SERVICE MANUAL

PK-301/PK320/PK301 PLUS

Date	Revise Version	Description
2010.04.15	V1.0	Initial Issue
2010.08.04	V2.0	Add “System reset“ & change burn-in test in Chapter 4 Add an action to show ”System Upgrade” & FW version checking in Chapter 5
2011.08.23	V3.0	Add PK320
2012.10.19	V4.0	Add PK301 PLUS

Prepared: Cherry Check:Amy Approved: Alick

Preface

This manual is applied to PK-301/PK320/PK301 PLUS projection system. The manual gives you a brief description of basic technical information to help in service and maintain the product.Your customers will appreciate the quick response time when you immediately identify problems that occur with our products. We expect your customers will appreciate the service that you offer them.

This manual is for technicians and people who have an electronic background. Please send the product back to the distributor for repairing and do not attempt to do anything that is complex or is not mentioned in the troubleshooting.

Note: The information found in this manual is subject to change without prior notice. Any subsequent changes made to the data herein will be incorporated in future edition.

PK-301/PK320/PK301 PLUS Service Manual

Manual Version 4.0

PK-301/PK320/PK301 PLUS Comparison List

Parts	PK-301	PK301 PLUS	PK320
Top Cover Module	75.8CU05G001		75.8MH01G001
Main Board	80.8CU01G002	80.8RF01G001	80.8MH01G001
Keypad	80.8CU03G001		80.8MH03G001
Key Button	51.8CU16G101		51.8MH01G001
Focus Ring	51.8CU14G001		51.8CU14G011
Engine	70.8CU02GR01	70.8MH06GR01	

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Chapter 1

Introduction

1-1 Highlight

No	Item	Description
1	Power Supply	• Auto-ranging: AC100V ~ 240V ± 10%, 50-60Hz DC 20V/2A, 40W (for PK301/PK320) • Auto-ranging: AC100V ~ 240V ± 10%, 50-60Hz DC 12V/2A, 20W(for PK301 PLUS)
2	Resolution	• 854 x 480
3	Platform	• PD30A platform
4	Throw ratio	• 1.8 (Distance / Width)
5	Throw Distance	• 0.2m ~ 5.0m (Mechanical Travel) 0.4m ~ 2.4m (Full optical Performance)
6	Projection Image Size	• 5"~120"
7	LED Life	• 10,000 Hours Bright Mode @ 11W, B50/L50*Note Survival Rate
8	LED Power	• 11W +/-10 % in Bright Mode • 1W+/-20 % in ECO Mode(for PK301) • 1.8W+/-20 %in ECO Mode(for PK320/ PK301 PLUS)
9	Altitude	• Operating: 0 ~ 2,500 ft, for 5°C~35°C 2,500 ft ~ 5,000 ft, for 5°C~30°C 5,000 ft ~ 10,000 ft, for 5°C~25°C
10	Audio	• Built-in Speaker 0.5W x 1(for PK301/ PK301 PLUS) • Built-in Speaker 1W x 1 (for PK320)
11	Battery	• Charge time @25C : <3hour • Discharge time @25C : 33 minutes in STD Mode (for PK301) • Discharge time @25C : 25 minutes in STD Mode (for PK320) • Discharge time @25C : 30 minutes in STD Mode (for PK301 PLUS)
12	Focus length	• 22.77mm @ 20”
13	DMD	• “TI” DMD , 0.3” WVGA DMD
14	Power consumption	• VGA display mode: <16W (Typical) in Bright Mode (for PK301/PK320) <10W in STD Mode <5W in ECO mode • VGA display mode :<21W (Typical) in Bright Mode (for PK301 PLUS) <10W in STD mode <7W in ECO mode

1-2 Compatible Mode

Computer compatibility

Compatibility	Resolution	V-Sync[Hz]
VGA	640 x 480	60Hz
	800 x 600	60Hz
	1024 x 768	60Hz
	1280 x 720	60Hz
	1280 x 800	60Hz
	1024x600	60Hz
Video	480i / 480P	60Hz
	576i / 576P	50Hz
	720P	50Hz/60Hz
	1080i	50Hz/60Hz
HDMI	480i / 480P	60Hz
	576i / 576P	50Hz
	720P	50Hz/60Hz
	1080i	50Hz/60Hz

Chapter 2

Disassembly Process

2-1 Equipment Needed & Product Overview

1. Screw Bit (+): No.00

2. Hex Sleeves 5mm

3. PK301/PK320/PK301 PLUS unit

** Before you start: This process is protective level II. Operators should wear electrostatic chains.*

** Note : - If you need to replace the main board, you have to record the lamp usage hour.*

- The disasssemble procedure for PK301/PK320/PK301 PLUS are the same ,we take PK-301 as an example here.

2-2 Disassemble Battery Cover Module

1. Disassemble the Battery Cover Module (as red arrow directs).
2. Remove the Battery.

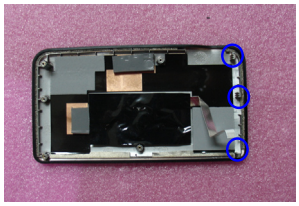
2-3 Disassemble Top Cover Module

1. Unscrew 5 screws from the Bottom Cover (as red circle).

2. Unplug the keypad cable.

3. Disassemble Top Cover Module

Note: - There are 3 tenons (as blue circle) on the top cover,when disassembling it, you must be carefull so as not to damage the top cover.

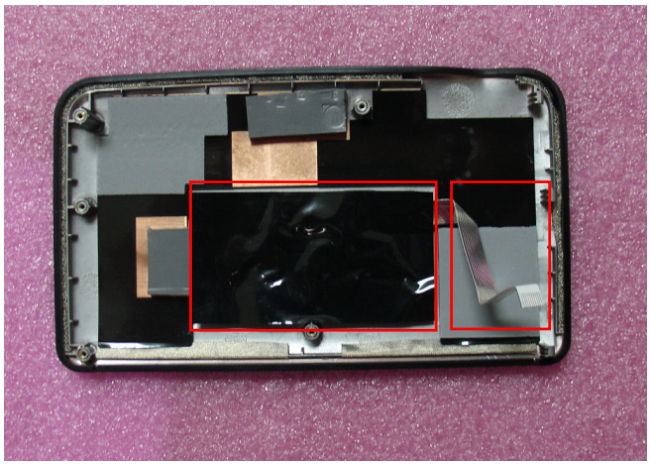


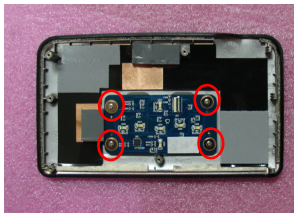
2-4 Disassemble Keypad Module

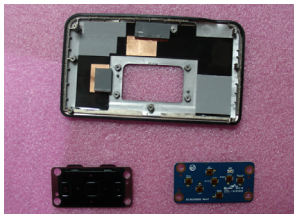
1. Tear off the 3M tape and unplug the key pad cable.

2. Unscrew 4 screws(as red circle)

3. Take out the key pad board and the key button.

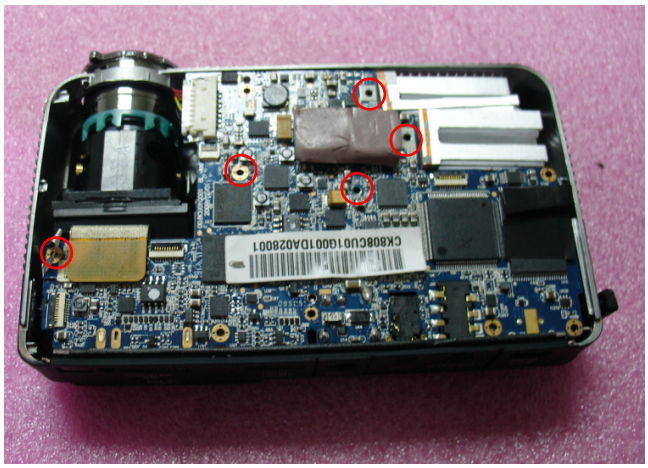


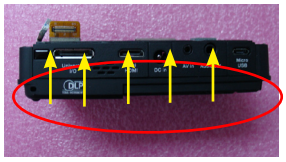


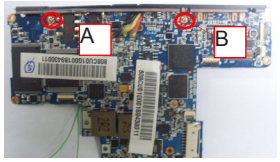


2-5 Disassemble Main Board Module and Rear Cover Module

1. Unscrew 5 screws(as red circle).
2. Unplug 3 cables(as yellow circle).
3. Disassemble the Rear Cover(as yellow arrow)
4. Unscrew 2 screws,separate the Rear Cover and Main Board.

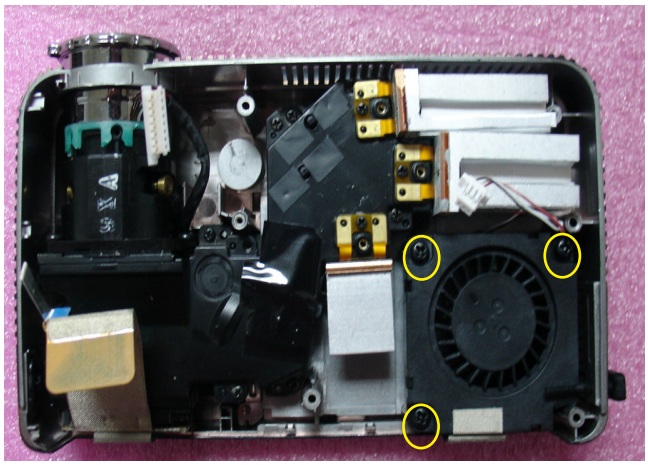


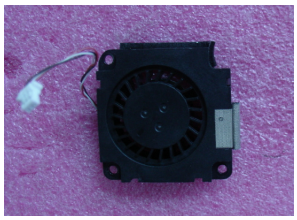




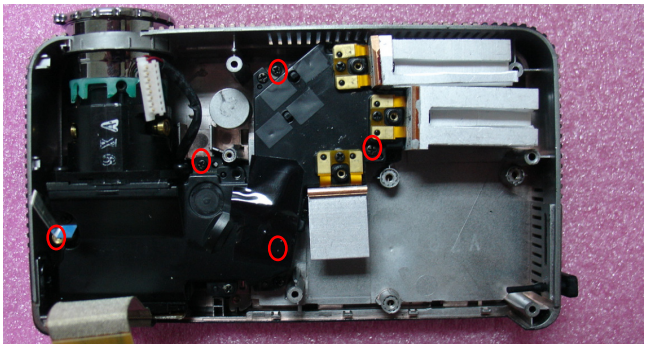
2-6 Disassemble Fan Module and Engine Module

1. Unscrew 3 screws as yellow circle.Then take out the fan module.

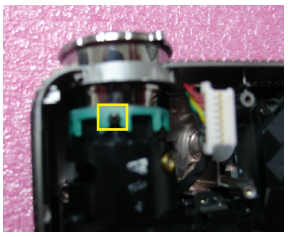




2. Unscrew 5 screws as red circle.

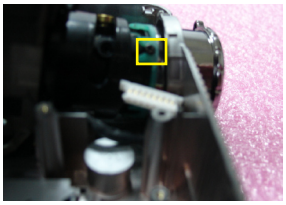


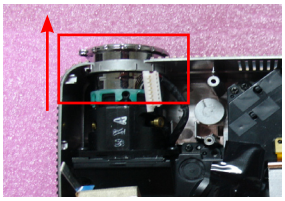
3. Unscrew 3 screws on the focus(as yellow square).



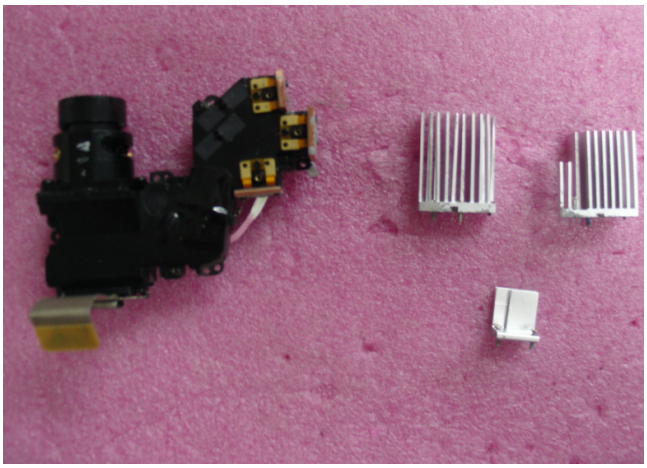
4. Pull out the focus ring.

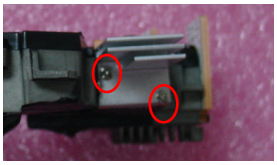
Note: When assembling the focus ring,you should screw the 3 screws first,then push in the focus ring.

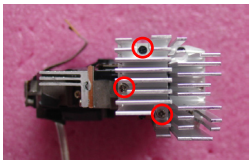


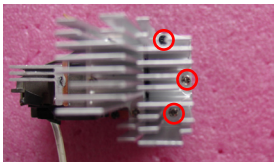


5. Unscrew 8 screws(as red circle) and disassemble 3 heatsinks.

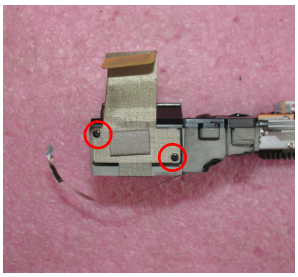


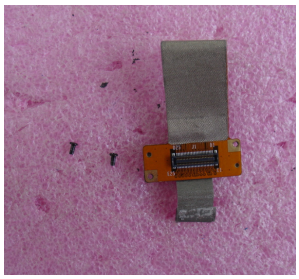




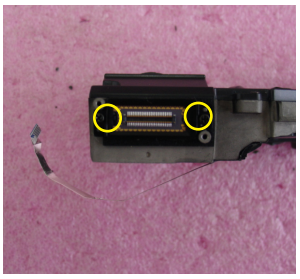


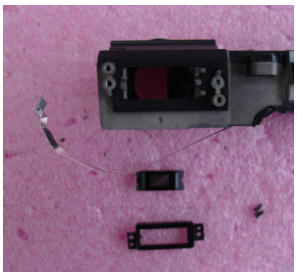
6.Unscrew 2 screws and disassemble the FPC cable.(As red circle)





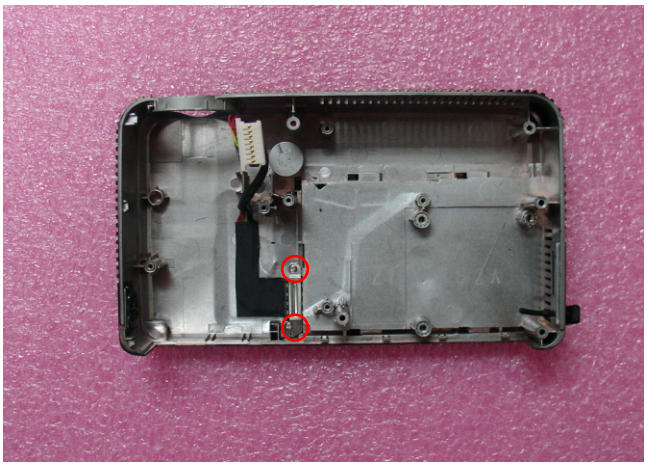
7.Unscrew 2 screws, disassemble the engine holder and DMD chip.(As yellow circle)

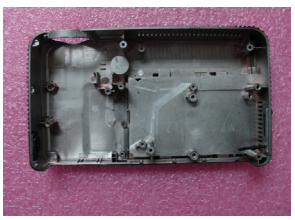


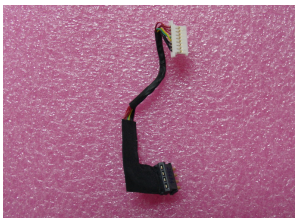


2-7 Disassemble the Bottom cover

1. Unscrew 2 screws (as red circle).
2. Take out the power cord.
3. Disassemble complete.







Chapter 3

Troubleshooting

3-1 Equipment Needed

1.Projector

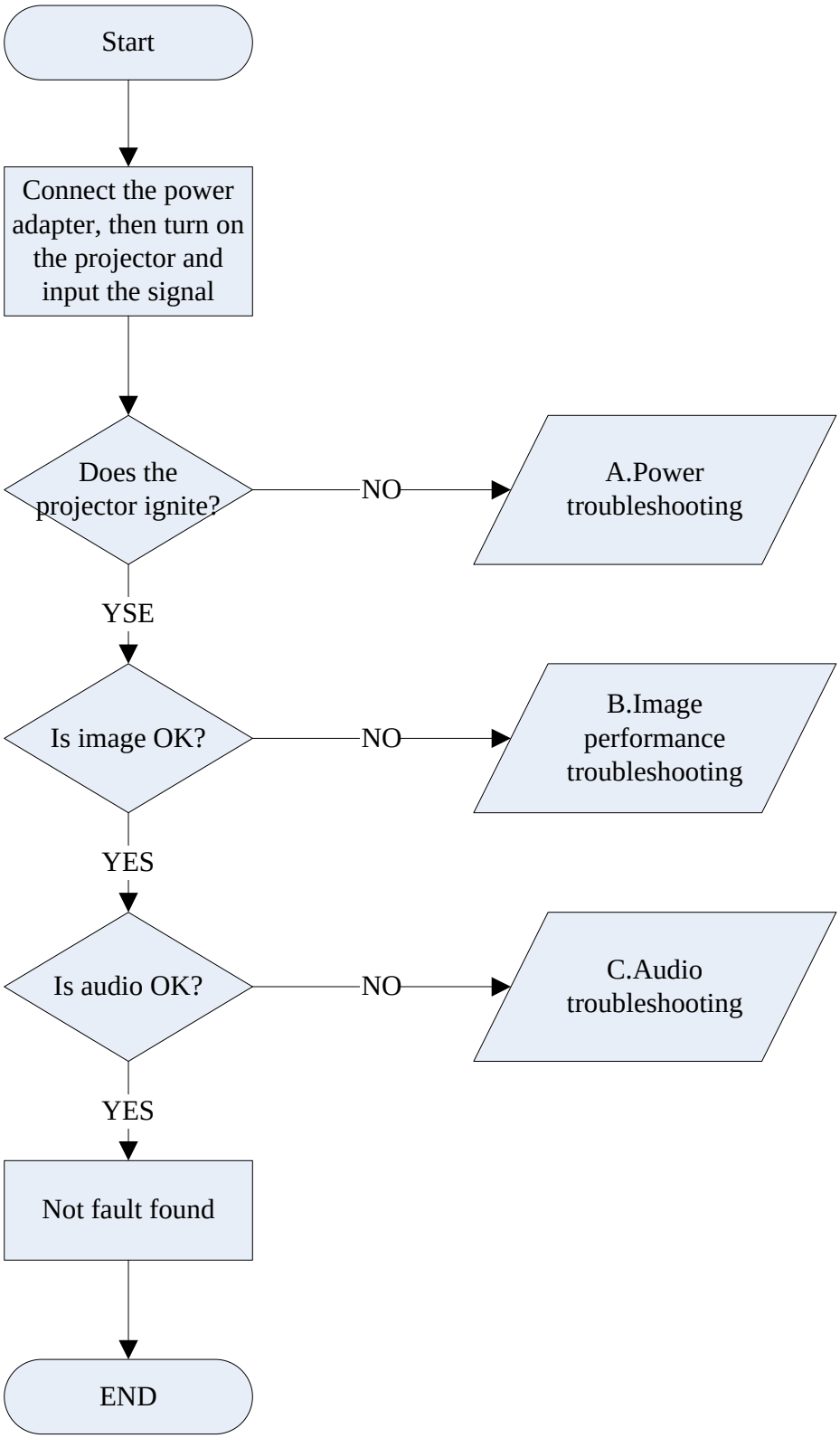
2.DVD player

3.Power adaptor with AC Plug

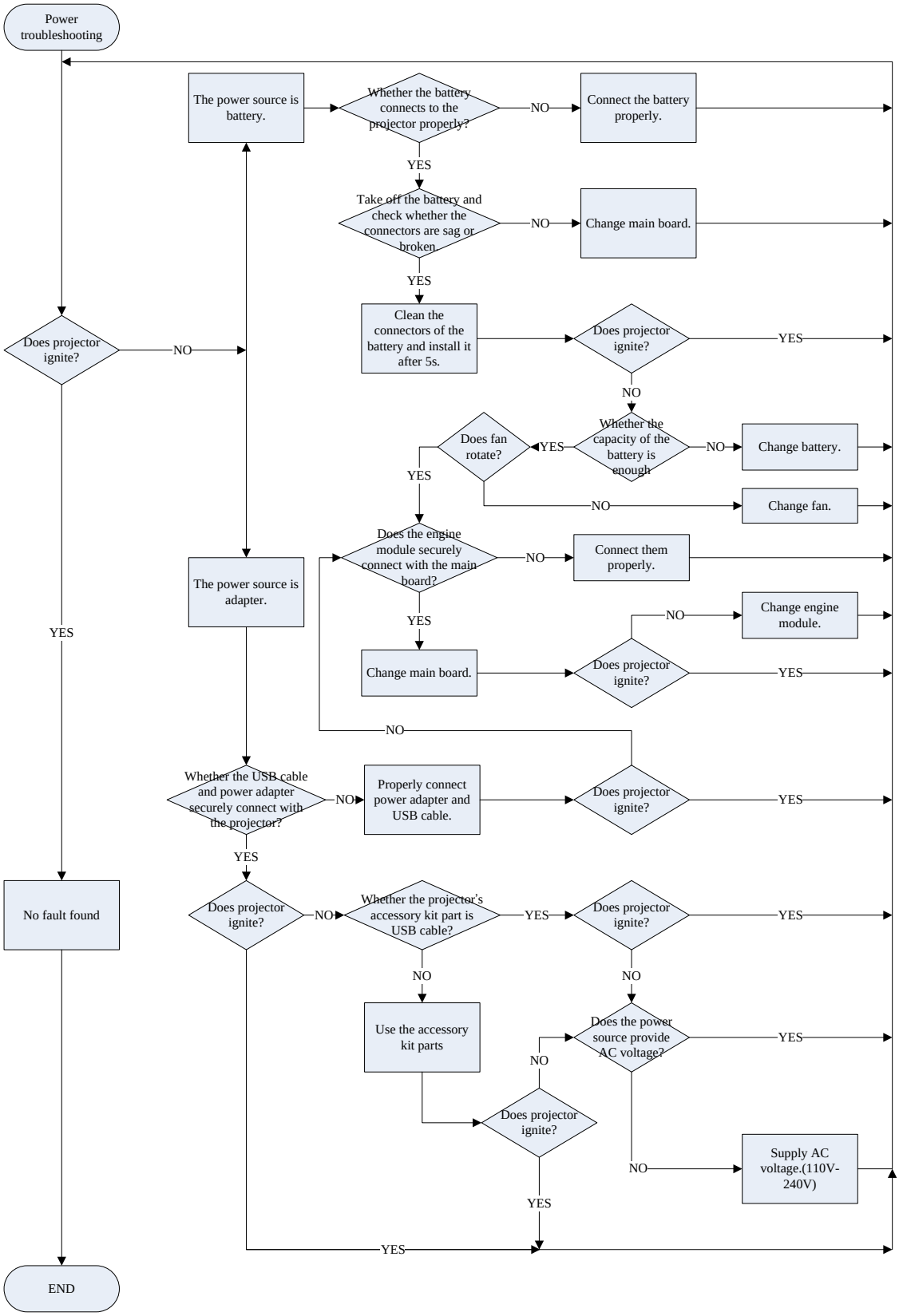
4.VGA Cable,USB Male Cable,AV Cable

5.Voltage test meter

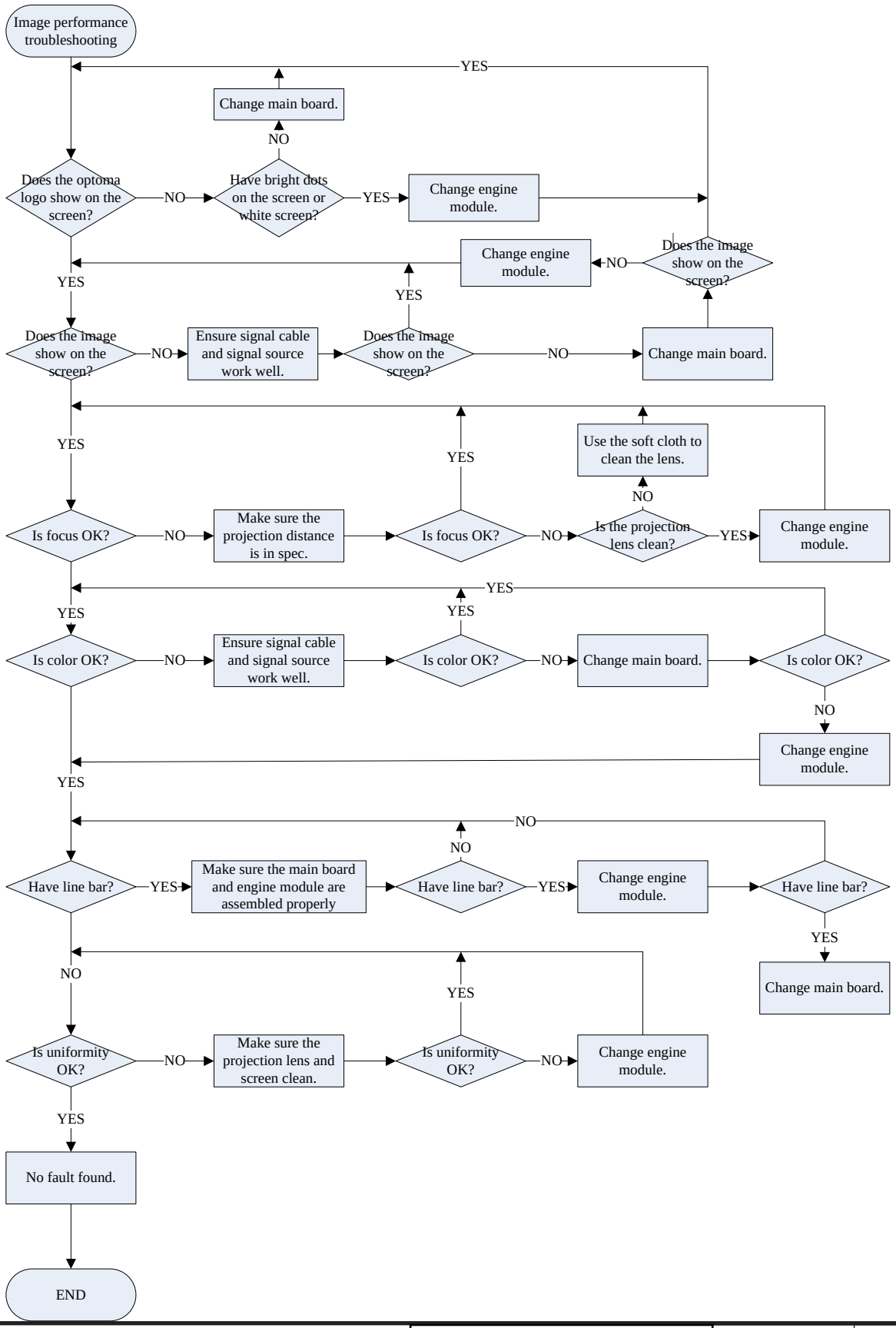
3-2 Main Procedure



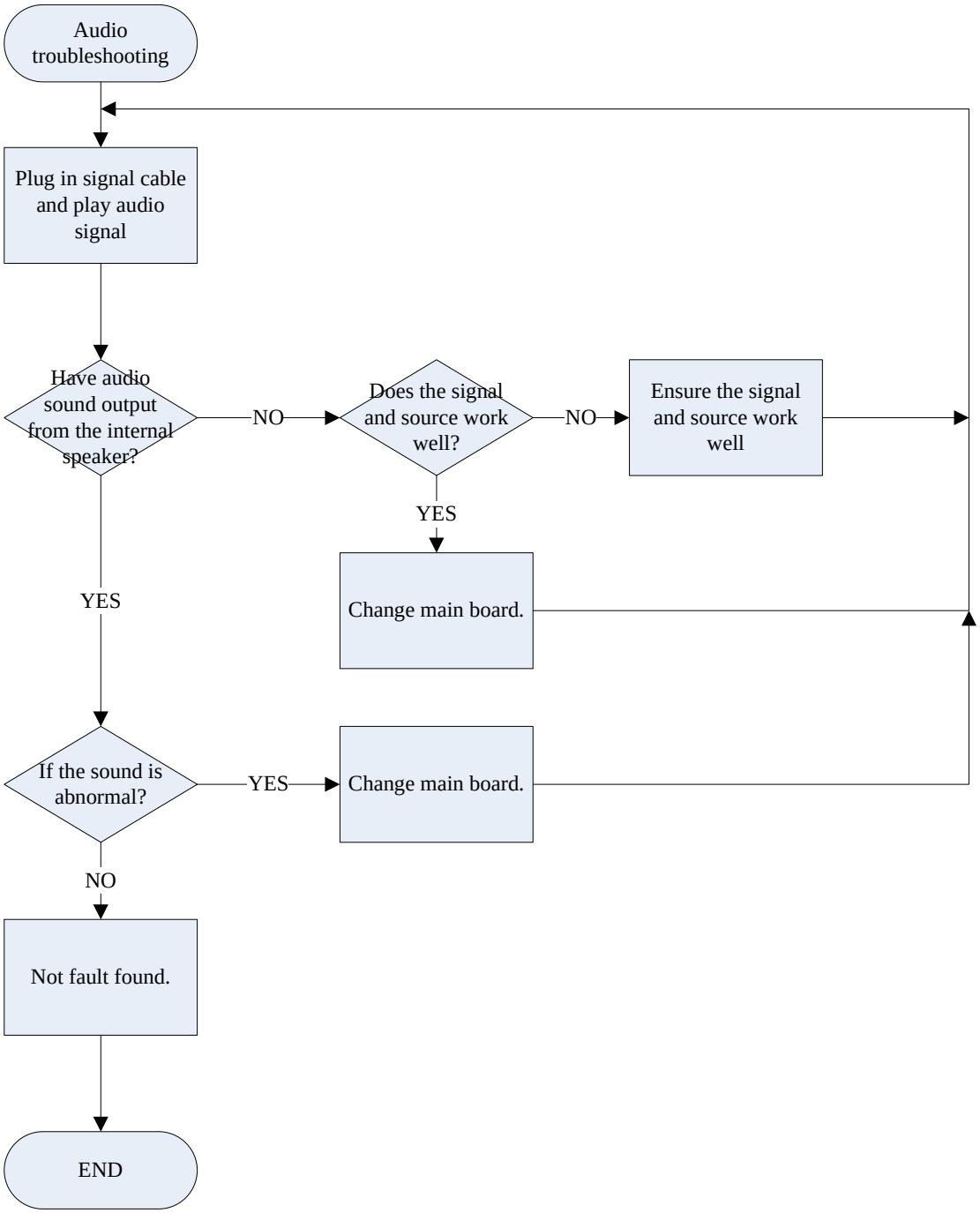
3-3 Power Troubleshooting



3-4 Image Performance Troubleshooting



3-5 Audio Troubleshooting



Chapter 4

Function Test&Alignment Procedure

4-1 Test Equipment Needed

- DVD player with Multi-system (NTSC/PAL)
- Equipped "Component", "S-Video" , "Composite"
- Minolta CL-100
- Quantum Data 802B or CHROMA2327 (Color Video Signal & Pattern Generator)
- Remote control
- PK301 24P to VGA-M (P/N: 42.0020AG001)
- Mini JACK-M to 3*RCA-F R/W/Y cable (P/N: 42.00237G001)

4-2 Service Mode

1. Turn on the projector
2. Do the following actions sequentially to get into service mode
- Press "Left Left -> Right Right -> Down Down -> Up Up" (For PK-301/PK301 PLUS)
- Press"Menu","Up","Left","Down","Right","Up","Left","Down","Right" (For PK320)
- Service mode will be shown
- After confirming the configuration, choose "menu" to exit.

4-3 System Reset

After final QC step,we have to erase all saved change. The following actions will allow you to erase all end-users' settings and restore the default setting:

- Get into service mode.
- Press “right“ and then choose “system reset“ at the bottom of the menu

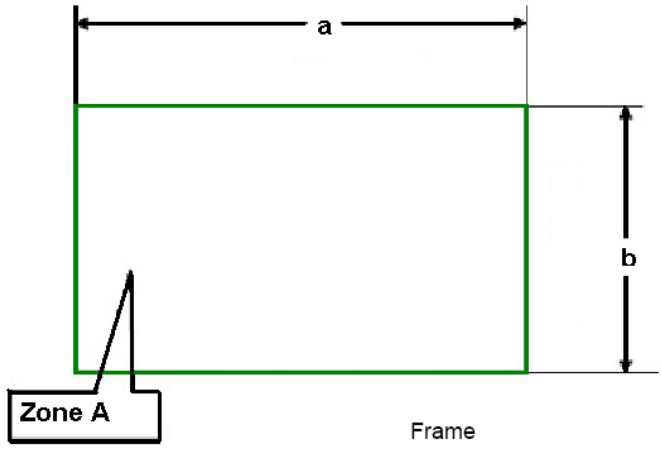
4-4 Test Condition

4-4-1 Normal Test Condition

- Circumstance brightness: Dark room less than 2.0 lux

- Screen size: 20 inches

Screen Defects



< Figure:Figure: Zone A(as green line) Definition>

Defect specification table

Order	Symptom	Pattern	Criteria
1	Dark pixel (dots)	White pattern	A≤4
2	Unstable pixel (dots)	Any pattern	A=0
3	Adjacent pixel (dots)	Any pattern	A=0
4	Bright pixel (dots)	Gray 10 pattern	A=0
5	Bright dot on frame	Gray 10 pattern	≤1

4-4-2 Burn-In Test

- Temperature: 15°C~35°C

- Circumstance brightness: Normal environment

- Screen size: No concern

- Display mode: ECO mode

After repairing PK301/PK320/PK301 PLUS, it should be Burn-in (refer to the below table).

Symptom	Burn-in Time
Normal repair	2 hours
NFF	4 hours
Auto shutdown	6 hours

- Get into Burn-In Mode

** Cycle setting is based on the defect symptoms. ie: If it is NFF, the burn-in time is 4 hours. You have to set the lamp on for 50 min. and lamp off for 10 min for 4 cycles.*

Note: Please make sure that the hot exhaust airflows from projectors can flow towards the aisle.

Get into Service Mode (as above step 4-2)	
Choose Burn In > enter	
Lamp On (Min)	Press right key to adjust the time (50)
Lamp Off (Min)	Press right key to adjust the time (10)
Set Burning cycle	Press right key to adjust the cycle
After setting up the time, choose "Enter into Burn In Mode" and press "Menu" button.	

4-5 Test Inspection Procedure

- After changing parts, check the information below

Update	Change parts	
	Main Board Module	Firmware
Version Update	V	V
Factory Reset	V	V
EDID	V	
Duty Selection	V	

4-6 PC Mode

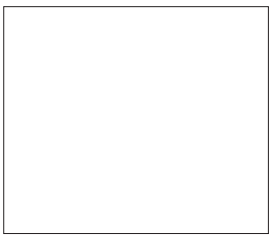
1. Bright Pixel

Gray 10

Note: Link Chroma VGA port to the "Universal I/O" port of the projector by universal to VGA cable.

Procedure	- Test equipment: video generator.
	- Test signal: analog 800x600@60Hz
	- Test Pattern: gray 10
Inspection item	- Bright pixel check
Criteria	- Bright pixel is unacceptable.
	- No more than 1 bright pixel in the POM.
	- Adjacent with each other is unacceptable.

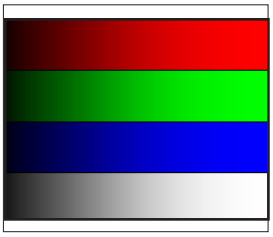
2. Dark Pixel



Full white

Procedure	- Test equipment: video generator.
	- Test signal: analog 800x600@60Hz
	- Test Pattern: full white
Inspection item	- Dark pixels check.
Criteria	- The number of the dead pixels should be less or equal to 4 pixels.
	- Adjacent dark with each other is unacceptable.

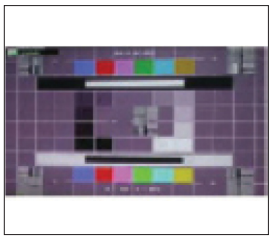
3. Color performance



64 gray RGBW

Procedure
- Test equipment: Chroma 2327
- Test signal: analog 800x600@60Hz
- Test Pattern: 64 gray RGBW,master pattern
- Use test signal to do the test.
  Color cannot discolor to purple and blue.

Inspection item
- Check if each color level is well-functioned.
- Color saturations



Master pattern

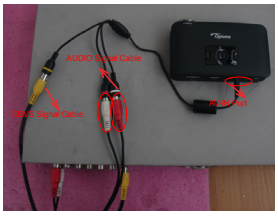
Criteria
- Screen appears normal. It should not have any abnormal condition, such as lines appear on the screen and so on.
- Color appears normal.
- RGBW should all appear normal on the screen and sort from R-G-B-W.
- Color levels should be sufficient and normal.

4. Power Function Test

Inspection item
- Projector charging or discharging test
- Check whether the LED indicator shows normally.

Criteria
- Install the battery into the projector, plug the adapter, confirming the red LED is lighting, check whether the charging function is normal.
- Check whether the green LED is lighting when charging complete.
- Unplug the power adapter, turn on the projector to check if the discharging is normal.

4-7 Video Performance



*Note: Plug JACK-M to 3*RCA-F R/W/Y cable into the AV-IN port of projector, the CVBS signal and Audio signal will be inputted.Then turn the sound of DVD player down.The signal test is as follows.*

1. ECO/Bright Mode Function Test

Turn on the projector, get into service mode then press ‘‘Left’’/‘‘Right’’ button on remote control to check if Bright mode/ECO mode exchange normally.

2. CVBS

Procedure	- Test equipment: DVD player
	- Test signal: CVBS
Inspection item	- Video performance test
Inspection Distance	- 0.8 M ~1.0 M
Criteria	- Check any abnormal color, line distortion or any noise on the screen.

Motion video

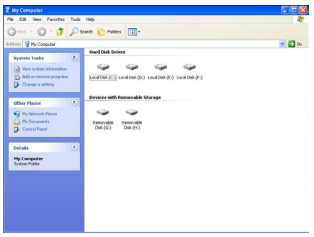
3. Audio Test

Procedure	- Test equipment: DVD player
	- Test signal: CVBS
Inspection item	- Audio performance test
Inspection Distance	- 0.8 M ~1.0 M
Criteria	- Check the sound from speaker
	- Press ‘‘Up’’ button of the projector to modulate the volume to 18, then press “down“ button to modulate the volume to 16, check whether the volume is normal.

4-8 SD Card Test

1. Turn on the projector and unplug signal cable, select “Video“, play the video file in it:
   - Check any abnormal color, line distortion or any noise on the screen.
   - Check the sound from speaker.

2. Turn on the projector, connect “micro USB” port of the projector to PC USB port by Micro USB to USB cable:
   - Check whether PC can detect the SD card information.There should be two removable disk.
   - Check whether the USB charging function is normal.Confirming the red LED is lighting when charging.



4-9 Optical Performance Measure

Inspection Condition
- Environment luminance: 2 Lux
- Product must be warmed up for 2 minutes
- Distances from the screen: 0.8 M~1 M
- Screen Size: 20 inches diagonal

1. Test equipment

Procedure
- Please get into bright mode, focus should be clear.
- Get into service mode and choose “pattern” then press “Left” or “Right” to select full white and full black pattern, then start signal test.

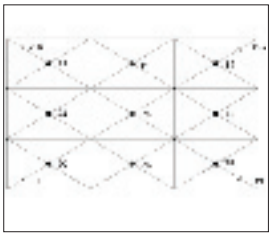
2. Brightness

Procedure
- Full white pattern
- Use CL100 to measure brightness values of P1~P9.
- Follow the brightness formula to calculate brightness values.

☼ Brightness Formula

Avg. (P1+P2+P3+...+P9) x 0.12

Criteria
• 35.2 ANSI Lumens



Full white pattern

3. Full On/Full Off Contrast

Procedure
- Full white pattern & full black pattern
- Use CL100 to measure brightness values of full white pattern P5 & full black pattern B5 (see image: full white)
- Follow Contrast formula to calculate contrast values.

☼ Contrast Formula

P5/B5

Note: P5=center of white image
B5 = the center of black image.

Full black pattern

Criteria
• 800:1

4. Uniformity

Procedure
- Full white pattern
- Use CL100 to measure brightness values of P1~P9 (see image: full white).
- Follow the Uniformity formula to calculate average values.

☼ Uniformity Formula

ANSI Uniformity = Avg.(P1,P3,P7,P9)/P5×100%

Criteria
• 50 %

4-10 Others

1. Function Inspection

Keypad button	- All keypad buttons should be operated smoothly.
General	- All OSD functions must be checked for functionality. When OSD menu is displayed, there shall be no visible peaking, ringing, streaking, or smearing artifacts on the screen.
Factory Default	- The factory settings (with appropriate centering, size, geometry distortion, etc.) shall be displayed upon “Re-call” is selected from OSD
Display Size	- All preset modes shall expand to full screen size using OSD Horizontal and Vertical Size controls
Display Data Channel (DDC)	- The purpose of the DDC test is to verify the DDC1/ DDC2 operation of the projector and to verify Plug & Play function.

2.Check points for exterior and print pattern

Check item	Check point
Text & Pattern	missing letters & pattern or blurry prints are unacceptable.
Exterior	dirt, scrape, water ripples and uneven color are unacceptable.
Buttons	stuck buttons are unacceptable.
Focus Ring	Focus ring is functioning smoothly.
Logo	missing logo, missing prints and blurry prints are unacceptable
Screw	All screws sure be fixed and in right type.
Plastic parts	All plastic parts can not be broken and damaged.
Connector	All interface connector should be complete and workable

Chapter 5

Firmware Upgrade

5-1 Equipment Needed

Software : (For PK301/PK301 PLUS)

- MSTUPUP.BIN
- AMAMUPUP.BIN

Hardware :

- Projector (PK-301/PK301 PLUS)
- SD Card(80.8BU08G001)
- USB Male cable(42.0028DG001)
- Power adapter (47.8CU01G003 and 47.8CU03G001)
- PC
- Monitor

Note: The FW upgrade procedure for PK301/PK301 PLUS are the same,we take PK301 as an example here.





5-2 Firmware Upgrade Procedure

1. Insert the Micro SD card into the projector and connect the it to PC by USB Male cable.

2. There are two removable Disk in "My Computer" .Copy firmware "MSTUPUP.BIN ","AMAMUPUP.BIN" to the second removable Disk.

Note: "MSTUPUP.BIN" and "AMAMUPUP. BIN" must be upgraded at the same time.

3. Process

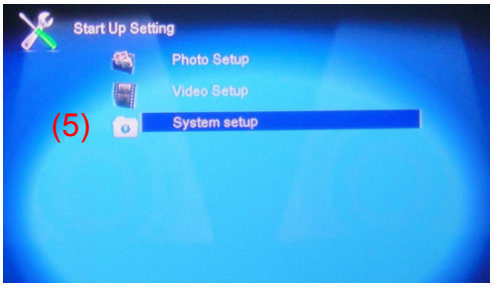
(1) Insert Power adapter into PK-301.

(2) In the left side of the projector,there is a power botton(as red square).Press it to turn on the projector.

(3) Select "Micro SD".

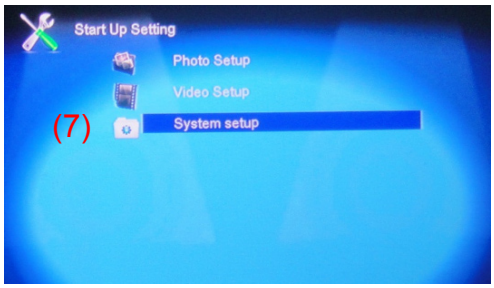
(4) Choose "Setting" icon.

(5) Press "Up","Down","Up","Down","Enter"
in this pattern.

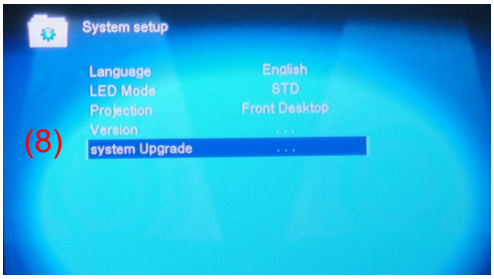


(6) The projector will come back to right
pattern.Choose "Setting" icon.

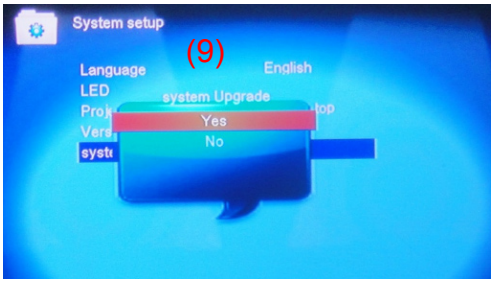
(7) Choose "System setup"



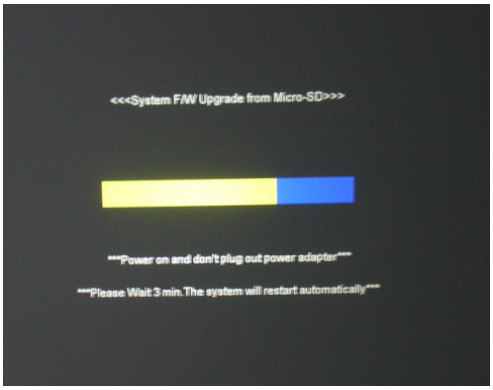
(8) The "system Upgrade" will show,and choose it.



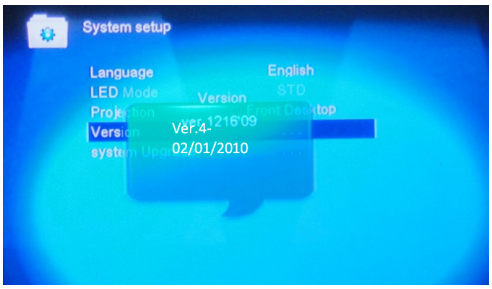
(9) Choose "Yes".



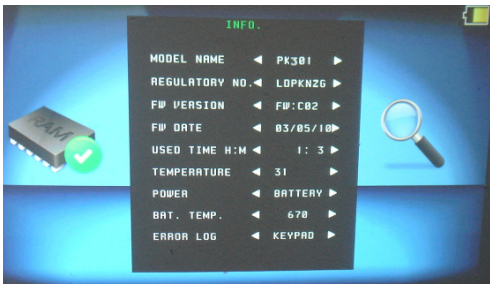
4. Wait a few minutes until the projector downloads finish,then the system will reboot.



5. When firmware upgrade procedure is finished,press "up","enter" and choose "Version" item. The new window will show the latest Multimedia Firmware Version for us to check if it is correct.



6. Get into service mode.Press "right","right" ,then check the System Firmware Version.



5-3 Equipment Needed

Software : (For PK320)

- SSD1936 firmware
- MST7286 firmware

Hardware :

- Projector (PK320)
- SD Card
- USB Male cable(42.0028DG001)
- Power adapter
- PC
- Monitor





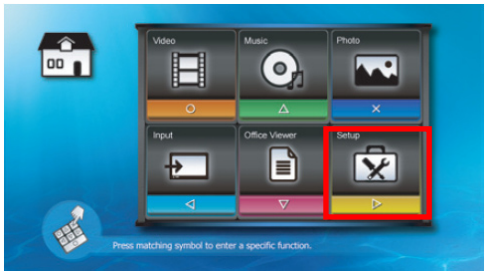
5-3-1 SSD1938 Firmware Upgrade Procedure

1.Copy SSD1936 firmware to the file named “Upgrade"

2.Copy the file to SD card by PC.

3.Insert SD card to projector.

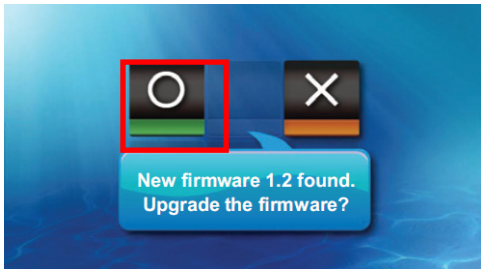
4.Turn on the projector ,then select “Setup”



5.Select “System”

5.Select “Firmware Update”

6.Choose “O” button to process the firmware upgrade.



7.Firmware upgrade procedure image will appear as the right picture shown.

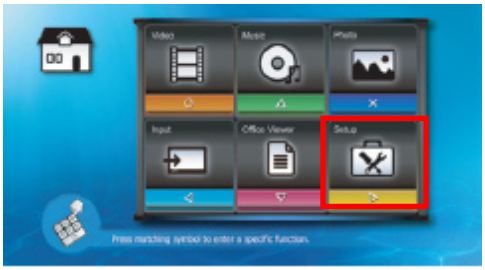
Note:1.Do not touch any buttons or turn off the projector while upgrading is in progress.Otherwise, this may damage the projector.

2.Do not remove the microSD card until the upgrade is complete.

8.When the screen below appears, update is complete. Press and hold the Power button for 6 seconds to turn off the projector.

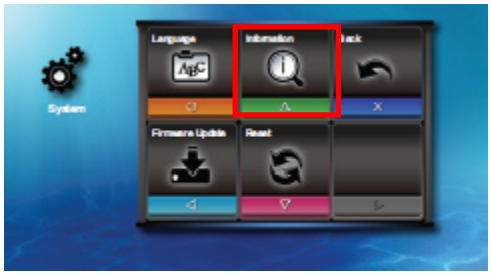
5-3-2 Check FW version

1. Restart the unit and select “Setup”



2. Select “System”

3. Select “Information”



4. The firmware version will be shows as red square .

5-3-3 MST7286 Firmware Upgrade Procedure

1.Copy MST7286 firmware to the file named “Upgrade" .

2. The MST7286 firmware upgrade procedure is same as SSD1936 firmware,please refer to the chapter 5-3-1 and chapter 5-3-2 to upgrade.

Chapter 6

EDID Upgrade

6-1 EDID Introduction

Extended Display Identification Data is a VESA standard data format that contains basic information about a display device and its capabilities, including vendor information, maximum image size, color characteristics, factory pre-set timings, frequency range limits, and character strings for the monitor name and serial number.

The information is stored in the display and is used to communicate with the system through a Display Data Channel (DDC), which sites between the display device and the PC graphics adapter. The system uses this information for configuration purposes, so the monitor and system can work together.

Note: The FW upgrade procedure for PK301/PK320/PK301 PLUS are the same,we take PK301 as an example here.

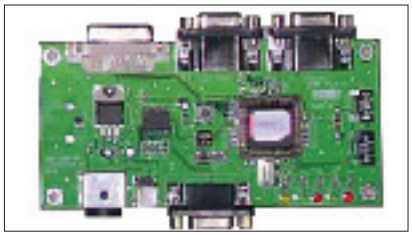
6-2 Equipment Needed

Software

- EDID Program (Generic V0.67)
- EDID File (*.ini)

Hardware

- Projector
- Generic Fixture :80.00001.001 for EDID Key-in (Fixture: JP3 must be closed)
- Power adapter for projector (P/N: 47.8BU11G001&47.8BU12G001)
- DVI-HDMI adapter(M-F)(P/N: 42.82B13G001)
- Mini HDMI to HDMI cable (P/N: 42.00253G001)
- Monitor
- PC
- Universal to VGA Cable (P/N: 42.0020AG001)
- RS-232 Cable (pin to pin, F-M) (P/N: 42.83618G001)
- Power adapter 2 for fixture(P/N: 47.57702G001)



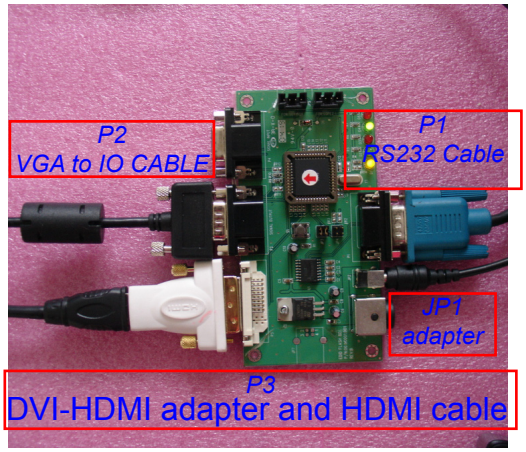




6-3 Setup Procedure

Connect all ports

- Power adapter 2 to fixture JP1.
- Fixture P1 to PC COM1 Port by RS232 cable.
- Fixture P2 to Projector "Universal I/O" port by VGA to IO cable.
- Fixture P3 to Projector "Mini HDMI" port by DVI-HDMI adapter and HDMI cable
- Connect the power adapter 1 to projector "DC in 5V" port.

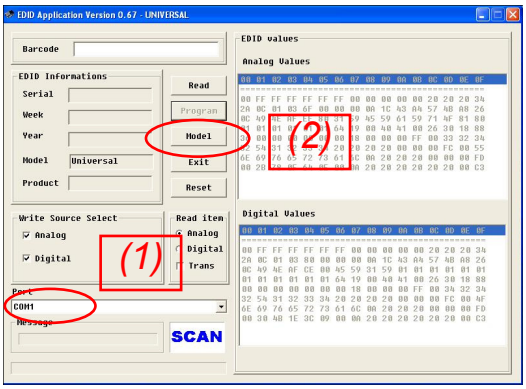


6-4 EDID Key-In Procedure (VGA & HDMI Interface)

1. Click on "EDID" to execute EDID program.
2. Choose model

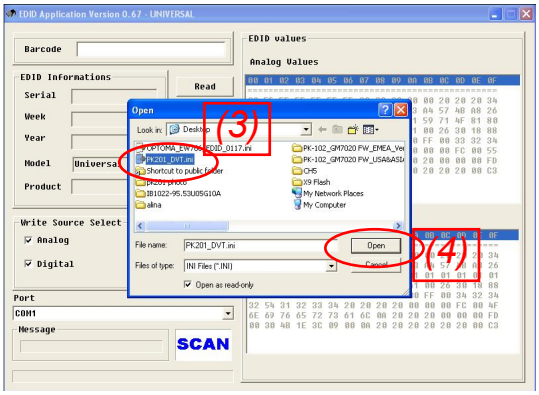
(1) In the port selection bar, please choose the port which you are using.

(2) Click on "Model".



(3) Choose the source file
"PK-301_EDID_All_XX.ini".

(4) Click "Open".

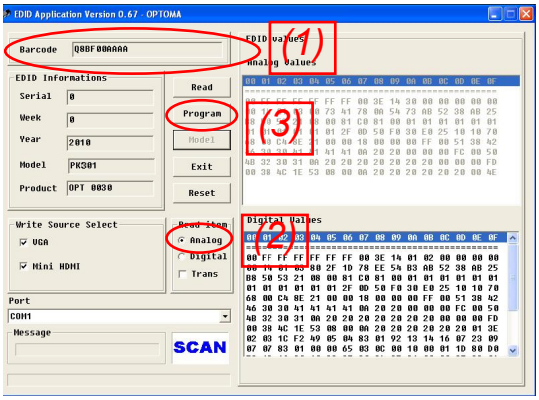


3. Programming

(1) Key in the serial number into the barcode blank space.

(2) In "Write Source Select", make a check in “Analog”.

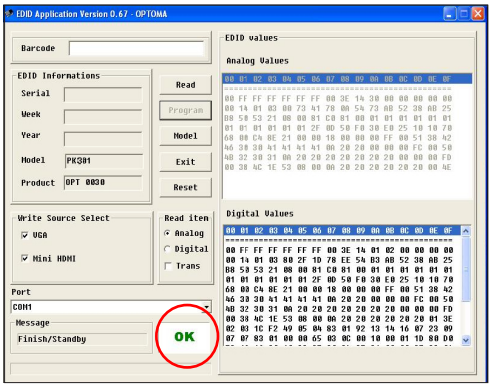
(3) Click "Program".



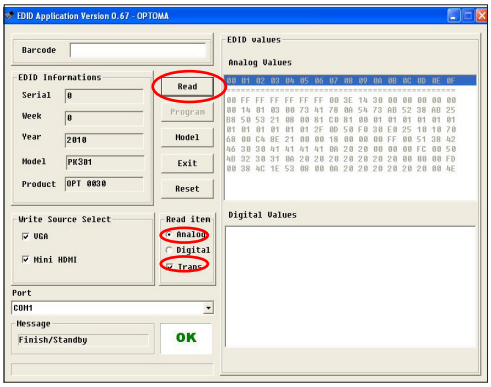
4. When the message “Please change the cable to VGA” is shown on the screen, click “OK” button.

5.When the message “Please change the cable to Mini HDMI” is shown on the screen, click “OK” button.

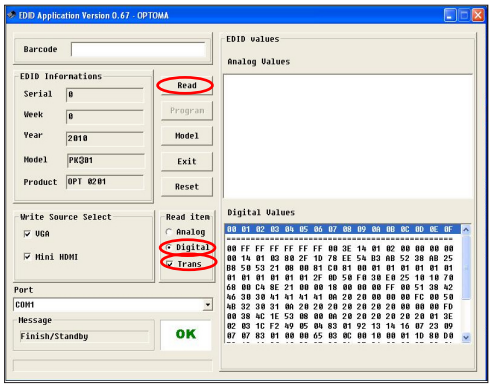
6. When the EDID program is completed, a message "OK" will appear on the screen.



7. Select "Trans" & "Analog" in the read item, and then click "Read" button, EDID information will show the result.



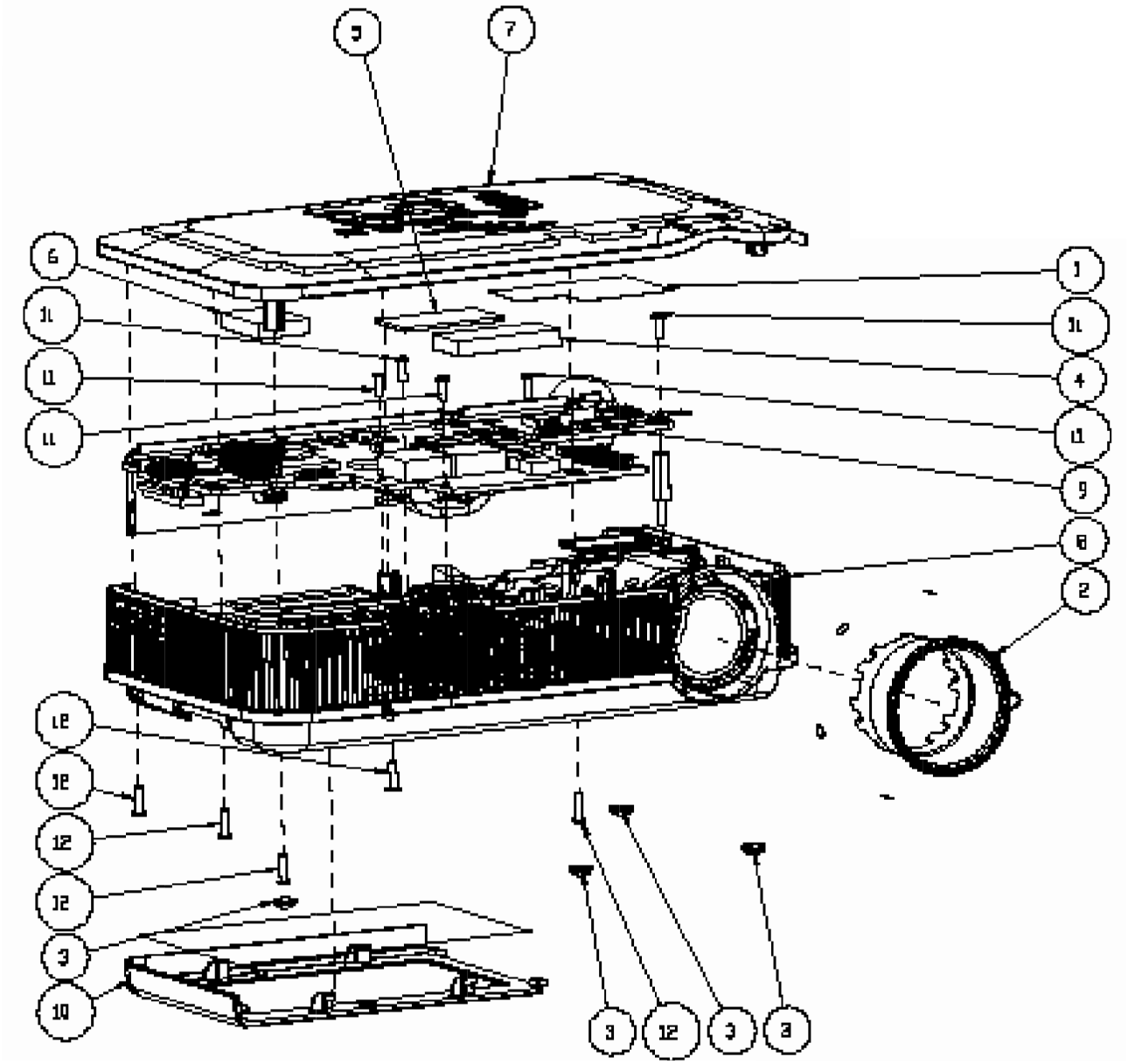
8. Select "Trans" & "Digital" in the read item, and then click "Read" button, EDID information will show the result.



Appendix A

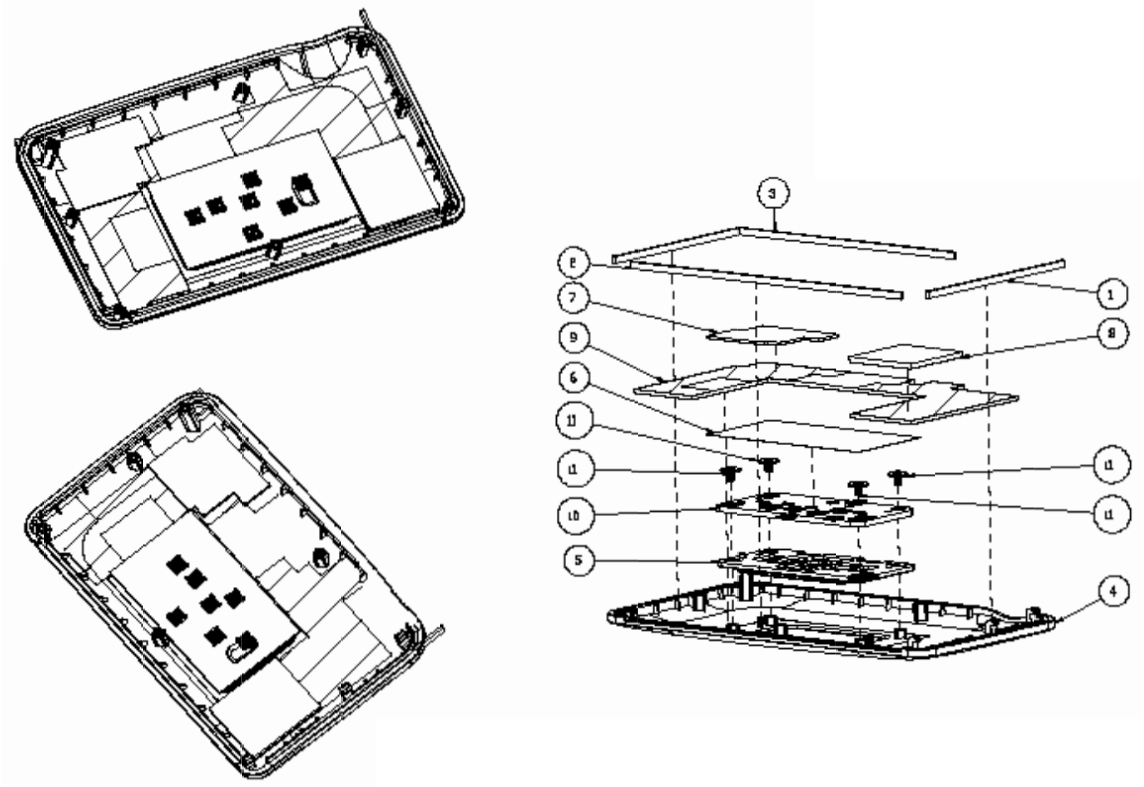
Exploded Image

D.C.



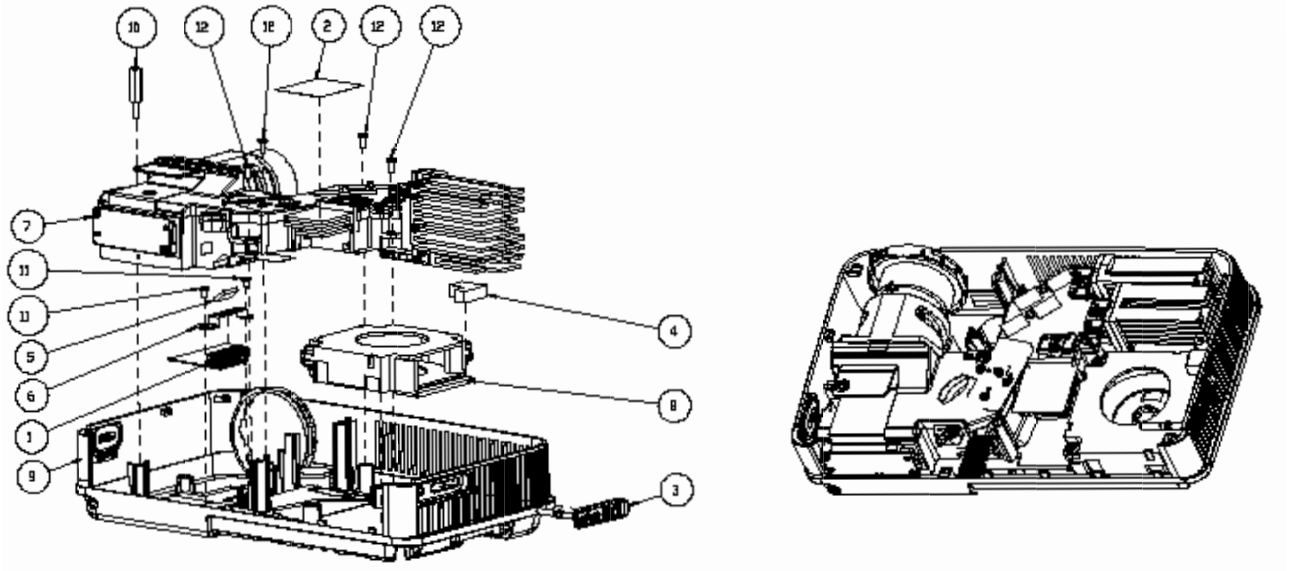
Item	Description	Part Supply
1	MAIN BOARD TAPE FPC J350B2 PK301	
2	FOCUS RING ABS PK301	V
3	RUBBERFOOT SILICON PK301	
4	M/B U85/U86 THERMAL PAD PK301	V
5	M/B L16/L17 THERMAL PAD PK301	V
6	M/B 7213D THERMAL PAD PK301	V
7	ASSY TOP COVER MODULE PK301	
8	ASSY BOTTOM COVER MODULE PK301	
9	ASSY IO COVER MODULE PK301	
10	BUY ASSY BATTERY COVER PK301	
11	SCREW FLAT MACHINE M1.4*4.0 P=0.3	
12	SCREW FLAT MACHINE M1.4*5.0 P=0.3	

Assy Top Cover Module



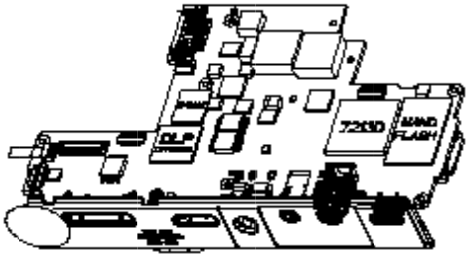
Item	Description	Part Supply
1	EMI GASKET W2 X H1 X L65	
2	EMI GASKET W2 X H1 X L100	
3	EMI GASKET W2 X H1 X L140	
4	TOP COVER MN-3600H PK301	V
5	KEY BUTTON P+R PK301	V
6	KEYPAD BOARD TAPE J350B2 PK301	
7	HEAT SINK SPONGE PK301	V
8	TOP COVER SPONGE PK301	V
9	TOP COVER CU PLATE BACK PK301	
10	KEY PAD BOARD PK301	V
11	SCREW CAP HEAD MECH M1.4*3.0	

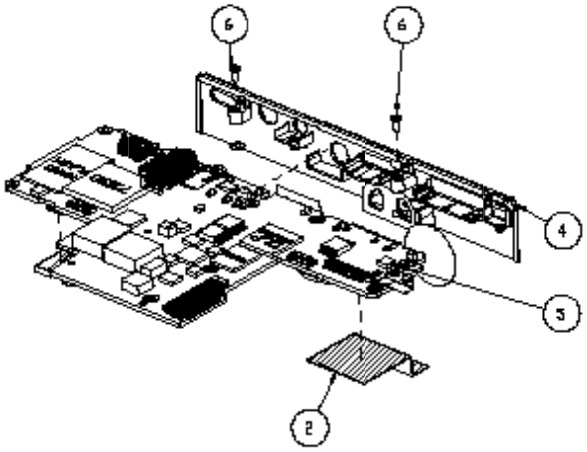
Assy Bottom Cover Module

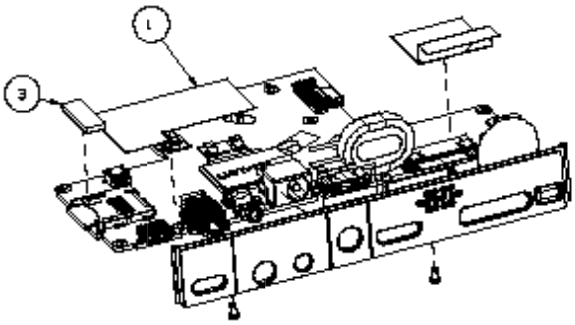


Item	Description	Part Supply
1	W.A. 8P 28# 120mm MAIN BOARD TO BATTERY PK301	
2	BLUE MCPCB TAPE J350B2 PK301	
3	MICRO SD CARD ANTI-DUST COVER SILICON PK301	V
4	BLOWER FAN SPONGE TOP F12 PK301	
5	BATTERY CNNT SPONGE CR-4305 PK301	
6	BATTERY CNNT BARCKET SUS301 PK301	
7	ASSY ENGINE MODULE PK301	
8	ASSY BLOWER FAN MODULE PK301	
9	BUY ASSY BOTTOM COVER MODULE PK301	V
10	COPPER BOSS L=8.95mm	
11	SCREW FLAT MACHINE M1.4*2.0 P=0.3	
12	SCREW FLAT MACHINE M1.4*3.0 P=0.3	

Assy Main Board Module

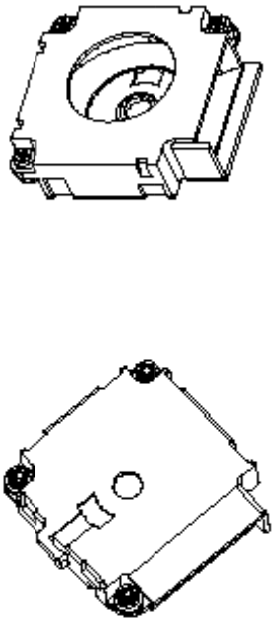


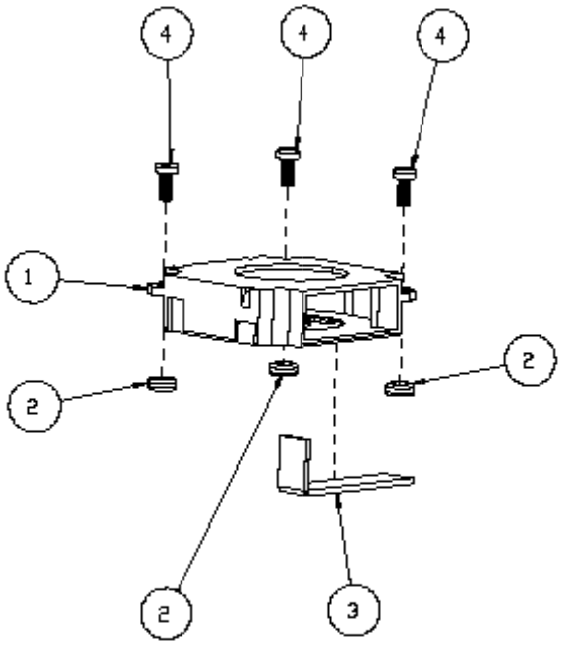




Item	Description	Part Supply
1	MAIN BOARD TAPE THERMAL J350B2 PK301	
2	MAIN BOARD TAPE J350B2 PK301	
3	SD CARD CNNT RUBBER SILICON PK301	
4	BUY ASSY IO COVER MODULE PK301	V
5	MAIN BOARD PK301	V
6	SCREW FLAT MACHINE M1.4*3.0 P=0.3	

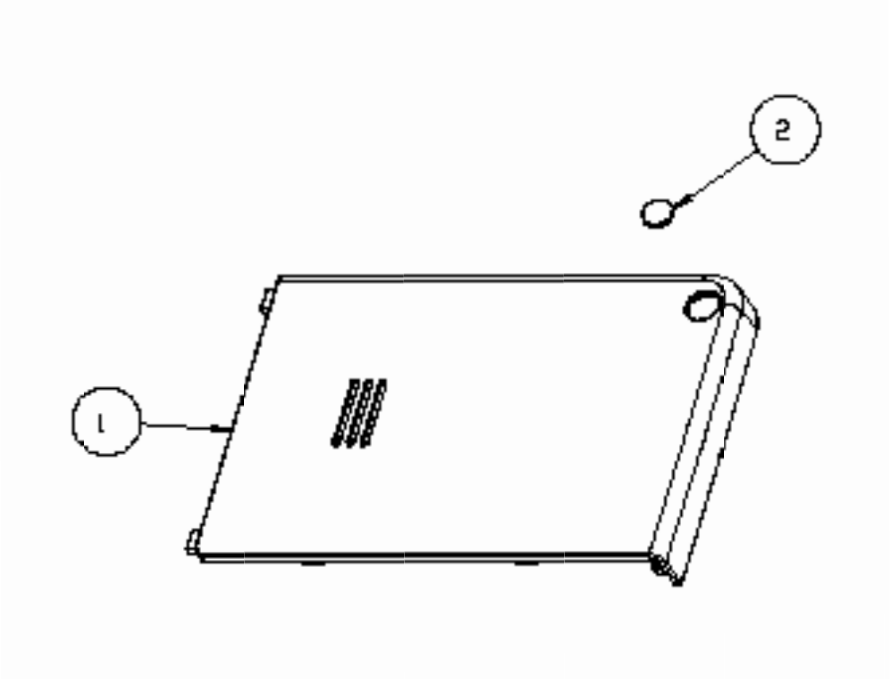
Assy Blower Module





Item	Description	Part Supply
1	*BLOWER FAN PK302*	*V*
2	*BLOWER FAN DAMPER PK301*	
3	*BLOWER FAN SPONGE FRONT F12 PK301*	
4	*SCREW PAN MECH M2*5 BLACK*	

Assy Battery Cover Module



Item	Description	Part Supply
	ASSY BATTERY COVER MODULE PK301(SERVICE)	*V*
1	*BATTERY COVER MN-3600HA PK301*	*V*
2	*RUBBER FOOT SILICON PK301*	*V*

Appendix B

I. Serial Number System Definition

Serial Number Format for Projector

Q	8CU	0	08	AAAA A	C	0001
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) : **Q = Optoma**

(2) : **8CU = Project code**

(3) : **0 = Last number of the manufacture year (ex:2010 = 0)**

(4) : **08 = week of the manufacture year (ex:the eighth week of the year = 08)**

(5) : **AAAAA= Not Defined**

(6) : **C = Manufacture factory (CPC)**

(7) : **0001= Serial Code**

EX: Q8CU008AAAAC0001

This label represents the serial number for PK-301. It is produced for USA at CPC on eight week of 2010.

II. PCBA Code Definition

PCBA Code for Projector

A	B	XXXXXXXXXX	C	XXX	EEEE
①	②	③	④	⑤	⑥

① : ID

② : Vendor Code

③ : P/N

④ : Revision

⑤ : Date Code

⑥ : S/N