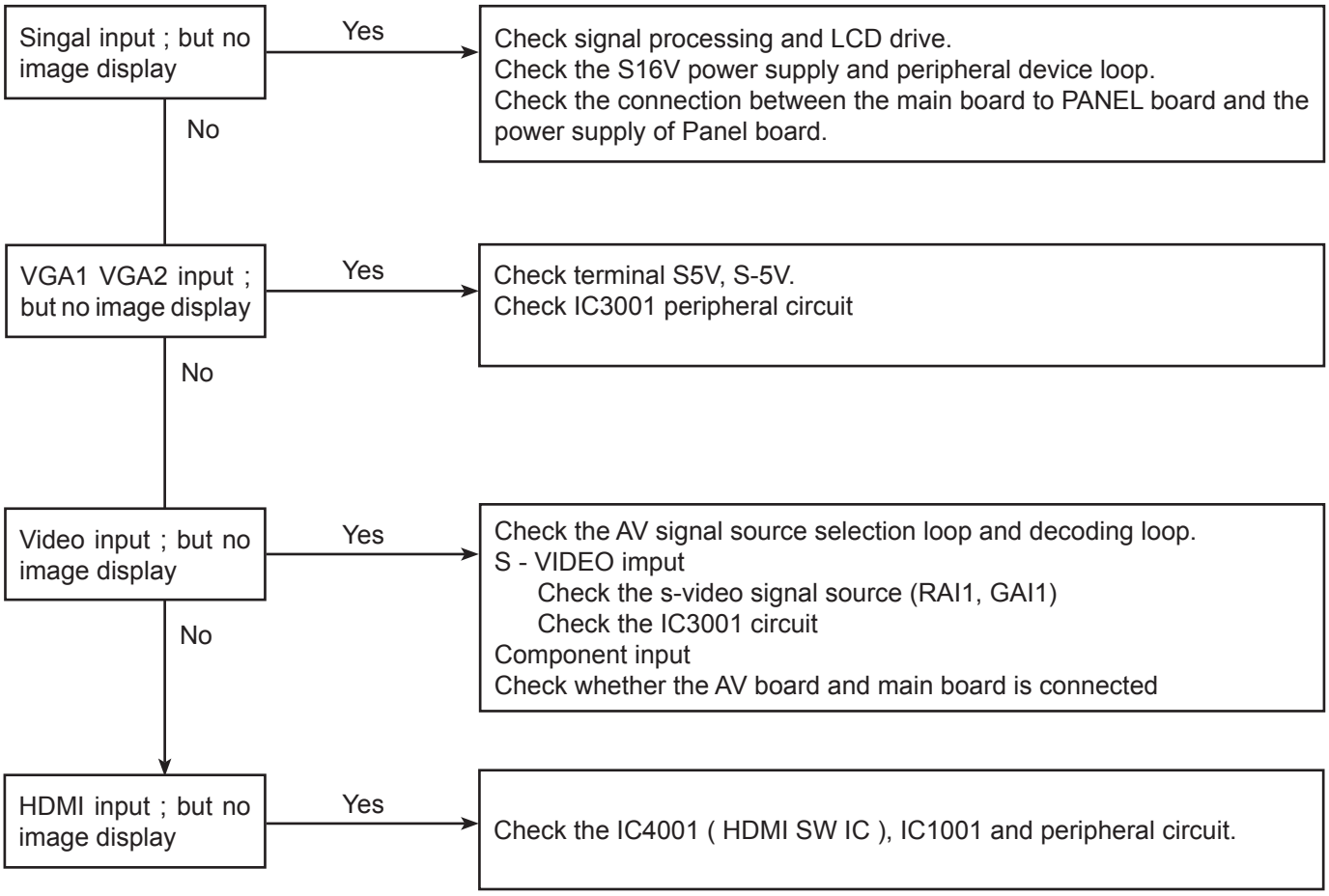


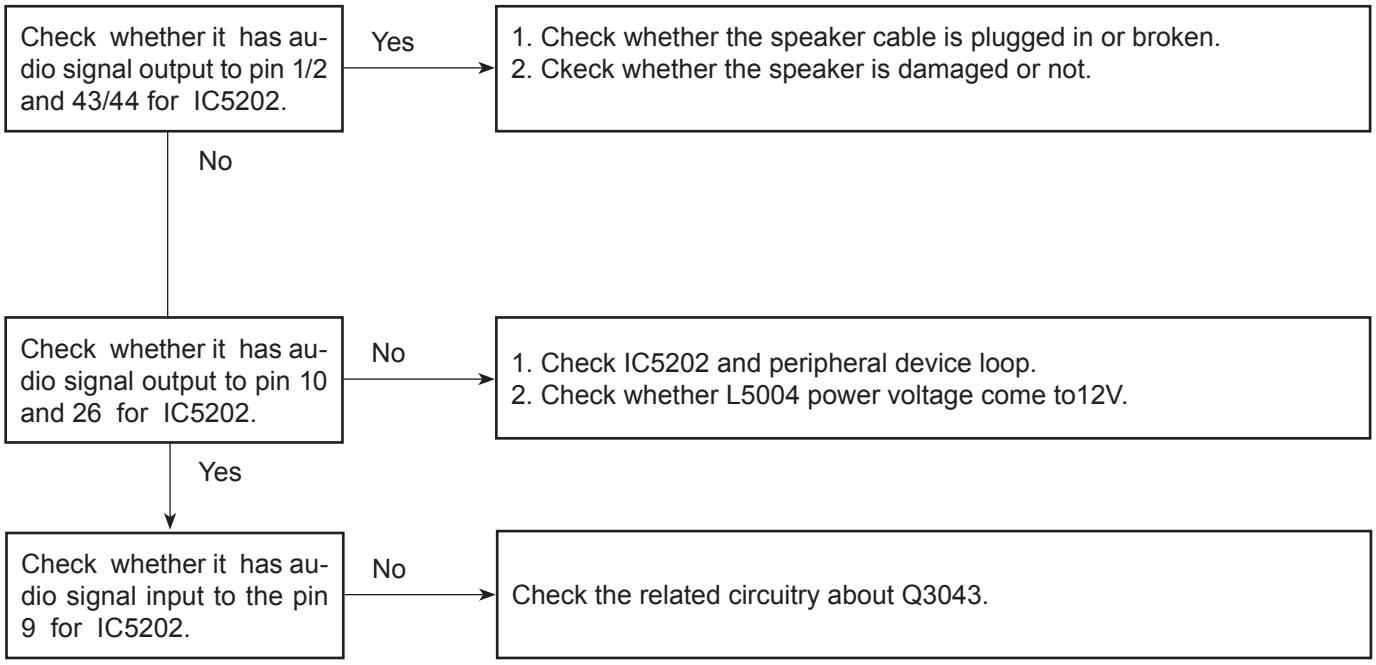
Image display abnormal

Check the image as the following steps.



No sound

Follow the steps below for check:

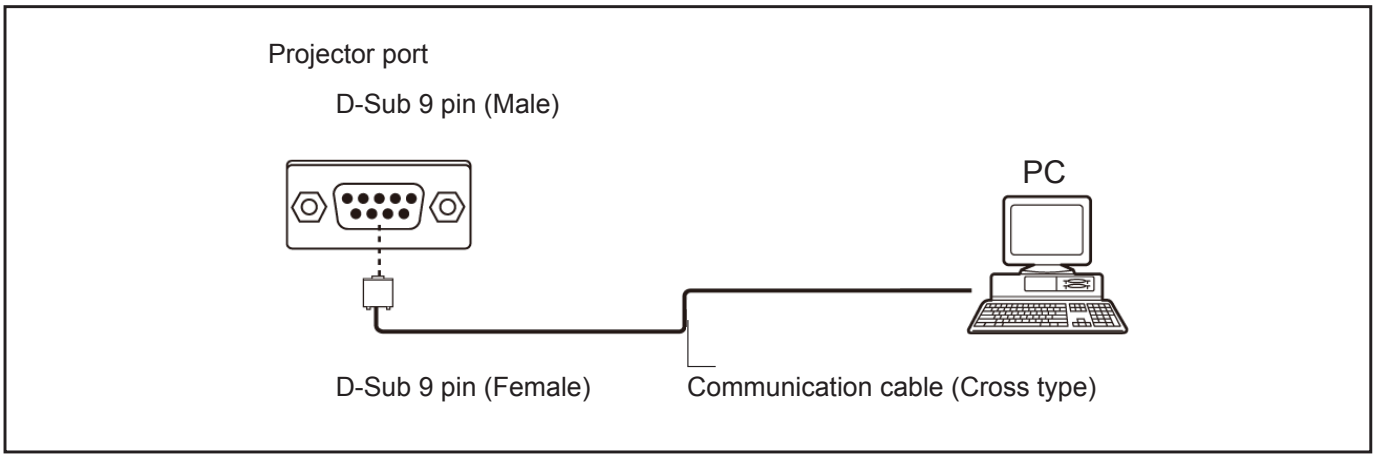


Serial control

Serial port

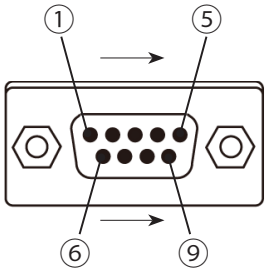
The <Serial Input> terminal of the projector is in accordance with RS-232C, so the projector can be connected to the computer and controlled by the computer.

Connection



The pin layout and signal

D-Sub 9 pin (Male)
Appearance diagram



Pin number	Signal name	Description
①	—	NC
②	RXD	Receive data
③	TXD	Transmission data
④	—	NC
⑤	GND	Ground connection
⑥	—	NC
⑦	RTS	Internal connection
⑧	CTS	
⑨	—	NC

Communication condition

Signal level	Compatible with RS-232C
Synchronization mode	Asynchronous
Baud rate	19 200 bps
Parity check	NO

Character interval	8-bit
Stop bit	1-bit
X Parameters	NO
S Parameters	NO

RS232 control mode

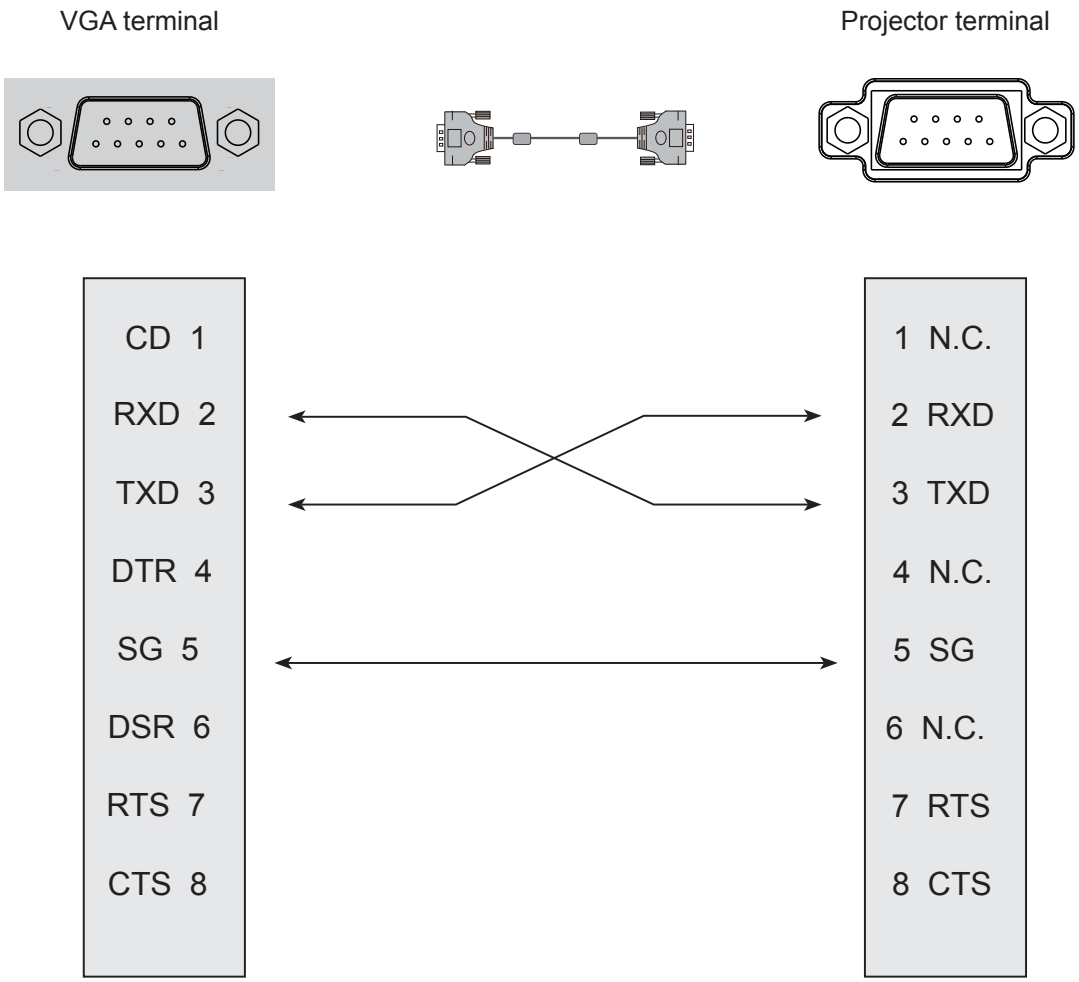
Serial connection

1.1 Port setting

Projector	Setpoint
Communication method	Asynchronous communication
Communication rate	19200
Length	8-bit
Parity check	NO
Stop position	1
Flow control	NO

1.2 Connection mode

Can only use RS232 serial cross connect PC and projector.



2. Basic commands

Distinguish the letter case.and enter Each command ends with [CR] (enter) .

Command	Option	Command	Option
C00	POWER ON	**C07**	Video
C01	POWER OFF(Immediately)	**C33**	Component
C02	POWER OFF	**C34**	S-Video
C36	HDMI1	**C15**	Network
C38	HDMI2 (MHL)	**C16**	Memory Viewer
C05	VGAIN 1	**C17**	USB Display
C06	VGAIN 2		

2.1 POWER ON command

Command	“C00”[CR]	
Details	Power ON action. Do nothing,when you are in Power ON state . Send this command can force the end of the countdown in the countdown state.	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

2.2 POWER OFF command (Namely Power Off Immediately)

Command	“C01”[CR]	
Details	Power OFF action. Send this command can force your projector to power off during in power on state.	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

2.3 POWER OFFcommand

Command	“C02”[CR]	
Details	Power OFF action. A "POWER OFF " dialog box pops up when sending the POWER OFF command ,and do once again can force your projector to power off. Send this command can force the end of the countdownthe in the countdown state.	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

Note: [ACK] "CR" is the return value for receiving valid commands.

2.4 HDMI 1 command

Command	“C36”[CR]	
Details	Select HDMI Input.	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

2.5 VGA IN 1 command

Command	“C05”[CR]	
Details	Select VGAIN 1 Input	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

2.6 VGA IN 2 command

Command	“C06”[CR]	
Details	Select VGAIN 2 Input	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

2.7 S-Video command

Command	“C34”[CR]	
Details	Select S-Video Input .	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

2.8 Component command

Command	“C33”[CR]	
Details	Select Component Input.	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

Note: [ACK] "CR" is the return value for receiving valid commands.

2.9 Network command

Command	“C15”[CR]	
Details	Select Network Input .	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

2.10 Memory Viewer command

Command	“C16”[CR]	
Details	Select Memory Viewer Input .	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

2.11 USB Display command

Command	“C17”[CR]	
Details	Select RGBHV Input	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

2.12 Video command

Command	“C07”[CR]	
Details	Select Video Input	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

2.4 HDMI 2 command

Command	“C38”[CR]	
Details	Select HDMI 2 Input.	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	“?” [CR]

Note: [ACK] "CR" is the return value for receiving valid commands.

PCB diagram

Important safety instruction
Components identified by International symbol ⚠ identifies hold the special security features.
Please use the specified model for replacement .

■Low voltage and high voltage warning

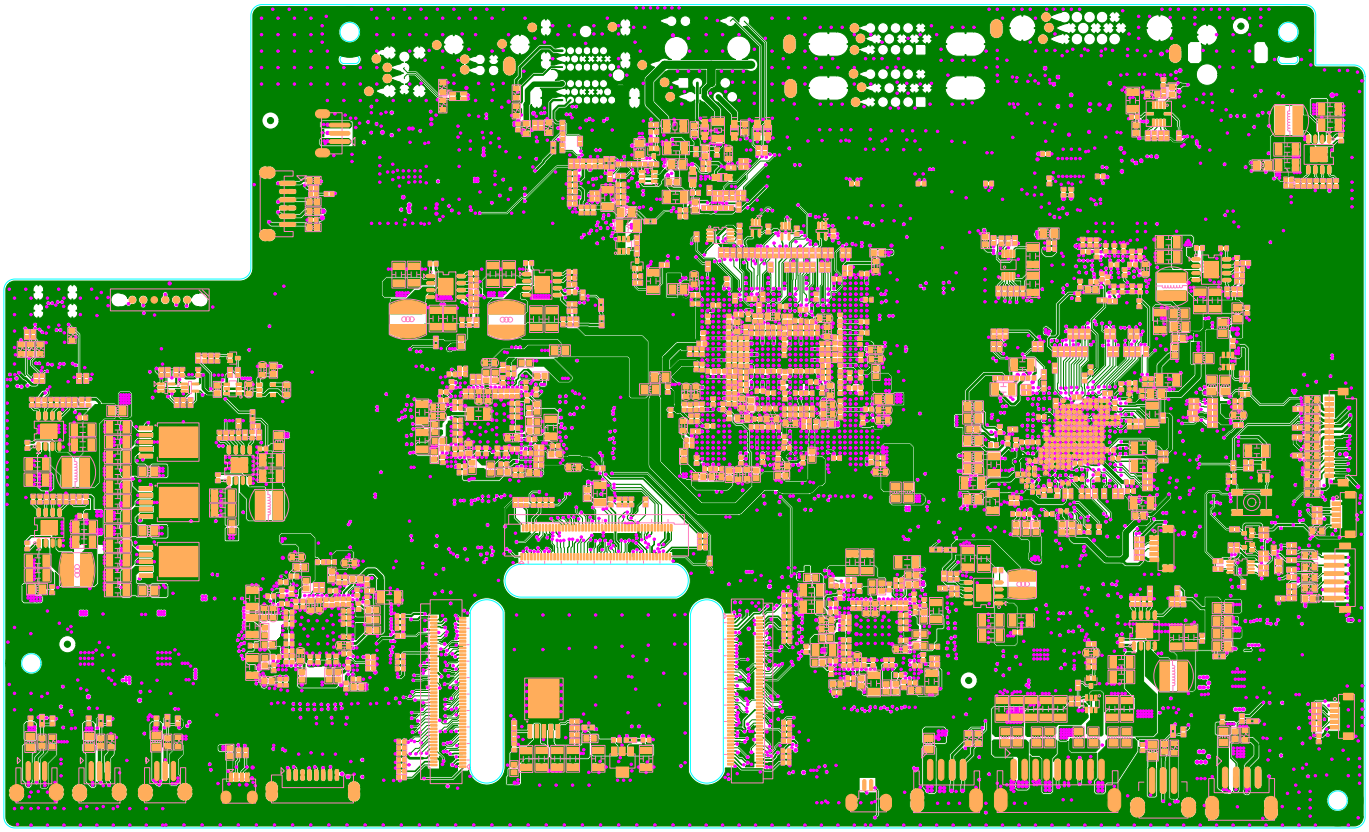
- The power supply circuit includes a circuit unit to separate the power supply from ground.
- Circuit has two kings: high-voltage circuit and the low-voltage circuit. Please take the following precautions against it.
- This diagram is the final version before production. Changes maybe made without notice.

■Preventive measure

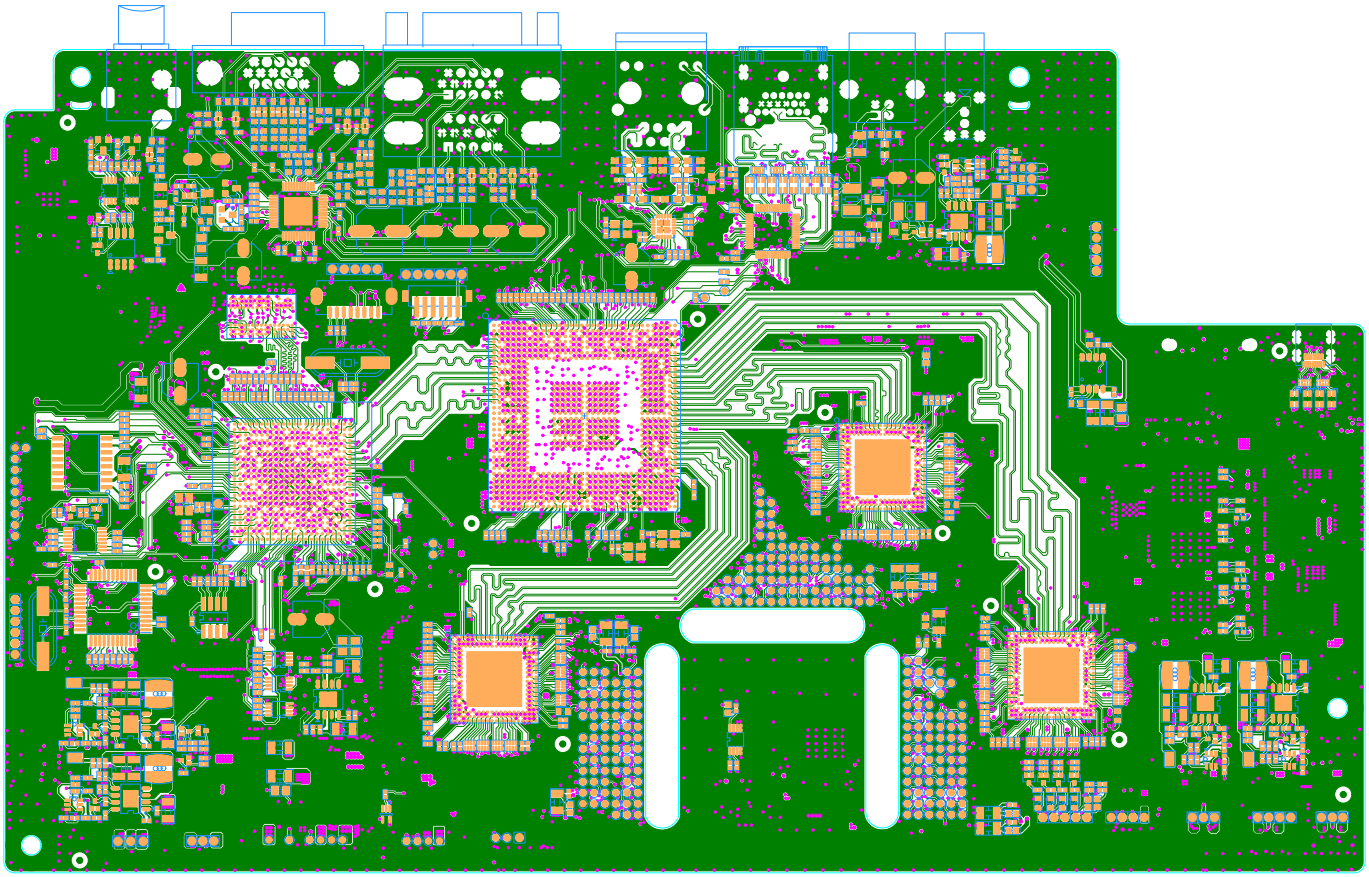
- DO NOT touch the parts of high voltage area or area between low voltage and high voltage , as it may cause risks of electric shock.
- DO NOT short circuit, high voltage and low voltage circuit, otherwise the fuse will be disconnected and damage the components.
- DO NOT connect the parts such as an oscilloscope in the high voltage area and the low voltage area to protect the fuse. Connecting the parts under measure from surface to the ground .
- When removing the movement, make sure to unplug the power cord from outlet.
- Please check service codes for this part in structural parts list diagram, when ordering components .

Citrine XGA main board

Main board PCB (A)

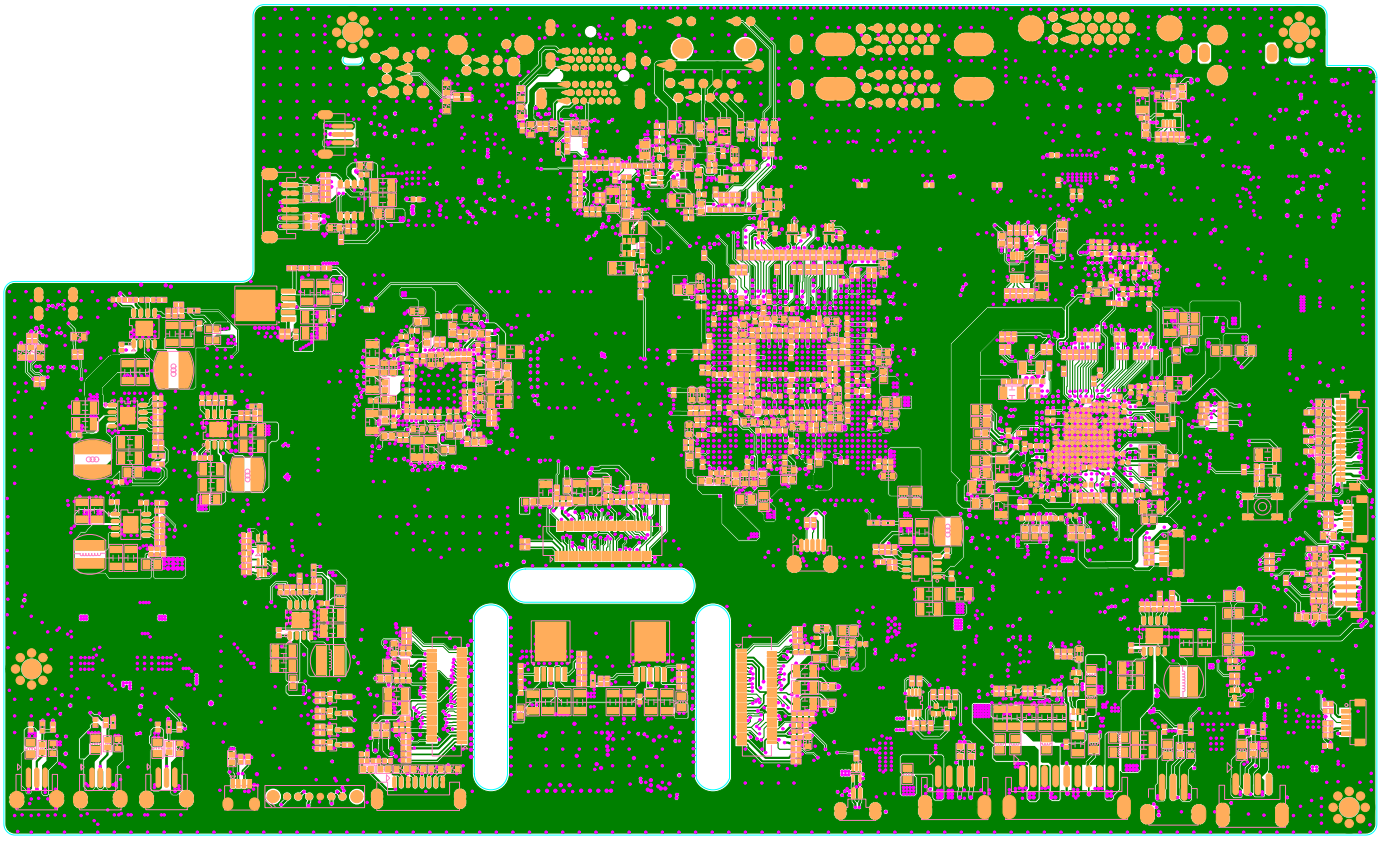


Main board PCB (B)

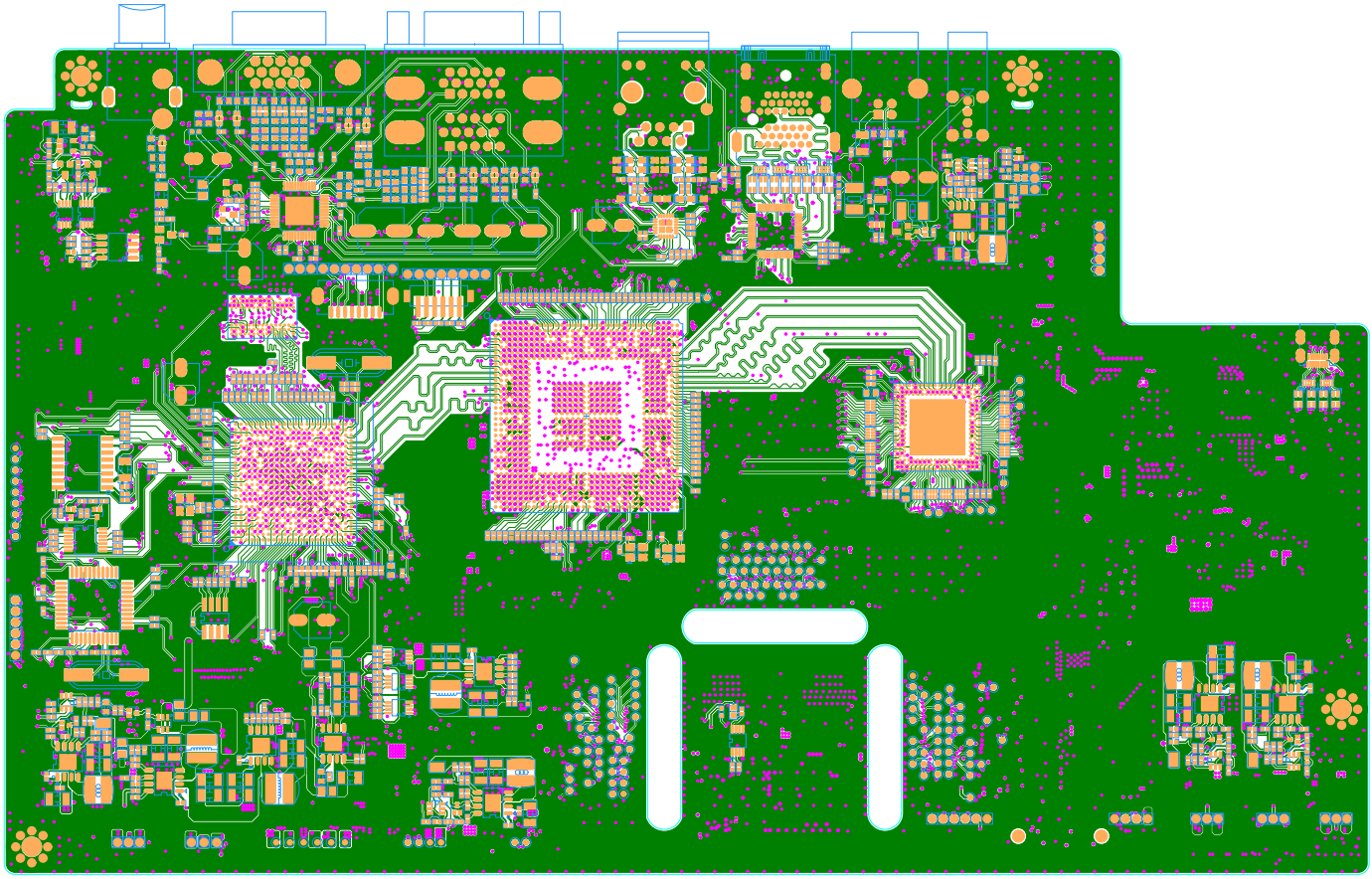


Citrine WUGA main board

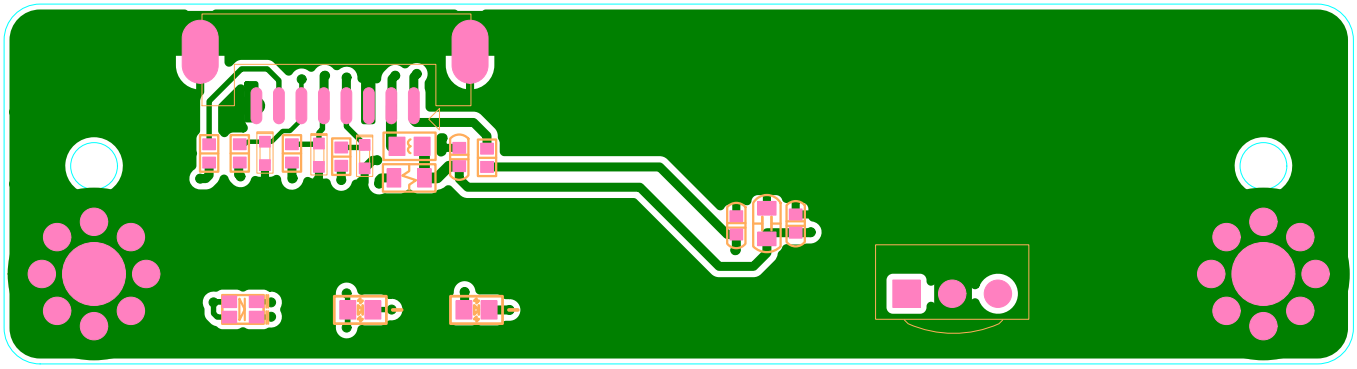
Main board PCB (A)



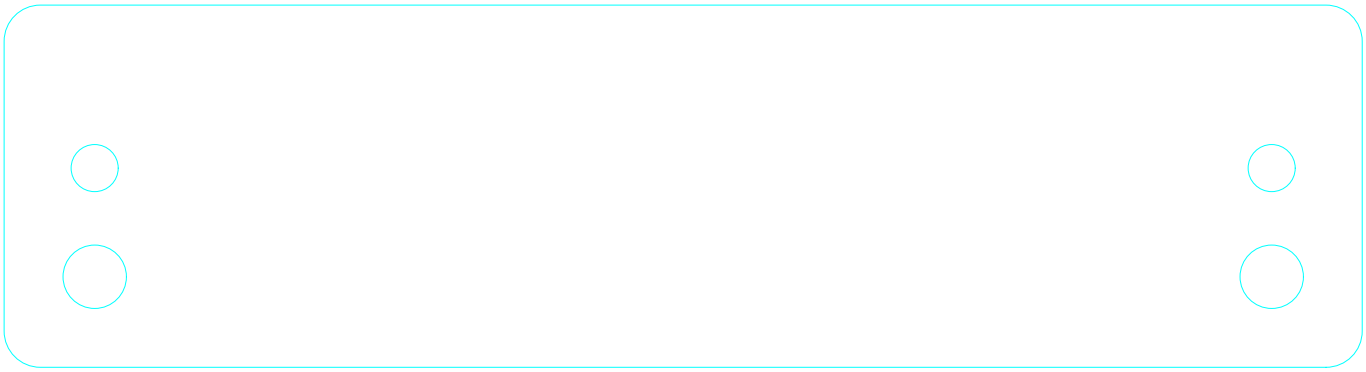
Main board PCB (B)



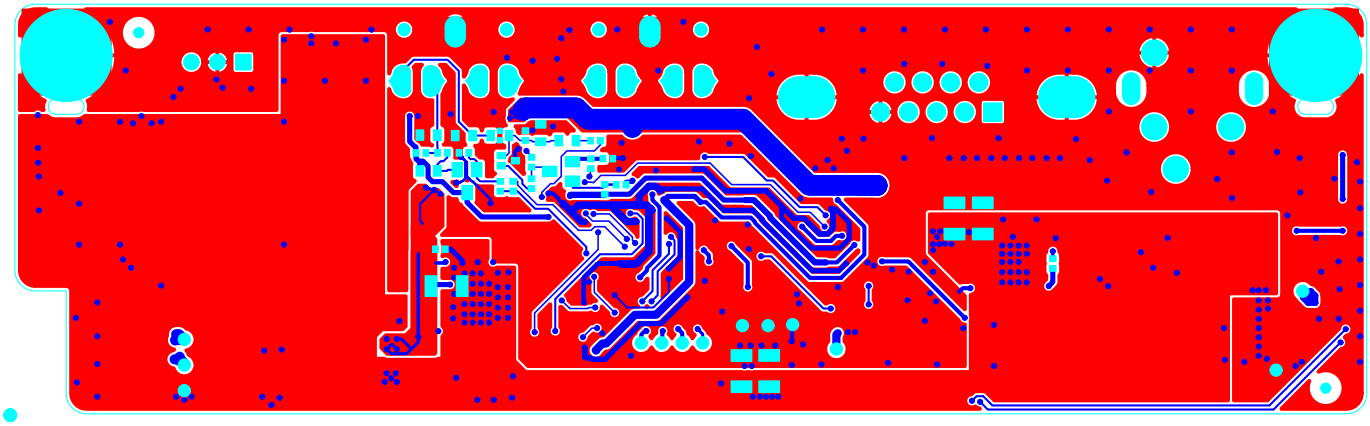
LED+RC (A)



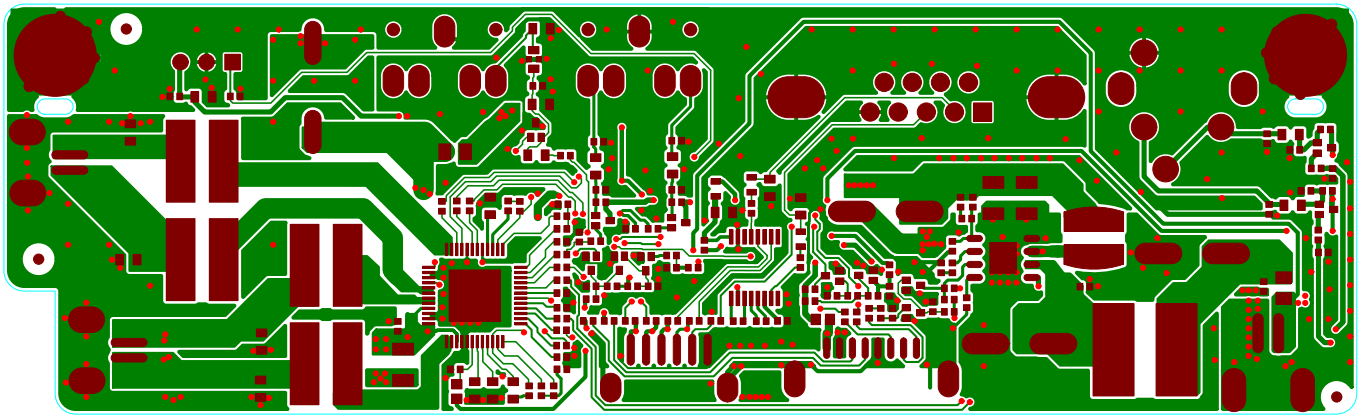
LED+RC (B)



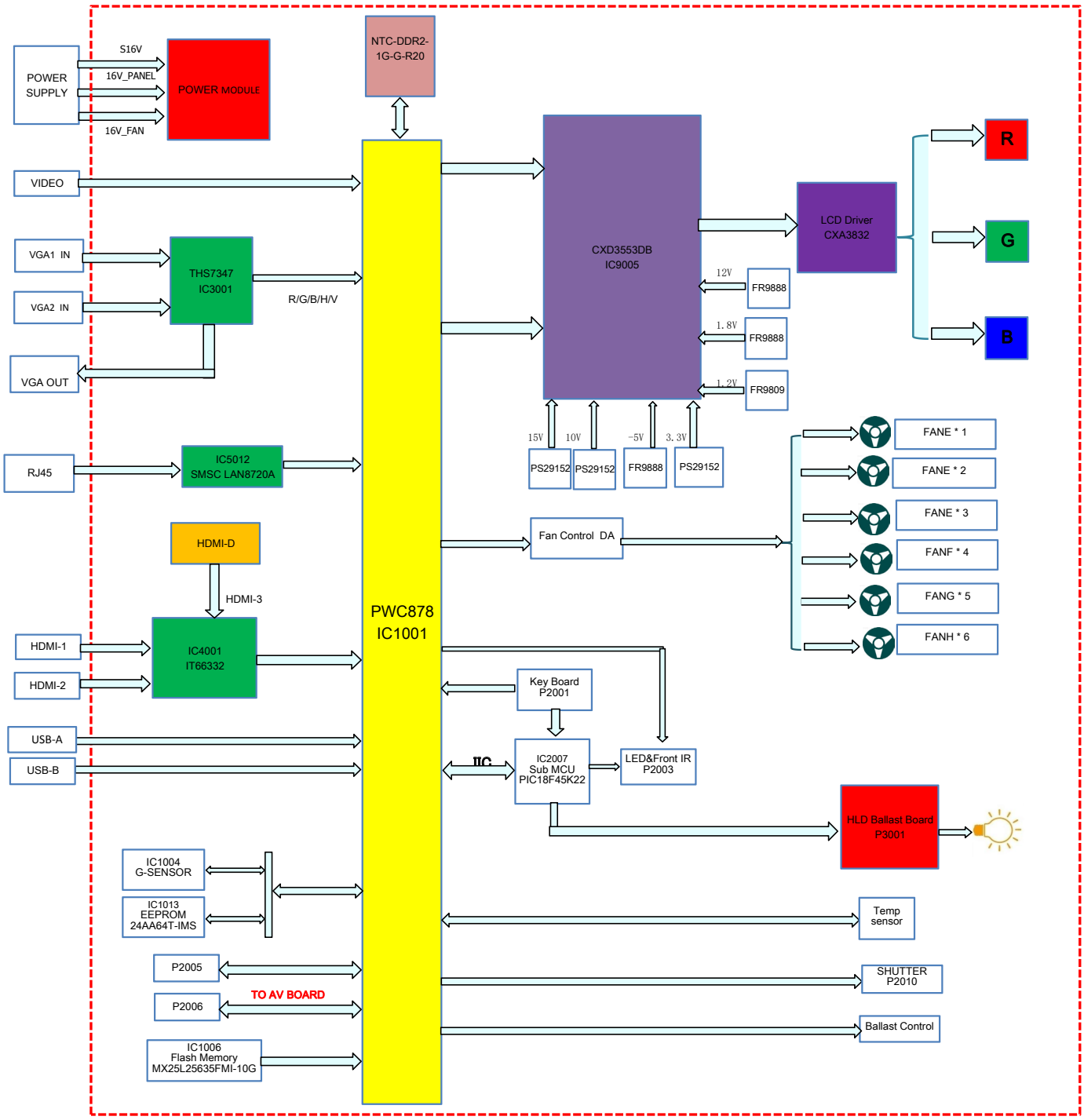
AV board (A)



AV board (B)



HLD XGA （Citrine）MainBoard Block Diagrams



HLD WUXGA （Citrine）MainBoard Block Diagrams