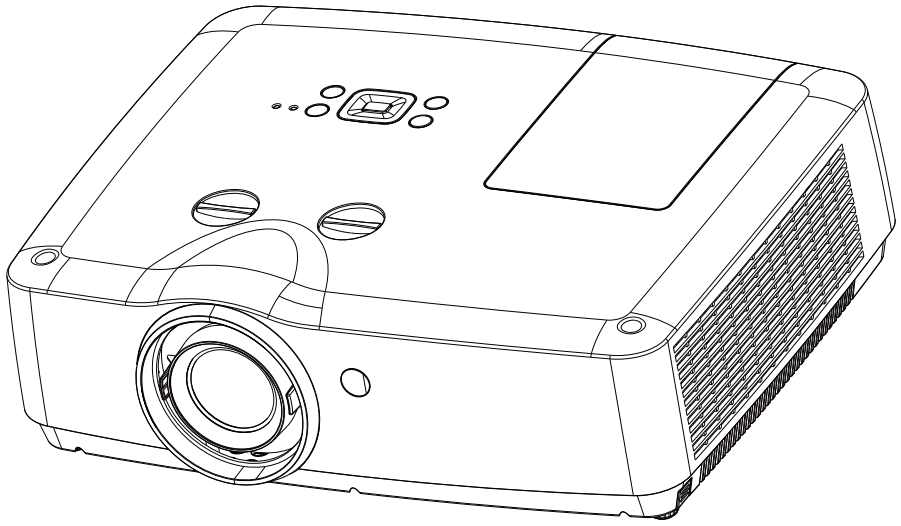
EIKI

LCD Multi-media Projector

# Service Manual



EIKI Model Name:

EK-300U

EK-301W

EK-302X

EK-303U

Version: 1.2

2016/10/15

# Content

# Safety instruction

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 regularly. 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.

**Caution**

**ELECTRIC SHOCK DO NOT OPEN**

**CAUTION:**
**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.**

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.

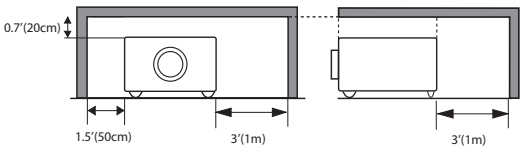
FOR EU USERS
The symbol mark and recycling systems described below apply to EU countries and do not apply to countries in other areas of the world.
Your product is designed and manufactured with high quality materials and components which can be recycled and/or reused.
The symbol mark means that electrical 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 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/
Dispose of or recycle in accordance with applicable laws.

# Safety instruction

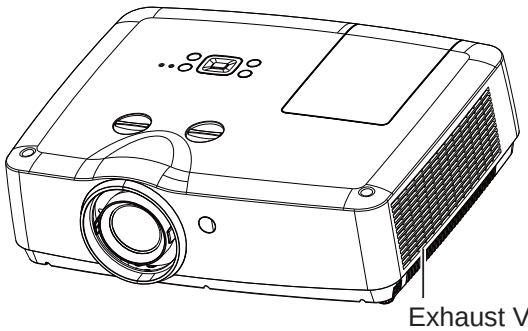
## Air circulation

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.

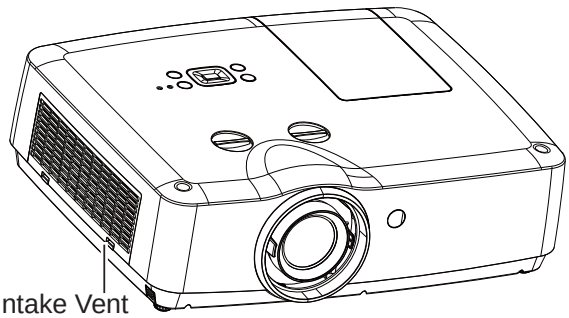
**Caution**

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.



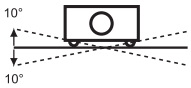
Exhaust Vent



Air Intake Vent

## 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.



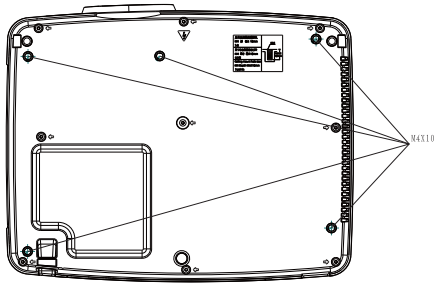

Do not roll the projector over 10° from side to side.


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 NOTattempt 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 erathed.
– u se insulation transformer on the ac power cord before maintenance.
– Do no T 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. o nce there is a short circuit, please replace all the pin the maintenance processarts 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 belo .
   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.

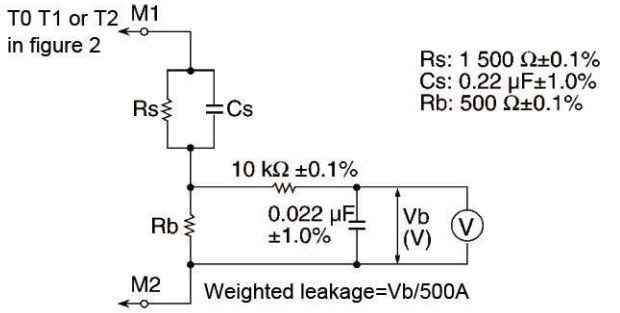



Figure 1

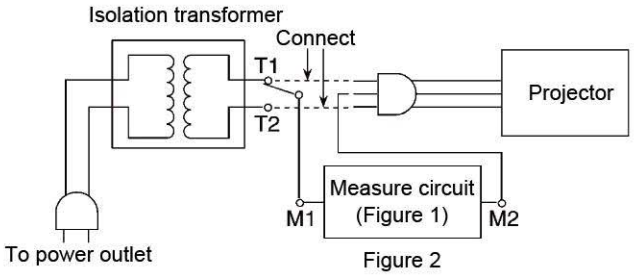



Figure 2

| | Property | |
|---|---|---|
| Voltmeter (rmsvalue) | Accuracy | ≤ 2% |
| | Input resistance | ≥1MΩ |
| | Input capacitance | ≤ 200pF |
| | Frequency range | 15hz to 1MHZ |

Table 2

### 1.3 u V and uh P 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 u V radiation.
– There will be high pressure in the lamp internal component. s o it may lead to an explosion just for your abnormal operation
– Do no T touch the lamp wires during maintenance as there is much high pressure in the lamp internal component.

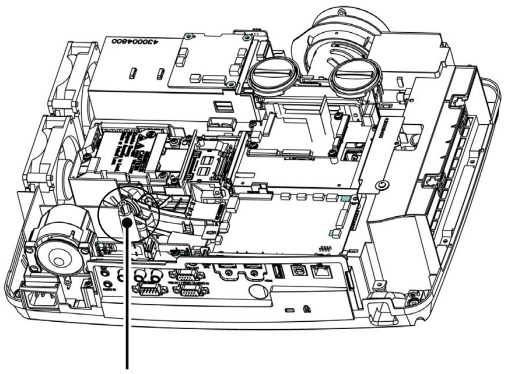
# Safety instruction

Circuit protection

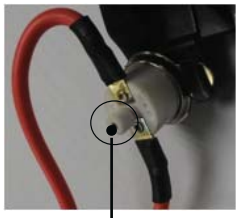
The projector has the following security operation circuit protection functions. if there is any abnormal in the inside of the projector, one of the following protection circuit action will make your projector shut down automatically .

## 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˚C (± 5˚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.



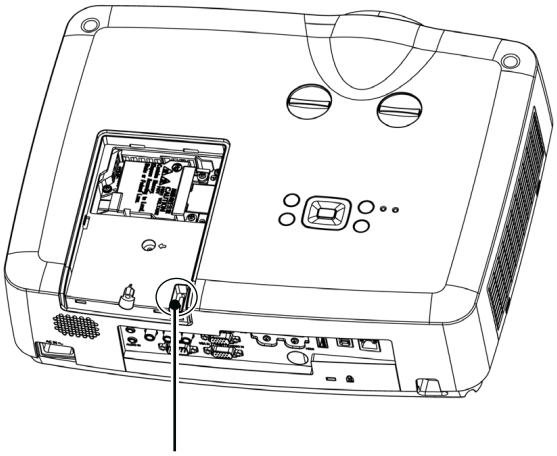
Thermal switch



Thermal switch button

## 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

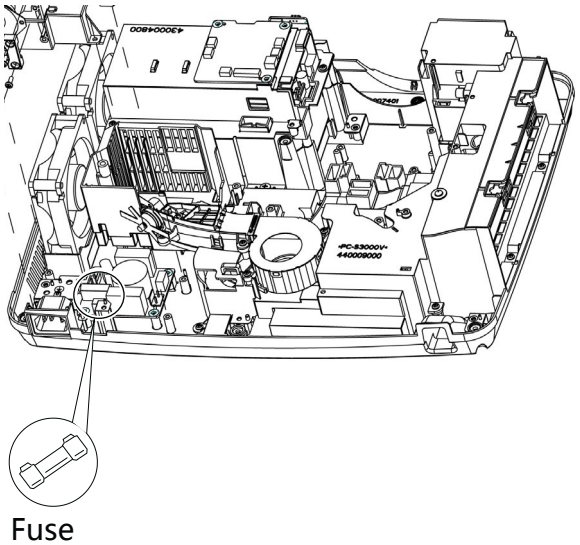
## Fuse

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 replcae.

| |
|---|
| SERVICE CODE: 63740005<br>TYPE: VUC USB-A 6.3A 250V (PF) FUSE, CONQUER |

**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

# 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.<br>select the Closed caption function will make you unable to power on your projector .<br>Initial setup: Closed caption off |
| PIN code lock | Prevent unauthorized personnel from operating the projector.<br>initial Password: 111 |
| Logo PIN code lock | Prevent unauthorized personnel from changing the Logo.<br>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 OK and (Power) button at same time then plug on AC power cord.
3. The unit will be reseted to defult 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 | 1✓* | 1✓* |
| Network | -- | ✓ |
| Monitor output | -- | -- |
| Audio output | -- | -- |
| Auto startup | ✓ | ✓ |

* 1 :only be effective when plugged into power.

# Maintenance and cleaning

## Cleaning the filter

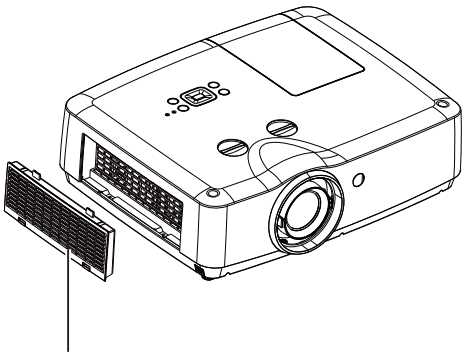
The air filter prevents dust from accumulating on the surface of the optical elements inside the projector. Should the air filter become clogged with dust particles, it will reduce cooling fans' effectiveness and may result in a buildup of internal heat and adversely affects the life of the projector. 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 properly.



Filter

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.

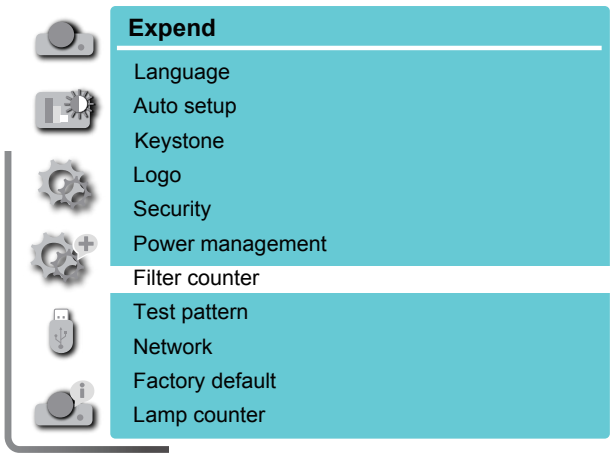
Recommendation
We recommend avoiding dusty/smoky environments when you operate the projector. Usage in these environments may cause poor image quality.
When you use the projector under dusty or smoky conditions, dust may accumulate on the lens, LCD panels, or optical elements inside the projector. When 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.

Filter counter



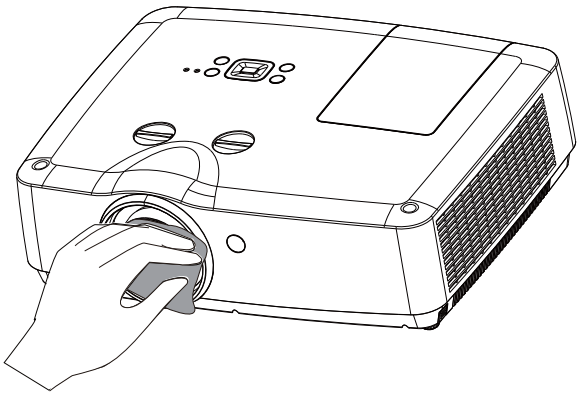
## Maintenance and cleaning

### 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.

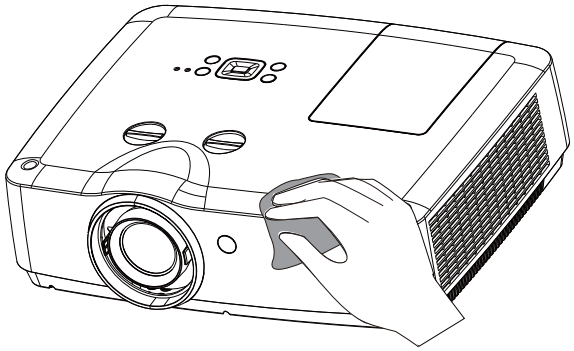


### Clean the cabinet

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.



## Lamp Replacement

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**

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.

**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.

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

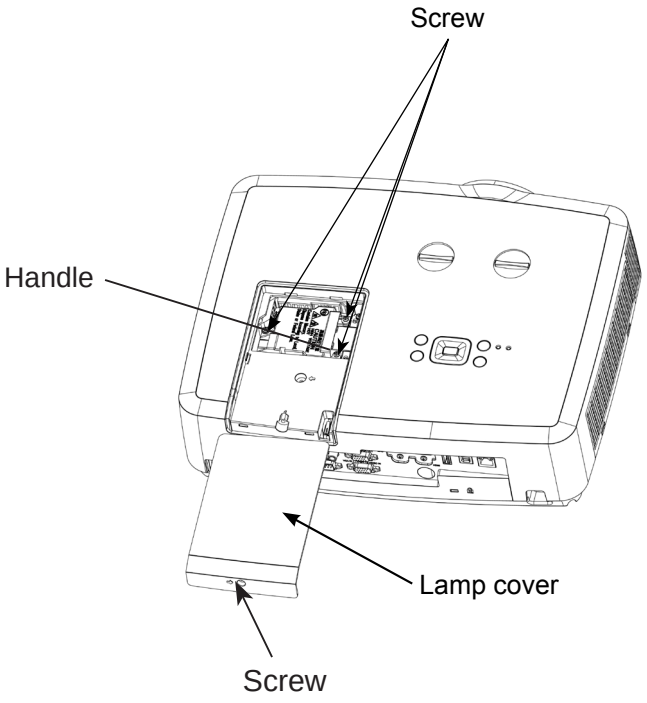
1. Power off the projector and unplug the power cord. Then let the projector cool for at least 45 minutes.

2. Remove the screw on the lamp cover to remove the cover.

3. Make sure the lamp is well protected and loosen three screws. Hold the handle to take out the lamp.

4. Install a new lamp with the same model and tighten the three 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.



## Replace the lamp

### 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.: 23040049**

**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.

## WARNING indicator

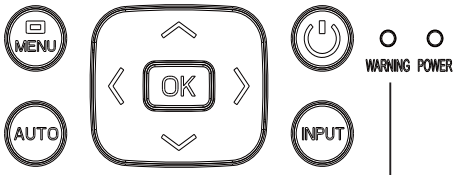
The WARNING indicator shows the state of the function which protects the projector. Check the state of the WARNING indicator to take proper maintenance.

<u>The projector is shut down and the WARNING indicator is flashing red</u>

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.*

WARNING indicator




WARNING indicator flashes red

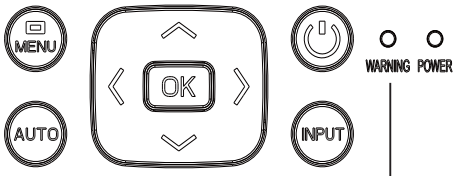
Check the items below:

– 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 filte periodically.

<u>The projector is shut down and the WARNING indicator lights red.</u>

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.

WARNING indicator




WARNING indicator lights red.

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

# 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 ≥ the life of the projector -300H when the projector usage time <1.1 times the life of the projector. |
| ✳ | ● | Projector detects its usage time ≥ 1.1times 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 rototating 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

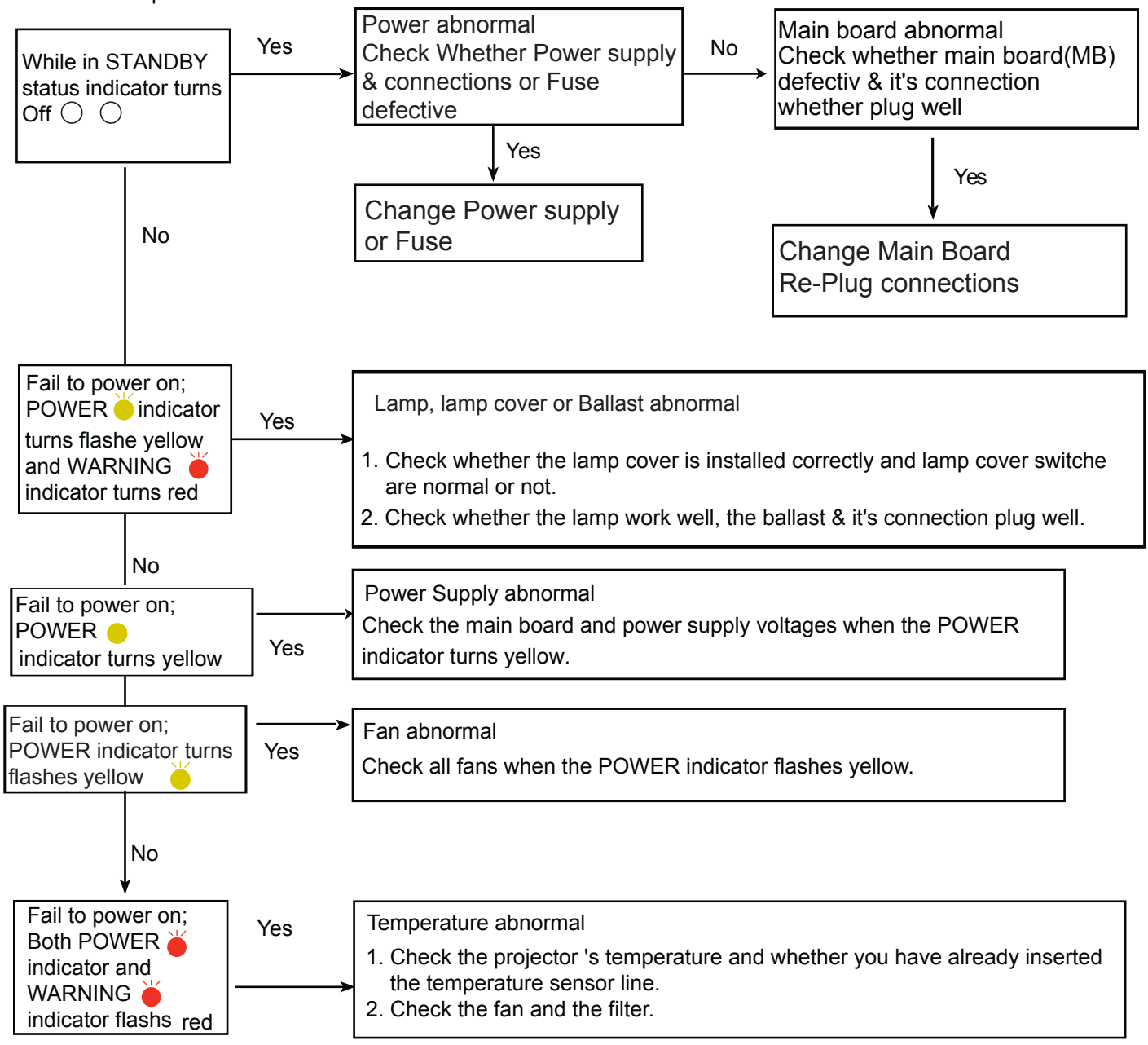
- the indicator is flashing red,when the internal temperature of the projector exceeds the operating range.

Indicator ○ ○

WARNING POWER

### Power on abnormal

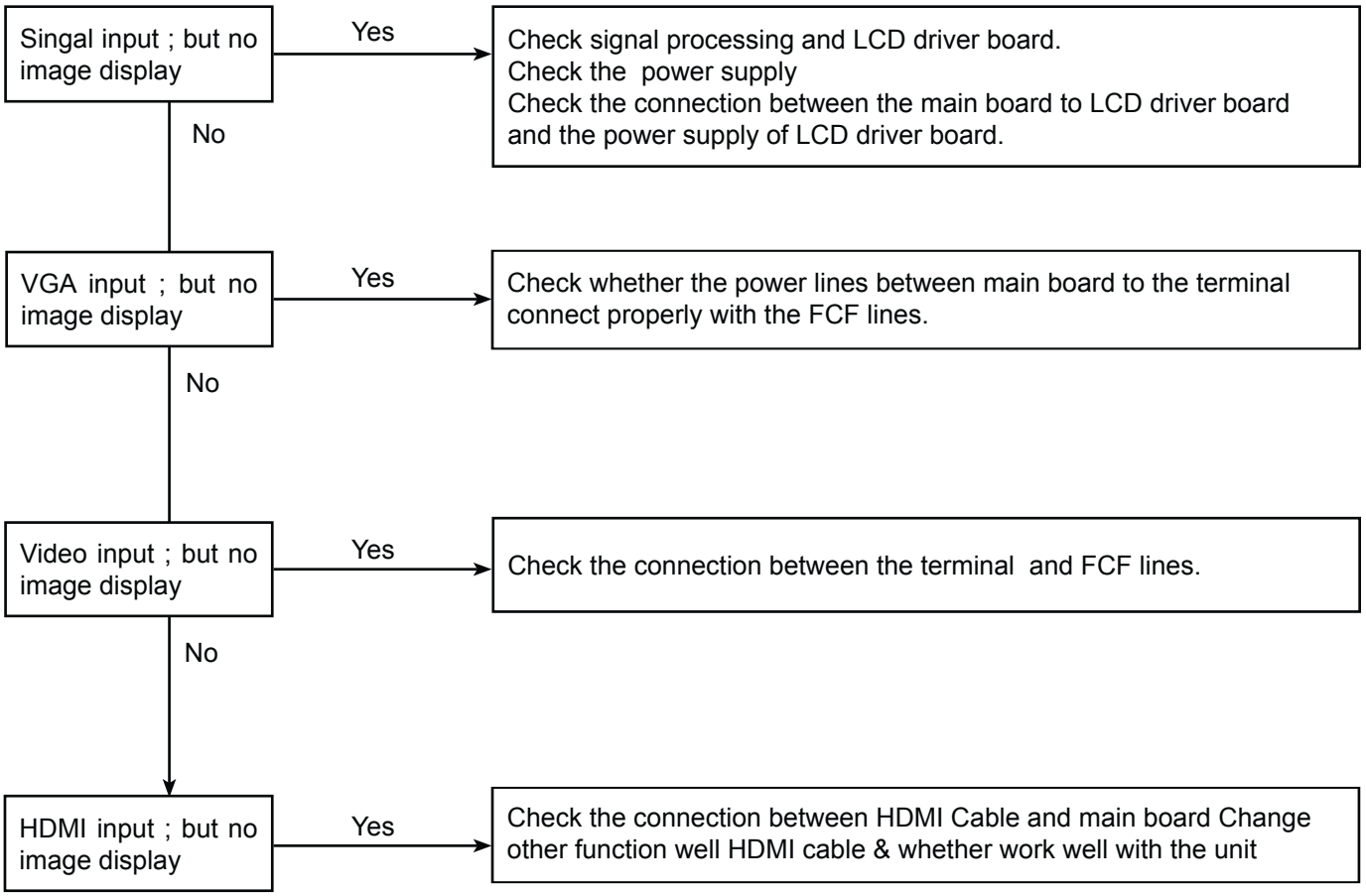
Follow the steps below for check:



# Trouble shooting

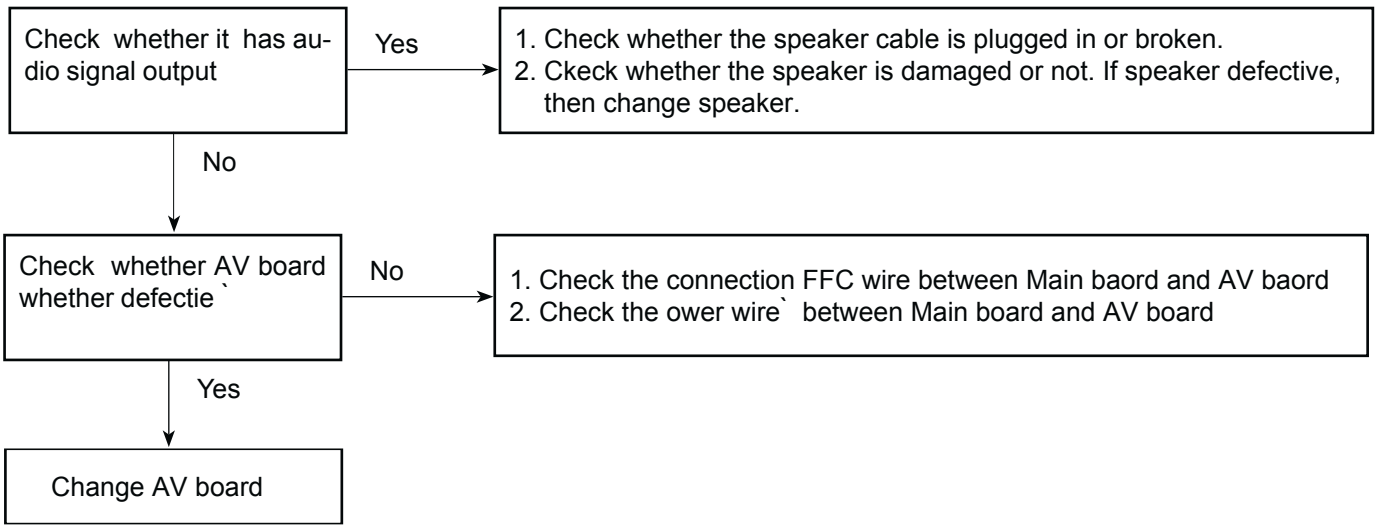
## Image display abnormal

Check the image as the following steps.




## No sound

Follow the steps below for check:

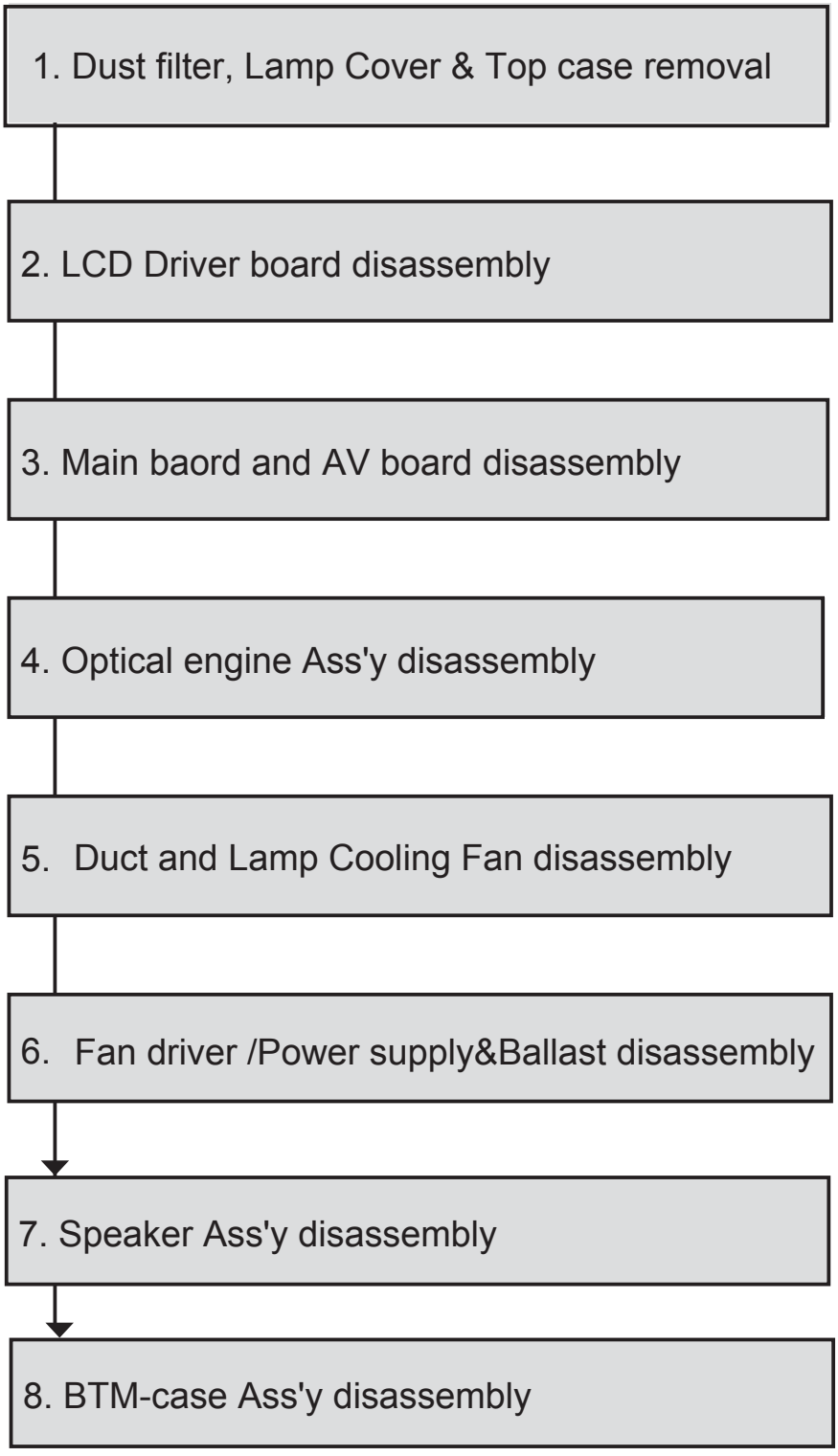


# Mechanical Disassembly

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.

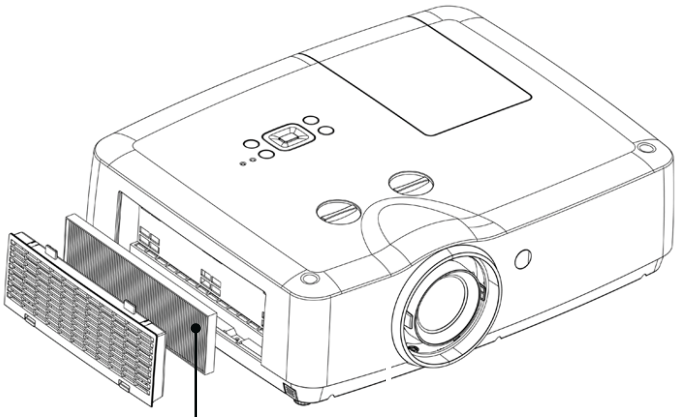


## Dust filter, Top Case removal

1. Open dust filter cover and remove out Dust filter
2. Loosen 1screw B, 11 screw A, remove Lamp cover and Top case .

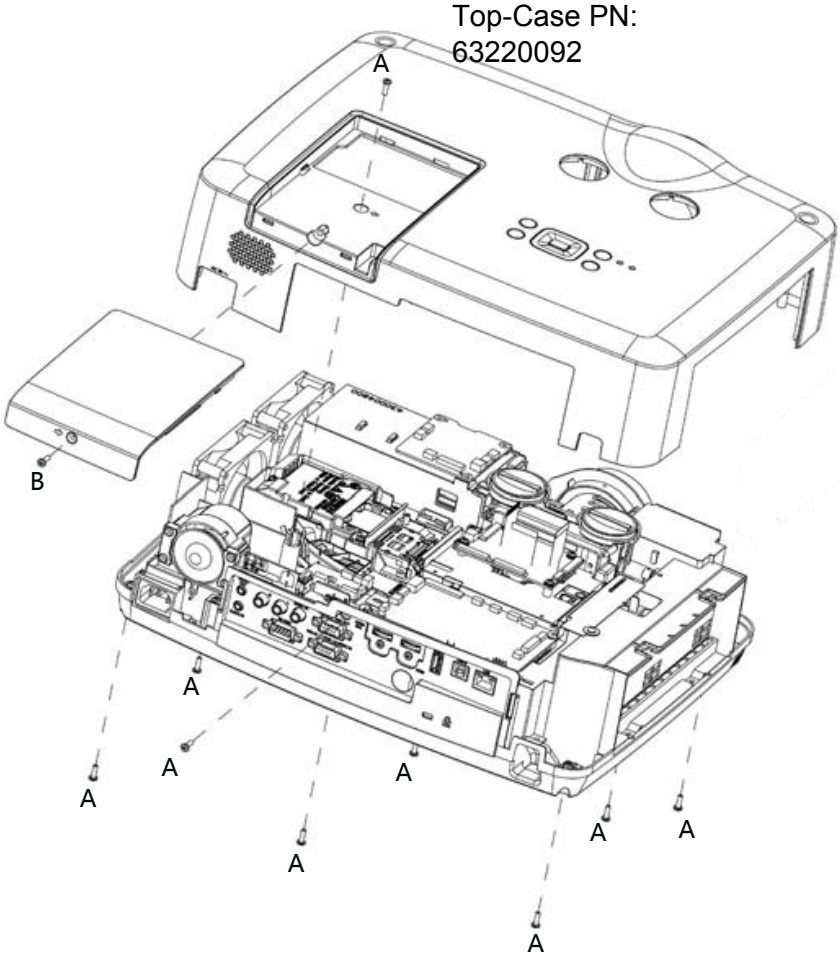
The chapter is only designed to show exploded image of the projector.

For updated part numbers, please refer to RSPL

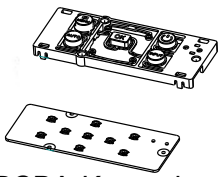


Dust Filter PN:
63340044

Top-Case PN:
63220092




Lamp Cover
PN:63220093



PCBA-Keypad
PN: 63730087

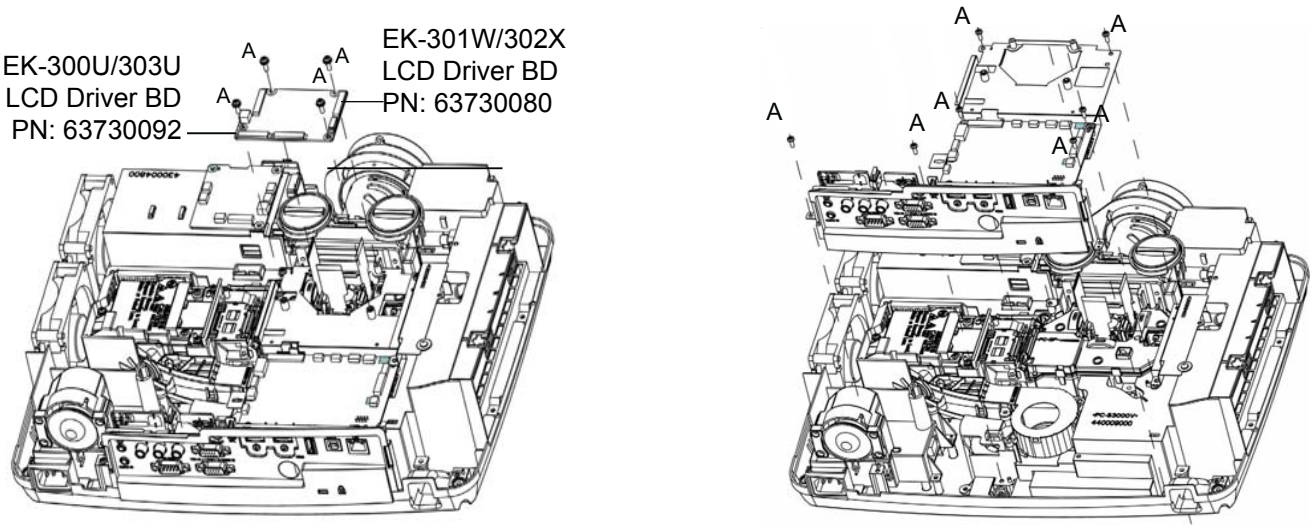
## Mechanical Disassembly

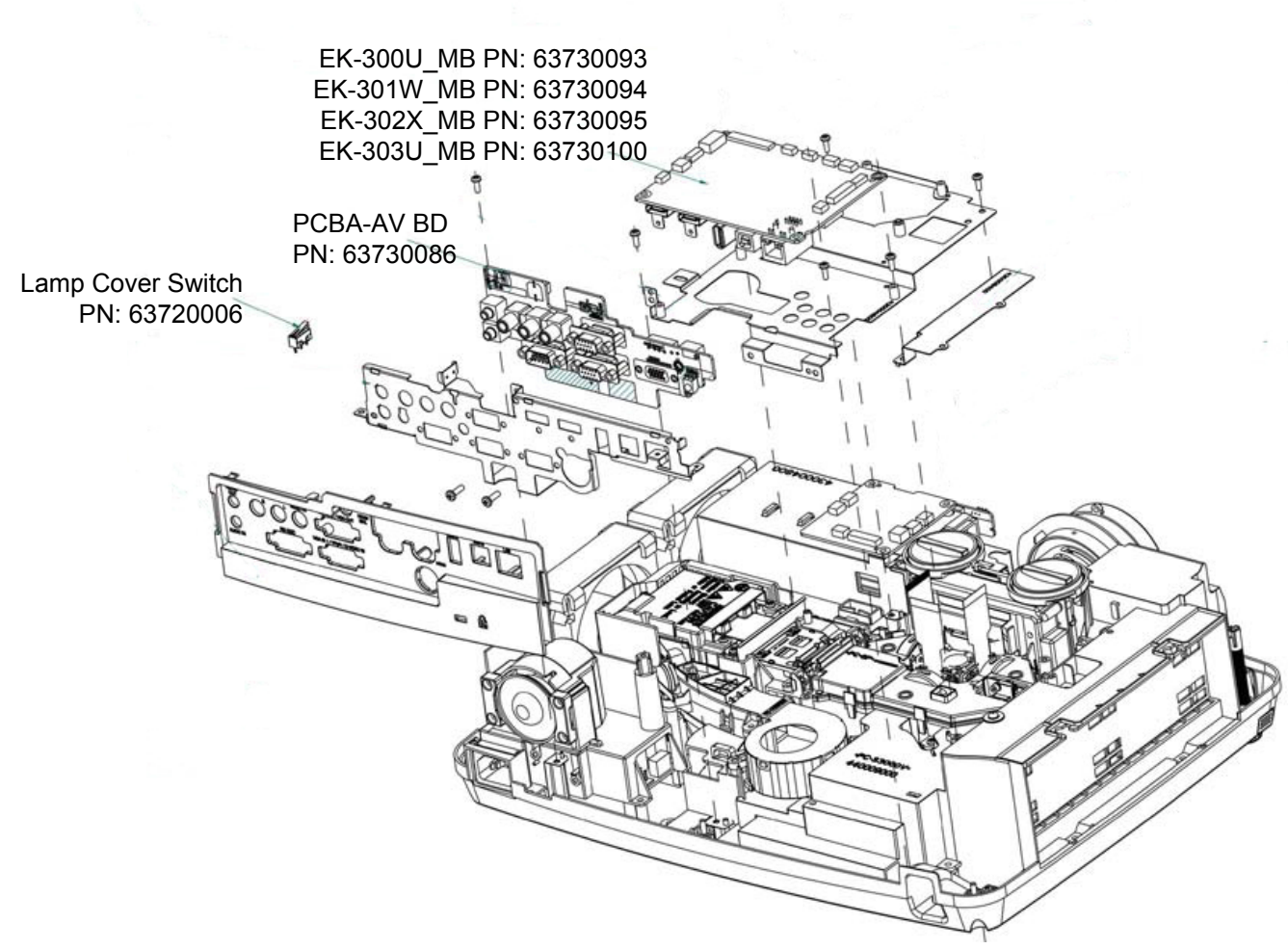
### LCD driver board and Main board (MB) Ass'y disassembly

1. Loosen 4 screws A and remove LCD driver board
2. Loosen 7 screws A and remove Main board& AV board Ass'y

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

For updated part numbers, please refer to RSPL



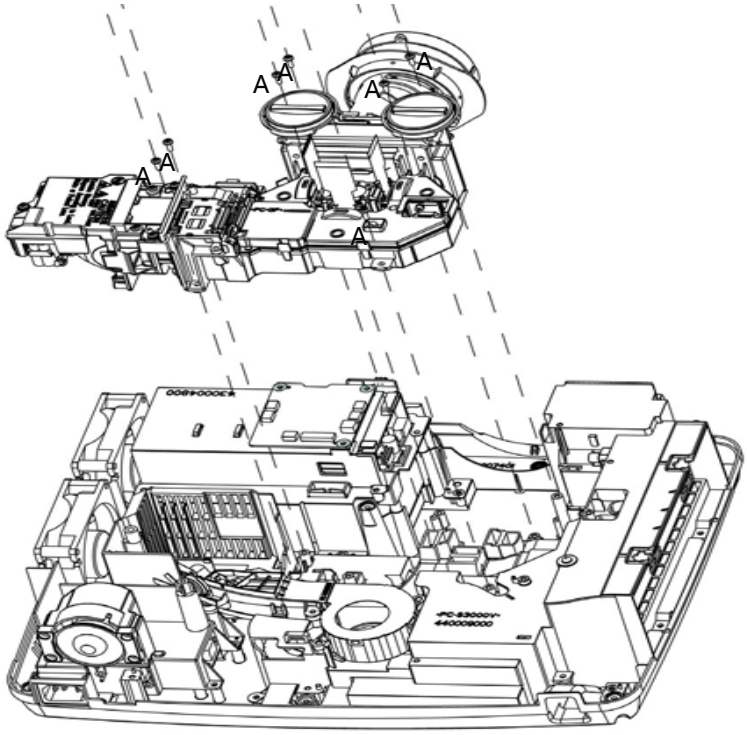



## Mechanical Disassembly

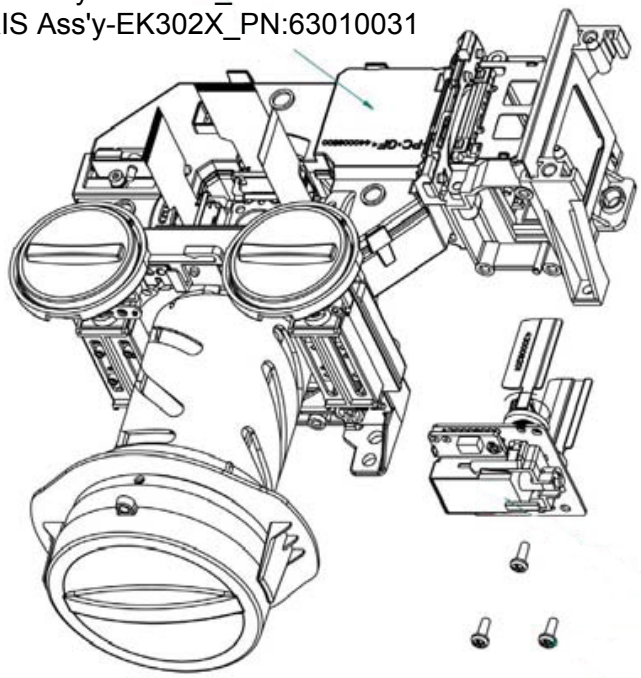
Optical Engine(OE) and Speaker disassembly

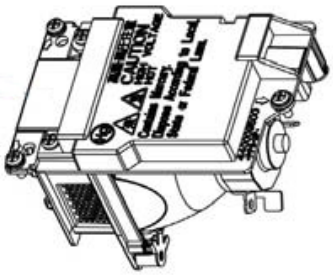
1. Loosen 4 screw and remove OE

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




OE+IRIS Ass'y-EK300U/303U_PN:63010029
OE+IRIS Ass'y-EK301W_PN: 63010030
OE+IRIS Ass'y-EK302X_PN:63010031





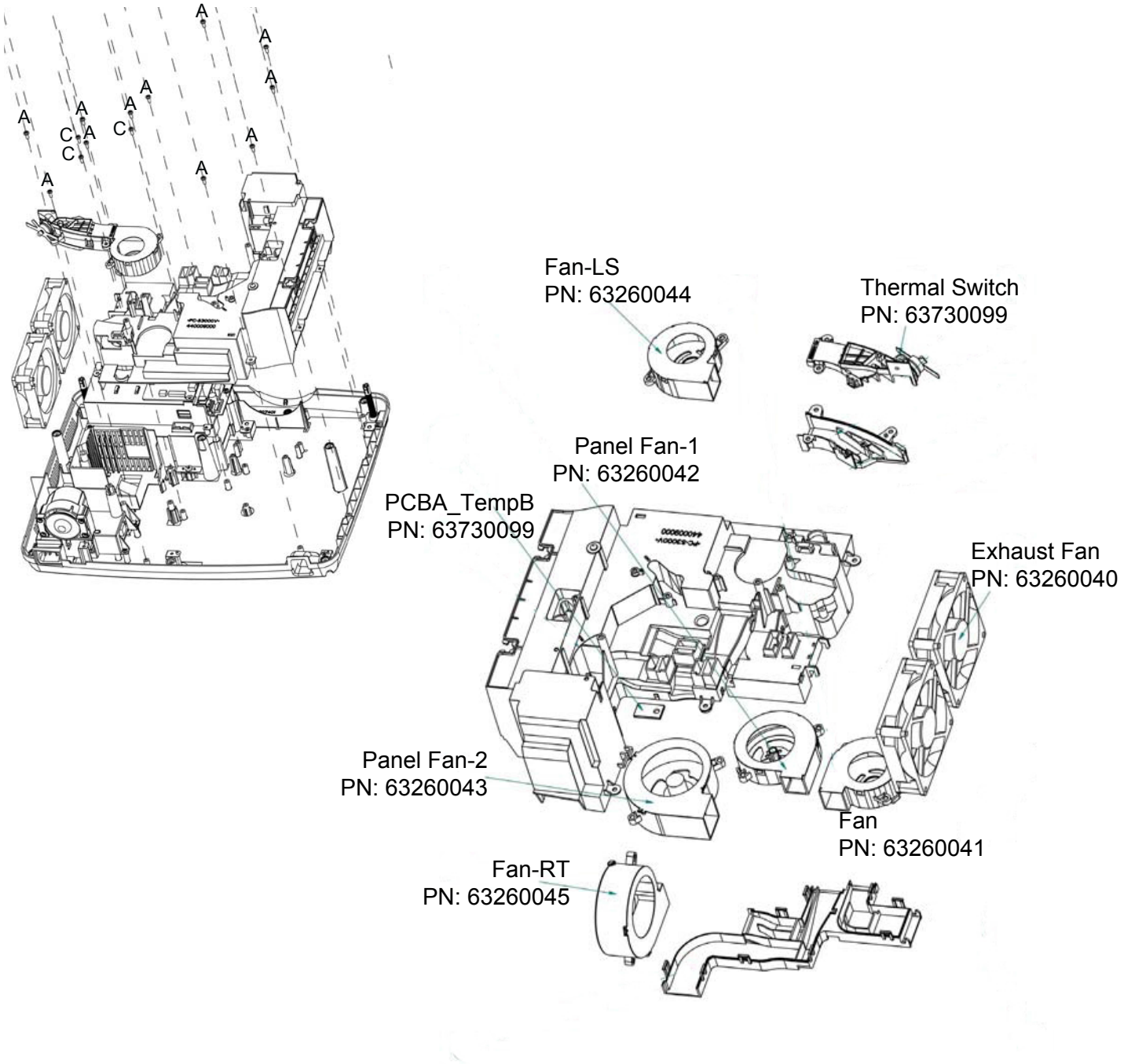
Lamp Ass'y
PN: 23040049

## Mechanical Disassembly

Fan of OE & Lamp duct disassembly

1. Loosen 11 screw A, and remove OE Duct Ass'y
2. Loosen 3 screw C,  and remove Fan of Penal.

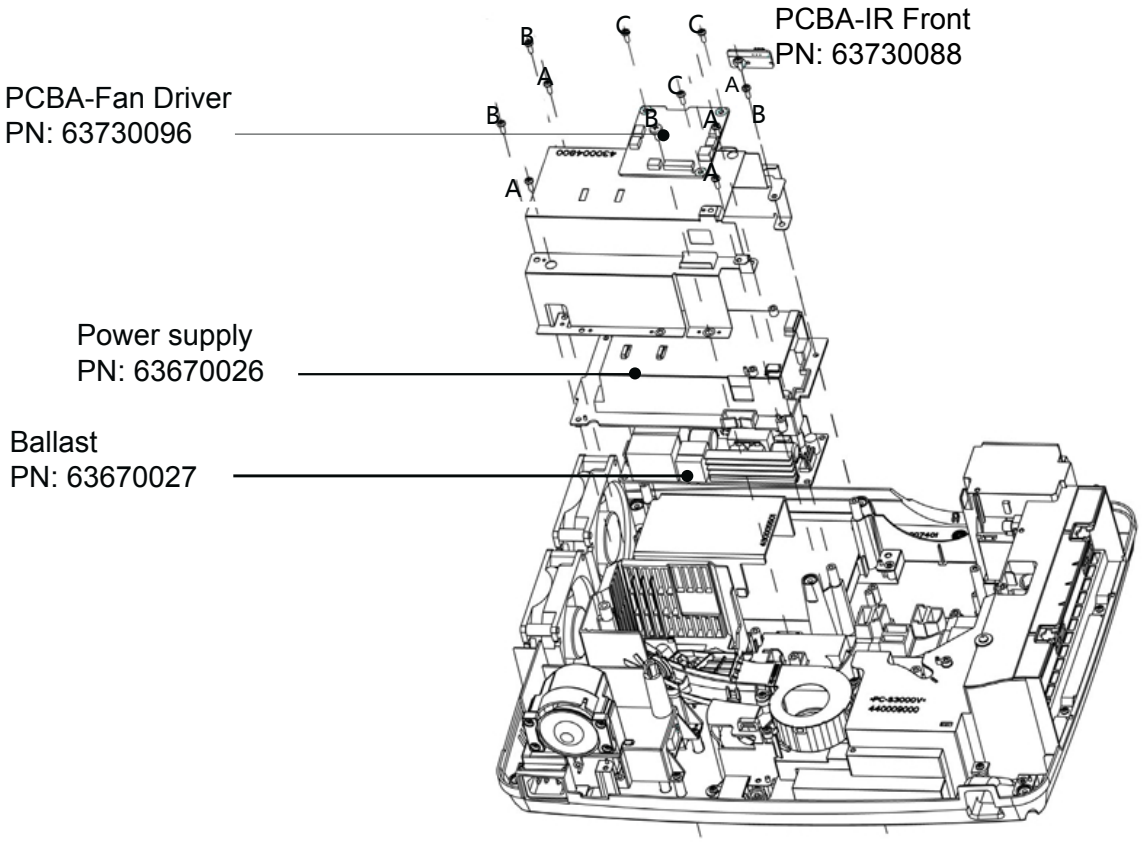
The chapter is only designed to show exploded image of the projector.
For updated part numbers, please refer to RSPL



## Mechanical Disassembly

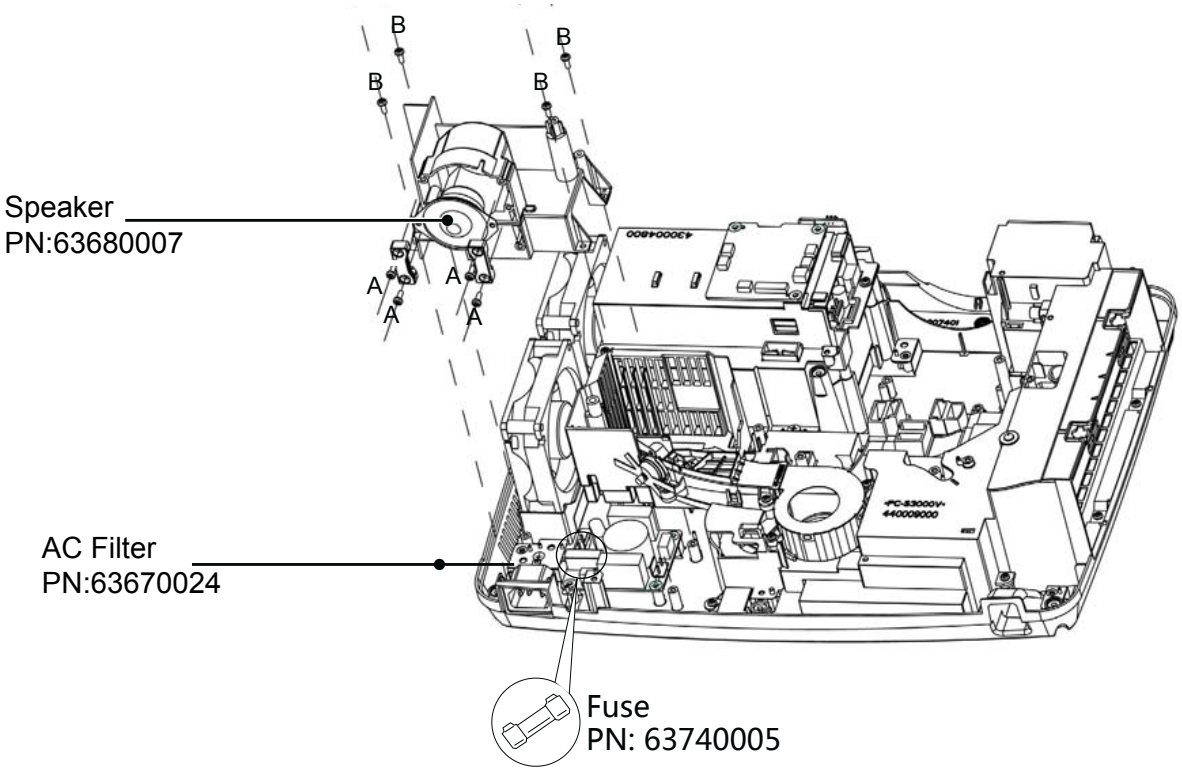
Fan Driver PCBA & Power supply and Ballast disassembly

1. Loosen 3 screwC remove Fan Driver PCBA
2. Loosen 4 screwA and 4 screwB remove Power and Ballast Ass'y




## Speaker Ass'y disassembly

1. Loosen 4 screwA and 4 screwB remove Speaker Ass'y

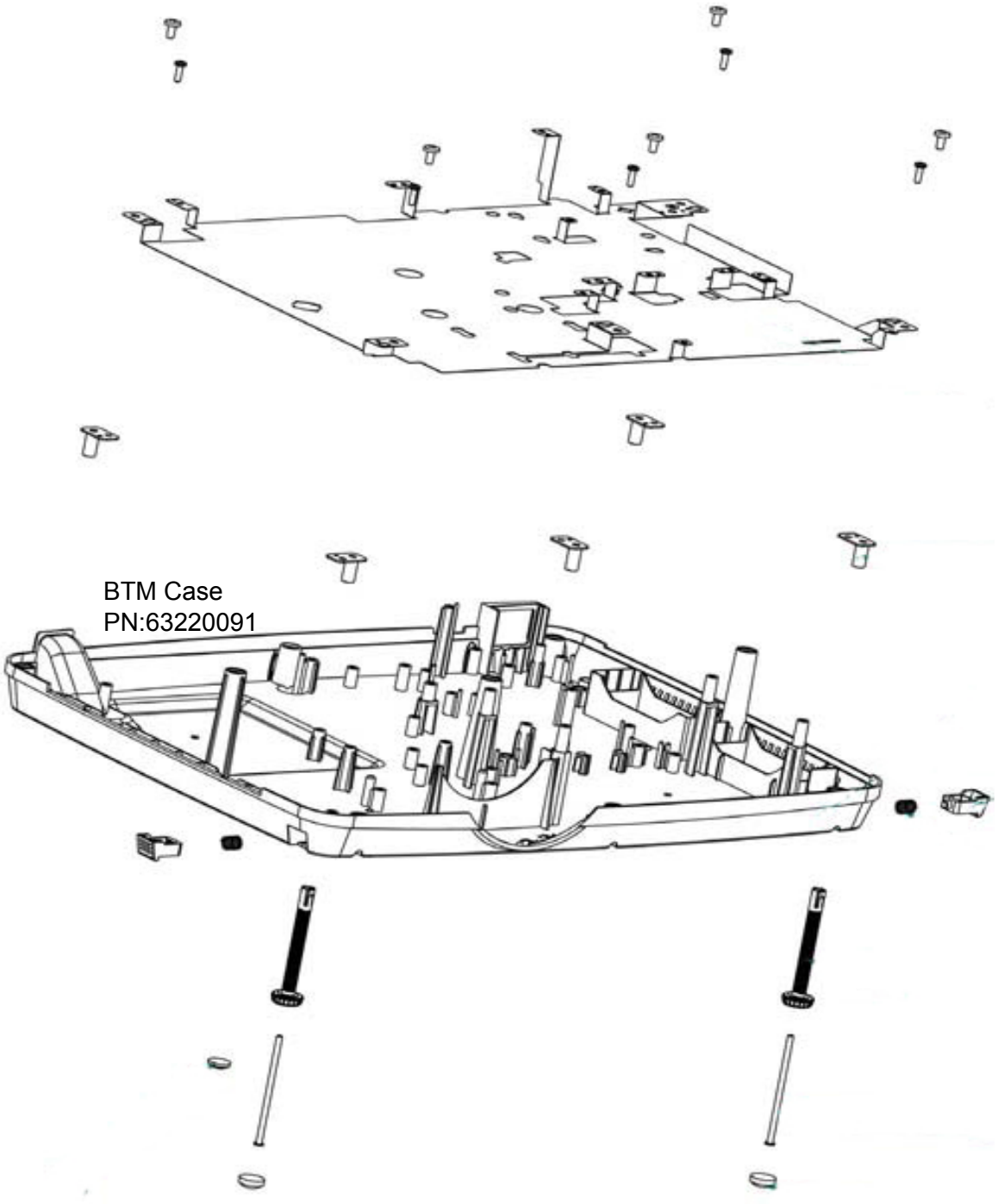


Case of Bottom disassembly

1. Take off 5 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

## Technical Specifications

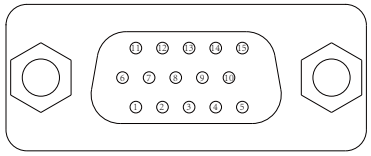
| | |
|---|---|
| LCD system | XGA: 0.63" TFT, active matrix, 3-panel |
| | WXGA: 0.59" TFT, active matrix, 3-panel |
| | WUXGA: 0.64" TFT, active matrix, 3-panel |
| LCD resolution | XGA: 1024X768 / WXGA: 1280X800 / WUXGA: 1920X1200 |
| Compatible signals | |
| Color standard | PAL, SECAM, NTSC, NTSC4.43, PAL-M, PAL-N and PAL60 |
| HDTV signal | 480i, 480p, 576i, 576p, 720p, 1035i, 1080i and 1080p |
| Scanning frequency | Horizontal frequency: 15 kHz –100 KHz; Vertical frequency: 48 – 85 Hz |
| Optical elements | |
| Image size (diagonal lines) | 40"-300" |
| Projection distance | XGA: 1.1m-8.6m(W) 1.8m-14.0m(T) |
| | WXGA: 1.2m-9.2m(W) 2.0m-14.8m(T) |
| | WUXGA: 1.1m-8.5m(W) 1.8m-13.7m(T) |
| Lens | F=1.65-2.25, f=18.20-29.38mm; Manual zooming and focusing; |
| | Zoom Ratio: 1.6 x optics |
| Lamp Consumption(W) | 280W |
| Terminal | |
| VGA IN 1/YPbPr/S-VIDEO IN | Mini D-sub 15 pin x1 |
| VGA IN 2/VGA OUT | Mini D-sub 15 pin x1 |
| HDMI terminal | HDMI x2 (one is compatible with MHL) |
| LAN terminal | 100 Base-TX (100Mbps)/10 Base-T (10Mbps) RJ45 |
| USB-B | x1(display / firmware upgrade) |
| USB-A | x1(picture viewer) |
| RS-232 terminal | D-sub 9 pin x1 |
| AUDIO OUT | 3.5mm Mini Type Stereo x1 |
| AUDIO IN | 3.5mm Mini Type Stereo x1 |
| MONO(R/L) | RCA x2 |
| VIDEO IN terminal | RCA x1 |
| Power | |
| Voltage and power consumption | AC 100–240 V, 50/60 Hz |
| Fuse | 250V/10A |
| Internal speaker | 10W RMS 8ohm, x1 |
| Operating Environment | |
| Operating temperature | 41˚F-104˚F (5˚C - 40˚C) |
| Storage Temperature | 14˚F-140˚F (-10˚C - 60˚C) |
| High land | 1400 m |
| Remote control | |
| Battery | AAA or LR3 1.5V Alkaline Type x 2 |
| Operating Range | 16.4' (5 m) / ±30º |
| Dimensions | 110mm (W) x 18mm (H) x 50mm (D) |
| Net Weight | 50g (including batteries) |
| Mechanical properties | |
| Dimensions (W×H×D ) | 395.0mmx318mmx128mm |
| Net Weight | 4.5Kg |
| Adjustable foot | 40mm |
| Accessories | |
| | AC Power Cord, Remote Control & battery, VGA Cable |
| | Quick Start Guide |

- 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

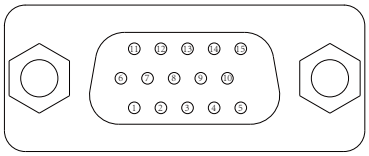
## Configurations of terminals

### VGA IN 1 terminal pin assignments and signal names



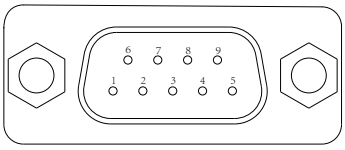
| | VGA | YPbPr | S-Video | 8 | GND | - | - |
|---|---|---|---|---|---|---|---|
| 1 | R | $P_R$ | S-C | 9 | +5V | - | - |
| 2 | G | Y | S-Y | 10 | GND | - | - |
| 3 | B | $P_B$ | - | 11 | GND | - | - |
| 4 | ----- | - | - | 12 | DDC data | - | - |
| 5 | GND | - | - | 13 | HD/SYNC | - | - |
| 6 | GND | - | - | 14 | VD | - | - |
| 7 | GND | - | - | 15 | DDC clock | - | - |

### VGA IN 2/VGA OUT terminal pin assignments and signal names



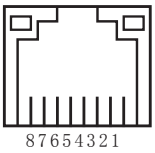
| 1 | R | 9 | NC |
|---|---|---|---|
| 2 | G | 10 | GND |
| 3 | B | 11 | ----- |
| 4 | ----- | 12 | DDC data |
| 5 | GND | 13 | HD/SYNC |
| 6 | GND | 14 | VD |
| 7 | GND | 15 | DDC clock |
| 8 | GND | | |

### RS232 terminal (D-SUB-9 pin)



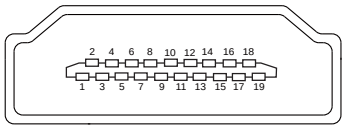
| 1 | ----- |
|---|---|
| 2 | RXD |
| 3 | TXD |
| 4 | ----- |
| 5 | GND |
| 6 | ----- |
| 7 | ----- |
| 8 | ----- |
| 9 | ----- |

### LAN terminal



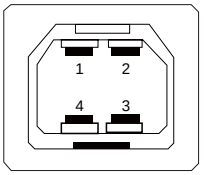

| 1 | TX + | 5 | ----- |
|---|---|---|---|
| 2 | TX - | 6 | ----- |
| 3 | ----- | 7 | RX + |
| 4 | ----- | 8 | RX - |

### 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 |

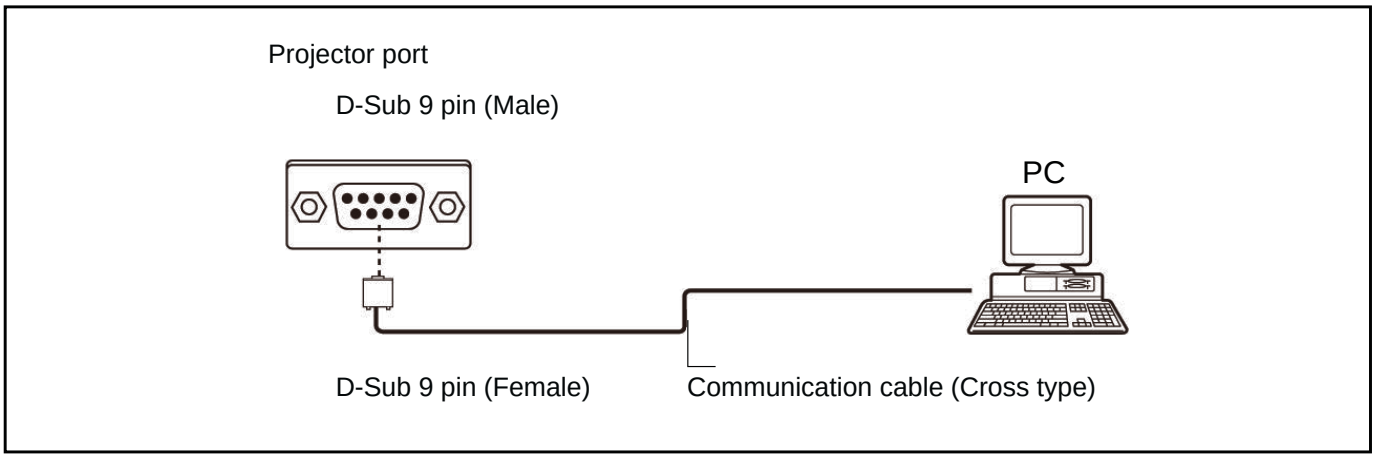
# Appendix

## Serial control

### Serial port

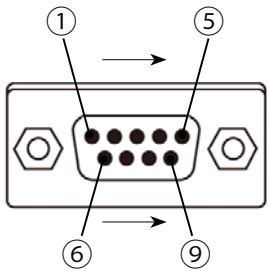
The <Serial Input> terminal of the projector is in accordance with RS-232C, so the projector can be connected to the computer and controlled by the computer.

### Connection




### The pin layout and signal

D-Sub 9 pin (Male)
Appearance diagram




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

### Communication condition

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

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

## RS232 control mode

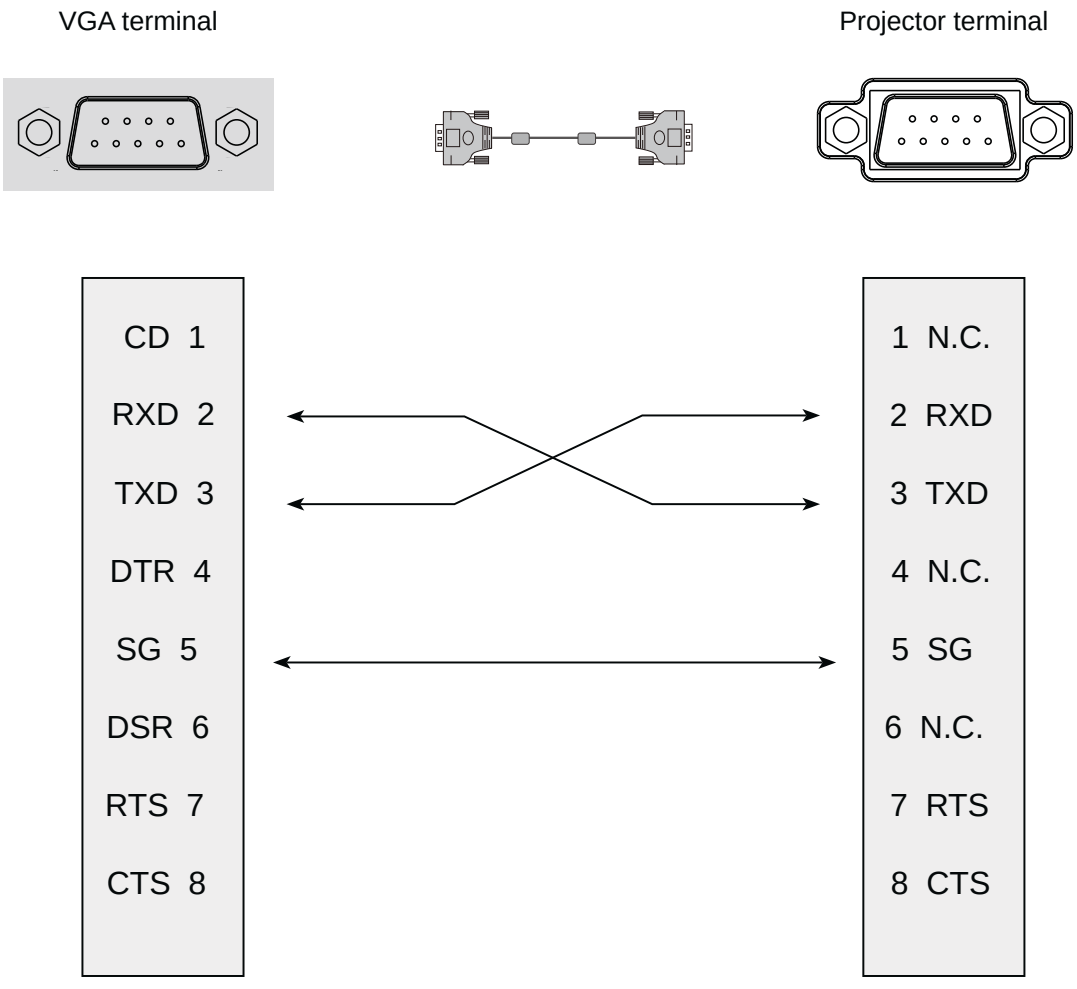
Serial connection

### 1.1 Port setting

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

### 1.2 Connection mode

Can only use RS232 serial cross connect PC and projector.



## 2. RS232 control 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(Immediatly) | C33 | Component |
| C02 | POWER OFF | C34 | S-Video |
| C36 | HDMI1 | C15 | NETWORK |
| C37 | HDMI(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.<br>Do nothing,when you are in Power ON state .<br>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.<br>Send this command can force your projector to power off during in power on state. | |
| Return Value | Receive Successfully | [ACK]［CR］ |
| | Receive Unsuccessfully | “?” [CR] |

2.3 POWER OFFcommand

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

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

2.4 HDMI 1 command

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

2.5 VGA IN 1 command

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

2.6 VGA IN 2 command

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

2.7 S-Video command

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

2.8 COMPONENT command

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

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

2.9 NETWORK command

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

2.10 MEMORY VIEWER command

| | | |
|---|---|---|
| Command | “C16”[CR] | |
| Details | Select MEMORY VIEWER Input . | |
| Return Value | Receive Successfully | [ACK]［CR］ |
| | Receive Unsuccessfully | “?” [CR] |

2.11 USB Display command

| | | |
|---|---|---|
| Command | “C17”[CR] | |
| Details | Select 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] |

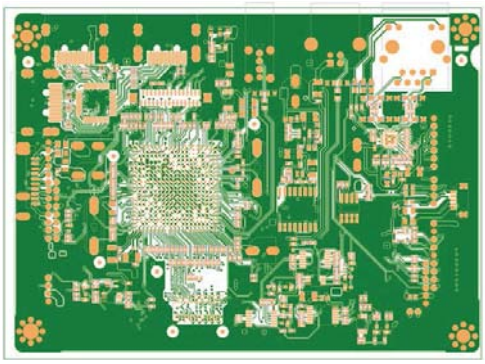
2.4 HDMI 2 command

| | | |
|---|---|---|
| Command | “C37”[CR] | |
| Details | Select HDMI 2 Input. | |
| Return Value | Receive Successfully | [ACK]［CR］ |
| | Receive Unsuccessfully | “?” [CR] |

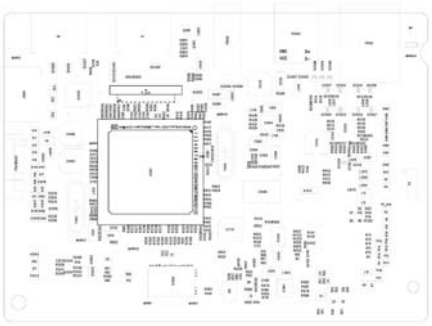
Note: [ACK] "CR" is the return value for receiving valid commands.

# PCB diagram

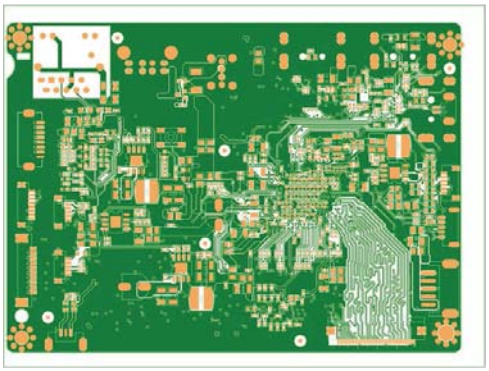
Main board PCB (A)



Main board PCB (A)

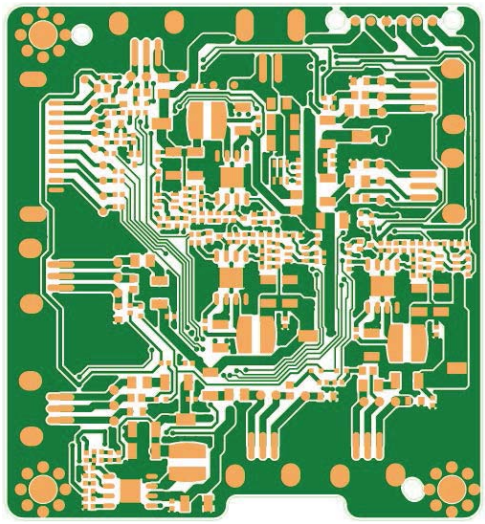


Main board PCB (B)

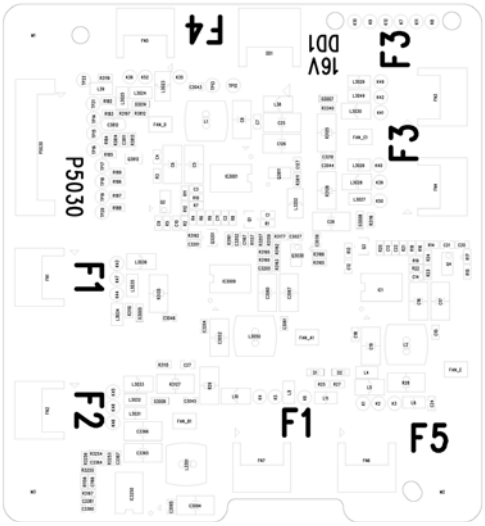


Main board PCB (B)

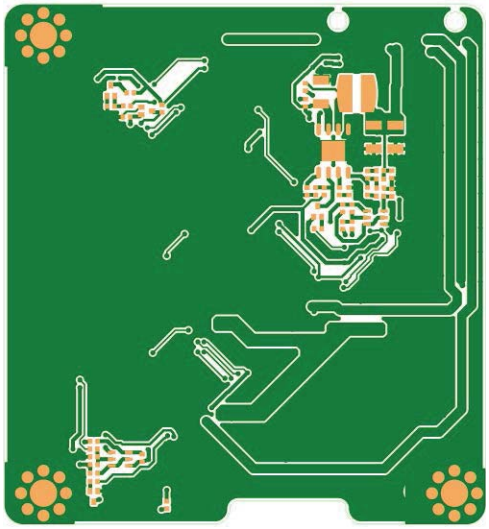
Fan PCB (A)



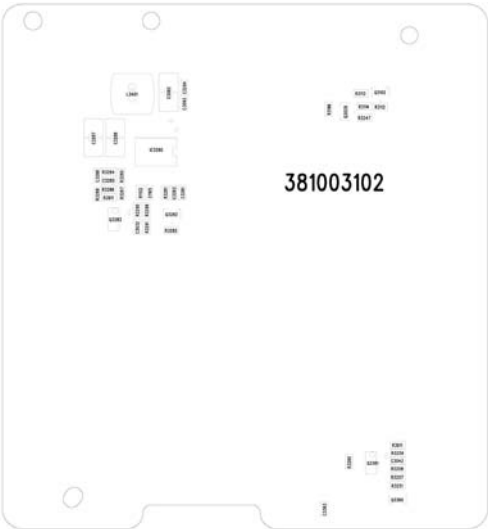
Fan PCB (A)




Fan PCB (B)

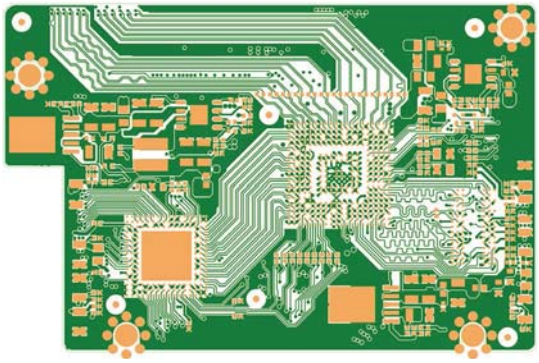


Fan PCB (B)

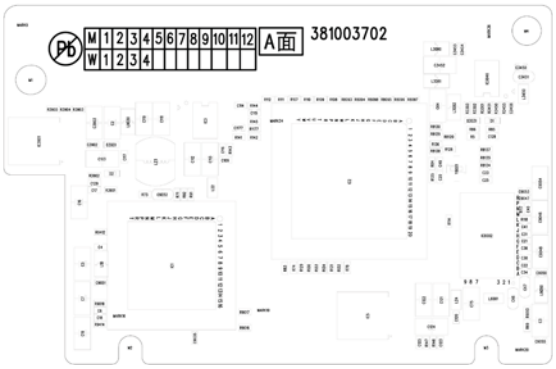


## Only for XGA&WXGA series:

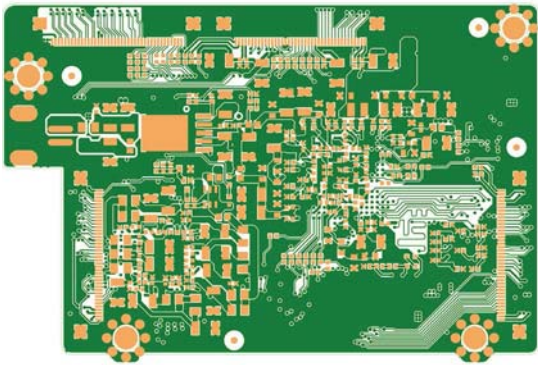
LCD drive board (A)



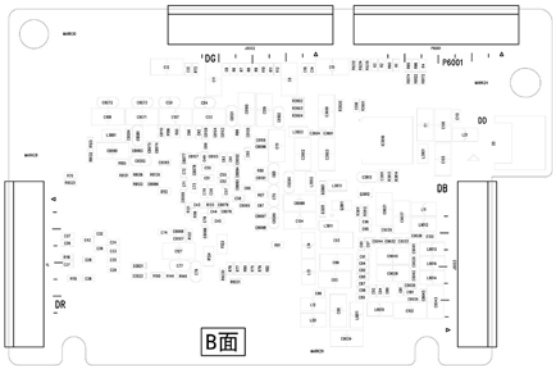
LCD drive board (A)




LCD drive board (B)

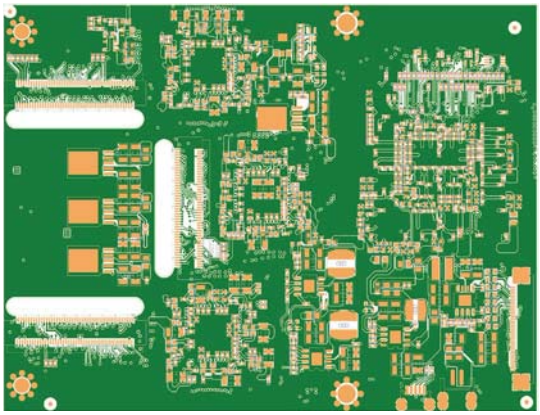


LCD drive board (B)

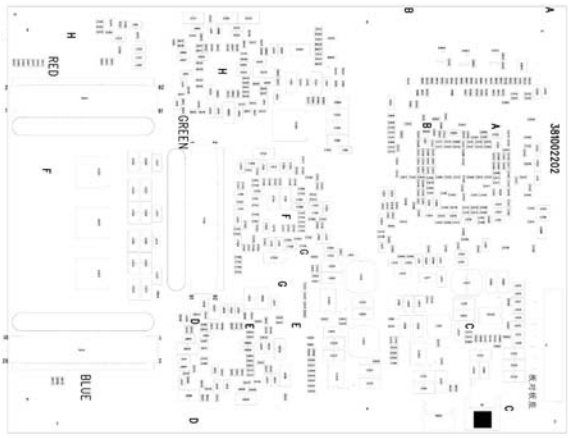



## Only for WUXGA series:

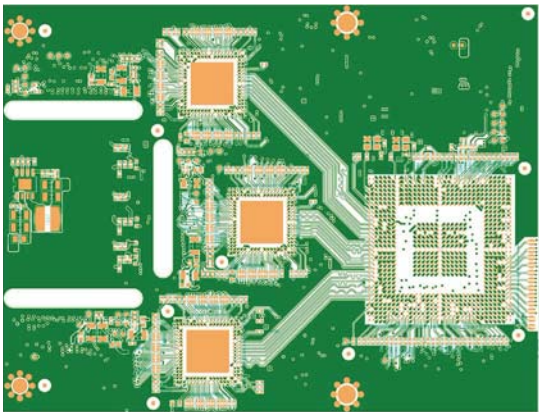
LCD drive board (A)



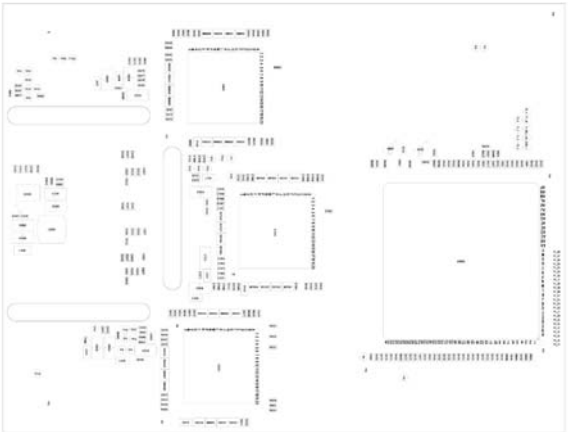
LCD drive board (A)



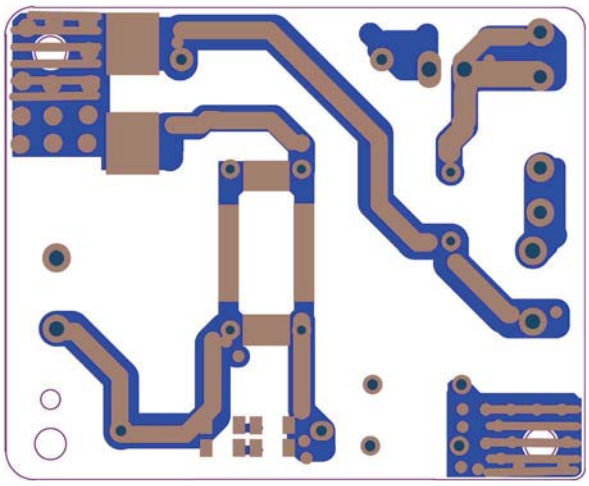

LCD drive board (B)



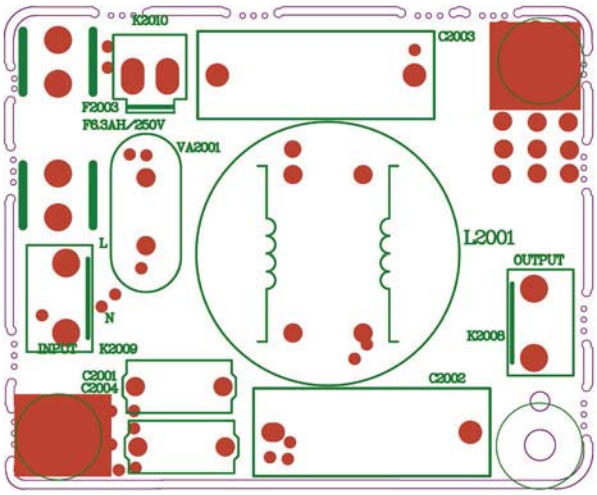
LCD drive board (B)



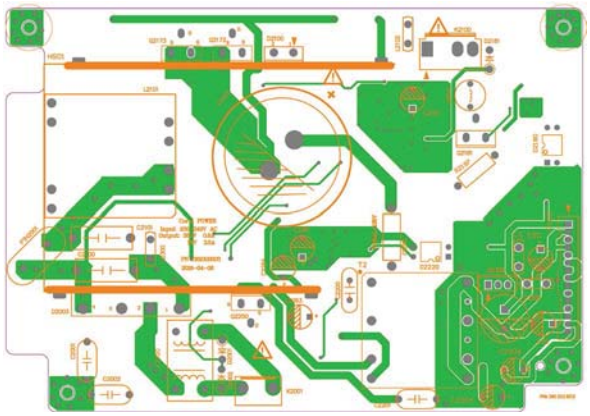
Filter board



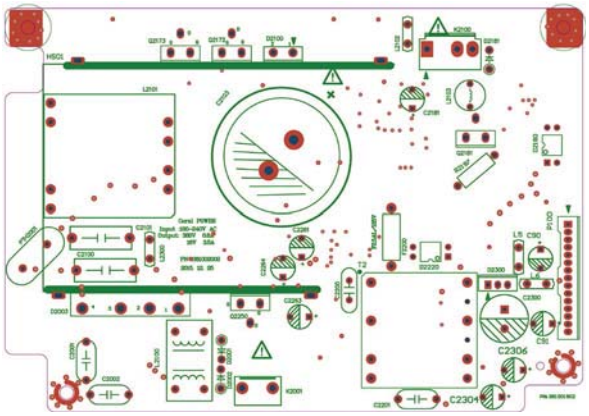
Filter board



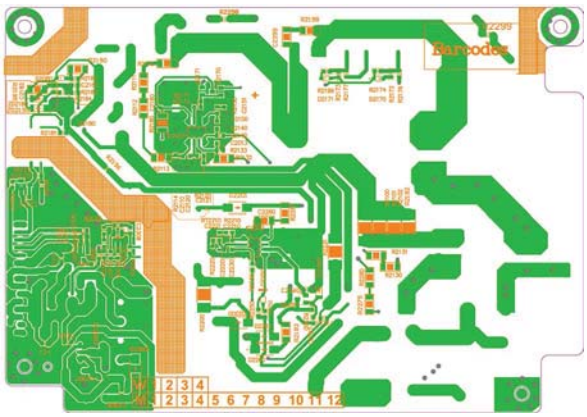

Power board (A)



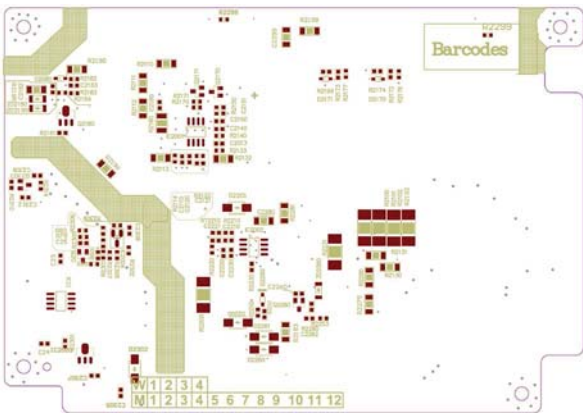
Power board (A)



Power board (B)

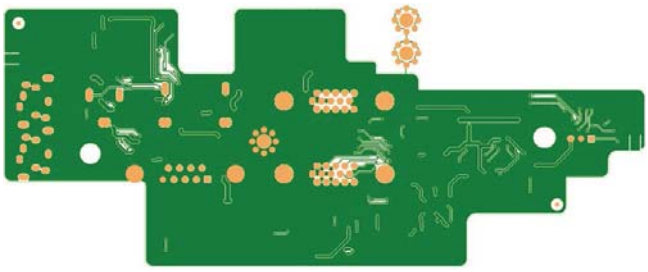



Power board (B)

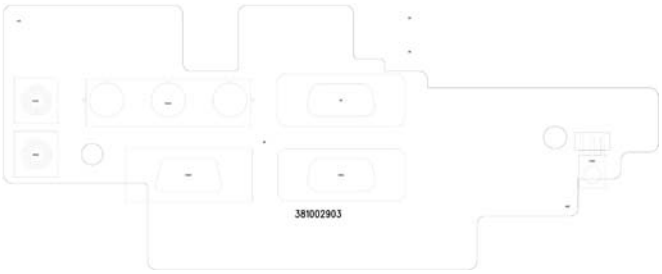


# PCB diagram

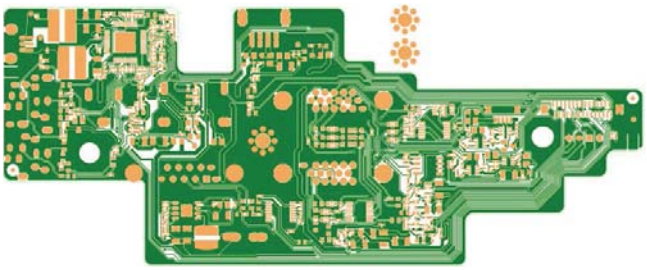
Terminal (A)



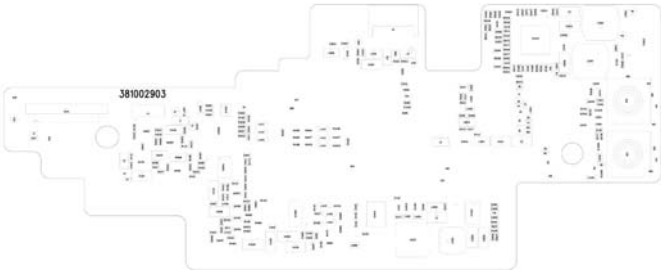
Terminal (A)



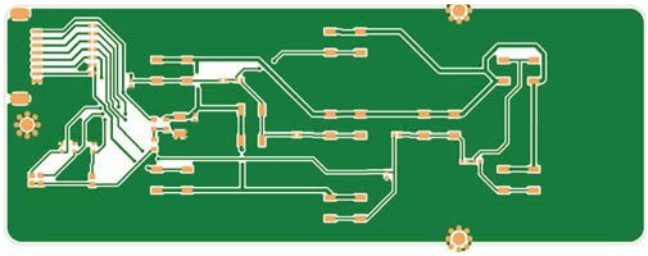

Terminal (B)



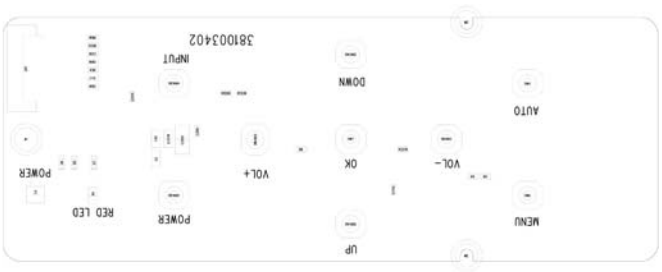
Terminal (B)



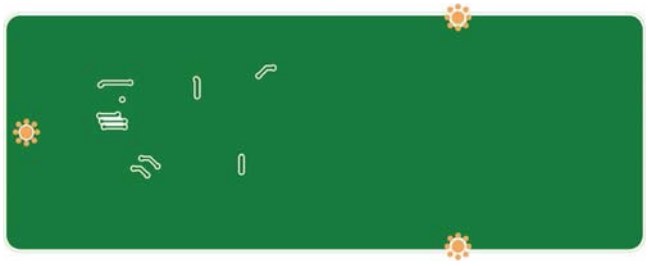

Key button and LED board (A)



Key button and LED board (A)



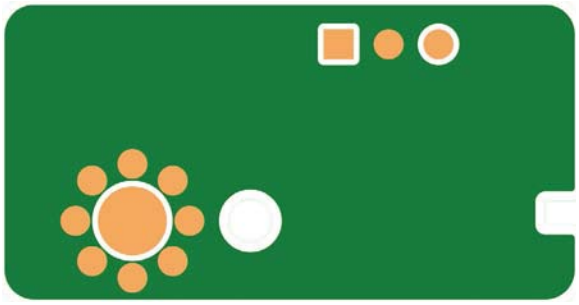

Key button and LED board (B)



Key button and LED board (B)

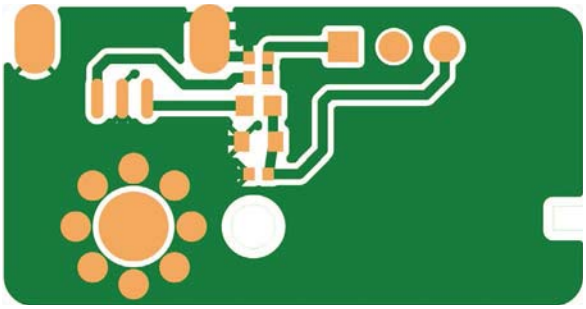


Remote control board (A)

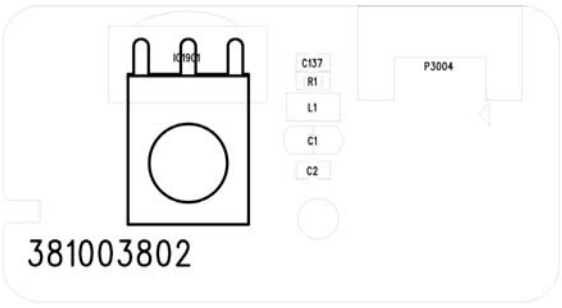


Remote control board (A)

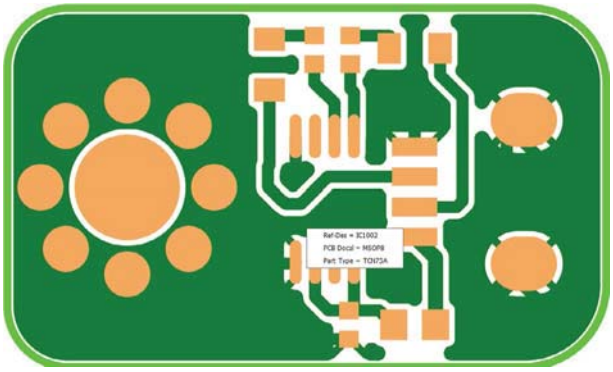
Remote control board (B)



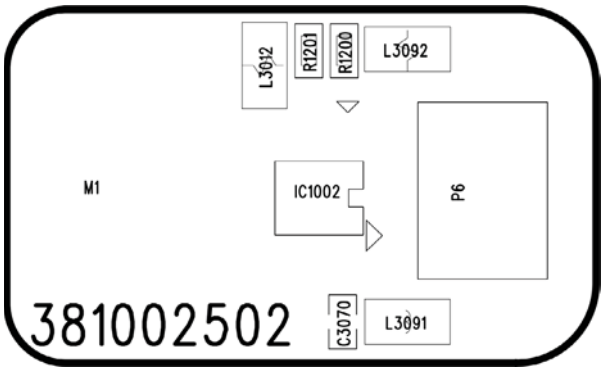
Remote control board (B)



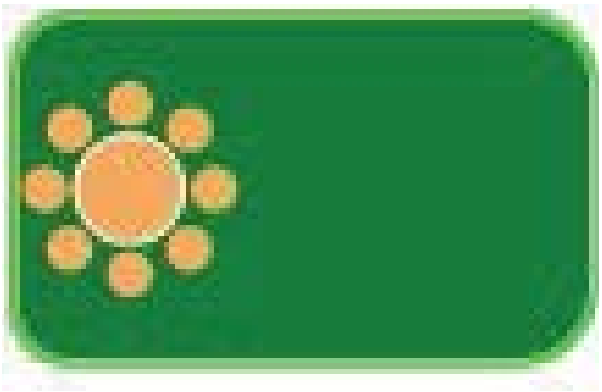

Temperature board (A)



Temperature board (A)




Temperature board (B)



Temperature board (B)

Note:
Picture can suits XGA & WXGA & WUXGA series without any other description separately.