SERVICE MANUAL

EP776/EP782/EP776W/TX776/TX776W/OPX4100/TX782/ TX782W/OPX4800/EP782W

Date	Revise Version	Description
2008.02.29	V1.0	Initial Issue
2008.03.25	V2.0	Modify Chapter 1
2008.05.26	V3.0	Add extended models (EP776W/TX776/TX776W/OPX4100/TX782/TX782W/ OPX4800/EP782W)

 P/N: 36.88E01G001

SI : Emy TSE: Yoyo Check: Brian Approved: C.C Chen

Preface

This manual is applied to EP776/EP782/EP776W/TX776/TX776W/OPX4100/TX782/ TX782W/OPX4800/EP782W 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.

Notice:

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.

EP776 Series/EP782 Series Service Manual

Manual Version 3.0

EP776W(TX776W)&EP782 (TX782,OPX4800)Comparison List							
EP776W(TX776W)				EP782 (TX782,OPX4800)			
1	DC.88E02G001	A	D.C. EP776 WITH WIRELESS	1	DC.88B01G001	A	D.C. EP782
1	75.88B10G001	A	BUY ASSY WIRE-LESS PCBA MOD-ULE				
1	70.88E20GR01	A	OSRAM 280W LAMP DRIVER FOR EP7	1	70.88B22GR01	B	PHILIPS 330W LAMP DRIVER FOR E
1	SP.88E01GC01	A	LAMP MODULE FOR PROJECTOR EP77	1	SP.88B01GC01	B	LAMP MODULE FOR PROJEC-TOR EP78
1	70.88E24GR01	D	ASSY PCBA MAIN BD MODULE FOR U	1	70.88B24GR01	D	ASSY PCBA MAIN BD MOD-ULE FOR E
1	70.88E11GR01	C	ASSY ENGINE MODULE EP776 (SERV	1	70.88B21GR01	C	ASSY ENGINE MODULE EP782 (SERV
1	70.88E10GR01	A	ASSY COLOR WHEEL MODULE EP776	1	70.88B23GR01	A	ASSY COLOR WHEEL MOD-ULE EP782
1	75.85H14G001	B	ASSY LVPS LITE-ON HD81	1	75.88B07G001	A	MATRITEK 350W LVPS FOR EP782(A
1	75.88E01G002	A	BUY ASSY INTER-RUPT SWITCH MODU	1	75.88B02G002	A	BUY ASSY INTERRUPT SWITCH MODU
				1	49.89K01G001	A	SUNON GB-1205PKV1-8AY 50X50X20
1	75.88E02G001	A	BUY ASSY THER-MAL SWITCH MODULE	1	75.88B04G001	A	BUY ASSY THERMAL SWITCH MOD-ULE
1	35.88E01G001	A	LAMP WARNING LABEL 280W PC EP7	1	35.88B04G001	A	LAMP WARNING LABEL 330W PC EP7
1	75.88B14G012	A	BUY ASSY IO COVER MODULE WITH	1	75.88B14G003	A	BUY ASSY IO COVER MOD-ULE FOR E

EP776W(TX776W)&EP782W(TX782W) Comparison List							
EP776W(TX776W)				EP782W(TX782W)			
1	DC.88E02G001	A	D.C. EP776 WITH WIRELESS	1	DC.88B02G001	A	D.C. EP782 WITH WIRE-LESS
1	70.88E20GR01	A	OSRAM 280W LAMP DRIVER FOR EP7	1	70.88B22GR01	B	PHILIPS 330W LAMP DRIVER FOR E
1	SP.88E01GC01	A	LAMP MODULE FOR PROJECTOR EP77	1	SP.88B01GC01	B	LAMP MODULE FOR PROJEC-TOR EP78
1	70.88E24GR01	D	ASSY PCBA MAIN BD MODULE FOR U	1	70.88B24GR01	D	ASSY PCBA MAIN BD MOD-ULE FOR E
1	70.88E11GR01	C	ASSY ENGINE MOD-ULE EP776 (SERV	1	70.88B21GR01	C	ASSY ENGINE MODULE EP782 (SERV
1	70.88E10GR01	A	ASSY COLOR WHEEL MODULE EP776	1	70.88B23GR01	A	ASSY COLOR WHEEL MOD-ULE EP782
1	75.85H14G001	B	ASSY LVPS LITEON HD81	1	75.88B07G001	A	MATRITEK 350W LVPS FOR EP782(A
1	75.88E01G002	A	BUY ASSY INTER-RUPT SWITCH MODU	1	75.88B02G002	A	BUY ASSY INTERRUPT SWITCH MODU
1	75.88E02G001	A	BUY ASSY THERMAL SWITCH MODULE	1	75.88B04G001	A	BUY ASSY THERMAL SWITCH MOD-ULE
1	35.88E01G001	A	LAMP WARNING LA-BEL 280W PC EP7	1	35.88B04G001	A	LAMP WARN-ING LABEL 330W PC EP7

EP776W(TX776W)&EP776(TX776,OPX4100) Comparison List							
EP776W(TX776W)				EP776(TX776,OPX4100)			
1	DC.88E02G001	A	D.C. EP776 WITH WIRE-LESS	1	DC.88E01G001	A	D.C. EP776
1	75.88B10G001	A	BUY ASSY WIRELESS PCBA MODULE				
1	75.88B14G012	A	BUY ASSY IO COVER MODULE WITH	1	75.88B14G003	A	BUY ASSY IO COVER MOD-ULE FOR E

Table of Content

Chapter 1

Introduction

1-1 Highlight

No	Item	Description
1	Dimensions	- 393.2*302.6*136.4mm, with foot
2	Weight	- <12lbs (5.45kg)
3	Tilt Angle	- >7°
4	Power Supply	- 100V ~ 240V + 10% 50~60Hz
5	Keystone correction	- Manual Vertical-keystone +/- 16 degrees
6	DMD	- Single 0.7” XGA DarkChip3, 2xLVDS, type A
7	Brightness	For EP776/EP776W/TX776/TX776W/OPX4100 - 3600 lumens Typical - 3250 lumens Minimum For EP782/EP782W/TX782/TX782W/OPX4800 - 4100 lumens Typical 3700 lumens Minimum
8	Contrast	- 2000:1 (Typical) - 1500:1 (Minimum)
9	Uniformity	- 60% (minimum)
10	Throw ratio	- 1.57 ~ 1.89:1 with optional Add-on Short Throw (Wide 0.83x) and Long Throw (Tele 1.25x) lens
11	Displayable colors	- 134.2 million colors 512 shades of gray
12	Projection lens	- F/2.52-2.79; f22.55-27.06 : 1.2x
13	Lamp life	- 2000 hrs (BRIGHT), 3000hrs (STD) 50% survival rate with 50% lumen
14	Color temperature	- Low/Mid/High selectable(adjustable from 5000ºK – 9500ºK)
15	Projection Screen Size	- Adjustable 39.1” to 313.5”.(Diagonal)
16	Projection distance	- 1.5 – 10 meter
17	Offset	- 110% +/-10%
18	Aspect ratio	- 4:3, 16:9 -I, 16:9 –II, Window
19	Chips set	- DDP2230/DAD2000/PMD1000
20	De-interlace and Scalar	- DDP2230 w/. Brilliant Color ™

No	Item	Description
21	Inputs signal spec.	- 1x DVI-I (connector) (accept DVI-D signal) with HDCP - 1x HDMI with HDCP - 2x VGA (D-sub 15) (support RGB/YPbPr, and only VGA1 support SCART) - 1x S-Video - 1x Composite - 5x Audio-In (for following video inputs: DVI, VGA1, VGA2, S-Video and Composite) - 1x RS232 - 1x RJ-45 LAN - 1x USB - 2x IR Remote-Control Receivers (top and front) - 1x Optional Built-in Wireless Module(For EP776W/ EP782W)
22	Outputs signal spec.	- 1x VGA-Out (D-sub 15) - 1x Audio-Out (φ3.5mm phone jack) - 2x 3W speakers - 1x 12V relay
23	Signal support	- NTSC: M (3.58MHz), 4.43 MHz, 480i - PAL: B, D, G, K, I, M, N - SECAM: B, D, G, K, K1, L - SDTV/HDTV: 480i/p, 576i/p, 720p@50Hz/60Hz, 1080i@ 50/60Hz,1080p@50Hz/60Hz.
24	Power consumption	Full Mode: - 400 Wmax(EP776/EP776W/TX776/TX776W/OPX4100) - 460 Wmax(EP782/EP782W/TX782/TX782W/OPX4800) Eco Mode: - 330w (Max) (EP776/EP776W/TX776/TX776W/OPX4100) - 375w (Max) (EP782/EP782W/TX782/TX782W/OPX4800)
25	Color wheel	- 5 segments - R80Y30G84W90B76
26	Lamp	- EP776/EP776W/TX776/TX776W/OPX4100 280W lamp (Osram, requires BRIGHT/STD mode) - EP782/EP782W/TX782/TX782W/OPX4800 330W lamp (Philips, requires BRIGHT/STD mode)
27	Temperature	- Operating 5-35°C, 80% humidity Storage: 20 - 60°C, 80% humidity Altitude: 5 - 35°C @ 0 – 2500 ft 5 - 30°C @ 2500 – 5000 ft 5 - 25°C @ 5000 – 10,000 ft Maximum storage altitude 40,000 ft

No	Item	Description
28	Light Leakage	- The light leakage of halo around the image shall be specified in quality section but DMD mask or aperture in lens are required - The stray light outside the active region is under 0.8lux at 60” full black screen
29	Operational Noise	For EP782/EP782W/TX782/TX782W/OPX4800 - Typical :37dB/33dB for Bright(330W)/Std(270W) mode Max :39dB/35dB for Bright(330W)/Std(270W) mode For EP776/EP776W/TX776/TX776W/OPX4100 - Typical : 32dB/30dB for Bright(280W) /Std(230W) mode Max : 34dB/32dB for Bright(280W) /Std(230W) mode (at 23+/-2 deg C ambient temperature, 7200 RPM color wheel rotational speed, following ISO 7779 regulation, A-weighted sound pressure level measurement)

1-2 Compatible Mode

Computer Compatibility (Analog)

Compatibility	Resolution	V-Sync [Hz]	H-Sync [KHz]
VGA	640x350	70	31.5
	640x350	85	37.9
	640x400	85	37.9
	640x480	60	31.5
	640x480	72	37.9
	640x480	75	37.5
	720x400	70	31.5
	720x400	85	37.9
SVGA	800x600	56	35.2
	800x600	60	37.9
	800x600	72	48.1
	800x600	75	46.9
XGA	1024x768	60	48.4
	1024x768	70	56.5
	1024x768	75	60.0
SXGA	1152x864	60	53.5
	1152x864	70	63.8
	1152x864	75	67.5
	1152x864	85	77.1
	1280x1024	60	63.98
	1280x1024	75	79.98
	1280x1024	85	91.1
	1280x960	60	60.0
WXGA	1280 x 800	60	49.68
SXGA+	1400x1050	60	63.98
UXGA	1600x1200	60	75.00
MAC LC 13”	640x480	66.66	34.98
MAC II 13”	640x480	66.68	35
MAC 16”	832x624	74.55	49.725
MAC 19”	1024x768	75	60.24
MAC	1152x870	75.06	68.68
MAC G4	640x480	60	31.35
i Mac DV	1024x768	75	60
i Mac DV	1152x870	75	68.49
i Mac DV	1280x960	60	60.0

Computer Compatibility (Digital)

Compatibility	Resolution	V-Sync [Hz]	H-Sync [KHz]
VGA	640x350	70	31.5
	640x350	85	37.9
	640x400	85	37.9
	640x480	60	31.5
	640x480	72	37.9
	640x480	75	37.5
	720x400	70	31.5
	720x400	85	37.9
SVGA	800x600	56	35.2
	800x600	60	37.9
	800x600	72	48.1
	800x600	75	46.9
XGA	1024x768	60	48.4
	1024x768	70	56.5
	1024x768	75	60.0
SXGA	1152x864	60	53.5
	1152x864	70	63.8
	1152x864	75	67.5
	1152x864	85	77.1
	1280x1024	60	63.98
	1280x1024	75	79.98
	1280x1024	85	91.1
	1280 x 960	60	60.0
WXGA	1280 x 800	60	49.68
SXGA+	1400x1050	60	63.98
UXGA	1600x1200	60	75.00

Chapter 2

Disassembly & Assembly Process

2-1 Equipment Needed & Product Overview

1. Screw Bit (+) :107
2. Hex Sleeves 5mm
3. Screw Bit (+) :102
4. Hex Sleeves 7mm
5. EP776W 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 get into service mode and record the lamp usage hour. please refer to section 2-30.*

Note:EP776 Series&EP782 Series are the same,here we take EP776W as an example.





2-2 Disassemble Lamp Cover Module

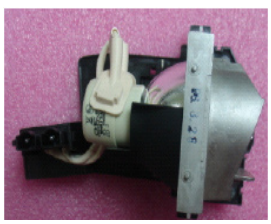
1. Unscrew 1 screw
2. Press 2 tenons to disassemble Lamp Cover Module

Lamp Cover Module

2-3 Disassemble Lamp Module

1. Unscrew 2 screws to disassemble Lamp Module

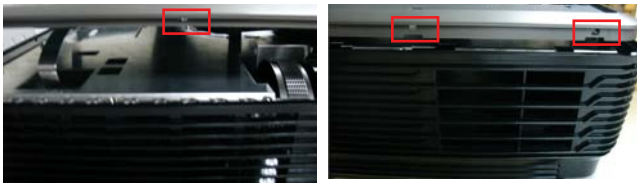
Note:You should cooling the unit at least 30 minutes,then you can disassemble the lamp module

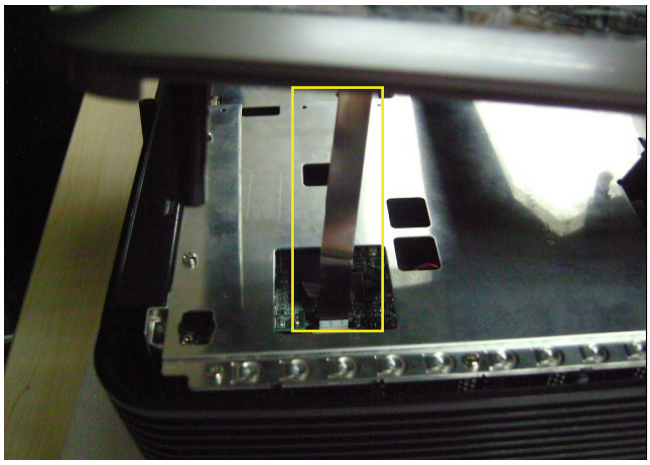


Lamp Module

2-4 Disassemble Top Cover Module

1. Unscrew 5 screws
2. Press 1 tenon on the right side and 2 tenons on the left side (As red square)
3. Unplug 1 connector to disassemble Top Cover Module (As yellow square)

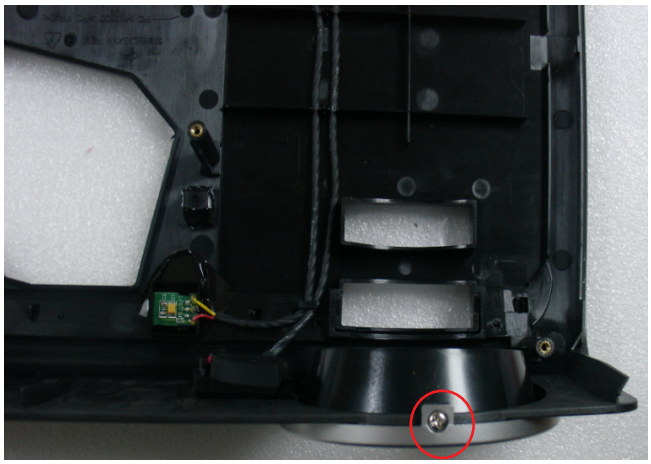




Top Cover Module

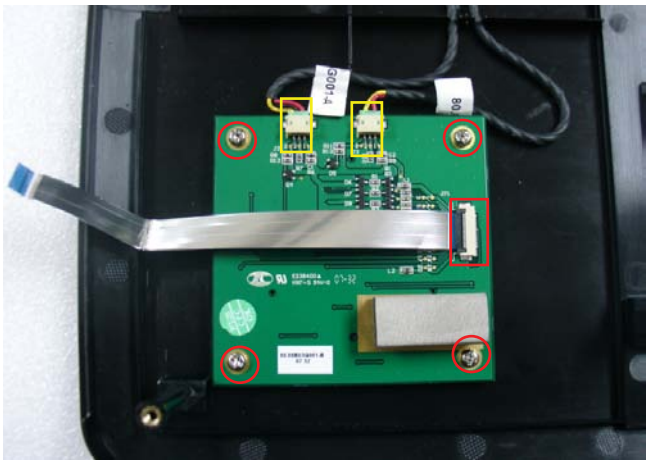
2-5 Disassemble Front Ring Module

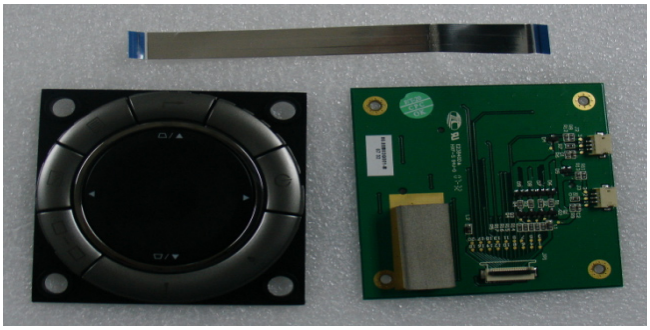
1. Unscrew 1 screw to disassemble Front Ring Module



2-6 Disassemble Keypad Module

1. Unscrew 4 screws (As red circle)and unplug 2 connectors(As yellow square)
2. Unplug 1 connector to disassemble FPC Cable(As red square)
3. Disassemble all components of the Keypad Module

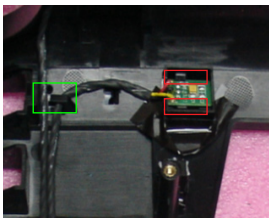


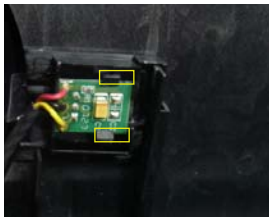


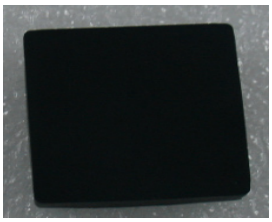
2-7 Disassemble IR Sensor Module

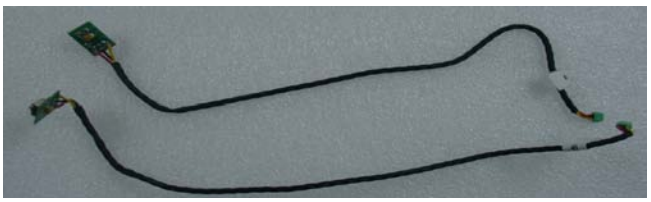
1. Press 2 tenons to disassemble Front IR Sensor Module(As red square)
2. Disassemble Top IR Sensor Rubber
3. Press 2 tenons to disassemble Top IR Sensor Module (As yellow square)

Note: - Disassemble the cable from plastic tie(As green square)









IR Sensor Module

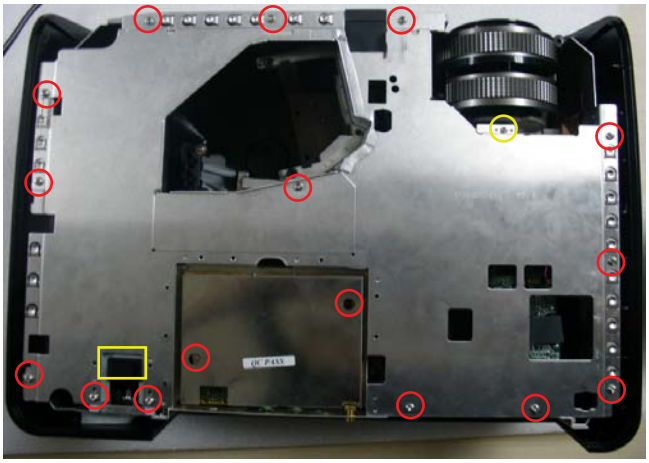
2-8 Disassemble Rear Cover Module

1. Unscrew 3 screws
2. Disassemble an aerial
3. Disassemble Rear Cover Module

Rear Cover Module

2-9 Disassemble Top Shielding & Wireless Module(For EP776W/ EP782W/TX776W/ TX782W)

1. Unscrew 16 screws
2. Unscrew 1 screw
3. Disassemble Wireless Module
4. Take off Interrupt Switch from Top Shielding
5. Disassemble Top Shielding

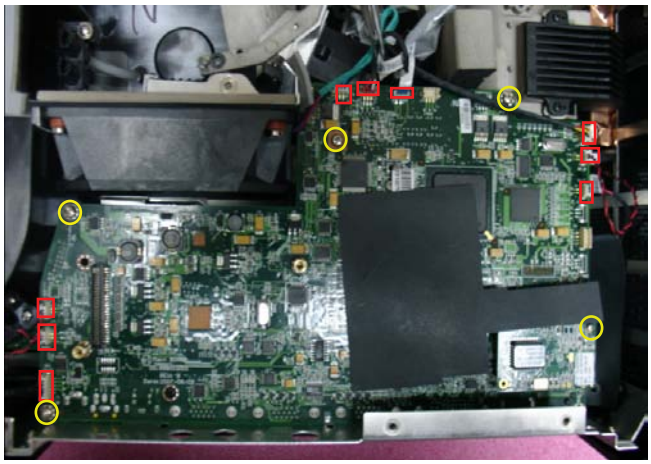


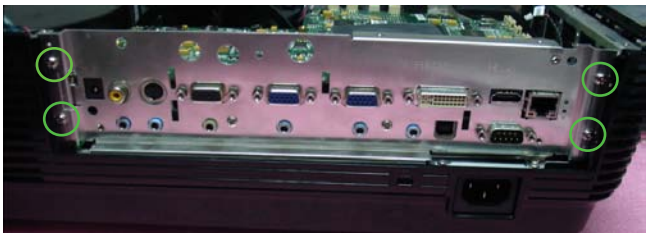
Wireless Module

Top Shielding

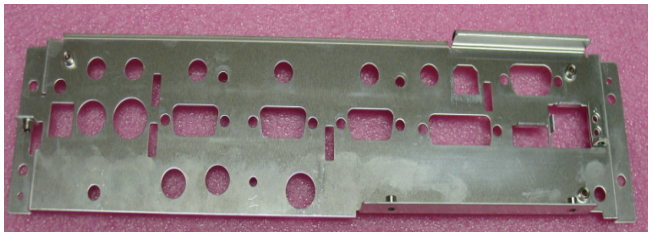
2-10 Disassemble Main Board Module

1. Unscrew 5 screws (As yellow circle)and unplug 9 connectors(As red square)
2. Unscrew 4 screws to disassemble Main Board Module (As green circle)
3. Unscrew 10 Hex screws (As red circle) and 2 screws (As yellow circle) to disassemble Iron cut



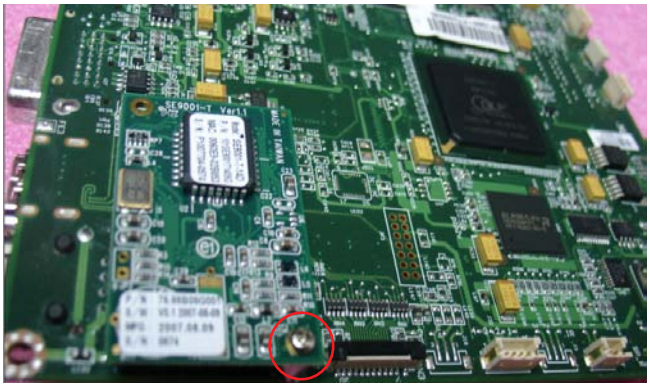


Main Board Module



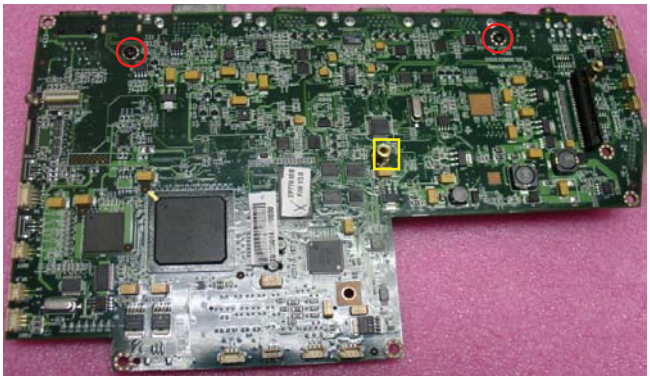
2-11 Disassemble Network Module

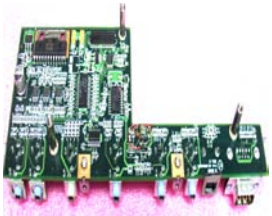
1. Unscrew 1 screw to disassemble Network Module



2-12 Disassemble IO Board Module

1. Unscrew 2 screws
2. Disassemble 1 Copper Pillar
3. Disassemble IO Board from Main Board Module



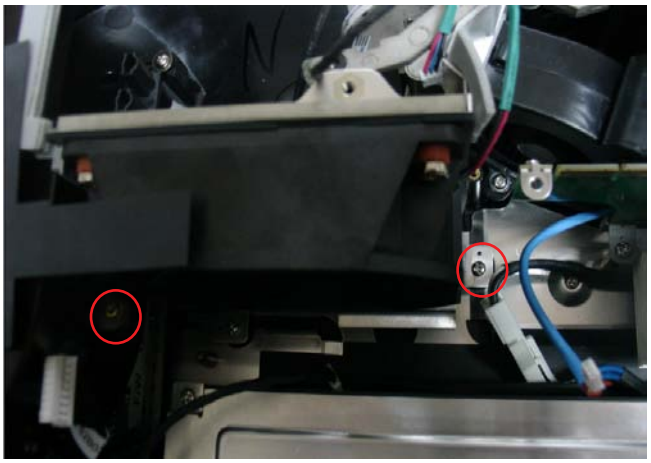


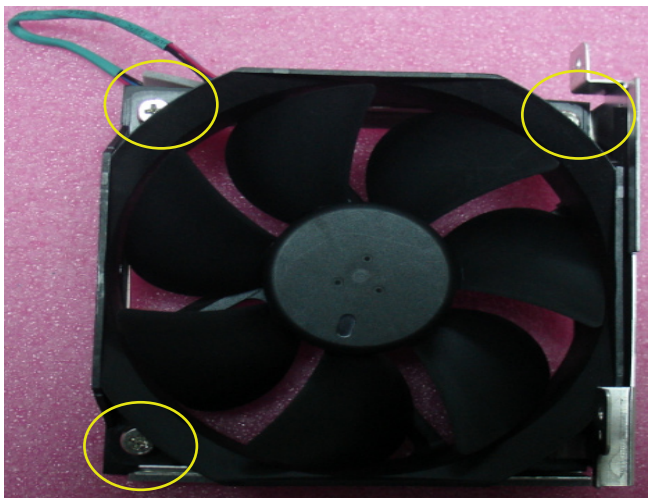
IO Board Module

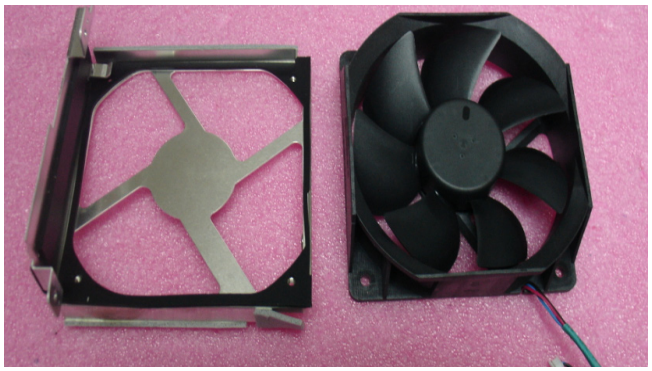
Main Board Module

2-13 Disassemble Fan Module

1. Unscrew 2 screws to disassemble Fan Module
2. Unscrew 3 screws to disassemble Fan Shielding from Fan Module

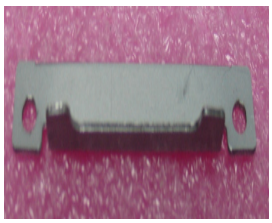




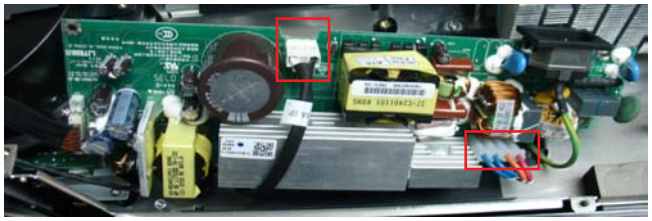


2-14 Disassemble LVPS Module

1. Unscrew 4 screws
2. Unscrew 1 screw to disassemble LVPS Shielding
3. Unscrew 3 screws to disassemble Mylar and Iron Cut



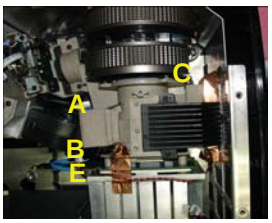
4. Unplug 2 connector to disassemble LVPS Module

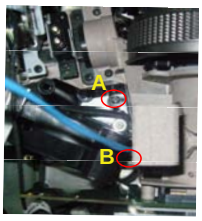


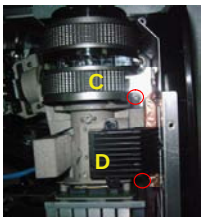
LVPS Module

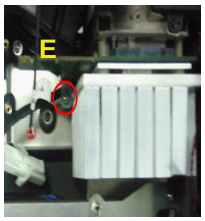
2-15 Disassemble Engine Module

1. Unscrew 7 screws to disassemble Engine Module

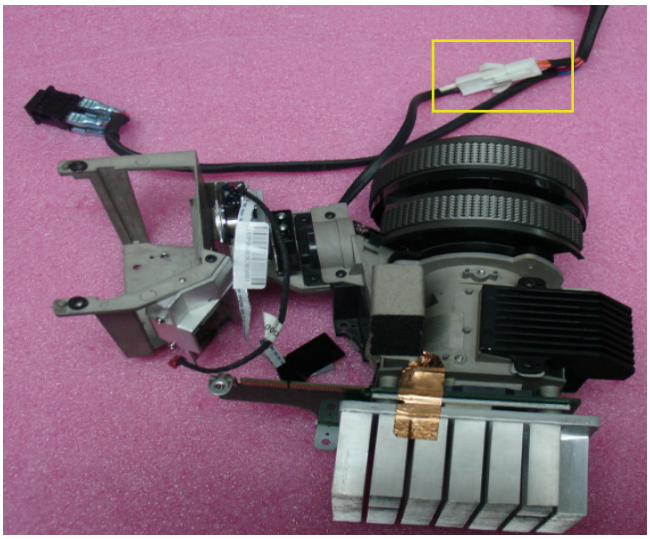




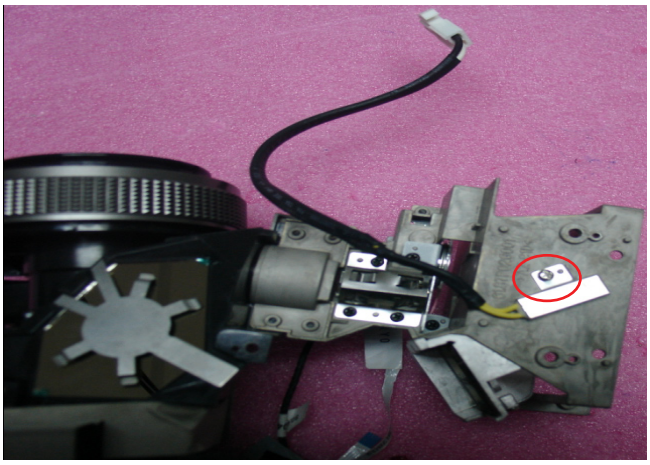




2. Unplug 1 connector to disassemble Limit Switch



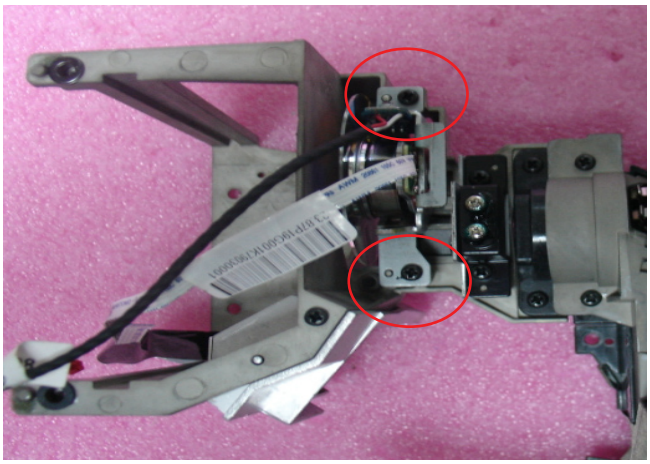
3. Unscrew 1 screw to disassemble Thermal Switch



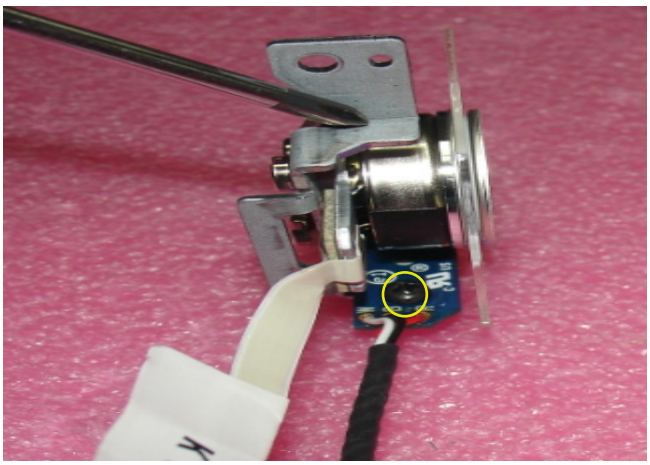
Thermal Switch

2-16 Disassemble Color Wheel Module

1. Unscrew 2 screws to disassemble Color Wheel Module
2. Unscrew 1 screw to disassemble Photo Sensor Module from Color Wheel Module



Color Wheel Module



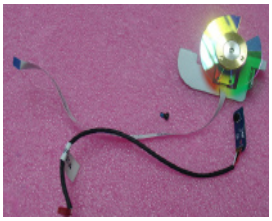
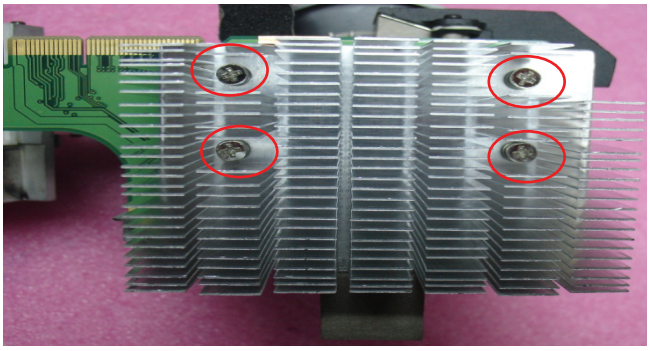
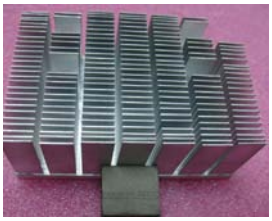


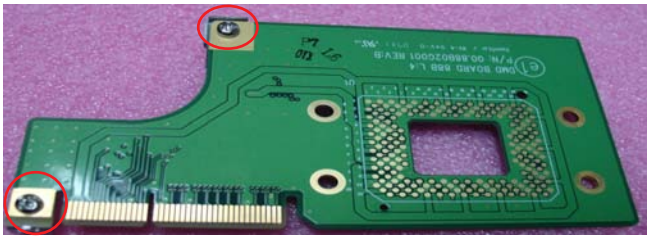
Photo Sensor Module

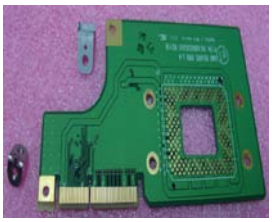
2-17 Disassemble DMD Board & DMD Chip Module

1. Unscrew 4 screws to disassemble Heat Sink
2. Unscrew 4 screws to disassemble DMD Board and DMD Chip
3. Unscrew 2 screws to disassemble 2 Iron Cuts



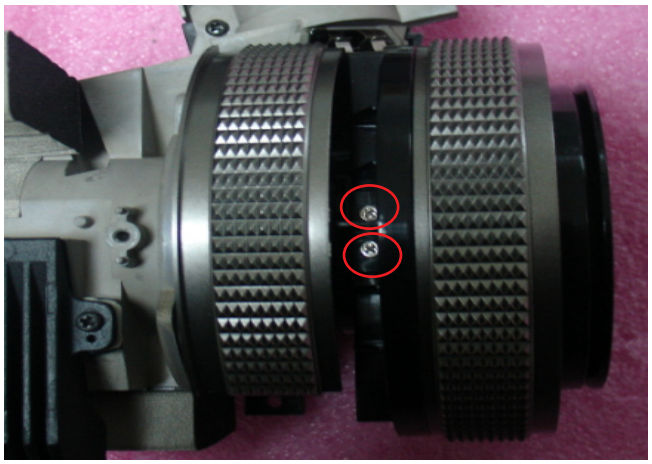






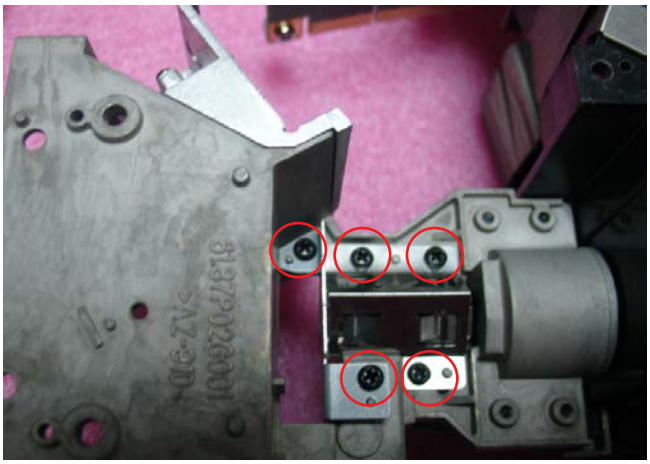
2-18 Disassemble Zoom Ring & Zoom Ring Base & Focus Ring

1. Unscrew 2 screws to disassemble Zoom Ring & Zoom Ring Base
2. Unscrew 3 screws to disassemble Focus Ring



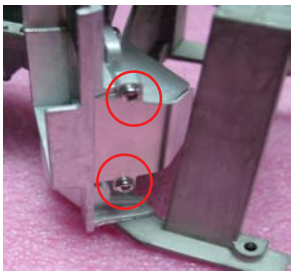
2-19 Disassemble Rod Module

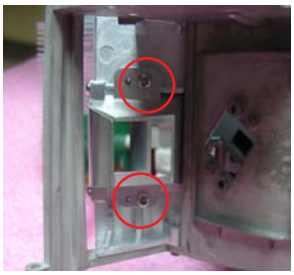
1. Unscrew 5 screws to disassemble Rod Module



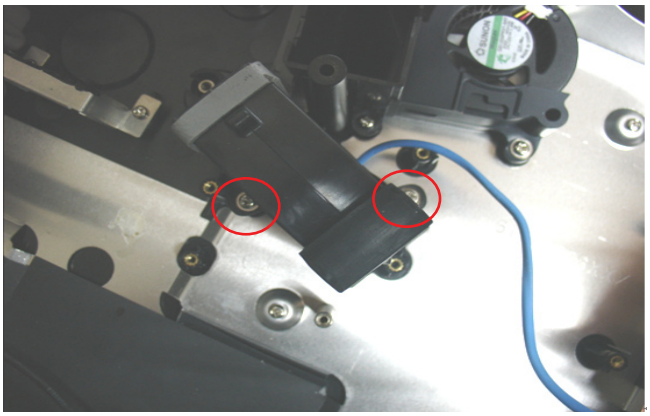
2-20 Disassemble Duct Module

1. Unscrew 4 screws to disassemble Duct Module

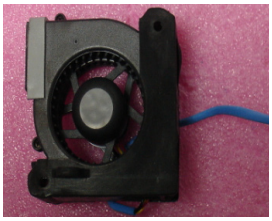




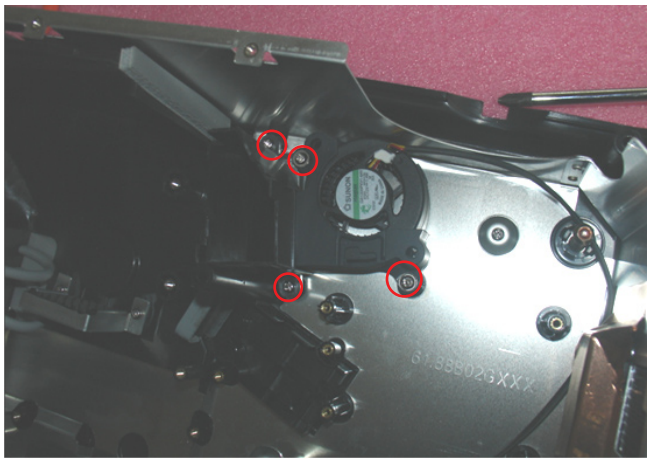
2-21 Disassemble Blower Module



1. Unscrew 2 screws to disassemble Blower Module
2. Disassemble Blower Holder from Blower Module



2-22 Disassemble Rod Blower Module & Duct Module

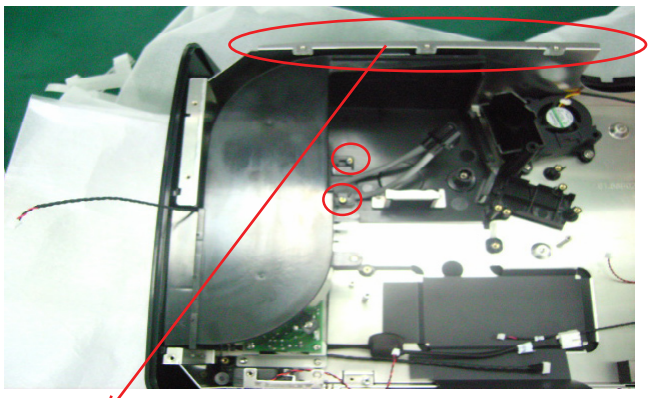


1. Unscrew 4 screws to disassemble Rod Blower Module & Duct Module & Blower Holder

2-23 Disassemble Wind Tunnel Module

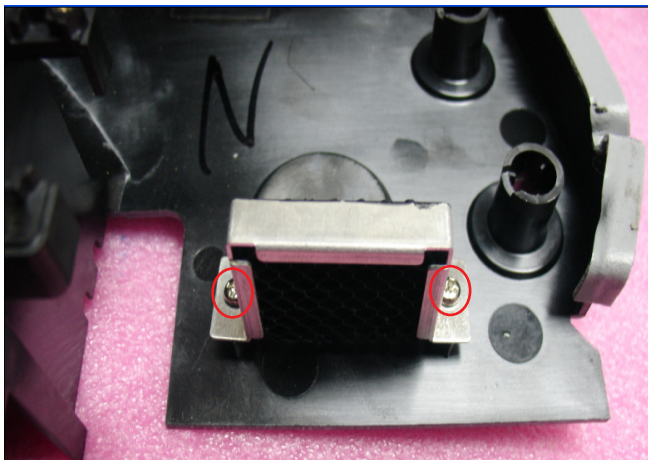
1. Unscrew 3 screws to disassemble Wind Tunnel Module

Note: - The screw (As yellow circle) is in the front side of the unit



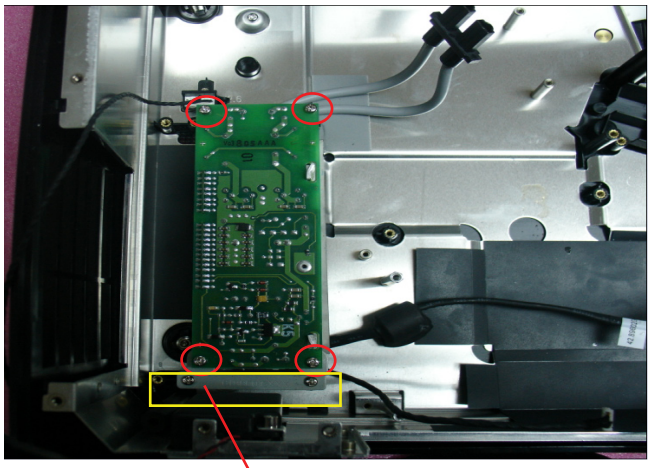
2-24 Disassemble Honeycombed Module

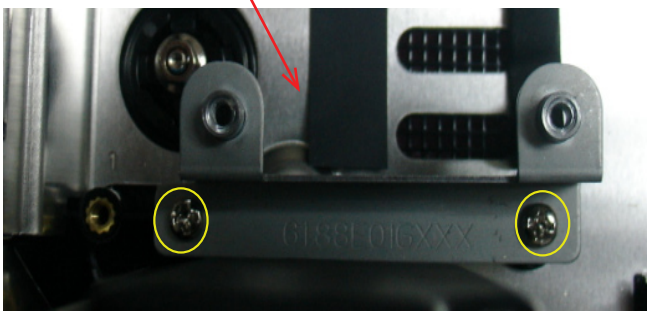
1. Unscrew 2 screws to disassemble Honeycombed Module



2-25 Disassemble Lamp Driver Module

1. Unscrew 4 screws (As red circle)to disassemble Lamp Driver Module
2. Unscrew 2 screws (As yellow circle)to disassemble Lamp Driver Support



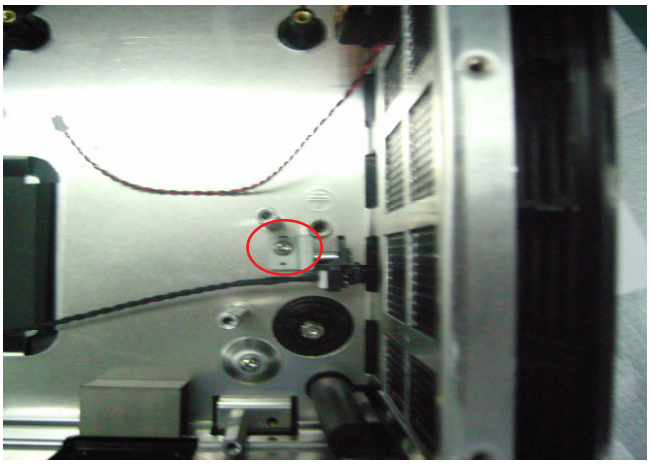


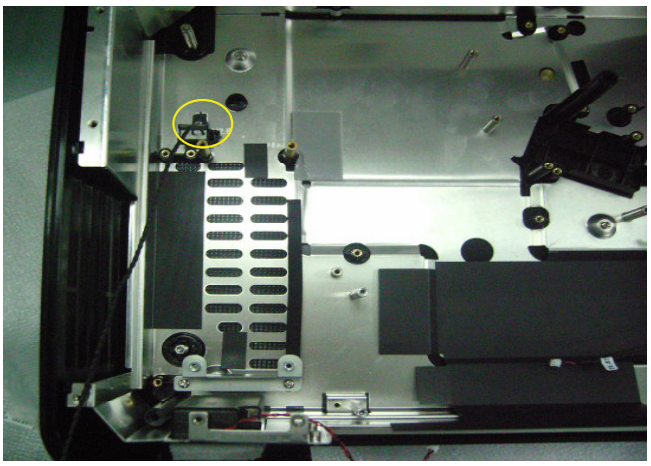
Lamp Driver Module

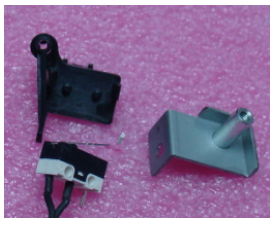
Lamp Driver Support

2-26 Disassemble Left & Right Interrupt Switch Module

1. Unscrew 1 screw (As red circle)to disassemble Left Interrupt Switch Module & Left Interrupt Switch Holder
2. Unscrew 1 screw(As yellow circle) to disassemble Right Interrupt Switch Module
3. Unscrew 1 screw (As green circle)to disassemble Right Interrupt Switch & Plastic Holder & Iron Holder







2-27 Disassemble Bottom Support Shielding

1. Disassemble 2 Copper pillars

   (As green circle)

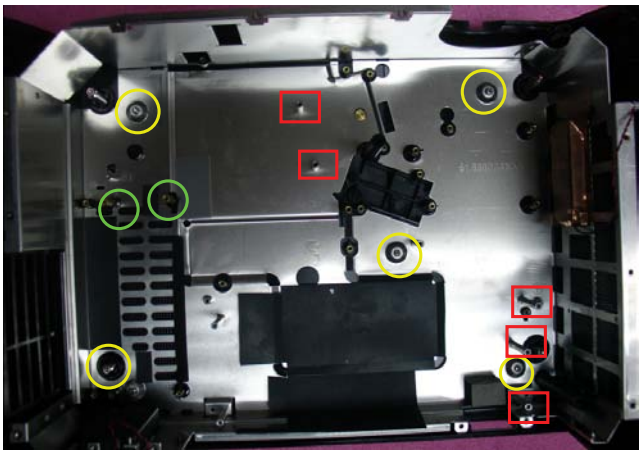
2. Disassemble 5 Aluminum pillars

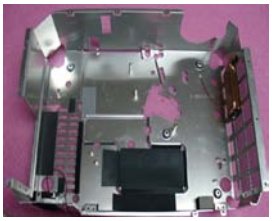
   (As red circle)

3. Unscrew 5 screws to disassemble

   Bottom Support Shielding

   (As yellow square)

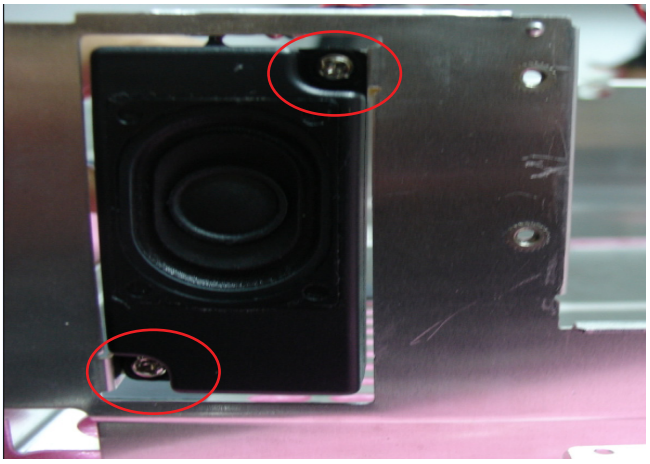


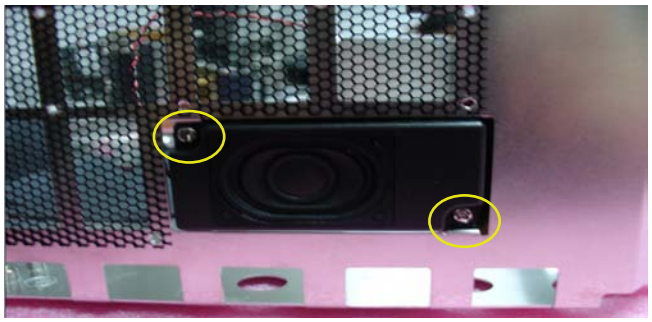


Bottom Support Shielding

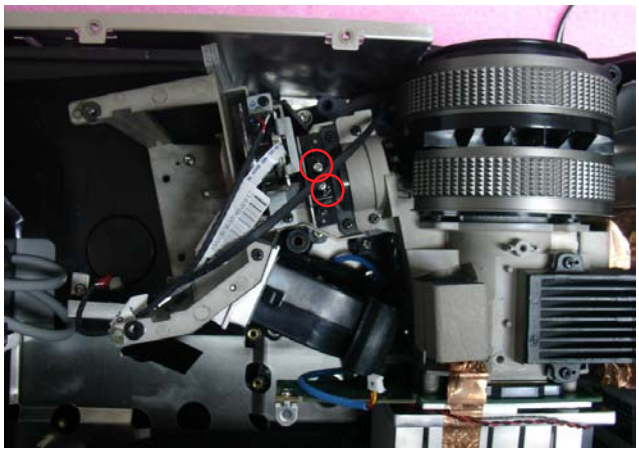
2-28 Disassemble Rear Speaker & Right Speaker Module

1. Unscrew 2 screws on Rear Speaker Module
2. Tear off EMI Shielding
3. Unscrew 2 screws on Right Speaker Module
4. Disassemble Rear & Right Speaker Module
5. The disassembly is completed





2-29 Rod Adjustment



1. Environment adjustment
   - The distance between the engine and the screen is 1.91M
   - This process should be done at a dark environment. (under 5 Lux)
2. Procedure adjustment
   - Change the screen to “white screen.”
   - Adjust the screws by using the rod on the engine module to readjust the image. (adjust until the yellowish or bluish parts disappeared.)

3. Abnormal image inspection
   - It should not have any abnormal color at the rim of the image by estimating through the eyes.

Note: - To avoid over adjust the rod.

- After the opration,please use the glue to fixed the screws.

2-30 Re-write Lamp Usage Hour

1. Get into service mode

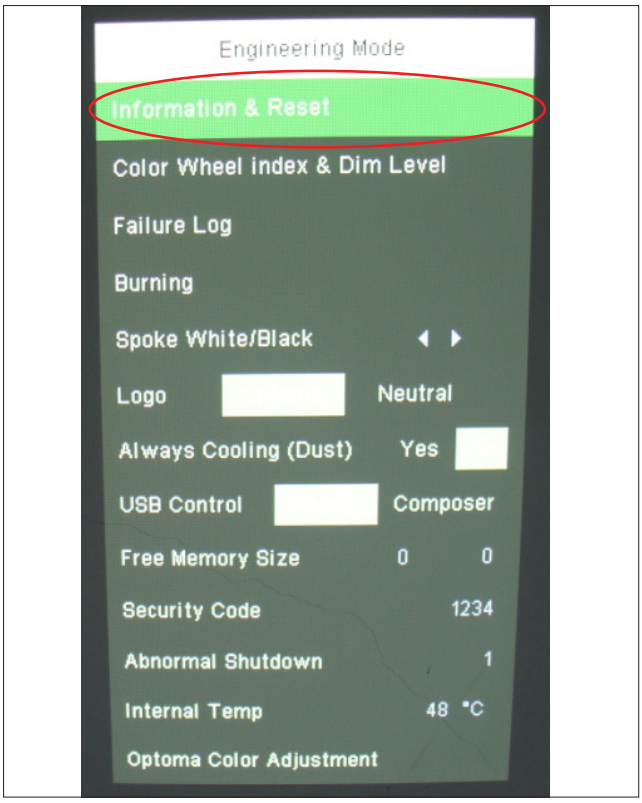
   - Press “Enter”+“Menu” buttons and wait for 2 seconds then release these two buttons to get into service mode.

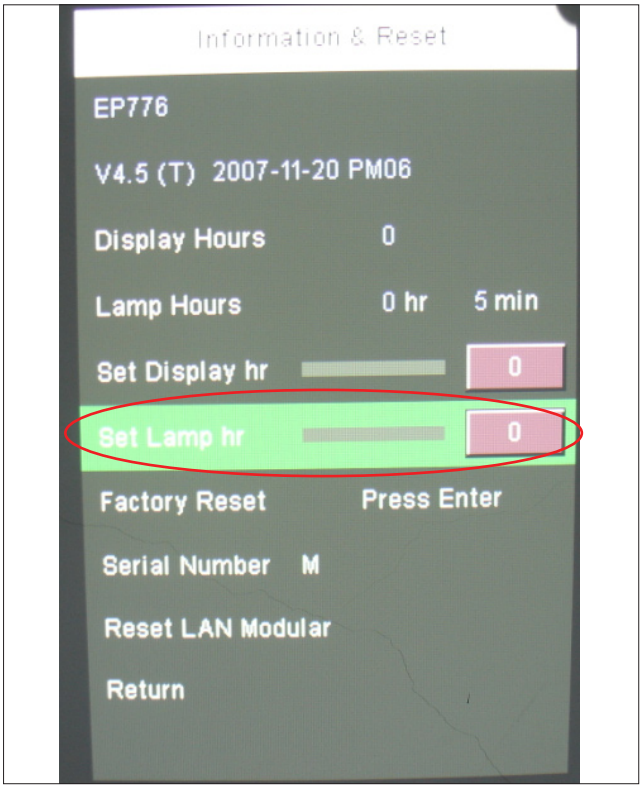
2. Remove the light mark to “Information&Reset” then press the “Enter” to enter in.

3. Remove the light mark to “Set Lamp hr” and press the “Left” and “Right” botton to re-write the lamp hour back to previous lamp usage hour.

4.You can re-write the“Set Display hr” as the same as “Set Lamp hr”.

5. Choose “Return” to exit.





Chapter 3

Trobleshooting

3-1 LED Lighting Message

Message	Power-LED	Temp-LED	Lamp-LED
	Blue/Red	Red	Red
Standby State (Input power cord)	Red	O	O
Power on (Warming)	Flashing Blue	O	O
Lamp Lighting	Blue	O	O
Power off (Cooling)	Flashing Red	O	O
Error (Over Temp)	O	*	O
Error (Fan fail)	O	Flashing (0.5s on, 0.5s off)	O
Error (Lamp fail)	O	O	*
Error (C/W Shut Down)	O	O	*

Steady Light: * *No Light:* O

3-2 Main Procedure

No	Symptom	Procedure
1	No Power	- Ensure the Power Cord and AC Power Outlet are securely connected - Check Lamp Cover , Interrupt Switch and Interlock Switch - Ensure all connectors are securely connected and aren't broken - Check Lamp Driver - Check LVPS - Check Main Board
2	Auto Shut Down	- Check LED Status a. Lamp LED Light - Check Lamp - Check Lamp Driver - Check Color Wheel - Check Main Board b. Temp LED Light - Check Thermal Switch - Check Fan - Check Main Board c. Color Wheel - Check Color Wheel - Check Photo Sensor

No	Symptom	Procedure
3	No Image	- Ensure the Signal Cable and Source work (If you connect multiple sources at the same time, use the "Source" button on the control panel to swtich) - Ensure all connectors are securely connected and aren't broken - Check Wireless Module (Only at the time when you are using WLAN to transfer the signal) (For EP776W/ EP782W/TX776W/ TX782W) - Check Main Board - Check I/O Board - Check DMD Chip - Check Engine Module
4	No Light On	- Ensure all connectors are securely connected and aren't broken - Check Lamp Module - Check Lamp Driver - Check LVPS - Check Main Board
5	Machanical Noise	- Check Color Wheel - Check Fan Module
6	Line Bar/Line Defect	- Check if the Main Board and the DMD Board are assembled properly - Check Main Board - Check DMD Board - Check DMD Chip

No	Symptom	Procedure
7	Image Flicker	- Do “Reset(All data)” of the OSD Menu - Ensure that the signal cables and source are work as well - Check Lamp Module - Check Color Wheel - Check DMD Board - Check Main Board
8	Color Abnormal	- Do “Reset(All data)” of the OSD Menu - Adjust Color Wheel Index - Check Main Board - Check Color Wheel
9	Poor Uniformity/ Shadow	- Ensure the projection screen without dirt - Ensure the projection lens is clean - Ensure the Brightness is within spec - Check rod alignment - Check Engine Module
10	Dead Pixel/Dust (Out of spec.)	- Ensure the projection screen without dirt - Ensure the projection lens is clean - Clean DMD Chip and Engine Module - Check DMD Chip - Check Engine Module
11	Garbage Image	- Ensure that the signal cables and source work as well - Check Main Board - Check DMD Board

No	Symptom	Procedure
12	Remote Control/ Control Panel Failed	- Remote Control a.Check Battery b.Check Remote Controller c.Check IR Sensor Board d.Check Main Board - Control Panel a.Check FPC b.Check keypad c.Check Main Board
13	Function Abnormal	- Do “Reset(All data)” of the OSD Menu - Check Main Board - Check DMD Board
14	Audio Abnonrmal	- Ensure that the signal cables and source are work as well - Check Speaker Module - Check Main Board
15	Network Fail	- Ensure you have set up the right IP address and the connection is OK(Network green LED should be light up) - Check the Network Module - Check the Main Board
16	Wireless Fail (For EP776W/ EP782W/TX776W/ TX782W)	- Ensure you have set up the PC Setting and the connection is OK(Wireless green LED should be light up) - Ensure you have reset the wireless module (Please refer to 4-10) - Check the Wireless Module - Check the Main Board

Chapter 4

Function Test & Alignment Procedure

4-1 Test Equipment Needed

- IBM PC with XGA resolution
- DVD player with Multi-system, equipped “Component”, “S-Video” , “Composite” and "HDMI."
- HDTV Source (480P, 720P, 1080i)
- Minolta CL-100
- Quantum Data 802B or CHROMA2327 (Color Video Signal & Pattern Generator)
- After changing parts, check the information below.

4-2 Service Mode

1. Turn on the projector
2. Do the following actions sequentially to enter service mode menu
   (1) Press “Enter”+“Menu” button wait for 2 seconds.
   (2) Service Mode will be shown.
   (3) Press"Menu" botton to leave the Service Mode after all.

4-3 OSD Reset

1. After final QC step, we have to erase all saved change again and restore the OSD default setting. The following actions will allow you to erase all end-users' settings and restore the default setting:
   (1) Please enter OSD menu.
   (2) To execute "Reset" function.

4-4 Test Condition

- Circumstance brightness: Dark room less than 5.0 lux.
- Inspection distance: 1.8m~2.5m functional inspection.
- Screen size: 60 inches diagonal.
- After repairing each (EP776 Series/EP782 Series), the unit should be run-in (refer to the table below).

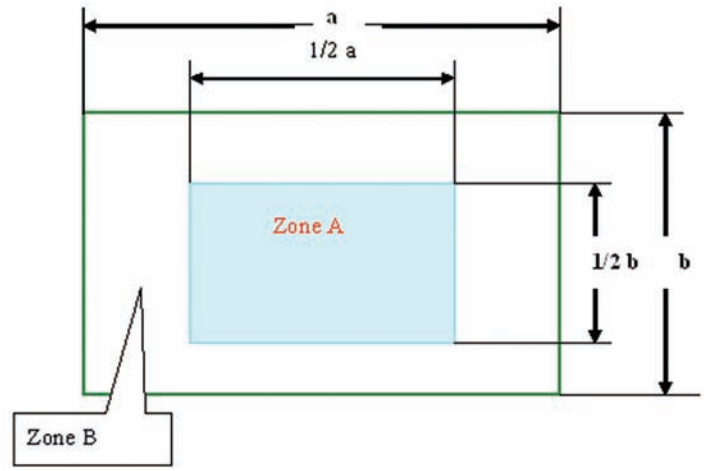
Symptom	Run-in Time
Normal repair	2 hours
NFF	4 hours
Auto shutdown	6 hours

- Enter Burn-In Mode

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

Press "Enter"+"Menu" wait for 2 seconds	
Choose Burn-In Test > enter	
Lamp On (Min)	Press right key to adjust the time (50)
Lamp Off (Min)	Press right key to adjust the time (10)
Set burn in cycle	Press right key to adjust the cycle
After setting up the time, choose Burn-In mode and hit enter	

Screen Defects (While replacing DMD Chip, DMD BD and MB)



< Figure: Zone A &B Definition >

Defect specification table

Order	Symptom	Pattern	Criteria
1	Bright pixel (dots)	Black pattern (IRE=O)	A+B=0
2	Dark pixel(dots)	White pattern	A+B=6
3	Unstable pixel (dots)	Any pattern	A+B=1
4	Adjacent dark pixel (dots)	Any pattern	A+B=0
5	Dark blemish (Dirty)	Blue 60 pattern	A+B=3 (diameter <1/2 inch)
6	Bright blemish (Dirty)	Gary 30 pattern	A+B=3 (diameter <1/2 inch)
7	Bright dot on frame	Black pattern	2

4-5 Test Inspection Procedure

Change parts/ Update	M/B	FW	Color Wheel	Lamp Module	Rod	Engine	Wireless Module
Version Update	v	v					
Color Wheel Index	v		v				
Reset lamp hour				v			
OSD Reset	v	v					
EDID	v						
Re-write Lamp Hour Usage	v						
ROD Adjust					v	v	
Wireless Module Reset							v

Note:If Color appears abnormal after M/B changed,please do

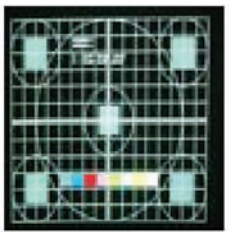
Color Wheel index adjust.

4-6 PC MODE

1. Frequency and tracking boundry

Procedure

- Test equipment: video generator.
- Test signal: analog 1024 x 768@60Hz
- Test Pattern: general-1 or master
- Check and see if the image sharpness is well-performed.
- If not re-adjust by the following steps:
  (1) Select "Frequency" function to adjust the total pixel number of pixel clock in one line period.
  (2) Select "Tracking" function and use right or left arrow key to adjust the value to minimize video flicker.
- Adjust Resync or Frequency/Tracking/H. Posi-



General-1

Master

tion/V. Position to the inner screen.

Inspection item
- Eliminate visul wavy noise by Rsync, Frequency or Tracking selection.
- Check if there is noise on the screen.
- Horizontal and vertical position of the video should be adjustable to the screen frame.

Criteria
- If there is noise on the screen, the product is considered as failure product.
- If there is noise on the screen, use auto or manul “frequency” function or “tracking” function to adjust the screen.
- The PC mode functionally sure be workable include support format with frequency and auto detected functional will be workable.

2. Light Leak

Procedure
- Test equipment: video generator.
- Test signal: analog 1024 x 768@60Hz
- Test Pattern: gray 30 patterns
- Check if the light leaks.

* Light leak on reflective edge, eyecatcher, bond-wires and exposed metal.

Gray 30

Inspection item
- Light leak check.
- Bright blemish (dirty).

Criteria
- The pattern cannot accept the color level of the leakage is brighter than the grey 30 pattern.
- Ref. below table

Note: The defect criteria follows TI specification.

3. Blemish (Dark)

Procedure
- Test equipment: video generator.
- Test signal: analog 1024 x 768@60Hz
- Test Pattern: blue 60

Blue 60

Inspection item
- Dark blemish check.(dirty)

Criteria
- The bright blemish is unacceptable when it ap-

pears on blue 60 pattern.
- Ref. below table

Note: The defect criteria follows TI specification.

4. Dead Pixel (Bright pixel)

Procedure
- Test equipment: video generator.
- Test signal: analog 1024 x 768@60Hz
- Test Pattern: full black

Inspection item
- Bright pixel check.

Note: Frame dimension under operative zone1 inch

Criteria
- Bright pixel is unacceptable.
- Ref. below table

Note: The defect criteria follows TI specification.

Full black

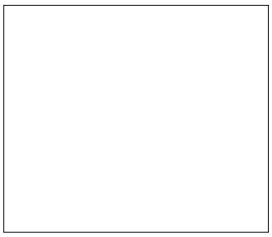
5. Dead Pixel (Dark pixel)

Procedure
- Test equipment: video generator.
- Test signal: analog 1024 x 768@60Hz
- Test Pattern: full white

Inspection item
- Dead pixels check.
- White pattern (IRE=100)
- Adjacent dark pixel.

Criteria
- The number of the dead pixels should be less or equal to 6 pixels.
- Adjacent pixel with each other is unacceptable.
- Ref. below table

Note: The defect criteria follows TI specification.

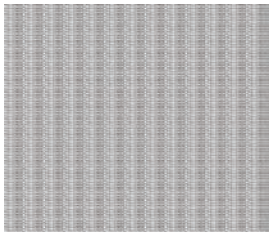


Full white

6. Focus test

Procedure
- Test equipment: video generator.
- Test signal: analog 1024 x 768@60Hz
- Test Pattern: full screen or MEME Sony

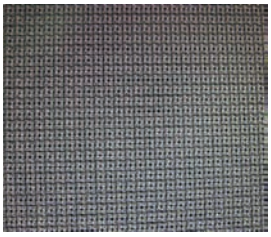
Inspection item
- Focus check



Full screen

Criteria

- From screen 1.5 M via visual to check the focus, look at the entire screen, focus shall be clear, crisp, and sharp over the entire surface of the display pattern. (Blur word on one of the corner after adjustment is acceptable. However, the word should at least be recognizable.)



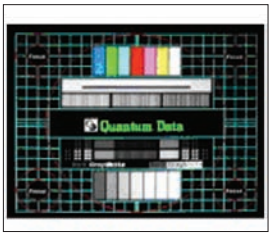
MEME Sony

7. Color performance

Procedure

- Test equipment: video generator.
- Test signal: DVI (HDMI) 720p,1080i
- Test Pattern: Master, In focus II or SMPTE RP-133

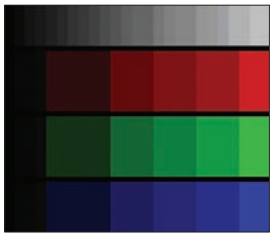
* Please refer to 4-2 to enter service mode. Use 720P & 1080i signal, master pattern to do HDTV test. Color cannot discolor to purple and blue. If the test result is discoloration or flickering, please return the unit back to repair centers.



Master

Inspection item

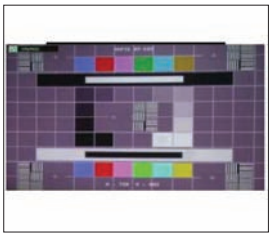
- Check if each color level is well-functioned.
- color saturations



InFocus II / 64 gray RGBW

Criteria

- Screen appears normal. It should not have any abnormal condition, such as lines appear on the screen and so on.
- Color appears normal.
- It is acceptable to have few lines flashing at the center and on the edge of 1080i image. However, rest of the image should appears stable.
- RGBW should all appear normal on the screen and sort from R -G-B-W.
- Color levels should be sufficient and normal. (the unidentified color levels on both left and right sides should not over 8 color levels.)
- Grey level should not have abnormal color or heavy lines.
- The PC mode functionally sure be workable include support format with frequency and auto detected functional will be workable



SMPTE RP-133

4-7 Video Performance

1. CVBS

Procedure	- Test equipment: DVD player
	- Test signal: CVBS
Inspection item	- Video performance test
Inspection Distance	- 1.8M ~2.5M
Criteria	- Check any abnormal color, line distortion or any noise on the screen.
	- Check the sound from speakers.

Motion video

2. S-Video

Procedure	- Test equipment: DVD player
	- Test signal: S-Video
Inspection item	- Video performance test
Inspection Distance	- 1.8M ~2.5M
Criteria	- Check any abnormal color, line distortion or any noise on the screen.
	- Check the sound from speakers.

3. HDTV/ Component

Procedure	- Test equipment: DVD player
	- Test signal: Ycbcr/YPbPr
Inspection item	- HDTV performance test
Inspection Distance	- 1.8M ~2.5M
Criteria	- Check any abnormal color, line distortion or any noise on the screen.
	- Check the sound from speakers.

4. Audio Test

Procedure	- Test equipment: DVD player
	- Test signal: CVBS
Inspection item	- Audio performance test
Inspection Distance	- 1.8M ~2.5M
Criteria	- Check the sound from speakers.
	- Check “Volume” is normal
	- Check “Mute” is normal

5. HDMI Test

Procedure	- Test equipment: DVD Player with HDMI output
	- Test signal: 720p,1080i,1080p
Inspection item	- HDMI performance test
Inspection Distance	- 1.8M ~2.5M
Criteria	- Ensure if the image is well performed and the color can not discolor

.

4-8 Optical Performance Measure

Inspection Condition
- Environment luminance: 5 Lux
- Product must be warmed up for 3 minutes
- Distances from the screen: 1.9M
- Screen Size: 60 inches diagonal
- Reset to default before measurement

1. Test equipment

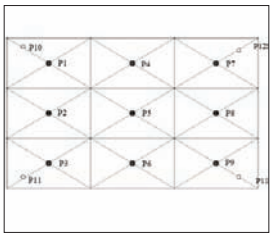
Procedure	- Test equipment: video generator.
	- Test signal:analog 1024x768@60Hz

2. Brightness

Procedure
- Full white pattern
- Use CL100 to measure brightness values of P1~P13.
- Follow the brightness formula to calculate brightness values.

☼ Brightness Formula

Avg. (P1~P9)*1.1m^2



Full white pattern

Criteria
- 1780 lumen (EP776 series)
- 2030 lumen (EP782 series)

3. Ful On/Full Off Contrast

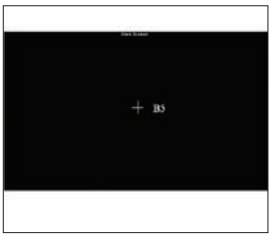
Procedure
- Full white pattern & full black pattern
- Use CL100 to measure brightness values of full white pattern P5 & full black pattern B5 (see image: full white)
- Follow Contrast formula to calculate contrast values.

☼ Contrast Formula

P5/B5

note: P5=center of white image

B5 = the center of black image.



Full black pattern

Criteria
- 1500:1

4. Uniformity

Procedure
- Full white pattern
- Use CL100 to measure brightness values of P1~P13 (see image: full white).
- Follow the Uniformity formula to calculate average values.

☼ Uniformity Formula

$$\text{ANSI Uniformity} = \frac{\text{Avg.(P1,P3,P7,P9)}}{\text{P5}} \times 100\%$$

Criteria
- 60 %

4-9 Network Function Test

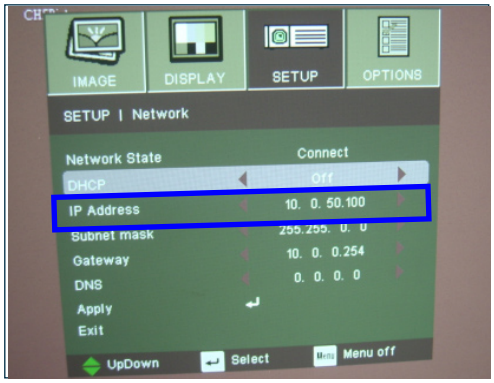
1. Read Projector IP

- Press “Menu” to enter OSD Mode

- Use Left button to select “SETUP”,then press down button to move the light mark to “▼”,the picture A will be shown on screen.

- Choose “Network” then press “enter”,the picture B will be shown on screen,then write down the IP address.

A



B

2.Network Setting

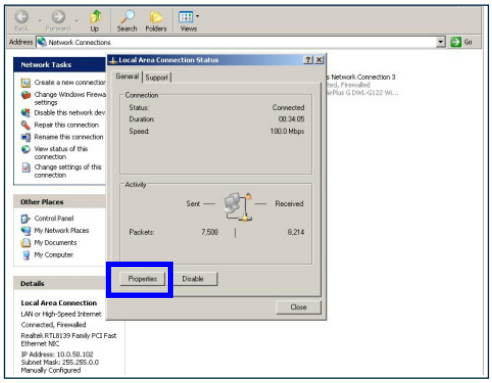
- Open the “Local area connection”,choose properties

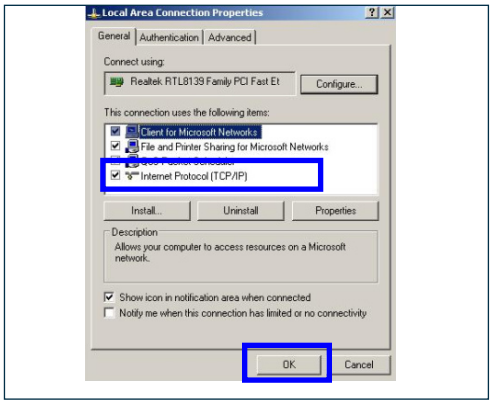
- Select “Internet protocol(TCP/IP)”

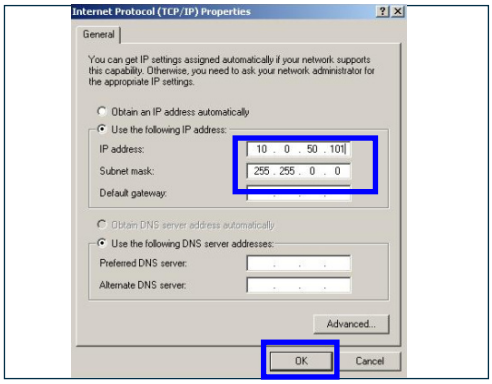
- Modify the IP address to 10.0.50.101,

  and modify Subnet mask to 255.255.0.0

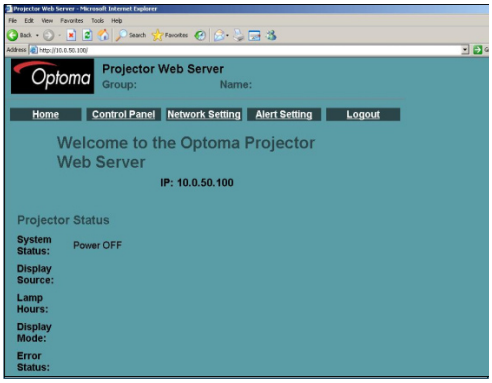
- Click “OK”







3.Read Projector Information



- Connect the PC and the Projector with LAN Cable
- Click “Internet Explorer”
- Write the IE address:http://10.0.50.100
- Then the information will be shown on the web

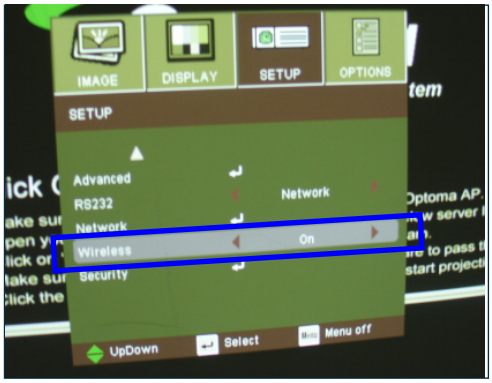
4-10 Wireless Function Test (ForEP776W/EP782W/ TX776W/TX782W)

1.Projector Setting

- Power on projector
- Wireless module reset:Press “Reset” button on back cover for 5 seconds,then the LED will be flashing to steady green light
- Press “Menu” to enter OSD Mode
- Use Left button to select “SETUP”,then press down button to move the light mark to “▼”,the picture A will be shown on screen.

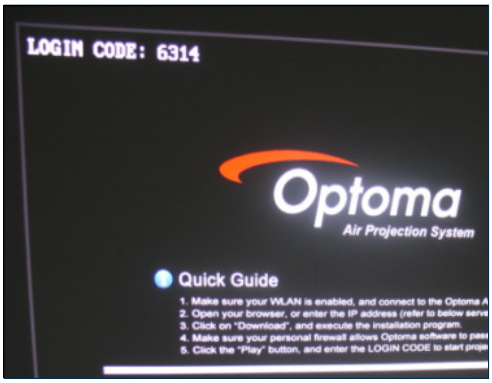
- If the Wireless is “off” ,we must use the Left or Right button to change it “On”.

- Press “menu” to Exit



A

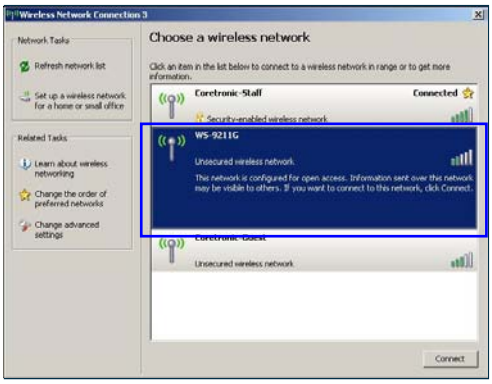
- Press “source” button until the screen show Wireless Logo



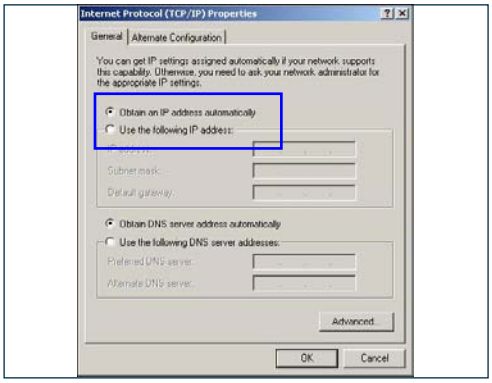
2. PC Setting

- Open the “Wireless Network connection”

- Select “WS-9211G”



- Set “Obtain an IP address automatically”



3. Download Software

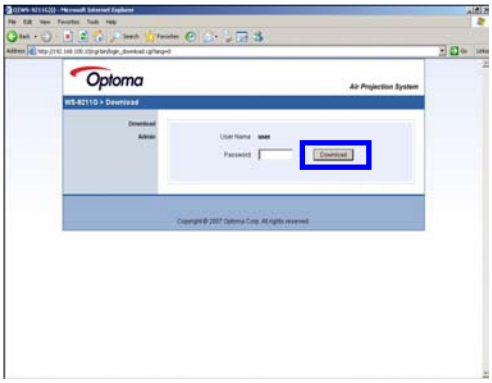
- Click “Internet Explorer”

- Write the IE address:http://192.168.100.10

- Then the information will be shown on screen

- Click “Download Software”

- Click “Download” then we will download “WS-9211G” file



4. Air Projection system setup procedure

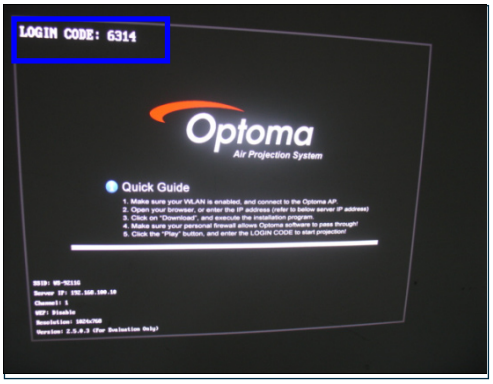
- Click “WS-9211G” file

- Click “Next”

- “Searching” will be shown on screen

- Key in LOGIN CODE which shown on screen,

  then the wireless module will working



4-11 Others

1. Functional Inspection

Keypad button	- All keypad buttons must operate 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 “Recall” 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/DDC2B operation of the projector and to verify Plug & Play function.
Acoustic	- High pitch sound from cooling fan and color wheel is unacceptable.

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 screw sure be fixed and in right type.
elevator	Elevator is well-functioned. Stuck key is unacceptable.
pedestal	well-functioned
lamp cover	It should be locked in the correct place.
Plastic parts	All plastic parts can not be brocken and damaged.
Safety or warning label	All safety and warning label should be visible, including all contents.
Connector	All interface connector should be complete and workable.

Chapter 5

Firmware Upgrade

5-1 Equipment Needed

Software : (DDP 2230- USB)

- DLP Composer
- Firmware
- Library V7.1 0330 (library file has to put in PC and set right path in step of 5-4-4 Firmware Upgrade Procedure)

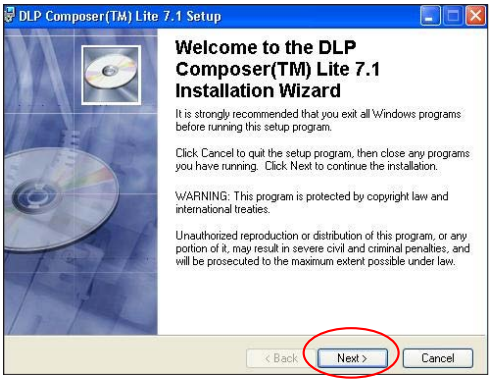
Hardware :

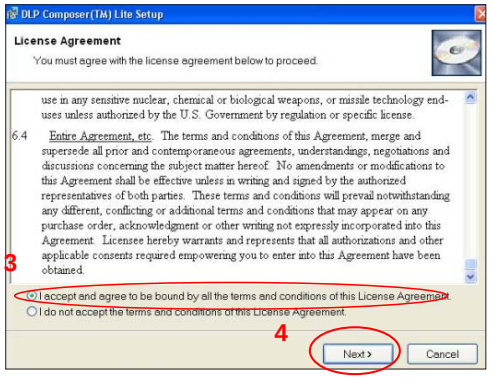
- Projector
- Power cord (42.53506G002)
- USB Cable (42.87304G001)
- PC or Laptop

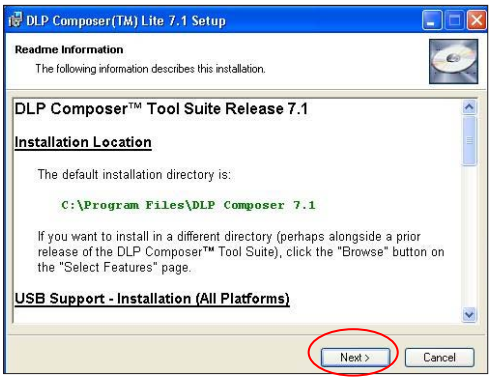


5-2 DLP Composer Lite Setup Procedure

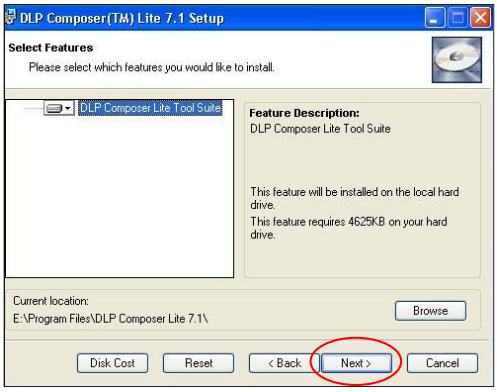
1. Choose "DLP Composer Lite V7.1 Setup" Program.
2. Click "Next" button.
3. Read "License Agreement".
   - Choose "I accept and agree to be bound by all the terms and conditions of this License Agreement".
4. Click "Next".
5. Click "Next".



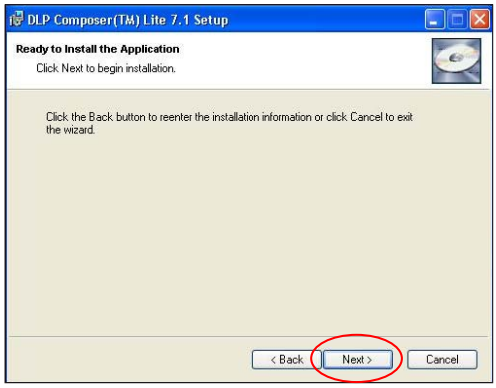




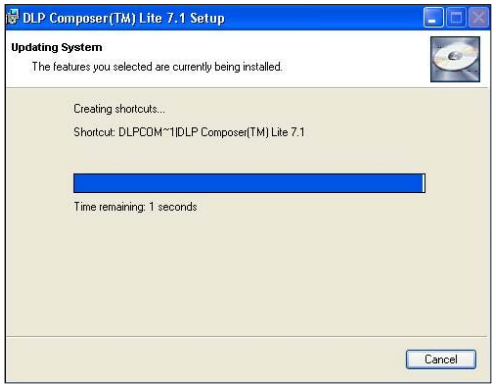
6. Click "Next".



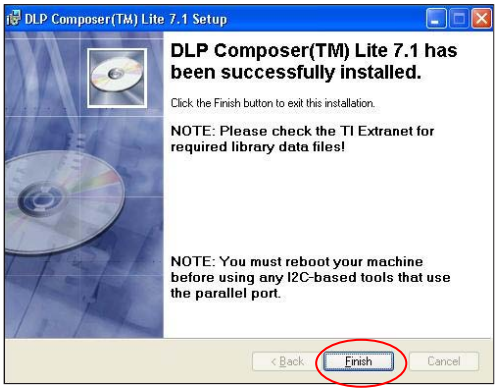
7. Click "Next".



8. Writing system registry values.



9. Click "Finish".



5-3 USB Driver Upgrade Procedure

1. set up

   - Plug in Power cord to projector.
   - Link PC USB port and projector USB port by USB Cable.

2. Execute Program

   (1) "Found new hardware wiszard" will be appearred on the screen.

   (2) Select "Install the software automatically (Recommended)".

   (3) Then click "Next".

3. Finish

   - Click "Finish" to end the installation.

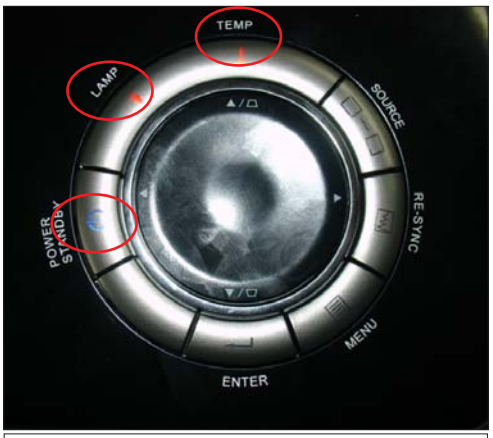
5-4 Firmware Upgrade Procedure

- Take EP776W for example,others are the same as EP776W

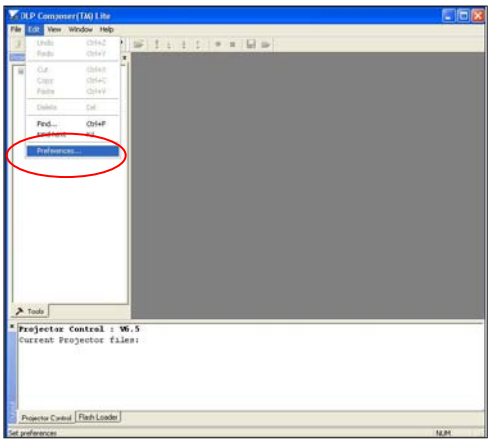
1. Set-up

   - Hold on "Power" and plug in power cord then release "Power" button to enter firmware upgrade mode.
   - Once the Power, Temp and Lamp LED light up, plug in USB cable into the projector and link to the USB port of a PC.

   Note: The system fan and the light will not operated.



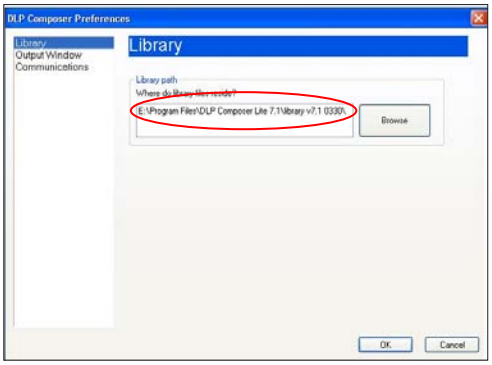
2. Execute the "DLP Compose™" file.



3. Click "edit" and "perferences".

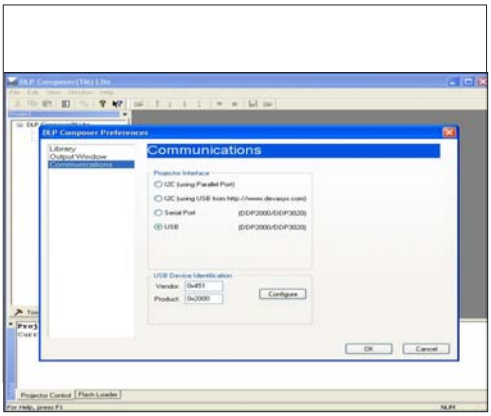
4. Click “Library.”

   - Click the “browse” button and navigate to the directory where you put the library file in.



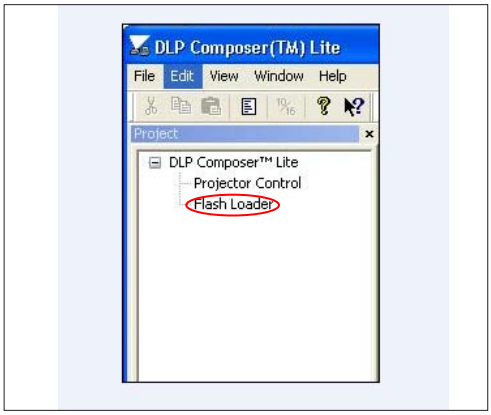
5. Select "Edit\preferences\Communications"

- choose "USB".Click "OK".



6. Choose "Flash Loader".

- Click "Browse" to search the firmware file. (EP776W).

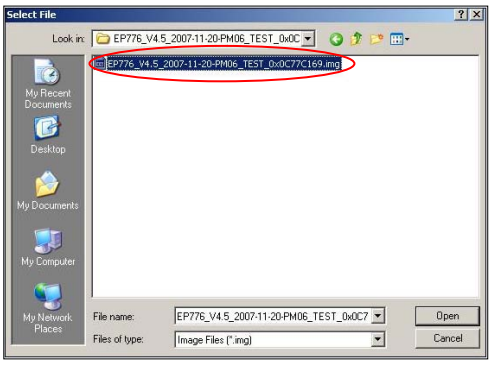


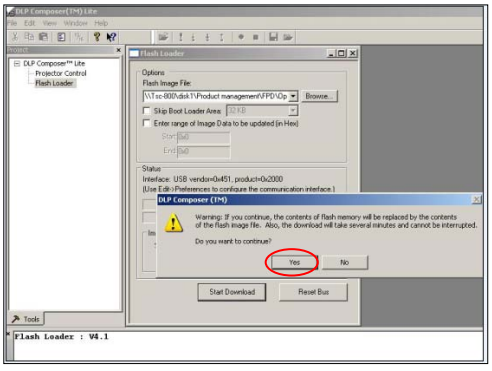
7. Don't select the item "skip Boot Loader Area".

- Click "Reset Bus" to erase the flash memory.

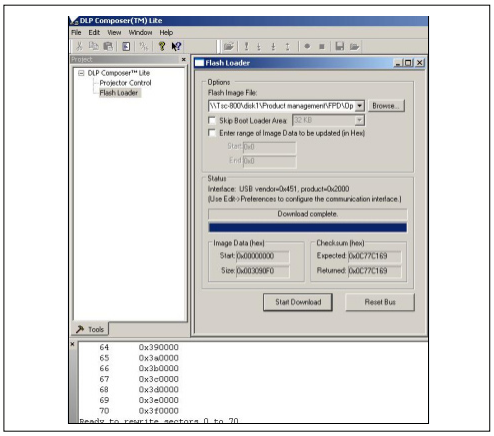
8. If the firmware is ready, click "start download" to process the firmware upgrade.

- Click "Yes" to erase the flash memory.

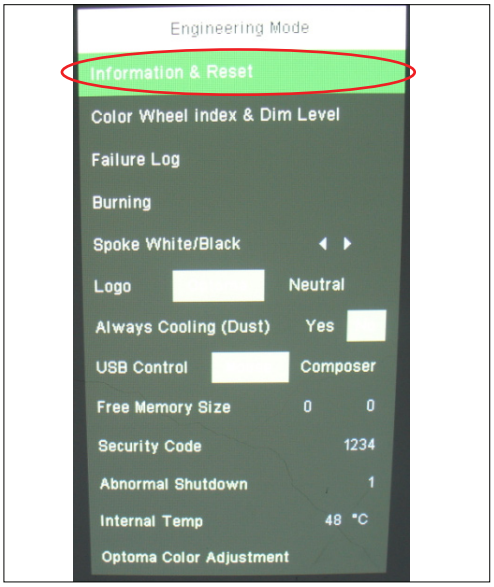


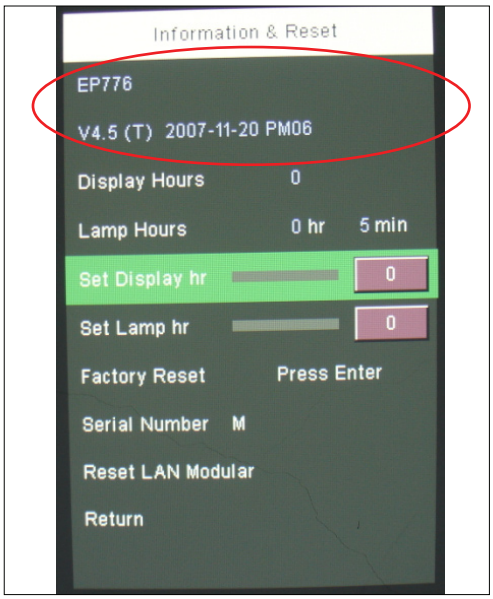


9. When firmware upgrade process is finished, unplug USB cable and power cord and replug in power cable.



10. Restart the unit ,enter service mode and move the light mark to “Information&Reset” press the “Enter” button to enter in,then you can check the firmware version.
(To enter service mode, please refer to Chapter 4 Function Test and Alignment Procedure.)





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: If a display device has digital input ports, like DVI or HDMI, but without EDID in its main board, the display device will show no image while the input source is digital signal.

6-2 Equipment Needed

Software

Note:There are two EDID,one is for HDMI,another is for others

- EDID .exe
- OPTOMA_EP776_0824A_A.ini
- OPTOMA_EP776_HDMI_0824A_A.ini

Hardware

- EP776W unit
- HDMI(M) to DVI(F) Adapter P/N:42.82B13G001
- DVI to DVI cable P/N:42.83N06G001
- RS-232 9 pin cable (Male to Female) P/N:42.83C07G001
- EDID Fixture (JP3 must be closed) P/N:80.00001.001
- PC
- VGA to VGA cableX2 P/N:42.87305G102
- Power adapter for fixture P/N:47.57803G001
- Power cordX2 P/N:42.53506G002

Note: The EDID upgrade procedure for EP776 Series/EP782 Series *are the same.Here, we take EP776W as an example.*

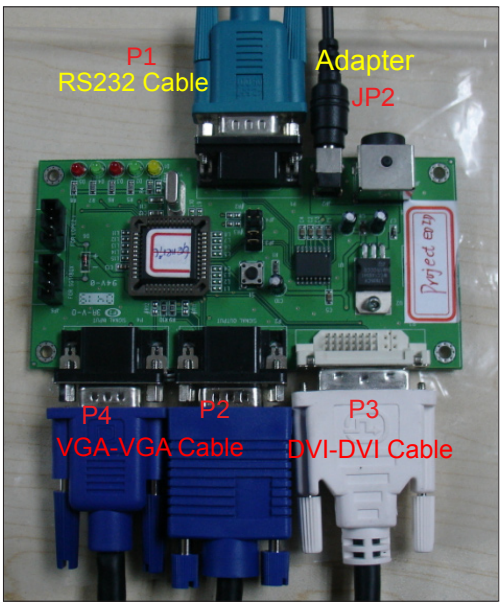








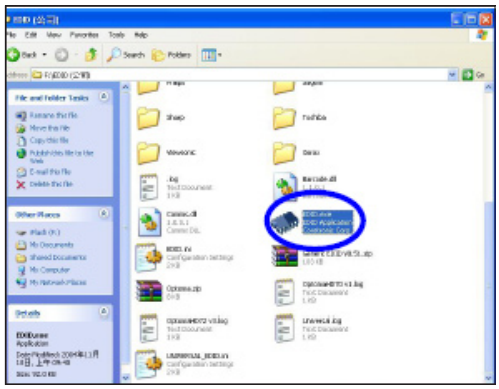
6-3 Setup Procedure (VGA Port)



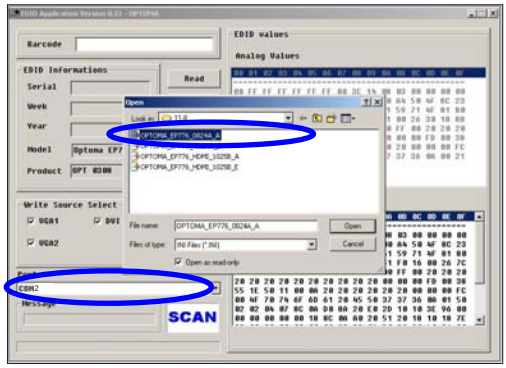
1. Connect all ports
   - Power adapter to fixture JP2
   - Fixture P1 to PC COM Port
   - Fixture P4 to Projector VGA1 in
   - Fixture P2 to Projector VGA2 in
   - Fixture P3 to Projector DVI
   - Power on fixture
   - Plug in power cord to unit

Note: Confirm JP3 is "Close" status.

6-4 DDC Key-In Procedure (VGA1,VGA2,DVI Interface)



1. Click on "EDID" to execute EDID program



2. Choose model
   - In the port selection bar, please choose the port that you use. Example: if you use "COM2," choose COM2 in the port selection.
   - Click "Model."
   - Choose the EDID that responses to the model that you choose.

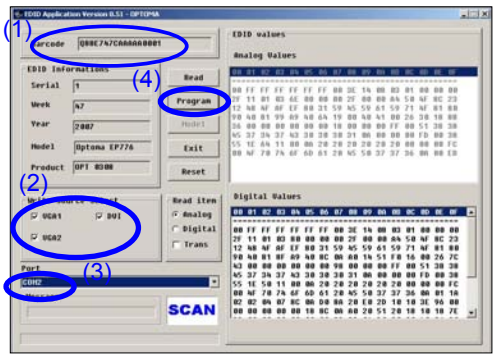
3. Programming

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

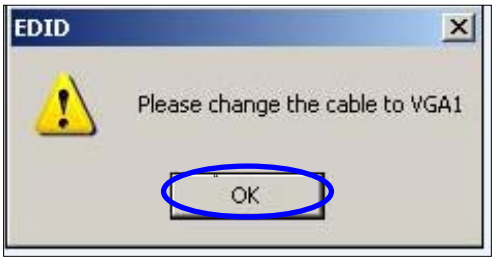
   (2) In"Write Source Select"item,select “VGA1” , “VGA2” and “DVI”.

   (3) Check the com port is “COM2”

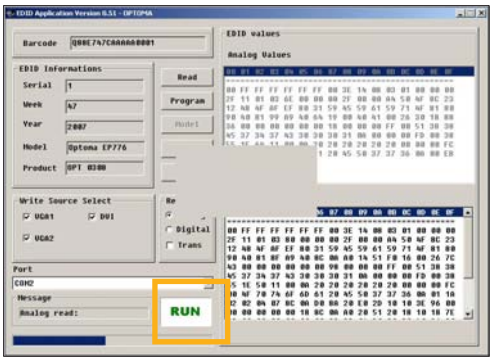
   (4) Click "Program" button.



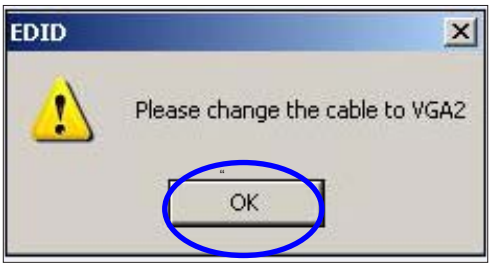
4. When the message “Please change the cable to VGA1” is shown on the screen, click “OK” button.



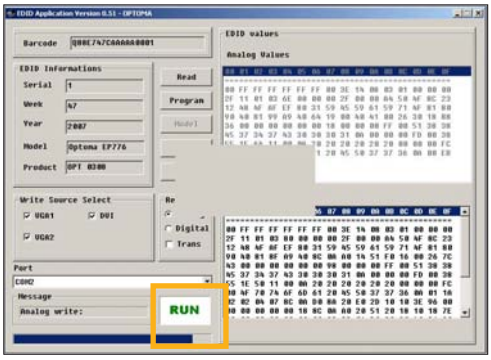
5. “Run”message will appear on the screen.



6. When the message “Please change the cable to VGA2” is shown on the screen,click “OK” button.



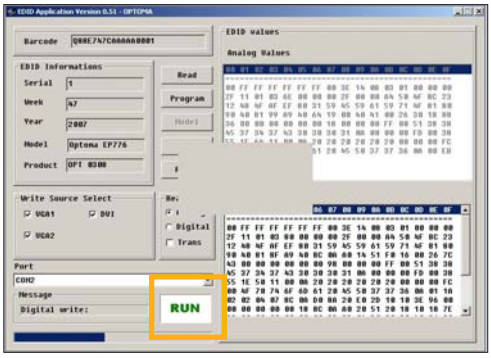
7. “Run”message will appear on the screen.

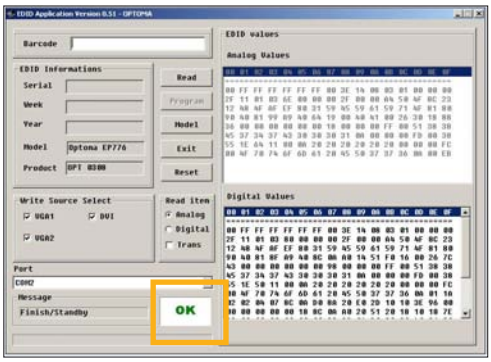


8. When the message “Please change the cable to DVI” is shown on the screen,click “OK” button.

9. “Run”message will appear on the screen.

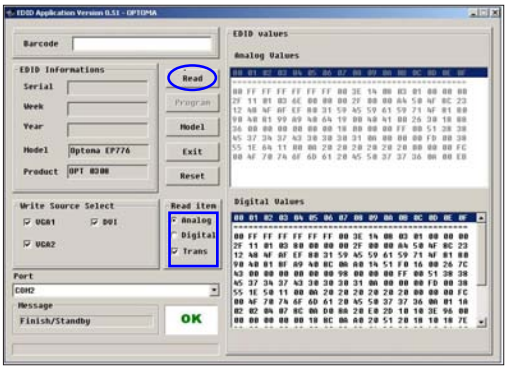
10. When the EDID program is completed, a message "OK" will appear on the screen.

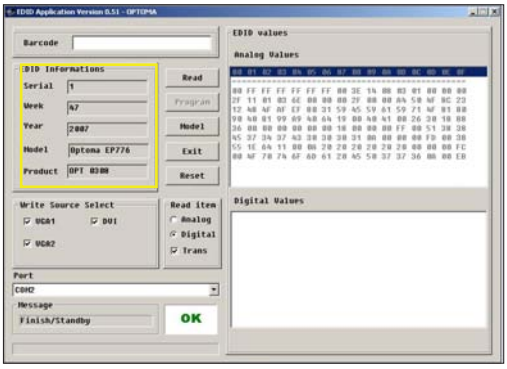




11. Read EDID information

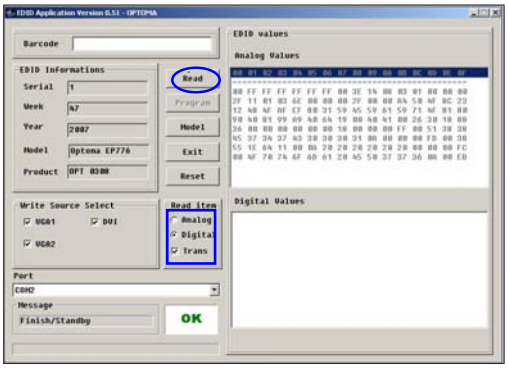
- In the Read item,select “Analog” and “Trans”.
- Please press “Read” button.
- EDID Informations will show the result.(As the yellow square)

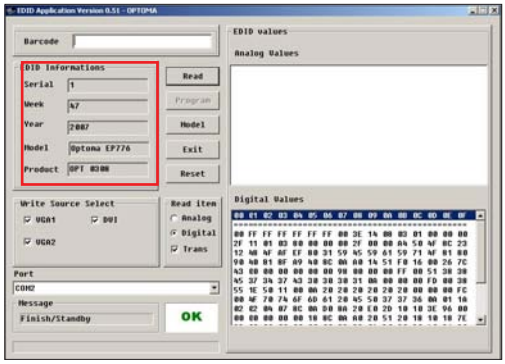




12. Read EDID information

- In the Read item,select “Digital” and “Trans”.
- Please press “Read” button.
- EDID Informations will show the result. (As the red square)





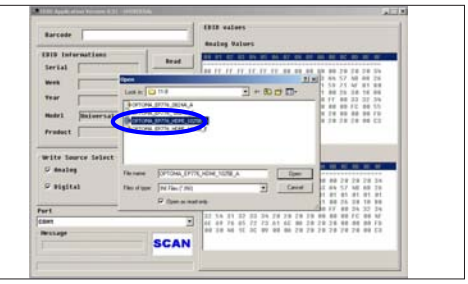
Note:(1) Both VGA1 and VGA2 need to read

(2) While read VGA1(VGA2) EDID Information,please unplug VGA cable of VGA2(VGA1)

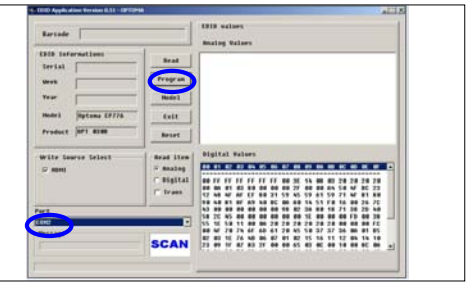
6-5 DDC Key-In Procedure (HDMI Interface)

1. Unplug DVI cable from Unit then replug it in DVI-HDMI adapter then plug in HDMI port of the unit

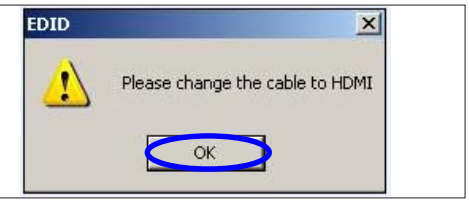
2. Choose model
   - Click "Model."
   - Choose the EDID that responses to the model that you choose.



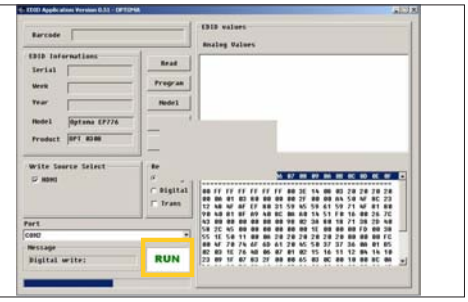
3. Programming
   - Check the com port is “COM2”
   - Click "Program" button.



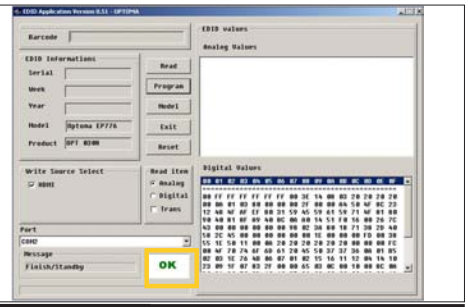
4. When the message “Please change the cable to HDMI” is shown on the screen, click “OK” button.



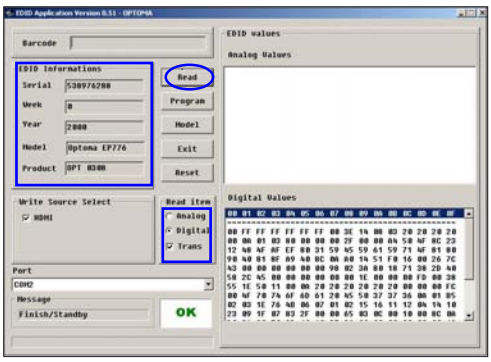
5. “Run”message will appear on the screen.



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



7. Read EDID information



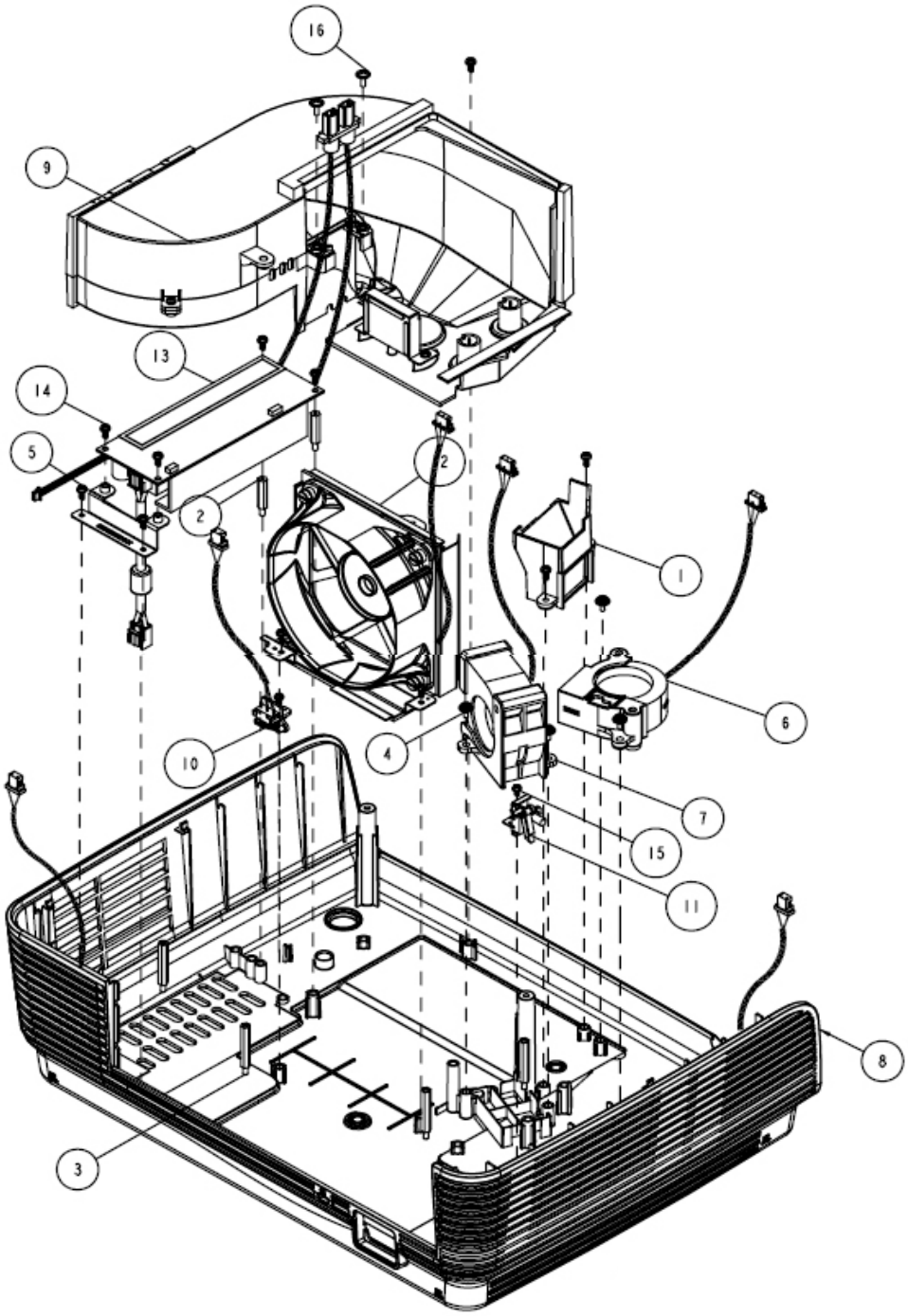
- In the Read item,select “Digital” and “Trans”.

- Please press “Read” button.

- EDID Informations will show the result.

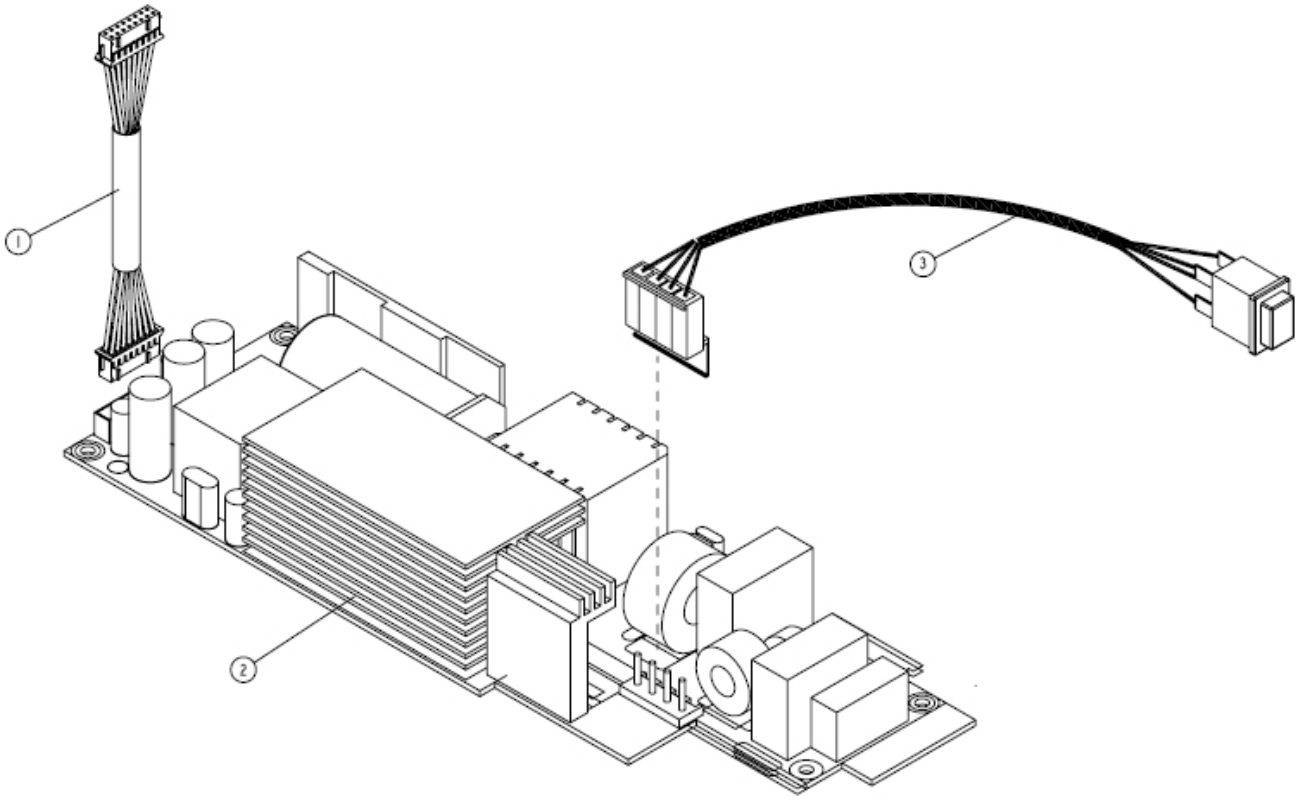
Appendix A

ASSY BOTTOM HOUSING MODULE EP776



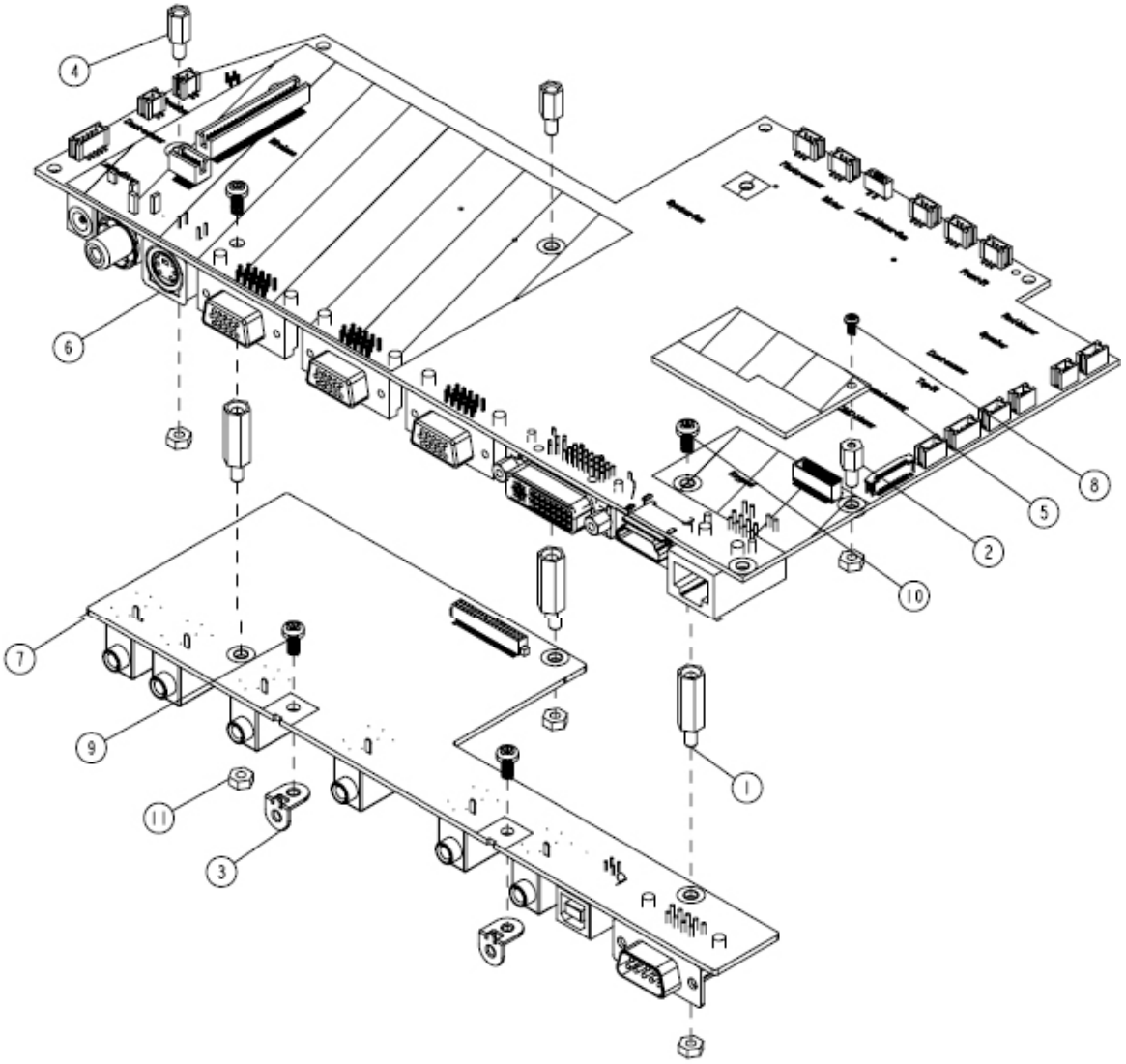
Item	P/N	Rev	Description	Parts Supply
1	51.87Y20G001	A	ROD BLOWER DUCT PPS-AR04B P7270I	NO
2	61.83J14G001	A	HEX SPACER M3-3.0 W5 L20.0 COPPER PD527	NO
3	61.89532G001	A	HEX SPACER H29 4100MP	NO
4	61.87340G001	A	STAND OFF M3*4L D8.0 2100MP	NO
5	61.88E01G001	A	280W OSARM LAMPDRIVER BRACKET	NO
6	49.87C01G001	A	SUNON 6025 BLOWER	
7	70.87Y08G001	A	SUB ASSY ROD BLOWER MODULE P7270I	NO
8	75.88B13G001	B	ASSY BOTTOM COVER MODULE EP782	
9	70.88B09G001	A	ASSY WIND TUNNEL MODULE EP782	NO
10	75.88B03G001	A	BUY ASSY LIMIT SWITCH MODULE E	
11	75.87Y05G001	A	ASSY INTERRUPT SWITCH MODULE P	
12	49.87Y01G001	A	DELTA 105X32 SYSTEM AXIAL FAN	
	70.88E20GR01	A	OSRAM 280W LAMP DRIVER FOR EP776 (SERVICE)	
13	70.88E02G001	A	ASSY LAMP DRIVER MODULE EP776	NO
14	85.1A123G060	A	SCREW PAN MECH M3*6 NI	NO
15	85.1A126G040	A	SCREW PAN MECH M2.6*4 Ni	NO
16	85.3A522G040	A	SCREW CAP MECH M2*4-D8 NI	NO

ASSY LVPS MODULE EP776



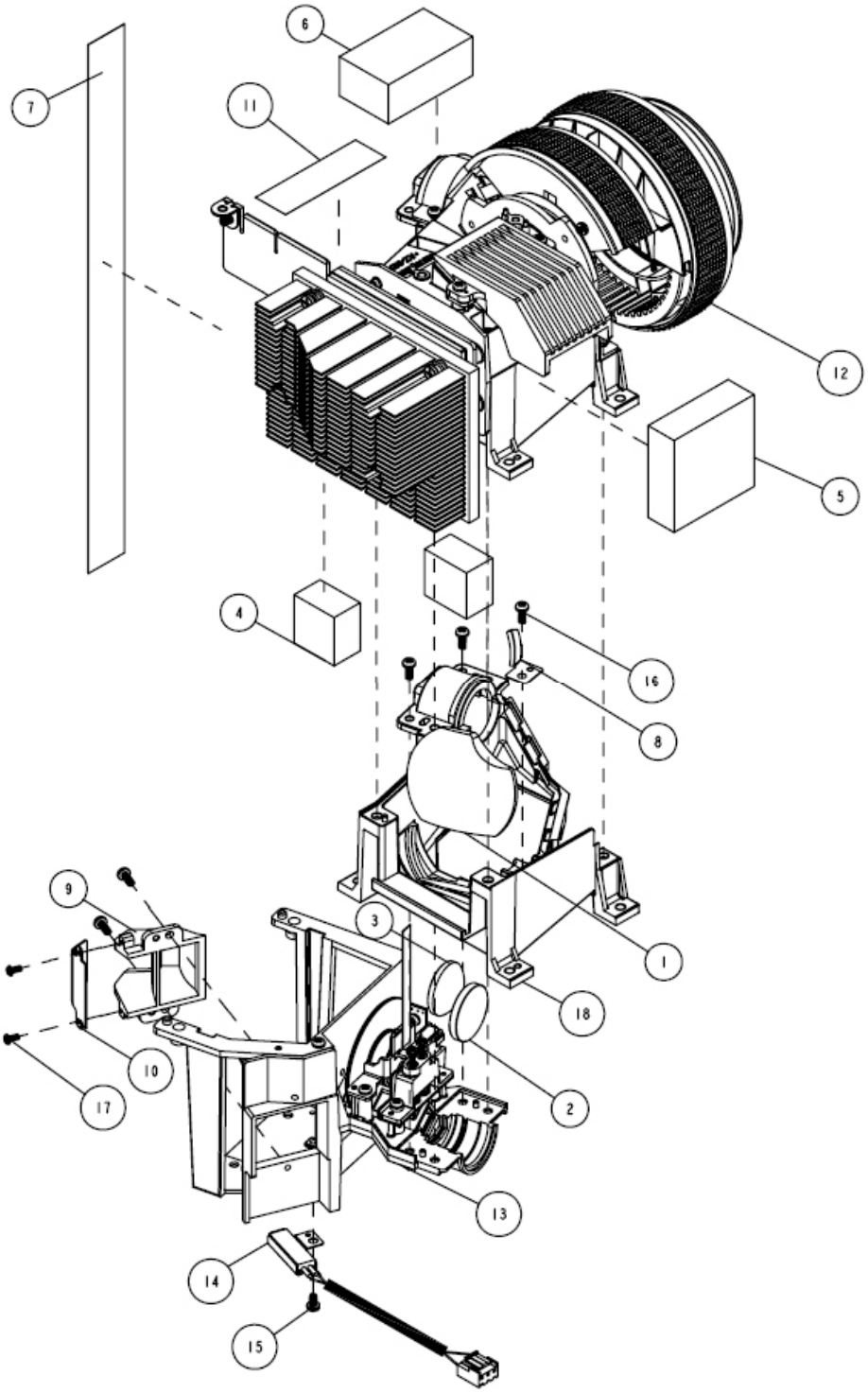
Item	P/N	Rev	Description	Parts Supply
1	42.82B03G001	A	CABLE W.A. 16P #26 100mm M/B TO LVPS 5100MP	NO
2	75.85H14G001	B	ASSY LVPS LITEON HD81	
3	75.87Y05G001	A	ASSY INTERRUPT SWITCH MOD-ULE P	

ASSY MAIN-IO BOARD MODULE EP776



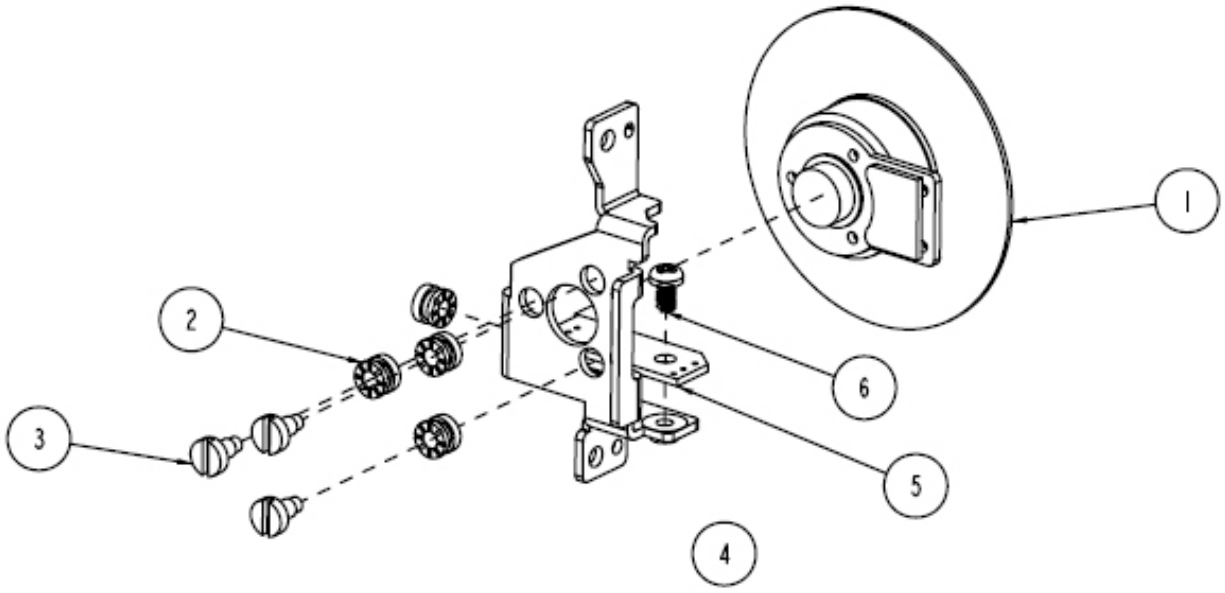
Item	P/N	Rev	Description	Parts Supply
1	61.00069G001	A	HEX SCREW L=16 M3 Cu 2300MPX	NO
2	61.00080G001	A	STAND OFF H=6.0 M2/M3*L6 Sn EP910	NO
3	61.88B10G001	A	IO BOARD HOLDER EP782	NO
4	61.R0113G001	A	HEX SPACER M3 W5mm L8mm COP-PER VX3000	NO
5	75.88B05G001	A	NETWORK MODULE FOR EP782 “ATOP”	
6	80.88E01G001	D	PCBA MAIN BD FOR EP776	
7	80.88B06G001	D	PCBA IO BOARD FOR EP782	
8	85.1A122G040	A	SCREW PAN MECH M2*4 Ni	NO
9	85.1A123G060	A	SCREW PAN MECH M3*6 NI	NO
10	85.1A323G060	A	SCREW PAN MECH M3*6 BLACK EzPro 500 GREEN	NO
11	86.0A123G024	A	HEX NUT M3*0.5P L2.4 Ni	NO

ASSY ENGINE MODULE EP776



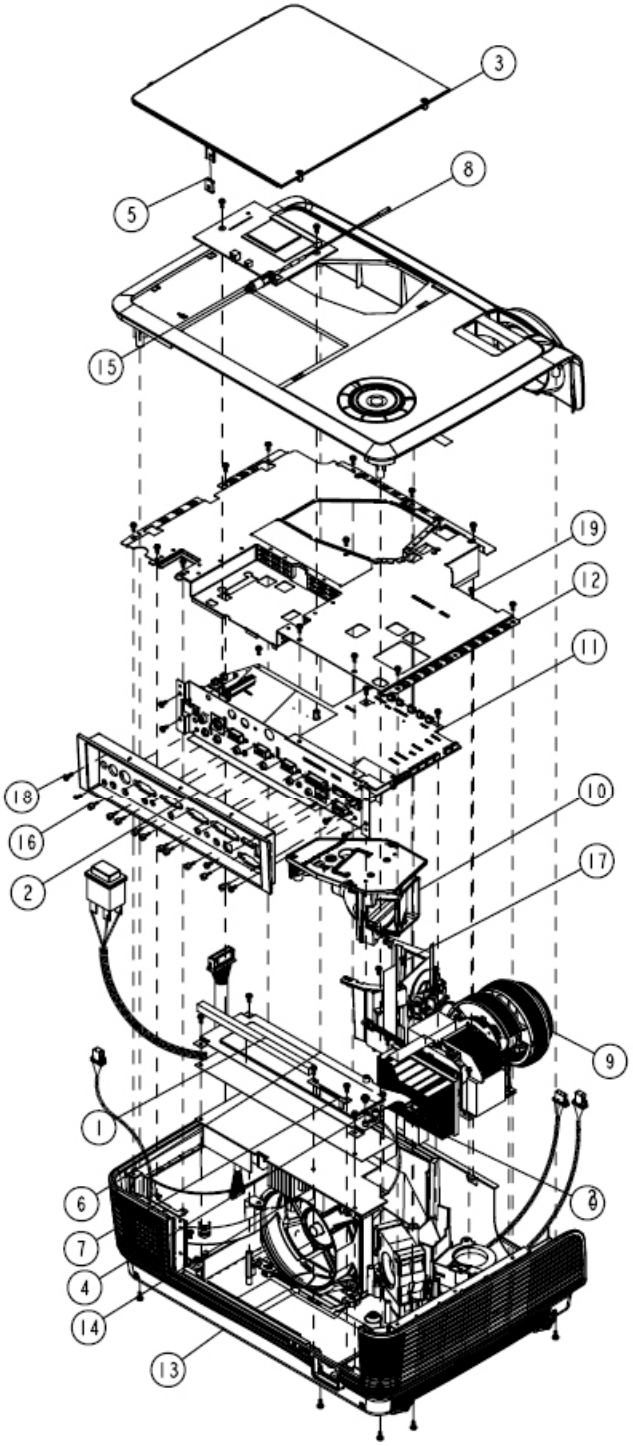
Item	P/N	Rev	Description	Parts Supply
1	23.83M06G001	A	GLASS RELAY WITL EDGE BLACK PAINTING	NO
2	23.88E20G001	A	A39 Y.O. CONDERSOR L2(Φ=21.2MM;SIDE1=93.8632CX;SIDE2=-24.0905CX)	NO
3	23.88E20G011	A	A39 Y.O. CONDERSOR L3(Φ=20.2MM;SIDE1=93.8632CX;SIDE2=-24.0905CX)	NO
4	41.80T07G001	A	EMI GASKET W13*H21*L20	NO
5	41.83C02G001	B	EMI GASKET W40*H13*L40	NO
6	41.88B03G001	A	EMI GASKET FOR PHOTO ENGINE	NO
7	41.88B05G001	A	EMI TAPE FOR PHOTO ENGINE	NO
8	61.87P20G001	A	RELAY BRACKET SUS301 0.3t A39	NO
9	61.87Y17G001	A	LAMP BLOWER DUCT AL-ADC12 P7270I	NO
10	61.87Y23G001	A	LAMP BLOWER DUCT AL-PLATE P7270I	NO
11	61.89646G001	A	EMI BRASS-SHEET FOR ENGINE EP759/PD726	NO
	70.88E11GR01	A	ASSY ENGINE MODULE EP776 (SERVICE)	
12	70.88B11G001	A	ASSY OPTICAL ENGINE MODULE EP782	NO
	70.88E12GR01	A	ASSY ROD MODULE EP776 (SERVICE)	
13	70.88B15G001	A	ASSY ENGINE ROD BASE MODULE EP782	NO
14	75.88E02G001	A	BUY ASSY THERMAL SWITCH MODULE EP776	
15	85.1A126G040	A	SCREW PAN MECH M2.6*4 Ni	NO
16	85.1A326G060	A	SCREW PAN HEAD MECH M2.6*6 BLACK	NO
17	85.1A522G040	A	SCREW PAN MECH M2*4 Ni NYLOK	NO

Assy Color Wheel Module EP776



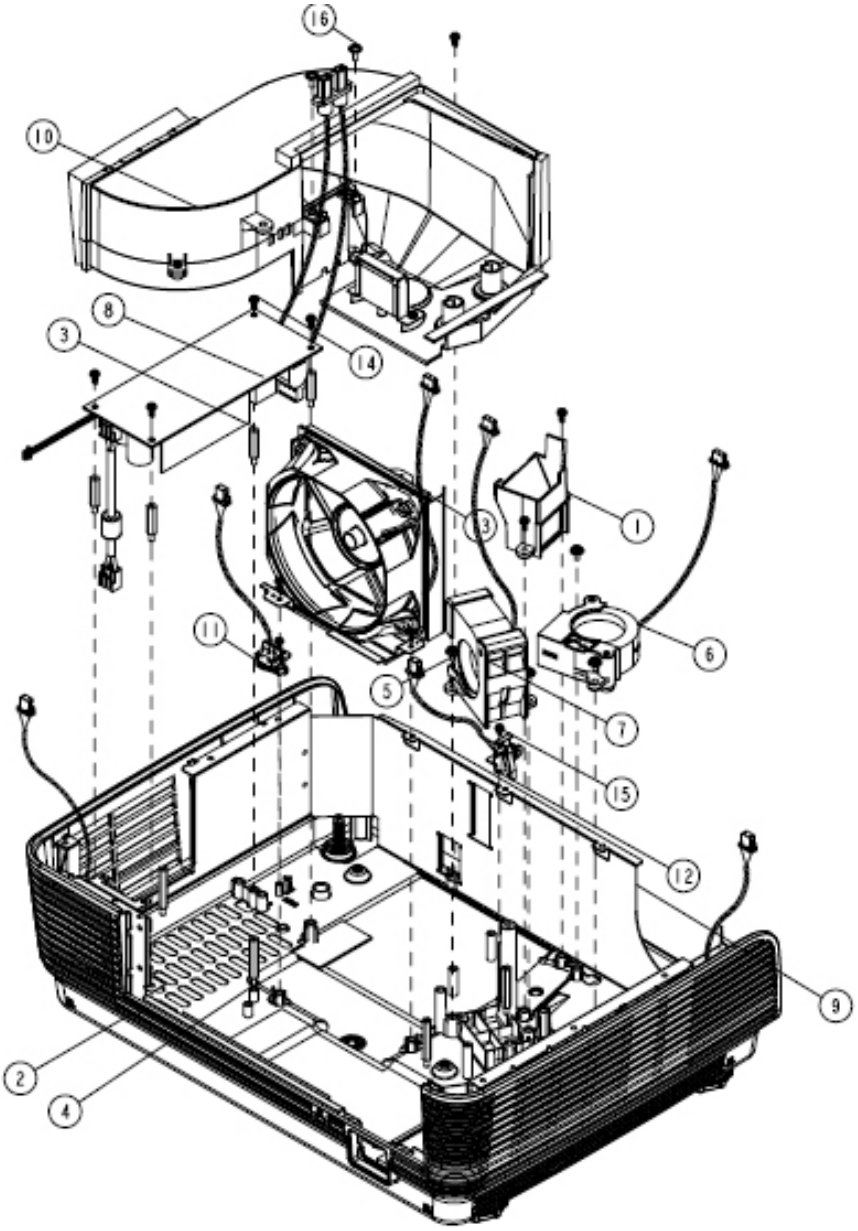
item	P/N	Rev	Description	Parts Supply
	70.88E10GR01	A	ASSY COLOR WHEEL MODULE EP776 (SERVICE)	
1	23.88B19G011	A	A39 5 SEGMENT C/W R80Y30G84W90B76 (DIA.:44MM, GREEN COATING FOR DATA PROJECTOR)	NO
2	52.83615G001	A	COLOR WHEEL DISC RUBBER, EzPro755	NO
3	61.83628G002	A	COLOR WHEEL SHOULDER SCREW NICKEL M2*4.8 FILLIST	NO
4	61.87P14G001	A	COLOR WHEEL HOLDER SECC A39	NO
5	80.87M04G001	A	PCBA PHOTO SENSOR BD FOR EP761	
6	85.1A626G040	A	SCREW PAN MECH M2.6*4 BLACK NYLOK	NO

D.C. EP776



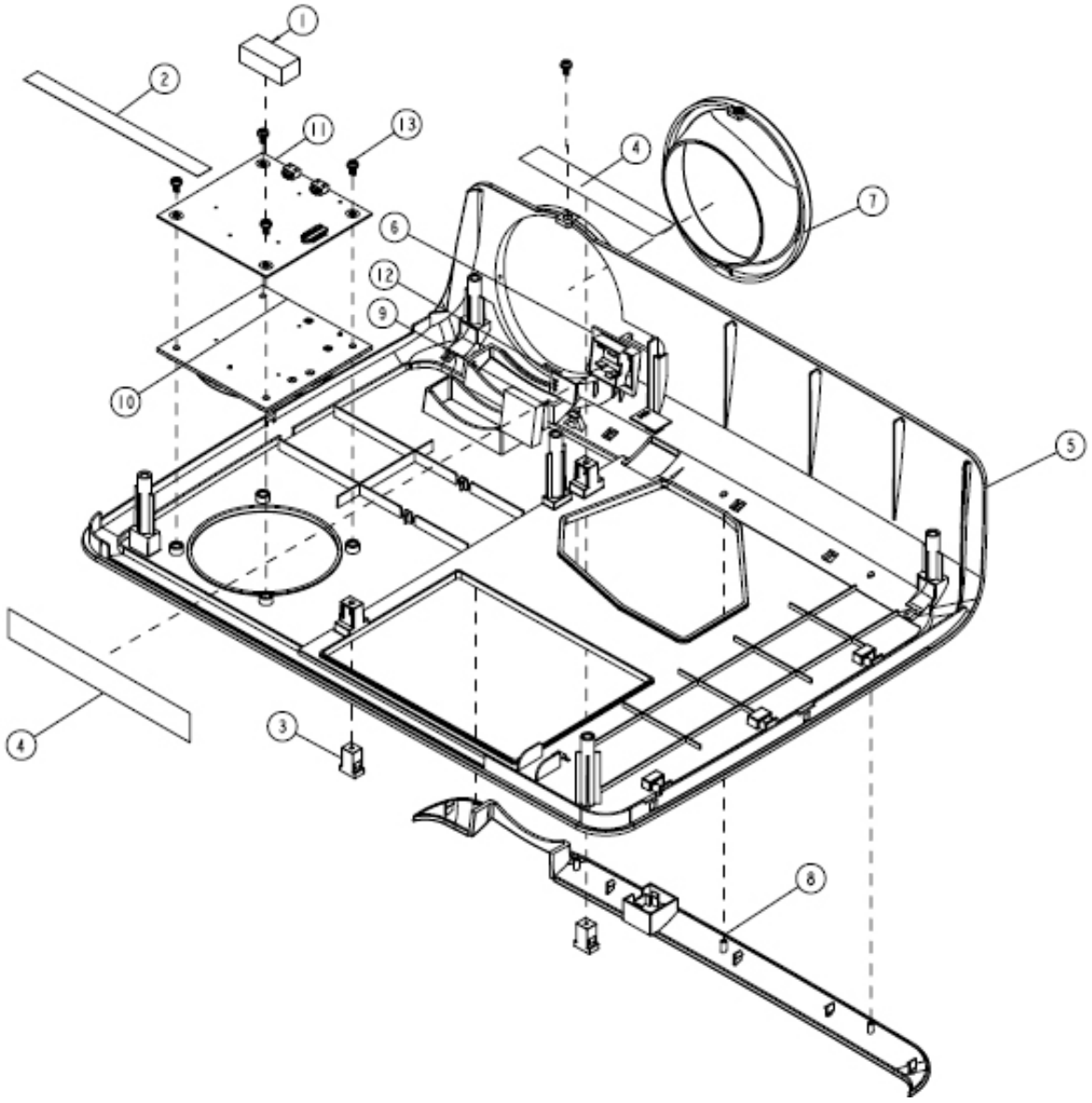
Item	P/N	Rev	Description	Parts Supply
1	41.83C19G001	A	EMI GASKET W8*H8*L155	NO
2	51.88B02G001	A	IO COVER PC EP782	NO
3	51.88B04G002	A	LAMP COVER PC EP782	
4	51.88E01G001	A	LVPS MYLAR EP776	NO
5	61.81105G001	A	NUT PLATE SUS 0.5t EzPro 610	NO
6	61.87Y13G001	A	SHIELDING LVPS 280W AL5052 0.6T P7270I	NO
7	61.88B07G001	A	LVPS AC INLET HOLDER EP782	NO
8	75.88B12G001	A	ASSY TOP COVER MODULE EP782	
9	70.88E07G001	A	ASSY ENGINE MODULE EP776	NO
10	SP.88E01GC01	A	ASSY LAMP MODULE A39(OSRAM E20.6 280W)	
11	70.88E06G001	A	ASSY IO SHIELDING MODULE EP776	NO
12	70.88B16G001	A	ASSY EMI TOP SHIELDING MODULE EP782	NO
13	70.88E01G001	A	ASSY BOTTOM HOUSING MODULE EP776	NO
14	70.88E03G001	A	ASSY LVPS MODULE EP776	NO
15	75.88B10G001	A	BUY ASSY WIRELESS PCBA MODULE AWIND EP782	NO
16	85.005AGG075	A	SCREW HEX I/O #4-40*H5*L7.5 Ni NYLOK	NO
17	85.1A123G060	A	SCREW PAN MECH M3*6 NI	NO
18	85.1A123G080	A	PAN SCREW M3*8 FOR YM-64 FRONT CELL & SP	NO
19	85.1A126G040	A	SCREW PAN MECH M2.6*4 Ni	NO
20	85.1C227G050	A	SCREW PAN MECH M3.5*5 COLOR (W/SP WASHER)	NO

ASSY BOTTOM HOUSING MODULE EP782



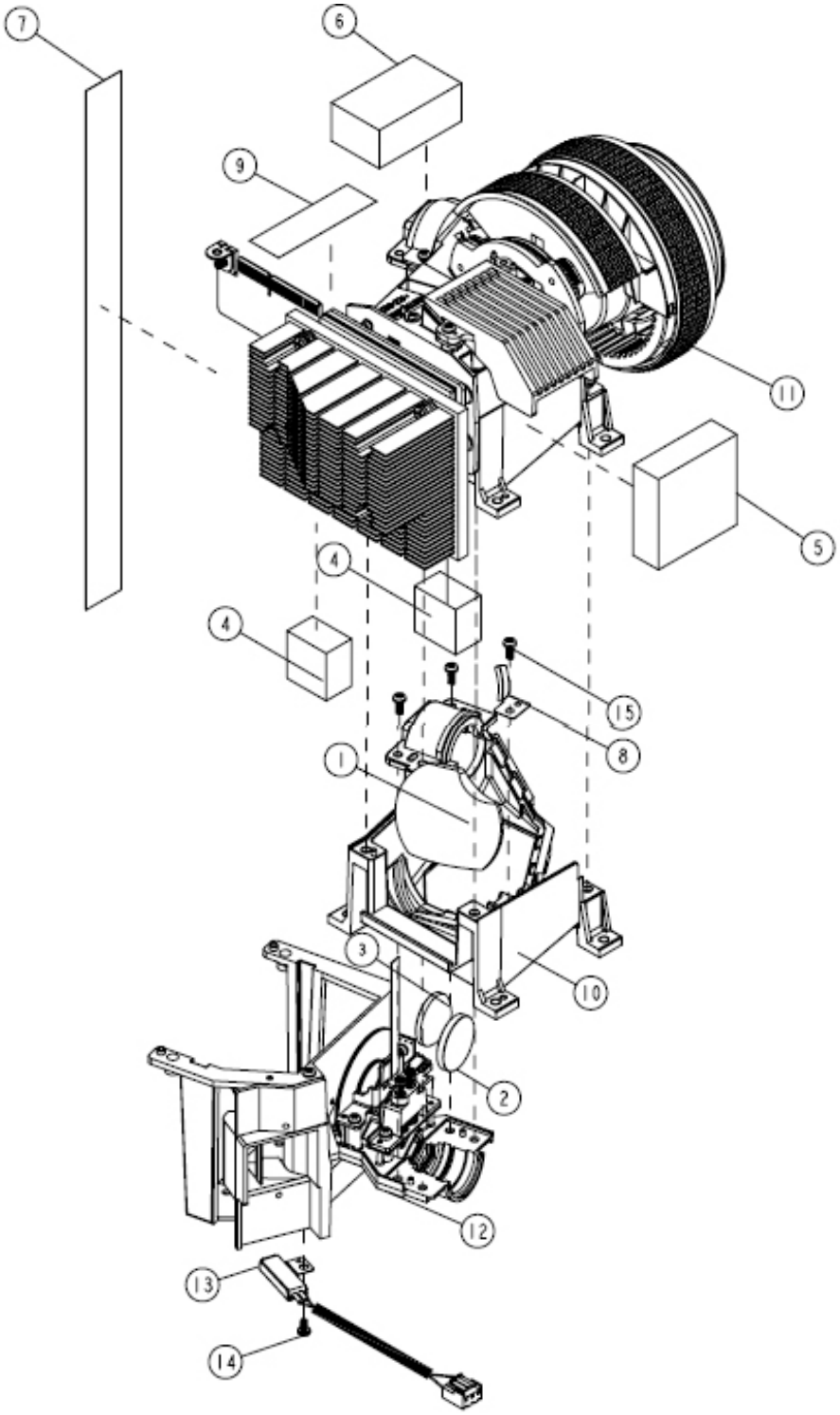
item	P/N	Rev	Description	Parts Supply
1	51.87Y20G001	A	ROD BLOWER DUCT PPS-AR04B P7270I	NO
2	51.88B32G001	A	LAMP DRIVER MYLAR 330W EP782	NO
3	61.83J14G001	A	HEX SPACER M3-3.0 W5 L20.0 COPPER PD527	NO
4	61.85932G001	A	HEXSPACER M3-3.0 W5 L20.0 COPPER PD527	NO
5	61.87340G001	A	STAND OFF M3*4L D8.0 2100MP	NO
6	49.87Y02G001	A	SUNON GB1205PKV1-8AY 50X50X20	
7	70.87Y08G001	A	SUB ASSY ROD BLOWER MODULE P7270I	NO
8	70.88B05G001	A	ASSY LAMP DRIVER MODULE EP782	NO
9	75.88B13G001	A	ASSY BOTTOM COVER MODULE EP782	
10	70.88B09G001	A	ASSY WIND TUNNEL MODULE EP782	NO
11	75.88B03G001	A	BUY ASSY LIMIT SWITCH MODULE E	
12	75.87Y05G001	A	ASSY INTERRUPT SWITCH MODULE P	
13	49.89K01G001	A	SUNON GB1205PKV1-8AY 50X50X20	
14	85.1A123G060	A	SCREW PAN MECH M3*6 NI	NO
15	85.1A126G040	A	SCREW PAN MECH M2.6*4 Ni	NO
16	85.3A522G040	A	SCREW CAP MECH M2*4-D8 NI	NO

ASSY TOP COVER MODULE EP776/EP782



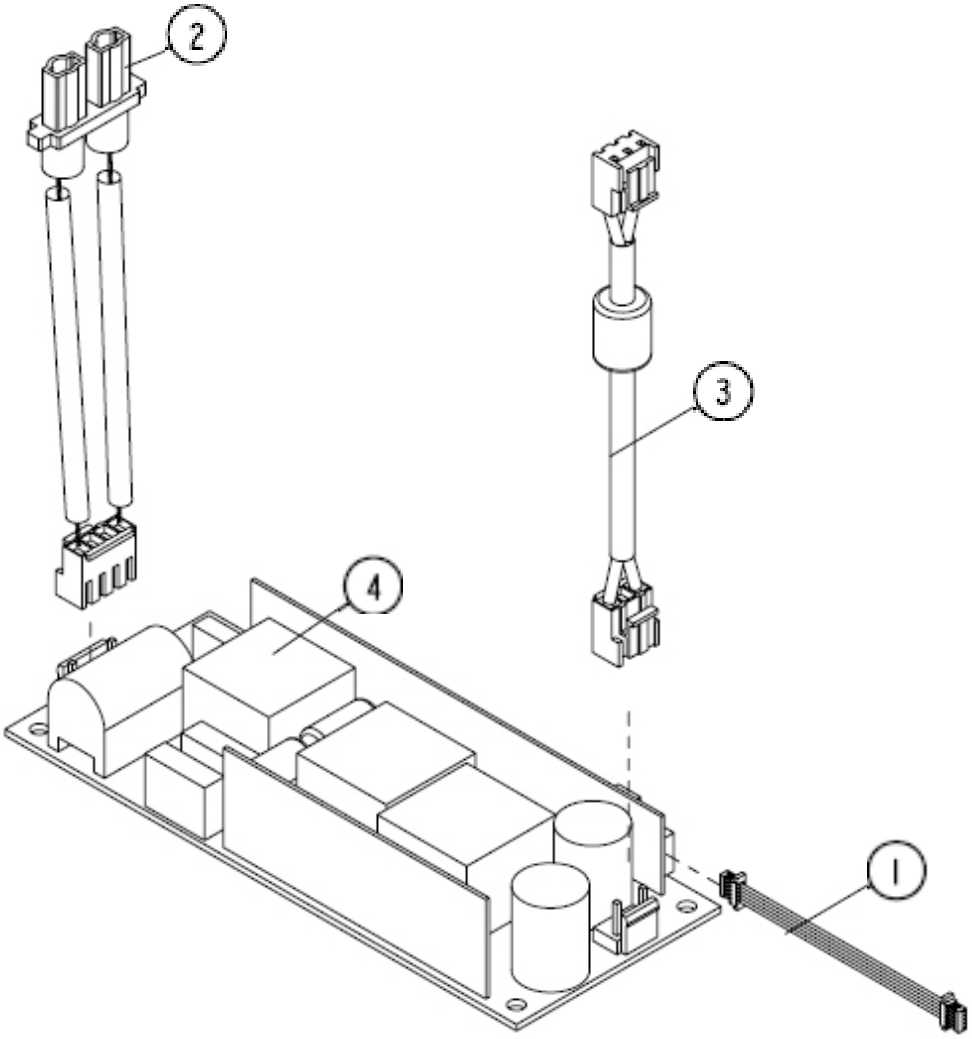
item	P/N	Rev	Description	Parts Supply
1	41.82B01G001	A	EMI GASKET W13*H10.5*L30mm	NO
2	42.83N01G012	A	CABLE FFC 20P P=0.5 124mm PD726/PH730	NO
3	51.00100G001	A	DOOR LOCK LDR-0017A	
4	51.81540G001	A	TAPE 3M J350 17*60mm	NO
5	51.88B03G001	A	TOP COVER PC EP782	NO
6	51.88B05G001	A	FRONT IR LENS PC EP782	NO
7	51.88B06G001	A	FRONT RING PC EP782	NO
8	51.88B13G001	A	TOP IR PC EP782	NO
9	52.82V02G001	A	FRONT IR COVER RUBBER PD120	NO
10	75.88B01G002	A	KEYPAD MODULE P+R EP782	
11	80.88B03G001	A	PCBA KEYPAD BOARD EP782	
12	80.88B05G001	A	PCBA IR SENSOR BOARD FOR EP782	
13	85.1A123G040	A	SCREW PAN MECH M3*4 Ni	NO

ASSY ENGINE MODULE EP782



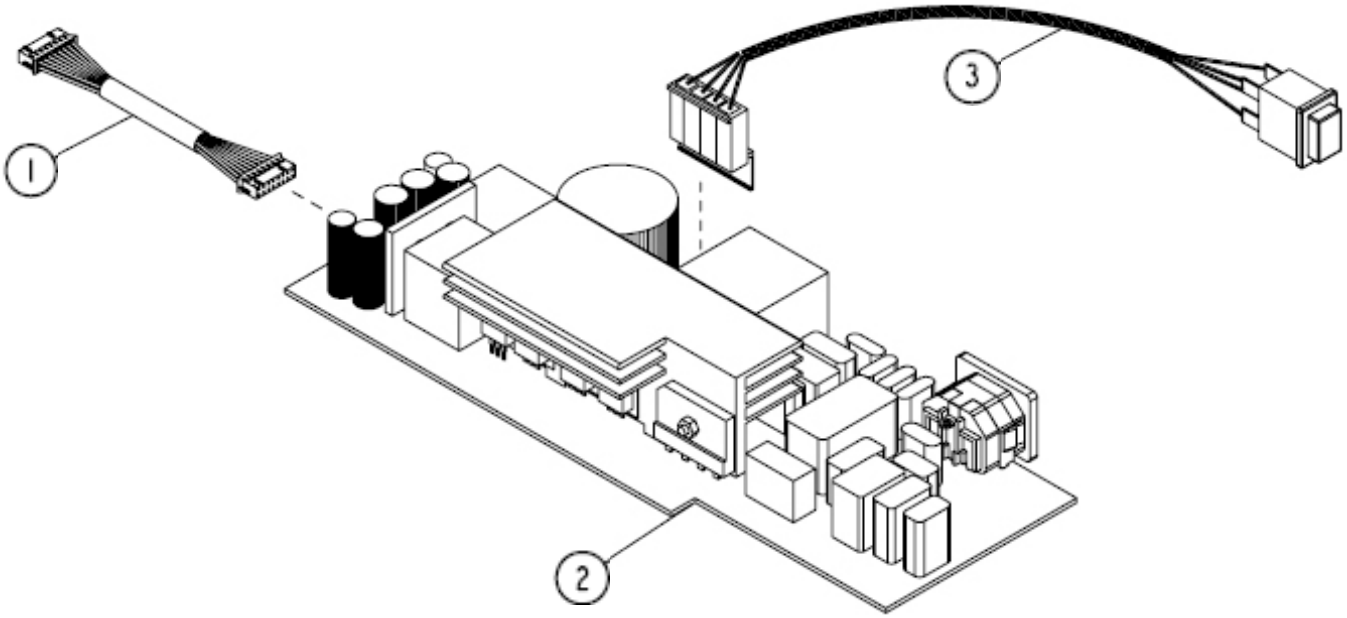
item	P/N	Rev	Description	Parts Supply
	70.88B21GR01	A	ASSY ENGINE MODULE EP782 (SERVICE)	
1	23.83M06G001	A	GLASS RELAY WITL EDGE BLACK PAINTING	NO
2	23.88E20G001	A	A39 Y.O. CONDERSOR L2(Φ=21.2MM;SIDE1 =93.8632CX;SIDE2= -24.0905CX)	NO
3	23.88E20G011	A	A39 Y.O. CONDERSOR L3(Φ=20.2MM;SIDE1 =93.8632CX;SIDE2= -24.0905CX)	NO
6	41.88B03G001	A	EMI GASKET FOR PHOTO ENGINE	NO
7	41.88B05G001	A	EMI TAPE FOR PHOTO ENGINE	NO
8	61.87P20G001	A	RELAY BRACKET SUS301 0.3t A39	NO
10	70.87P02G001	A	ASSY ENGINE BOTTOM MODULE A39	NO
14	85.1A126G040	A	SCREW PAN MECH M2.6*4 Ni	NO
15	85.1A326G060	A	SCREW PAN HEAD MECH M2.6*6 BLACK	NO
4	41.80T07G001	A	EMI GASKET W13*H21*L20	NO
5	41.83C02G001	B	EMI GASKET W40*H13*L40	NO
9	61.89646G001	A	EMI BRASS-SHEET FOR ENGINE EP759/ PD726	NO
11	70.88B11G001	A	ASSY OPTICAL ENGINE MODULE EP782	NO
12	70.88B15G001	A	ASSY ENGINE ROD BASE MODULE EP782	NO
13	75.88B04G001	A	BUY ASSY THERMAL SWITCH MODULE EP782	

ASSY LAMP DRIVER MODULE EP776/EP782



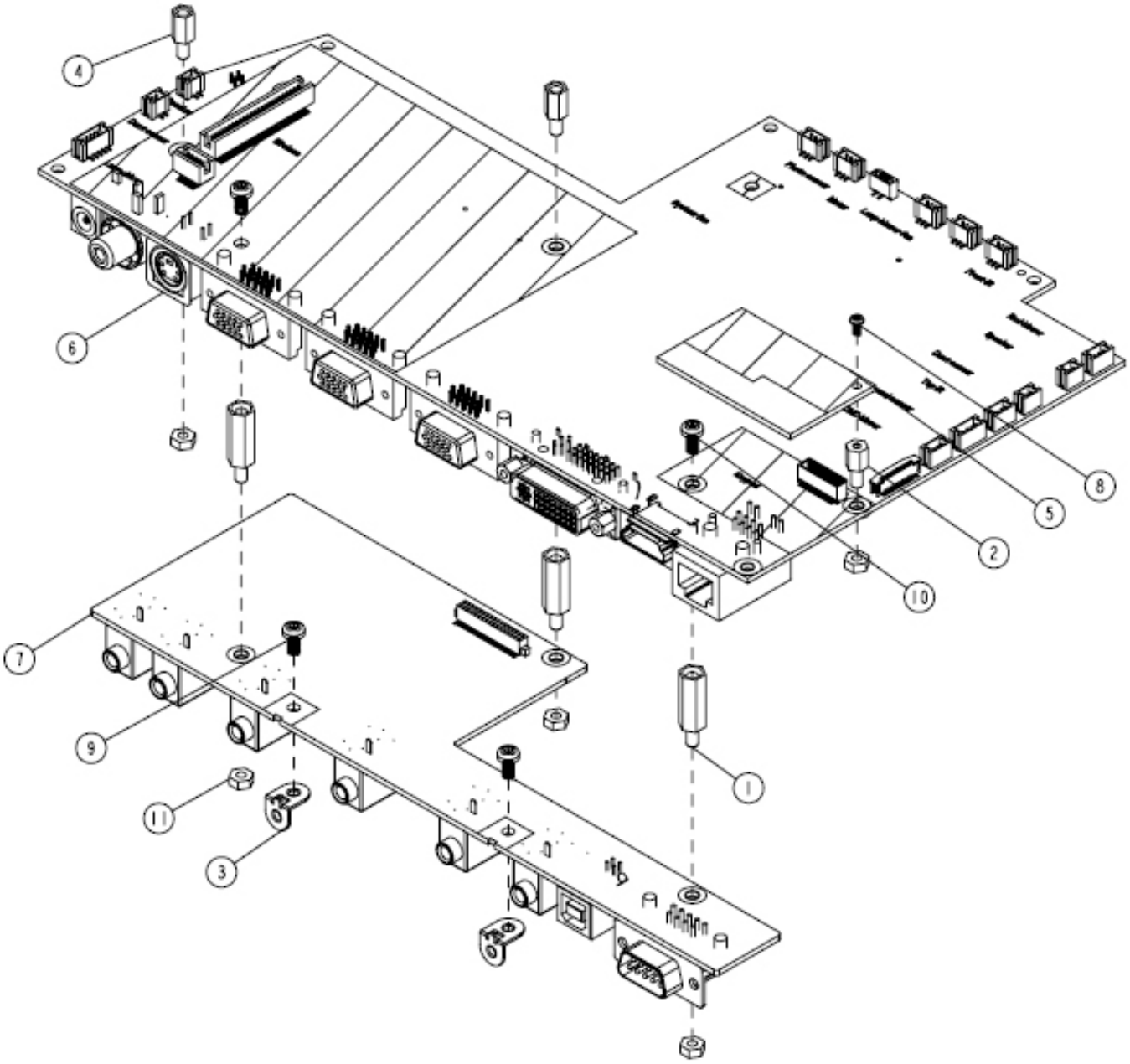
item	P/N	Rev	Description	Parts Supply
	70.88B22GR01	A	PHILIPS 330W LAMP DRIVER FOR EP782 (SERVICE)	
1	42.00424G001	A	W.A. 5P 200mm LAMP DRIVER TO MB	NO
2	42.82B15G001	A	CABLE W.A. 2P #20 120mm JST-VHR-4N FOR LAMP DRIVER 5100MP	NO
3	42.89602G001	A	CABLE W.A. 3P #20 180mm LAMP DRIVER TO LAMP EP759	NO
4	70.89K12G001	A	PHILIPS 330W LAMP DRIVER WITH WAVEFORM & LABEL	NO

ASSY LVPS MODULE EP782



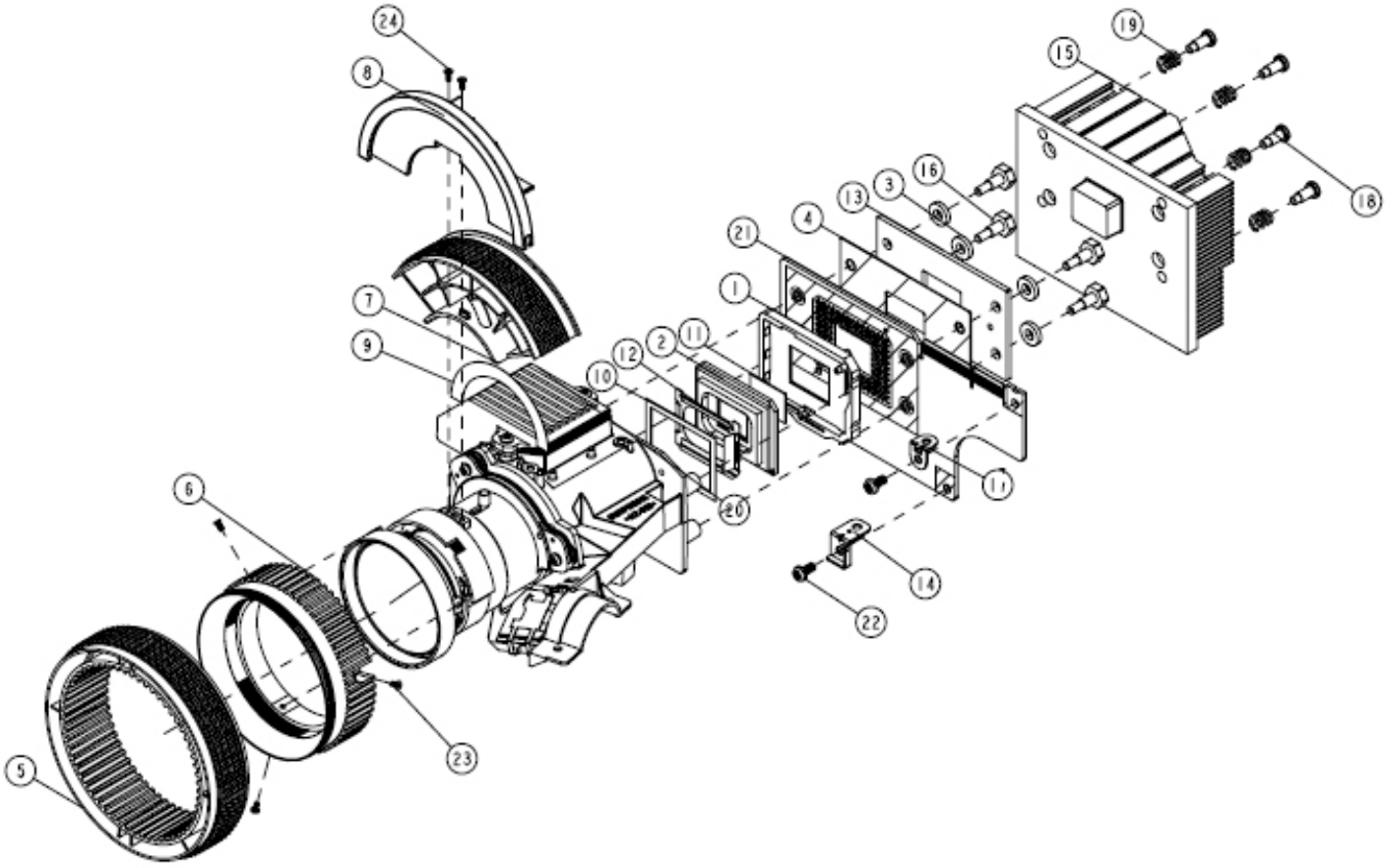
item	P/N	Rev	Description	Parts Supply
1	42.82B03G001	A	CABLE W.A. 16P #26 100mm M/B TO LVPS 5100MP	NO
2	75.87F09G002	A	ASSY LVPS LITEON 350W (Ac inle on board_tPA-2471-1-LF)	
3	75.88B02G002	A	BUY ASSY INTERRUPT SWITCH MODULE EP782	

ASSY MAIN-IO BOARD MODULE EP782



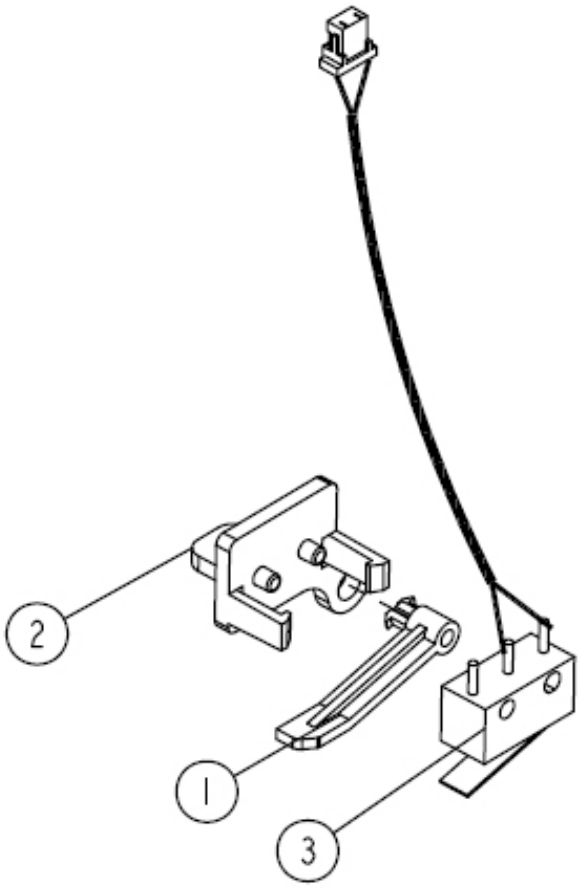
item	P/N	Rev	Description	Parts Supply
1	61.00069G001	A	HEX SCREW L=16 M3 Cu 2300MPX	NO
2	61.00080G001	A	STAND OFF H=6.0 M2/M3*L6 Sn EP910	NO
3	61.88B10G001	A	IO BOARD HOLDER EP782	NO
4	61.R0113G001	A	HEX SPACER M3 W5mm L8mm COPPER VX3000	NO
5	75.88B05G001	A	NETWORK MODULE FOR EP782 “ATOP”	
6	80.88B01G001	D	PCBA MAIN BD FOR EP782	
7	80.88B06G001	C	PCBA IO BOARD FOR EP782	
8	85.1A122G040	A	SCREW PAN MECH M2*4 Ni	NO
9	85.1A123G060	A	SCREW PAN MECH M3*6 NI	NO
10	85.1A323G060	A	SCREW PAN MECH M3*6 BLACK EzPro 500 GREEN	NO
11	86.0A123G024	A	HEX NUT M3*0.5P L2.4 Ni	NO

ASSY OPTICAL ENGINE MODULE EP776/EP782



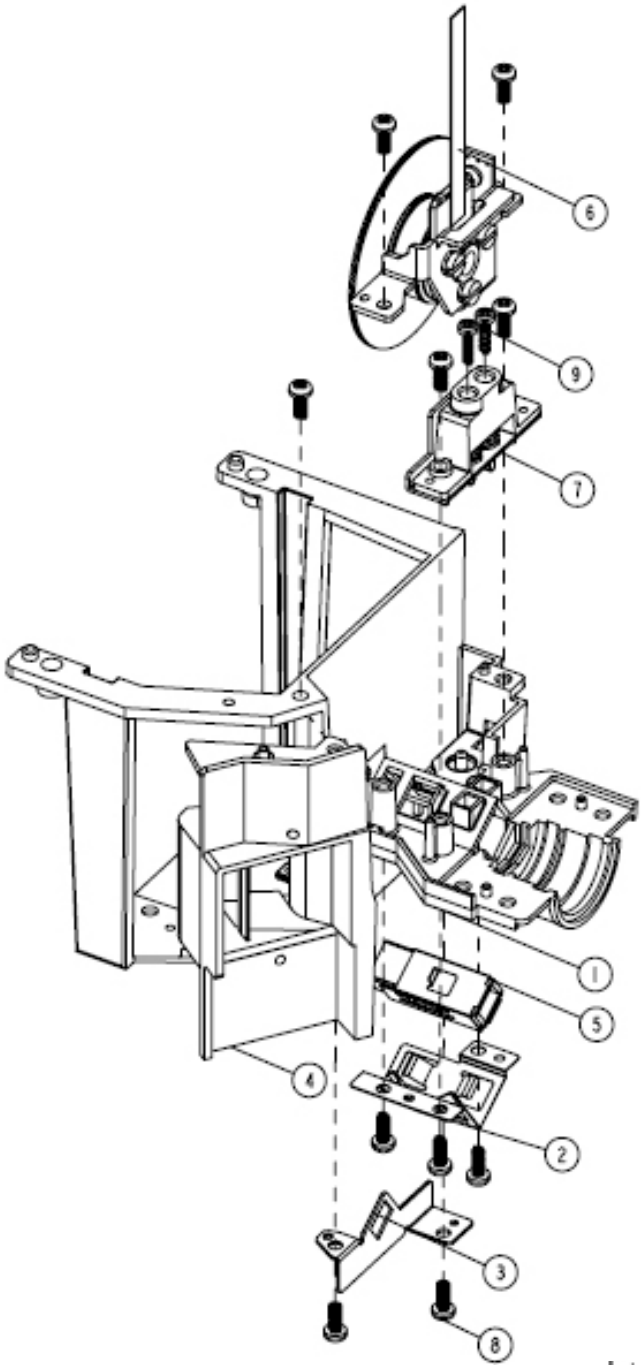
item	P/N	Rev	Description	Parts Supply
1	11.009F0G012	A	CNNT F 203PIN FOR 0.7” LVDS XGA MOLEX LGA 47475-0203	
2	48.87Y01G001	A	DMD 1024X768 PIXEL 0.7” XGA 2xLVDS TYPE A “TI”	
3	51.00210G001	A	DMD SCREW WASHER A39	
4	51.87P04G001	A	DMD INSULATION MYLAR A39	NO
5	51.88B07G001	A	FOCUS RING PC EP782	
6	51.88B08G001	A	FOCUS RING INNER POM EP782	NO
7	51.88B09G001	A	ZOOM RING PC EP782	
8	51.88B10G002	A	ZOOM RING GUIDER PC EP782	
9	51.88B28G001	A	TEFLON FOR ENGINE EP782	NO
10	52.80J01G001	B	DMD ANTIDUST RUBBER 739 SILICONE RUBBER	NO
11	52.83N15G001	A	FUJIPOLLY SARCON XR-Hj, THERMAL PAD FOR DMD HEAT SINK, K=14	
12	61.83J16G003	A	DMD LIGHT MASK FOR GLASS RELAY PD528	NO
13	61.87P04G001	A	DMD PLATE AL A39	NO
14	61.87Y15G001	A	DMD GROUNG BRKT SECC 0.8T P7270I	NO
15	61.87Y20G001	A	DMD HEAT SINK AL-A1070 P7270I	NO
16	61.88611G001	A	DMD SCREW Ivy10X	
17	61.88B10G001	A	IO BOARD HOLDER EP782	NO
18	61.89626G001	A	HEATSINK SCREW EP759	
19	61.89630G001	A	HEATSINK SPRING EP759/PD726	
20	75.88B11G001	A	BUY ASSY LENS CAP MODULE EP782	
21	80.88B02G001	C	PCBA DMD BOARD EP782	
22	85.1A123G060	A	SCREW PAN MECH M3*6 NI	NO
23	85.YA121G035	A	SCREW FLAT HEAD TAP M1.7*3.5 Ni	NO
24	85.YA321G051	A	SCREW FLAT HEAD TAP M1.7x5 D3 BALCK	NO

ASSY LIMIT SWITCH MODULE EP776/EP782



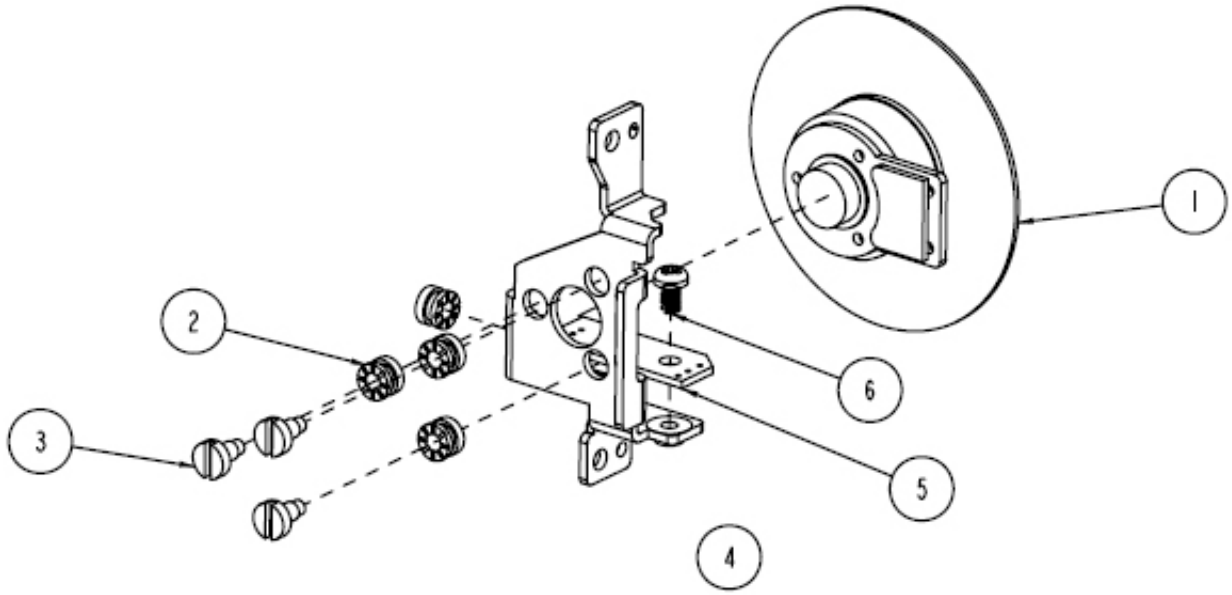
item	P/N	Rev	Description	Parts Supply
1	51.82A24G003	A	INTERLOCK SWITCH SEESAW LT20 NORYL N300X	NO
2	51.82A25G002	A	INTERRUPT S/W HOLDER LT20 N300X	NO
3	75.88B03G001	A	BUY ASSY LIMIT SWITH MODULE EP782	

ASSY ENGINE ROD BASE MODULE EP776/EP782



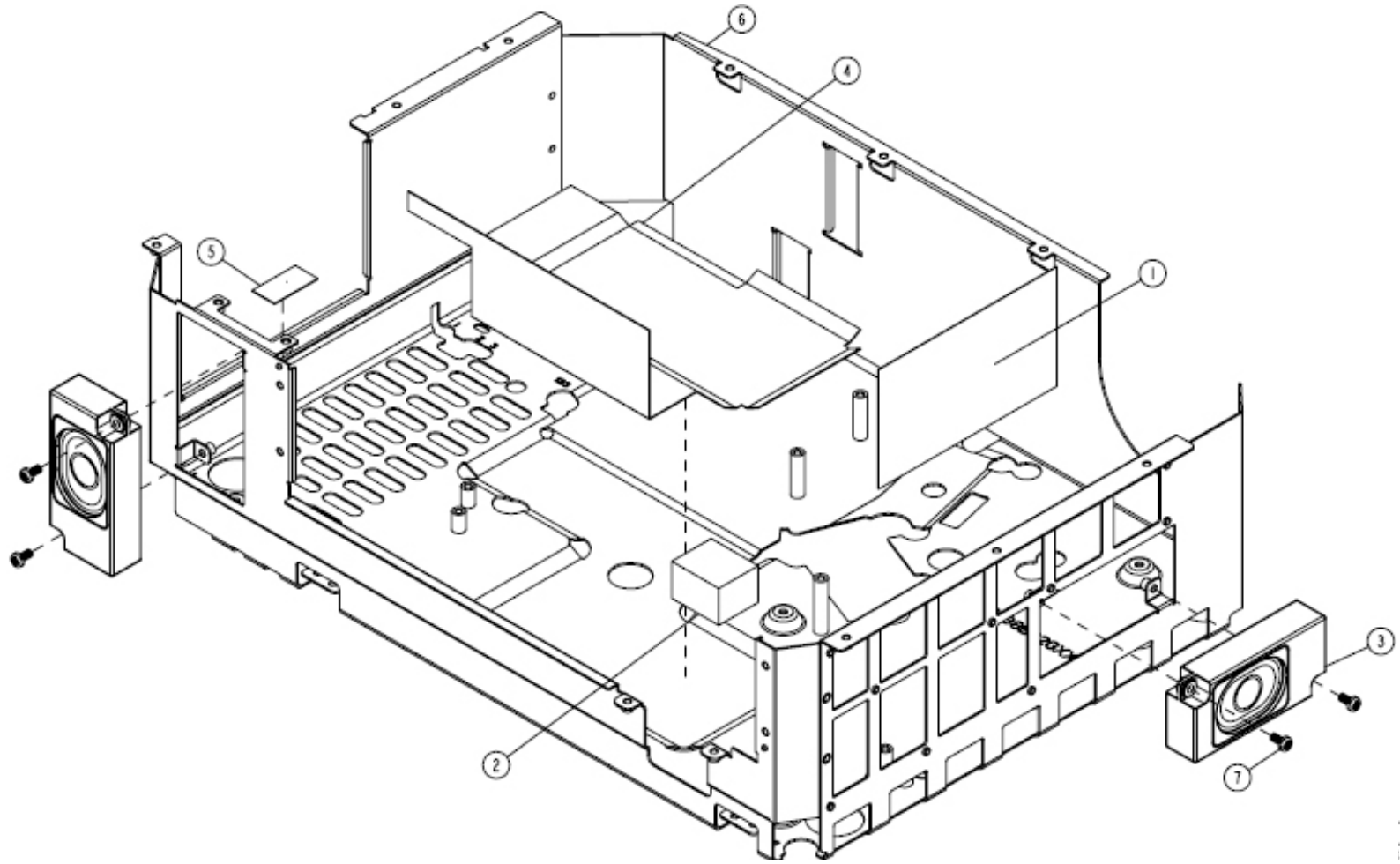
item	P/N	Rev	Description	Parts Supply
1	61.87P02G001	A	ENGINE ROD BASE Mg A39	NO
2	61.87P08G001	A	STEP ROD SPRING SUS301 A39	NO
3	61.87P09G001	A	STEP ROD COVER SECC A39	NO
4	61.88B12G001	A	BLOWER FAN DUCT HOLDER AL EP782	NO
	70.88E12GR01	A	ASSY ROD MODULE EP776 (SERVICE)	
5	70.87P06G001	A	ASSY ROD(XGA) MODULE A39	NO
	70.88E10GR01	A	ASSY COLOR WHEEL MODULE EP776 (SERVICE)	
6	70.87P07G001	A	ASSY COLOR WHEEL MODULE A39	NO
7	75.87P01G002	A	NEW BUY ASSY ROD ADJUST MODULE A39	NO
8	85.1A326G060	A	SCREW PAN HEAD MECH M2.6*6 BLACK	NO
9	85.1A522G080	A	SCREW PAN MECH NYLOK M2*8 Ni	NO

ASSY Color Wheel MODULE EP782



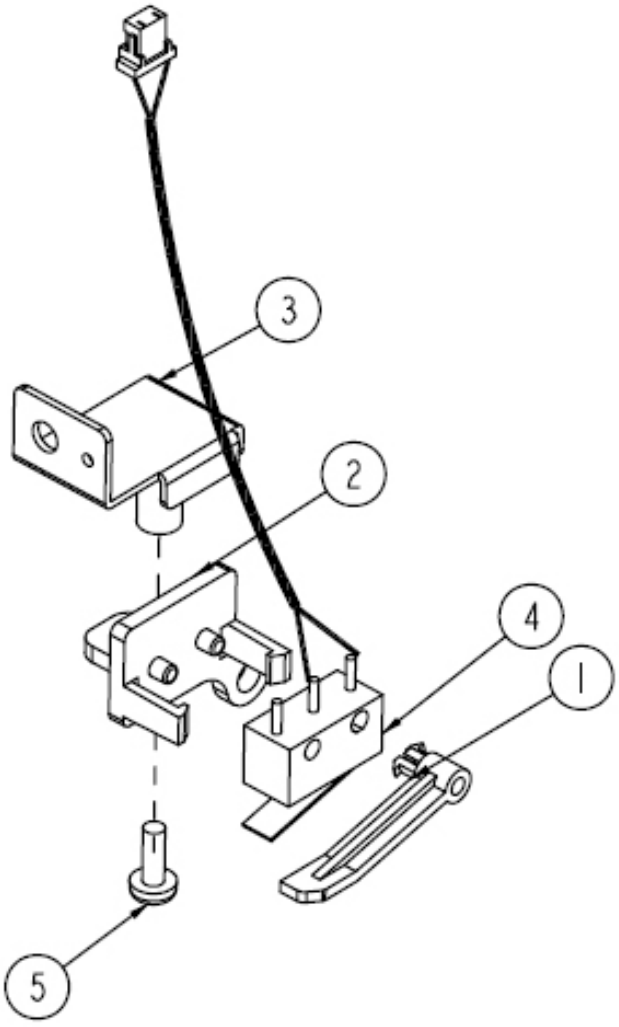
item	P/N	Rev	Description	Parts Supply
	70.88B23GR01	A	ASSY COLOR WHEEL MODULE EP782 (SERVICE)	
1	23.88B19G011	A	A39 5 SEGMENT C/W R80Y30G84W90B76 (DIA.:44MM, GREEN COATING FOR DATA PROJECTOR)	NO
2	52.83615G001	A	COLOR WHEEL DISC RUBBER, EzPro755	NO
3	61.83628G002	A	COLOR WHEEL SHOULDER SCREW NICKEL M2*4.8 FILLIST	NO
4	61.87P14G001	A	COLOR WHEEL HOLDER SECC A39	NO
5	80.87M04G001	A	PCBA PHOTO SENSOR BD FOR EP761	
6	85.1A626G040	A	SCREW PAN MECH M2.6*4 BLACK NYLOK	NO

ASSY EMI BOTTOM SHIELDING MODULE EP776/EP782



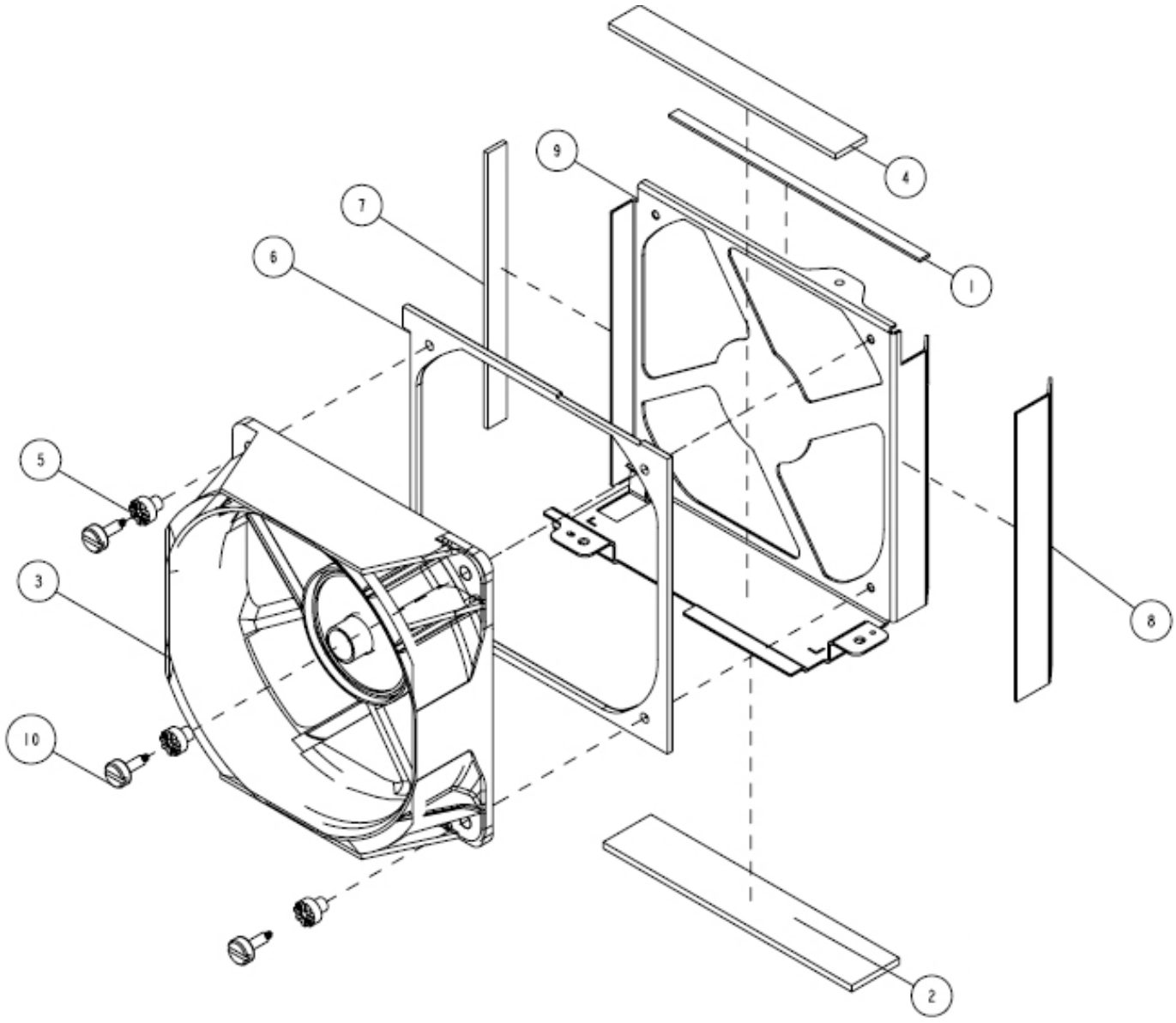
item	P/N	Rev	Description	Parts Supply
1	41.88B04G001	A	EMI SHIELDING FOR SPEAKER	NO
2	41.89601G001	A	EMI GASKET FRONT TO ENGINE EP759/ PD726	NO
3	49.87Y03G001	A	SPEAKER 3W 8OHM 135mm P7270I	
4	51.88B25G001	A	BOTTOM MYLAR FOR LVPS EP782	NO
5	51.88B33G001	A	MYLAR 12X23X0.43t EP782	NO
6	61.88B02G001	A	EMI BOTTOM SHIELDING COVER AL EP782	NO
7	85.1A123G060	A	SCREW PAN MECH M3*6 NI	NO

ASSY LIMIT SWITCH MODULE (RIGHT) EP776/EP782



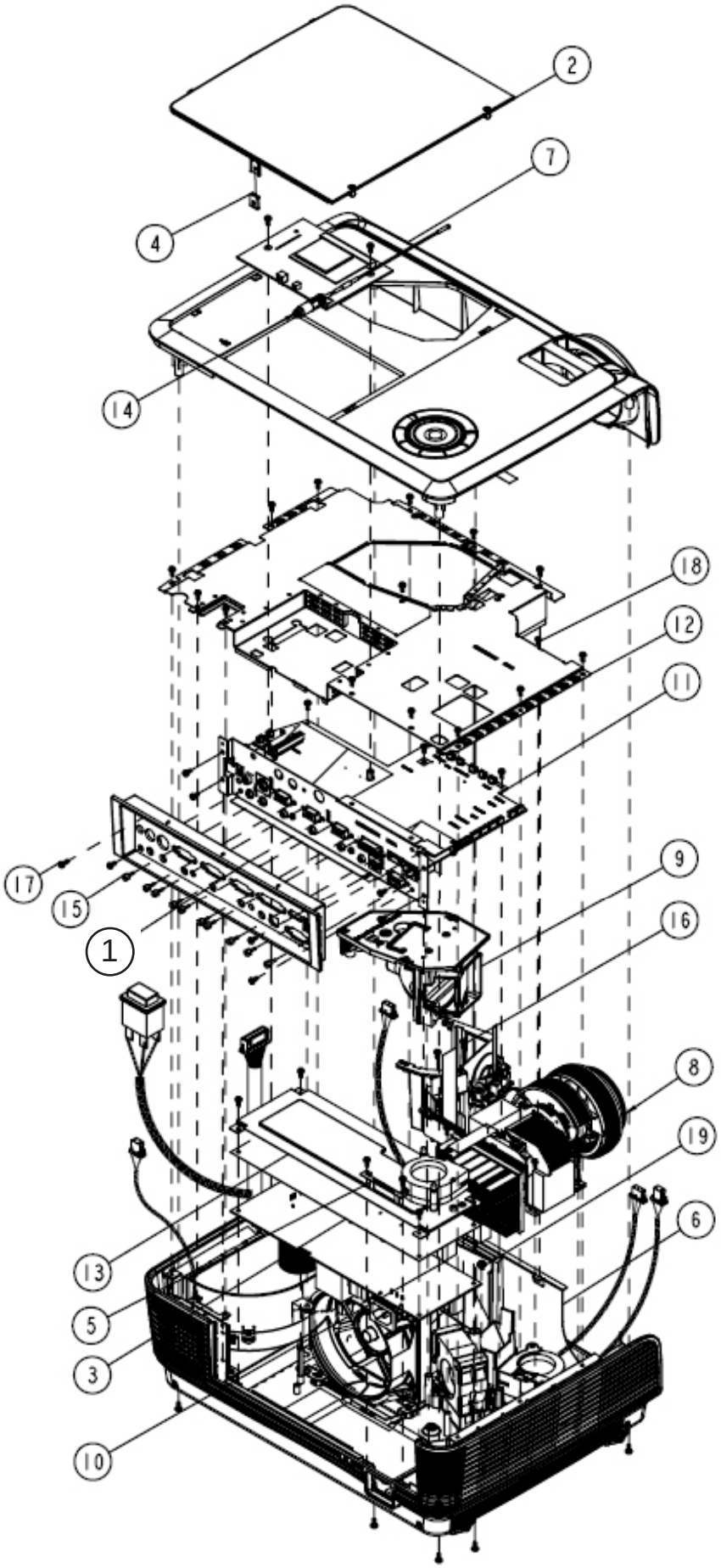
item	P/N	Rev	Description	Parts Supply
1	51.82A24G003	A	INTERLOCK SWITCH SEESAW LT20 NORYL N300X	NO
2	51.82A25G002	A	INTERRUPT S/W HOLDER LT20 N300X	NO
3	61.88B13G001	A	INTERLOCK BRACKET EP782	NO
4	75.87Y05G001	A	ASSY INTERRUPT SWITCH MODULE P7072I	
5	85.1A126G060	A	SCREW PAN MECH M2.6*6 Ni	NO

ASSY AXIAL FAN 105*32 MODULE EP776/EP782



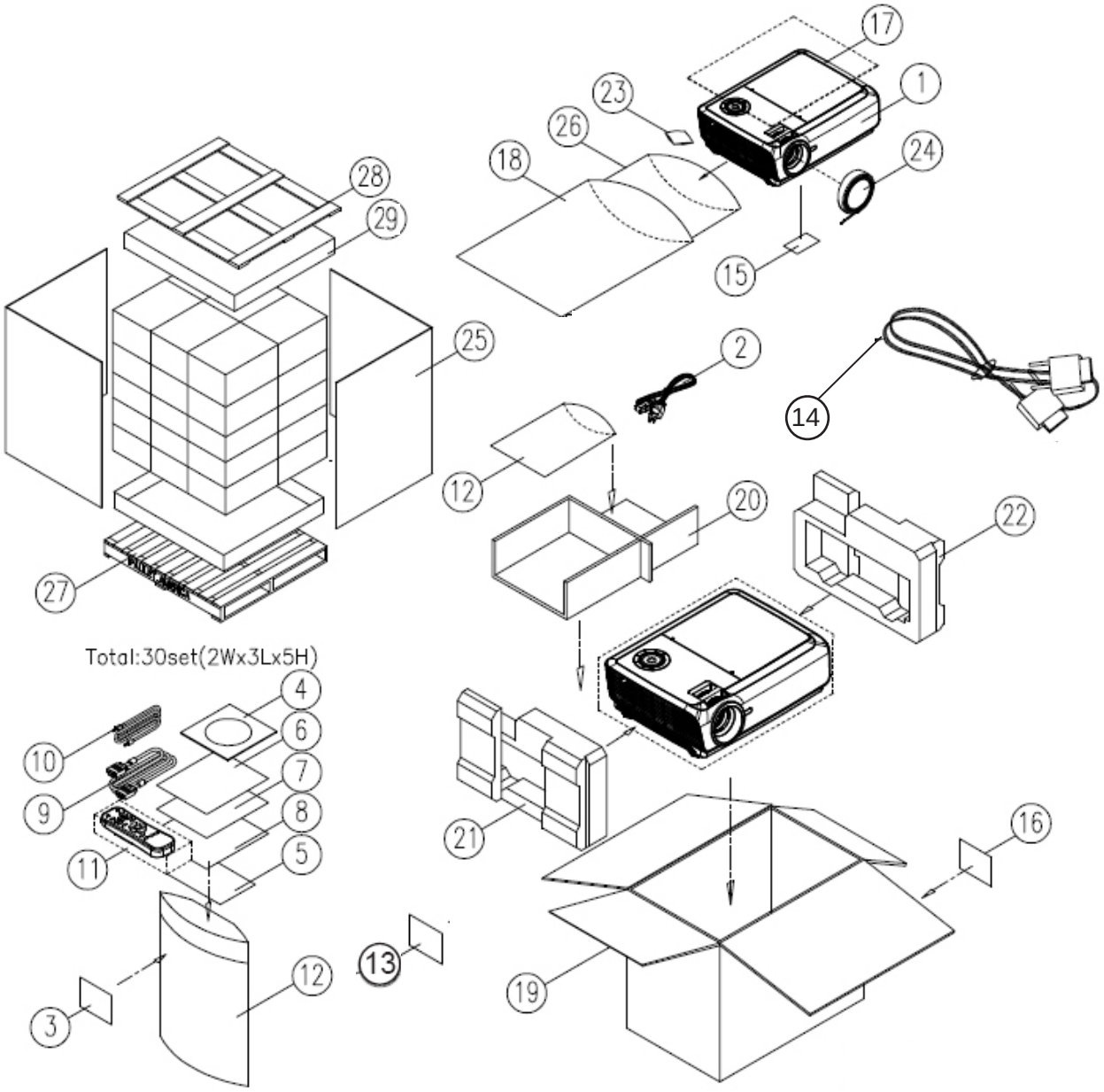
item	P/N	Rev	Description	Parts Supply
1	41.80S15G001	A	EMI GASKET W4*H1*L105mm	NO
2	41.88B06G001	A	EMI GASKET UNDER FAN	NO
3	49.87Y01G001	A	DELTA 105X32 SYSTEM AXIAL FAN	
4	52.82B06G001	A	AIRTIGHT RUBBER FOR FAN BRACKET 5100MP	NO
5	52.82B15G001	A	FAN 9225 RUBBER TOP 5100MP	NO
6	52.87Y02G001	A	FAN RUBBER FRONT SILICONE P7270I	NO
7	52.87Y08G001	A	SILICONE F12 AIR-TIGHT FAN-RIGHT 100*8*1.6t P7270I	NO
8	52.88B12G001	A	SILICON RUBBER F12 104.5X22X0.8 EP782	NO
9	61.87Y12G001	B	BRKT AXIAL FAN 10532 AL5052 0.8T P7270I	NO
10	61.89547G001	A	92*25 FAN SCREW M2.6 4100MP	NO

D.C. EP782



item	P/N	Rev	Description	Parts Supply
1	51.88B02G001	A	IO COVER PC EP782	NO
2	51.88B04G002	A	LAMP COVER PC EP782	
3	51.88B31G001	A	LVPS MYLAR EP782	NO
4	61.81105G001	A	NUT PLATE SUS 0.5t EzPro 610	NO
5	61.88B07G001	A	LVPS AC INLET HOLDER EP782	NO
6	70.88B01G001	A	ASSY BOTTOM HOUSING MODULE EP782	NO
7	70.88B02G001	A	ASSY TOP COVER MODULE EP782	NO
8	70.88B03G001	A	ASSY ENGINE MODULE EP782	NO
9	SP.88B01GC01	A	ASSY LAMP MODULE EP782	
10	70.88B06G001	A	ASSY LVPS MODULE EP782	NO
11	75.88B14G002	A	ASSY IO COVER MODULE EP782	
12	70.88B16G001	A	ASSY EMI TOP SHIELDING MODULE EP782	NO
13	70.89K01G001	A	SHIELDING LVPS 350W MODULE P7280	NO
14	75.88B01G002	A	KEYPAD MODULE P+R EP782	
15	85.005AGG075	A	SCREW HEX I/O #4-40*H5*L7.5 Ni NYLOK	NO
16	85.1A123G060	A	SCREW PAN MECH M3*6 NI	NO
17	85.1A123G080	A	PAN SCREW M3*8 FOR YM-64 FRONT CELL & SP	NO
18	85.1A126G040	A	SCREW PAN MECH M2.6*4 Ni	NO
19	85.1C227G050	A	SCREW PAN MECH M3.5*5 COLOR (W/SP WASHER)	NO

D.P. EP776/EP782

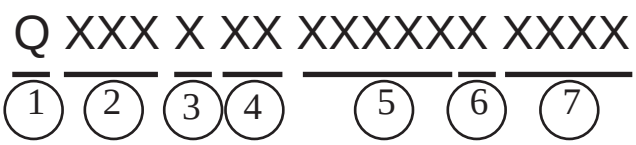


item	P/N	Rev	Description	Parts Supply
1	DC.88B01G001	A	D.C. EP782	NO
2	42.00102G001	B	CABLE POWER CORD 3M SP-305/IS-14 US	
3	35.82001G111	A	AK LABEL 3"*3" BLANK	
4	36.88B01G001	A	USER'S GUIDE MULTILINGUAL (CD) OPTOMA EP782	
5	36.88B02G001	A	QUICK START CARD MULTILINGUAL OPTOMA EP782	
6	36.00012G002	C	WARRANTY CARD 3 YEARS, USA FOR OPTOMA LPP SERIES	
7	36.00018G001	B	EXTENDED WARRANTY REGISTRATION FORM,USA FOR LPP SERIES	
8	36.00020G001	A	QUICK TROUBLESHOOTING GUIDE MULTILINGUAL	
9	42.00200G002	A	CABLE VGA 15P 1.8M BLK EP739	
10	42.00281G101	A	CABLE USB-A TO USB-B 1.8M BLACK	
11	45.88B01G001	B	REMOTE CONTROLLER EP782	
12	51.86213G001	A	PE BAG ZIPPER #9 W/RECYCLING MARK EzPro 736	
13	35.88B04G001	A	LAMP WARNING LABEL 330W PC EP7	
14	42.00271G001	A	CABLE RS-232 9P 1.8M BLACK	
15	35.86301G001	A	SPEC LABEL BLANK PD120	
16	35.52302G091	A	LABEL CARTON 108*92 BLANK	
17	51.88B42G001	A	PROTECT MEMBRANE EP782	
18	51.00215G001	A	ESD BUBBLE BAG 440x550+40mm	
19	55.88B01G001	A	CARTON AB 556x416x262 EP782	
20	55.88B02G001	A	PARTITION PAPER FOR EP782	
21	56.88B01G001	A	CUSHION EPE RIGHT EP782	
22	56.88B02G001	A	CUSHION EPE LEFT EP782	
23	57.00001G001	B	PACK SIO2 DRIER 20g	NO
24	75.88B11G001	B	BUY ASSY LENS CAP MODULE EP782	
25	55.82Y02G001	A	L TYPE PAPER 1170mm X 950mm X 1250mm EP7150	NO
26	56.88B03G001	A	PACKING EPE BAG 550*440mm EP782	
27	58.86201G001	A	WOOD PALLET 48"*40*5"(DOUBLE FACE)	NO
28	58.86202G001	A	COVER PALLET 1240*1020mm FOR EzPro 736	NO
29	55.80S10G001	A	PAPER COVER 1180*980mm TDP-T91	NO

Appendix B

I. Serial Number System Definition

Serial Number Format for Projector



① : Q = Customer Code (ex: Q = Optoma)

② : Product Code (ex: 88E = EP776)

③ : Last number of the year (ex:2007- 7)

④ : Week of MFG

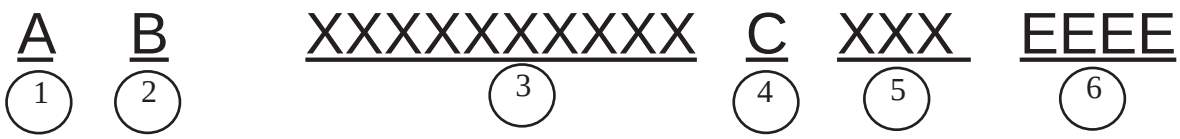
⑤ : Code

⑥ : MFG Location (ex: C = China)

⑦ : Serial code (from 0001~)

II. PCBA Code Definition

PCBA Code for Projector



1	:	ID
2	:	Vendor Code
3	:	P/N
4	:	Revision
5	:	Date Code
6	:	S/N

C: M/B
B: DMD/ B