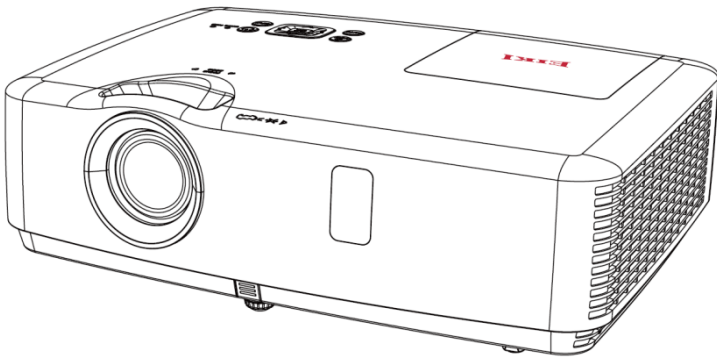




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# LCD Multi-media Projector

## Service Manual



EIKI Model Name:  
EK-110U

Version: 0.1  
2017/07/07

# Content

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- Content.....2
- Safety instruction .....3
- Circuit protection.....7
- Maintenance and cleaning .....8
- Lamp Replacement .....13
- Safety function instruction.....14
- Indicator and projector state.....15
- Trouble shooting.....16
- Mechanical disassembly.....20
- Appendix.....30
- Appendix-PCBA Diagrams.....30
- Appendix-Technical Specification.....34
- Appendix-Configurations of terminal.....35
- Appendix-Serial Control.....36
- Appendix-RS232 Control Mode .....37
- Appendix-RS232 Control Commands.....38
- Appendix-PIN/Logo PIN code resetting.....41





# Safety Instructions

Please read this manual completely before installing and operating the projector.

The projector provides many convenient features and functions. Proper operation may enable you to fully utilize the features and keep it in good condition. Otherwise, it will not only shorten the service life of the unit, but also may cause malfunction, a fire, or other accidents.

If your projector cannot work properly, please read this manual again, check the operating methods and cable connection, and try the solutions in the part of Troubleshooting. If the problem still exists, contact the dealer or the service center.

The lamp of the projector is a wearing part. The luminance may decrease after a period of operation and be weaker than that of a new lamp. This is normal. Please strictly follow the steps in Turning on the unit and Turning off the unit to turn on/off the projector, and the requirements in Maintaining and cleaning the projector to service and clean the projector regular. Otherwise the high temperature residual heat may not radiate, greatly shorten the service life of the projector and lamp, or even damage them within a short period.

	<b>Caution</b> <b>ELECTRIC SHOCK</b> <b>DO NOT OPEN</b>	
<b>CAUTION:</b> <b>TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE EXCEPT LAMP REPLACEMENT. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</b>		
	THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT.	
	THIS SYMBOL INDICATES THAT THERE ARE IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS IN THE USER'S MANUAL WITH THIS UNIT.	

## FOR EU USERS

The symbol mark and recycling systems described below apply to EU countries and do not apply to countries in other areas of the world.

Your product is designed and manufactured with high quality materials and components which can be recycled and/or reused.

The symbol mark means that electrical and electronic equipment, batteries and accumulators, at their end of life, should be disposed of separately from your household waste.

### Note:

If a chemical symbol is printed beneath the symbol mark, this chemical symbol means that the battery or accumulator contains a heavy metal at a certain concentration. This will be indicated as follows: Hg: mercury, Cd: cadmium, Pb: lead. In the European Union there are separate collection systems for used electrical and electronic equipment, batteries and accumulators.

Please, dispose of them correctly at your local community waste collection/recycling centre. Please help us to conserve the environment we live in!



## Safety precautions

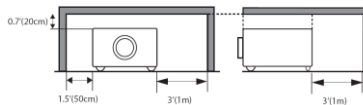
Caution: • The projector must be grounded.

- Do not expose the projector to raindrops or high humidity to avoid a fire or electric shock.

- This projector produces intense light from the projection lens. Avoid staring directly into the lens, otherwise eye damage could be caused. Be especially careful that children do not stare directly into the beam.
- Place the projector in a proper position. Otherwise it may result in fire hazard
- Leave an appropriate space from the top, sides, and back of the shell in order to ventilate and cool down the projector. The figures below indicate the minimum distance to be left. It must be satisfied if the projector is placed in sealed environment like a cabinet.

SIDE and TOP

REAR



- Do not cover the vent of the projector. Poor air radiation may shorten the service life or even cause dangers.
- Remove the AC power plug if the projector is not to be used for a long time.
- Do not project the same image for a long time; otherwise, a residual image may appear on the LCD panel due to its characteristic.



Caution:

Do not set the projector in greasy, wet, or smoky conditions such as in a kitchen, to prevent a malfunction or accident. If the projector comes in contact with oil or chemicals, it may become deteriorated. Read and keep this manual for future reference. The mains plug/appliance coupler is used as disconnect device, the disconnect device shall remain readily operable.



Caution:

## Contains mercury

For more information on safe handling procedures, the measures to be taken in case of accidental breakage and safe disposal options visit: [ec.gc.ca/mercure-mercury/](http://ec.gc.ca/mercure-mercury/)  
Dispose of or recycle in accordance with applicable laws.

# Safety Instructions

All the safety and operating instructions should be read before the product is operated.

Read all of the instructions given here and retain them for later use. Unplug this projector from AC power supply before cleaning. Do not use liquid or aerosol cleaners.

Use a damp cloth for cleaning.

Follow all warnings and instructions marked on the projector.

For added protection to the projector during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage due to lightning and power line surges.

Do not expose this unit to rain or use near water... for example, in a wet basement, near a swimming pool, etc...

Do not use attachments not recommended by the manufacturer as they may cause hazards. Do not place this projector on an unstable cart, stand, or table. The projector may fall, causing serious injury to a child or an adult, and serious damage to the projector.

Use only with a cart or stand recommended by the manufacturer, or sold with the projector. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturers.

An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

Slots and openings in the back and bottom of the cabinet are provided for ventilation, to ensure reliable operation of the equipment and to protect it from overheating.



The openings should never be covered with cloth or other materials, and the bottom opening should not be blocked by placing the projector on a bed, sofa, rug, or other similar surface. This projector should never be placed near or over a radiator or heat register.

This projector should not be placed in a built-in installation such as a book case unless proper ventilation is provided.

Never push objects of any kind into this projector through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the projector.

Do not install the projector near the ventilation duct of air-conditioning equipment.

This projector should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied, consult your authorized dealer or local power company.

Do not overload wall outlets and extension cords as this can result in fire or electric shock. Do not allow anything to rest on the power cord. Do not locate this projector where the cord may be damaged by persons walking on it.

Do not attempt to service this projector yourself as opening or removing Covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel

Unplug this projector from wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power cord or plug is damaged or frayed.
- If liquid has been spilled into the projector.
- If the projector has been exposed to rain or water.
- If the projector does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the projector to normal operation.
- If the projector has been dropped or the cabinet has been damaged.
- When the projector exhibits a distinct change in performance-this indicates a need for service.

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or injury to persons.

Upon completion of any service or repairs to this projector, ask the service technician to perform routine safety checks to determine that the projector is in safe operating condition.

## Information for users in the European Union

This is a device to project images onto a screen, etc., and is not intended for use as indoor lighting in a domestic environment. Directive 2009/125/EC.

## NOTE FOR CUSTOMERS IN THE US

(Hg) LAMP(S) INSIDE THIS PRODUCT CONTAIN MERCURY AND MUST BE RECYCLED OR DISPOSED OF ACCORDING TO LOCAL STATE OR FEDERAL LAWS.

# Safety Instructions

## Air circulation

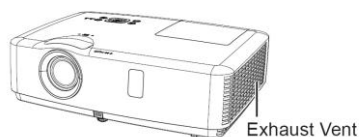
Vents in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered.



### Caution

Hot air is exhausted from the exhaust vent. When using or installing the projector, the following precautions should be taken.

- Do not put any flammable objects, or spray can near the projector. Hot air is exhausted from the air vents.
- Keep the exhaust vent at least 1m away from any objects.
- Do not touch a peripheral part of the exhaust vent, especially screws and metallic part. This area will become hot while the projector is being used.
- Do not put anything on the projector. Objects put on the cabinet will not only get damaged but also may cause fire hazard by heat
- Cooling fans are provided to cool down the projector.
- The fan's running speed is changed according to the temperature inside the projector.



Exhaust Vent



Air Intake Vent

## Moving the projector

When moving the projector, take care of the lens and retract the adjustable feet to prevent damage to the lens and cabinet.




### Caution in moving or transporting the projector


- Do not drop or bump the projector, otherwise damages or malfunctions may result.
- When carrying the projector, use a suitable carrying case.

- Do not transport the projector by courier or any other transport service in an unsuitable transport case. This may cause damage to the projector. For more information about transporting the projector by courier or any other transport service, consult your dealer.
- Do not put the projector in a case before it is cooled enough.

## Installing the projector properly

Please set the projector on nearly-level. Be sure to install the projector properly. Improper installation may reduce the lamp lifetime and even cause a fire hazard

 Do not roll the projector over 10° from side to side.

 Do not pitch the projector more than 10° backward and forward.



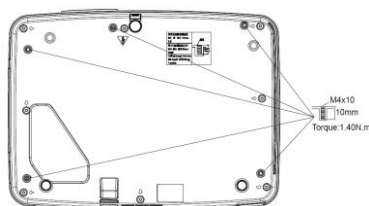
Do not point the projector up to project an image.



Do not point the projector down to project an image.



Do not put the projector on either side to project an image.



### Caution in ceiling installation the projector

- Only qualified personal is authorized for ceiling installation.
- We are not responsible for the hurt and damage caused by ceiling bracket that purchased from unauthorized dealer even in warranty period.
- Remove the ceiling bracket immediately while not use.
- While installing, torque screwdriver is suggested, don't use electric or impact-type screwdriver.
- Please read the manual of bracket for details.

**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 pins in the maintenance process 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 1 .
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.

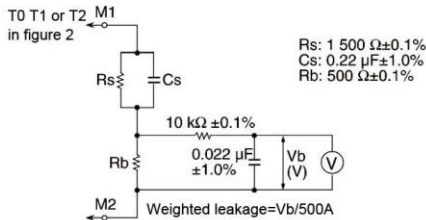


Figure 1

	Property
Voltmeter (rms value)	Accuracy $\leq 2\%$
	Input resistance $\geq 1\text{M}\Omega$
	Input capacitance $\leq 200\text{pF}$
	Frequency range 15Hz to 1MHz

Table 2

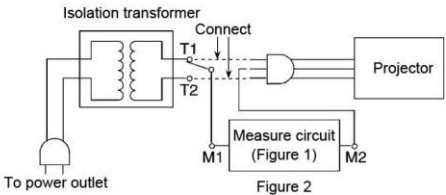


Figure 2

**1.3 uV and uH lamps preventive measures:**

- Be sure to unplug the power cord from the power outlet when replacing the lamp.
- The lamp will reach to rather high temperature during the lighting process. You need spend some time to cool lamp off completely before replacing it will emit a small amount of uV radiation.
- There will be high pressure in the lamp internal component. so it may lead to an explosion just for your abnormal operation
- Do not touch the lamp wires during maintenance as there is much high pressure in the lamp internal component.

# Circuit protection

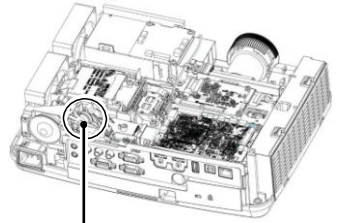
The projector has the following security operation circuit protection functions. if there is any abnormal in the inside of the projector, one of the following protection circuit action will make your projector shut down automatically .

## Thermal switch

- The thermal switch inside the projector is used to detect abnormal temperature inside the projector. When the internal temperature is close to  $100^{\circ}\text{C}$  ( $\pm 5^{\circ}\text{C}$ ), the thermal switch will cut off the lamp power to stop power supply.
- if the thermal switch is off, you can not turn on the projector.  
Please press the thermal switch button to reset thermal switch.



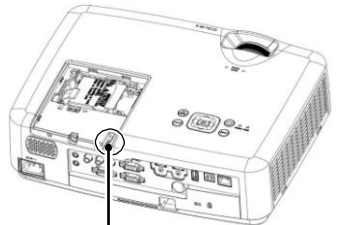
Thermal switch button



Thermal switch

## Lamp cover switch

When the lamp cover is removed or not fully closed, the lamp cover switch will cut off the drive signal of the lamp circuit. Please make sure to install the lamp cover correctly after you open lamp cover and replace it, otherwise the projector can't power on properly.



Lamp cover switch

## Fuse (F2003)

The fuse is placed inside the projector. When you find the standby (red) indicator light is 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.

sERVICE CODE: 63740005  
TYPE: VUC uBm-A 6.3A 250V (P) f u s E,  
Co n Q u E R

## How to replace the fuse

1. The fuse is placed above the filter board. Remove the case, the main board , AV board and speaker bracket as the steps in "mechanical Disassembly" .
2. Remove the fuse from the fuse holder ,then replace it with the specified type



Fuse

# Maintenance and cleaning

## WARNING indicator

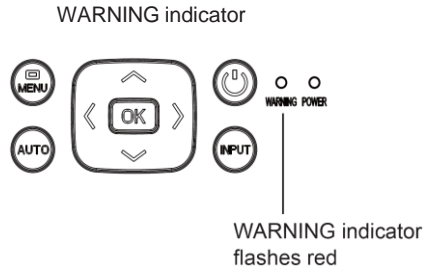
The WARNING indicator shows the state of the function which protects the projector. Check the state of the WARNING indicator to take proper maintenance.

### The projector is shut down and the WARNING indicator is flashing red

When the temperature inside the projector exceeds the normal temperature, the projector is automatically shut down to protect internal components. The WARNING indicator is blinking while the projector is being cooled down. When the projector has cooled down enough (to its normal operating temperature), it can be turned on again by pressing the POWER button.

✓ *Note:*

*The WARNING indicator continues to blink even after the temperature inside the projector returns to normal. When the projector is turned on again, the WARNING indicator stops blinking.*

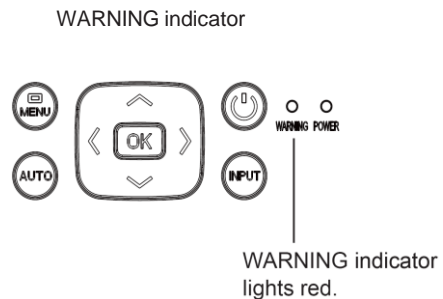


Check the items below:

- Did you provide appropriate space for the projector to be ventilated?  
Check the installing condition to see if ventilation slots are not blocked.
- Has the projector been installed near the duct or vent of an airconditioning?  
Move the installation of the projector away from the duct or vent.
- Are the air filters clean? Clean the air filter periodically.

### The projector is shut down and the WARNING indicator lights red.

When the projector detects an abnormal condition, it is automatically shut down to protect the internal components and the WARNING indicator lights red. In this case, unplug the AC power cord and plug it, and then turn on the projector once again to verify operation. If the projector cannot be turned on and the WARNING indicator lights red, unplug the AC power cord and contact the service station for servicing and maintenance.



Caution

Do not leave the projector with the AC power cord connected under an abnormal condition. It may result in fire or electric shock



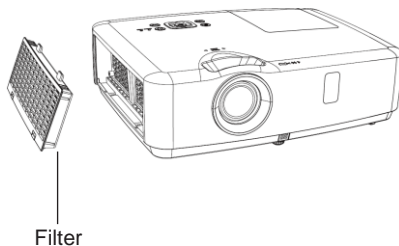
# Maintenance and cleaning

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## Cleaning the filter

The air filter prevents dust from accumulating on the surface of the optical elements inside the projector. Should the air filter become clogged with dust particles, it will reduce cooling fans' effectiveness and may result in a buildup of internal heat and adversely affects the life of the projector. If the Filter warning icon appears on the screen, the air filter should be cleaned immediately. Clean the air filter following the steps below .

- 1 Turn off the projector, and unplug the AC power cord from the AC outlet.
- 2 Remove the air filter .
- 3 Gently clean the filter with a brush
- 4 Reinstall the filter into the projector properl .



### Caution

Do not operate the projector with the air filter removed. Dust may accumulate on the optical elements, degrading picture quality. Do not put any small objects into the air intake vents. Otherwise, it may result in malfunction of the projector.

### Recommendation

We recommend avoiding dusty/smoky environments when you operate the projector. Usage in these environments may cause poor image quality.

When you use the projector under dusty or smoky conditions, dust may accumulate on the lens, LCD panels, or optical elements inside the projector. When the symptoms above are noticed, contact your authorized dealer or service station for proper cleaning.

## Filter counter reset

Be sure to reset the filter counter after cleaning or replacing the filter .

1. Press Menu on the remote control to display the screen menu. Press ▲▼ to select "Expand", then press the OK button.
2. Press ▲▼ to select "Filter counter", and then press the OK button.  
Press ▲▼ to select "Filter counter reset" and press the OK button, "Filter counter Reset?" appears on screen, select "Yes" to continue.
3. When another dialog box pops up, select "Yes" to reset the filter .

# Maintenance and cleaning

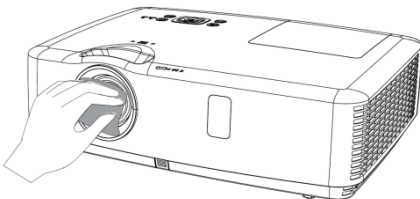
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## Clean the projector lens

Unplug the AC power cord before cleaning.

Gently wipe the projection lens with a cleaning cloth that contains non-abrasive camera lens cleaner, or use a lens cleaning paper or commercially available air blower to clean the lens.

Avoid using an excessive amount of cleaner. Abrasive cleaners, solvents, or other harsh chemicals might scratch the surface of lens.

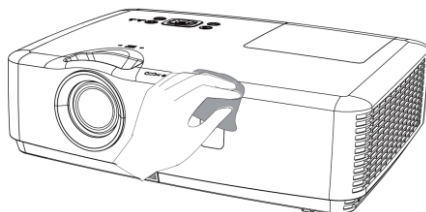


## Clean the cabinet

Unplug the AC power cord before cleaning.

Gently wipe the projector surface with a soft dry cleaning cloth. When the cabinet is heavily soiled, use a small amount of mild detergent and finish with a soft dry cleaning cloth. Avoid using an excessive amount of cleaner. Abrasive cleaners, solvents, or other harsh chemicals might scratch the surface of the cabinet.

When the projector is not in use, put the projector in a pouch to protect it from dust and scratches.



# Maintenance and cleaning

## Replace the lamp

When the projection lamp of the projector reaches its end of life, the Lamp replacement icon appears on the screen. Replace the lamp with a new one of the same type promptly.

The timing when the lamp replacement icon appears is depending on the lamp mode.

Lamp replacement icon

Lamp replacement



### CAUTION

As temperature inside the projector is high, you should cool the projector for at least 45 minutes before you open the lamp cover.



### CAUTION

When the lamp isn't illuminated, it may indicate that the lamp has been damaged. When you replace the lamp in a projector installed on the ceiling, you should stand beside the lamp cover other than under it; for the broken glass may fall down to hurt you. To do that, remove the lamp cover gently to avoid being hurt by falling debris. If debris drops into your eyes or mouth, you should see the doctor immediately.

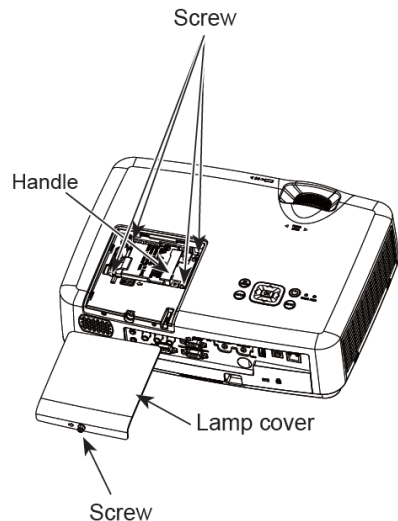


### CAUTION

For the sake of safety, only use the lamp of the same model. Never drop the lamp onto the ground nor touch the glass bulb! The glass can shatter and hurt.

### To replace the lamp, follow the steps below:

1. Power off the projector and unplug the power cord. Then let the projector cool for at least 45 minutes.
2. Loosen the screw on the lamp cover to remove the cover.
3. Make sure the lamp is well protected and loosen four screws. Hold the handle to take out the lamp.
4. Install a new lamp with the same model and tighten the four screws. Make sure the installation is correct. Put lamp cover in place and then tighten the screw.
5. Plug the AC power cord and power on the projector.



# Maintenance and cleaning

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## Order Replacement lamp

Replacement lamp can be ordered through your dealer. When ordering a projection lamp, give the following information to the dealer.

**Replacement Lamp Model No.: 23040054**



### **LAMP HANDLING PRECAUTIONS**

This projector uses a high-pressure lamp which must be handled carefully and properly. Improper handling may result in accidents, injury, or create a fire hazard

- Lamp life may differ from lamp to lamp and according to the environment of use. There is no guarantee of the same life for each lamp. Some lamps may fail or terminate their life in a shorter period of time than other similar lamps.
- If the projector indicates that the lamp should be replaced, i.e., if the WARNING indicator lights up, replace the lamp with a new one IMMEDIATELY after the projector has cooled down. (Follow carefully the instructions in the Lamp Replacement section of this manual.) Continuous use of the lamp with the WARNING indicator lighted may increase the risk of lamp explosion.
- A Lamp may explode as a result of vibration, shock or degradation as a result of hours of use as its lifetime draws to an end. Risk of explosion may differ according to the environment or conditions in which the projector and lamp are being used.

### **IF A LAMP EXPLODES, THE FOLLOWING SAFETY PRECAUTIONS SHOULD BE TAKEN .**

If a lamp explodes, disconnect the projector's AC plug from the AC outlet immediately. Contact an authorized service station for a checkup of the unit and replacement of the lamp. Additionally, check carefully to ensure that there are no broken shards or pieces of glass around the projector or coming out from the cooling air circulation holes. Any broken shards found should be cleaned up carefully. No one should check the inside of the projector except those who are authorized trained technicians and who are familiar with projector service. Inappropriate attempts to service the unit by anyone, especially those who are not appropriately trained to do so, may result in an accident or injury caused by pieces of broken glass.

# Lamp Replacement

If the filter is blocked by dust, the effect of cooling fan will be reduced, and heat accumulate in the projector, service life will be shortened and the life of the lamp. Cleaning filter is suggested after lamp replacement. Replacement Refer to "Clean the filter".

## Lamp Counter Reset

This function resets the counter of Lamp usage hours. Please be sure to reset the lamp counter after replacing the lamp. WARNING indicator turns Off and the lamp replacement icon disappears after reset the lamp counter.

Press < MENU > button on the remote controller or on the top control panel to display the OSD menu. Press ▼▲ button to select the

Expand menu, then press <OK> or ► button.

1) Press ▲▼ button to select [Lamp counter] menu.

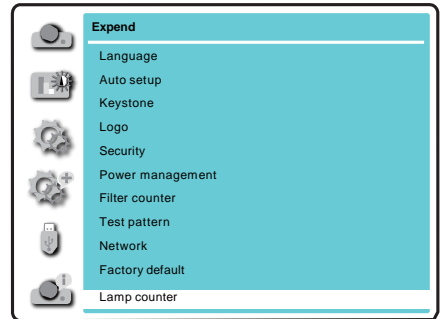
2) Press <OK> button.

3) Press ▲▼ button to select [Lamp counter reset], then press <OK> button.

4) "Lamp replacement counter reset ? " conformation box appear.

4) Select "Yes" and Press <OK> button.

Lamp counter





# Safety function instruction

This projector provides Closed caption , Key lock and Pin code lock ensure the projector's operation safety. only when users enter the correct password can you open your projector when you has set up the three security fea tures.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
PIN code lock	Prevent unauthorized personnel from operating the 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

## standby mode instruction

The projector has two kinds of standby mode , namely Eco.mode and the normal mode. in the two mode , the follow ing functions will be limited as shown in the table. Please switch to standby mode on the setting menu.

Normal mode.....It can still charge the projector , even if 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	Normal mode
Serial control	1V*	1V*
Network	--	--
Monitor output	--	--
Audio output	--	--
Auto startup	V	V


\* 1 :only be effective when plugged into power.


\* 2 :only effective when plugged into power with the special software.


# Indicator and projector state


Check the indicator to know about the state of projector


Indicator		State of projector
WARNING (Red)	POWER (Green/Red / Yellow)	
		Projector is in Off status (without AC power supply).
		Projector is in standby status. Press Standby button to turn it on.
		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
		Projector is in Ready mode.
		Projector cannot power on, as its internal temperature is too high. User may power it on after it is fully cooled, temperature backs to normal, and the POWER light indicator turns red.
		Projector cannot light on, Please check the unit's lamp cover whether close well, or the cover switch unnormal. If lamp cover, and cover switch is ok, but the unit still not light up, thus please check Lamp, Ballast & it's connection pulg well.
		Projector detects lamp abnormality and switches into standby mode.
		Projector detects the temperature abnormality and switches into standby mode.
		Projector detects power abnormality.
		Projector detects fan abnormality.
		Projector detects its usage time $\geq$ the life of the projector -300H when the projector usage time $< 1.1$ times the life of the projector.
		Projector detects its usage time $\geq 1.1$ times the life of the projector.


 Green


 Red

 Yellow

 Off

 Flash green

 Flash red

 Flash Yellow

\* When the lamp reaches the end of its life, the LAMP indicator lights Yellow. In this case, replace the lamp with a new one promptly.

## Trouble shooting

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.

### POWER indicator

- the power indicator turns steady red, when the projector is in standby mode,
- the power indicator turns steady green, during the working time.
- the power indicator is flashing green, when the projector is in power management mode
- the power indicator is flashing red, when the projector is in cooling mode.
- the power indicator turns steady yellow, when the projector power is abnormal.

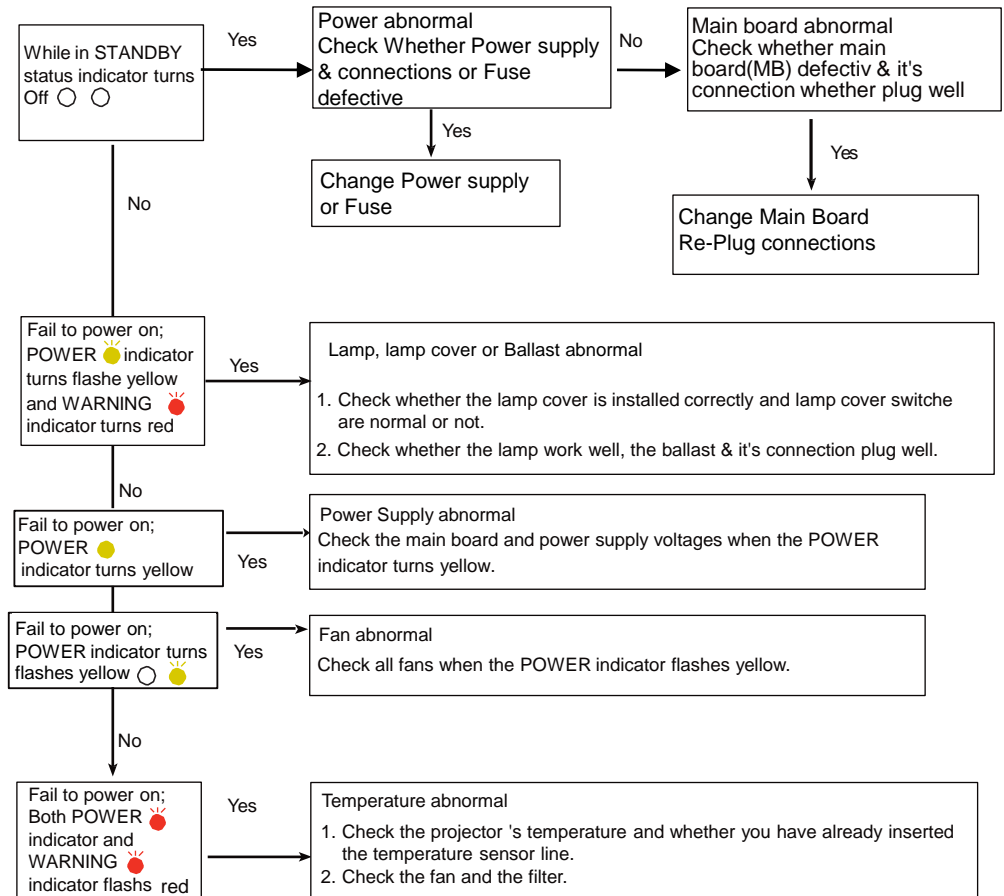
### WARNING indicator

- the indicator is flashing red, when the internal temperature of the projector exceeds the operating range.



### Power on abnormal

Follow the steps below for check:

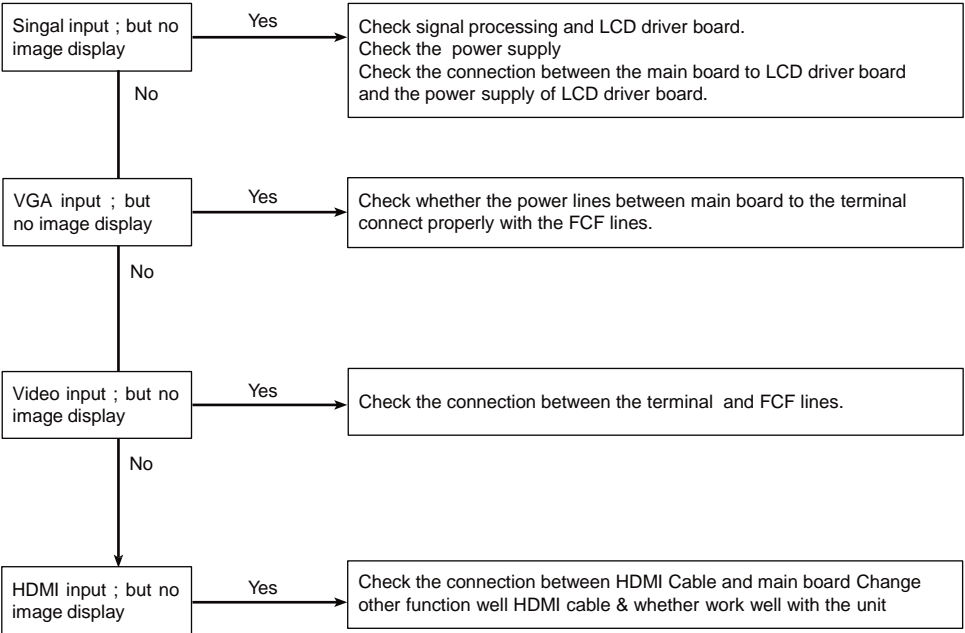




**Trouble shooting**

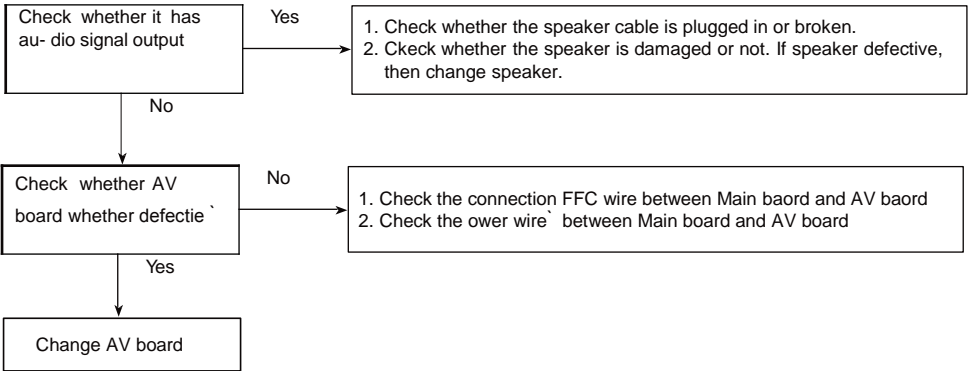
**Image display abnormal**

Check the image as the following steps.



**No sound**

Follow the steps below for check:



# Troubleshooting

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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.

<b>Problems</b>	<b>- Solutions</b>
No power	<ul style="list-style-type: none"><li>- Plug the power cord of the projector into the AC power outlet.</li><li>- Check whether the POWER indicator lights red.</li><li>- Only when the POWER indicator lights red you can power on the projector again.</li><li>- Check the WARNING indicator. If it is blinking red, the projector can not be powered on.</li><li>- Check the projection lamp.</li><li>- Unlock the "Key lock" function.</li></ul>
No initial displaying	<ul style="list-style-type: none"><li>- Make sure that Logo function is not set to "Off".</li></ul>
Initial displaying is inconsistent with factory defaults	<ul style="list-style-type: none"><li>- Make sure that Logo function is not set to "Off" or "User".</li></ul>
Input signals are automatically switched (can't be switched)	<ul style="list-style-type: none"><li>- Properly adjust the Input search function.</li></ul>
Ambiguous images	<ul style="list-style-type: none"><li>- Adjust the focus.</li><li>- Set a more proper projection distance.</li><li>- Check whether the lens needs to be cleaned.</li><li>- 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.</li></ul>
Image turns over leftward/ rightward Image turns over upward/ downward	<ul style="list-style-type: none"><li>- Check the function of "Ceiling/rear".</li><li>- Check the function of "Ceiling".</li></ul>
Image not bright enough	<ul style="list-style-type: none"><li>- Check whether the contrast or brightness is adjusted correctly.</li><li>- Check whether the Image mode is properly selected.</li><li>- Check the function of lamp brightness adjusting.</li></ul>
No image	<ul style="list-style-type: none"><li>- Check the connection between Computer or video equipment and the projector.</li><li>- 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.</li><li>- Images can show up only about 20 seconds after the projector is powered on.</li><li>- Check the input signal, color system, video system or Computer system mode.</li><li>- Make sure that the temperature doesn't exceed the permitted operating temperature(41°F-104°F [5°C - 40°C] ).</li><li>- 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.</li></ul>

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

### Warning:

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

# Mechanical Disassembly

---

Mechanical disassembly should be made following procedures in numerical order.

Following steps show the basic procedures, therefore unnecessary step may be ignored.

## Caution

The parts and screws should be placed exactly the same position as the original otherwise it may cause loss of performance and product safety.

1. Dust filter & Lamp Cover removal

2. Top cover disassembly

3. Main board and LCD driver board disassembly

4. Speaker and Optical engine Ass'y disassembly

5. Fan driver /Power supply&Ballast disassembly

6. Duct and Lamp Cooling Fan disassembly

7. Optial Engine Fan and Duct Ass'y disassembly

8. BTM-case Ass'y disassembly

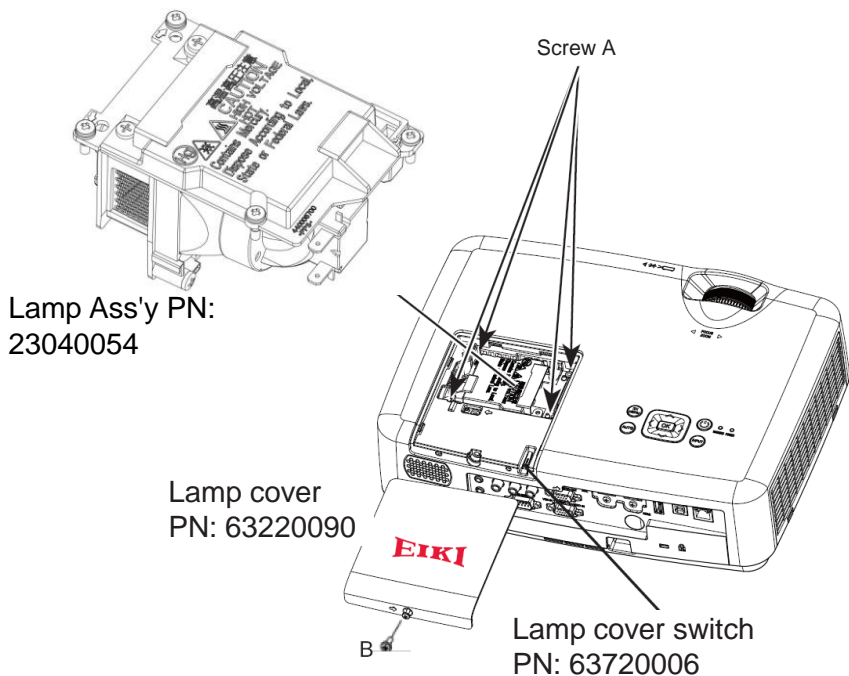
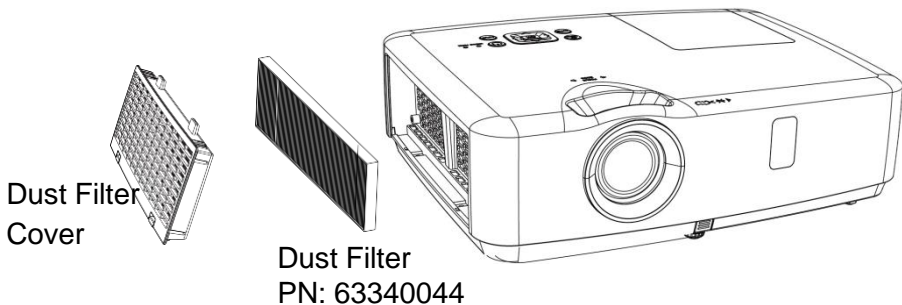
## Mechanical Disassembly

Dust filter & Lamp Cover removal

1. Open dust filter cover and remove out Dust filter
2. Loosen 3 screw A, 1screw B and remove Lamp Ass'y.

The chapter is only designed to show exploded image of the projector.

For updated part numbers, please refer to RSPL



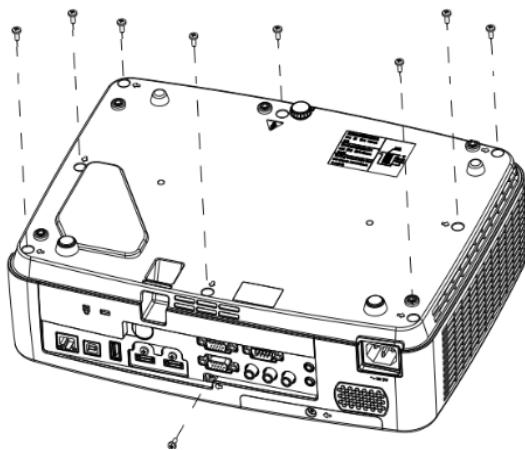
## Mechanical Disassembly

### Top Cover disassembly

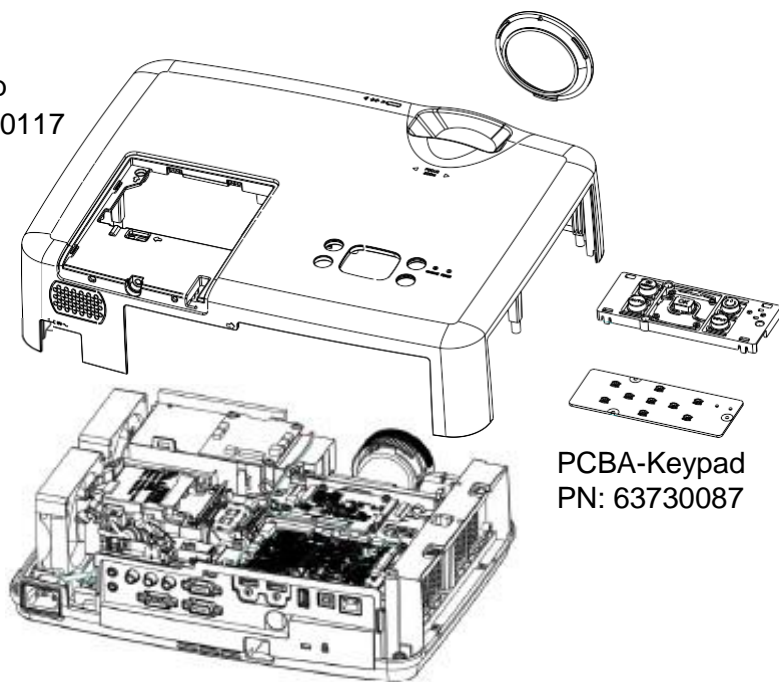
Loosen 8 screws and remove Top cover.

The chapter is only designed to show exploded image of the projector.

For updated part numbers, please refer to RSPL



Case-Top  
PN: 63220117



PCBA-Keypad  
PN: 63730087

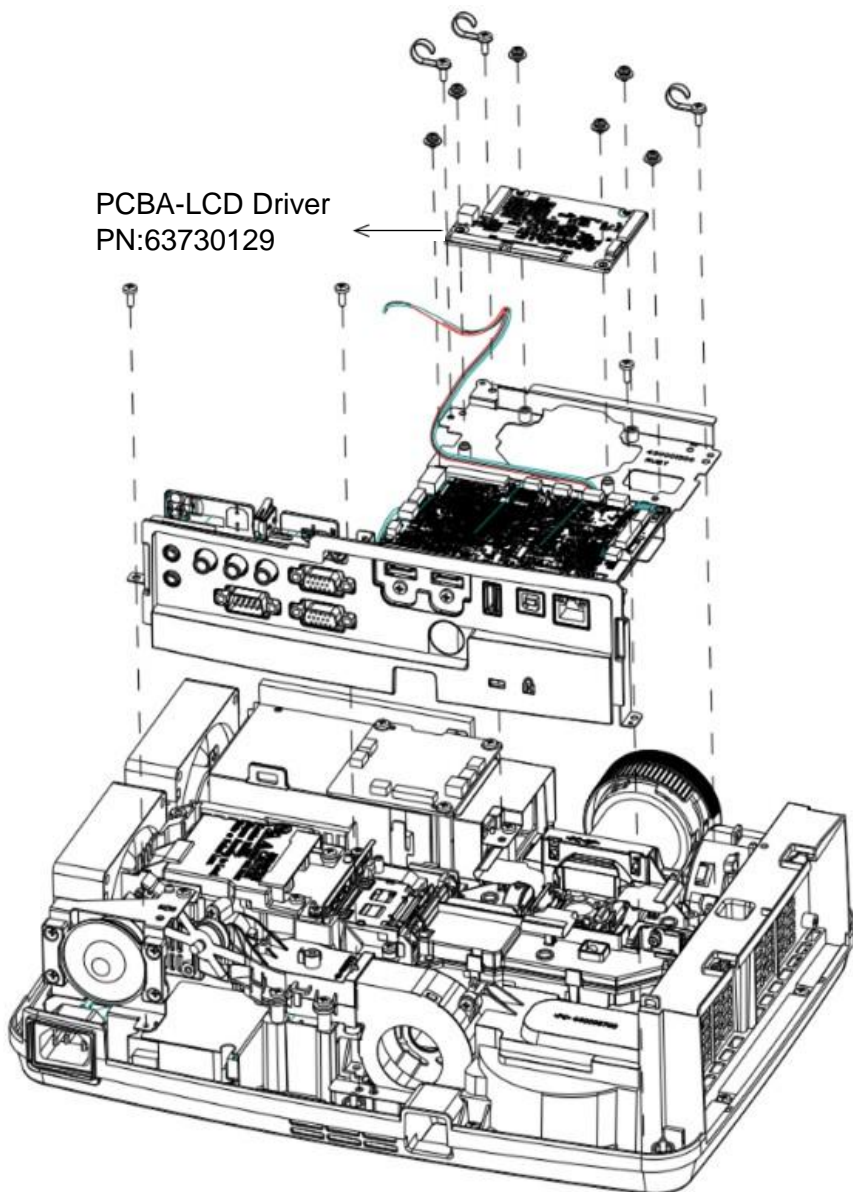
## Mechanical Disassembly

LCD driver board and Main board (MB) Ass'y disassembly

Loosen 12 screws and remove. MB and LCD driver board Ass'y

The chapter is only designed to show exploded image of the projector.

For updated part numbers, please refer to RSPL



## Mechanical Disassembly

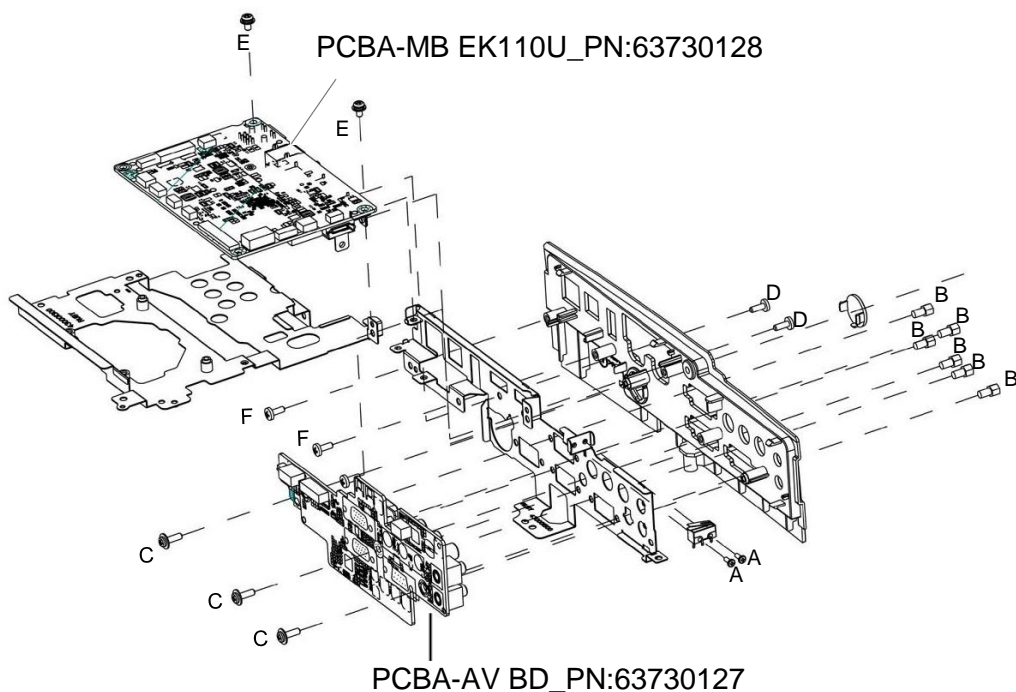
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### Main board (MB) and AV board Ass'y disassembly

1. Loosen 2 screw A, 3 screw C, 2 screw E and remove MB.
2. Loosen 2 screw D, 6 screw B, 2 screw F and remove AV board.

The chapter is only designed to show exploded image of the projector.

For updated part numbers, please refer to RSPL



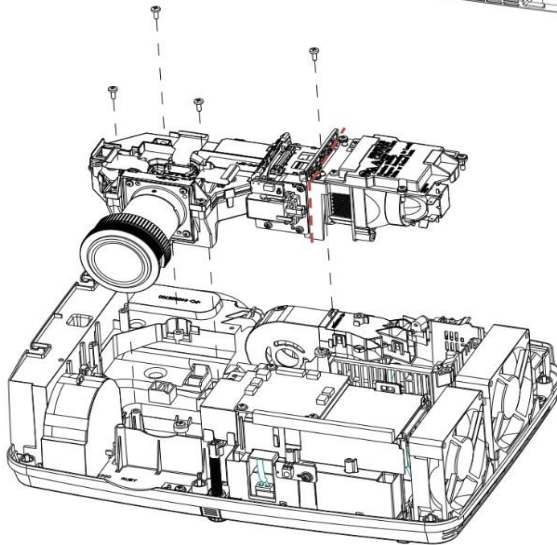
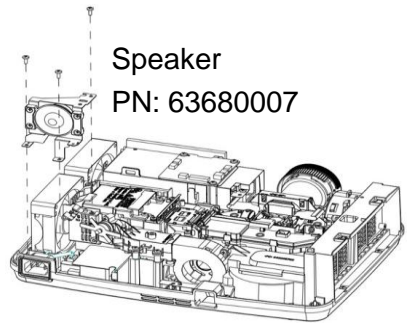


## Mechanical Disassembly

### Optical Engine(OE) and Speaker disassembly

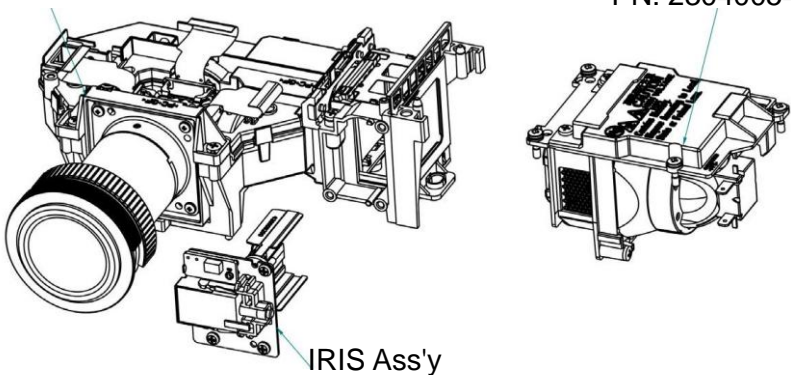
1. Loosen 3 screw and remove Speaker
2. Loosen 4 screw and remove OE

The chapter is only designed to show exploded image of the projector. For updated part numbers, please refer to RSPL



OE+IRIS Ass'y-EK110U\_PN: 63010045

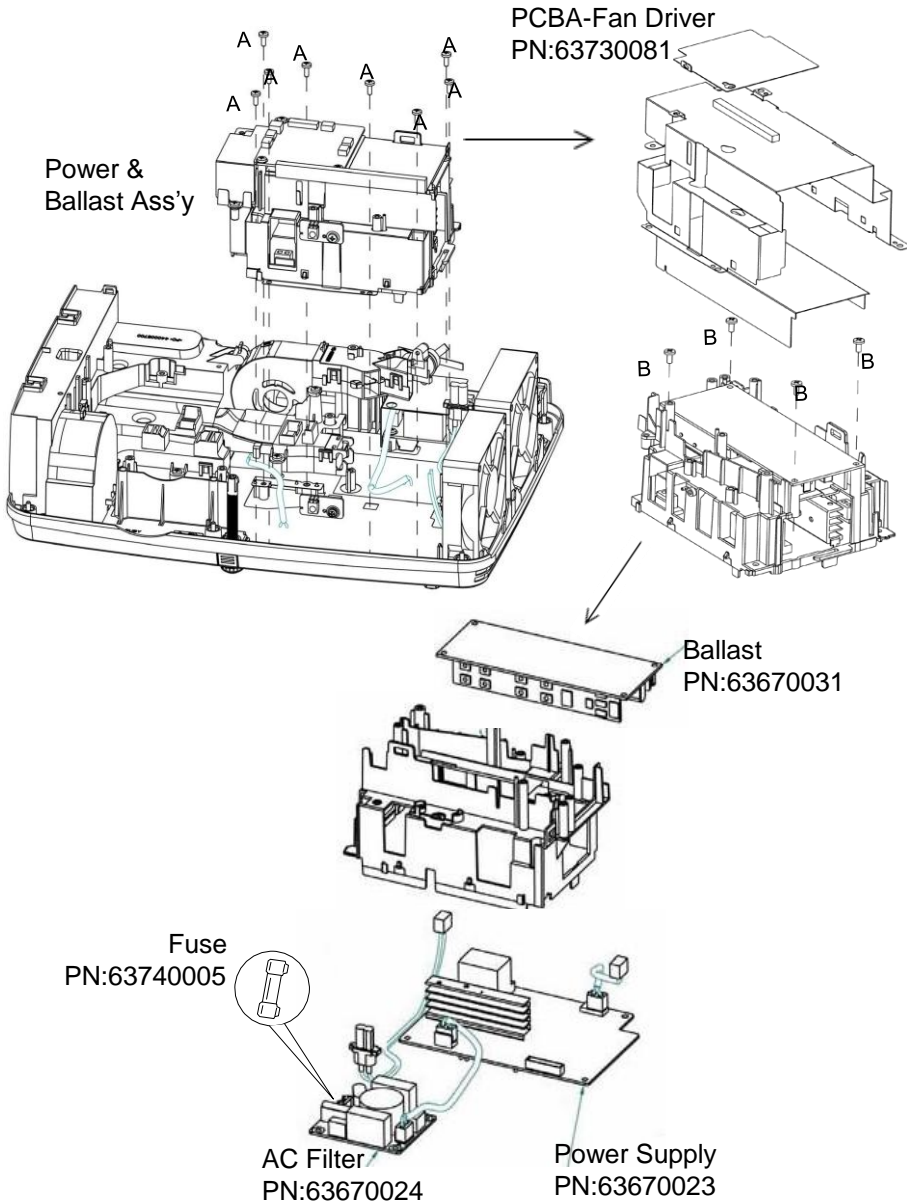
Lamp Ass'y  
PN: 23040054



# Mechanical Disassembly

## Power supply and Ballast disassembly

- 1.Loosen 8 screw A, and remove Power and ballast Ass'y.
  - 2.Loosen 4 screw B, and remove Ballast and Power supply from holder.
- The chapter is only designed to show exploded image of the projector.
- For updated part numbers, please refer to RSPL



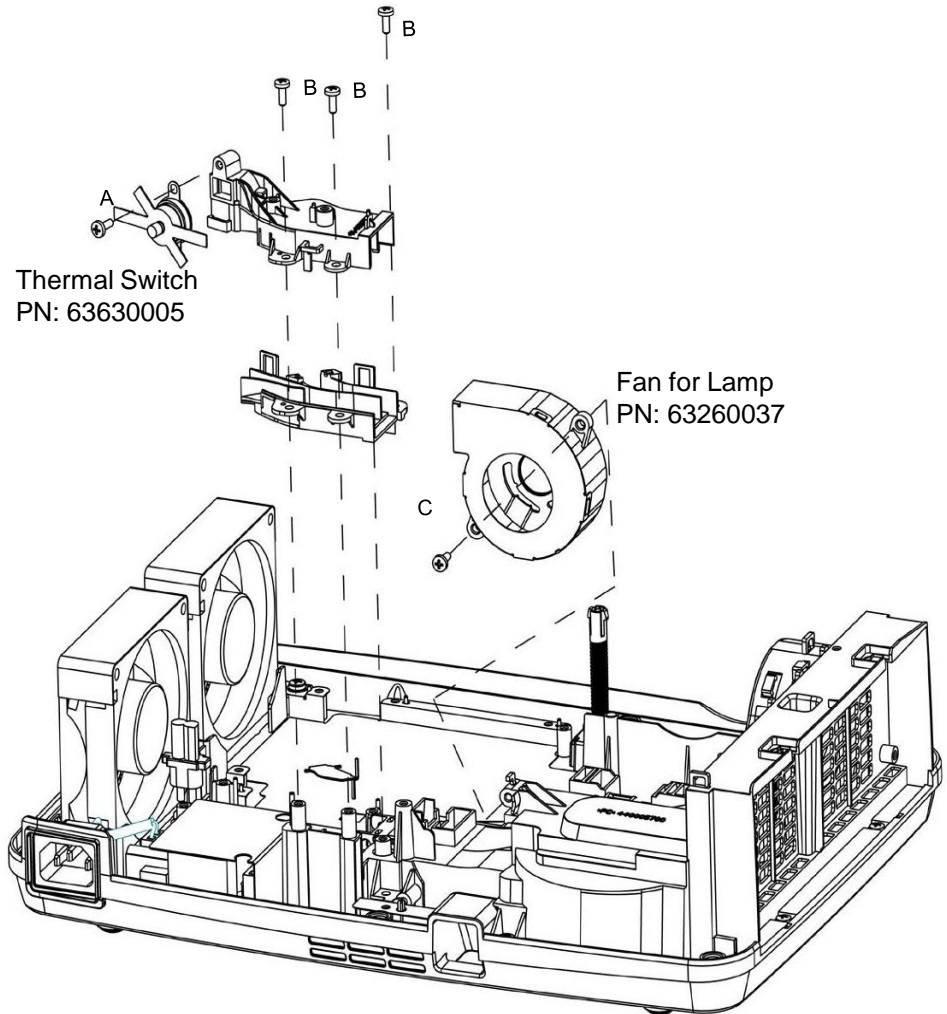
## Mechanical Disassembly

### Fan of Lamp and duct disassembly

1. Loosen 1 screw A, and remove Thermal switch.
2. Loosen 3 screw B, and remove Duct of lamp fan.
3. Loosen 1 screw C, and remove Fan for lamp.

The chapter is only designed to show exploded image of the projector.

For updated part numbers, please refer to RSPL



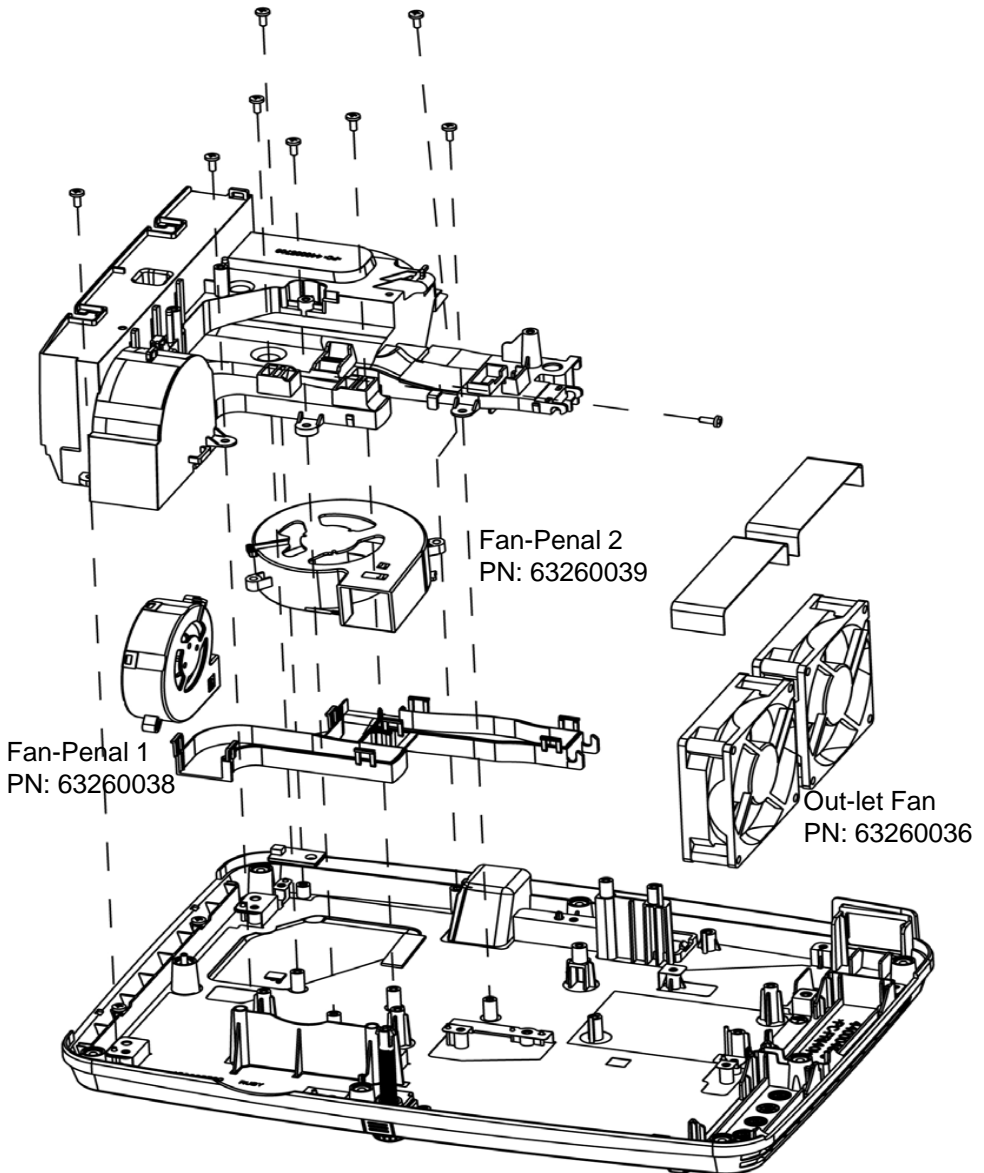
## Mechanical Disassembly

### Fan of OE and Duct disassembly

1. Loosen 9 screw and remove Duct of OE, and tak off fans

The chapter is only designed to show exploded image of the projector.

For updated part numbers, please refer to RSPL



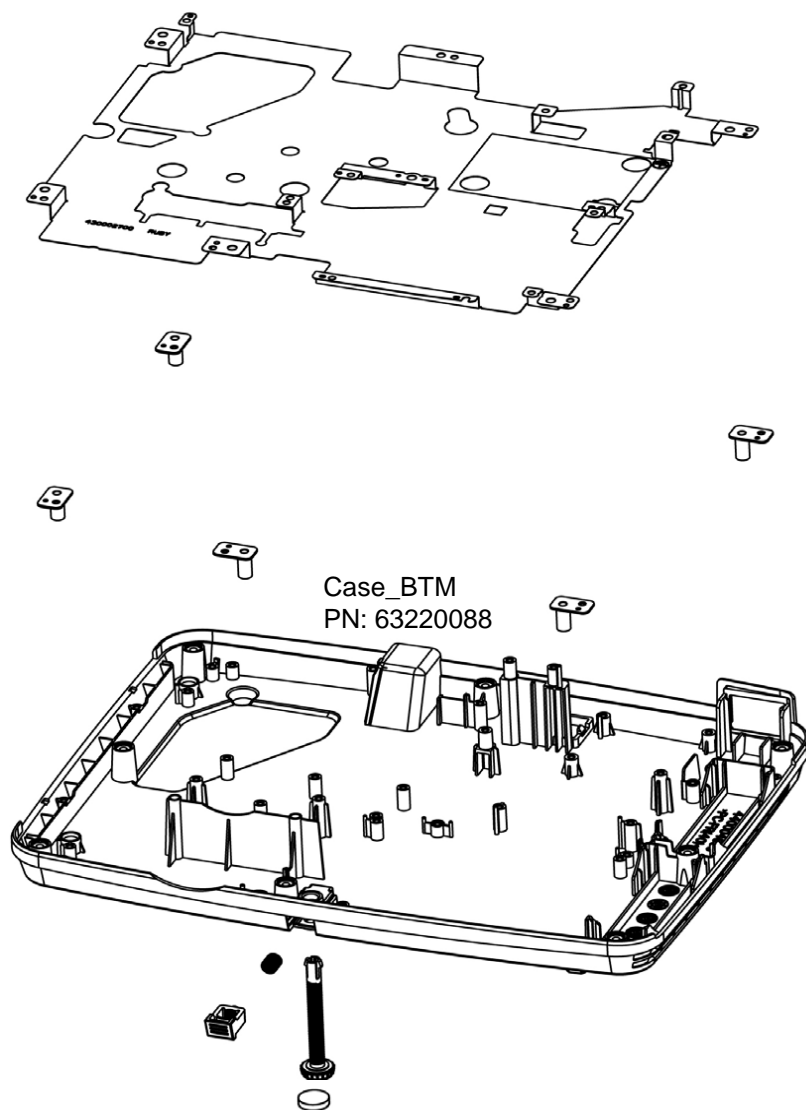
## Mechanical Disassembly

### Case of Bottom disassembly

1. Take off 4 screws and shield metal of BTM case.
2. Take off adjust foot and it's button.

The chapter is only designed to show exploded image of the projector.

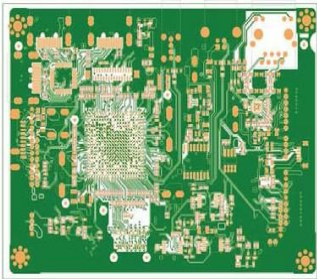
For updated part numbers, please refer to RSPL



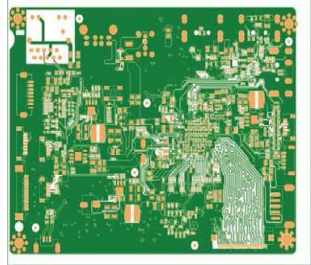
# Appendix

## PCBA-Diagrams

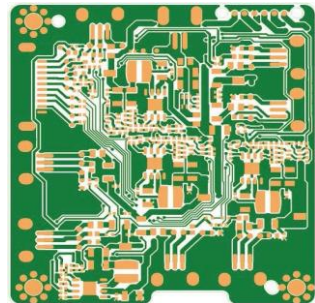
PCBA-Main Board ( A )



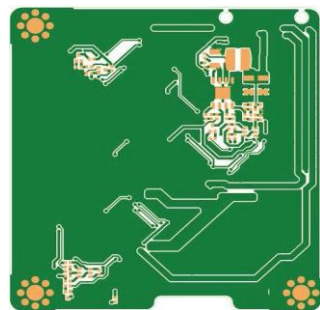
PCBA-Main Board ( B )



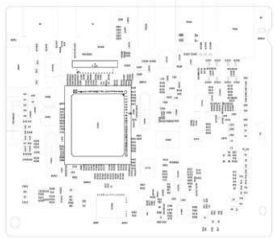
PCBA-Fan Driver ( A )



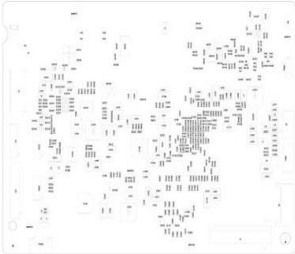
PCBA-Fan Driver ( B )



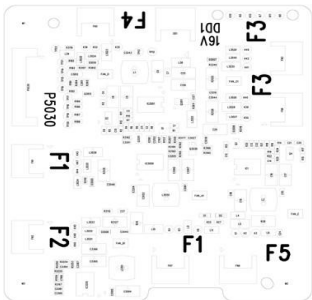
PCBA-Main Board ( A )



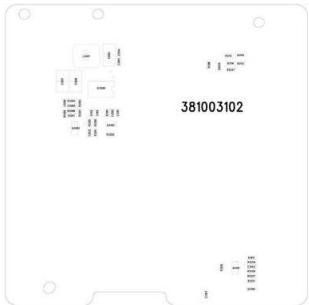
PCBA-Main Board ( B )



PCBA-Fan Driver ( A )



PCBA-Fan Driver ( B )

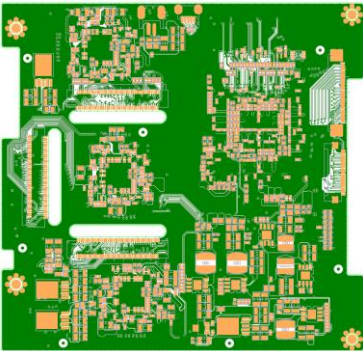




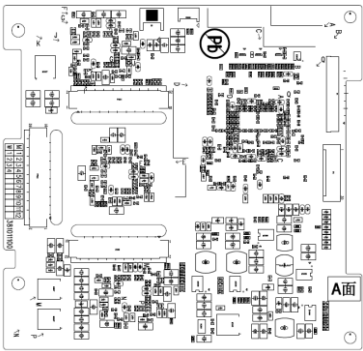
# Appendix

## PCBA-Diagrams

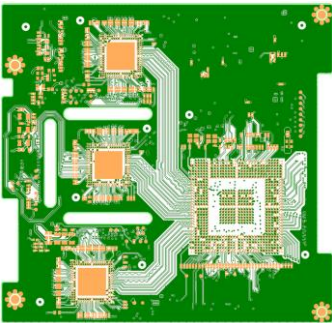
PCBA-LCD Driver ( A )



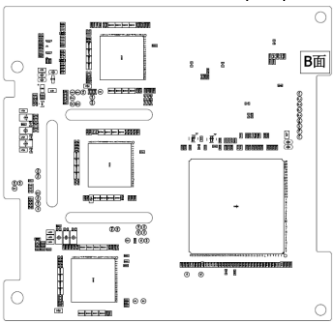
PCBA-LCD Driver ( A )



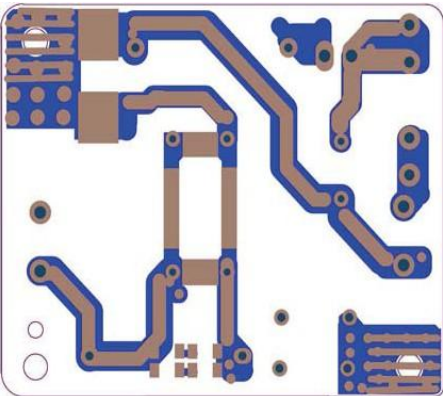
PCBA-LCD Driver ( B )



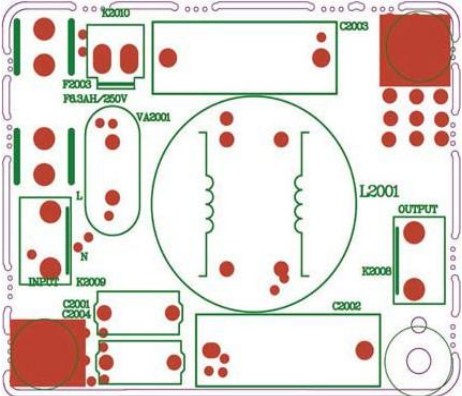
PCBA-LCD Driver ( B )



PCBA-AC Fliter

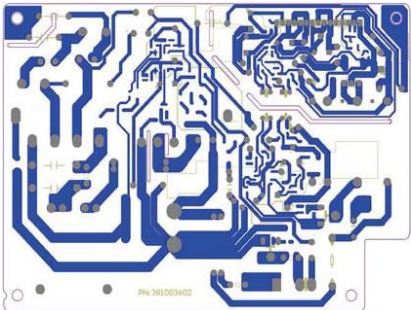


PCBA-AC Fliter

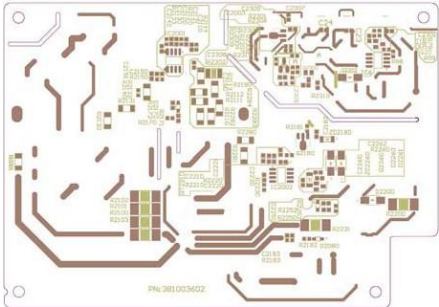


PCBA-Diagrams

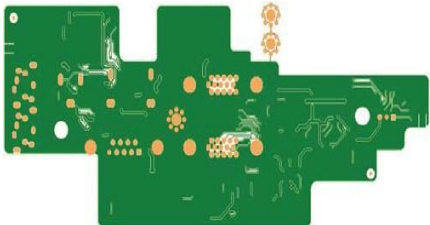
PCBA-Power supply



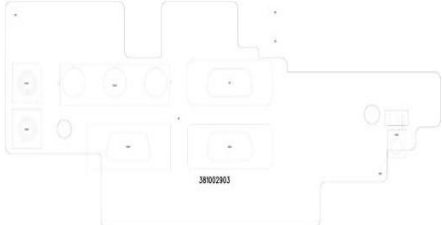
PCBA-Power supply



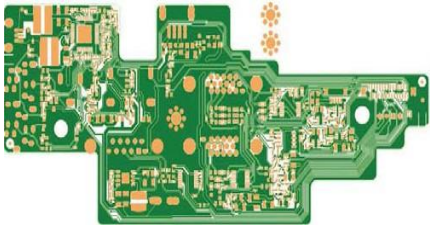
PCBA- AV board ( A )



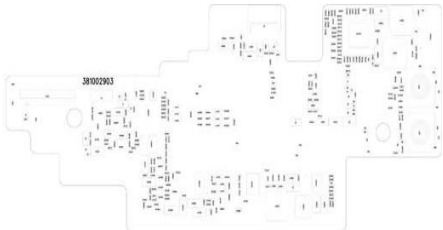
PCBA- AV board ( A )



PCBA- AV board ( B )



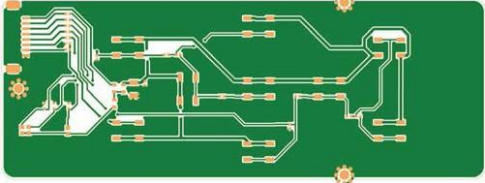
PCBA- AV board ( B )



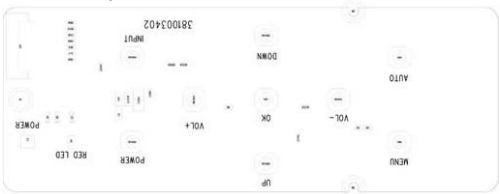


PCBA-Diagrams

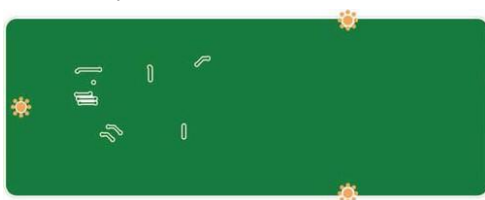
PCBA-Keypad &



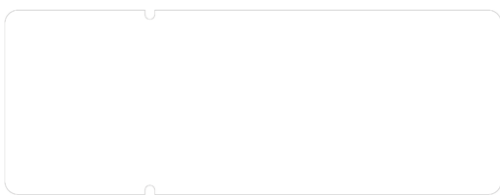
PCBA-Keypad & LED ( A )



PCBA-Keypad & LED ( B )



PCBA-Keypad & LED ( B )



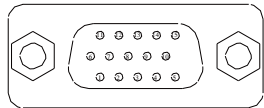
Technical Specifications

LCD system	XGA: 0.63" TFT, active matrix, 3-panel WXGA: 0.59" TFT active matrix, 3-panel XGA: 1024X768 / WXGA: 1280X800
LCD resolution	
Compatible signals	
Color standard	PAL, SECAM, NTSC, NTSC4.43, PAL-M, PAL-N and PAL60
HDTV signal	480i, 480p, 576i, 576p, 720p, 1080i and 1080p
Scanning frequency	Horizontal frequency: 15 kHz –100 KHz; Vertical frequency: 48 – 85 Hz
Optical elements	30"-300", adjustable
Image size (diagonal lines)	XGA: 0.9m-9.1m(W) 1.1m-10.9m(T) WXGA: 0.9m-9.6m(W) 1.1m-11.6m(T)
Projection distance	
Lens	F=1.6-1.76, f=19.158-23.018mm; Manual zooming and focusing; Zoom Ratio: 1.2x optics
Lamp	218W
Consumption(W) Terminal	
VGA IN 1/YPbPr/S-VIDEO IN	Mini D-sub 15 pin
VGA IN 2/VGA OUT	x1 Mini D-sub 15
HDMI	pin x1
LAN	HDMI A type 19 pin x2 (one is compatible with
USB-B	MHL) 100 Base-TX (100Mbps)/10 Base-T (10Mbps)
USB-A	RJ45 x1(display / Firmware upgrade)
RS-232	x1(picture viewer / wifi dongle(optional)) D-sub 9 pin x1
AUDIO OUT	3.5mm Mini Type Stereo x1
AUDIO IN	3.5mm Mini Type Stereo x1
Composit Video	2RCA (L/R) x1
Power	RCA x1
Voltage and power consumption Fuse	AC 100–240 V, 50/60 Hz 250V/10A
Internal speaker	10W RMS 8ohm, x1
Operating Environment	
Operating temperature	41°F-104°F (5°C - 40°C)
Storage	-4°F-140°F (-20°C - 60°C)
Temperature High land	1400 m - 2700 m
Remote control	AAA or LR3 1.5V ALKALINE TYPE x 2
Battery	16.4' (5 m)/±30
Operating	50mm (W) x 18mm (H) x 110mm
Range	(D) 50g (including batteries)
Dimensions	
Net Weight	347.0mmx110.3mmx257.0m m 3.2Kg
Mechanical properties	
Dimensions (W×H×D)	40mm
) Net Weight	
Adjustable	AC Power Cord, Remote Control & battery, VGA
foot Accessories	Cable Quick Start Guide, Warranty Card (U.S.A.)

- The 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.

Configurations of terminal

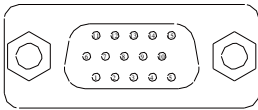
COMPUTER IN 1 terminal pin assignments and signal names



1	R/P <sub>R</sub> /S-C	9	+5V
2	G/Y/S-Y	10	GND
3	B/P <sub>B</sub> /-	11	GND
4	-----	12	DDC data
5	GND	13	HD/SYNC
6	GND	14	VD
7	GND	15	DDC clock
8	GND		

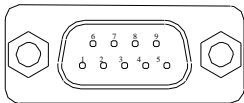
✓ Note:  
The Pin 1, 2 and 3 : (P<sub>R</sub>, Y, P<sub>B</sub>) for YCbCr/YPbpr signal.  
The Pin 1 and 2 : (S-C, S-Y) for S-Video signal.

COMPUTER IN 2/COMPUTER OUT terminal pin assignments and signal names



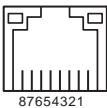
1	R	9	NC
2	G	10	GND
3	B	11	-----
4	-----	12	DDC data
5	GND	13	HD/SYNC
6	GND	14	VD
7	GND	15	DDC clock
8	GND		

RS232 terminal (D-SUB-9 pin)



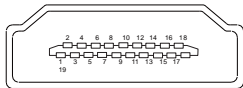
1	-----
2	RXD
3	TXD
4	-----
5	GND
6	-----
7	-----
8	-----
9	-----

LAN terminal



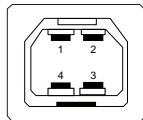
1	TX +	5	-----
2	TX -	6	-----
3	-----	7	RX +
4	-----	8	RX -

HDMI terminal pin assignments and signal names



1	T.M.D.S data2+	11	T.M.D.S clock shield
2	T.M.D.S data2 shield	12	T.M.D.S clock-
3	T.M.D.S data2-	13	CEC
4	T.M.D.S data1+	14	-----
5	T.M.D.S data1 shield	15	SCL
6	T.M.D.S data1-	16	SDA
7	T.M.D.S data0+	17	DDC/CEC GND
8	T.M.D.S data0 shield	18	+5V
9	T.M.D.S data0-	19	Hot plug detection
10	T.M.D.S clock+		

USB-B terminal



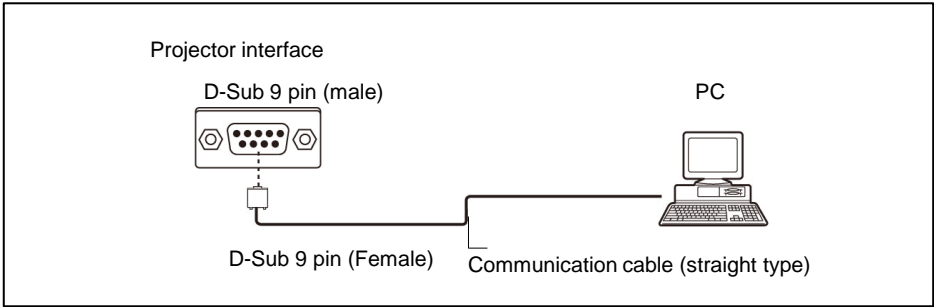
1	V Bus
2	Data -
3	Data +
4	GND

Serial Control

Serial interface

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	Character interval	8-bit
Synchronization mode	Asynchronous	Stop bit	1-bit
Baud rate	19 200 bps	x Parameters	no
Parity check	no	S Parameters	no

RS232 control mode

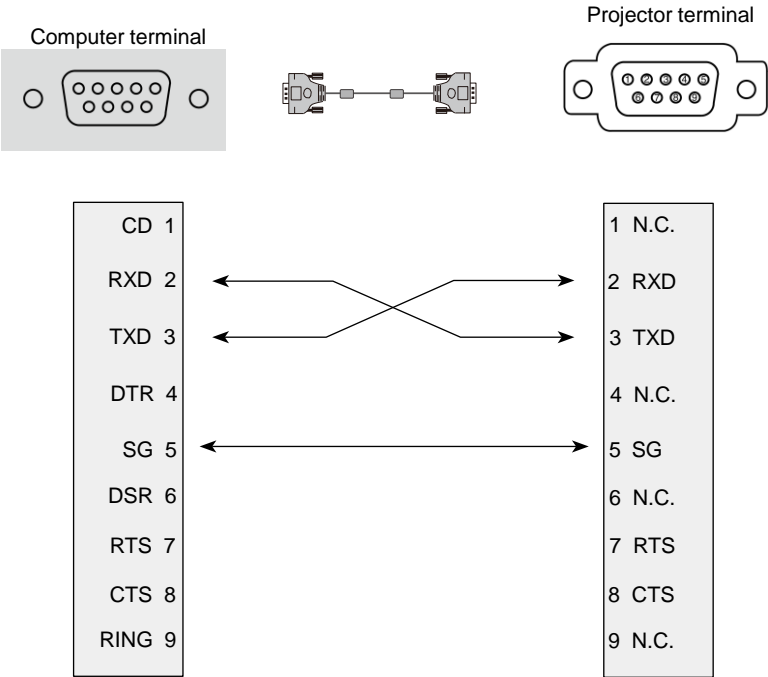
Serial connection

1. Port setting

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

2 Connection mode

Can only use RS232 serial cross connect PC and



Serial Control

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(Shut down Immediately )	C33	Component
C02	POWER OFF	C34	S-Video
C36	HDMI1	C15	NETWORK
C37	HDMI2 ( MHL )	C16	MEMORY VIEWER
C05	VGA IN 1	C17	USB DISPLAY
C06	VGA IN 2		

2.1 POWER ON command

Command	"C00" [CR]		
Details	Power ON action If the projector already in "Power ON" action, thus no need any command During Power on countdown send "C00" command can stop the countdonw action.		
Return Value	Receive Successfully	[ACK] [ CR ]	
	Receive unsuccessfully	" ? " [CR]	

2.2 POWER OFF command ( Shut down Immediately )

Command	"C01" [CR]		
Details	Power OFF action Send this command to shut down when you are in the power-on mode		
Return Value	Receive Successfully	[ACK] [ CR ]	
	Receive unsuccessfully	" ? " [CR]	

2.3 POWER OFF command

Command	"C02" [CR]		
Details	Power OFF action Send this command to pop up [POWER OFF] dialog box when you are in the power-on mode,then send this command once again to power on.		
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 1 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 VGA IN 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 USB Display 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	"C37" [CR]	
Details	Select HDMI 2 Input action	
Return Value	Receive Successfully	[ACK] [CR]
	Receive unsuccessfully	" ? " [CR]

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



Appendix

Logo

This function allows you to customize the screen logo with Logo select, Capture, Logo PIN code lock and Logo PIN code change functions.

Logo Select

This function decides on the starting-up display from following options.

- Default .... Show the factory-set logo.
- User.....Show the image captured by user.
- Off ..... Show the countdown display only.

Capture

You can capture a projected image as start logo . Select "Capture" and press the OK button on remote control or control panel. Confirmation dialog box appears, select "Yes" to start capturing.

Logo PIN code Lock

This function prevents an unauthorized person from changing the screen logo.

- Off** .....The screen logo can be changed freely from the Logo menu.
  - On** .....The screen logo cannot be changed without a Logo PIN code.
- If you want to change the Logo PIN code lock setting, press the OK button and the Logo PIN code dialog box appears. Enter a Logo PIN code by following the steps below.
- Press OK button to enter the PIN code. Press ◀▶ button to select a number, and then press the OK button to enter this number, the cursor automatically move to next box. If you fixed an incorrect number, press MENU button to reset it again.

Repeat this step to complete entering a three-digit number.

After entering the three-digit number, the cursor automatically move to "Set", and press the OK button, then you can start to operate the projector.

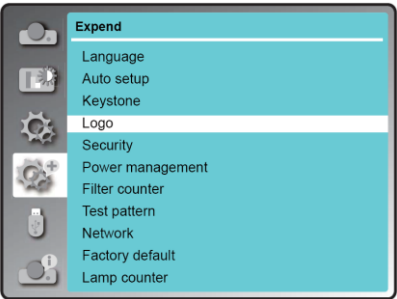
If you entered an incorrect PIN code, the number (\*\*\*) turn red, it will be reset automatically within one second. Enter the correct PIN code all over again.

Logo PIN code change

You can change the Logo PIN code (three number). Press the OK button to select Logo PIN code change. Logo Pin code dialog box appears, press ◀▶ button to enter the correct PIN code. The New Logo PIN code input dialog box appears. Set a new Logo PIN code, confirmation box appears, select Yes to set the new Logo Pin code.

Be sure to note the new Logo PIN code and keep it on hand. If you lost the number, you could no longer change the Logo PIN code setting.

Logo



**CAUTION:**  
WHEN YOU HAVE CHANGED THE LOGO PIN CODE, WRITE DOWN THE NEW PIN CODE IN COLUMN OF THE LOGO PIN CODE NO. SHOULD THE LOGO PIN CODE BE LOST OR FORGOTTEN, PLEASE REFER TO PAGE 14

Security

This function allows you to use the PIN code lock and PIN code change functions to set the security for the projector operation.

PIN code lock

This function prevents the projector from being operated by unauthorized persons and provides the following setting options for security.

Off .... Unlocked.

On .... Enter the PIN code every time turning on the projector.If you want to change PIN code lock setting or PIN code,you must enter the PIN code. The default PIN code is "111".

If you want to change the PIN code lock setting, press the OK button, then PIN code dialog box appears.

Press ◀▶ button to select a number, and then press the OK button to enter this number, the cursor automatically move to next box. If you fixed an incorrect number, press MENU button to reset it again.

Repeat this step to complete entering a three-digit number.

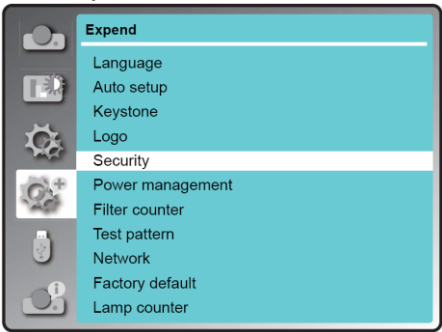
After entering the three-digit number, the cursor automatically move to "Set", and press the OK button, then you can change the PIN code lock setting.

If you entered an incorrect PIN code,the number (\*\*\*) turn red, it will be reset automatically within one second. Enter the correct PIN code all over again.

PIN code change

The PIN code can be changed to three-digit number. Press ...T button to select PIN code change. Pin code dialog box appears, Press ◀▶ button to enter the correct code. The New PIN code input dialog box appears. Set a new PIN code.

Security



**CAUTION:**  
WHEN YOU HAVE CHANGED THE PIN CODE, WRITE DOWN THE NEW PIN CODE IN COLUMN OF THE PIN CODE NO. SHOULD THE PIN CODE BE LOST OR FORGOTTEN, PLEASE REFER TO PAGE 14