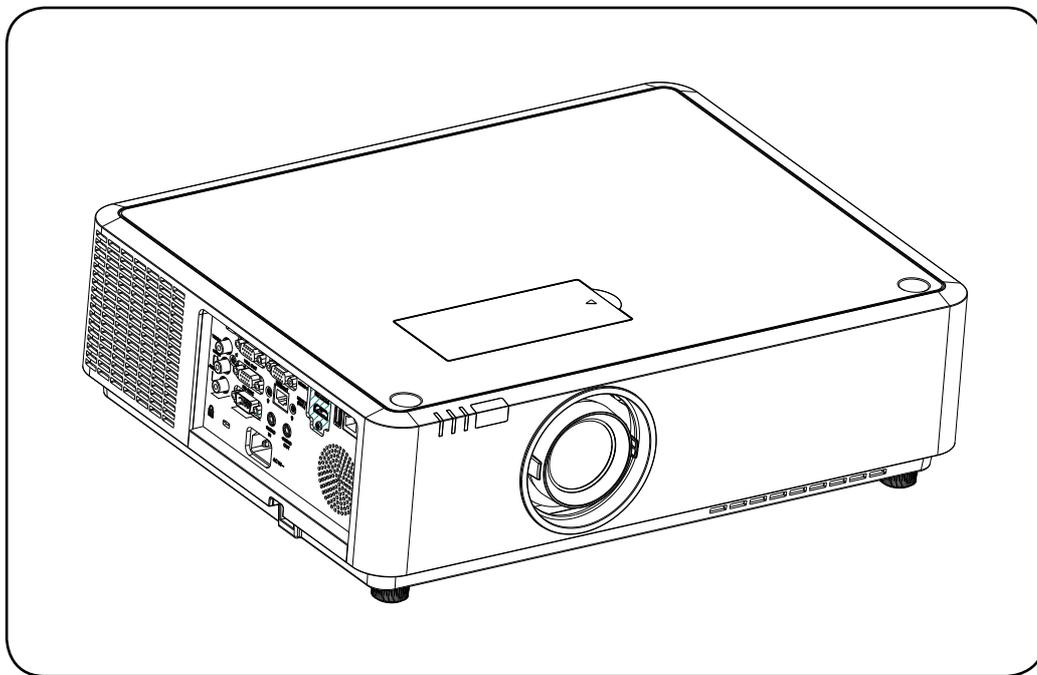




HLD Long Throw LCD Projector Service Manual



Model: EK-350 Series

Content

Content.....	2
Safety instruction	3
Key lock, PIN code lock reset.....	8
Indicator and projector state.....	9
Maintenance and cleaning.....	10
Reset the filter counter.....	12
How to check the light source usage time.....	13
Mechanical disassembly.....	14
Service Mode.....	26
To enter Service Mode.....	26
How to operate.....	26
Error History Log.....	26
Adjustment after replacement parts.....	29
Trouble shooting	32
Appendix-Technical Specification	43
Appendix-Serial control.....	44
Appendix-RS232 control mode.....	45
Appendix-RS232 control commands.....	46
Appendix-Parts location diagram.....	50
Appendix-PCB diagram	56
Appendix-Schematic diagram.....	59
Appendix-Chassis block diagram	60

Safety instruction

Technicians need to read and follow the "safety precautions" and "important safety tips" strictly in the service manual in the maintenance process.



Caution

The service manual is only for experienced technicians, rather than the general public.

The service manual does not include the warning about the non-technicians or to inform the danger they may occur in the maintenance process.

When the product is powered on, it can only be repaired or processed by experienced professional technicians. Any other person who attempts to repair or repair the products involved in the service manual may result in serious injury or even death.



Caution

Please take UV radiation measures to protect your eyes and skins in the maintenance process.

NOTE

Preventive measures:

- Please make sure to set the High land off when using the projector at altitudes below 1400 meters, or it may shorten the life of internal components or even cause functional failure.
- Please make sure to set the High land on when using the projector at altitudes above 1400 meters but below 2700 meters, or it may shorten the life of internal components or even cause functional failure.
- Never install the projector in a place higher than 2700 meters, or it may shorten the life of internal components or even cause functional failure.
- Some more details about operation guidance, please refer to the projector setup menu.
- Please consult the dealer or authorized service center for preventive measures if you want to use the projector in high altitude area.

Lead-free solder (Pb Free)

The projector uses the PCB board of lead-free solder.

Please use the PCB board of lead-free solder to prevent the harm to the global environment.

Notes

- Lead-free solder: The Sn-Ag-Cu (tin - Silver - copper) is with a higher melting point (about 217°C) than the standard solder. In general, the melting point will be 30 °C to 40°C higher. And you should select the soldering iron with temperature limit, and the temperature may reach 370°C ± 10°C.
- Lead-free solder precautions: The Sn-Ag-Cu lead-free solder (SN Ag Cu) will splash when it is heated to high temperature (at about 600°C or higher).
- The PCB board about our product are all lead-free solder. When it is necessary to use leaded solder, please make sure to remove the lead-free solder before, or ensure that the lead-free solder will be heated to completely melt, and then coat with leaded solder.
- Please check whether there is excess solder material on the components' surface which may flow to the other side after welding PCB board into a double layer.

Identification of PCB board for lead-free soldering materials

The logo just as shown in the figure below will be engraved or printed on the PCB board' surface or back when using the lead-free soldering materials.



FCC Caution

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Use of shielded cable is required to comply with class B limits in Subpart B of Part 15 of FCC Rules.

Do not make any changes or modifications to the equipment unless otherwise specified in the instructions. If such changes or modifications should be made, you could be required to stop operation of the equipment.

Safety precautions

1.1 General policy:

- Do not attempt to make a circuit modification for the sake of safety for long.
- Unplug the power cord from the power outlet before removing the projector.
- Please use the random supply line correctly, and make sure that the line must be earthed.
- Use insulation transformer on the ac power cord before maintenance.
- Do not touch any rotating parts of the projector (cooling fan, etc.) when the lid is removed and the power is powered on.
- Please pay attention to the original layout of the wire in the maintenance process. Once there is a short circuit, please replace all the components that are overheated and damaged due to short circuit.
- Make sure to install the protective devices, such as: insulation barrier, insulation paper, screen and insulation R-C connection, etc. after the maintenance is completed.
- Please check for the leakage after the maintenance is completed to prevent customers from electric shock.

1.2 Leakage check:

1. Be ready to measure circuit in figure 1 below.

Make sure your voltmeter are of the same properties as described in table 2.

2. Connect the circuit as figure 2 shows. Plug the power cord into an electrical outlet.

3. Connect M1 to T1 as figure 2 shows, and measure the voltage.

4. Connect M1 to T2, and measure the voltage again.

5. The read value of the voltmeter in step 4 must be 0.375 volts or less in step 3 and 4. This means that the current must be 0.75 mA or less.

6. If the read values exceed the above criteria, the projector must be repaired and re-examination in order to prevent the risk of electric shock before returning to the customer.

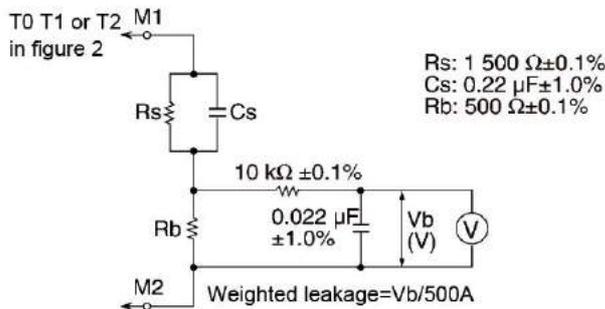


Figure 1

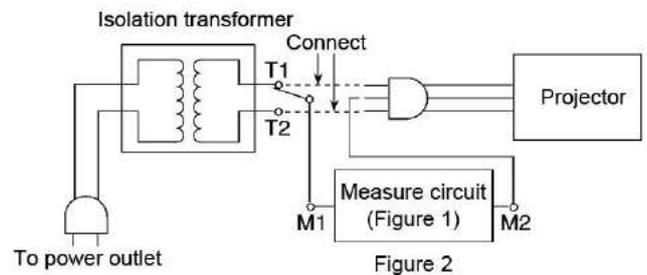


Figure 2

	Property	
Voltmeter (rmsvalue)	Accuracy	$\leq 2\%$
	Input resistance	$\geq 1M\Omega$
	Input capacitance	$\leq 200pF$
	Frequency range	15hz to 1MHZ

Table 2

Safety instruction

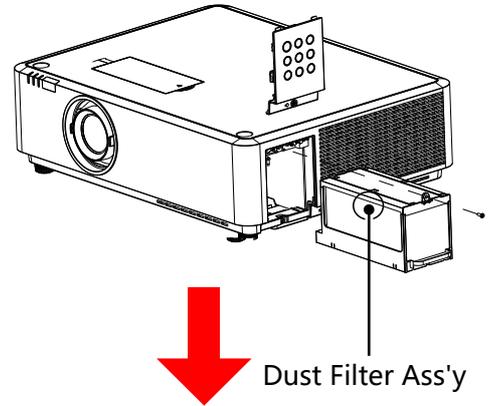
The projector has the following security operation circuit protection functions. If there is any abnormal in the inside of the projector, one of the following protection circuit action will make your projector shut down automatically .

Cover switch

When the top case is removed or not fully closed, the cover switch will turn off the projector.

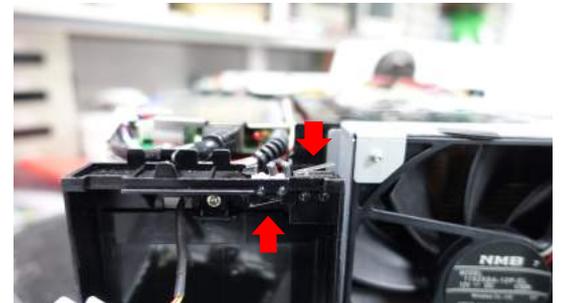
Keypad panel switch

When the dust filter is removed or not fully closed, the keypad panel switch will cut off the drive signal of the light source circuit. Please make sure to install the dust filter ass'y correctly after you open and replace it, otherwise the projector can't power on properly.



Note:

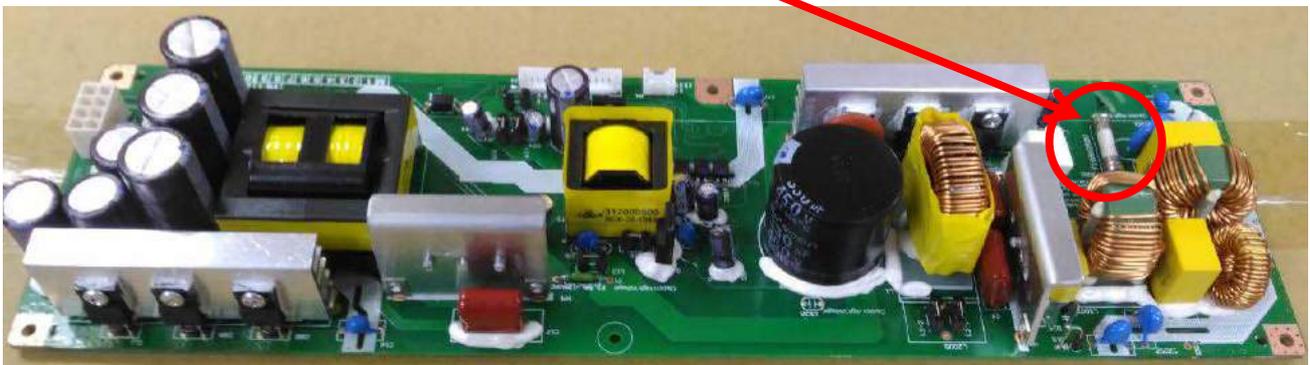
When users changes the filter, the connection of the operation key unit is easy to break. Remove the dust-filter cover gently when you replace it. Also, make sure the wire plug of the operation key unit is connected to PWB board of the operation key before installing the cover.



Fuse (F2001)

The fuse is placed inside the projector. When you find the POWER/ STATUS indicator light were off, it is highly possible that the fuse is disconnected. Please check the fuse as follows and use the following specified fuse type to replace. (please refer to page 21.)

Part number : 63740004
TYPE: VUC UBM-A 10.0 A 250V (PF) FUSE,
Co NQUER



How to replace the fuse

1. Remove the power board, then replace the Fuse at F2001.
2. Replace it with the specified type.

Standby mode instruction

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

Network mode.....Select standby mode with limited network. Network need to activate via "Wake On LAN" software

Normal mode.....Select standby mode with network. You can access network functions in this mode.

Eco modeSelect standby mode without network.

Limited functions in standby mode

Function	Eco mode	Normal mode	Network mode
Serial control	✓ *1	✓ *1	✓ *1
Network	--	✓	✓ *2
Monitor output	--	--	--
Audio output	--	--	--
Auto startup	✓	✓	✓

*1: Only be effective when plugged into power.

*2: Need to activate via "Wake on LAN" software.

Key lock, PIN code reset

This projector provides Key lock and PIN code lock and LOGO 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
Key lock	Set up it on the top panel or remote controller. Select the Key lock function will make you unable to power on your projector . Initial setup: Key lock off
PIN code lock	Prevent unauthorized personnel from operating your projector. Initial Password: 111
Logo PIN code lock	Prevent unauthorized personnel from changing the Logo. Initial Password: 111

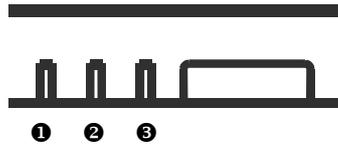
If forget all password, thus please following the steps to reset the PIN lock or Logo PIN lock:

1. Un-plug the projector
2. Press  and  (Power) button at same time then plug on AC power cord.
3. The unit will be reseted to default password: 111

Indicator and projector status

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

LED indicator



1 POWER indicator

- The power indicator turns steady red when your projector is in (Ready 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).

2 STATUS indicator

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

3 FILTER 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	
			The projector is in off status (without AC power supply).
			The projector is in standby status. Press POWER button to turn it on.
			The projector is in normal operation status.
			It is ready for standby or the light source is cooling. You may power on the projector only after the light source is fully cooled and the POWER light indicator stops flashing.
			The projector is in Ready mode.
			The 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.
			The projector detects light source abnormality and cools down.
			The projector detects light source abnormality and switches into standby mode.
			The 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.
			The 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 and cleaning

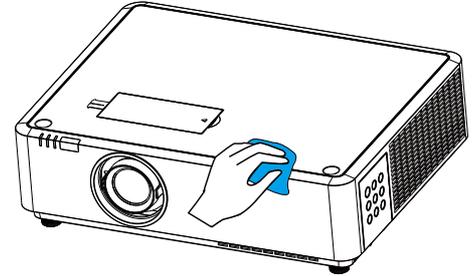
Before replacing components

⌘ 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

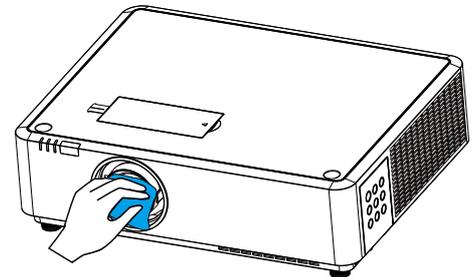
■ Clean casing of your projector

- Gently wipe the casing with clean and soft cloth.
- If you need to clean the dust, select the dry cloth which soaked with water and wrung dry to wipe your projector.
- Do not use gasoline, thinner, or rubbing alcohol, other solvents, kitchen detergent or chemical cloth which 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

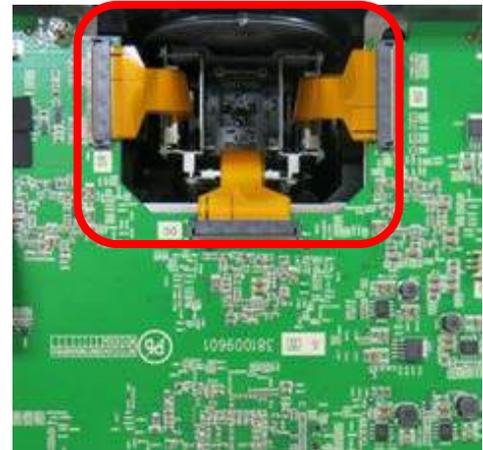
- Gently wipe the projection window with clean and soft cloth.
- Do not use a rough or humid, greasy or dusty cloth.
- Do not wipe the projection window forcefully as it is fragile.



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

■ Note on LCD Drive board

Please do not use your projector at place of dust and smoke. This may affects image quality. Using your projector in place of dust and smoke may lead to piling dusts on lens, LCD panel, and lens components within it. In case like this, please use the air gun to blow the LCD Driver board (Look at image) **and do not wipe with alcohol and cotton swab.**



Maintenance and cleaning

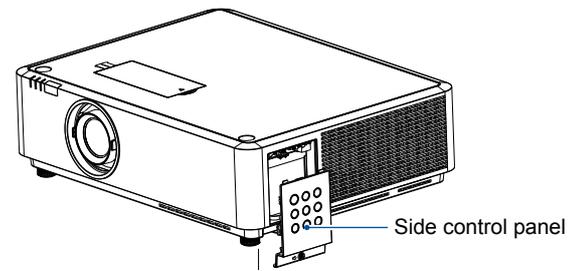
■ Clear the filter

Clean the filter under the following circumstances.

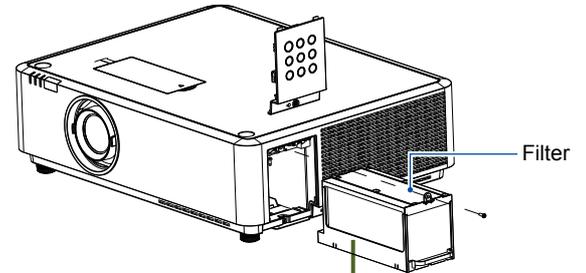
- Clean the filter immediately whenever the replacement information displays or the Filter Warning indicator icon is on.
- Clean the filter immediately when the warning indicator is on as the internal high temperature due to the clogged filter may makes the projector working failure.

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 Dust Filter Ass'y.
- 5 Gently clean it with a brush.
- 6 Replace the filter. Make sure it has been fully inserted.
- 7 Reset the filter counter.



The first step



The second step

Dust Filter Ass'y



Note:

When users changes the filter, the connection of the operation key unit is easy to break.

Remove the Dust Filter Ass'y gently when you replace it. Also, make sure the wire plug of the operation key unit is connected to PWB board of the operation key before installing the cover.

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 Dust Filter Ass'y is installed correctly.

Reset the filter counter

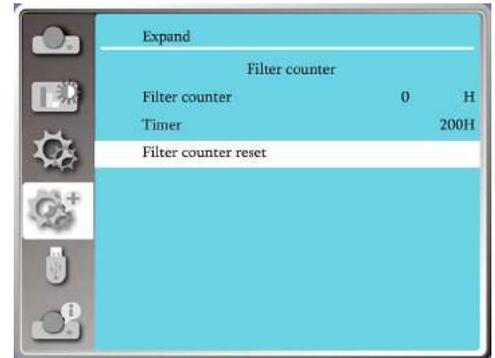
Reset the filter counter before you changing the filter.

1. Press MENU button and the OSD displays. Press ▲▼ button to select Expand menu, press ► button or OK.

2. Press ▲▼ button to select "Filter Counter", press ► button or OK. Press ▲▼ button to select "Filter counter reset" and press

OK. The "Filter counter reset?" message displays.

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.

How to check the light source usage time

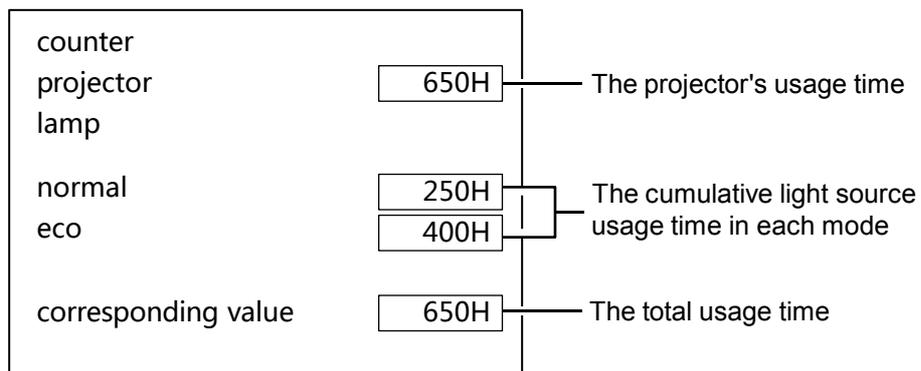
It time to replace the light source when the light source usage time (Corresponding value) come to 20000 hours. Use the following formula to calculate the light source time .

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:



Mechanical disassembly

Remove the mechanical groups according to the following procedure. The following steps are the basic processes and some unnecessary steps may be ignored.



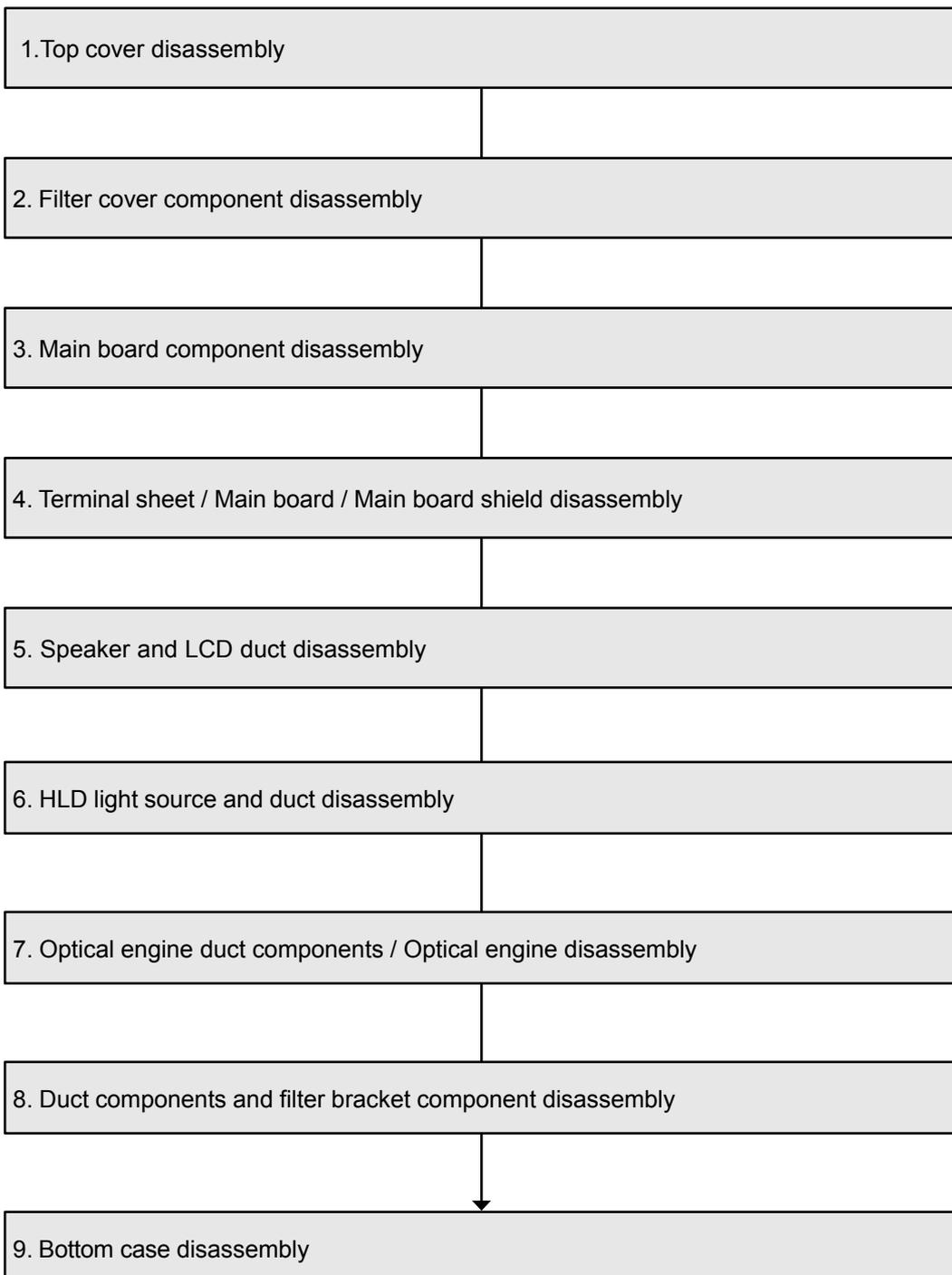
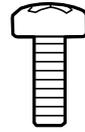
Note:

⌘ Please return parts and screws where it belongs, as it may influence the projector's performance and security.

Screw Description
(Type D x L) mm

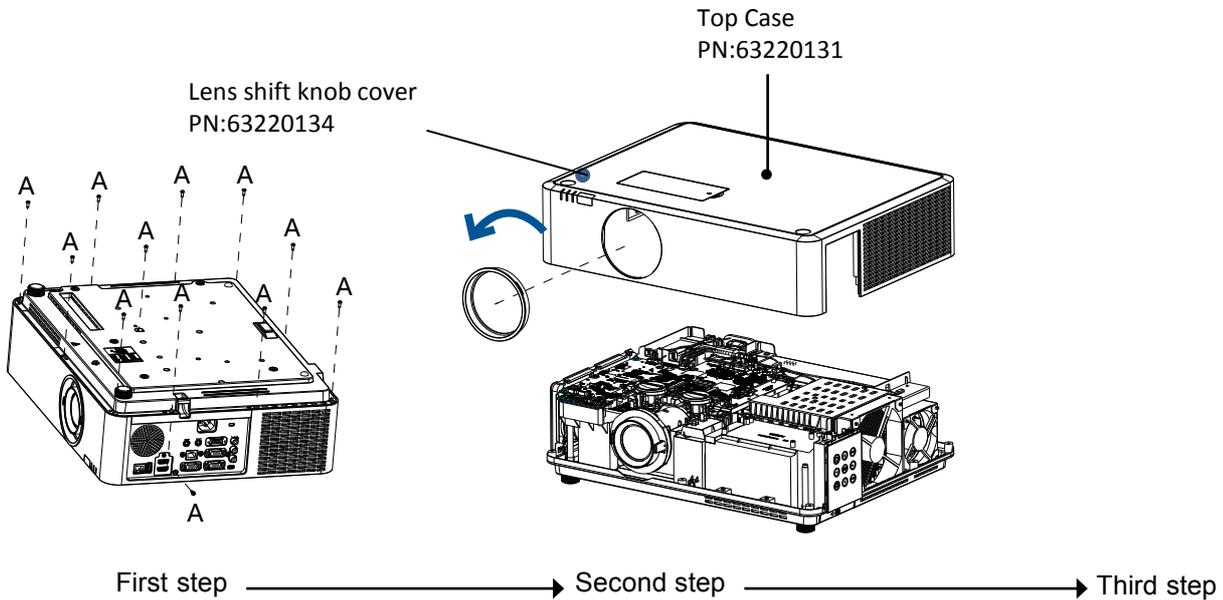
Tapping screw-T

Mechanical screw-M



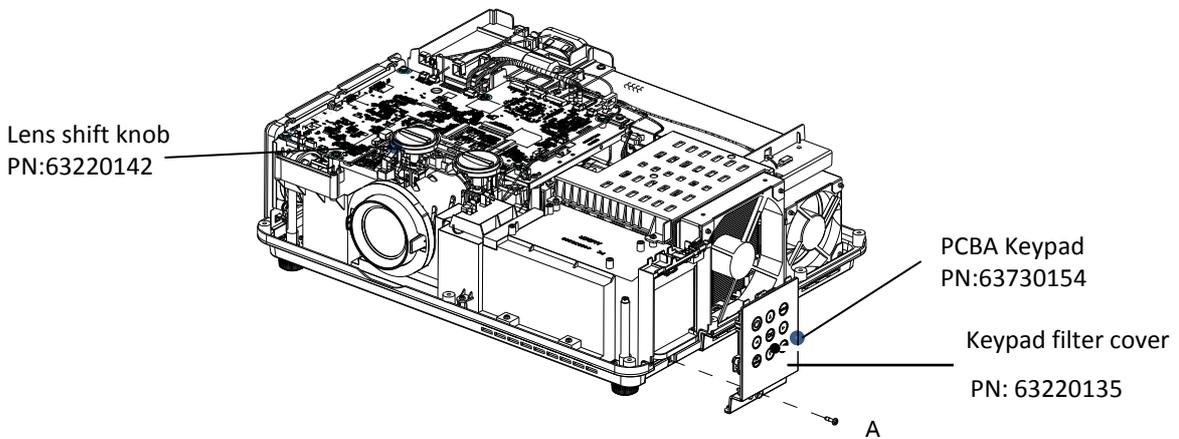
1. Top cover disassembly :

1. Remove 12 screws A(T3x8), rotate counterclockwise to remove the lens decorative ring cover, then take out the top cover components.



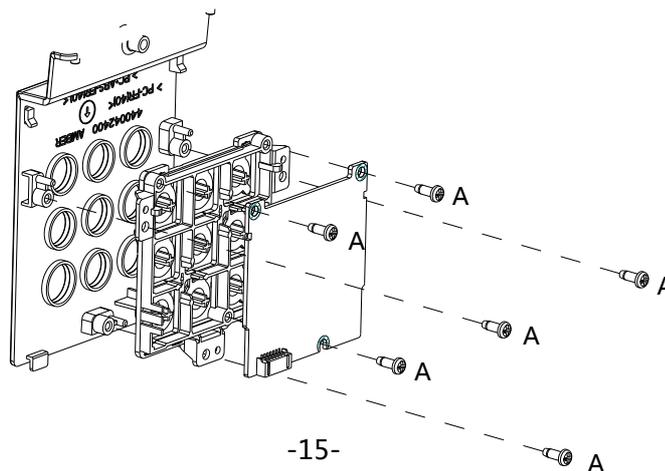
2. Filter cover component disassembly :

1. Remove 1 screw A(T3x8), then take out the side filter cover component.



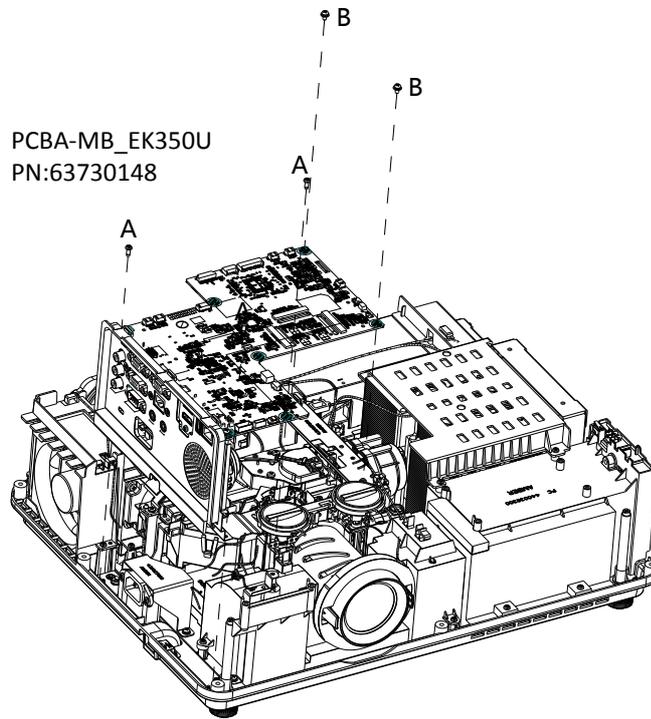
3. Keypad board disassembly :

1. Remove 6 screws A(T3x8), then take out keypad board, key button and the keypad filter cover.



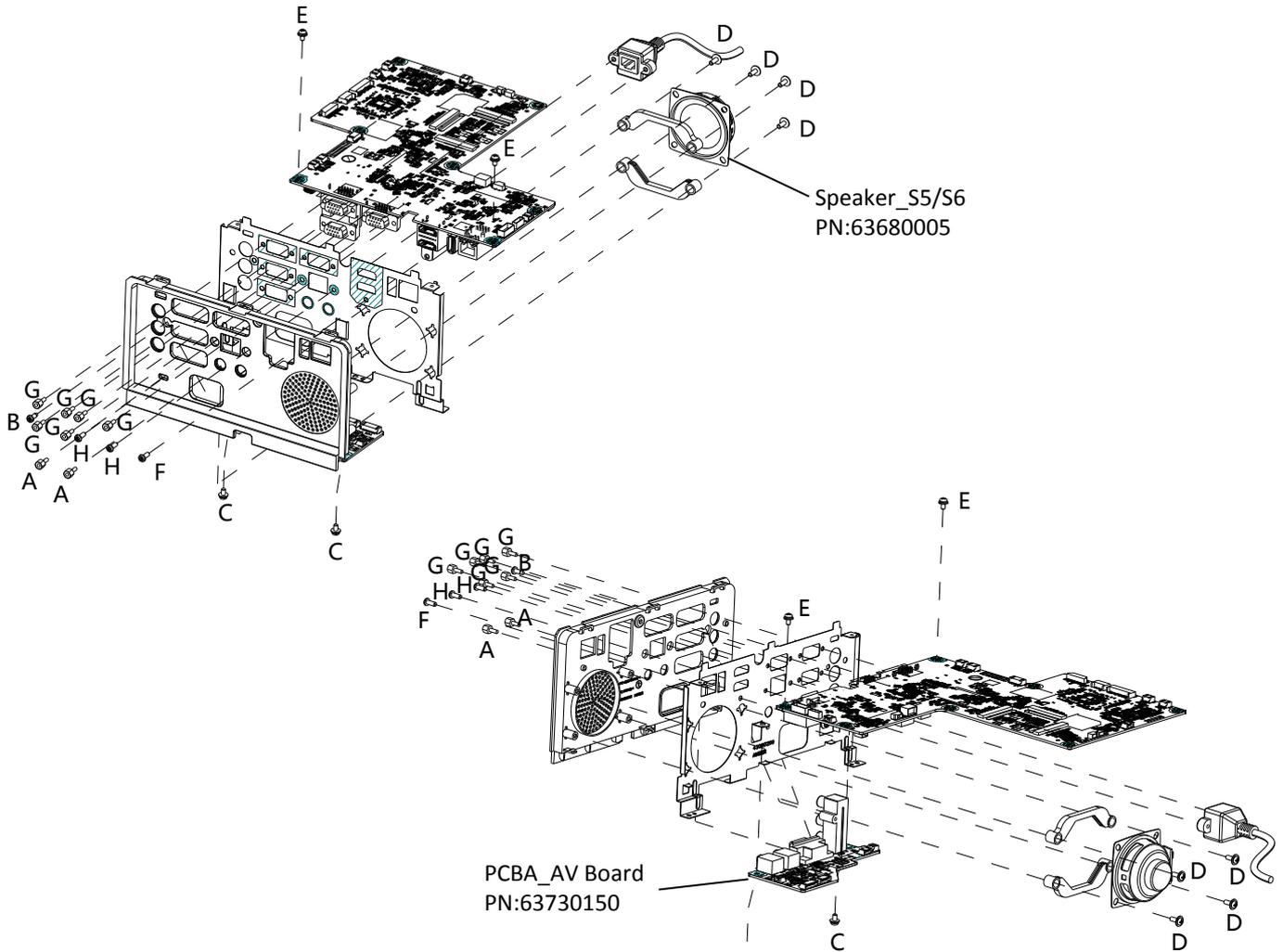
4. Main board component disassembly :

1. Remove 3 screws A (T3X8), 2 screws B (M3X6), then take out the whole main board component.



5. Terminal sheet, main board component disassembly :

1. Remove 1 screw B(T3X8), 2 C(M3X6) and 2 connector hexagon screws A(M3X6), then take out AV board.
2. Remove 4 D(T3X8), then take out the speaker and speaker rubber.
3. Remove 2 E(M3X6), 1 F(M3X8), 6 connector hexagon screws G(M3X6), take out the main board and terminal sheet metal. then take out the remote control window and terminal board.



F1



F2

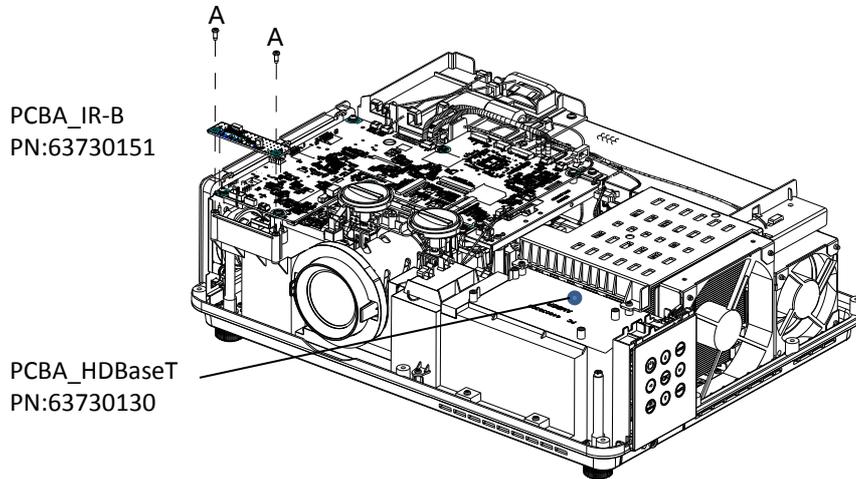
F5

F4 F3

A Ujb'VcUFX'	:5 B	D:B	8 YgWJdljcb
øF	øøB'ÁÁQ' æ^ÁQ-DÁ	î Hç éé î	øøB'Á'Š' Šä^FQø
øG	øøB'ÁÁQ' æ^ÁQ-DÁ	î Hç éé î	øøB'Á'Š' Šä^FQø
øH	øøB'ÁÁQ' æ^ÁQ-DÁ	î Hç éé JÁ	øøB'Á'Šä^H î
øI	øøB'Á'ÁQ' æ^ÁQ-DÁ	î Hç éé î	øøB'Á'Šä^Qøø
øí	øøB'Á'ÁQ' æ^ÁQ-DÁ	î Hç éé é	øøB'Á'Šä^î î

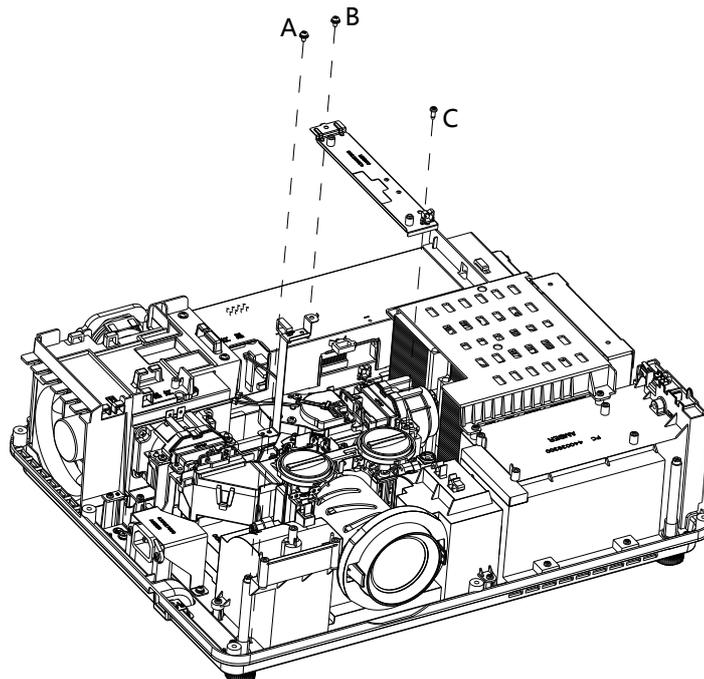
6. Remote control component disassembly :

1. Remove 2 screws A(T3X8), then take out the remote control board component.



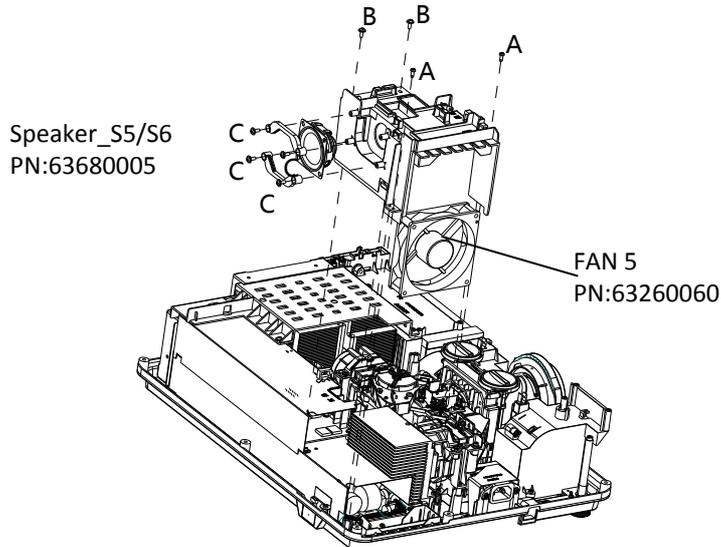
7. Main board bracket disassembly :

1. Remove 1 screw A (M3X6), then take out the main board shield to ground.
2. Remove 1 screw B (M3X6) and 1 screw C (T3X8), then take out the main board bottom bracket.



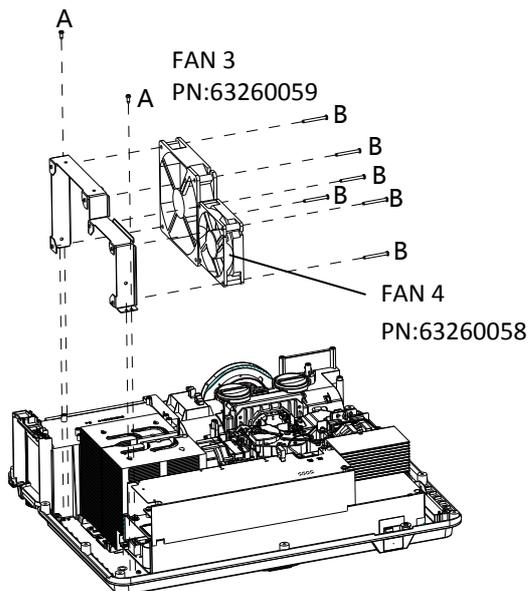
8. Speaker component disassembly

1. Remove 2 screws A (T3X8), 2 screws B (M3X6), then take out the speaker component.
2. Remove 4 screws C (T3X8), then take out the speaker rubber, speaker, air-intake fan and speaker bracket.



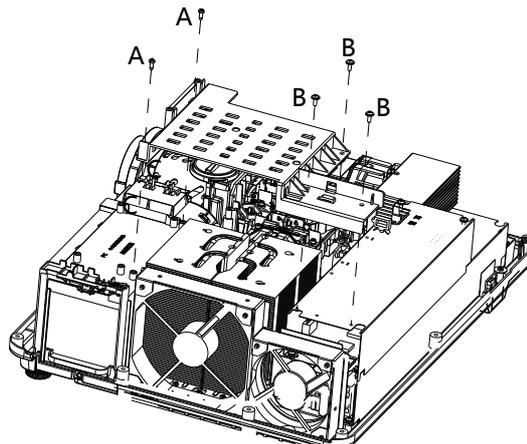
9. Air-outlet fan component disassembly

1. Remove 2 screws A (T3X8), 6 screws B (M3X30).
2. Remove air-outlet fan and bracket.



10. HLD radiator bracket disassembly

1. Remove 2 screws A (T3X8), 3 screws B (M3X6), then take out the HLD radiator bracket.



11.LED light source component disassembly

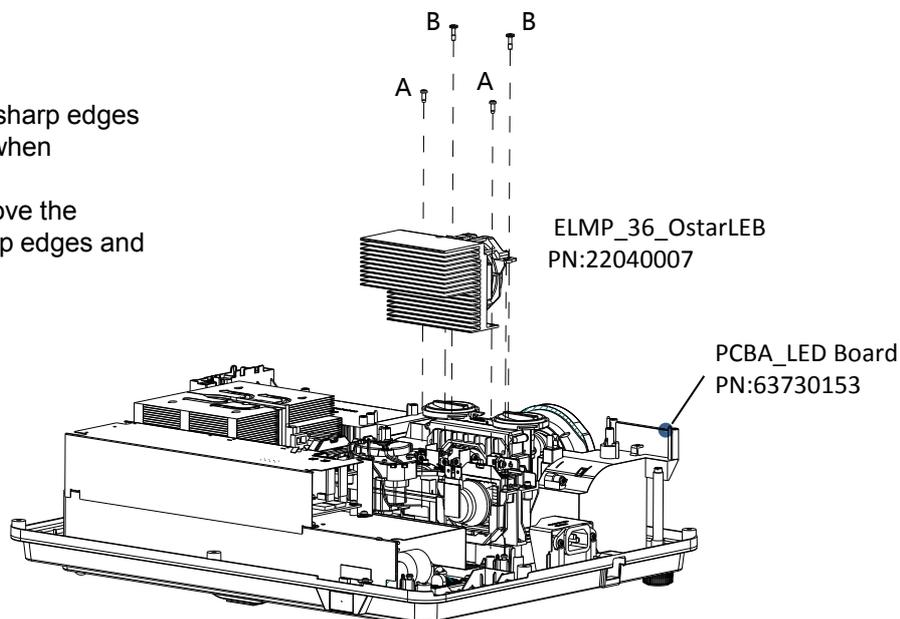
1. Remove 2 screws A (T3X8), 2 screws B (M3X8), then take out the LED light source component.



Note:

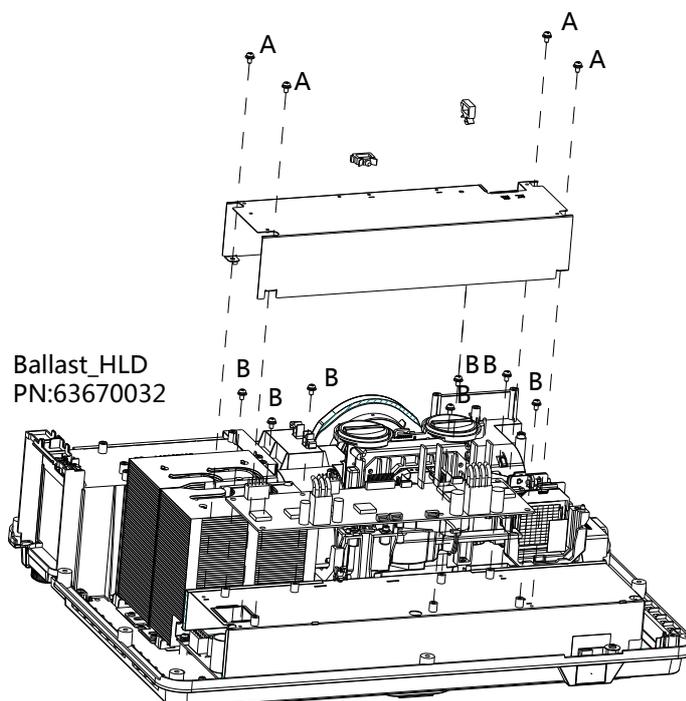
The BLUE-LED radiator is with sharp edges and corners, please be careful when disassembling it.

For safety reasons, please remove the radiator in the area without sharp edges and corners.



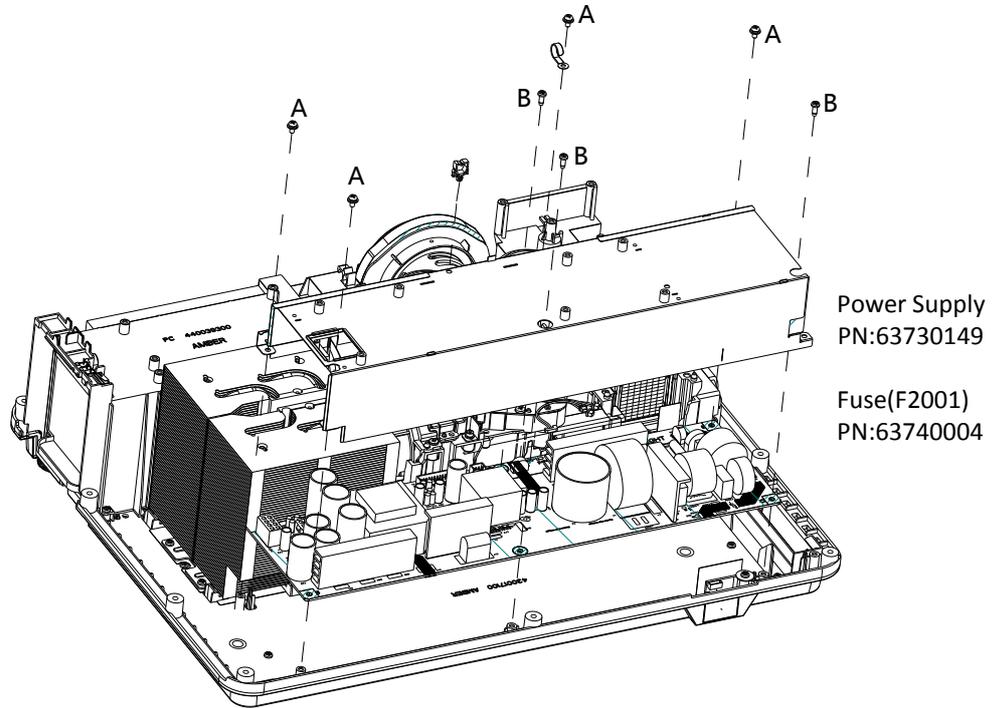
12.HLD drive board disassembly

1. Remove 4 screws A (M3X6), then take out the top Power box and clamp.
2. Remove 7 screws B (M3X6), then take out the HLD drive board.



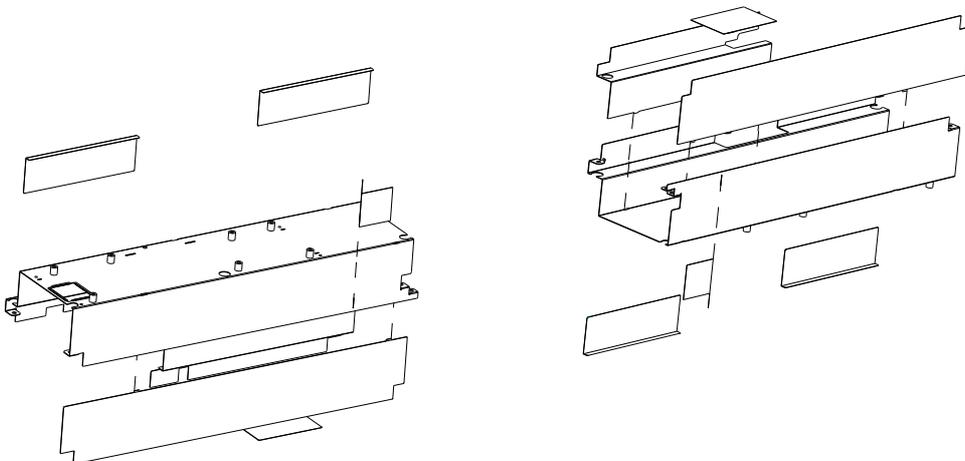
13. Power board disassembly

1. Remove 4 screws A (M3x6), 3 screws B (M3x8).
2. Remove the wire clip, the bottom Power box, and the Power board.



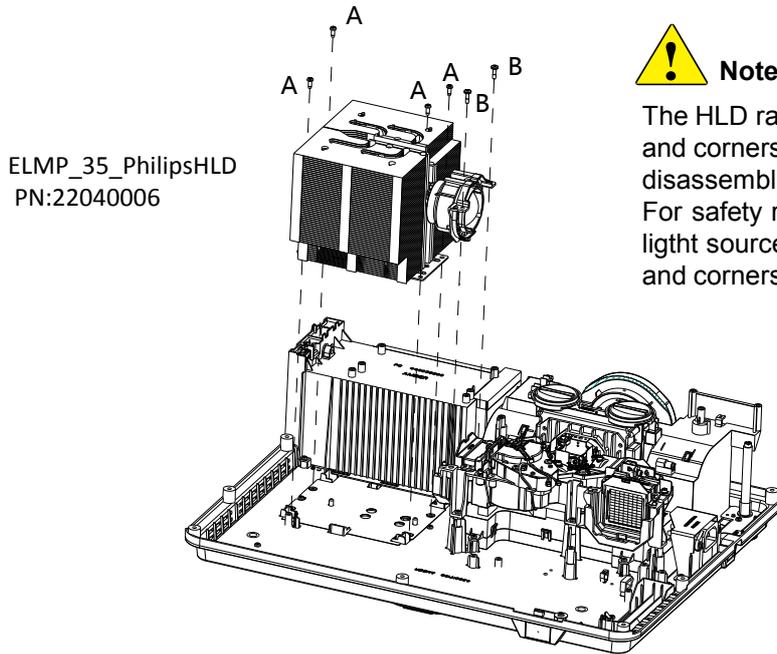
14. Bottom Power box component disassembly

1. Remove the bottom power board.
2. Take out the wire clip.



15.HLD light source component disassembly

1. Remove 4 screws A (T3X8), 2 screws B (M3X8), then take out the LED light source component.



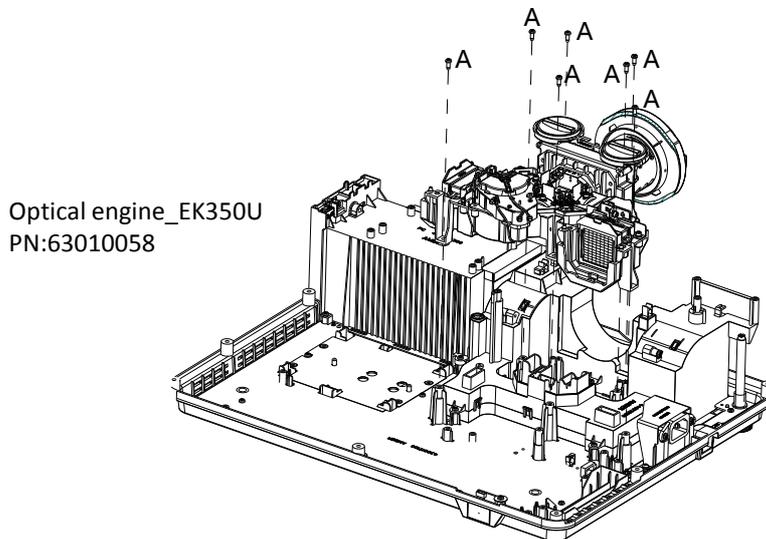
Note:

The HLD radiator is with sharp edges and corners, please be careful when disassembling it.

For safety reasons, please remove the HLD light source in the area without sharp edges and corners.

16.Optical engine component disassembly

1. Remove 7 screws A (T3X8), then take out the LED optical engine component.



17.Filter component disassembly

1. Remove 1 screw A (M3X8), then take out the filter component.



Dust filter B Amber
PN:63220139 *3

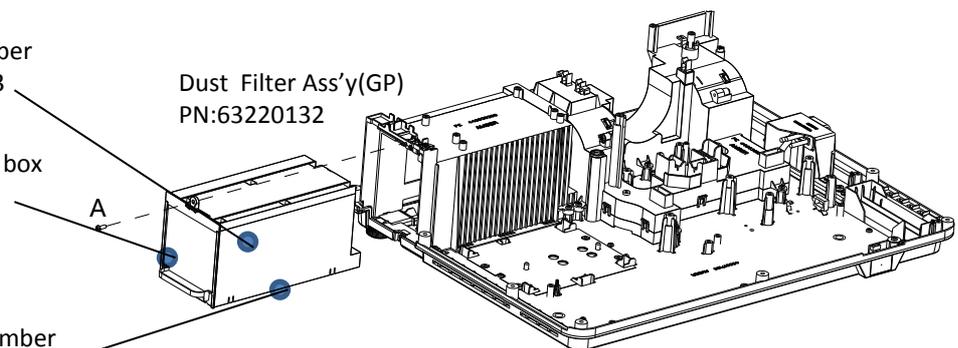


Sponge for filter box
PN:63340079



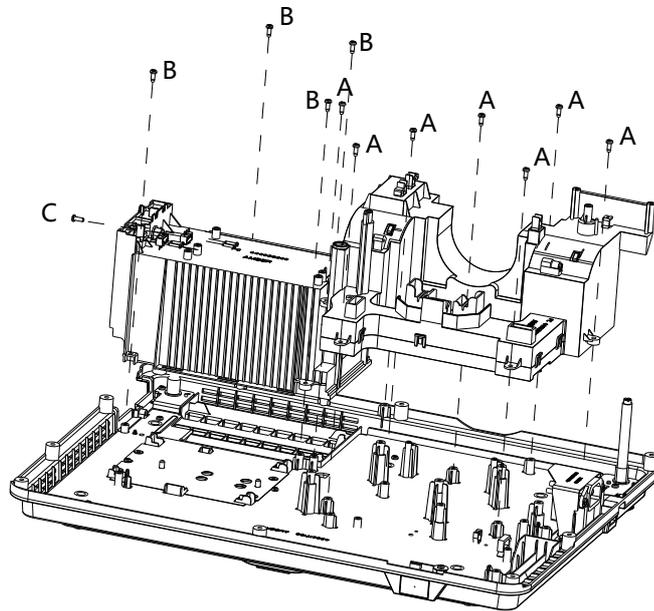
Dust filter A_Amber
PN:63220133

Dust Filter Ass'y(GP)
PN:63220132



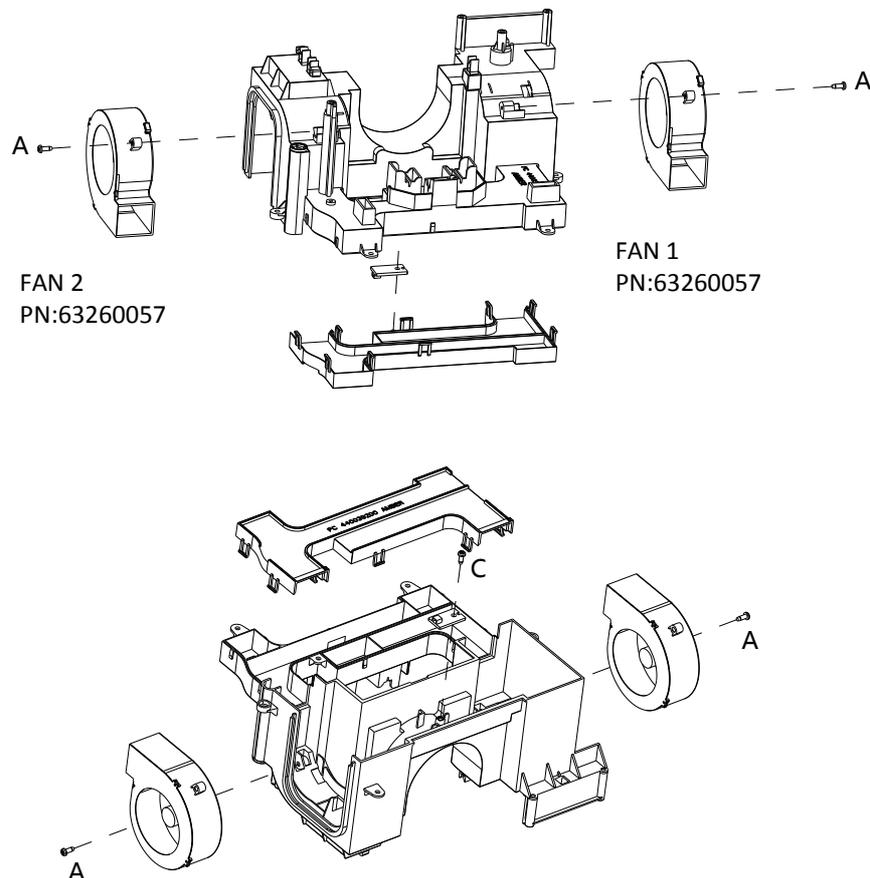
18. Duct component and filter bracket component disassembly

1. Remove 7 screws A (T3x8), then take out the duct component.
2. Remove 4 screws B (T3x8), then take out the filter bracket component.
3. Remove 1 screws C (T2x10), then take out the 1 switches.



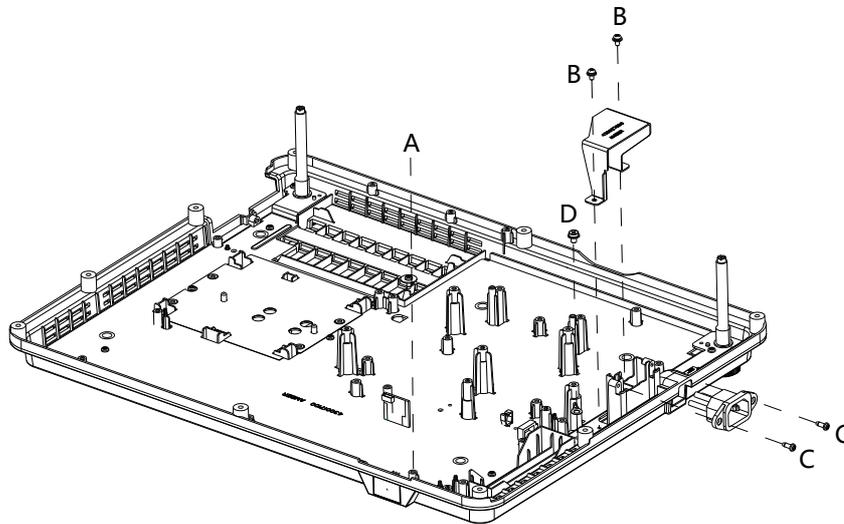
19. LED duct component disassembly

1. Take out the bottom duct.
2. Remove 2 screws A (T3x8), 2 LCD fan and top duct.
3. Remove 1 screw C (T3x8), then take out the sensor board.



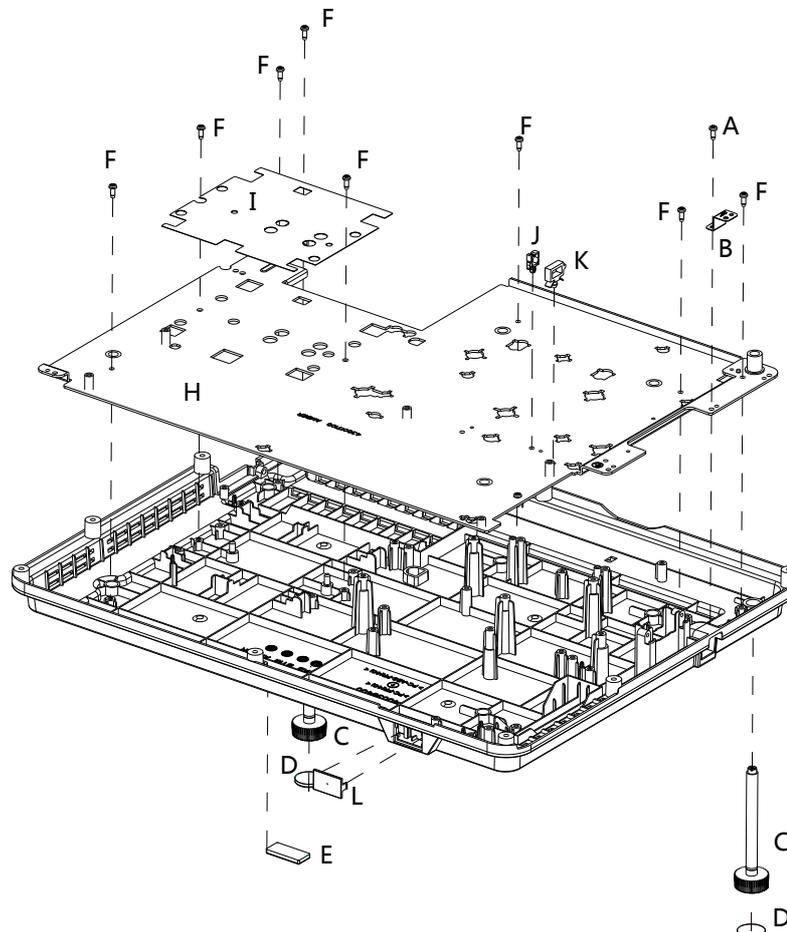
20. Back remote control board and POWER socket disassembly

1. Remove 1 screw A (T3X8), then take out the back remote control board.
2. Remove 2 screws B (M3X6), then take out the socket shield metal.
3. Remove 2 screws C (T3X8), 1 screw D (M4X5), and the AC power socket .



21. Bottom case disassembly

1. Remove 1 screws A (T3X8), and B(Terminal shield metal to ground).
2. Remove 2 screws C (Ajustable pad), 2 D (Front ajustable pad) and E (Back ajustable pad), .
3. Remove 8 screws F (T3X8), H (Bottom case shield metal), I(Bottom insulation of HLD radiator), J(Whole clip RMS - 3 V01) and K(Isolated beam socket WCM-0017).
4. Remove L(Back remote control window).



BTM-Case
PN:63220136

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

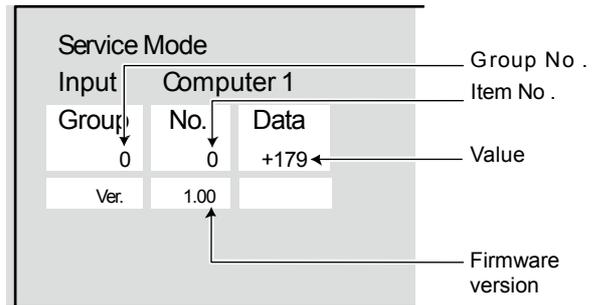
Service Mode

To enter Service Mode

Press and hold the “MENU” and ▼ button for more than 3 seconds. Then the Service Mode will display as follows.

How to operate

Press “MENU” button to select the “Group” item, and press ▲ or ▼ button to adjust the number. And then press “MENU” button to select the “No.” item, and press ▲ or ▼ button to adjust the number. Adjust “Data” item by repeating the same steps. Press the “Power” button to exit Service Mode.



Error History Log

Enter the Service Mode and choose Group 220. Look at the right hand side item “Data Code”. Press “MENU” button to select the “No.” item. Press the ▲ button to change the number.

- No. 0: the last error
- No. 1: the 2nd last error
- No. 2: the 3rd last error

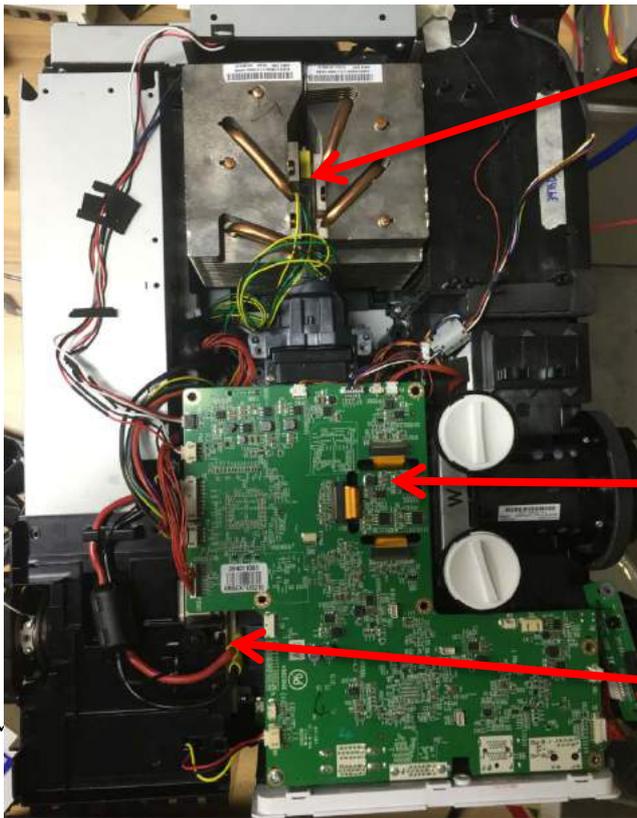
⋮

- No. 49: the 50st last error

Please note, the Data Code only show while the unit have detected problems as following list. If the problem is not in this list, it will not been detected.

Data Code	Indication	Detail
1000	Power fail	MB abnormal
1001		Fan abnormal
1100	Power Management	SHUTDOWN
2001	External temp A	Sensor A read error (IIC)
2000		Sensor A over range error
2100	Internal temp B	Sensor B over range error
2102	Temp different B-A error	
3000	HLD GREEN Driver status	Idle
3001		Fault
3002		Standby
3003		Fast Calibration
3004		Light on
3100	HLD BLUE Driver status	Idle
3101		Fault
3102		Standby
3103		Fast Calibration
3104		Light on
3200~3455	HLD Green Driver Fault Mode	(Page27)
3500~3755	HLD Blue Driver Fault Mode	(Page27)
3800	HLD Communication abnormal	
3900	LITZ NG about HLD	

Note, 3002,3003,3004,3102,3103,3104-----Represent the status of projector

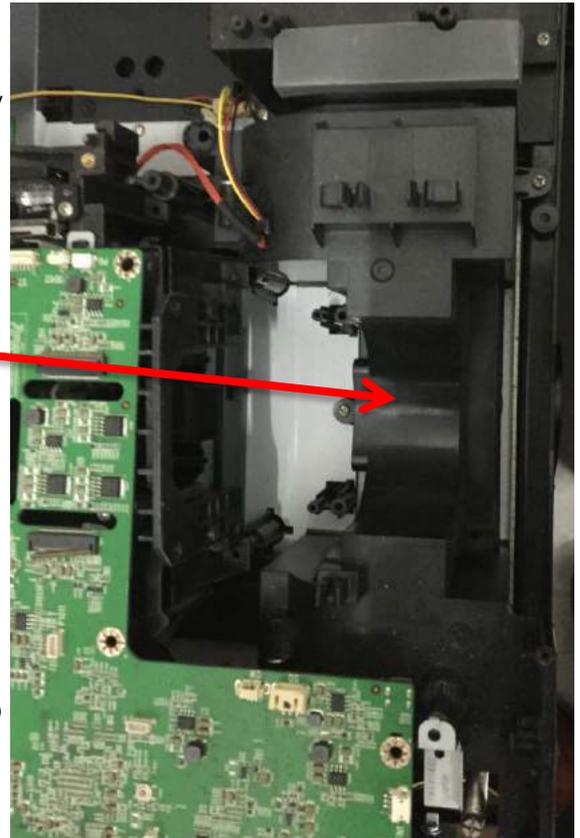


Thermal Sensor 1 and 2 for GREEN-HLD (in HLD Ass'y W/I Packing)

temp A

temp B (under the board)

Thermal Sensor for BLUE-HLD



ELMP_35_PhilipsHLD/ELMP_37_PhilipsHLD202: PN 22040006/22040008
Temp A: PN 63730152
Temp B: PN 63630009
Thermal Sensor for BLUE-HLD: PN 63630012

Service Mode

If you get the Error Code from 3200 to 3455, you can look for the comment in Driver Fault Mode as follows:

Error Code 3200 : the comment of Driver State 0

Error Code 3201 : the comment of Driver State 1

Error Code 3202 : the comment of Driver State 2

:

Error Code 3455 : the comment of Driver State 255

Similarly, you can have the comments on Error Code from 3500 to 3755.

Data Code	Indication
3200~3455	HLD Green Driver Fault Mode
3500~3755	HLD Blue Driver Fault Mode

Driver Fault Mode

Driver State	Definition	Comments
0	FAULT_NO_FAULT	Reserved
1	FAULT_DRV_NTC_OTP	Driver NTC Over temp. protection
2	FAULT_DRV_NTC_UTP	Driver NTC under temp. protection
3	FAULT_LED_NTC_OTP	Led NTC OTP protection
4	FAULT_STROBELEN_MIN	Strobe min length protection
5	FAULT_IavgPEAK_MAX	Max average current peak protection
6	FAULT_HEARTBEAT	Heart beat communication (I ² C bus) failure
7	FAULT_HEARTBEAT_AUTODETECT	Heart beat module of MCU failure
8	FAULT_SYNCHRONIZED	Heart beat synchronization protection
9	FAULT_VLED_MIN	Led voltage output low protection
10	FAULT_VLED_MAX_L1	Led voltage output high level1 protection
11	FAULT_VLED_MAX_L2	Led voltage output high level2 protection
12	FAULT_VIN_MIN	Input voltage low protection
13	FAULT_VIN_MAX	Input voltage high protection
14	FAULT_IPKREF_MAX	Ipk high protection
15	FAULT_ILED_MAX_L1	Led current output high level1 protection
16	FAULT_ILED_MAX_L2	Led current output high level2 protection
17	FAULT_DBASE	Dbase fault
18	FAULT_WATCHDOG	Watchdog reset fault
19	FAULT_NOSUBFRAME	Sub frame disconnection fault
20	FAULT_PWR_SEQUENCE	Illegal power up sequence including ENZ(power stabilize after Enz enabled)
21	FAULT_SELF_TEST	Self-test failure before fast calibration
22-255	FAULT_UNKNOWN	Unknown fault

Adjustment after replacement parts

✓ **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

VGA0.7Vp-p/75W, 16 steps gray scale

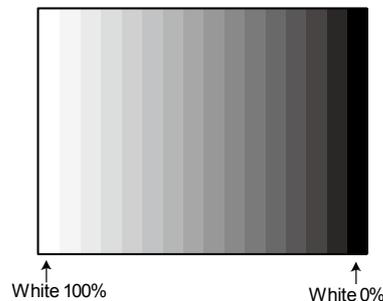
Component1.0Vp-p/75W, 100% full color bar or 16 steps gray scale (Component signal)

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".

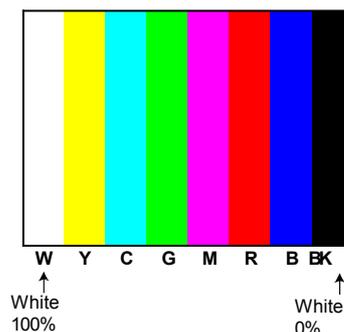
16 gray scale



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.

Adjustment after replacement parts

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 optical components or main board.

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 from 10 to 0 or 20. The value may back to 10 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 "o K".
5. Press any key on the projector or on the remote controller and "o K" 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	
			The projector is in off status (without AC power supply).
			The projector is in standby status. Press POWER button to turn it on.
			The projector is in normal operation status.
			It is ready for standby or the light source is cooling. You may power on your projector only after the light source is fully cooled and the POWER light indicator stops flashing.
			The projector is in Ready mode.
			The 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.
			The projector detects light source abnormality and cools down.
			The projector detects light source abnormality and switches into standby mode.
			The 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  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), power substrate.

- The STATUS and POWER indicator flashes red, indicating that the projector inside is too hot. Please 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.

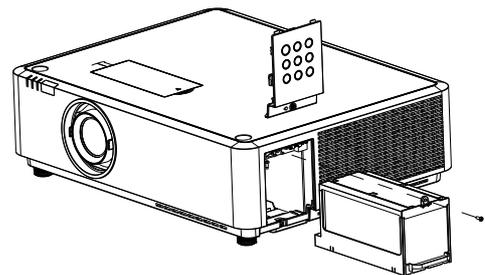
- The STATUS indicator is yellow, indicating abnormal condition of cooling fan or secondary line. Please check the status of the fan, power circuit and drive signal.

When the PJ is abnormal, P_FAIL signal (Error < 2V), FAN_ERR signal (Error < 2V) and signal (Error < 2V) will be connected into IC1001.

- PLS check the secondary power supply if the P_FAIL signal < 2V.
- PLS check the FAN and its related circuit if the FAN_ERR signal < 2V.

LED light source switch

Make sure the Key pad and top case are installed correctly. If not, LED indicator will be off just for security reasons.(Page 6)



PN:63220132
Dust Filter Ass'y

Power on abnormal

Follow the steps below for check:

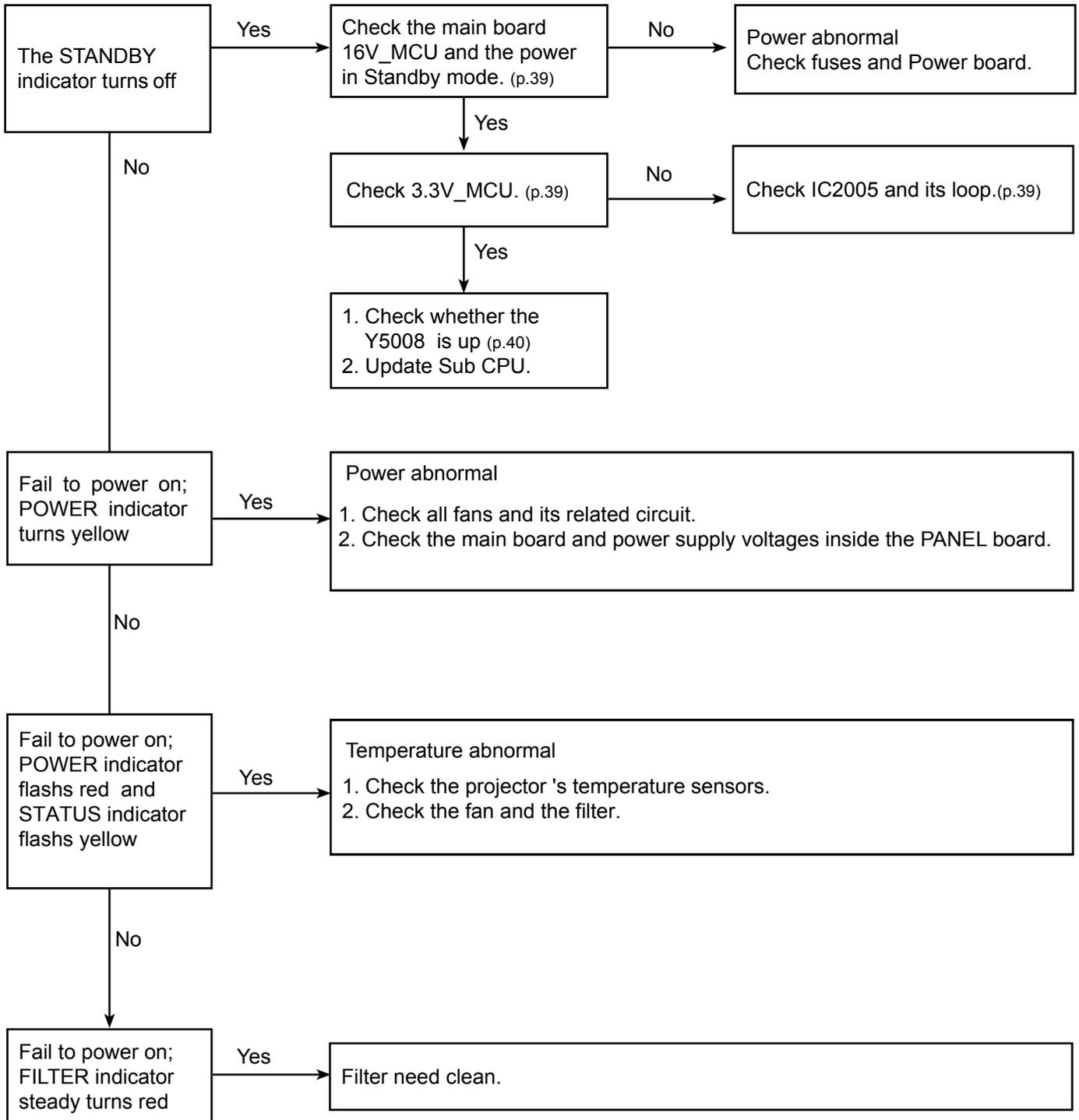
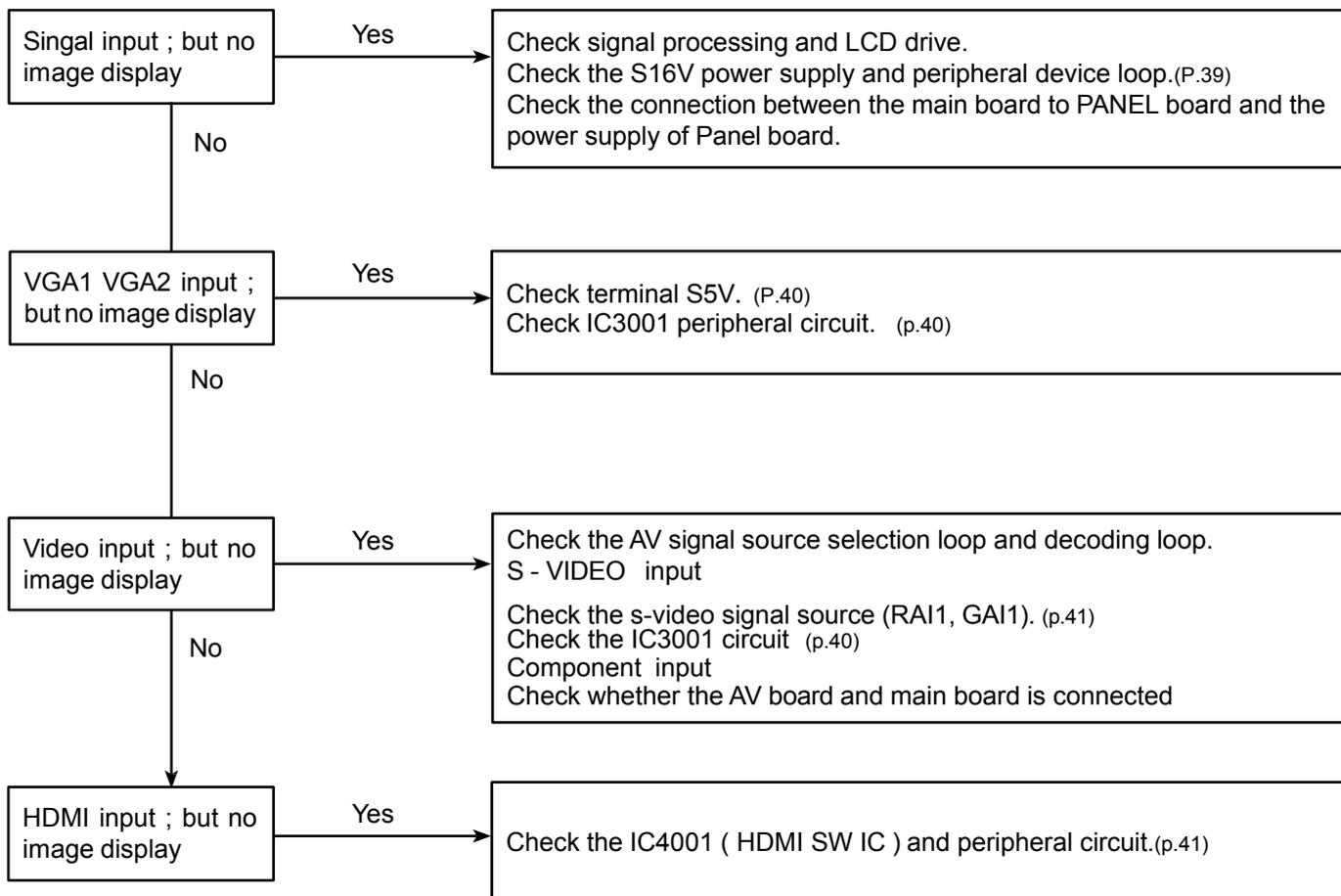


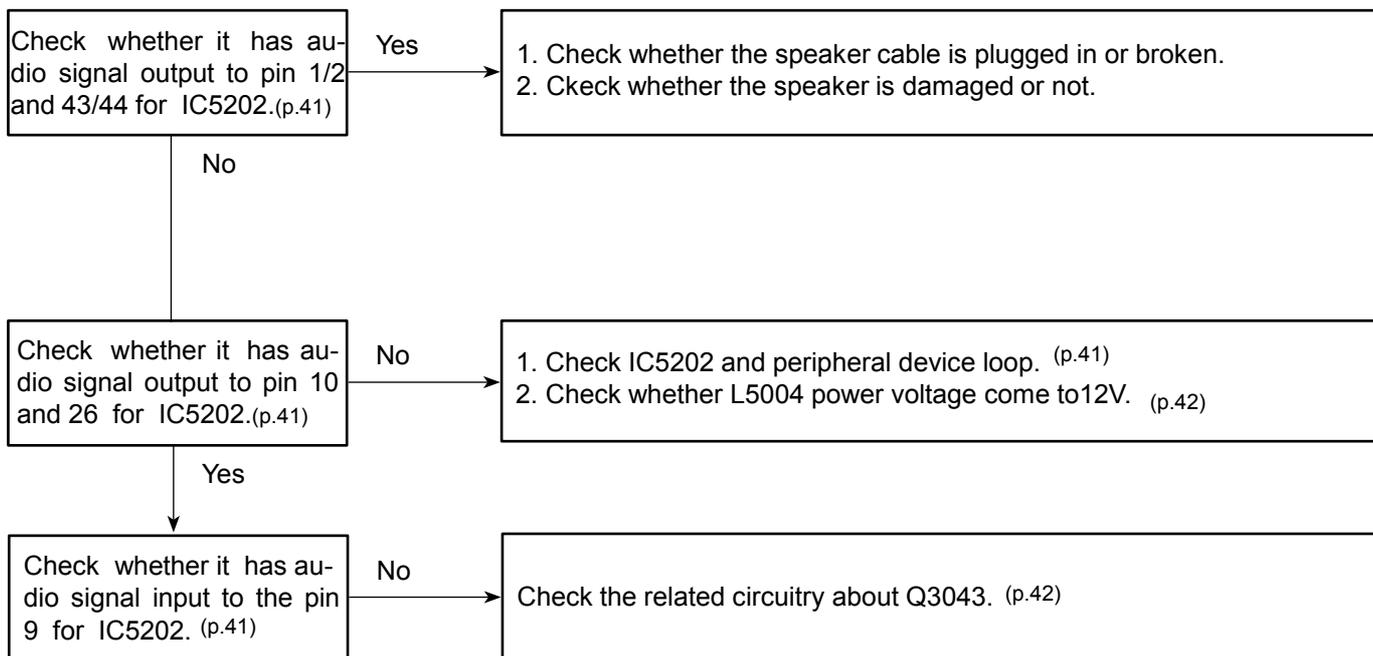
Image display abnormal

Check the image as the following steps.



No sound

Follow the steps below for check:



Before calling your dealer or service center for assistance, check the items below once again.

- Make sure you have properly connected the projector to peripheral equipment.
- Make sure all equipment is connected to the AC outlet and the power is turned on.
- If the projector does not project an image when it is connected to a PC, restart the PC.

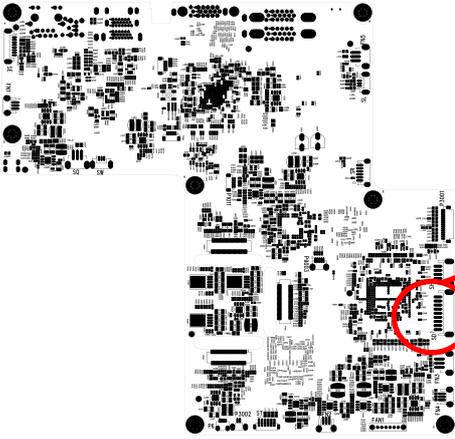
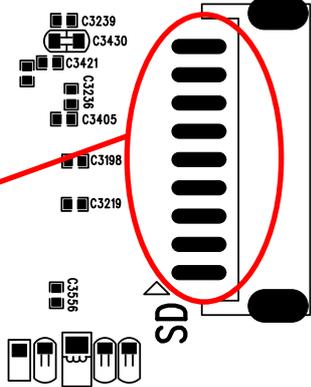
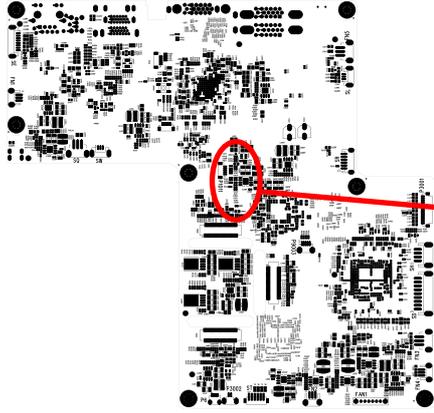
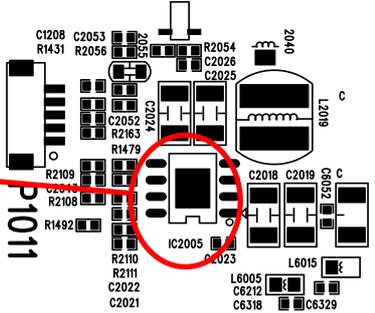
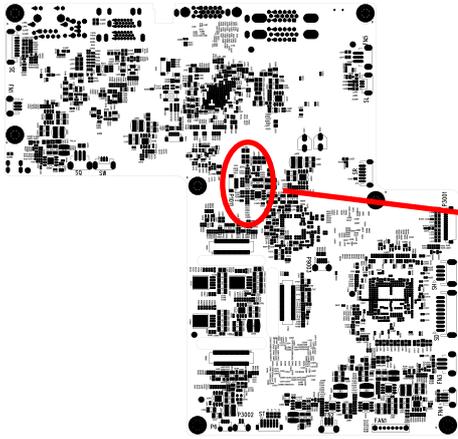
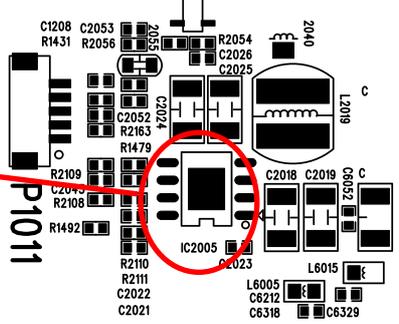
Problems	– Solutions
No power	<ul style="list-style-type: none"> - Plug the power cord of the projector into the AC power outlet. - Check whether the POWER indicator lights red. - Only when the POWER indicator lights red you can power on the projector again. - Check the WARNING indicator. If it is blinking red, the projector can not be powered on. - Check the projection lamp. - Unlock the “Key lock” function.
No initial displaying	<ul style="list-style-type: none"> - Make sure that Logo function is not set to "Off".
Initial displaying is inconsistent with factory defaults	<ul style="list-style-type: none"> - Make sure that Logo function is not set to "Off" or "User".
Input signals are automatically switched (can't be switched)	<ul style="list-style-type: none"> - Properly adjust the Input search function.
Ambiguous images	<ul style="list-style-type: none"> - Adjust the focus. - Set a more proper projection distance. - Check whether the lens needs to be cleaned. - When moved from a environment with low temperature to the one with higher temperature, water will be condensed on the lens. If so, you have to wait till the condensed water disappears.
Image turns over leftward/ rightward Image turns over upward/ downward	<ul style="list-style-type: none"> - Check the function of “Ceiling/rear”.
Image not bright enough	<ul style="list-style-type: none"> - Check whether the contrast or brightness is adjusted correctly. - Check whether the Image mode is properly selected. - Check the setting of light source
No image	<ul style="list-style-type: none"> - Check the connection between Computer or video equipment and the projector. - Check whether the signal from Computer is correct. If connected to certain laptops, the settings of their video adapters need to be changed. You can refer to the operating instructions of the Computer for such modification. - Images can show up only about 20 seconds after the projector is powered on. - Check the input signal, color system, video system or Computer system mode. - Make sure that the temperature doesn't exceed the permitted operating temperature(41°F-104°F [5°C - 40°C]). - If BLANK function is enabled, no image will appear on the screen. You can then press the BLANK button or other button on the remote control.

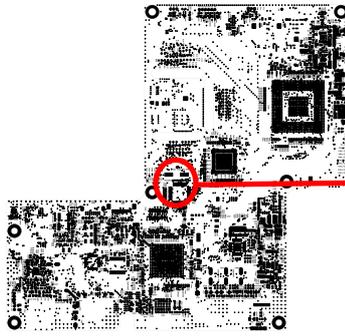
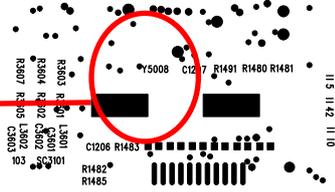
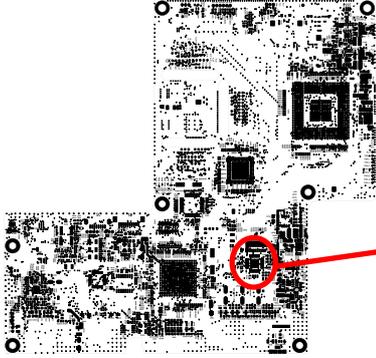
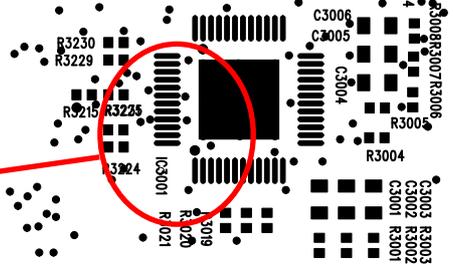
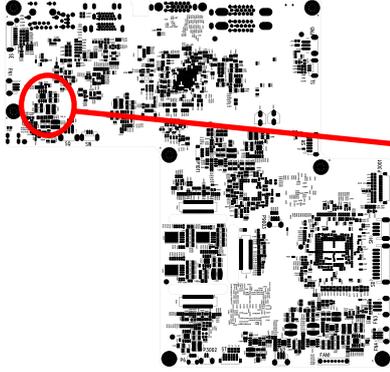
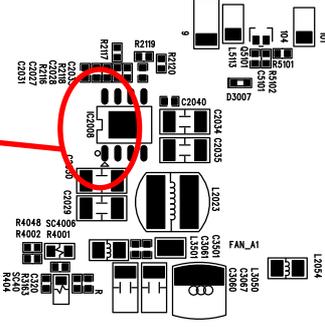
Trouble shooting

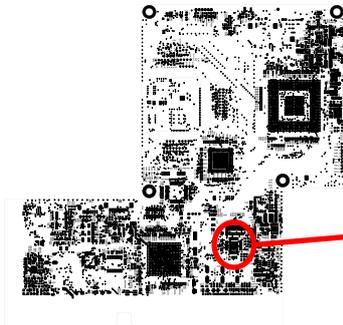
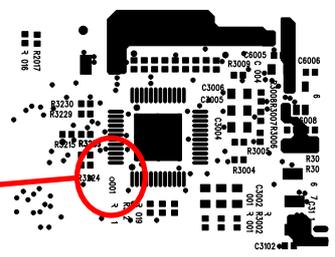
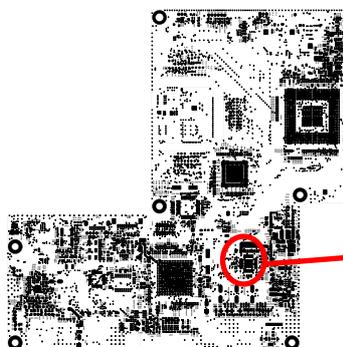
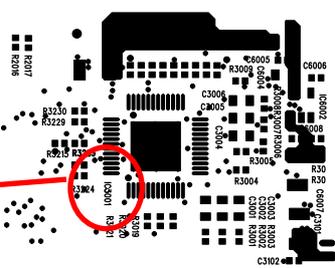
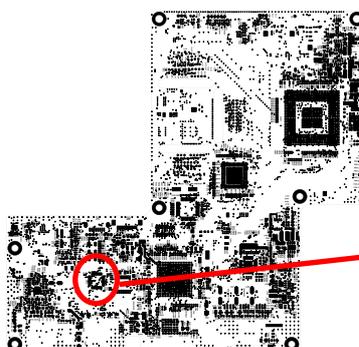
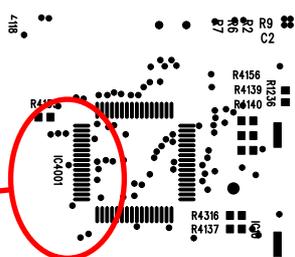
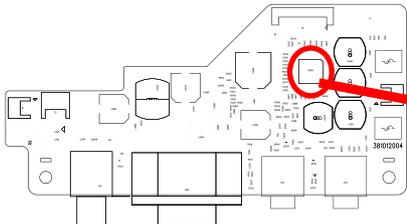
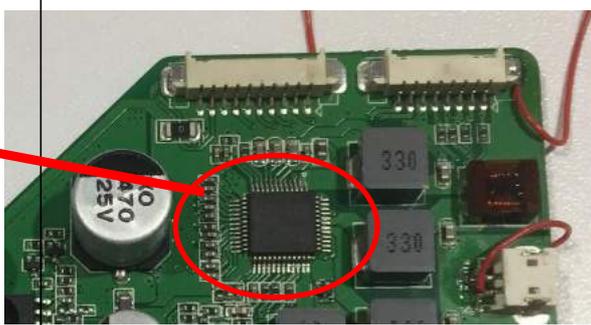
No Sound	<ul style="list-style-type: none"> - Check the audio cable connection from audio input source. - Adjust the audio source. - Press the VOLUME + button. - Press the Mute button. - When the AUDIO OUT is plugged in, the projector's built-in speaker is not available. - Is the image projected? The sound can only be heard when the image is projected.
The color is abnormal	<ul style="list-style-type: none"> - Check the input signal, color system, video system or computer system mode. - Make sure that Blackboard is not selected in Image Mode menu.
Auto PC adj. function does not work.	<ul style="list-style-type: none"> - Check the Input signal. Auto PC adj. function can not work when 480p, 576p, 720p, 480i, 576i, 1080i or 1080p is selected.
The Settings cannot be saved after turning off the projector.	<ul style="list-style-type: none"> - Make sure you have selected "store" after you changed the settings. Some settings can't be saved if "store" is not selected.
Power management function does not work.	<ul style="list-style-type: none"> - Power management function can not work while Freeze or Blank function is running.
Logo function does not work.	<ul style="list-style-type: none"> - Check connections and input source.
Auto setup function does not work.	<ul style="list-style-type: none"> - Make sure no function in the Auto setup menu is set to "Off". - Make sure "On" is not chosen in the Ceiling function.
The image is distorted or disappears.	<ul style="list-style-type: none"> - Check and adjust "Screen" menu.
PIN code dialog box appears at start-up	<ul style="list-style-type: none"> - PIN code lock is being set.
The remote control does not work.	<ul style="list-style-type: none"> - Check the batteries. - Make sure no obstruction is between the projector and the remote control. - Make sure you are not too far from the projector when using the remote control. Maximum operating range is 5 m. - Make sure the code of the remote control is conformed to that of the projector. - Unlock the Key lock function in the Setting menu for the remote control.
Indicators light or flash	<ul style="list-style-type: none"> - Refer to Indicators and projector condition to check the status of the projector.
Exclamatory mark appears on the screen.	<ul style="list-style-type: none"> - Your operation is invalid. Operate correctly.
top control cannot be operated.	<ul style="list-style-type: none"> - Unlock the Key lock in Setting -> Key lock.
Unable to unlock the Logo PIN code, Key lock or PIN code lock.	<ul style="list-style-type: none"> - Contact the dealer or the service center.

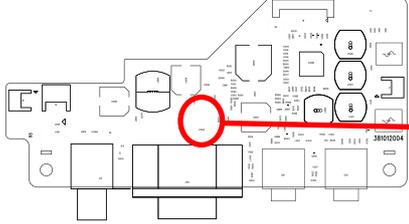
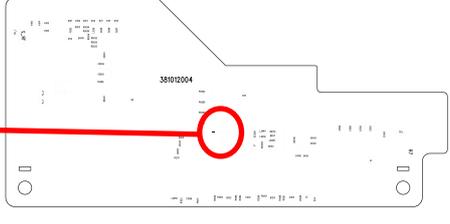
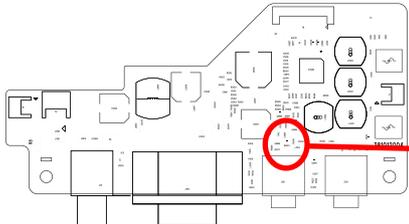
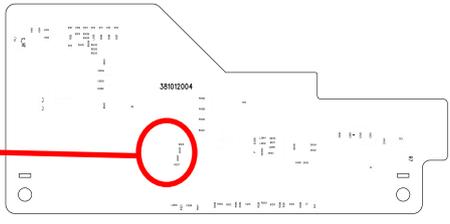
Warning:

High voltages are used to operate this projector. Do not attempt to open the cabinet.

EK-350 trouble shooting					
Page	IC loction	IC model	IC PIN#	What volts are norml/NG	
1	34	16V MCU Main board (SD,PIN9)	Main board(SD,PIN9)	Main board(SD,PIN9)	ECO Stand by:11.5V(±5%);POWER ON:16.5V(±5%)
					
2	34	3.3V MCU IC2005 (PIN2)	IC2005	IC2005(L2019 PIN2)	3.3V(±5%)
					
3	34	IC2005 (PIN2)	IC2005	IC2005(L2019 PIN2)	3.3V(±5%)
					

	Page	IC loction	IC model	IC PIN#	What volts are norml/NG
4	34	Y5008 (PIN2)	Y5008(16MHZ)	(Y5008 PIN2)	16MHZ
			 		
5	35	IC3001 (PIN31)	IC 3001	IC3001(PIN31)	VP-P 0.7V
			 		
6	35	S5V IC 2008 (PIN2)	IC 2008	IC2008(L2023 PIN2)	5V(±5%)
			 		

	Page	IC location	IC model	IC PIN#	What volts are norml/NG
7	35	S-Video RA11 (PIN35 or PIN36)	IC 3001	IC3001(PIN35 or PIN36)	VP-P 0.7V
					
8	35	S-Video GA11 (PIN31)	IC 3001	IC3001(PIN31)	VP-P 0.7V
					
9	35	IC4001 (HDMI SW IC) (PIN1,2,63,64)	IC 4001	IC4001(PIN1,2,63,64)	PIN1,2,63,64 have signal
					
10	36	IC5202 (PIN1, 2,9,10, 26,43, 44)	IC 5002(PT2830)	IC3001(PIN1,2,9,10,26,43,44)	PIN1,2,9,10,26,43,44 have signal
					

	Page	IC loction	IC model	IC PIN#	What volts are norml/NG
11	36	L5004 (PIN2)	L5004(10UH)	AV BOARD(L5004 PIN2)	12V(±5%)
					
12	36	Q3043 (B channel)	Q3043(2SC4617)	AV BOARD(Q3043 B channel)	B Channel Close, SPEAKER no Sounds
					

Appendix

Technical Specifications

Mechanical properties

Dimensions (W×H×D)	460mmx355mmx143mm
Net Weight Adjustable foot	10.0 Kg 5°

LCD resolution

LCD system	0.76" TFT
LCD resolution	EK-350U:1920x1200

Compatible signals

Color standard	PAL, SECAM, NTSC, NTSC4.43, PAL-60, PAL-M and PAL-N
HDTV signal	480i, 480p, 576i, 576p, 720p, 1080p and 1080i
Scanning frequency	Horizontal frequency: 15–100 KHz; Vertical frequency: 48–85 Hz

Optical elements

Image size (diagonal lines)	40"-300"
Projection distance	Wide: 0.928m ~ 7.172m / Tele: 1.523m ~ 11.605m
Lens (Standard Lens) LED light source power Contrast Ratio	F = 1.65~2.25 / f = 18.2~29.38mm; Zoom ratio: 1.6x 420W (Normal) 50000:1 @ lens shift 1:1
Aspect Ratio	16:10

Terminal

VGA IN 1	Mini D-sub 15 pin x1
VGA IN 2/YPbPr/S-VIDEO IN	Mini D-sub 15 pin x1
VGA OUT	Mini D-sub 15 pin x1
HDMI	HDMI A type 19 pin x2(one is compatible with MHL)
LAN	RJ45 x1, 100 Base-TX (100Mbps)/10 Base-T (10Mbps)
HDBaseT	RJ45 x1
USB connector	HDMI (Video, Audio), RS-232C, 100 Base-TX (100Mbps)/10 Base-T (10Mbps)
AUDIO	USB-A x1, Micro-USB x1
VIDEO	3.5mm Mini Type Stereo x2, RCA (L/R) x2
RS232 terminal	RCA x1 D-sub 9 pin x1

Power

Voltage and power consumption	AC 100–240 V (Max 5.5A), 50/60 Hz
Fuse	10A/250V
Internal speaker	10W RMS 8ohm x2

Operating Environment

Operating temperature	0°C-40°C
Storage Temperature	-20°C-60°C
High land	2700 m

Remote control

Battery Operating Range	AA or LR6 1.5V ALKALINE TYPE x 2
Dimensions Net Weight	5 m/±30° 48mm (W) x 26mm (H) x 160mm (D) 67g (including batteries)

Accessories

AC power cord (US type x 1 / Euro type x 1)
VGA cable
Remote control and batteries

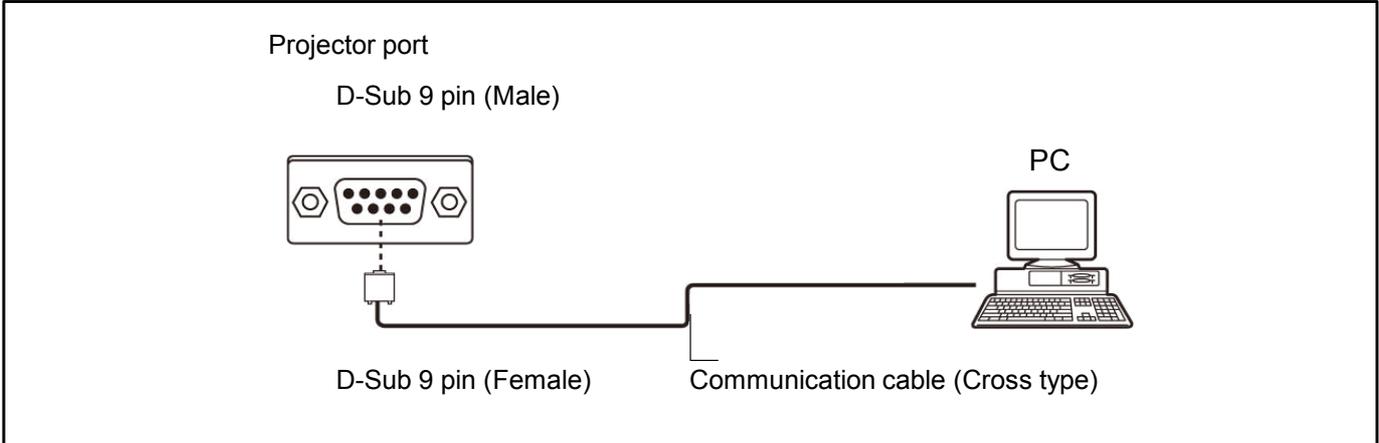
- The aforesaid specification is subject to change without prior notice.
- Liquid crystal panel is made on the basis of high standard, where 99.99% of the pixels are effective. Due to the nature of the liquid crystal panel, a fraction of the pixels (0.01% or less) may be ineffective.

Appendix

Serial control

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

Appendix

RS232 control mode

Serial connection

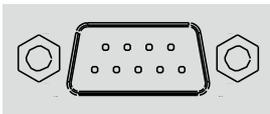
1.1 Port setting

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

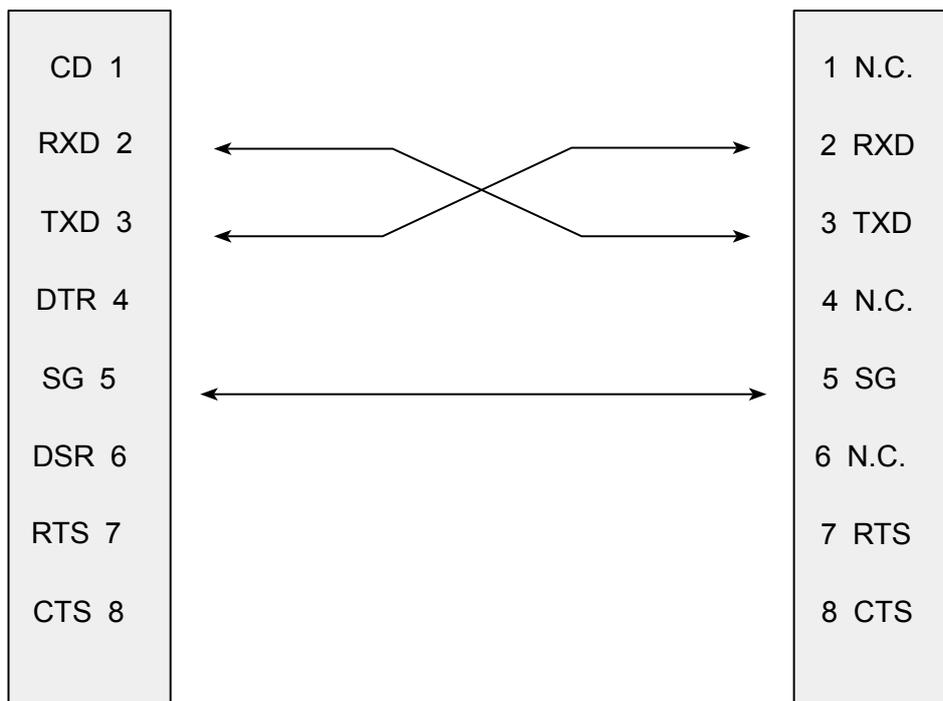
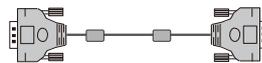
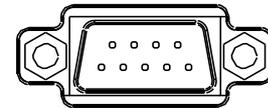
1.2 Connection mode

Can only use RS232 serial cross connect PC and projector.

VGA terminal



Projector terminal



Appendix

RS232 Control commands

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	VGA IN 1	C17	USB Display
C06	VGA IN 2	C32	HDBaseT

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 immediatly)

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 OFF command

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.

Appendix

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 VGA IN 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.

Appendix

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]

2.13 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.

Appendix

2.14 HD-BaseT command

Command	"C32"[CR]	
Details	Select HDBaseT Input .	
Return Value	Receive Successfully	[ACK] [CR]
	Receive Unsuccessfully	" ? " [CR]

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

Parts location diagram

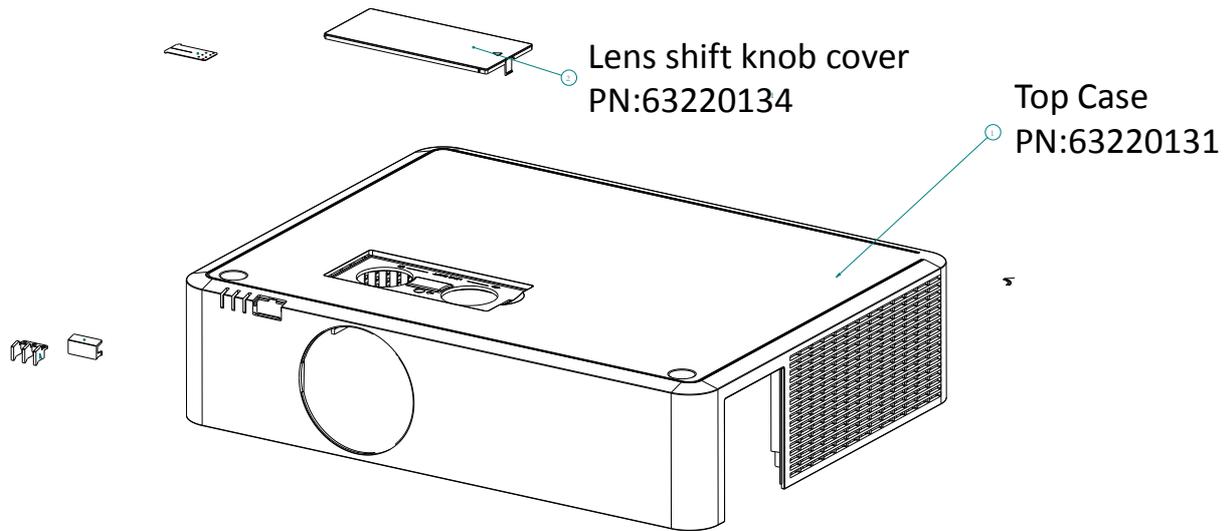
Important safety instruction

components identified by international symbol  identifies hold the special security features.
Please use the specified model for replacement .

Please make sure the parts list and the service code in structural parts list diagram before ordering repair parts.

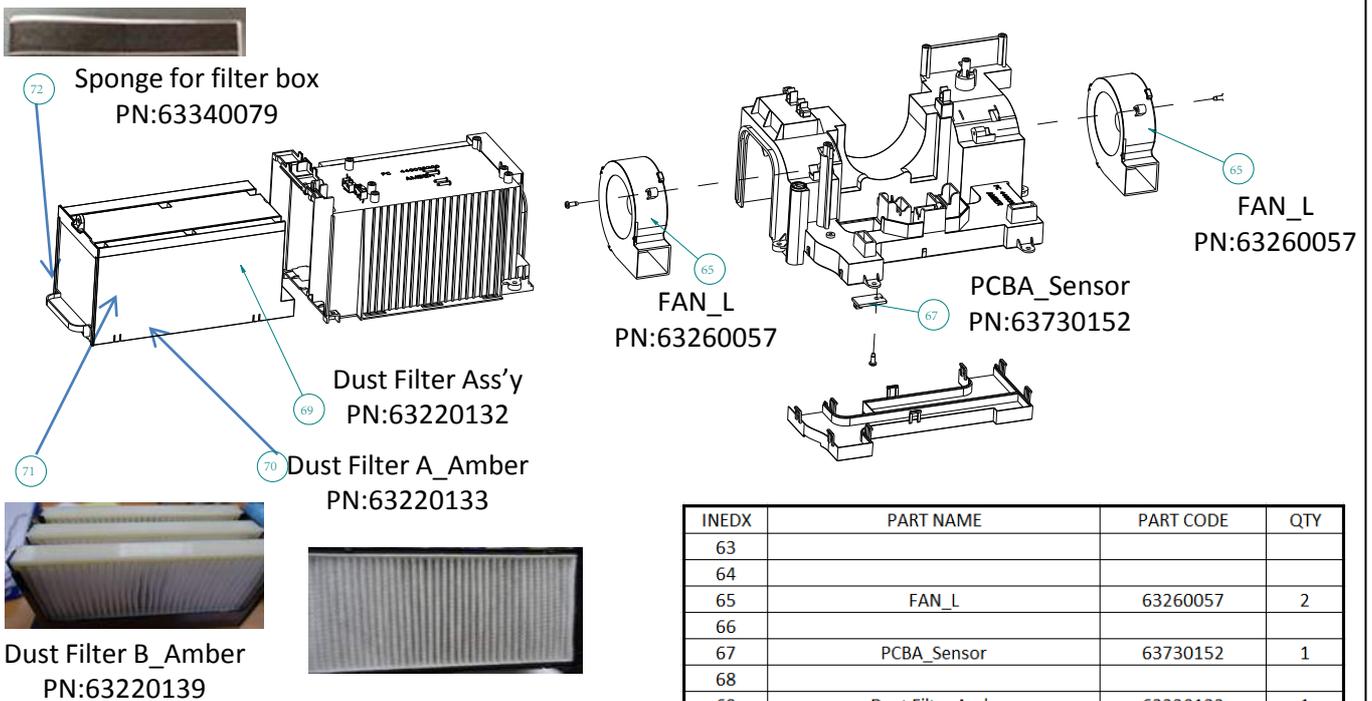
Parts location diagram

Top cover components



INDEX	Part NAME	PART CODE	QTY
1	Top Case	63220131	1
2	Lens shift knob cover	63220134	1
3			
4			
5			

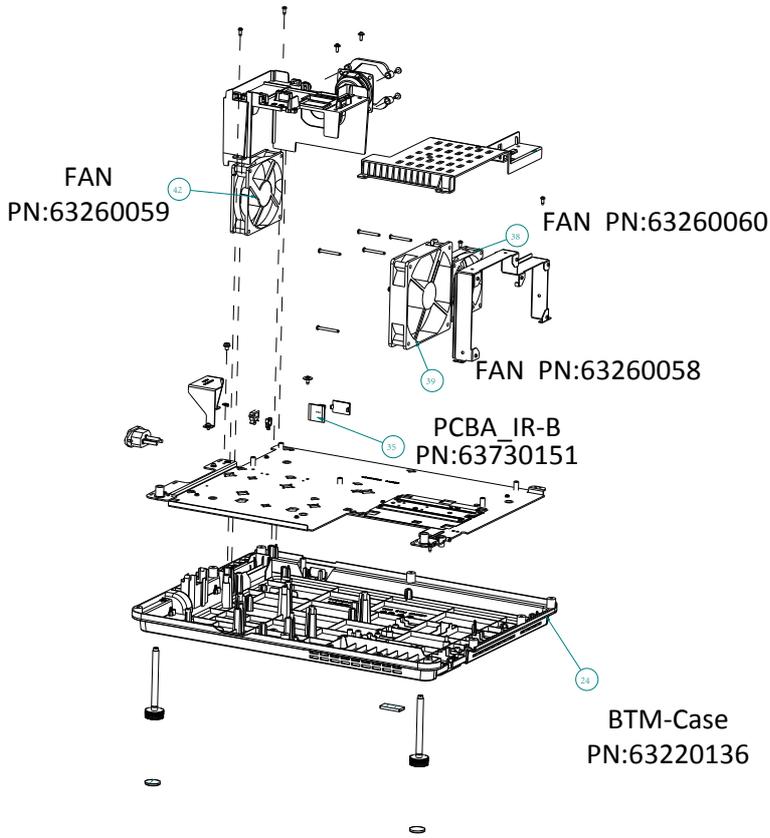
Filter components



INDEX	PART NAME	PART CODE	QTY
63			
64			
65	FAN_L	63260057	2
66			
67	PCBA_Sensor	63730152	1
68			
69	Dust Filter Ass'y	63220132	1
70	Dust Filter A_Amber	63220133	1
71	Dust filter B_Amber	63220139	1
72	Sponge for filter box	63340079	1

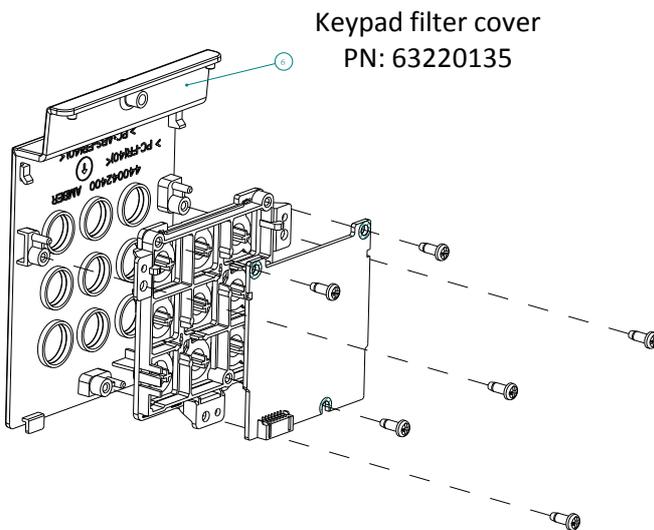
Parts location diagram

Bottom cover components



INDEX	Part NAME	PART CODE	QTY
24	BTM-Case	63220136	1
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35	PCBA IR-B	63730151	1
36			
37			
38	FAN	63260060	1
39	FAN	63260058	1
40			
41			
42	FAN	63260059	1
43			
44			
45			
46			

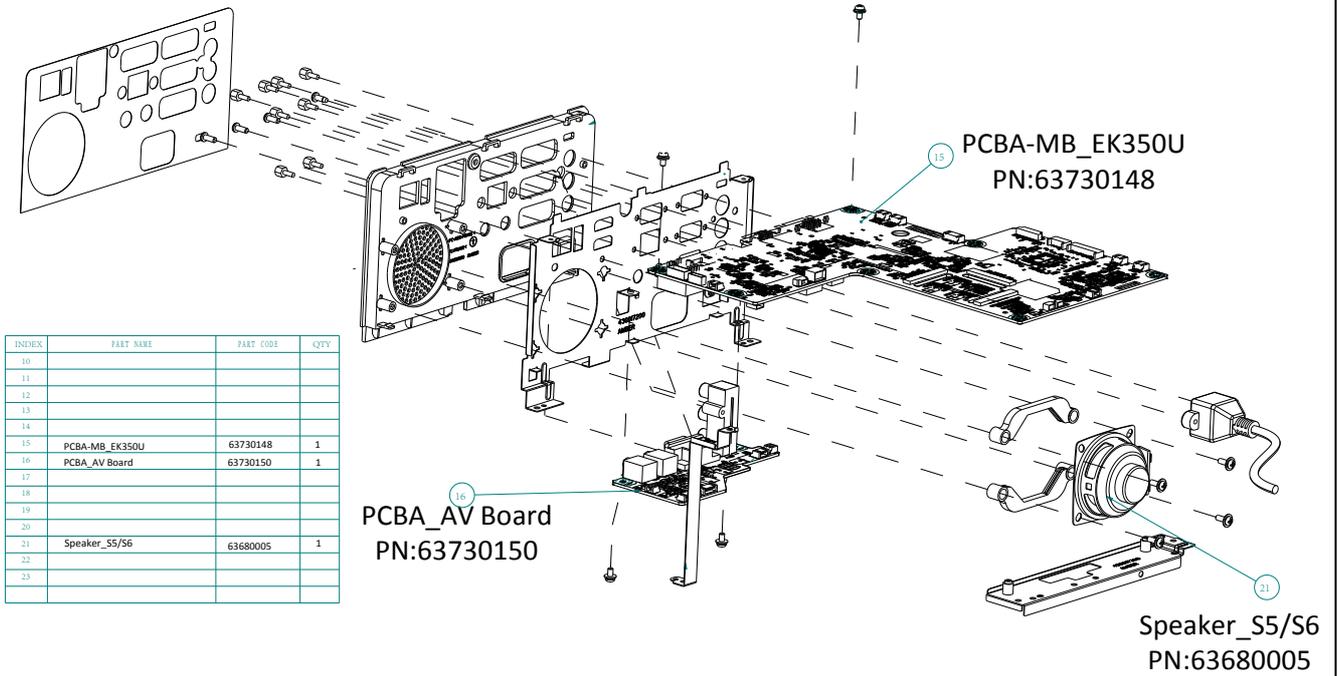
Panel board components



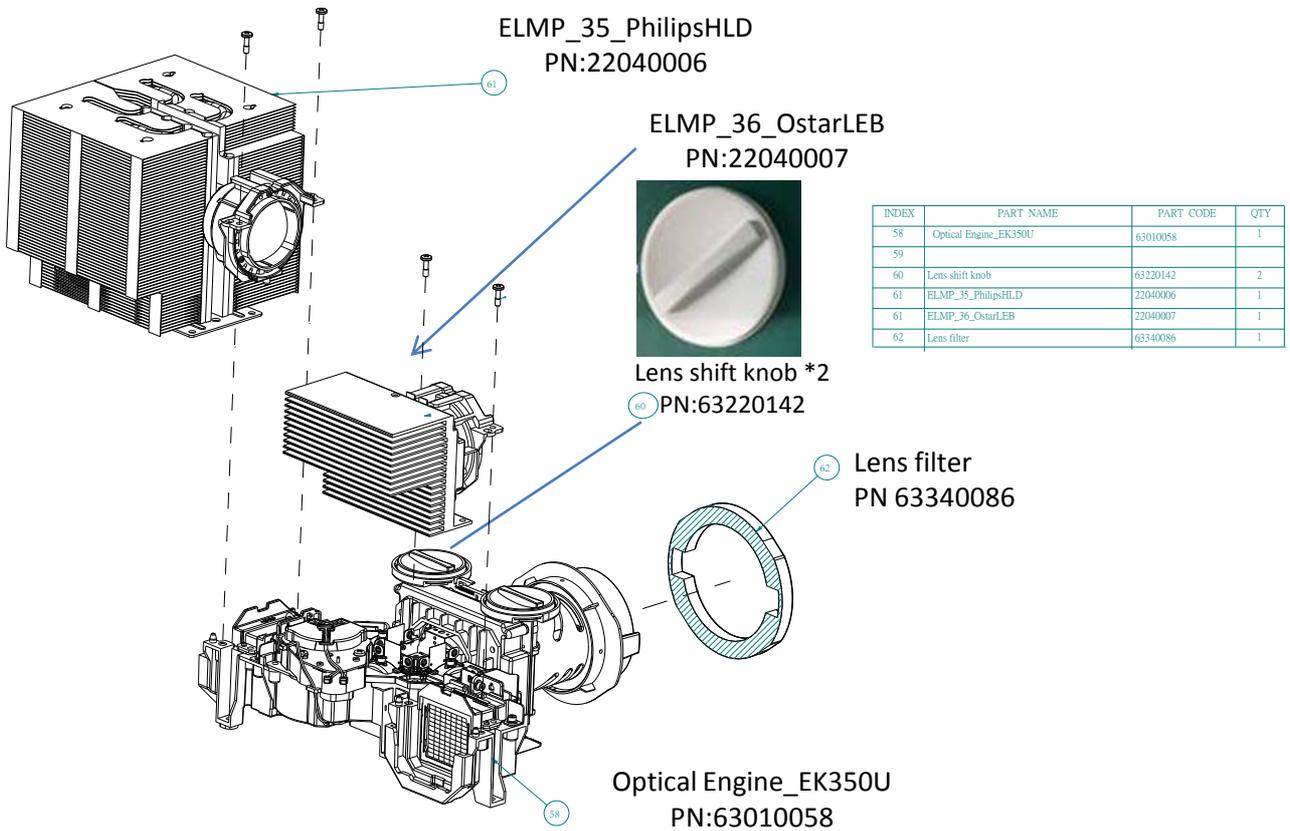
INDEX	Part NAME	PART CODE	QTY
6			
7			
8			
9			

Parts location diagram

Terminal component

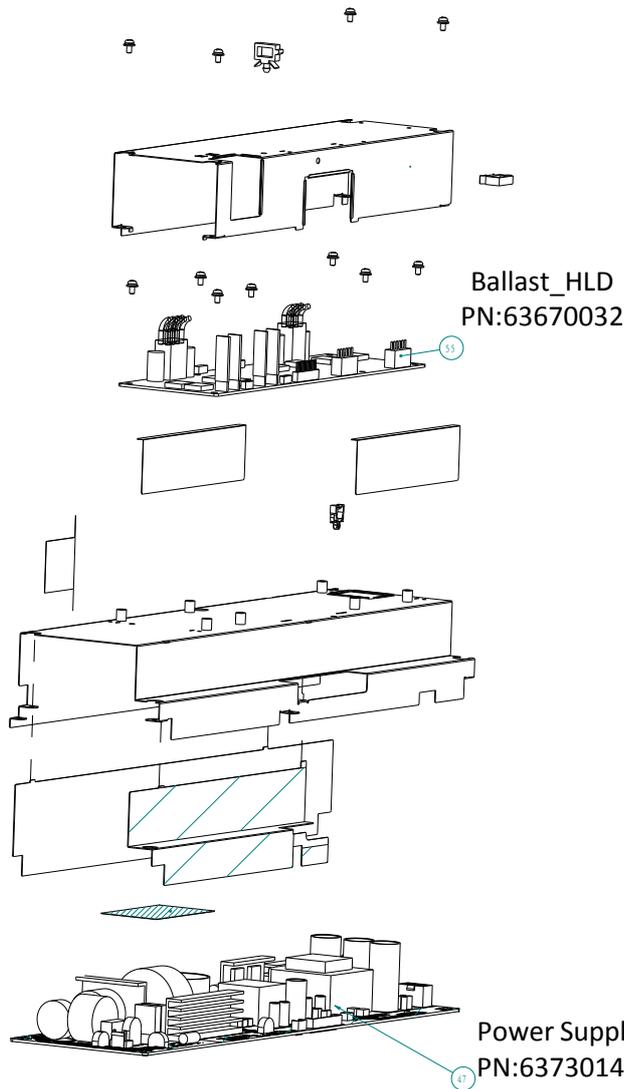


Optical engine component



Parts location diagram

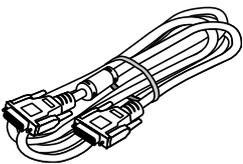
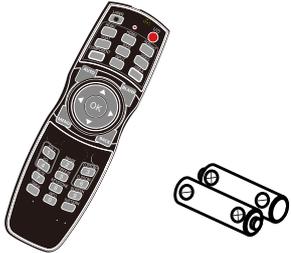
Bottom power box component



INDEX	Part NAME	PART CODE	QTY
47	Power Supply	63730149	1
48			
49			
50			
51			
52			
53			
54			
55	Ballast_HLD	63670032	1
56			
57			

● accessory

make sure your projector is equipped with the following assessory. Figures in () brackets indicate the assessory NO. .

VGA cable	AC Power cord (US type / Euro type)	Remote control with batteries (AA*2)
		

Appendix

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

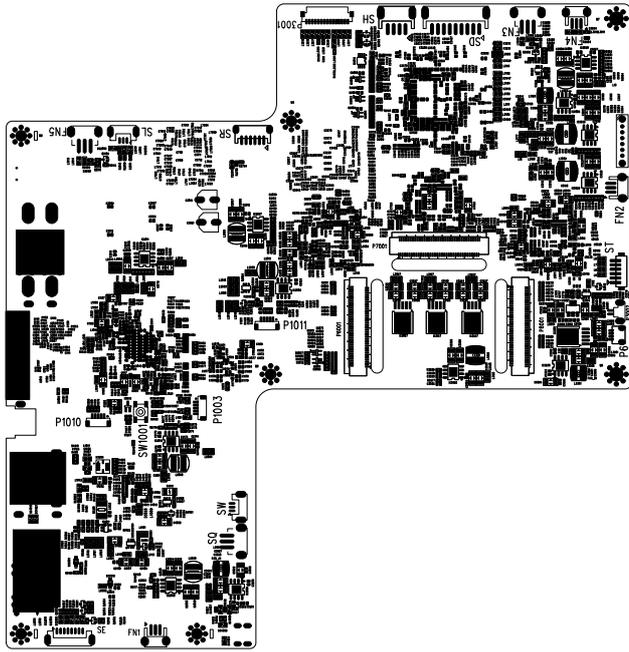
- The power supply circuit includes a circuit unit to separate the power supply from ground.
- Circuit has two kinds of: high-voltage circuit and the low-voltage circuit. Please take the following precautions against it.
- This diagram is the final version before production. Changes may be made without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

■Preventive measure

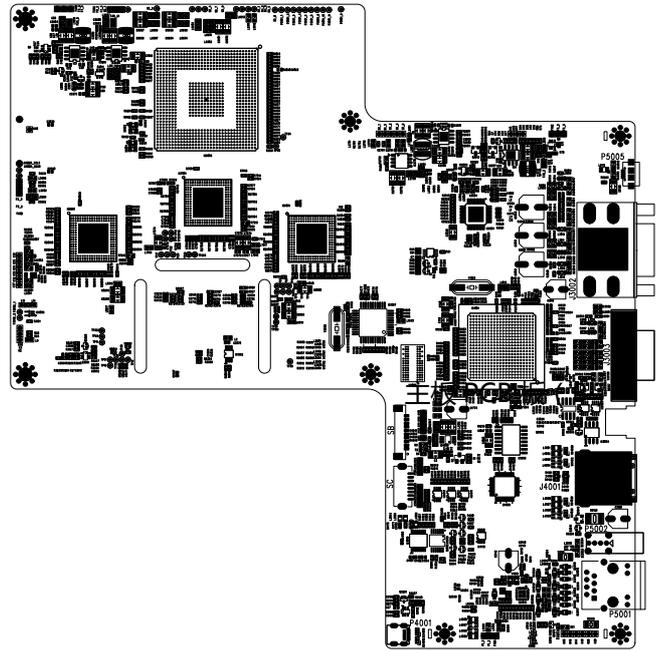
- Do NOT touch the parts of high voltage area or area between low voltage and high voltage , as it may cause risks of electric shock.
- Do NOT short circuit, high voltage and low voltage circuit, otherwise the fuse will be disconnected and damage the components.
- Do NOT connect the parts such as an 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 .

Amber WUXGA main board

Main board PcB (A)

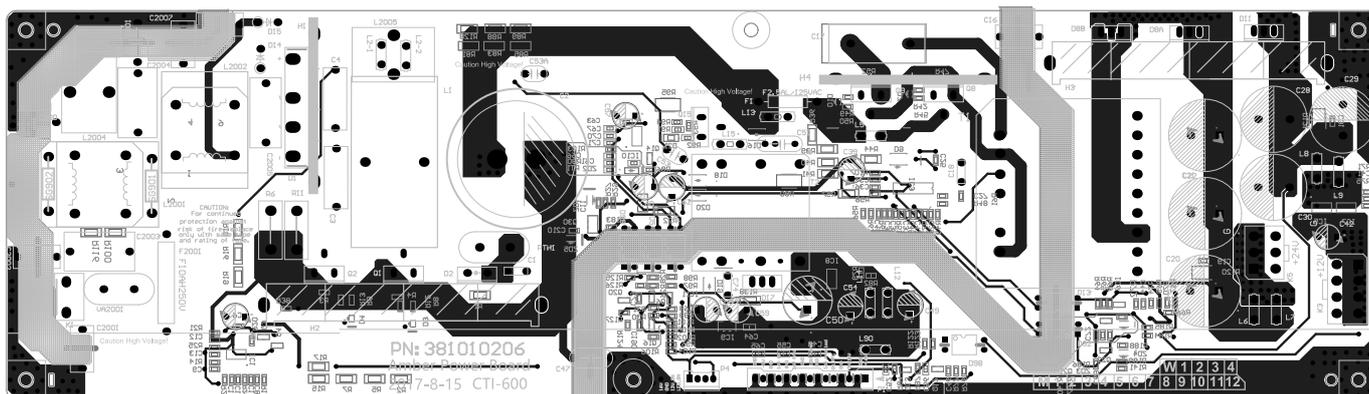


Main board PcB (B)

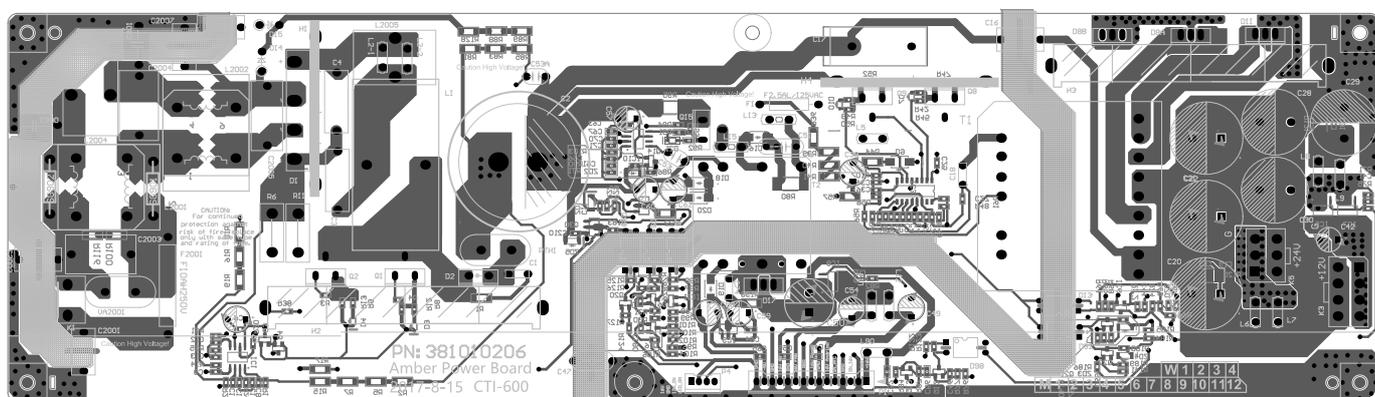


PCB Diagram

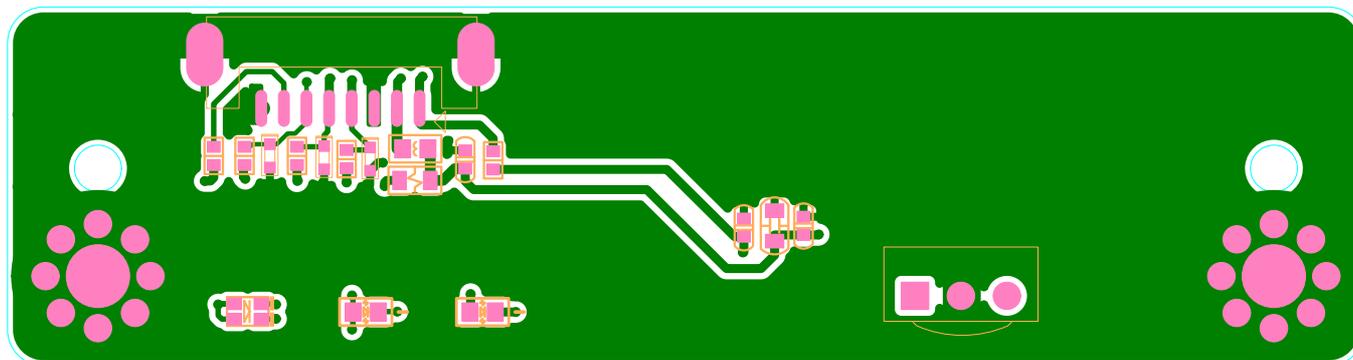
Power board PCB (A)



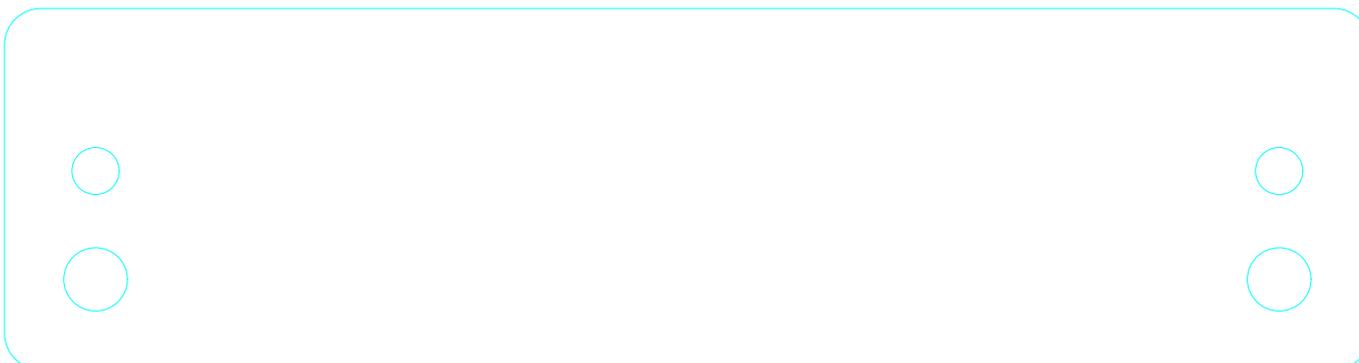
Power board PCB (B)



LED+RC (A)



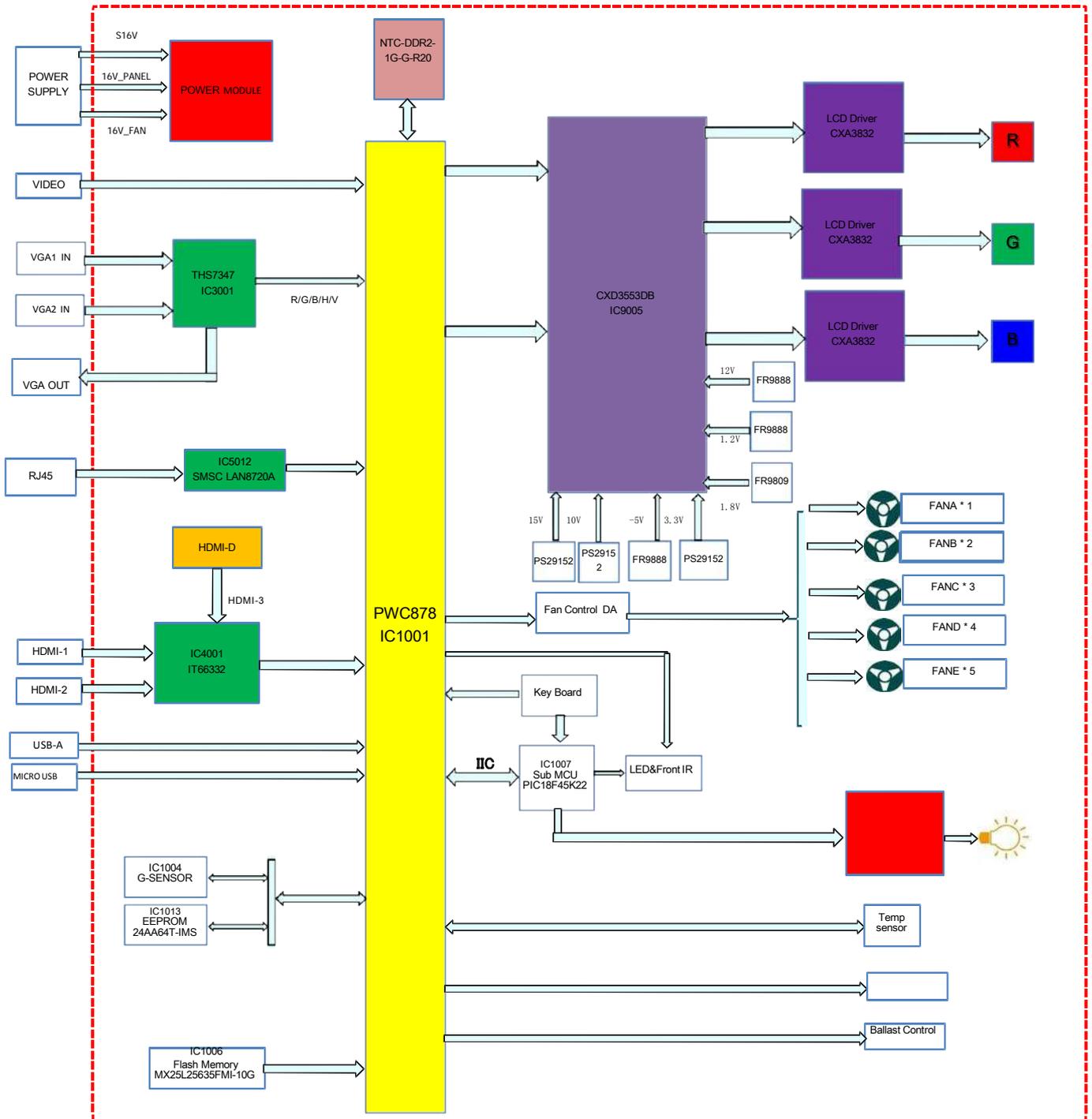
LED+RC (B)



Appendix

Schematic diagram

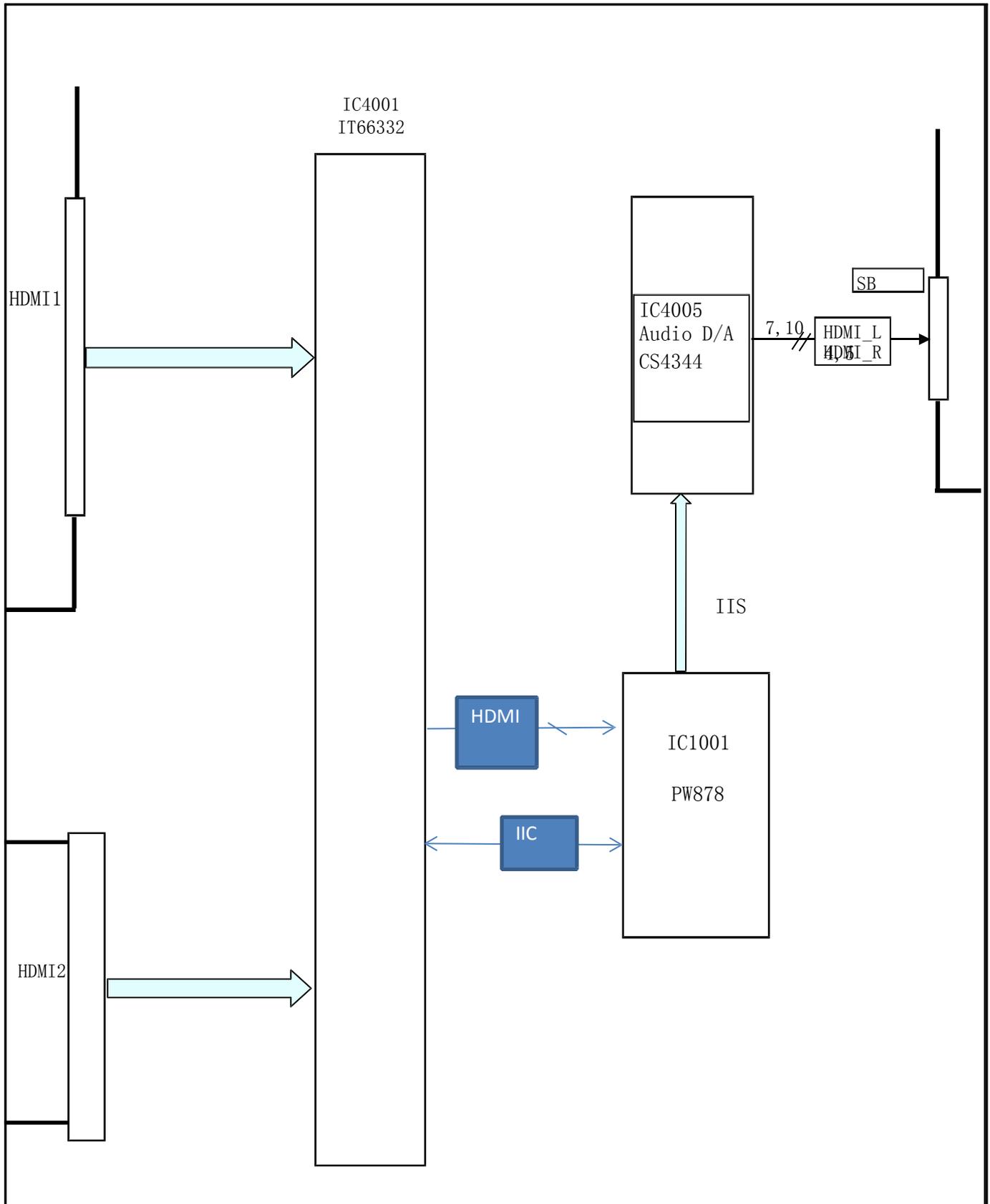
HLD WUXGA (EK-350) MianBoard Block Diagrams



Appendix

chassis block diagram

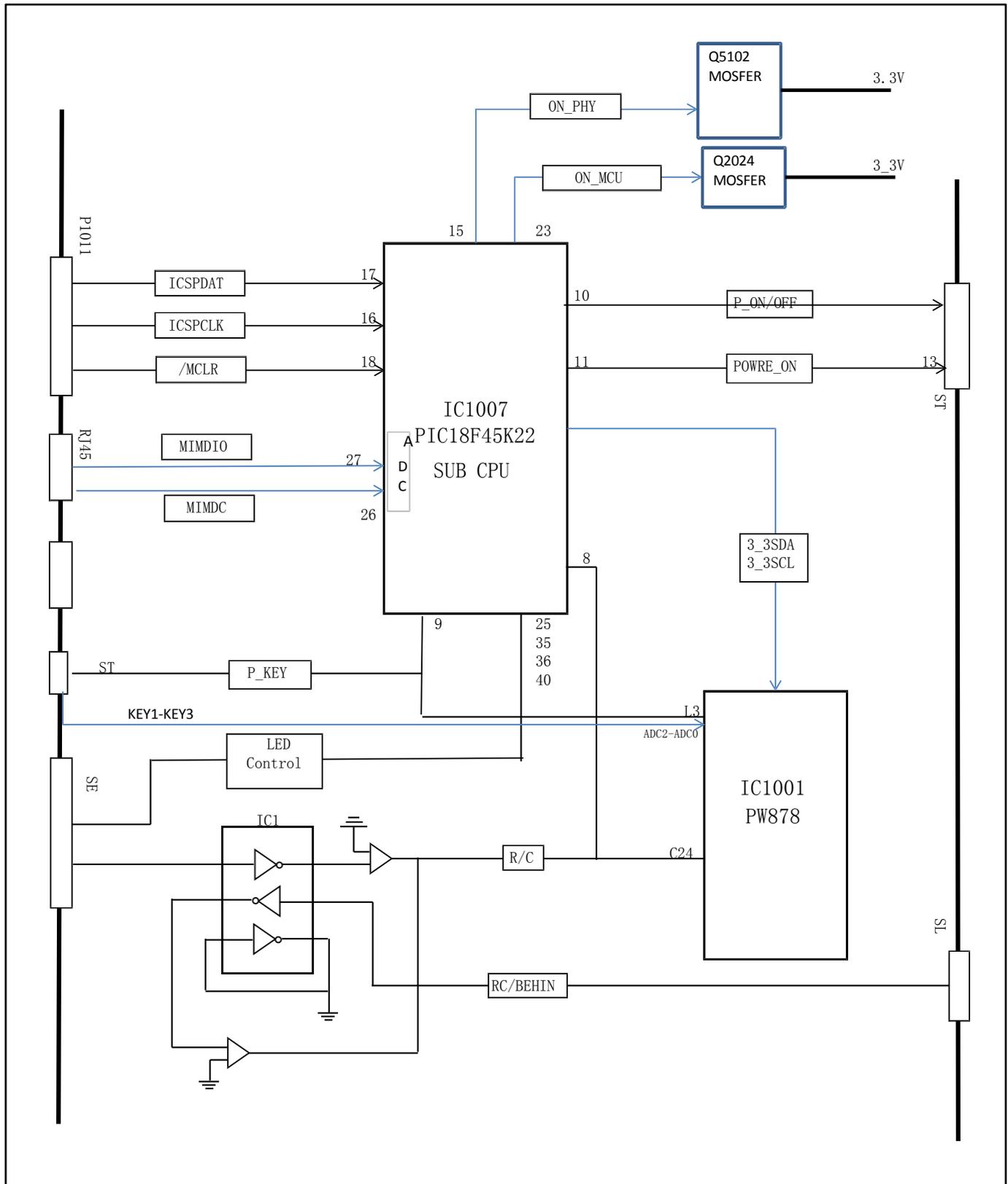
HDMI loop control diagram



Appendix

chassis block diagram

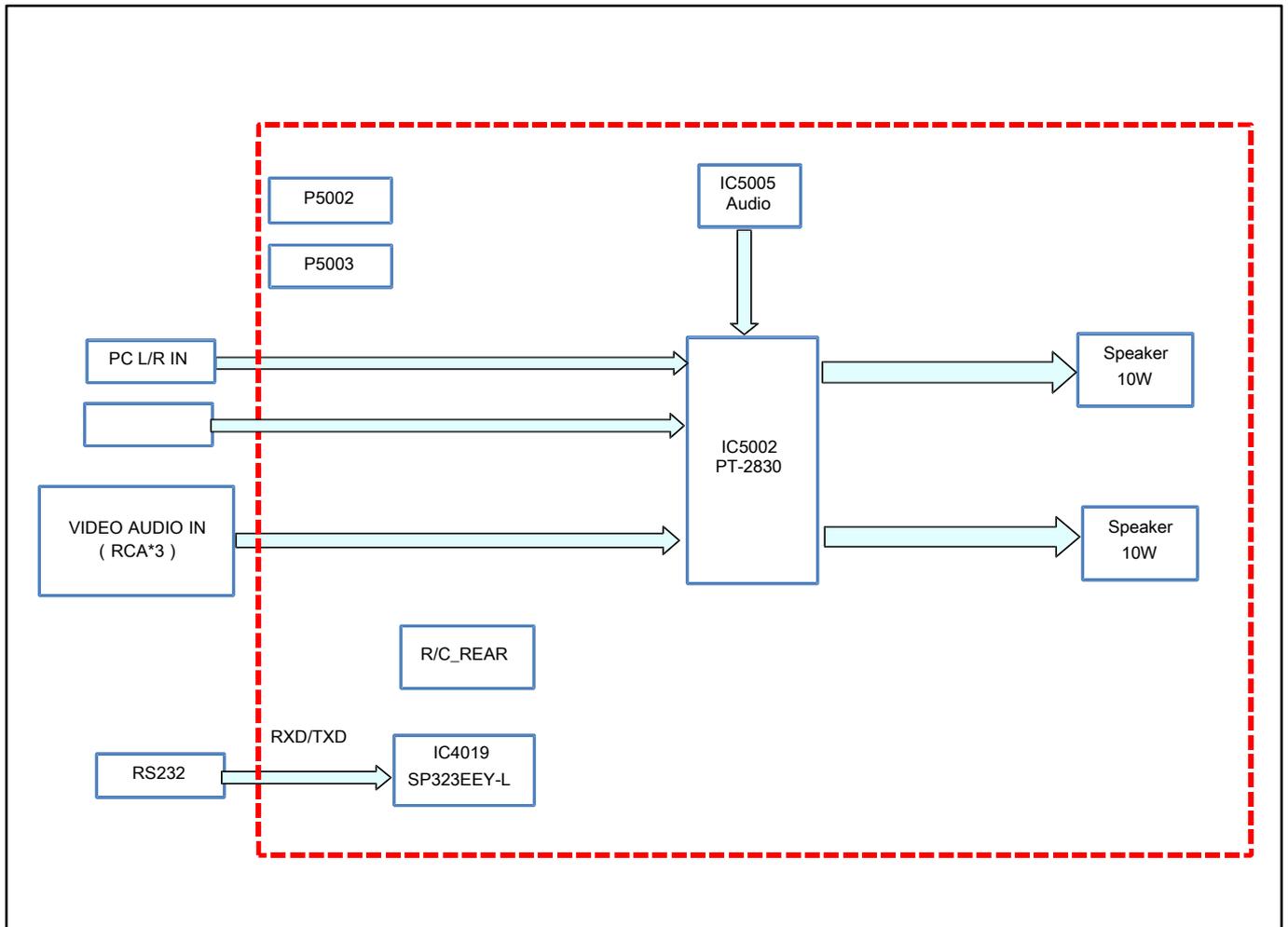
MCU board loop control diagram



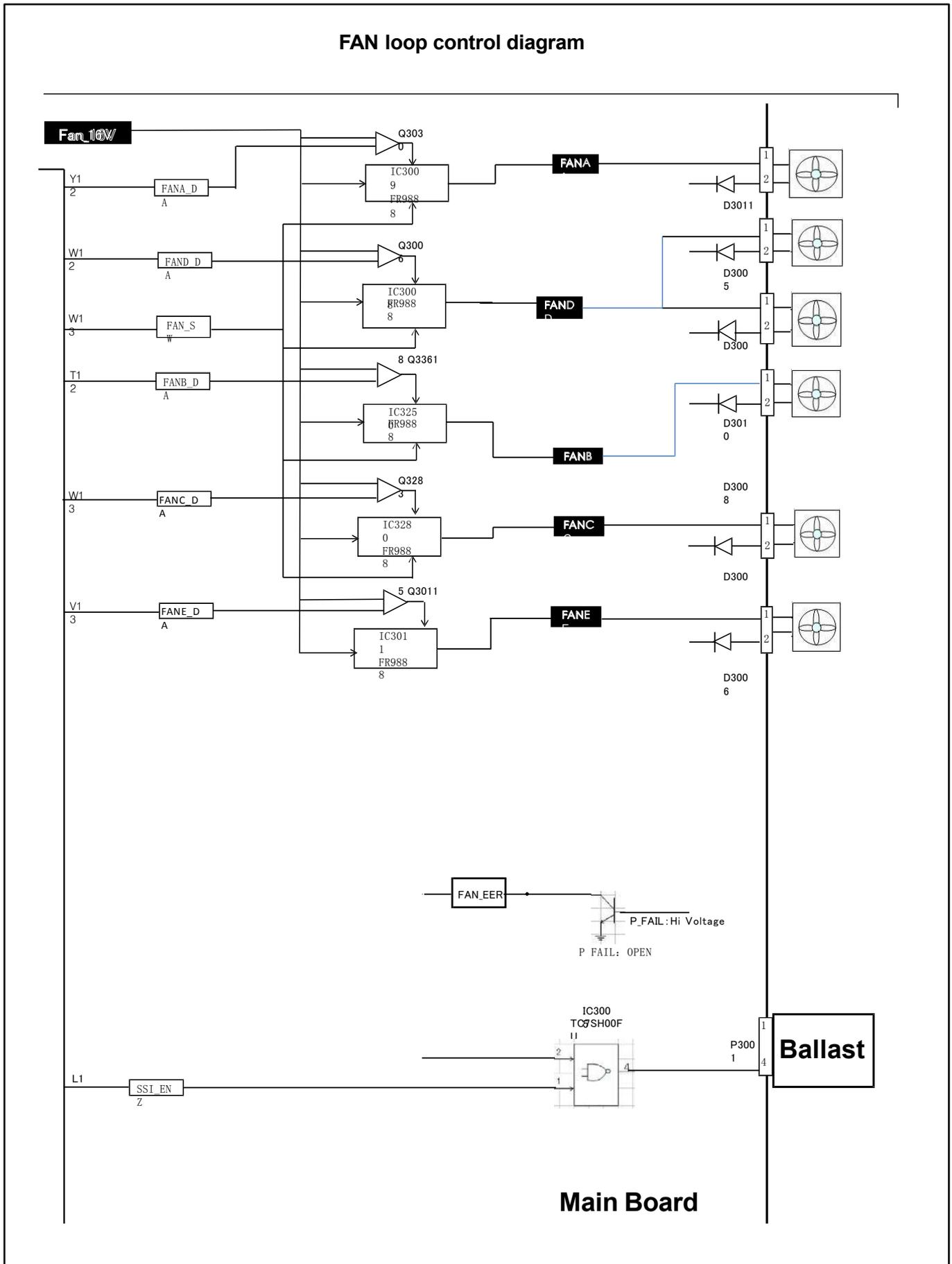
Appendix

chassis block diagram

AV loop control diagram



Fan loop control diagram



Item	Category	Description	Part Number	Note
1	Board Assembly	PCBA-MB_EK-350U	63730148	
2		PCBA-AV Board	63730150	
3		PCBA_Sensor	63730152	
4		PCBA_IR-B	63730151	
5		PCBA_LED Board	63730153	
6		PCBA_Keypad	63730154	
7		Power Supply_EK350U	63730149	
8		PCBA_HDBaseT	63730130	
9		Ballast_HLD_EK-350U(GP)	63670032	EK-350U S/N: E81A1014 ~ E84A1408 E89A1679 ~ E89A1747 E8ZA1928 ~ E8ZA1997
10		Ballast_HLD202	63670033	EK-350U S/N: E87Axxxx ~ (except E89A1679 ~ E89A1747 / E8ZA1928 ~ E8ZA1997)
11	Optics	Optical Engine_EK-350U	63010058	
12		HLD Assy ELMP_35_PhilipsHLD	23040056 22040006 22040019	EK-350U S/N: E81A1014 ~ E84A1408 E89A1679 ~ E89A1747 E8ZA1928 ~ E8ZA1997
13		HLD Assy ELMP_37_PhilipsHLD202	22040008	EK-350U S/N: E87Axxxx ~ (except E89A1679 ~ E89A1747 / E8ZA1928 ~ E8ZA1997)
14		HLD Assy ELMP_36_OstarLEB	23040057 22040007 22040020	
15	Blower/Fan	FAN_L_Line120 12V 0.4A-L	63260057	
16		FAN_Line220 12V 0.21A	63260058	
17		FAN_Line345 12V 0.5A	63260059	
18		FAN_Line75 12V 0.21A	63260060	
19		Speaker	63680005	
20		Fuse	63740004	
21		Thermal Wire-Temp B (GP)	63630009	
22		Thermal Sensor-BHLD (GP)	63630012	
23		Wire M/B to Ballast	63650040	
24	Cabinet Filter	Top Case	63220134	Combin with 63220131 and 63220134 : new PN 63220155
25		Top case + Lens shift knob cover (GP)	63220155	
26		BTM-Case	63220136	
27		Dust Filter Ass'y	63220132	
28		Dust filter A_Amber (Bottom)	63220133	
29		Dust filter B_Amber	63220139	
30		Sponge for filter box	63340079	
31		Lens shift knob Lens shift knob cover (GP)	63220134	Combin with 63220131 and 63220134 : new PN 63220155
32		Lens shift cover Keypad filter cover (GP)	63220135	
33		Lens shift knob (GP)	63220142	
34		Shielding for bottom	63210037	EK-350U S/N: E81A1014 ~ E84A1408 E89A1679 ~ E89A1747 E8ZA1928 ~ E8ZA1997
35		Shielding for bottom_HLD202	63210038	EK-350U S/N: E87Axxxx ~ (except E89A1679 ~ E89A1747 / E8ZA1928 ~ E8ZA1997) Compatible with all S/Ns
36		Lens protection cover (GP)	63340086	
37	Packing	Carton	63340076	
38	Optional	Remote Control for EK-350 series	63910027	