EIKI

DATA PROJECTOR
SERVICE MANUAL

EK-400XA
EK-401WA
EK-402UA

CONTENTS

Revised History

Ver.	Description	Date
00	First issue	08-08-2016
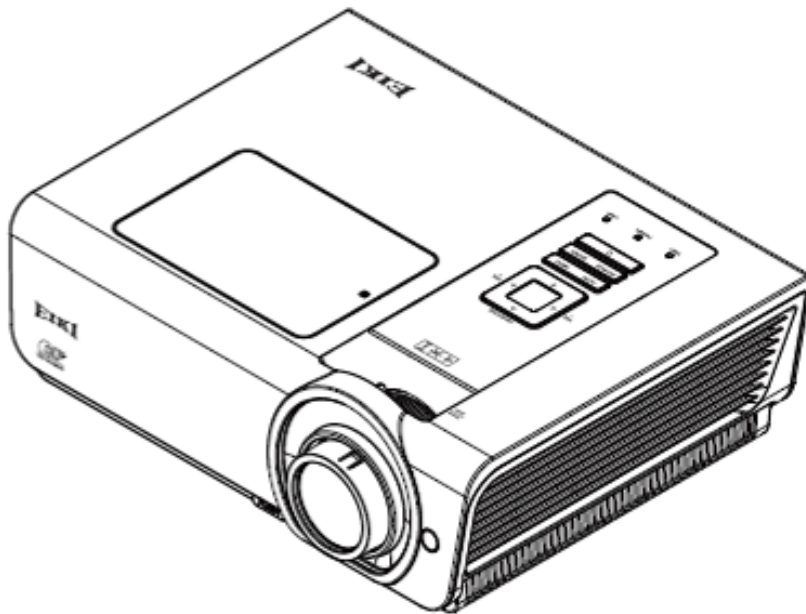
1. COMPLIANCE OF SAFE REPAIR

Be sure to read this Service Manual before providing services. In the projector, full consideration is taken to ensure safety for fire, electric shock, injury, harmful radiation, and substance. Therefore, observe the notice described in this Service Manual so that safety is kept when providing services. Moreover, be sure to observe the notice described in the Instruction Manual.

Pay attention to the following items during service inspection.

1-1. Cautions During Disassembling And Assembling

1. This equipment contains parts under high voltage. When making repairs, etc.
   Be sure to pull out the power plug beforehand to insure safety.
2. Parts may be very hot immediately after use.
   Make sure the equipment has cooled off sufficiently before carrying out repairs.
3. Make sure that parts and screws and wiring, etc. are returned to their original positions.
   Tube, tape and other insulation materials have been used for safety reasons.
   The internal wiring has been designed to avoid direct contact with hot parts or parts under high voltage when using clamps or other tools.
4. The parts used in this device have special safety features such as flame-resistance and anti-voltage properties. When replacing parts, always use parts supplied from the factory.
5. After finishing operations make sure that all parts and wires have been returned to their original position and that there has been no deterioration of the area around the location that was worked on.
6. Be sure to use a grounding strap (wrist band) during repair and inspection.

1-2. Lamp

During current conduction, the lamp is in the high-temperature state. In this case, pay careful attention because a high voltage is used. When replacing a lamp, replace it after confirming that the lamp has gotten cold sufficiently.

1-3. Lens

Do not look into a lens during projection. This damages your eyes.

1-4. Eye Safety Warnings

1. Avoid staring directly into the projector's beam of light at all times.

2. Minimize standing facing into the beam.
   Keep your back to the beam as much as possible.

3. Ensure that projectors are located out of the line of sight from the screen to the audience;
   this ensures that, when presenters look at the audience,
   they do not also have to stare at the projector lamp.

4. When projector is used in a classroom, adequately supervise students when
   they are asked to point out something on the screen.

5. In order to minimize the lamp power needed,
   use room blinds to reduce ambient light levels.

Important:
a. The projection lamp used in this product contains a small amount of mercury.

b. Do not dispose this product with general household waste.

c. Disposal of this product must be carried out in accordance with the regulations of your local authority.

Warning:
Be sure to turn off and unplug the projector at least 30 minutes before replacing the lamp. Failure to do so could result in a severe burn.

Caution:
In rare cases the lamp bulb may burn out during normal operation and cause glass dust or shards to be discharged outward from the rear exhaust vent.

Do not inhale or do not touch glass dust or shards. Doing so could result in injury.

Always keep your face away from the exhaust vent so that you do not suffer from the gas and broken shards of the lamp.

When removing the lamp from a ceiling-mounted projector, make sure that no one is under the projector. Glass fragments could fall if the lamp has been burned out.

⚠ *IF A LAMP EXPLODES*

If a lamp explodes, the gas and broken shards may scatter inside the projector and they may come out of the exhaust vent. The gas contains toxic mercury.

Open windows and doors for ventilation.

If you inhale the gas or the shards of the broken lamp enter your eyes or mouth, consult the doctor immediately.

2. SPECIFICATIONS

2-1. Summary Specifications

Model	EK-400XA	EK-401WA	EK-402UA
Display Type	DMD, 0.7" XGA, Type A	DMD, 0.65" WXGA, S450	DMD, 0.67" WUXGA, Type A
Resolution	XGA (1024x768)	WXGA (1280x800)	WUXGA (1920x1200)
Projection Distance	1.2m ~ 10m		
Projection Screen Size	27.6" ~ 344.6"	25.7" ~ 320.9"	26.7" ~ 334"
Projection Lens	Manual Focus / Zoom		
Zoom Ratio	1.5x		
Vertical Keystone Correction	+/- 40 degrees		
Projection Methods	Front, Rear, Desktop/Ceiling (Rear, Front)		
Data Compatibility	VGA, SVGA, XGA, WXGA, SXGA, SXGA+, UXGA, WUXGA, Mac		
SDTV/EDTV/ HDTV	480i, 576i, 480p, 576p, 720p, 1080i, 1080p		
Video Compatibility	NTSC, PAL, SECAM		
H-Sync	15, 31 ~ 102KHz		
V-Sync	24 ~ 30Hz, 47 ~ 120Hz		
Operation Temperature	5° ~ 35°C		
Dimensions	334 mm (W) x 256.9 mm (D) x 120.8 mm (H)		
AC Input	AC Universal 100-240V		
Power Consumption	300W (ECO), <0.5W(Stand By) / 370W (Normal), <2W(on by Lan)		
Lamp	310W (Normal.) / 245W (ECO)		
Audio Speaker	3W mono		
Input Terminals	VGA IN x2		
	Display Port x1		
	Composite x1		
	S-Video x1		
	HDMI x2		
	Audio-In RCA(L/R) x 1		
	Audio-In (mini jack) x1		
Output Terminals	VGA-Out (15pin D-Sub) x 1(only from VGA)		

	Audio-Out (mini jack) x 1
Control Terminals	RS-232C
	3D Sync
	Screen Trigger: DC Jack x 1 (DC 12V 200mA output function)
	USB (Type mini B) – service only
	RJ-45
Security	Kensington Lock/ Security Bar

2-2. Views of Projector Parts

A. Front-Right View
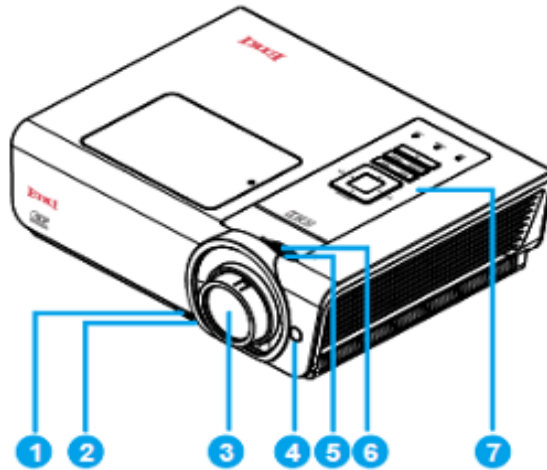
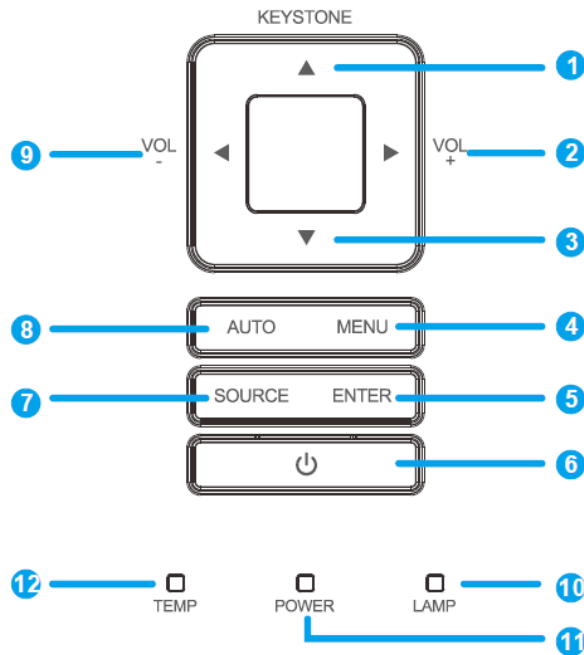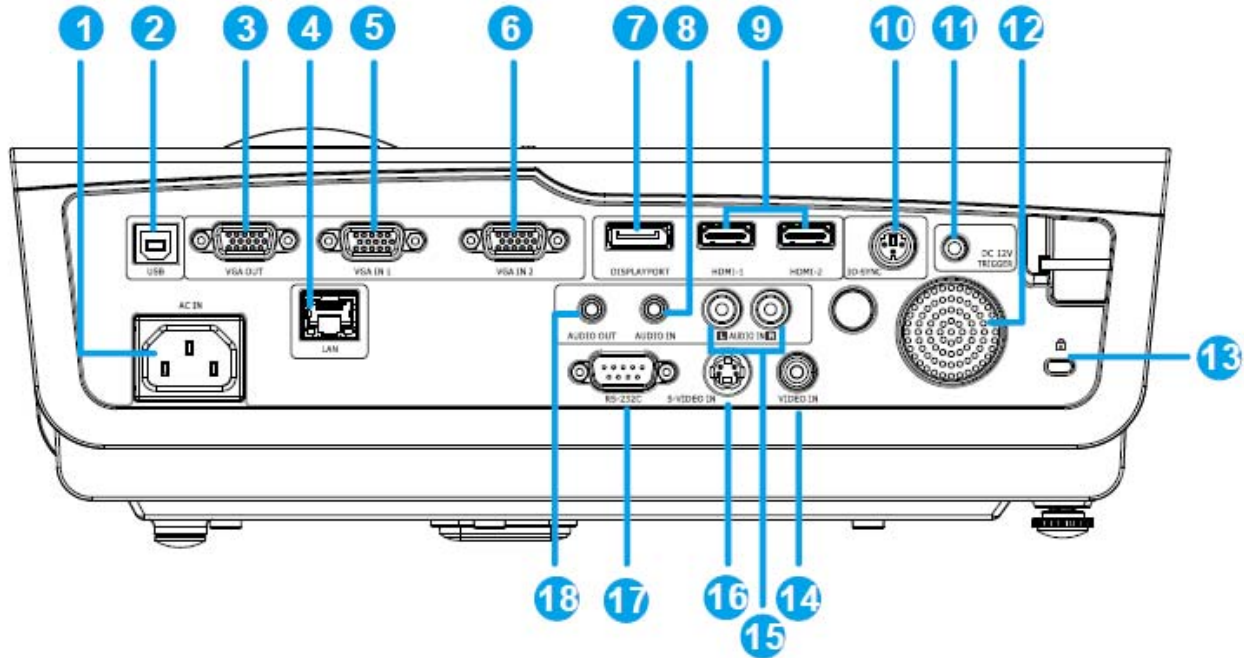| Item	Label	Description
1.	Height adjuster button	Push to release height adjuster
2.	Height adjuster	Adjusts level of projector
3.	Lens	Projection Lens
4.	IR Receiver	Receive IR signal from remote control
5.	Focus Ring	Focuses the projected image
6.	Zoom Ring	Enlarges the projector image
7.	Function Keys	See Top view - On Screen Display (OSD) buttons and LEDs.

Important:

Ventilation openings on the projector allow for good air circulation, which keeps the projector lamp cool. Do Not obstruct any of the ventilation openings.

B. Top View-On Screen Display (OSD) buttons and LEDs

Item	Label	Description	
1.	▲(Up cursor) / Keystone+	Navigates and changes settings in the OSD Quick Menu – For Keystone.	
2.	▶(Right cursor) / Volume+	Navigates and changes settings in the OSD Quick Menu – For Volume	
3.	▼(Down cursor) / Keystone-	Navigates and changes settings in the OSD Quick Menu – For Keystone.	
4.	MENU	Opens and exits OSD menu.	
5.	ENTER	Enter or confirm highlighted OSD menu item.	
6.	⏻(power button)	Turns the projector on or off.	
7.	SOURCE	Enter the source menu.	
8.	AUTO	Optimize image size, position, and resolution.	
9.	◀(Left cursor) / Volume-	Navigates and changes settings in the OSD Quick Menu – For Volume	
10.	LAMP LED	Flashing	Error Code
11.	POWER LED	Blue	Lamp ready, start, cooling
		Flashing	Error Code
12.	TEMP LED	Red	Over temperature

9

C. Rear View

Item	Label	Description
1.	AC IN	Connect the power cable
2.	USB	Connect the USB cable from a computer
3.	VGA OUT	Connect the RGB cable to a display (Loop thru only for VGA IN 1)
4.	LAN	Connect a LAN cable from Ethernet
5.	VGA IN 1	Connect the RGB cable from a computer or component device
6.	VGA IN 2	Connect the RGB cable from a computer or component device
7.	DISPLAYPORT	Connect the DISPLAYPORY cable from a DISPLAYPORT device
8.	AUDIO IN	Connect the AUDIO cable from AUDIO device
9.	HDMI 1/ 2	Connect the HDMI cable from a HDMI device
10.	3D SYNC	Connect the 3D IR glasses transmitter
11.	DC 12V TRIGGER	When connected to the screen through a commercially available cable, the screen deploys automatically on start up of the projector. The screen retracts when the projector is powered off (see notes

		below).
12.	Speaker	Outputs audio sound
13.	Kensington Lock	Secure to permanent object with a Kensington® Lock system
14.	VIDEO IN	Connect the COMPOSITE cable from a video device
15.	AUDIO IN (LR)	Connect the AUDIO cable from a audio device
16.	S-VIDEO IN	Connect the S-Video cable from a video device
17.	RS-232C	Connect RS-232 serial port cable for remote control
18.	AUDIO OUT	Connect an AUDIO cable to audio amplifier

Note:

- *To use this feature, you must plug in the connector before turn on/off the projector.*
- *Screen controllers are supplied and supported by screen manufacturers.*
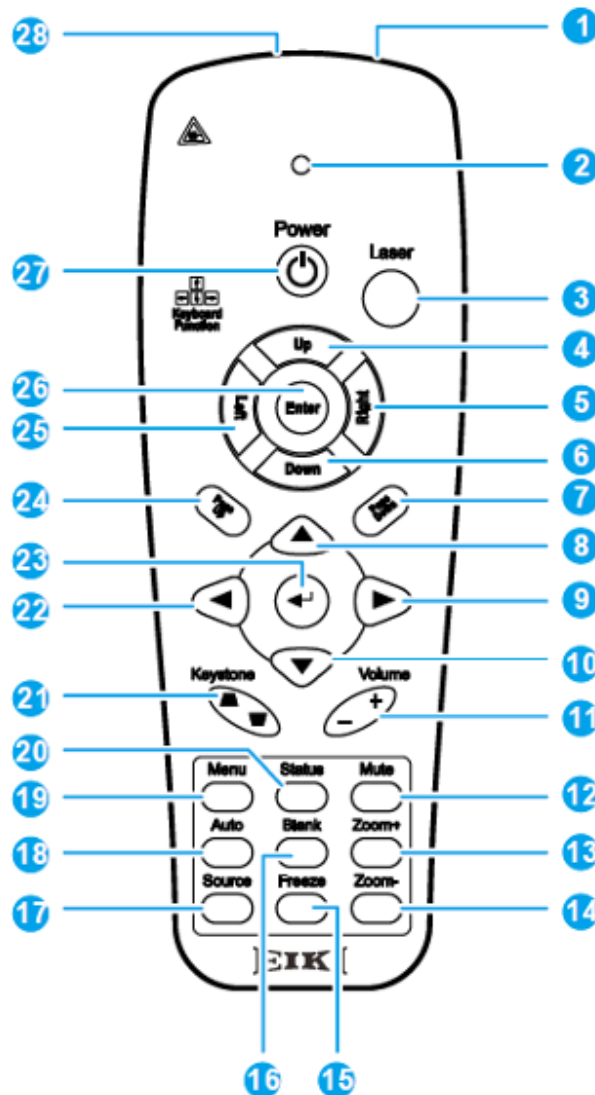- *Do not use this jack for anything other than intended use.*

Note:

If your video equipment has both S-VIDEO and RCA jacks (composite video) connect to the S-VIDEO connector. S-VIDEO provides a better quality signal.

Warning:

As a safety precaution, disconnect all power to the projector and connecting devices before making connections.

2-3. Remote Control

Important:

1. Avoid using the projector with bright fluorescent lighting turned on. Certain high-frequency fluorescent lights can disrupt remote control operation.
2. Be sure nothing obstructs the path between the remote control and the projector. If the path between the remote control and the projector is obstructed, you can bounce the signal off certain reflective surfaces such as projector screens.
3. The buttons and keys on the projector have the same functions as the corresponding buttons on the remote control. This user's manual describes the functions based on the remote control.

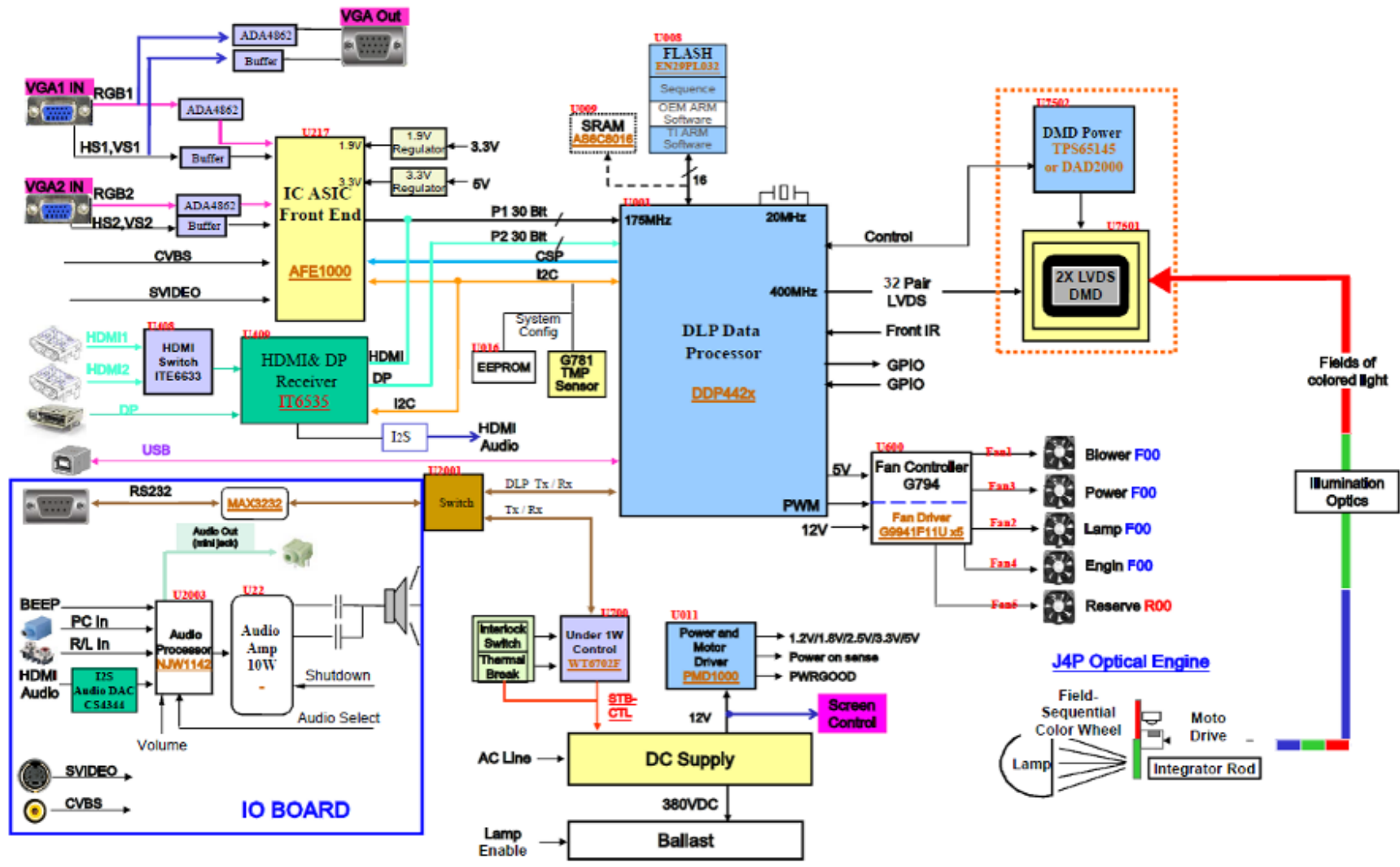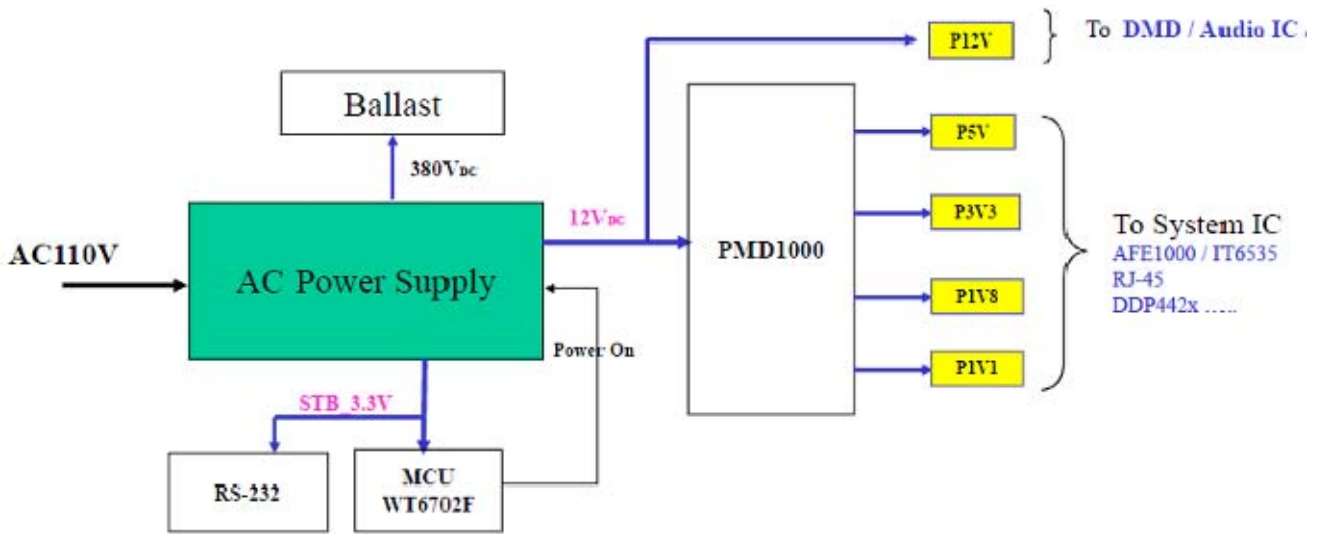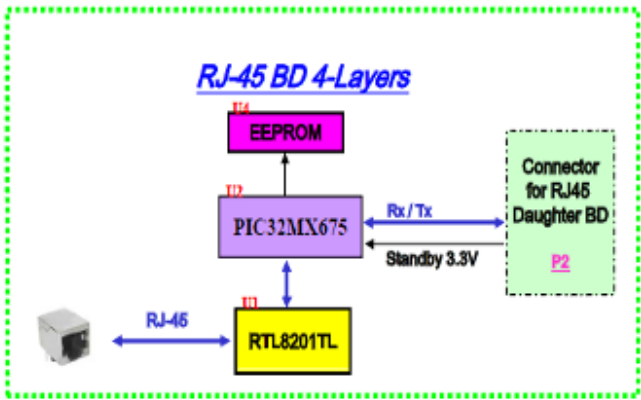| Item	Label	Description
1.	IR transmitter	Transmits signals to projector
2.	Status LED	Lights when the remote control is used
3.	Laser button	Press to operate the on-screen pointer
4.	Up	Emulation of keyboard Up key via USB(Not available in this series)
5.	Right	Emulation of keyboard Right key via USB(Not available in this series)
6.	Down	Emulation of keyboard Down key via USB(Not available in this series)
7.	Page Down	Emulation of keyboard Page_Down key via USB(Not available in this series)
8.	Up arrow	Up selection when OSD on
9.	Right arrow	Right selection when OSD on
10.	Down arrow	Down selection when OSD on
11.	Volume +/-	Adjusts volume
12.	Mute	Audio mute
13.	Zoom+	Zoom in
14.	Zoom-	Zoom out
15.	Freeze	Freeze video
16.	Blank	Video off
17.	Source	Input source selection
18.	Auto	Auto Image display
19.	Menu	Opens the OSD, or close OSD when on
20.	Status	Display information OSD
21.	Keystone Top / bottom	Corrects image-trapezoid (wider top/bottom) effect
22.	Left arrow	Left selection when OSD on
23.	↵	Changes settings in the OSD
24.	Page Up	Emulation of keyboard Page_Up key via USB(Not available in this series)
25.	Left	Emulation of keyboard Left key via USB(Not available in this series)
26.	Enter	Emulation of keyboard Enter key via USB(Not available in this series)
27.	Power	Turns the projector on or off
28.	Laser	Use as on-screen pointer.

Remote Control Operating Range

The remote control uses infrared transmission to control the projector. It is not necessary to point the remote directly at the projector. Provided you are not holding the remote perpendicular to the sides or the rear of the projector, the remote will function well within a radius of about 7 meters (23 feet) and 15 degrees above or below the projector level. If the projector does not respond to the remote control, move a little closer.

Projector and Remote Control Buttons

The projector can be operated using the remote control or the buttons on the top of the projector. All operations can be carried out with the remote control; however, the buttons on the projector are limited in use.

2-4. Block Diagram

15

Others BD 2-Layers

Index BD	→ DDP442X
Key Pad	→ DDP442X
Front IR BD	→ DDP442X

RJ-45 BD 4-Layers

EEPROM

PIC32MX675 — Rx / Tx → Connector for RJ45 Daughter BD P2

Standby 3.3V

RTL8201TL ← RJ-45 →

AC110V → AC Power Supply

Ballast ← 380Vᴅᴄ

12Vᴅᴄ → PMD1000

→ P12V } To DMD / Audio IC

→ P5V
→ P3V3
→ P1V8
→ P1V1

To System IC
AFE1000 / IT6535
RJ-45
DDP442x .....

Power On

STB_3.3V

RS-232   MCU WT6702F

16
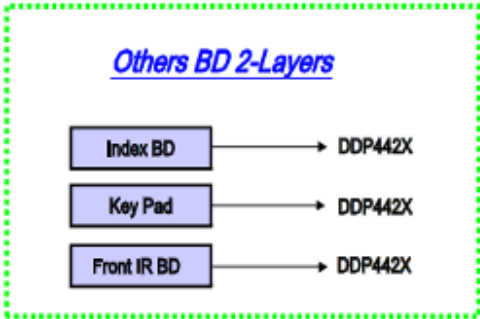
Explanation of Block Diagram

<u>Input signal processing</u>

RGB(1,2) & Component & VIDEO and S-VIDEO .

The RGB(D-sub15x2 or 5BNC) and COMPONENT input signals are switching output to ADC front end(AFE1000) . After these signals and VIDEO, S-VIDEO have been converted into 10-bit digital signals of RGB/YUV each at the A/D converter (U217) , the resultant signals are output to the scaler (U001).

<u>Digital input system</u>

HDMI/Displayport

The HDMI/Displayport signals input to HDMI switch (U408) then output to HDMI receiver (U409). The signals are further converted

into 10-bit digital signals of RGB/YCbCr, and then output to the scaler (U001).

<u>Output signals processing</u>

RGB out(D-sub15 black) .

The RGB output signals pass through from VGA1 only by analog switching Ics (ADA4862).

<u>DDP442X Image processing</u>

－ Auto-lock for Std, wide & black border
－ Integrated 3D Video Decoder
－ DynamicBlack™
－ BrilliantColor™
－ Dynamic & Anamorphic Scaling w/ Zoom
－ 1D Keystone Correction
－ Frame Rate Conversion
－ Color Coordinate Adjustment
－ White Color Temperature Adjustment
－ Programmable Color Space Conversion
－ Programmable Degamma & Splash
－ Spatial-Temporal Multiplexing

Digital video signal processing

*Scaler (U001)

 • The RGB/YCbCr signals are processed for picture quality improvement and matrix
   processing at the Scaler circuit.
 • The output signals are switched over at the bus line after adjusting color space processing,
   auto-adjustment, Degamma etc, these signals are written in the DDRII DRAM(U707).
 • The image signals called up from the DDRII DRAM, pass through the definition converter
   circuit, ON-screen display, error diffusion circuit for DLP, and output to the optical engine
   unit (DLP DMD board).

Timing signal processing

   Scaler operates on an external single 32MHz crystal.

Audio signal processing

 • The pre-amplifier (U2003) is generated signals with volume control to audio amplifier(U22)
to driver speakers.

System control

 The scaler(U001) controls all of this system.
 − Built-in Lamp Ballast Control
 − DMD Power and Reset Driver Control
 − DMD horizontal and vertical Image Flip

Power circuit

* Main power supply
   • In the state of standby, the power is supplied to the MCU(U700).
   • After power ON, the power are provided to the analog circuit,
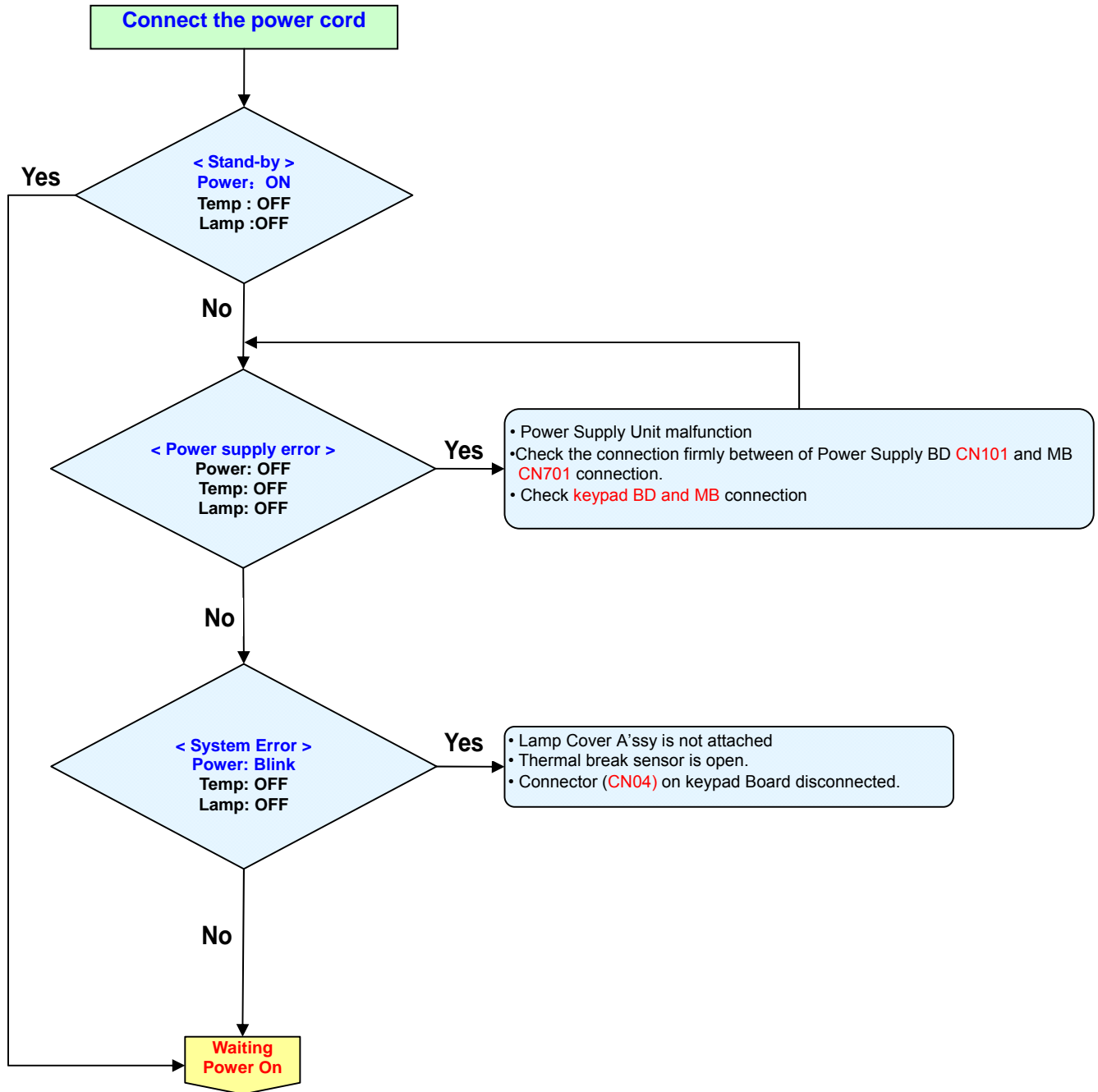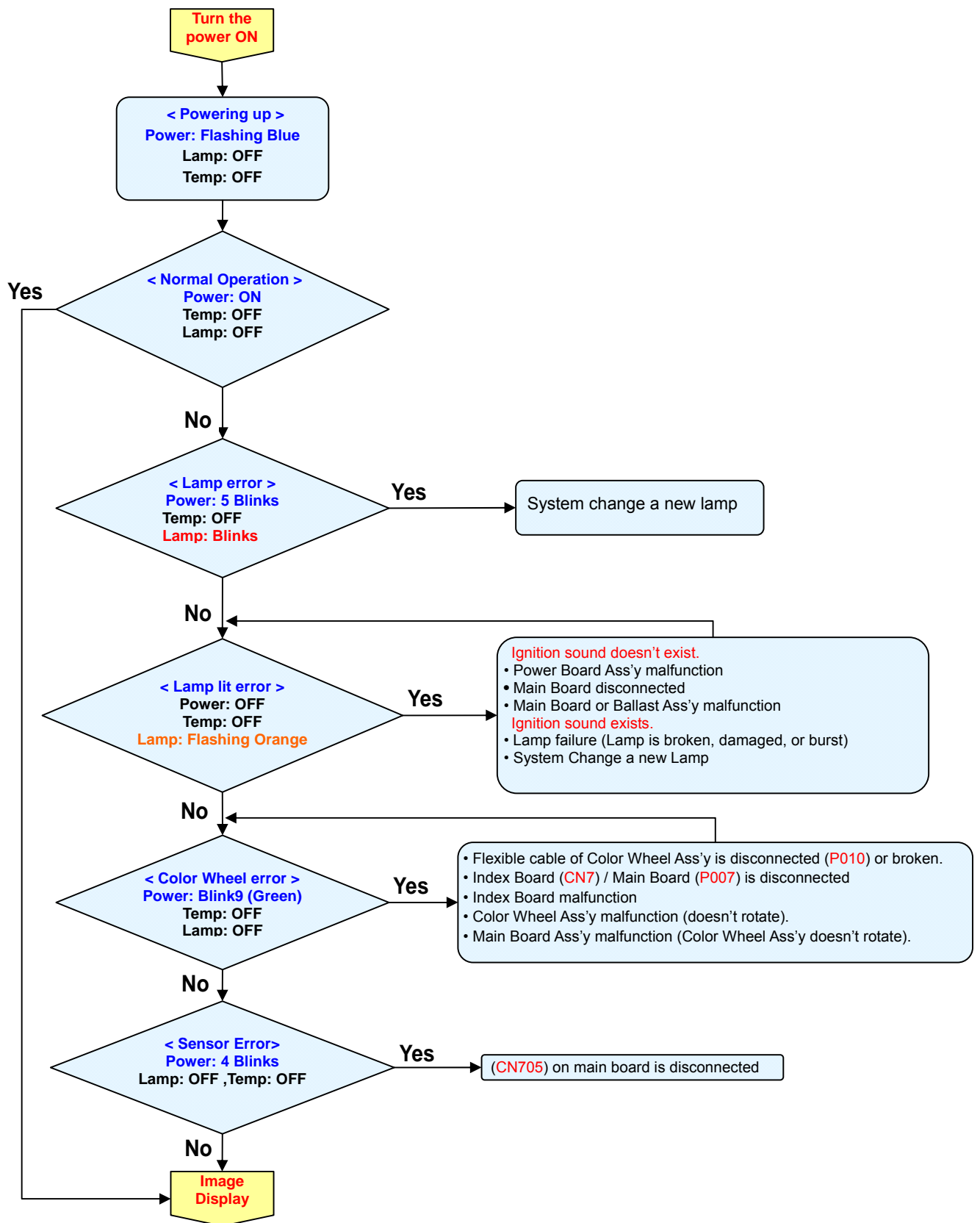   fan, IO board, etc.

* Lamp power supply
   • The lamp is lit with POWER ON.
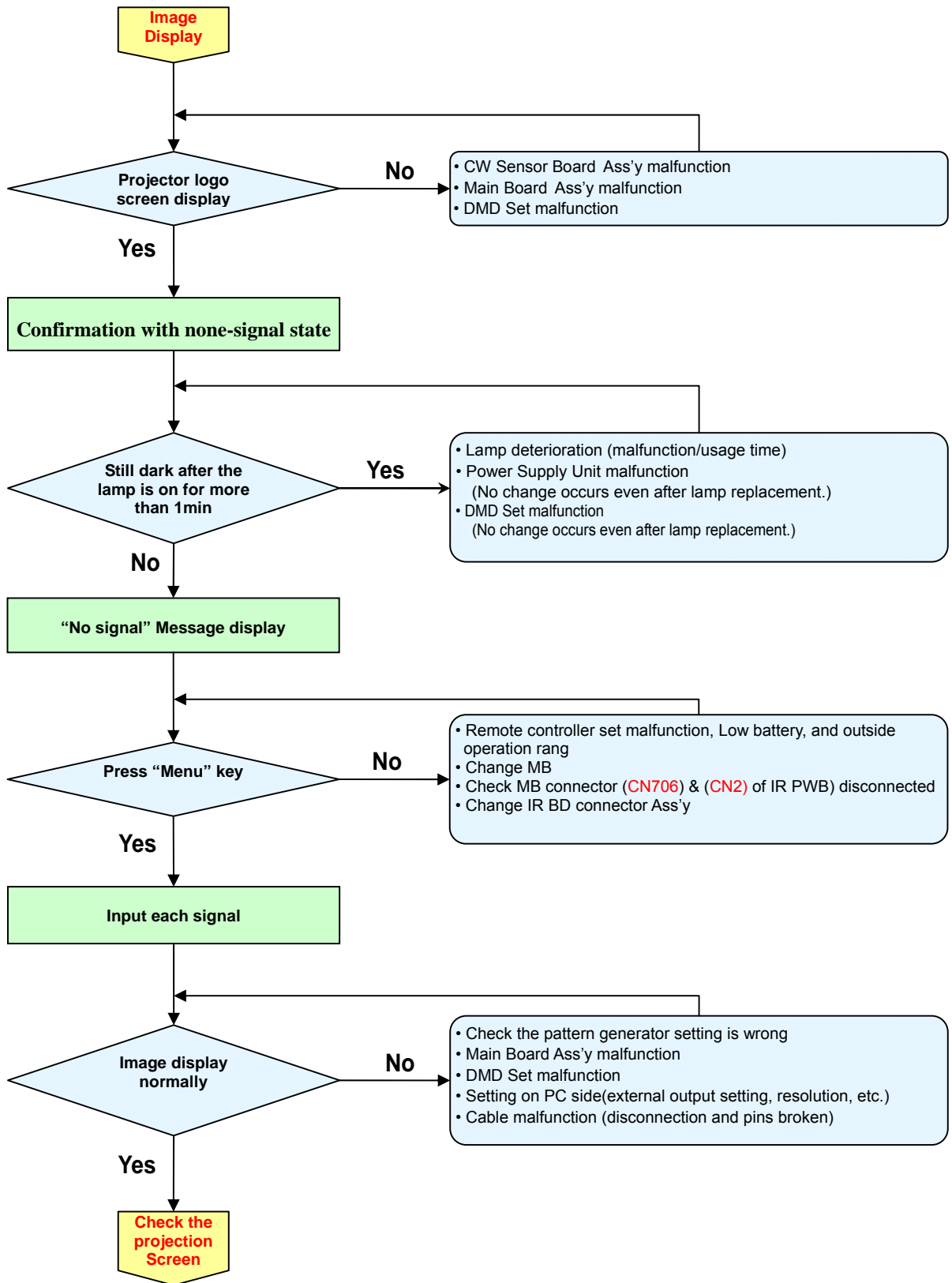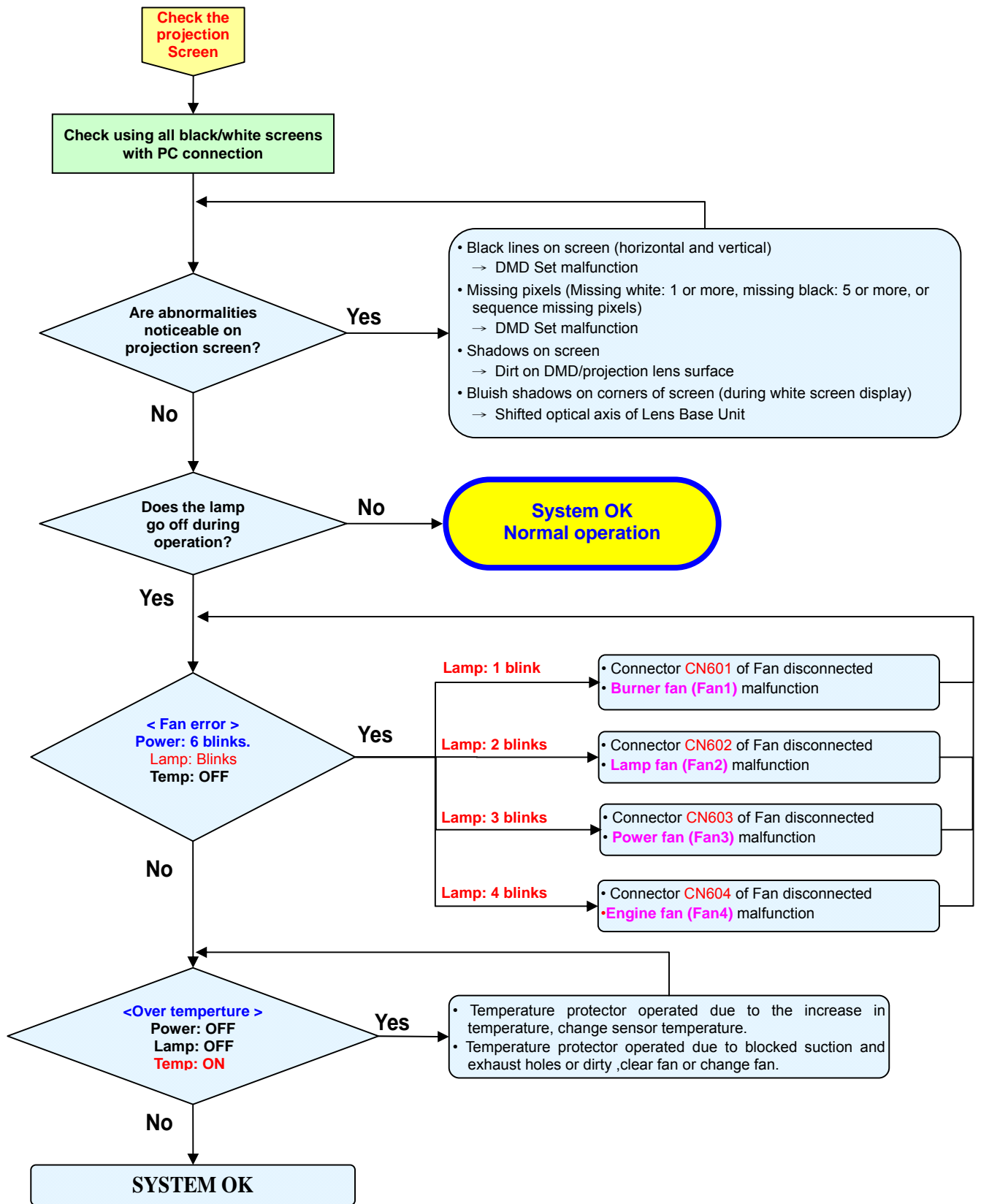   • Un-lighting detection is performed.

Safety design
   • Fan circuit detection
   • Lamp cover detection
   • Lamp house temperature detection
   • Thermal protector for the lamp power supply
   • Lamp replacing time

3. TROUBLE SHOOTING

```
        ┌──────────────────────────────┐
        │   Connect the power cord      │
        └──────────────────────────────┘
                      │
                      ▼
                 ╱◇◇◇◇◇◇◇◇◇╲
  Yes ──────────◇  < Stand-by >  ◇
                ◇   Power： ON    ◇
                ◇   Temp : OFF    ◇
                ◇   Lamp :OFF     ◇
                 ╲◇◇◇◇◇◇◇◇◇◇╱
                      │
                     No
                      │
                      ▼
```

< Power supply error >
Power: OFF
Temp: OFF
Lamp: OFF

Yes →
• Power Supply Unit malfunction
•Check the connection firmly between of Power Supply BD CN101 and MB CN701 connection.
• Check keypad BD and MB connection

No

< System Error >
Power: Blink
Temp: OFF
Lamp: OFF

Yes →
• Lamp Cover A'ssy is not attached
• Thermal break sensor is open.
• Connector (CN04) on keypad Board disconnected.

No

**Waiting
Power On**

```
                    ┌─────────────────┐
                    │   Turn the      │
                    │   power ON      │
                    └────────┬────────┘
                             │
                    ┌────────▼────────────┐
                    │  < Powering up >    │
                    │ Power: Flashing Blue│
                    │    Lamp: OFF        │
                    │    Temp: OFF        │
                    └────────┬────────────┘
                             │
Yes ◄────────────◄ < Normal Operation >
                    Power: ON
                    Temp: OFF
                    Lamp: OFF
                             │ No
                             ▼
                    < Lamp error >          Yes ──► System change a new lamp
                    Power: 5 Blinks
                    Temp: OFF
                    Lamp: Blinks
                             │ No
                             ▼
                    < Lamp lit error >      Yes ──►  Ignition sound doesn't exist.
                    Power: OFF                       • Power Board Ass'y malfunction
                    Temp: OFF                        • Main Board disconnected
                    Lamp: Flashing Orange            • Main Board or Ballast Ass'y malfunction
                             │ No                     Ignition sound exists.
                             ▼                        • Lamp failure (Lamp is broken, damaged, or burst)
                                                      • System Change a new Lamp

                    < Color Wheel error >   Yes ──► • Flexible cable of Color Wheel Ass'y is disconnected (P010) or broken.
                    Power: Blink9 (Green)           • Index Board (CN7) / Main Board (P007) is disconnected
                    Temp: OFF                       • Index Board malfunction
                    Lamp: OFF                       • Color Wheel Ass'y malfunction (doesn't rotate).
                             │ No                    • Main Board Ass'y malfunction (Color Wheel Ass'y doesn't rotate).
                             ▼
                    < Sensor Error>         Yes ──► (CN705) on main board is disconnected
                    Power: 4 Blinks
                    Lamp: OFF ,Temp: OFF
                             │ No
                             ▼
                    ┌─────────────────┐
                    │     Image       │
                    │    Display      │
                    └─────────────────┘
```

```
                          ┌──────────┐
                          │  Image   │
                          │ Display  │
                          └────┬─────┘
                               │
                               ▼
              ┌──────────────────────────┐       No    ┌─────────────────────────────────────────┐
              │   Projector logo         ├─────────────┤ • CW Sensor Board Ass'y malfunction       │
              │   screen display         │             │ • Main Board Ass'y malfunction            │
              └────────────┬─────────────┘             │ • DMD Set malfunction                     │
                     Yes   │                           └─────────────────────────────────────────┘
                           ▼
              ┌──────────────────────────────────┐
              │ Confirmation with none-signal state│
              └────────────┬─────────────────────┘
                           │
                           ▼
              ┌──────────────────────────┐       Yes   ┌─────────────────────────────────────────┐
              │   Still dark after the   ├─────────────┤ • Lamp deterioration (malfunction/usage time) │
              │   lamp is on for more    │             │ • Power Supply Unit malfunction           │
              │   than 1min              │             │   (No change occurs even after lamp replacement.) │
              └────────────┬─────────────┘             │ • DMD Set malfunction                     │
                     No    │                           │   (No change occurs even after lamp replacement.) │
                           ▼                           └─────────────────────────────────────────┘
              ┌──────────────────────────┐
              │ "No signal" Message display │
              └────────────┬─────────────┘
                           │
                           ▼
              ┌──────────────────────────┐       No    ┌─────────────────────────────────────────┐
              │   Press "Menu" key       ├─────────────┤ • Remote controller set malfunction, Low battery, and outside │
              │                          │             │   operation rang                          │
              └────────────┬─────────────┘             │ • Change MB                               │
                     Yes   │                           │ • Check MB connector (CN706) & (CN2) of IR PWB) disconnected │
                           ▼                           │ • Change IR BD connector Ass'y            │
              ┌──────────────────────────┐             └─────────────────────────────────────────┘
              │    Input each signal     │
              └────────────┬─────────────┘
                           │
                           ▼
              ┌──────────────────────────┐       No    ┌─────────────────────────────────────────┐
              │   Image display          ├─────────────┤ • Check the pattern generator setting is wrong │
              │   normally               │             │ • Main Board Ass'y malfunction            │
              └────────────┬─────────────┘             │ • DMD Set malfunction                     │
                     Yes   │                           │ • Setting on PC side(external output setting, resolution, etc.) │
                           ▼                           │ • Cable malfunction (disconnection and pins broken) │
                    ┌──────────┐                       └─────────────────────────────────────────┘
                    │ Check the│
                    │projection│
                    │ Screen   │
                    └──────────┘
```

Check the projection Screen

Check using all black/white screens with PC connection

Are abnormalities noticeable on projection screen? — **Yes** →

- Black lines on screen (horizontal and vertical)
  - → DMD Set malfunction
- Missing pixels (Missing white: 1 or more, missing black: 5 or more, or sequence missing pixels)
  - → DMD Set malfunction
- Shadows on screen
  - → Dirt on DMD/projection lens surface
- Bluish shadows on corners of screen (during white screen display)
  - → Shifted optical axis of Lens Base Unit

No

Does the lamp go off during operation? — **No** → **System OK Normal operation**

Yes

< Fan error >
Power: 6 blinks.
Lamp: Blinks
Temp: OFF — **Yes** →

Lamp: 1 blink
- Connector CN601 of Fan disconnected
- **Burner fan (Fan1)** malfunction

Lamp: 2 blinks
- Connector CN602 of Fan disconnected
- **Lamp fan (Fan2)** malfunction

Lamp: 3 blinks
- Connector CN603 of Fan disconnected
- **Power fan (Fan3)** malfunction

Lamp: 4 blinks
- Connector CN604 of Fan disconnected
- **Engine fan (Fan4)** malfunction

No

<Over temperture >
Power: OFF
Lamp: OFF
Temp: ON — **Yes** →

- Temperature protector operated due to the increase in temperature, change sensor temperature.
- Temperature protector operated due to blocked suction and exhaust holes or dirty ,clear fan or change fan.

No

SYSTEM OK

3-1. LED Error Message

ERROR CODE MESSAGES	POWER LED BLUE	TEMP LED RED	LAMP LED RED
Lamp Ready	ON	OFF	OFF
Start	ON	OFF	OFF
Cooling	ON	OFF	OFF
Over Temperature	OFF	ON	OFF
T1 error	3 blinks	OFF	1 blinks
Thermal Break Sensor error	4 blinks	OFF	OFF
G794 error	4 blinks	OFF	4 blinks
Lamp fail	5 blinks	OFF	OFF
Ballast temp over	5 blinks	OFF	1 blinks
Ballast circuit short	5 blinks	OFF	2 blinks
Lamp End of lamp life detected	5 blinks	OFF	3 blinks
Lamp did not ignite	5 blinks	OFF	4 blinks
Lamp extinguished during normal operation	5 blinks	OFF	5 blinks
Lamp extinguished during run-up phase	5 blinks	OFF	6 blinks
Lamp voltage too low	5 blinks	OFF	7 blinks
Ballast fail	5 blinks	OFF	8 blinks
Ballast communication fail	5 blinks	OFF	10 blinks
Ballast over temp	5 blinks	OFF	11 blinks
Restrike lamp fail 1	5 blinks	OFF	12 blinks
Restrike lamp fail 2	5 blinks	OFF	13 blinks
Lamp fail 1	5 blinks	OFF	14 blinks
Lamp fail 2	5 blinks	OFF	15 blinks
Fan 1 error	6 blinks	OFF	1 blinks
Fan 2 error	6 blinks	OFF	2 blinks
Fan 3 error	6 blinks	OFF	3 blinks
Fan 4 error	6 blinks	OFF	4 blinks
Case Open	7 blinks	OFF	OFF
DMD error	8 blinks	OFF	OFF
Color wheel error	9 blinks	OFF	OFF

3-2. Common Problems and Solutions

These guidelines provide tips to deal with problems you may encounter while using the projector. If the problem remains unsolved, contact your dealer for assistance.
Often after time spent troubleshooting, the problem is traced to something as simple as a loose connection. Check the following before proceeding to the problem-specific solutions.

- Use some other electrical device to confirm that the electrical outlet is working.
- Ensure the projector is turned on.
- Ensure all connections are securely attached.
- Ensure the attached device is turned on.
- Ensure a connected PC is not in suspending mode.

Ensure a connected notebook computer is configured for an external display. (This is usually done by pressing an Fn-key combination on the notebook.)

Image Problems

Problem: No image appears on the screen

1. Verify the settings on your notebook or desktop PC.
2. Turn off all equipment and power up again in the correct order.

Problem: The image is blurred

1. Adjust the Focus on the projector.
2. Press the Re-sync button on the remote control or projector.
3. Ensure the projector-to-screen distance is within the 10-meter (33-feet) specified range.
4. Check that the projector lens is clean.

Problem: The image is wider at the top or bottom (trapezoid effect)

1. Position the projector so it is as perpendicular to the screen as possible.
2. Use the Keystone button on the remote control or projector to correct the problem.

Problem: The image is reversed

Check the Projection setting on the Setup menu of the OSD.

Problem: The image is streaked

1. Set the Frequency and Phase settings on the Computer menu of the OSD to the default settings.
2. To ensure the problem is not caused by a connected PC's video card, connect to another computer.

Problem: The image is flat with no contrast

Adjust the Contrast setting on the Image menu of the OSD.

Problem: The color of the projected image does not match the source image.

Adjust the Color Temperature and Gamma settings on the Image menu of the OSD.

Lamp Problems

Problem: There is no light from the projector

1. Check that the power cable is securely connected.
2. Ensure the power source is good by testing with another electrical device.
3. Restart the projector in the correct order and check that the Power LED is still green.
4. If you have replaced the lamp recently, try resetting the lamp connections.
5. Replace the lamp module.
6. Put the old lamp back in the projector and have the projector serviced.

Problem: The lamp goes off

1. Power surges can cause the lamp to turn off. Re-plug power cord. When the Ready LED is on, press the power button.

2. Replace the lamp module.

3. Put the old lamp back in the projector and have the projector serviced.

Remote Control Problems

Problem: The projector does not respond to the remote control

1. Direct the remote control towards remote sensor on the projector.

2. Ensure the path between remote and sensor is not obstructed.

3. Turn off any fluorescent lights in the room.

4. Check the battery polarity.

5. Replace the batteries.

6. Turn off other Infrared-enabled devices in the vicinity.

7. Have the remote control serviced.

Audio Problems

Problem: There is no sound

1. Adjust the volume on the remote control.

2. Adjust the volume of the audio source.

3. Check the audio cable connection.

4. Test the source audio output with other speakers.

5. Have the projector serviced.

Problem: The sound is distorted

1. Check the audio cable connection.

2. Test the source audio output with other speakers.

4. Disassembly
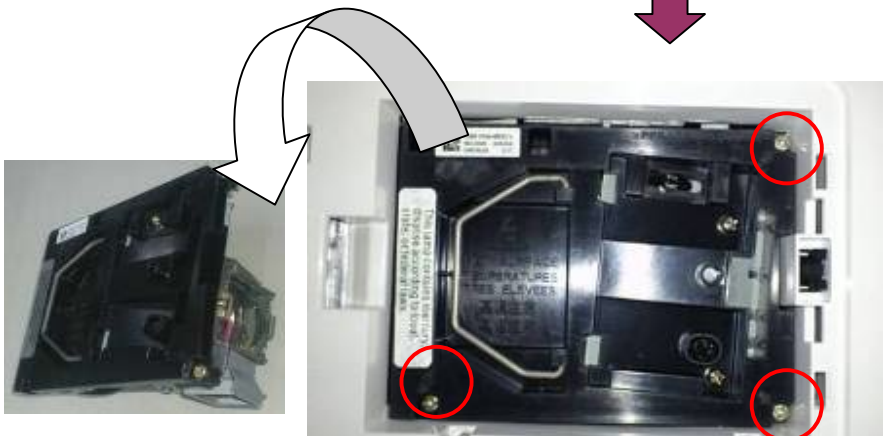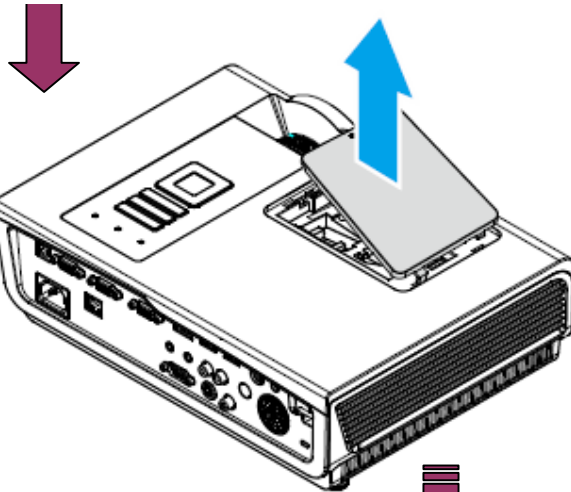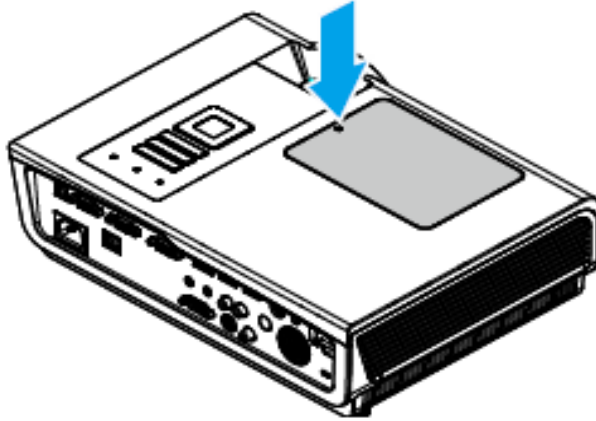
- Press the lamp cover down as shown and the cover pops up.

- Remove the lamp cover.

  *RSPL ITEM 9
  LAMP COVER

- Loosen the three screws then pull on the module handle to remove the Lamp Module.
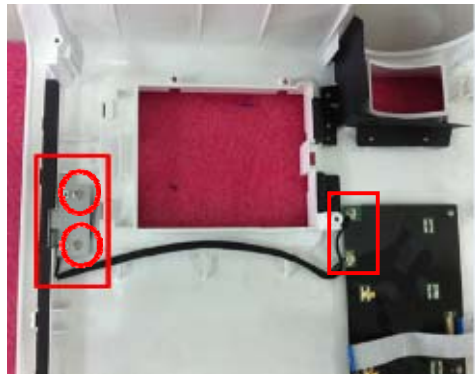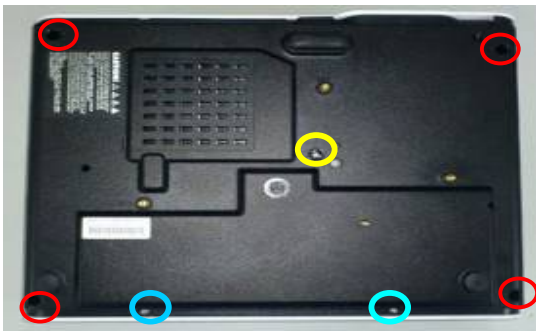
* Note 1
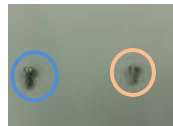
* Note 2

- Remove the seven screws on the bottom of projector and two screws on top of the projector to remove the Top Cover.

*RSPL ITEM 2
 CABINET BOTTOM

Note1:
Watch for the type of screw for each position when assembly.

Note2:
Watch for the connector between Top Cover and Main Board when assembly.

*RSPL ITEM 1
 CABNET TOP

- Remove the two screws on top of the projector to remove the lamp switch.
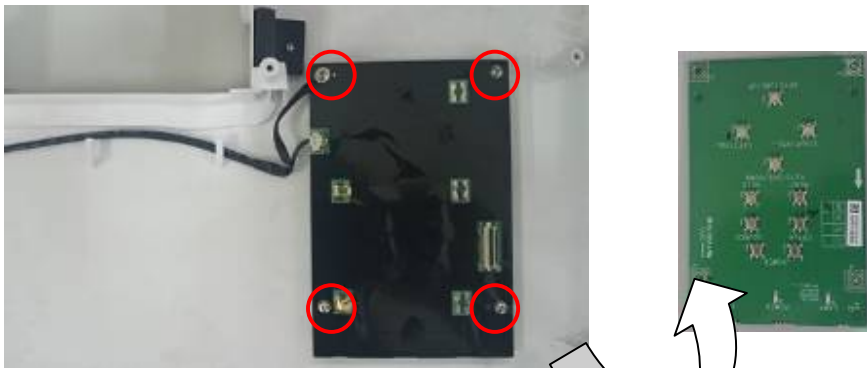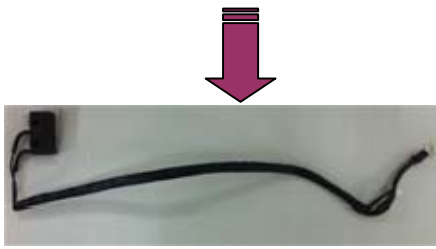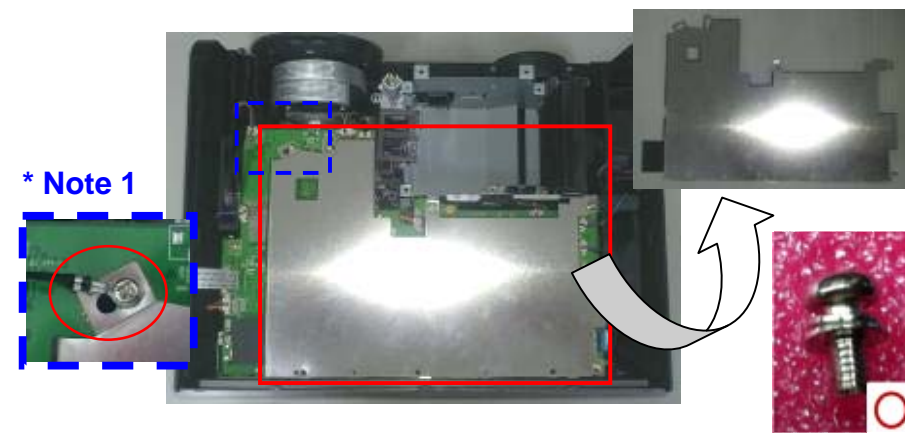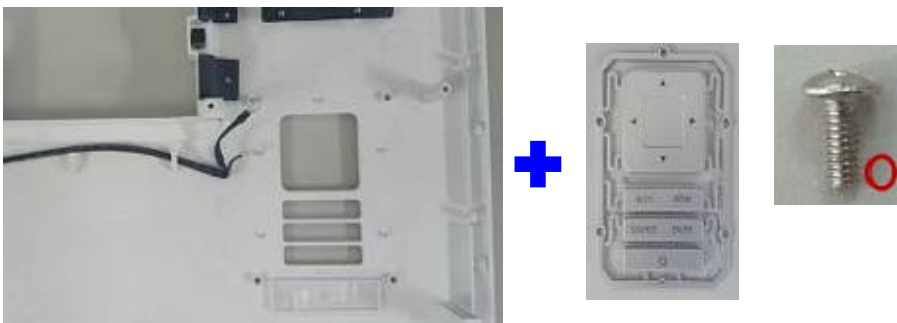
- Remove the main board AI-Cover.

* Note 1

Note 1:
   Watch for the GND when assembly.
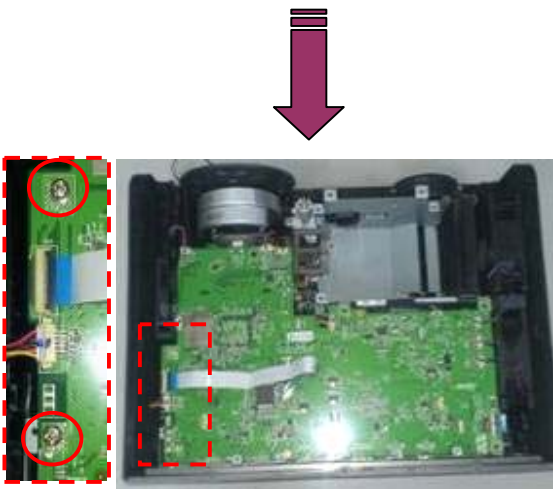
- Remove the two screws on Main Board and the six screws on rear of the projector to remove the Main- Board.

Note 3:
Watch for the connector on main board when you assembly

*RSPL ITEM 16
 ASSY PWB MAIN

* Note 3

*RSPL ITEM 28
 THERMOBKT
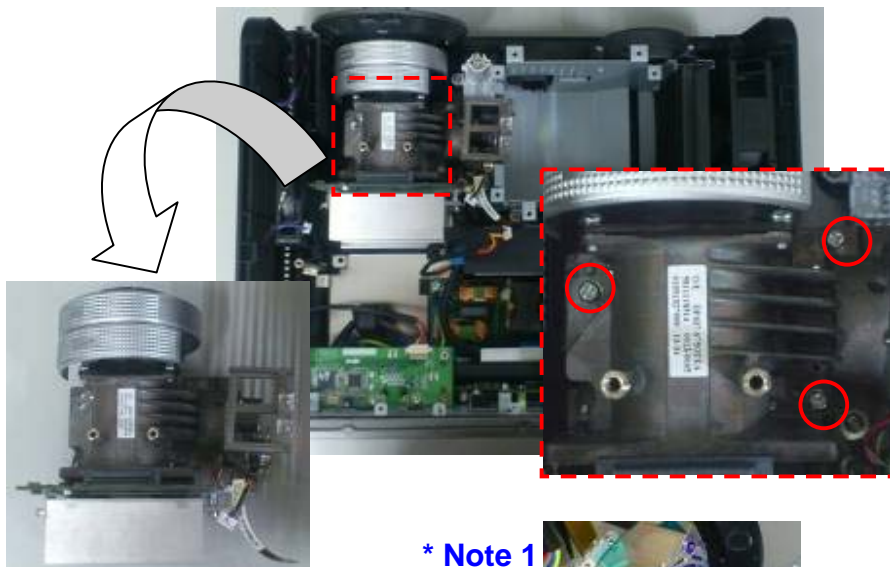
Remark(***)

* **Note 1**
Remark(**)
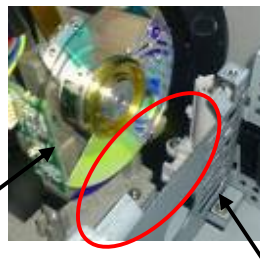
Color Wheel

Chassis

View of Backside

* **Note 2**

- Remove the three screws on Optical Engine to remove the Optical Engine.

Note1:
   Be careful to protect color wheel filter from the lamp module chassis.

*RSPL ITEM 25
 ASSY MODULE OE

Remark(**):
   Remove the three screws on backside of color wheel module to remove the color wheel.

Note2:
   Be care for the direction of FPC of color wheel when assembly it.

*RSPL ITEM 26
 ASSY MODULE CW

Anti-clockwise
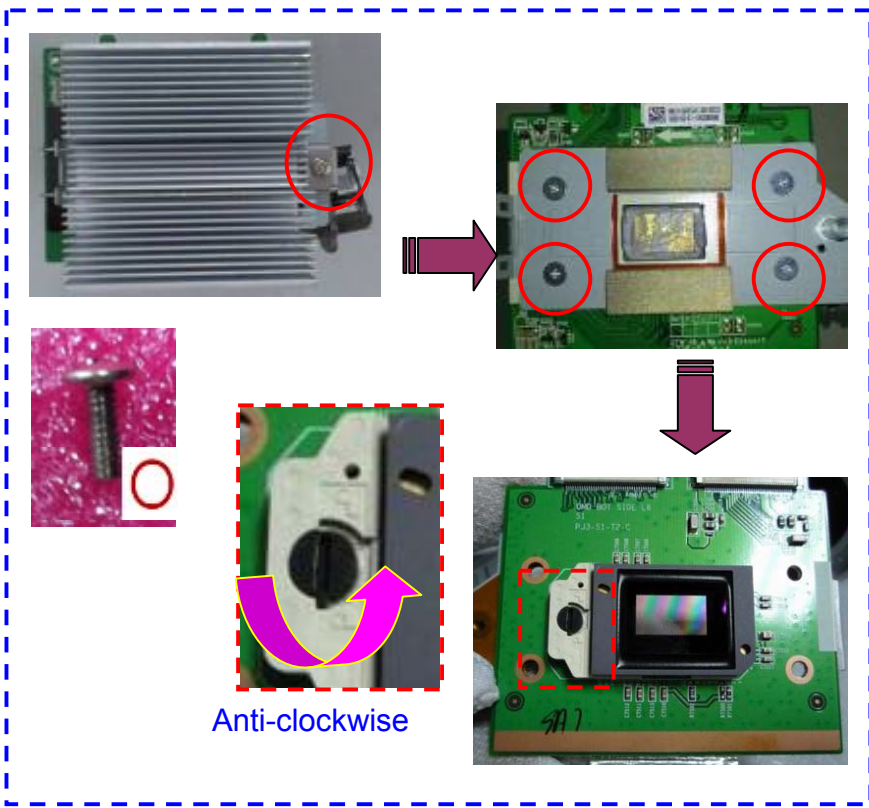
Pull up

* Note

Remark(***):

1. Remove the screw to remove the heat sink.

2. Remove the four screws to remove the thermal pad.

3. Loose the screw by anti-clockwise to remove the DMD chip.

*RSPL ITEM 15
 ASSY PWB DMD
 FORMATTER

* RSPL ITEM 27
  DMD

● Pull up the I/O Assy. to remove it.

Note:

Watch for the connector and GND between I/O Assy. and Main Board.

*RSPL ITEM 5
 IO COVER

*RSPL ITEM 18
 ASSY PWB IO BOARD
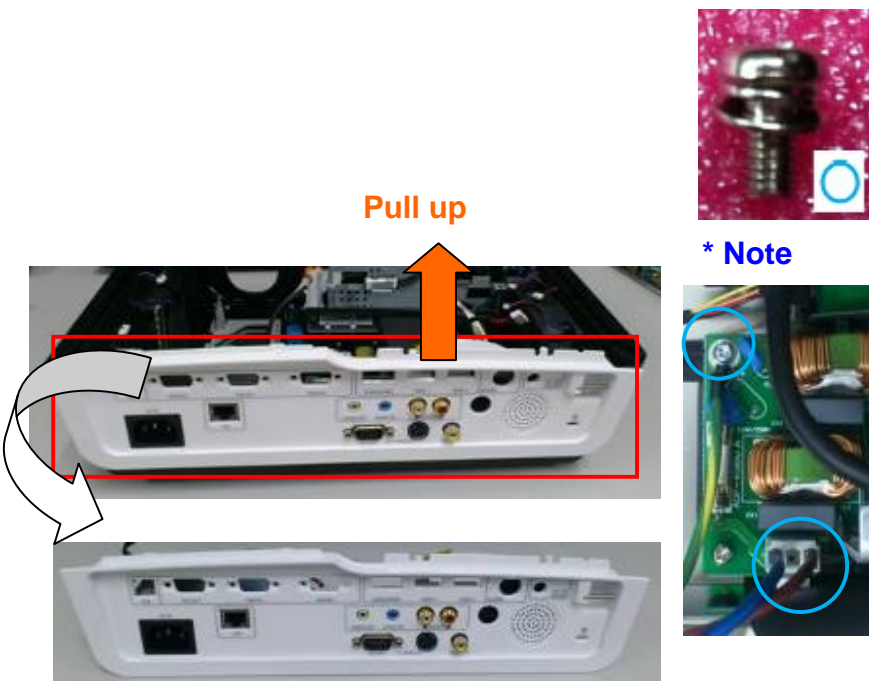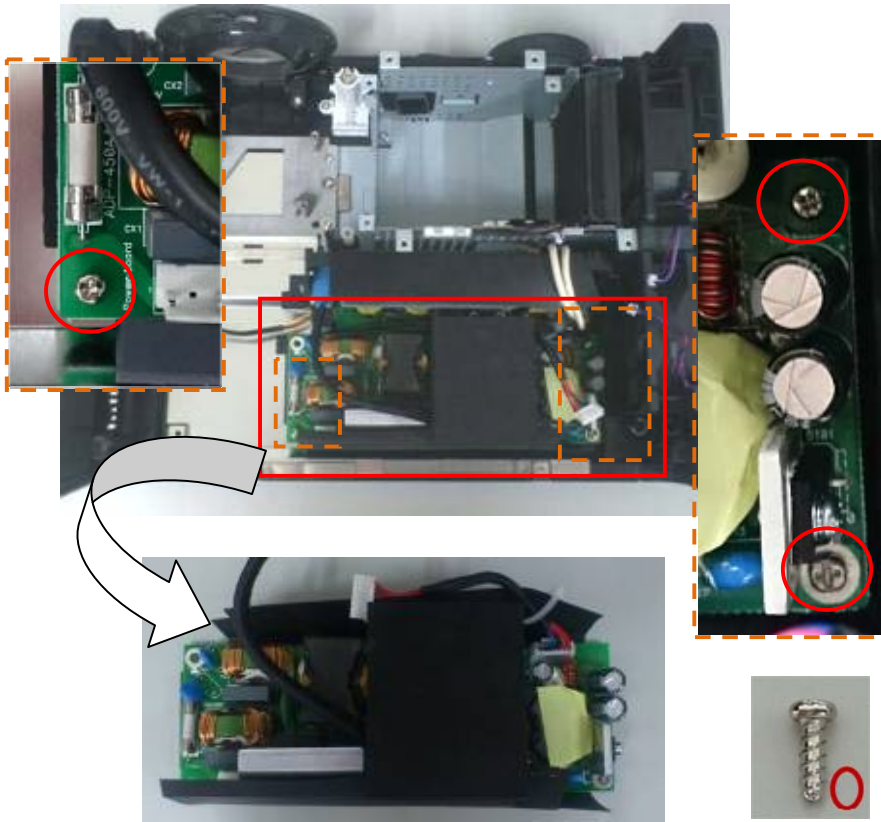
- Remove the three screws to remove the power board.

*RSPL ITEM 20
 ASSY PWB POWER
 ADP-450 AJ B

Note:

Watch for the connector on the Ballast.
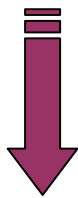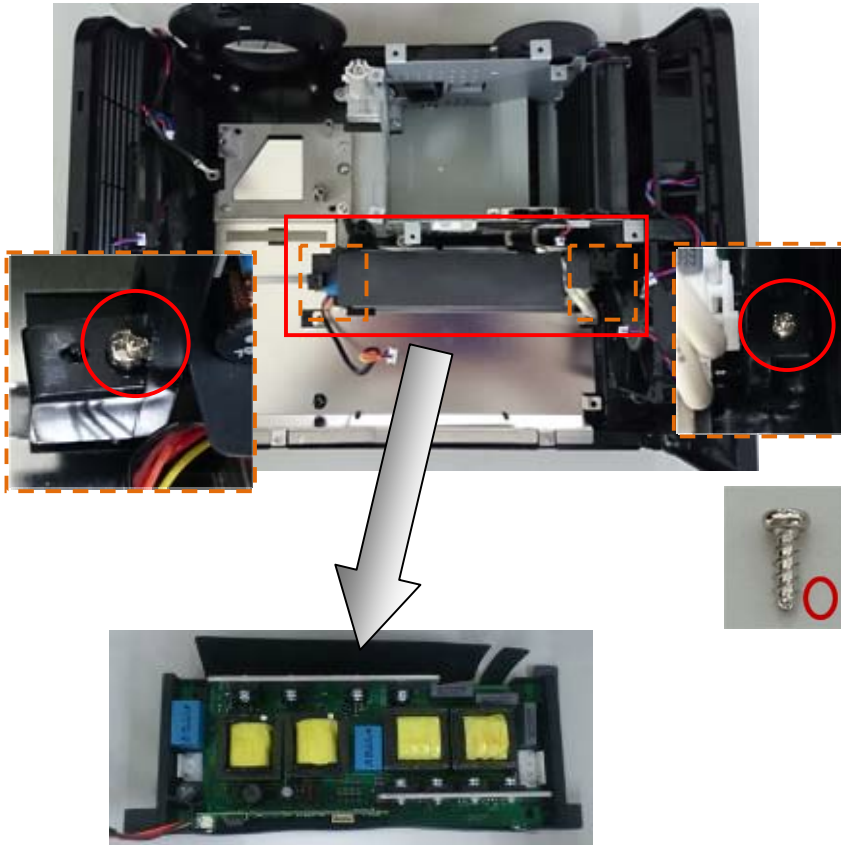
* **Note**

- Remove the two screws to remove the Ballast.

*RSPL   ITEM 22
 UNIT BALLAST

Note:
Watch for the connector on the Ballast.

* Note
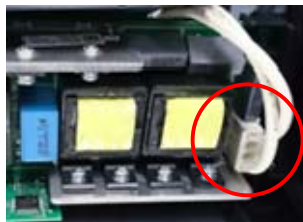
View of connectors on PCB

RJ45(CN207)

Front IR(CN706)

Engine Fan(CN604)

Keypad(CN702)

Index(P007)

Ballast(P008)

Color Wheel(P010)

Top View

Lamp Fan(CN602)

IO Board(CN703)

Thermal Breaker (CN705)

Power Fan(CN603)

Burner Fan(CN601)

DMD CONNECTOR (P001)

Power Board(CN701)

Rear View
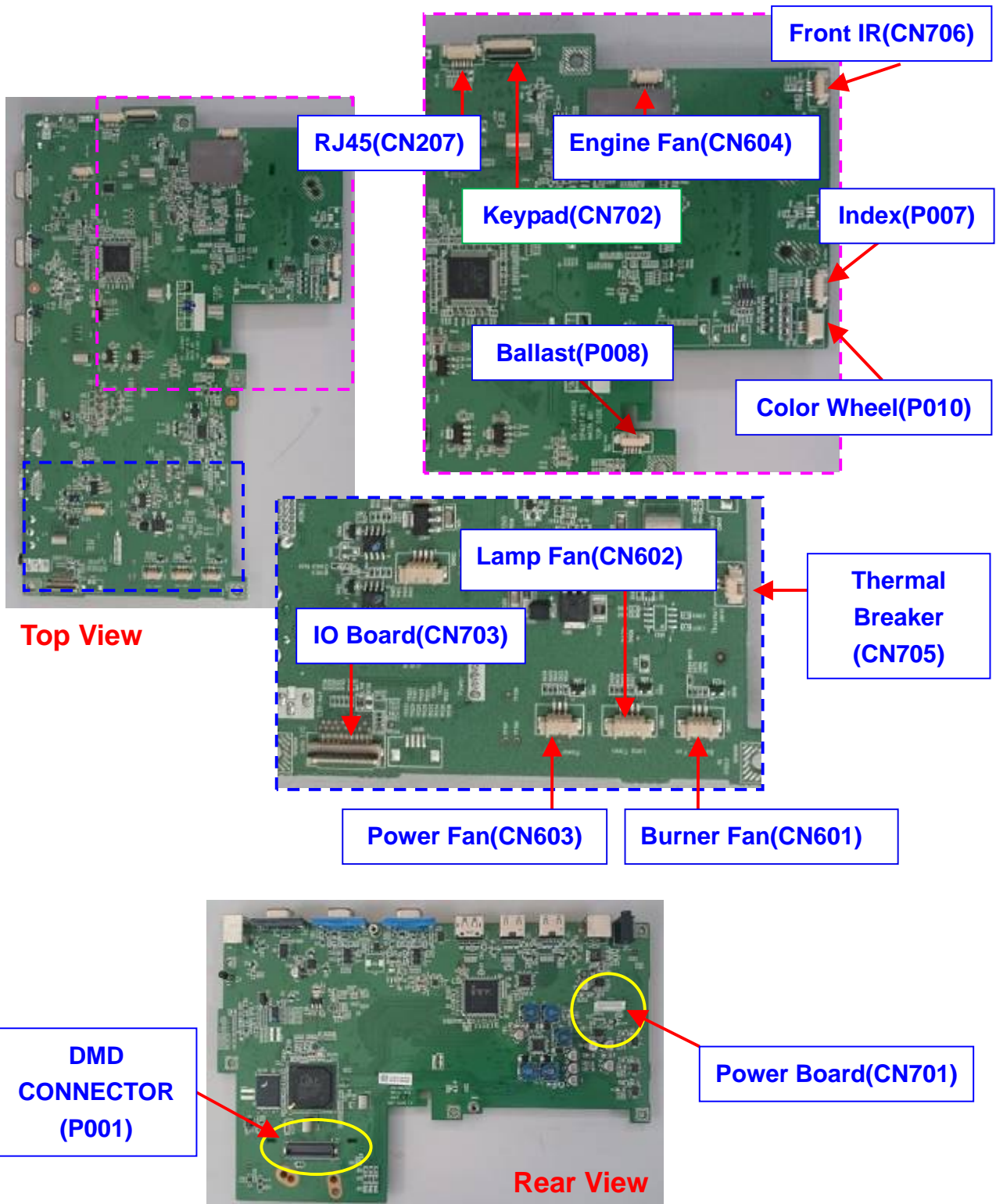
5. FIRMWARE DOWNLOAD

Firmware upgrade procedure

Step 1: Disable Low Power Mode:

Please turn on the projector and manually set the Low Power Mode to Off,
(Settings 2 -> Advanced 1 -> Low Power Mode -> Off)

Turn off the projector.
After a brief cooling period, please proceed the regular firmware download procedure.
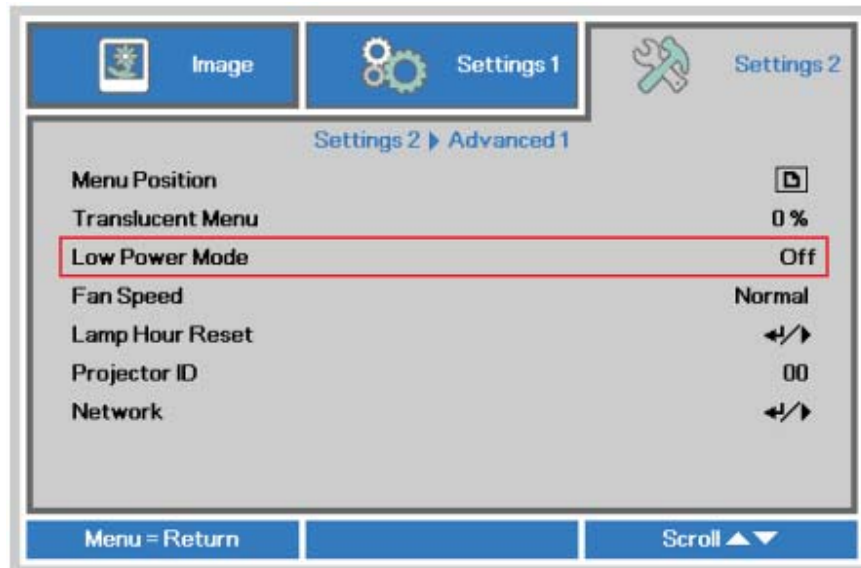
Step 2: Make sure that the USB cable(USB-A to USB-B type) is firmly connected between projector and computer.

Step 3: In STAND BY mode press **<Down>, <Up>, <Right>, <Up>** key by IR remote controller. The **"Lamp"** LED will blink and the Flash-Tool mode will be enabled.

Step 4: Use Composer Lit to upgrade the flash.
Note: Please make sure the setting in Communications as bellow picture.
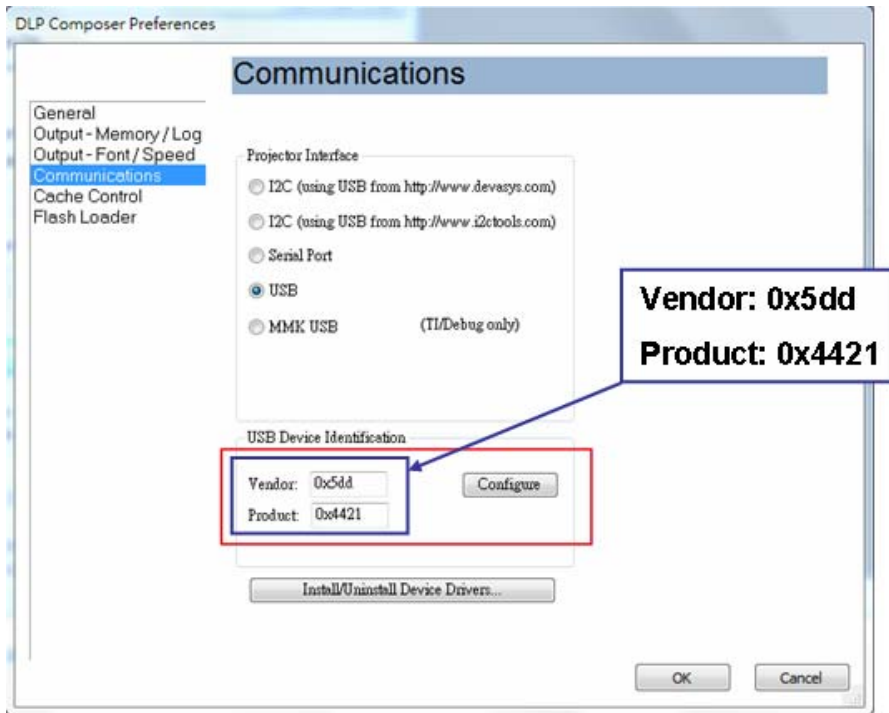
Step 5: At Flash Loader page, used the Brower button to select the correct file.
  Then Pressed "Reset Bus" and next pressed "Start Download" to start upgrade flash.

EK-400XA: 64KB
EK-401WA: 64KB
EK-402UA: 64KB
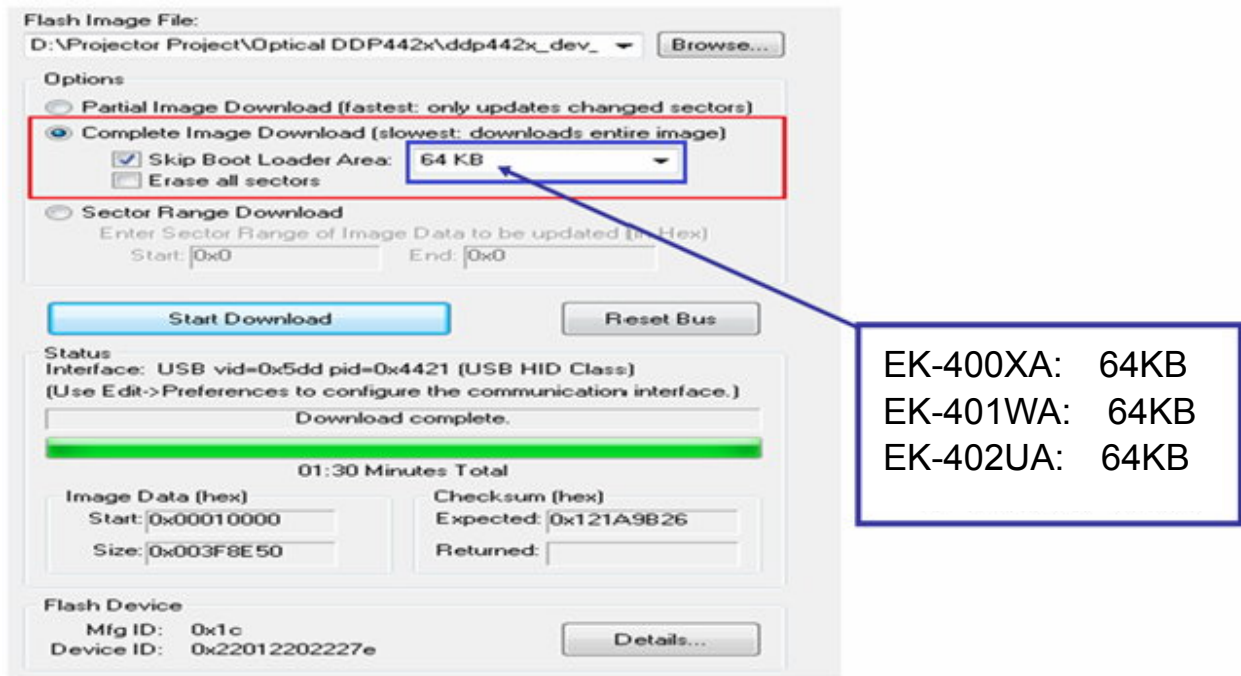
6. POWERING ON/OFF THE PROJECTOR

6-1. Powering On the Projector

1. Remove the lens cover.

2. Connect the power cord to the projector.
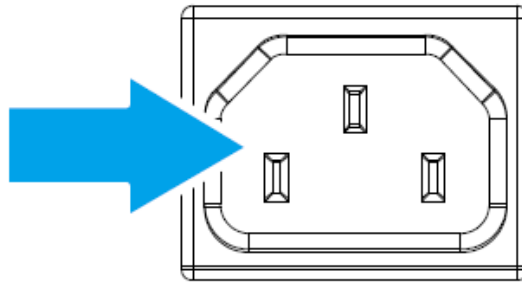
3. Turn On the connected devices.

4. Ensure the Power LED not a flashing and then press the power button to turn on the projector. The projector splash screen displays and connected devices are detected.

5. If more than one input device is connected, press the "Source" button sequentially to switch between devices.
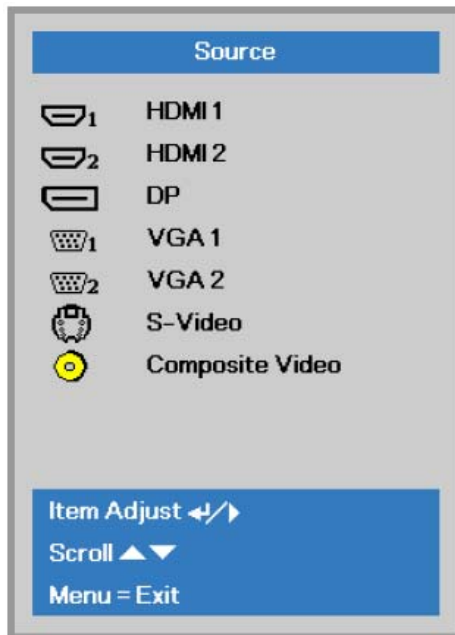
- **HDMI 1/ HDMI 2:** High-Definition multimedia interface 1/ 2
- **DP:** Display Port
- **VGA 1/ VGA 2:** Analog RGB 1/ RGB 2
- **S-Video:** Super video (Y/C separated)
- **Composite Video:** Traditional composite video

6-2. Powering Off the Projector

1. Press **POWER** button to turn off the projector, a message displays on the projector's screen.
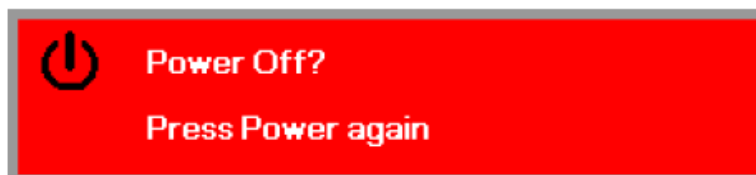
2. Press POWER button again then projector turn off.

7. SECURITY SETTING

1. Press "**Menu**" button to open OSD menu.

2. In OSD menu, select **Settings 1** > **Advanced 1** > **Security Lock**
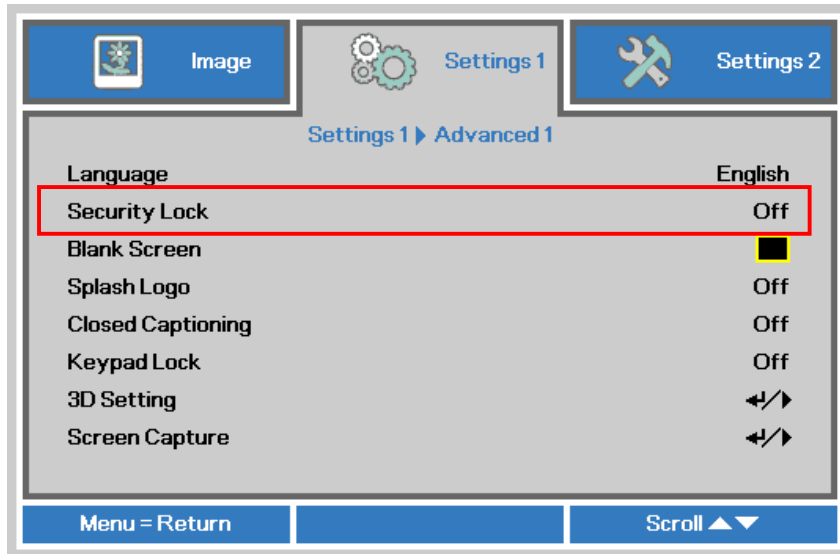
Enable or disable the security password:

Enabled — the current password is required to power on the projector and access the Security menu.

Disabled— no password is required for any function.

When security is enabled, a password dialog box automatically appears.
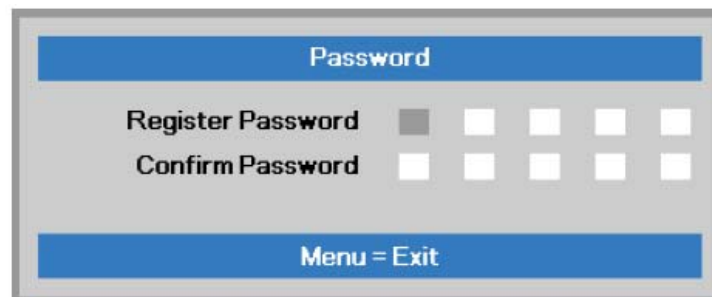
3. You can use the cursor buttons ▲▼◄► either on keypad or IR remote control for password entry. You can use any combination including the same arrow five times, but not less than five. Press the cursor buttons in any order to set the password. Push the MENU button to exit the dialog box
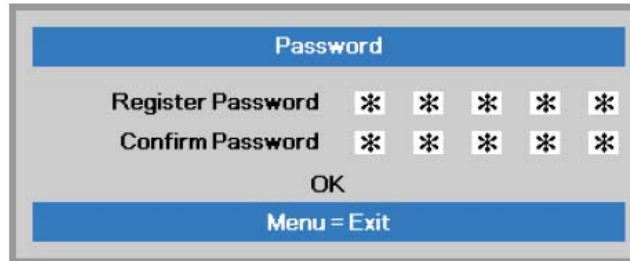
4. The password confirmation menu appears when user presses the power-on key in case the Security Lock is enabled.
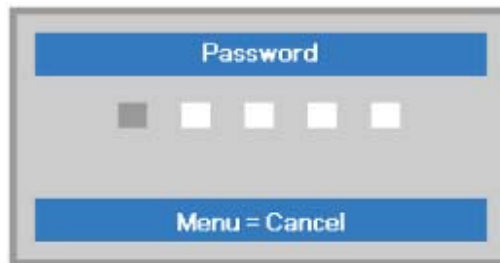
7-1. DLP Projector Security Unlock

When you forget the password,
Please input the wrong password five times by the remote control, then the projector will display a "**Hint code**" on the screen. Write down the recall code number.
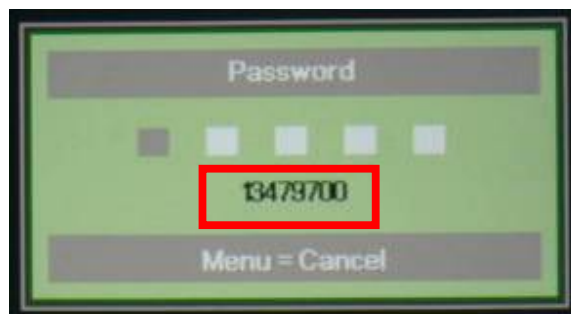
7-2.Projector OSD for Password Check & Reset

The document is to describe Windows application software "DLPunlock" for projector password unlock. Its main purpose is to provide a way to reset the forgotten password; the application will ship to the call-center and help the validated end-user to reset the password.

Hint code input at here.
(User can get the hint code from projector OSD.)

Press here to generate the key.

Key for resetting the password.

8. CALIBRATION

Step of into Service Mode

Step 1. Turn on the projector, in OSD menu: **Settings 2** > **Advanced 1** > **Lamp Hour Reset**

Step 2. Press the cursor ► or Enter button.   A message screen appears.
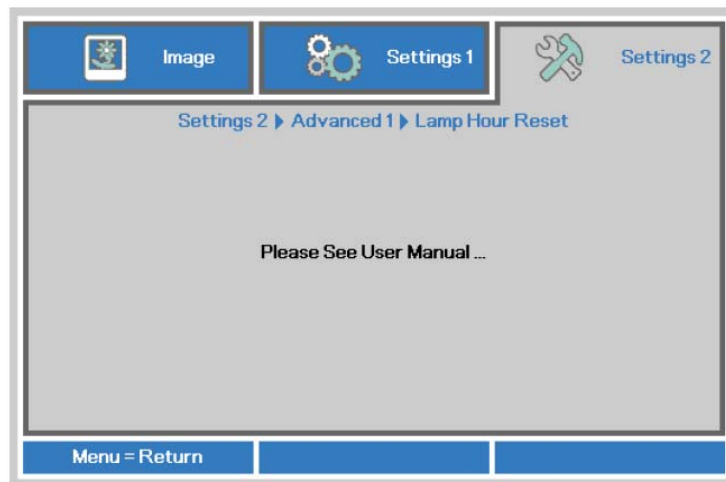
Step 3. Press **Enter** > **Enter** > **Up** > **Down** > **Left** > **Right**, a Service screen appears.
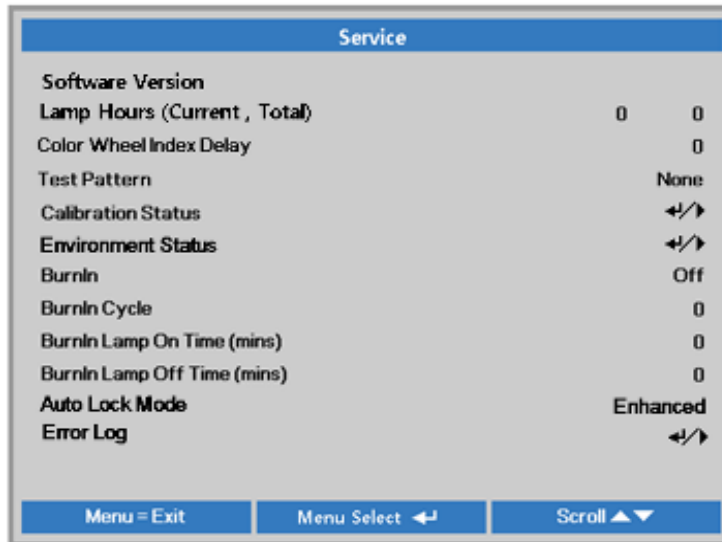
8-1. Calibrate Analog RGB (1024X768@60Hz_XGA)

Step 1: In Service 1 Mode select ADC Calibration – (1024X768@60Hz_XGA).
     In this menu input pattern with White(240,240,240) and Black(16,16,16) for calibrate
     VGA source, after input ready, press "Enter" key to calibration.

Input Pattern

Step 2: After complete the OSD will show the picture as follow,
   if not complete, just close the OSD。

Step 3: Compare internal white pattern and RGB source white pattern, if the brightness gap
   ratio of these two source is bigger than 3.5%.

8-2. Calibrate Analog YPbPr:

Equipment: VG828, must be take off H/V sync terminal from machine.

Step 1: In Service 1 Mode select ADC Calibration - YUV.
    In this menu input pattern with 75% SMPTE pattern for calibrate YUV source and
    notice that the input source must be 480i format, after input ready press "Enter" key to
    proceed.
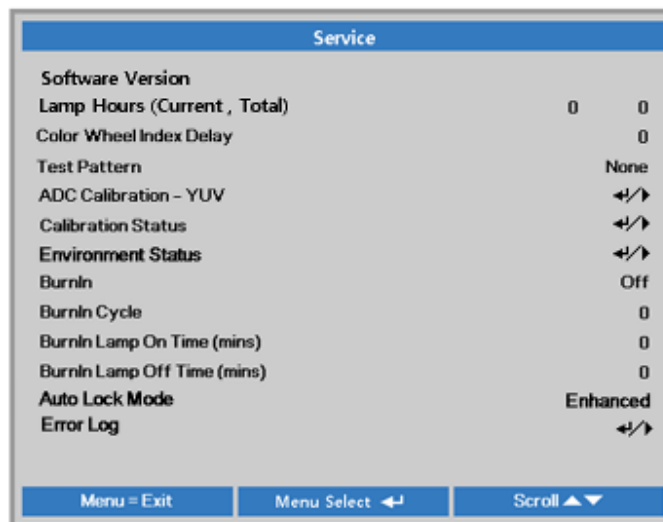
Input Pattern
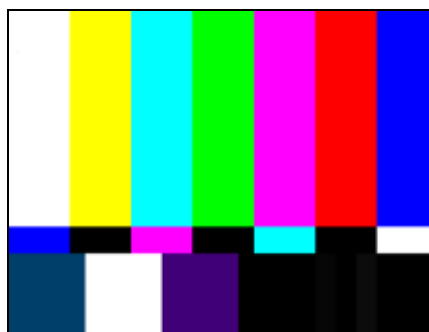
Step 2: After complete the OSD will show the picture as follow, if not complete, just close the
    OSD。

Calibration Status – VGA	
Gain – Red	0
Gain – Green	0
Gain – Blue	0
Offset – Red	0
Offset – Green	0
Offset – Blue	0
Calibration Status – YUV	
Red Mid–level Offset	0
Blue Mid–level Offset	0
Menu = Exit	

NOTE: You can select Calibration Status - VGA or Calibration Status - YUV item to watch the calibrated value at any time。

8-3. Color Wheel Index

A. Switch Timing to RGB – (1024X768@60Hz_XGA)
B. Then go into Service Mode.

Service		
Software Version		
Lamp Hours (Current , Total)	0	0
Color Wheel Index Delay		0
Test Pattern		None
ADC Calibration – VGA		↵/▸
ADC Calibration – YUV		↵/▸
Calibration Status		↵/▸
Environment Status		↵/▸
Burnln		Off
Burnln Cycle		0
Burnln Lamp On Time (mins)		0
Burnln Lamp Off Time (mins)		0
Auto Lock Mode		Enhanced
Error Log		↵/▸
Menu = Exit	Menu Select ↵	Scroll ▲▼

C. Switch bright mode and Pattern 47 "16 Gray Scale", and then check gray scales are still distinct.

D. Select "CW INDEX Delay Time".
The default value is 340. The range is 0~719.

48

E. Switch to pattern 49 "256 Gray Scale", tune off G, B channel, check the smooth in brighter level of the R 256 ramp. If not, fine tune "CW INDEX Delay Time" until R 256 ramp smooth.

Brightness and Contrast need to measure with RGB source
(**"1024x768@60Hz" XGA** _ "1280x1080@60Hz"WXGA _"1920 x 1200 @60Hz WUXGA)
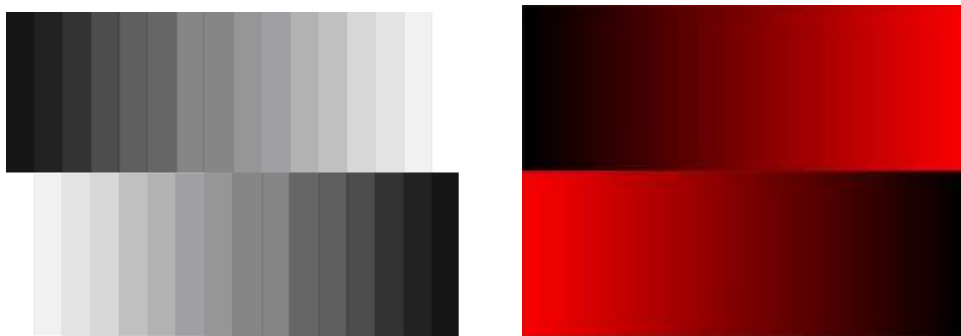
9. PROJECTION LAMP

9-1. Replacing the Projection Lamp

Important:
a. The projection lamp used in this product contains a small amount of mercury.

b. Do not dispose this product with general household waste.

c. Disposal of this product must be carried out in accordance with the regulations of your local authority.

Warning:
Be sure to turn off and unplug the projector at least 30 minutes before replacing the lamp. Failure to do so could result in a severe burn.

Caution:
In rare cases the lamp bulb may burn out during normal operation and cause glass dust or shards to be discharged outward from the rear exhaust vent.

Do not inhale or do not touch glass dust or shards. Doing so could result in injury.

Always keep your face away from the exhaust vent so that you do not suffer from the gas and broken shards of the lamp.

When removing the lamp from a ceiling-mounted projector, make sure that no one is under the projector. Glass fragments could fall if the lamp has been burned out.

⚠ *IF A LAMP EXPLODES*

If a lamp explodes, the gas and broken shards may scatter inside the projector and they may come out of the exhaust vent. The gas contains toxic mercury.
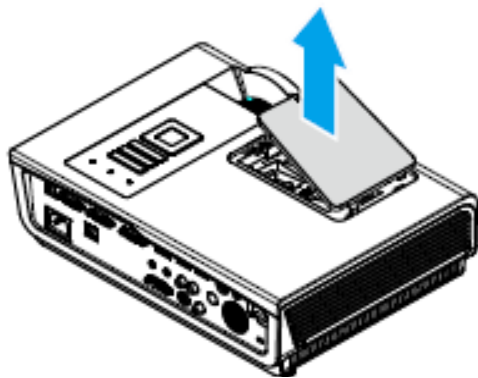
Open windows and doors for ventilation.

If you inhale the gas or the shards of the broken lamp enter your eyes or mouth, consult the doctor immediately.

	1. Press the compartment cover down as shown, than cover pops up. 2. Remove the lamp compartment cover.
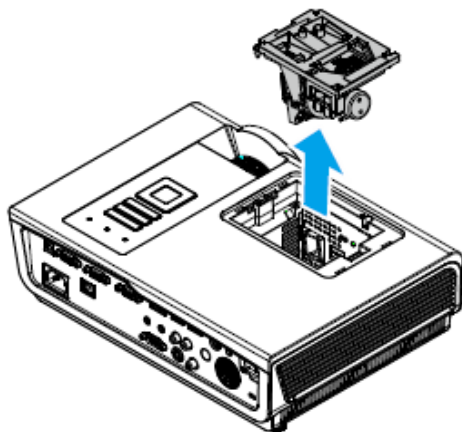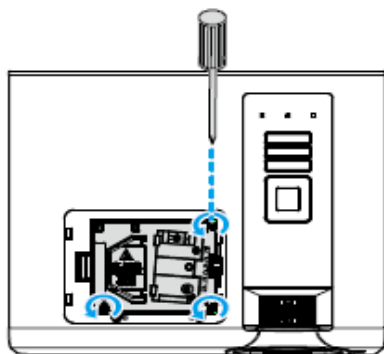
3. Remove the three screws from the lamp module.

4. Lift the module handle up. Pull firmly on the module handle to remove the lamp module.

To replace the lamp module, reverse steps 1 to 4 to install the new lamp module. While installing, align the lamp module with the connector and ensure it is level to avoid damage.
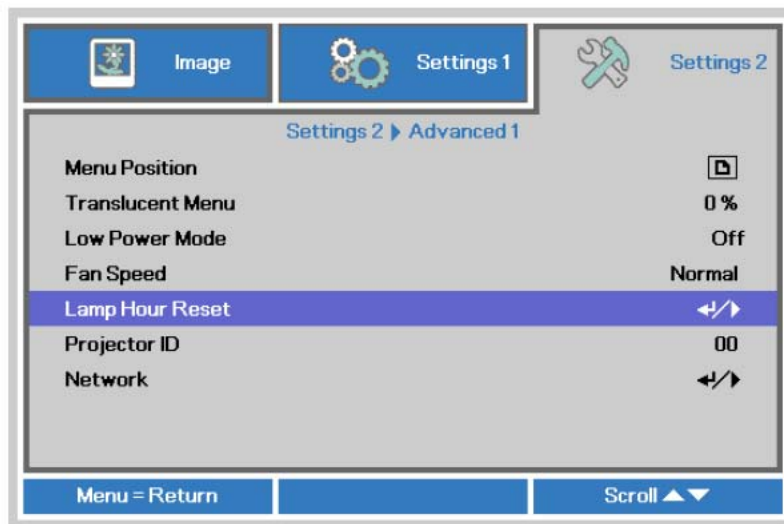
Note:

The lamp module must sit securely in place and the lamp connector must be connected properly before tightening the screws.

9-2. Lamp Setting

After replacing the lamp, the lamp hour counter must be reset.

1. Turn on the projector, press the Remote controller to disappear the OSD, then press
   Settings 2 → Advanced 1 → Lamp Hour Reset

Image	Settings 1	Settings 2
	Settings 2 ▶ Advanced 1	
Menu Position		▣
Translucent Menu		0 %
Low Power Mode		Off
Fan Speed		Normal
Lamp Hour Reset		↵/▶
Projector ID		00
Network		↵/▶
Menu = Return		Scroll ▲▼

2. Press the cursor ▶ or Enter button, a message screen appears.

Image	Settings 1	Settings 2
	Settings 2 ▶ Advanced 1 ▶ Lamp Hour Reset	
	Please See User Manual ...	
Menu = Return		

3. Press ▼ ▲ ◀ ▶ to reset lamp hour.
4. Press Menu button to get back to Settings 2.

10. CLEANING

10-1. Cleaning the Lens

You can purchase optic lens cleaner from most camera stores. Refer to the following to clean the projector lens.

1. Apply a little optic lens cleaner to a clean soft cloth.
   (Do not apply the cleaner directly to the lens.)
2. Lightly wipe the lens in a circular motion.

Caution:
1. Do not use abrasive cleaners or solvents.
2. To prevent discoloration or fading, avoid getting cleaner on the projector case

10-2. Cleaning the Case

Refer to the following to clean the projector case.

1. Wipe off dust with a clean dampened cloth.
2. Moisten the cloth with warm water and mild detergent (such as used to wash dishes), and then wipe the case.
3. Rinse all detergent from the cloth and wipe the projector again.

Caution:
To prevent discoloration or fading of the case, do not use abrasive alcohol-based cleaners.

10-3. Cleaning the Color Wheel Assy

- The color filter is made of thin glass. Be very careful when handing the filter.
- In case of fingerprints, etc. on the surface, clean in the same way as the projection lens.

Caution:
Do not use detergents as this could cause peeling of the color filter.

10-4. Cleaning the DMD

● The DMD surface is glass and can be cleaned. However, avoid scratches as these can have a direct influence on the image.
● In case of dust on the DMD surface use an air cleaner (with a device to prevent static, if possible) to clean off the surface.
● In case of fingerprints, etc., add a small amount of water to the designated glass cleaner and wipe off in one direction. Then use the designated dry glass cleaner to wipe off in the same direction.

Caution:
    Do not use absolute alcohol or other substances that could leave streaks after drying.

10-5. Cleaning the Main Unit

● Clean with a soft fuzz-free cloth. In case of severe soiling, use a well-wrung cloth dipped in a neutral agent to remove soiling and then finish with a dry cloth.
● Do not clean with thinner, benzene or similar agents as this could lead to deterioration or peeling of paint.
● In case of dust in suction or exhaust holes or the interior, disassemble the main unit and use air to remove the dust from the inside.

11. TIMING MODE TABLE

SIGNAL	RESOLUTION	H-SYNC (KHz)	V-SYNC (Hz)	COMPOSITE S_VIDEO	COMPONENT	RGB (ANALOG)	DP/HDMI (DIGITAL)
NTSC	—	15.734	60	o	—	—	—
PAL/SECAM	—	15.625	50	o	—	—	—
VESA	720 x 400	31.5	70.1	—	—	o	o
	720 x 400	37.9	85.04	—	—	o	o
	640 x 480	31.5	60.0	—	—	o	o
	640 x 480	37.9	72.8	—	—	o	o
	640 x 480	37.5	75.0	—	—	o	o
	640 x 480	43.3	85.0	—	—	o	o
	800 x 600	35.2	56.3	—	—	o	o
	800 x 600	37.9	60.3	—	—	o	o
	800 x 600	46.9	75.0	—	—	o	o
	800 x 600	48.1	72.2	—	—	o	o
	800 x 600	53.7	85.1	—	—	o	o
	800 x 600	76.3	120.0	—	—	o	o
	1024 x 768	48.4	60.0	—	—	o	o
	1024 x 768	56.5	70.1	—	—	o	o
	1024 x 768	60.0	75.0	—	—	o	o
	1024 x 768	68.7	85.0	—	—	o	o
	1024 x 768	97.6	120.0	—	—	o	o
	1152 x 864	67.5	75.0	—	—	o	o
	1280 x 720	45.0	60.0	—	—	o	o
	1280 x 720	90.0	120.0	—	—	o	o
	1280 x 768	47.4	60.0	—	—	o	o
	1280 x 768	47.8	59.9	—	—	o	o
	1280 x 800	49.7	59.8	—	—	o	o
	1280 x 800	62.8	74.9	—	—	o	o
	1280 x 800	71.6	84.9	—	—	o	o
	1280 x 800	101.6	119.9	—	—	o	o
	1280 x 1024	64.0	60.0	—	—	o	o
	1280 x 1024	80.0	75.0	—	—	o	o
	1280 x 1024	91.1	85.0	—	—	o	o
	1280 x 960	60.0	60.0	—	—	o	o
	1280 x 960	85.9	85.0	—	—	o	o
	1366 x 768	47.7	60.0	—	—	o	o
	1400 x 1050	65.3	60.0	—	—	o	o

SIGNAL	RESOLUTION	H-SYNC (KHz)	V-SYNC (Hz)	COMPOSITE S_VIDEO	COMPONENT	RGB (ANALOG)	DP/HDMI (DIGITAL)
	1440 x 900	55.9	60.0	—	—	○	○
	1440 x 900	70.6	75.0	—	—	○	○
	1600 x1200	75.0	60	—	—	○	○
	1680 x 1050	64.7	59.9	—	—	○	○
	1680 x 1050	65.3	60.0	—	—	○	○
	1920 x 1200	74.0	60.0	—	—	○	○
	1920 x 1080	67.5	60.0	—	—	○	○
Apple Macintosh	640 x 480	35.0	66.7	—	—	○	○
	832 x 624	49.7	74.5	—	—	○	○
	1024 x 768	60.2	74.9	—	—	○	○
	1152 x 870	68.7	75.1	—	—	○	○
SDTV	480i	15.734	60.0	—	○	—	○
	576i	15.625	50.0	—	○	—	○
EDTV	576p	31.3	50.0	—	○	—	○
	480p	31.5	60.0	—	○	—	○
HDTV	720p	37.5	50.0	—	○	—	○
	720p	45.0	60.0	—	○	—	○
	1080i	33.8	60.0	—	○	—	○
	1080i	28.1	50.0	—	○	—	○
	1080p	27	24.0	—	○	—	○
	1080p	28	25.0	—	○	—	○
	1080p	33.7	30.0	—	○	—	○
	1080p	56.3	50.0	—	○	—	○
	1080p	67.5	60.0	—	○	—	○

O : Frequency supported

— : Frequency not supported

★The native resolution of the panel is 1920x1080 (1080P) / 1024x768(XGA)

Resolution others than native resolution may be display with uneven size of text or line

★The color of ⬛ mean Displayable only. (4:3 only)

★The color of ⬛ mean may have a little noise is acceptable. Because video mode sync don't auto adjustment.

★HDTV timing main check tool is DVD player, VG828 is secondary

11-1. Table of Supported Frequency for 3D Mode

The unit automatically determines PC signals to select the appropriate resolution.
Some signals may require manual adjustment.

Input Signal for D-SUB

Signal	Resolution	Refresh Rate(Hz)
SVGA	800 X 600	60/120
XGA	1024 X768	60/120
HDTV(720P)	1280 X 720	60/120

Input Signal for HDMI

Signal	Resolution	Refresh Rate(Hz)
SVGA	800 X 600	60/120
XGA	1024 X768	60/120
WSVGA(1024X600)	1024 X 600	60
HDTV(720p)	1280 X 720	60/120

True 3D Video Compatibility Table

		Input timing		
Input Resolutions	HDMI 1.4a 3D Input	1280 X 720P @ 50Hz	Top - and - Bottom	
		1280 X 720P @ 60Hz	Top - and - Bottom	
		1280 X 720P @ 50Hz	Frame packing	
		1280 X 720P @ 60Hz	Frame packing	
		1920 X 1080i @50 Hz	Side- by-Side (Half)	
		1920 X 1080i @60 Hz	Side- by-Side (Half)	
		1920 X 1080P @24 Hz	Top - and – Bottom	
		1920 X 1080P @24 Hz	Frame packing	
	HDMI 1.3	1920 x 1080i @ 50Hz 1920 x1080i @ 60Hz 1280 x 720P @50Hz 1280 x 720P @60Hz	Side-by-Side(Half)	SBS mode is on
		1920 x 1080i @ 50Hz 1920 x1080i @ 60Hz 1280 x 720P @50Hz 1280 x 720P @60Hz	Top-and-Bottom	TAB mode is on
		480i	HQFS	3D format is Frame sequential

* Glasses must be supported 144 Hz when testing 3D.

12. SCREEN SIZE & PROJECTION DISTANCE
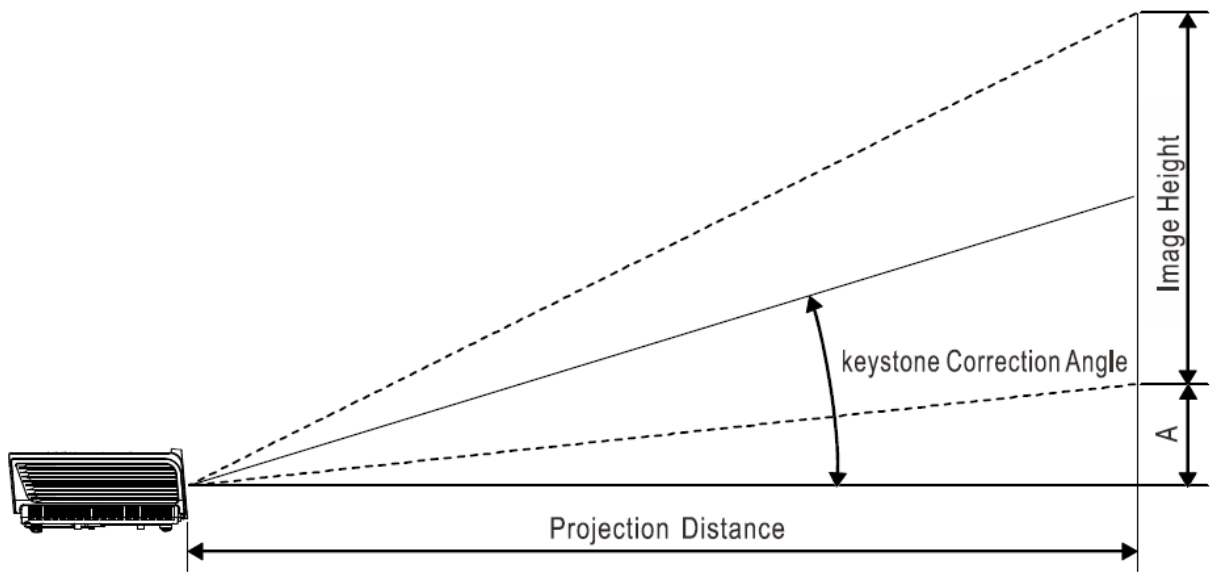
Projection Distance and Size Table
EK-400XA

Diagonal length	Screen Size				Projection distance				Offset (A)
	Width		Height		Wide		Tele		
(inch)	(inch)	(cm)	(inch)	(cm)	(inch)	(cm)	(inch)	(cm)	(mm)
30	24.0	61.0	18.0	45.7	--	--	51.4	130.6	54.9
40	32.0	81.3	24.0	61.0	--	--	68.5	174.1	73.2
60	48.0	121.9	36.0	91.4	68.5	174.1	102.8	261.2	109.7
80	64.0	162.6	48.0	121.9	91.4	232.1	137.1	348.2	146.3
100	80.0	203.2	60.0	152.4	114.3	290.2	171.4	435.3	182.9
120	96.0	243.8	72.0	182.9	137.1	348.2	205.6	522.3	219.5
140	112.0	284.5	84.0	213.4	159.9	406.2	239.9	609.4	256.0
160	128.0	325.1	96.0	243.8	182.8	464.3	274.2	696.4	292.6
190	152.0	386.1	114.0	289.6	217.0	551.3	325.6	827.0	347.5
220	176.0	447.0	132.0	335.3	251.3	638.4	377.0	957.6	402.3
280	224.0	569.0	168.0	426.7	319.9	812.5	--	--	512.1
300	240.0	609.6	180.0	457.2	342.7	870.5	--	--	548.6

EK-401WA

Diagonal length (inch)	Screen Size				Projection distance				Offset (A)
	Width		Height		Wide		Tele		
(inch)	(inch)	(cm)	(inch)	(cm)	(inch)	(cm)	(inch)	(cm)	(mm)
30	25.4	64.5	15.9	40.4	--	--	55.2	140.2	46.4
40	33.9	86.1	21.2	53.8	49.1	124.7	73.6	187.0	61.9
60	50.9	129.3	31.8	80.8	73.6	187.0	110.4	280.4	92.9
80	67.8	172.2	42.4	107.7	98.1	249.3	147.2	373.9	123.9
100	84.8	215.4	53.0	134.6	122.7	311.7	184.0	467.4	154.8
120	101.8	258.6	63.6	161.5	147.2	374.0	220.8	560.9	185.8
140	118.7	301.5	74.2	188.5	171.8	436.3	257.6	654.4	216.7
160	135.7	344.7	84.8	215.4	196.3	498.7	294.4	747.8	247.7
190	161.1	409.2	100.7	255.8	233.1	592.2	349.6	888.1	294.1
210	178.1	452.4	111.3	282.7	257.7	654.5	386.4	981.5	325.1
280	237.4	603.0	148.4	376.9	343.6	872.7	--	--	433.5
300	254.4	646.2	159.0	403.9	368.1	935.0	--	--	464.4

EK-402UA

Diagonal length (inch)	Screen Size				Projection distance				Offset (A)
	Width		Height		Wide		Tele		
(inch)	(inch)	(cm)	(inch)	(cm)	(inch)	(cm)	(inch)	(cm)	(mm)
30	25.4	64.5	15.9	40.4	--	--	53.2	135.1	88.8
40	33.9	86.1	21.2	53.8	47.4	120.5	70.9	180.1	118.5
60	50.9	129.3	31.8	80.8	71.1	180.7	106.3	270.1	177.7
80	67.8	172.2	42.4	107.7	94.8	240.9	141.8	360.1	236.9
100	84.8	215.4	53.0	134.6	118.5	301.1	177.2	450.2	296.2
120	101.8	258.6	63.6	161.5	142.2	361.3	212.7	540.2	355.4
140	118.7	301.5	74.2	188.5	166.0	421.6	248.1	630.2	414.6
160	135.7	344.7	84.8	215.4	189.7	481.8	283.6	720.3	473.9
190	161.1	409.2	100.7	255.8	225.2	572.1	336.7	855.3	562.7
220	186.6	474.0	116.6	296.2	260.8	662.5	389.9	990.4	651.6
280	237.4	603.0	148.4	376.9	331.9	843.1	--	--	829.3
300	254.4	646.2	159.0	403.9	355.7	903.4	--	--	888.5

–

13. RJ45

For simplicity and easy of operation, the projector provides additional diverse networking and remote management features.

The LAN / RJ45 function of the projector through a network, such as remotely manage; Power On/Off, brightness/ Contrast settings. Also, projector status information, such as: Video-Source/ Sound-Mute... etc,
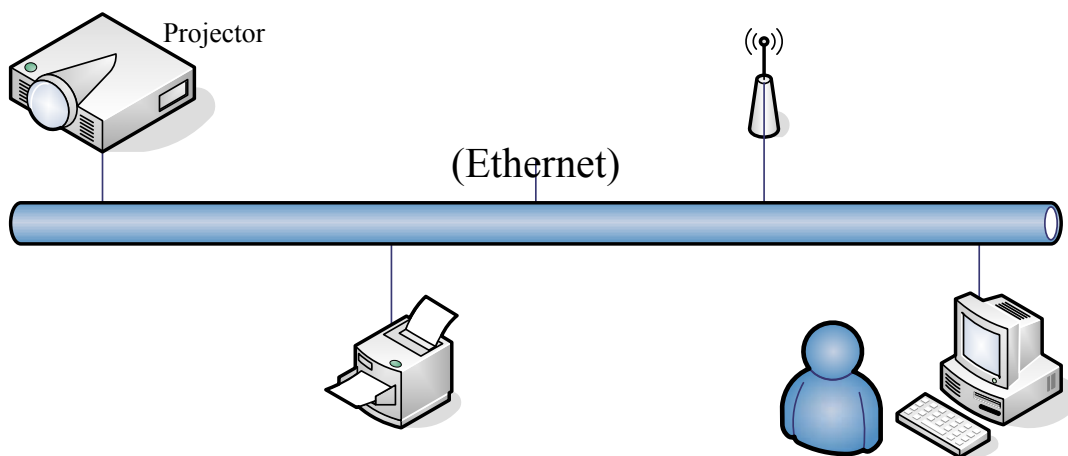
1. Connect the RJ45 cable to RJ45 ports on the projector and the PC (Laptop).
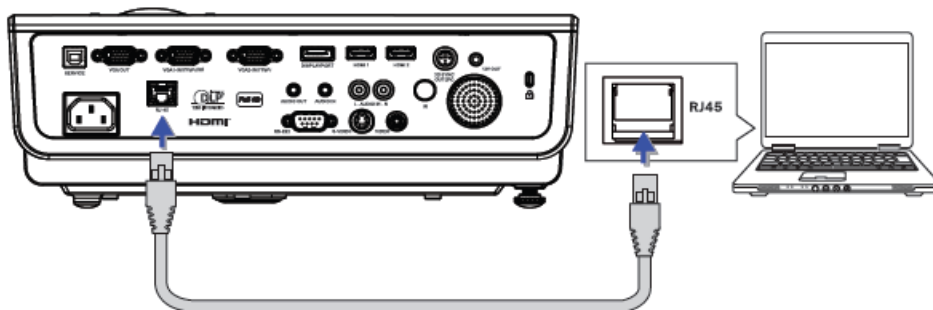
2. On the PC (Laptop), select Start-> Control Panel-> Network connections.
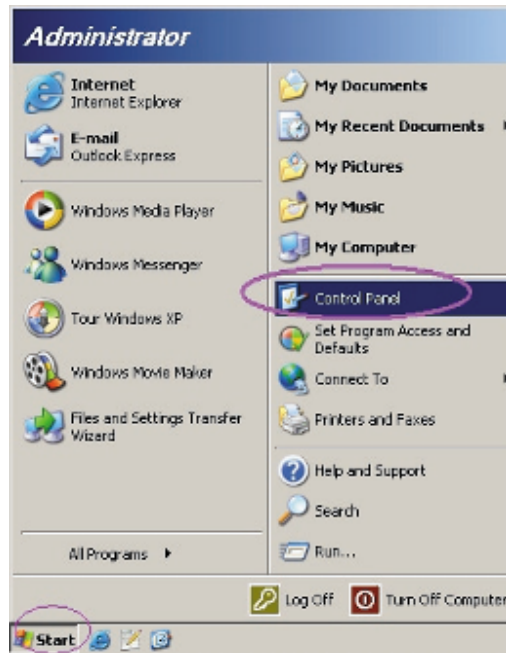
3. Right Click on your Local Area Connection, and select Property.
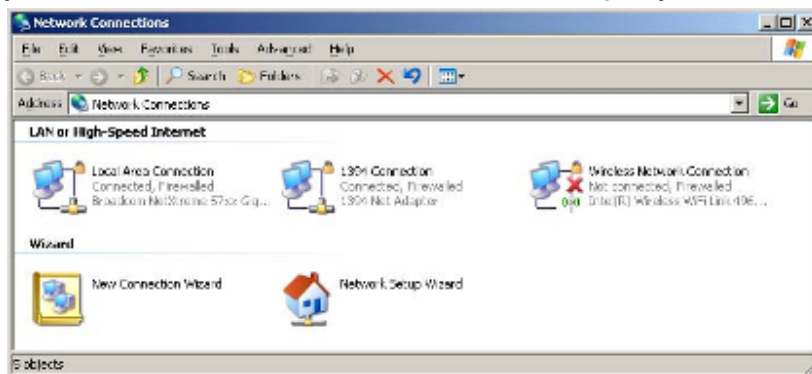
4. In the Properties window, select the **General tab**, and select **Internet Protocol (TCP/IP).**
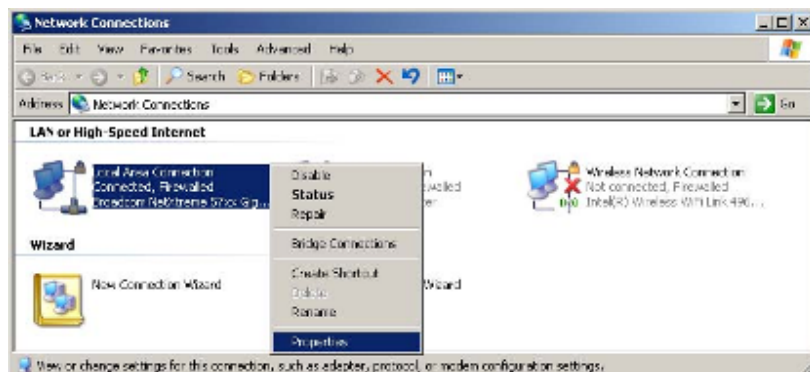
5. Click **Properties.**
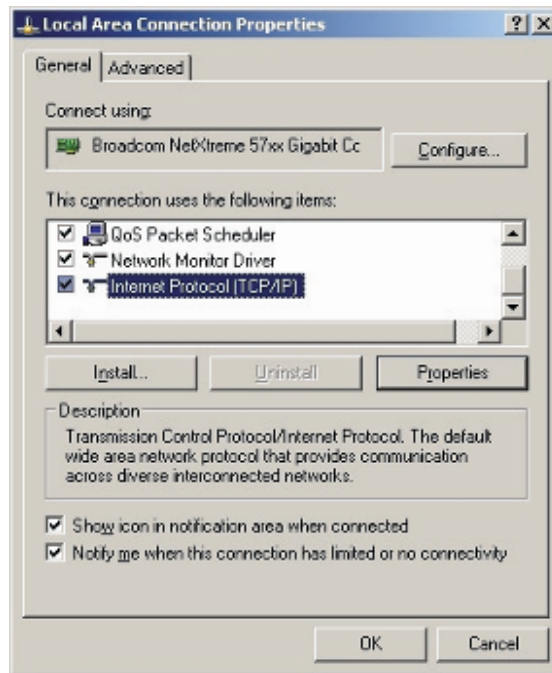
6. Fill in the IP address and Subnet mask, then press OK.
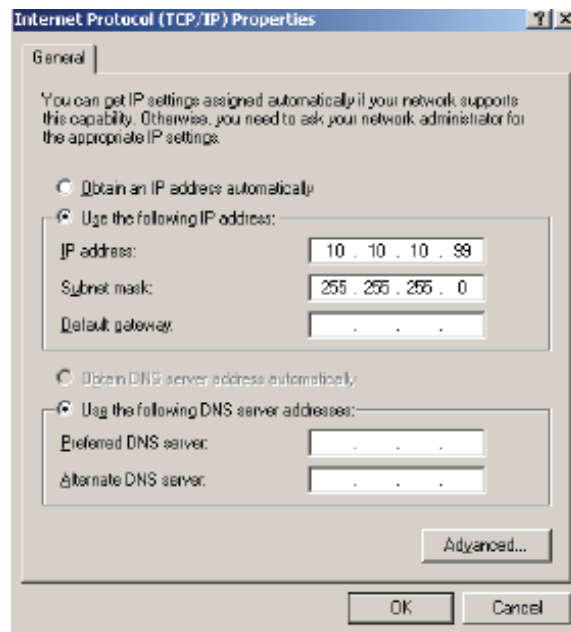
7. Press the Menu button on the projector.
8. Select OSD -> SETUP -> Network Settings -> Lan Settings.

9. After getting into Network Status, input the following:

DHCP: Off

IP Address: 10.10.10.10

Subnet Mask: 255.255.255.0

Gateway: 0.0.0.0

DNS: 0.0.0.0

10. Press (**Enter**) / ► to confirm settings.

11. Open a web browser

(ex, Microsoft Internet Explorer with Adobe Flash Player 9.0 or higher).
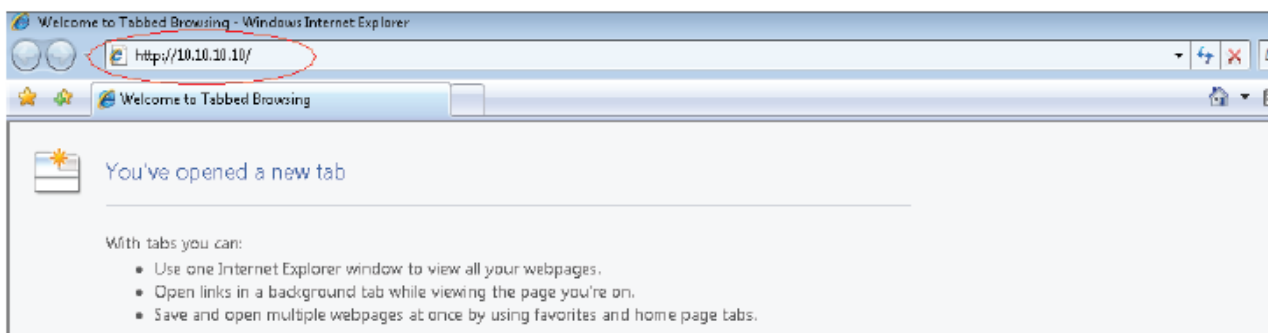
12. In the Address bar, input the IP address: 10.10.10.10.

13. Press (**Enter**) / ►.

The projector is setup for remote management. The LAN/RJ45 displays as followings.

Category	Item	Input-Length
Crestron Control	IP Address	15
	IP ID	3
	Port	5
Projector	Projector Name	10
	Location	10
	Assigned To	10
Network Configuration	DHCP (Enabled)	(N/A)
	IP Address	15
	Subnet Mask	15
	Default Gateway	15
	DNS Server	15
User Password	Enabled	(N/A)
	New Password	10
	Confirm	10
Admin Password	Enabled	(N/A)
	New Password	10
	Confirm	10

For more information, please visit http://www.crestron.com.
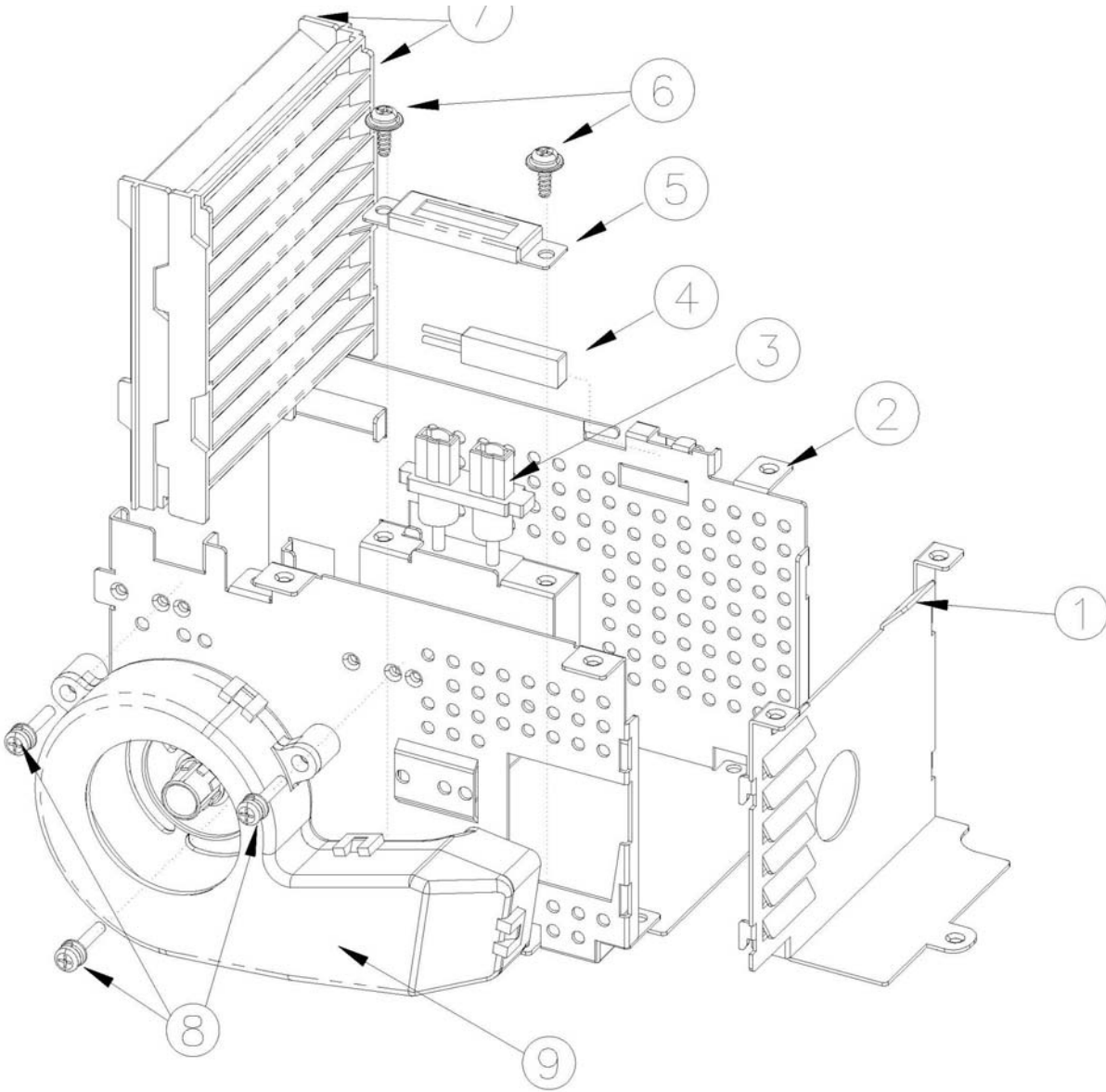
14. PROJECTOR DIMENSIONS
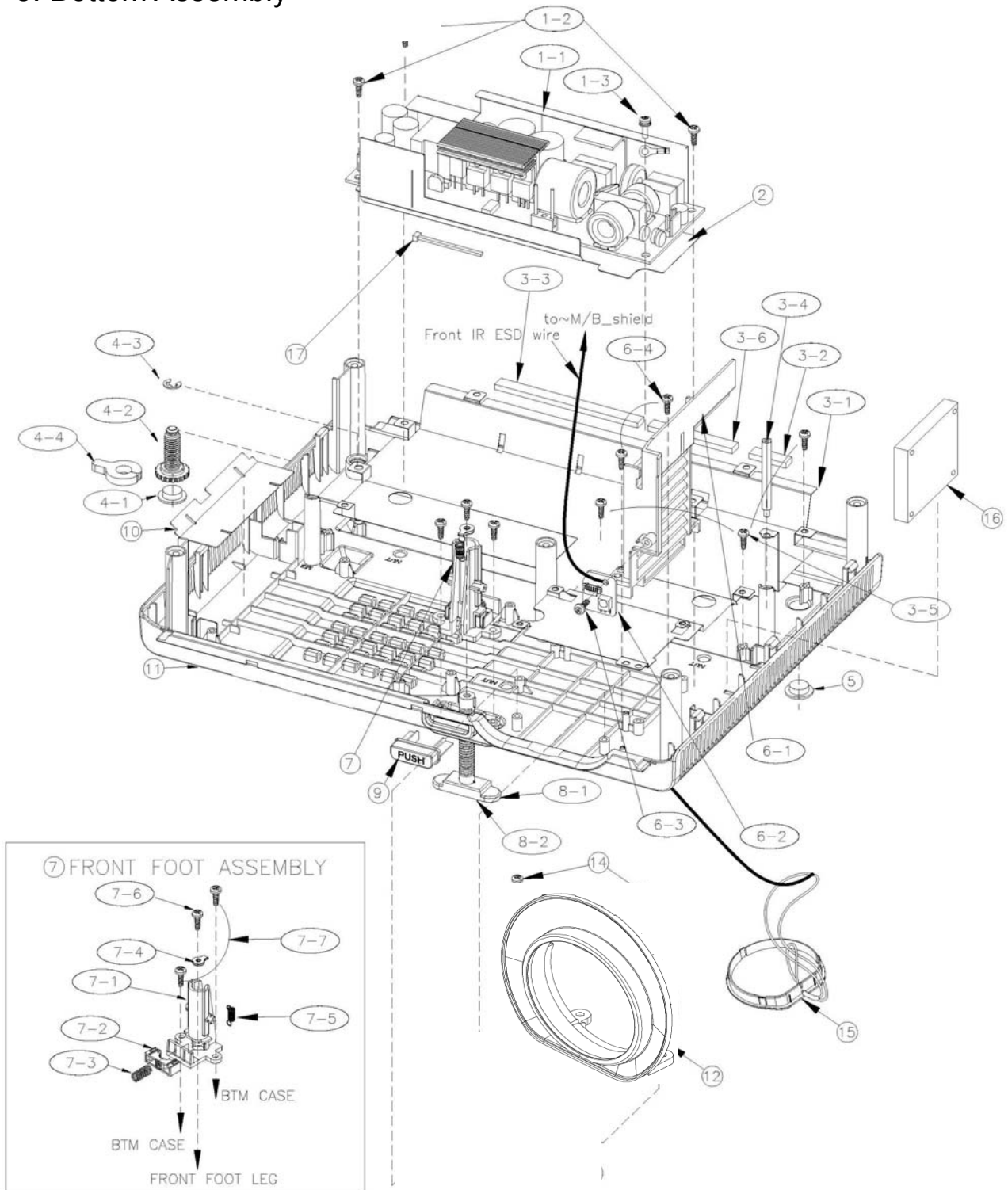
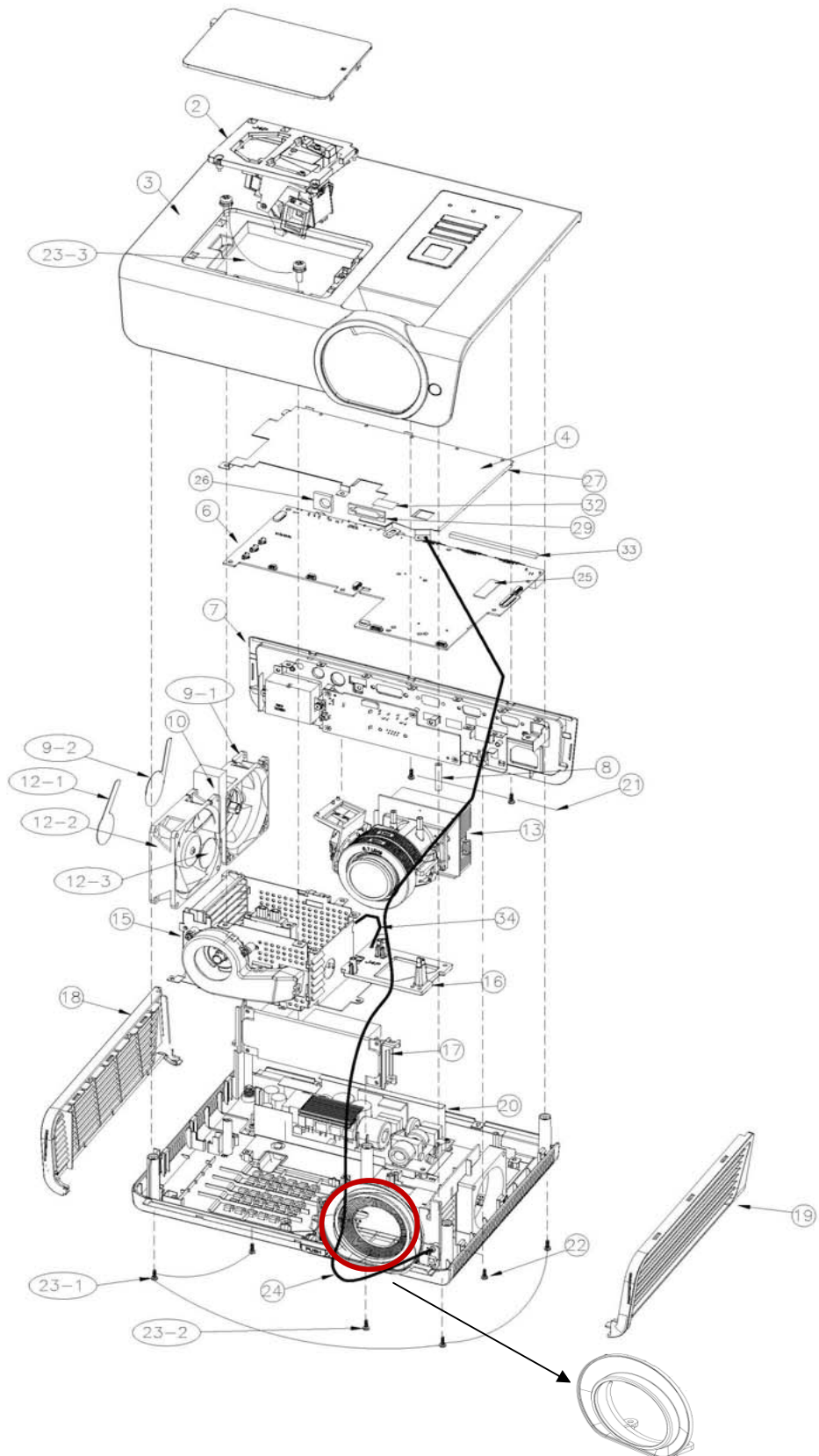1:Top Cabinet Assembly
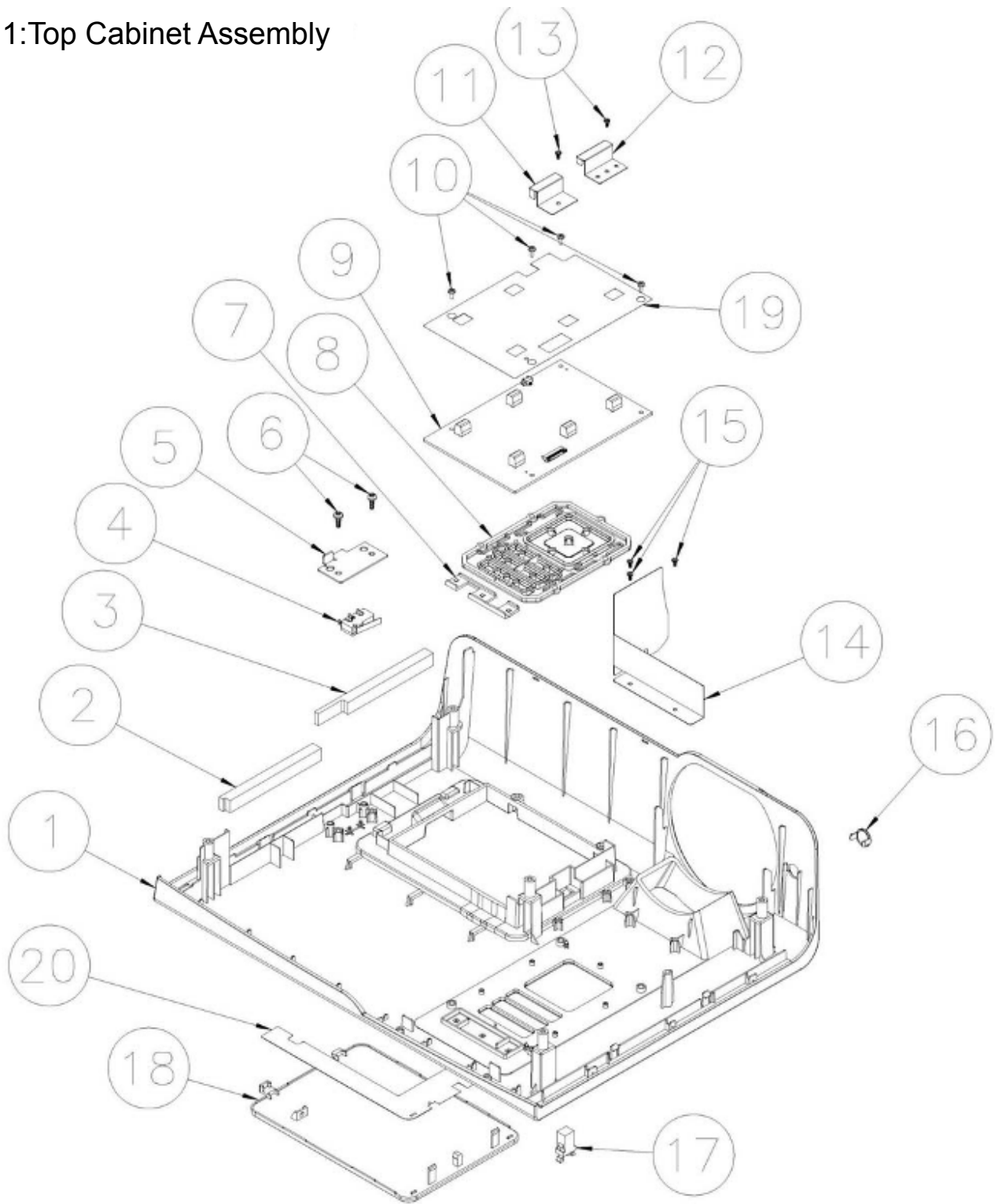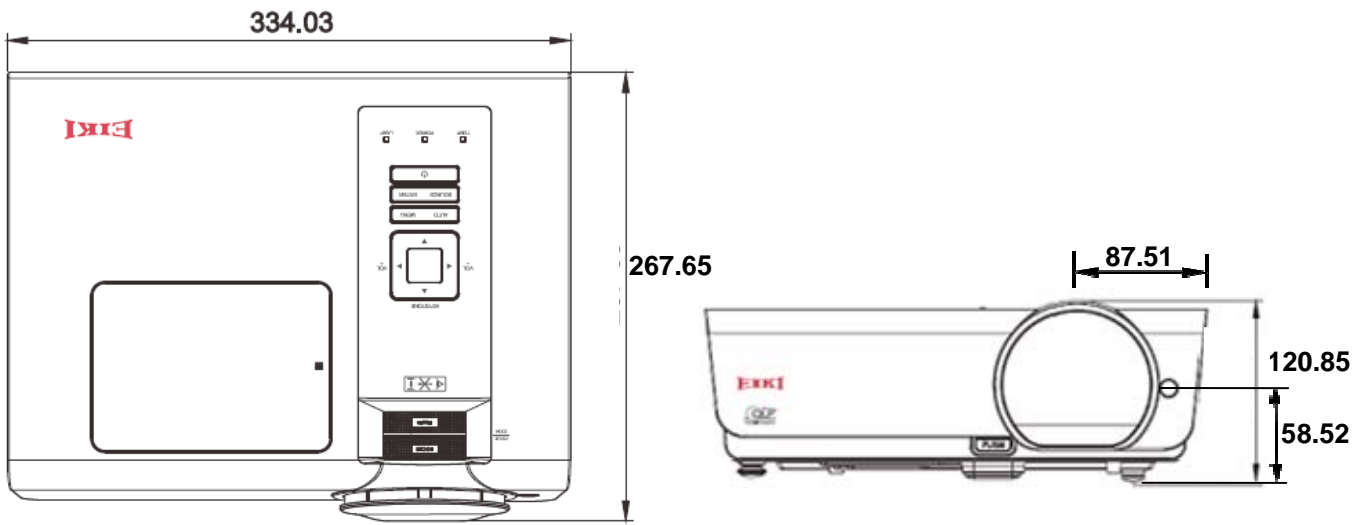
2:System Assembly
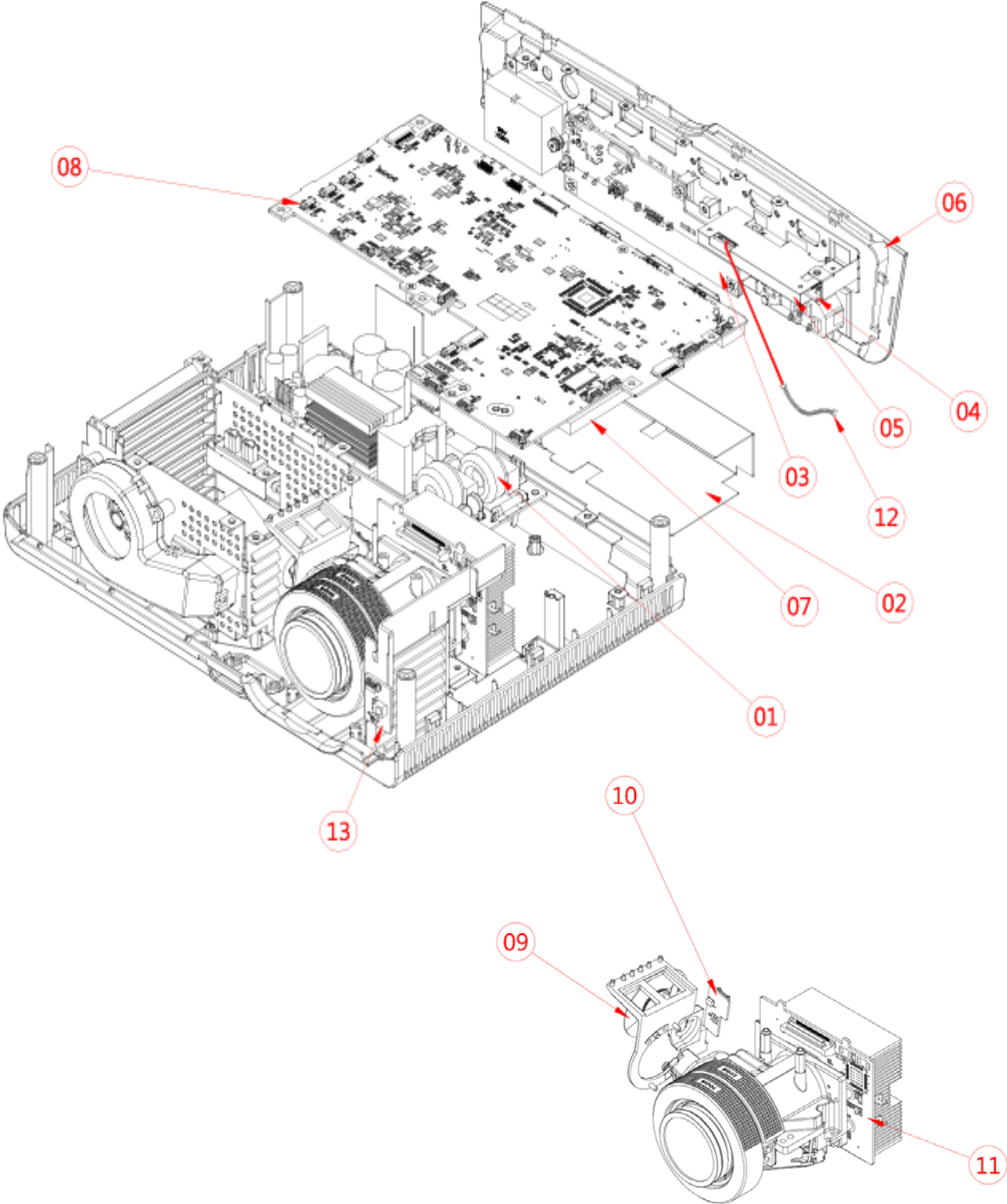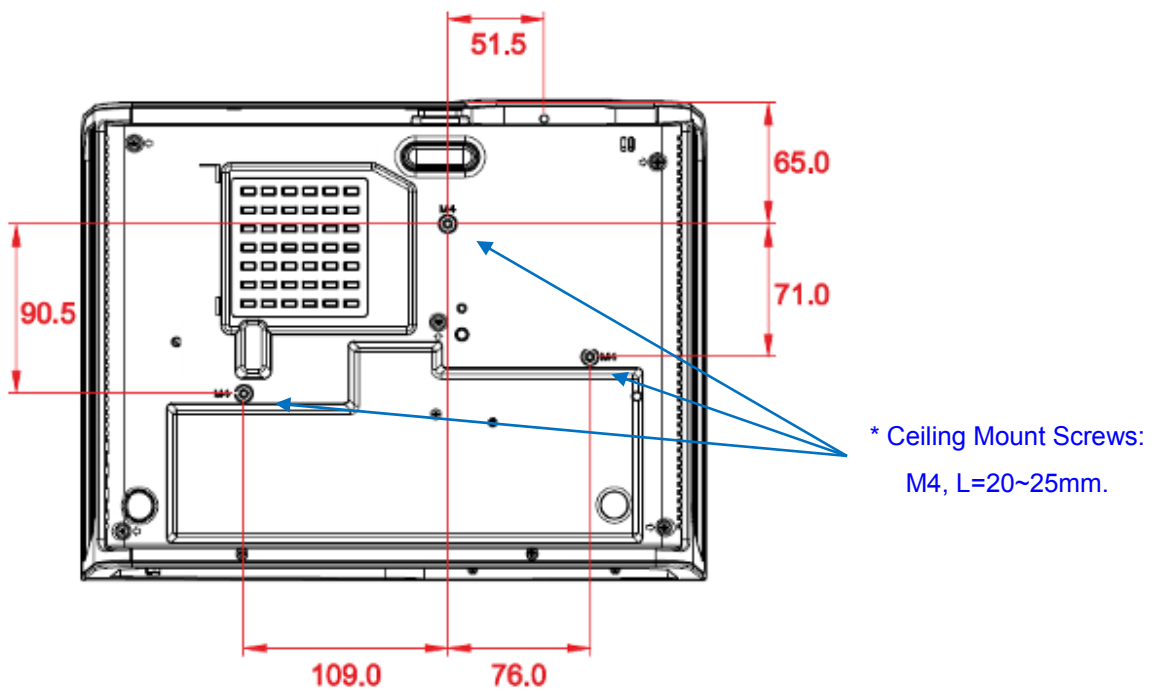
3:I/O Assembly
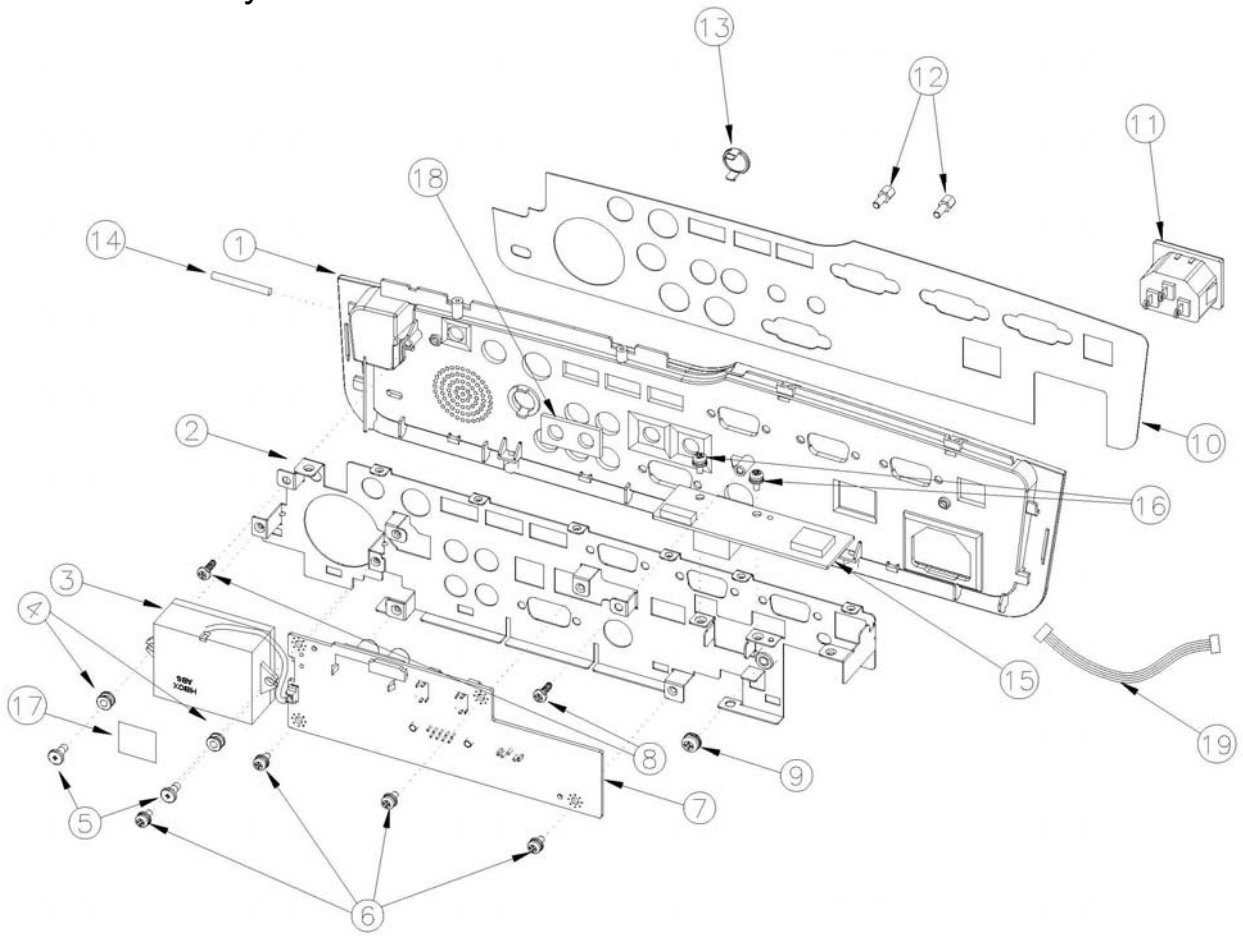
4:Lamp Chassis Assembly

5: Bottom Assembly

6: System Assembly

334.03

267.65

87.51

120.85

58.52

Unit: mm

51.5

65.0

71.0

90.5

109.0

76.0

* Ceiling Mount Screws:
  M4, L=20~25mm.

15. FAN CONTROL TABLE

Fan 1	Burner Fan
Fan 2	Lamp Fan
Fan 3	Power Fan
Fan 4	Engine Fan

16. RSPL

ITEM	CATEGORY		DELTA P/N	DESCRIPTION	EK-400XA	EK-401WA	EK-402UA	Q'ty
1	Chassis		3398066801	CABINET TOP Assy	V	V	V	1
2	Chassis		3392173800	CABINET BOTTOM	V	V	V	1
3	Chassis		3392101600	INLET COVER	V	V	V	1
4	Chassis		3392101100	OUTLET COVER	V	V	V	1
5	Chassis		3392252600	IO COVER	V	V	V	1
6	Chassis		3392026001	ADJ FRONT FOOT LEG (Front)	V	V	V	1
7	Chassis		3392086501	Button Adj Foot	V	V	V	1
8	Chassis		3392057400	Foot Ring	V	V	V	1
9	Chassis		3392252501	LAMP COVER	V	V	V	1

74

10	Chassis		3392101200	LENS PROTECTON COVER	V	V	V	1
11	Blower / Fan		3622701811	DC FAN ASSY (ENGINE FAN)	V	V	V	1
12	Blower / Fan		3622843011	DC FAN ASSY (POWER FAN)	V	V	V	1
13	Blower / Fan		3622608811	DC FAN ASSY (BURNER FAN)	V	V	V	1
14	Blower / Fan		3620850011	DC FAN ASSY (LAMP FAN)	V	V	V	1
15	Board Assembly		5600602514	ASSY PWB DMD FORMATTER (J4P+ DP437-695EKUA)	V			1
			5600602744	ASSY PWB DMD FORMATTER (S450 DAD2000 DP476-695EKUA)		V		1
			5600602687	ASSY PWB DMD FORMATTER (1080P DP466-695EKUA)			V	1
16	Board Assembly		5600603216-SEK	ASSY PWB MAIN (J4P+ DP437-695EKUA)	V			1
			5600603217-SEK	ASSY PWB MAIN (J4P+ DP476-695EKUA)		V		1
			5600603173-SEK	ASSY PWB MAIN (J4P+ DP466-695EKUA)			V	1

17	Board Assembly		5600601495	ASSY PWB IR BOARD J4P+	V	V	V	1
18	Board Assembly		5600603175	ASSY PWB IO BOARD J4P+	V	V	V	1
19	Board Assembly		5600602108	ASSY PWB INDEX BD J4P+	V	V	V	1
20	Board Assembly		4900270480	ASSY PWB POWER ADP-450AJ B	V	V	V	1
21	Board Assembly		5600603174-SEK	ASSY PWB RJ45 BOARD J4P+	V	V	V	1
22	Board Assembly		3797864000-S	UNIT, BALLAST DP437-675VVCM W98	V	V	V	1
23	Board Assembly		5600602686	ASSY PWB KEYPAD BOARD J4P+	V	V	V	1
24	Electrical Components		5811121495-SEK	LAMP Module	V	V	V	1

				V	V	V	1
25	Electrical Components		5811120847-S	OPTICAL 0.7 XGA ASSY E20.9 310W 1.5X	V			1
			5811120846-S	OPTICAL 0.65 WXGA ASSY E20.9 310W 1.5X		V		1
			5811120755-S	OPTICAL 0.67 WUXGA ASSY E20.9 310W 1.5X			V	1
26	Electrical Components		3797798300	ASSY MODULE CW	V	V	V	1
27	Electrical Components		5059714881	DMD 0.7" 1024*768 FTP DC3 2XLVDS	V			1
			5059739981	DMD 0.65" 1280*800 WXGA SPD DC3 FP		V		1
			5059722681	DMD LVDS 0.67" 1920*1200 WUXGA			V	1
28	Electrical Components		3791040100	WIRE WITH THERMOBKT J4P+	V	V	V	1
29	Electrical Components		3243118400	THERMAL PAD CERAMIC 94V0 17*12*0.12 GRAY	V	V	V	1
30	Packing		3505016102	AIR BUBBLE BAG 1160*300 (Cushing Btm)	V	V	V	1
31	Packing		3505016001	AIR BUBBLE BAG 850*520 (Cushing Top)	V	V	V	1
32	Packing		3502043500	BAG 500*420 WHITE (For Machine)	V	V	V	1
33	Packing		3500910900	BAG 660*490 CLEAR (For Carrying Case)	V	V	V	1
34	Packing		3518216200	BOX CRGD PAPER 453*383*192	V	V	V	1
35	Packing		3523501301	CARRYING CASE 345*300*145	V	V	V	1

36	Accessory		3090327400	AC POWER CORD (US)	V	V	V	1
			309032800	AC POWER CORD (EU)	V	V	V	1
			309027800	AC POWER CORD (UK)	V	V	V	1
37	Accessory		3081409201	CABLE VGA D-SUB L1800 BLK	V	V	V	1
38	Accessory		3534491500	CD-ROM OM J4P+	V	V	V	1
39	Accessory		5014044400	CARD QUICK START GUIDE	V	V	V	1
40	Accessory		5041840600	ASSY Remote Unit 27KEYS J4P+	V	V	V	1
41	Option Part		3398049200	FILTER	V	V	V	1