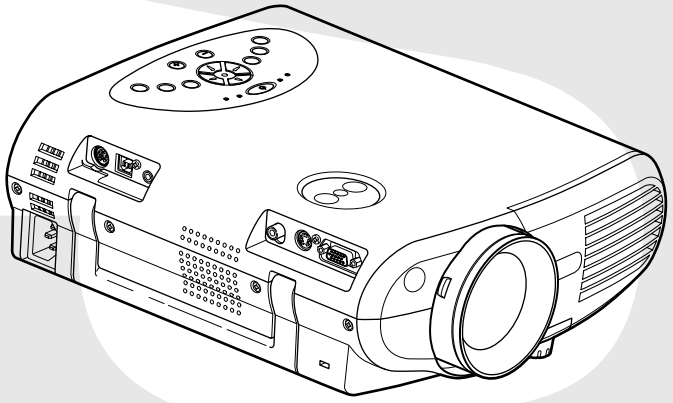
TOSHIBA

FILE NO. 330-200103

SERVICE MANUAL

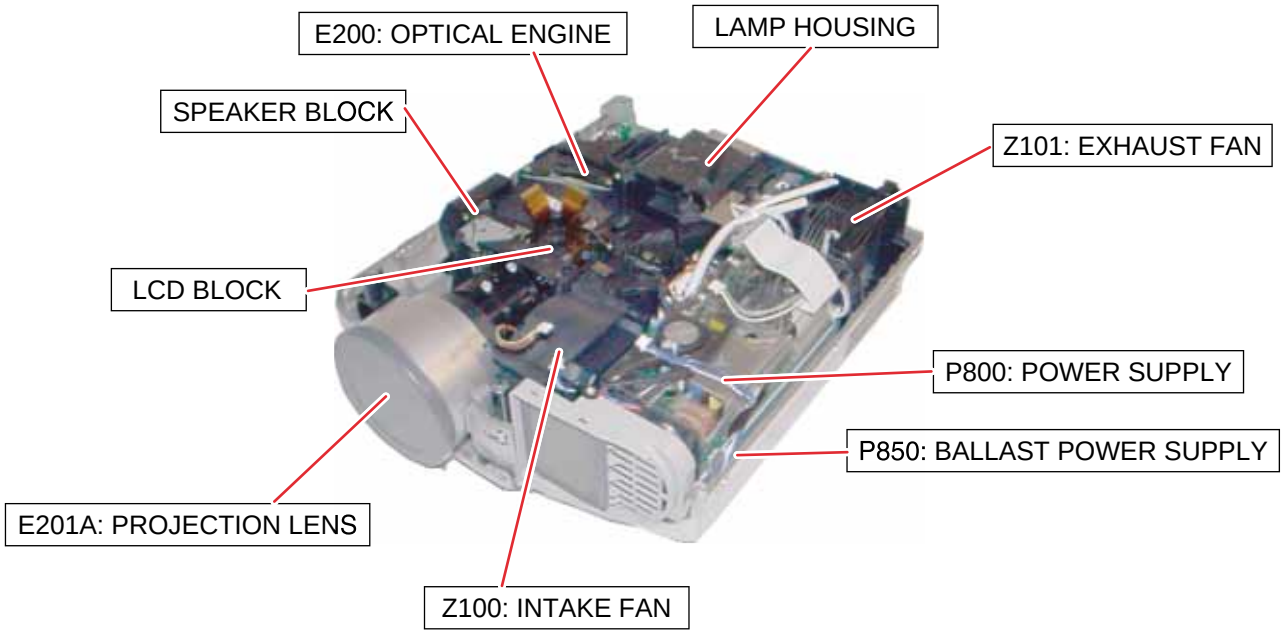
3LCD DATA PROJECTOR

TLP-250/251/250C/251C
TLP-550/551/550C/551C

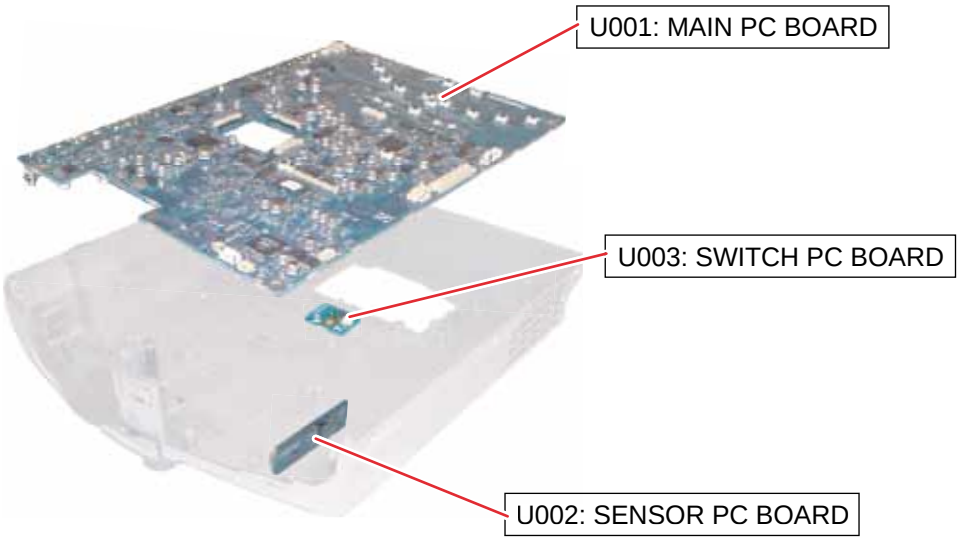


SECTION 1
PART REPLACEMENT AND ADJUSTMENT PROCEDURES

1. LOCATION OF MAIN PARTS



2. LOCATION OF PC BOARD

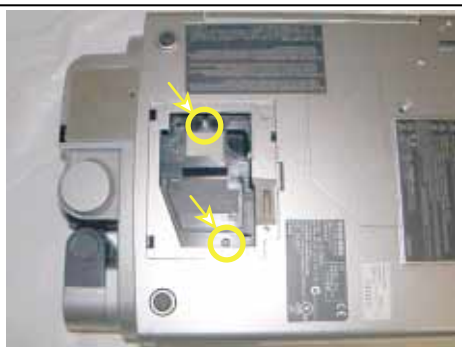


CAUTIONS BEFORE SERVICING

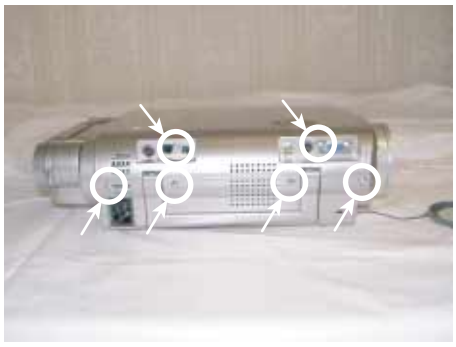
Electronic parts are susceptible to static electricity and may easily be damaged, so do not forget to take proper grounding treatment as required.
Many screws are used inside the unit. To prevent missing, dropping, etc. of the screws, always use a magnetized screwdriver in servicing. Several kinds of screws are used and some of them need special cautions. That is, take care of the tapping screws securing molded parts and fine pitch screws used to secure metal parts. If they are used improperly, the screw holes will be easily damaged and the parts can not be fixed.

3. REPLACEMENT OF MECHANICAL PARTS

3-1. Lamp Assembly

Step	Figure	Explanation
1		Loosen 2 screws (M3 x 8). These screws are retained with split washers.
2		Remove the lamp cover.
3		Loosen 2 screws that secure the lamp module (M3 x 8). These screws are retained with split washers.
4		Lift the lamp module and slide out from the projector.

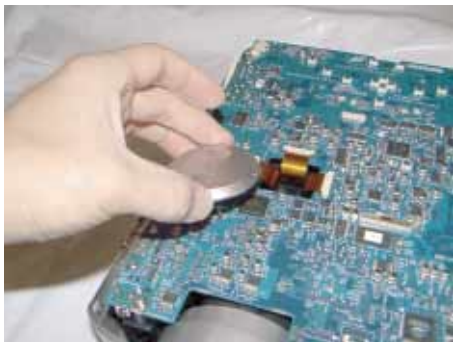
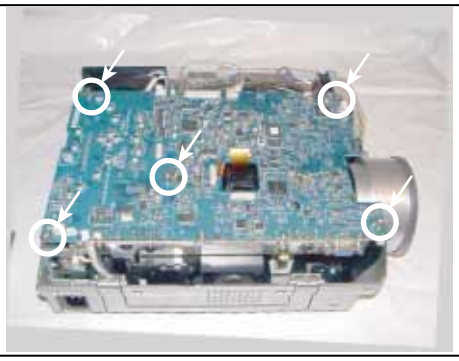
3-2. Top Cover

Step	Figure	Explanation
1		**[Left Side]** Remove 3 screws (M3 x 6). Screw : type [M-1] 
2		**[Right Side]** Remove 6 screws (M3 x 6). Screw : type [M-1] 
3		**[Front]** Slide front cover to the right.
4		Remove front cover.
5		Remove 1 screw (M3 x 6). Screw : type [M-1] 

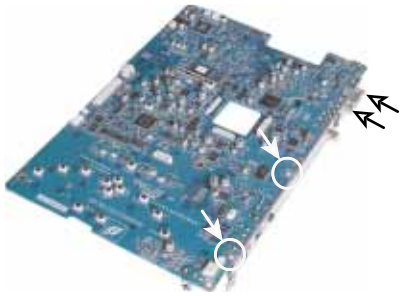
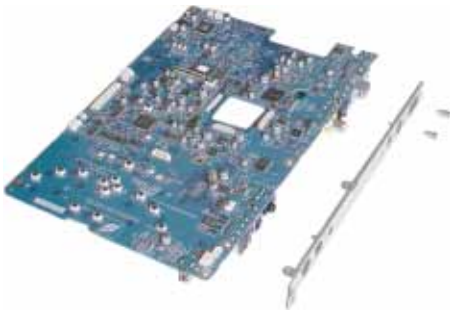
3-2. Top Cover (Continued)

Step	Figure	Explanation
6		**[Rear]** Remove 1 screws (M2 x 6). Screw : type [M-1] 
7		Top cover can be removed by lifting left edge.

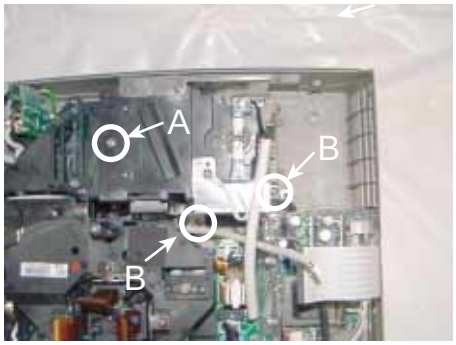
3-3. Main PC Board

Step	Figure	Explanation
1		Remove lens shift dial.
2		Remove all cables and connectors.
3		Remove 5 screws (M3 x 6). Screw : type [M-1] 
4		Remove 1 screws (M3 x 6). Screw : type [M-1]  [Note] The screw here is also fixing the grand wire.

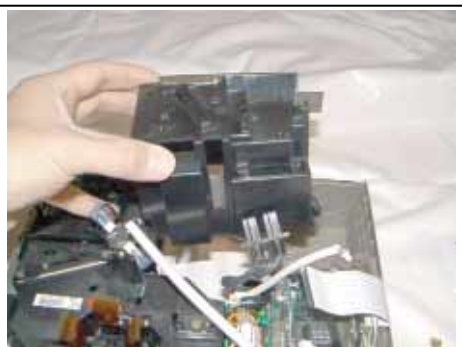
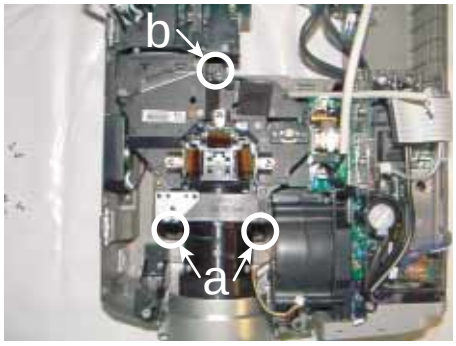
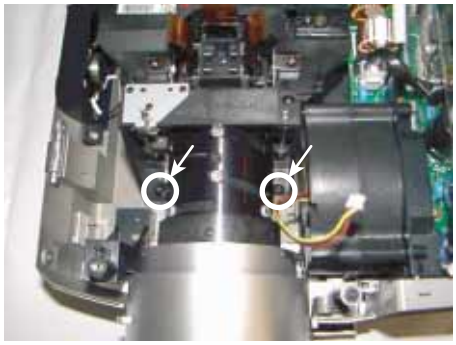
3-3. Main PC Board (Continued)

Step	Figure	Explanation
5		Remove 2 screws (M3 x 6). Screw : type [M-1]  Remove 2 screws (M3 x 8). Screw : type [M-10] 
6		Remove metal plate.

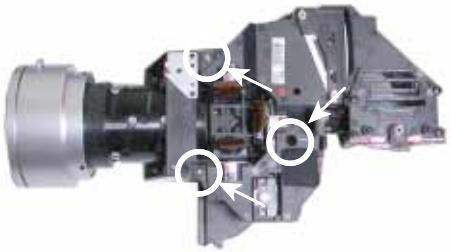
3-4. Optical Engine

Step	Figure	Explanation
1		Remove 1 screw (M3 x 6).....A Screw : type [M-1]  Remove 2 screws (3 x 8).....B Screw : type [M-2] 
2		Remove 2 screws (3 x 8) Screw : type [M-2] 
3		Remove Thermal switch.
4		Remove metal plate.
5		Remove 2 screws (3 x 8) Screw : type [M-2] 

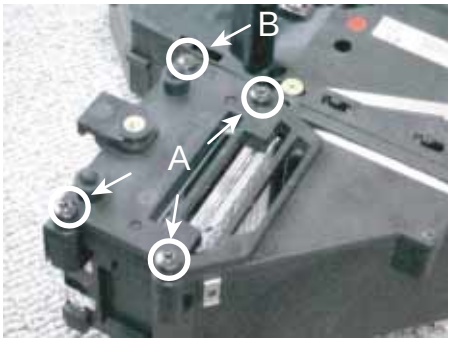
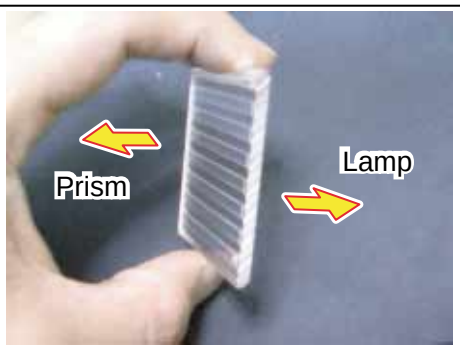
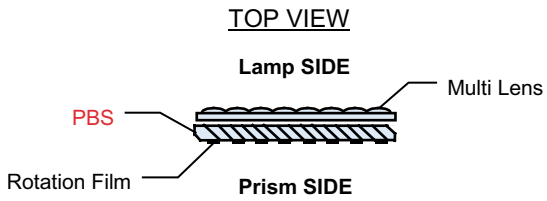
3-4. Optical Engine (Continued)

Step	Figure	Explanation
6		Remove lamp housing.
7		Remove 3 screws (M3 x 15). Screw : type [M-4] 
7a		
7b		

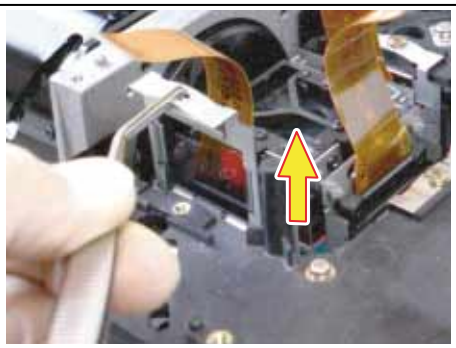
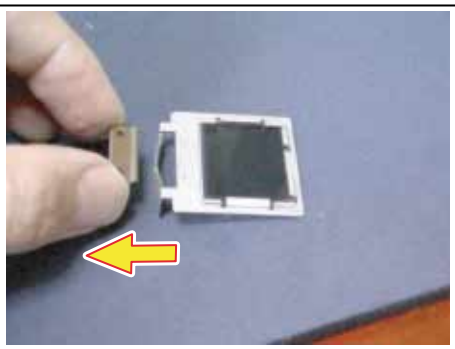
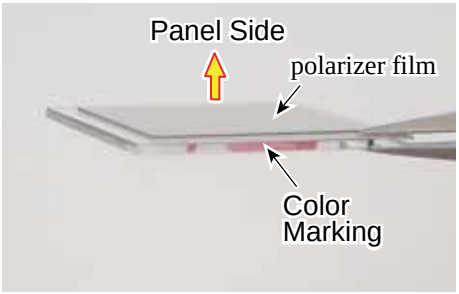
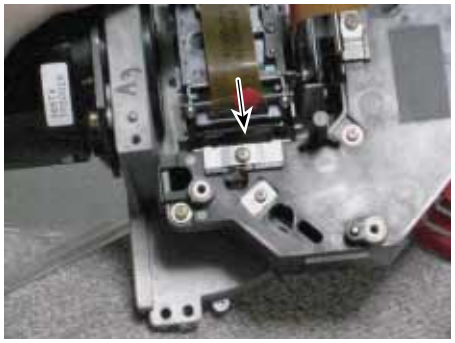
3-4. Optical Engine (Continued)

Step	Figure	Explanation
8		Remove 3 screws (M3 x 8) . Screw : type [M-2] 
9	 Sub frame  Main frame	Separate the main frame and sub frame from the engine block.

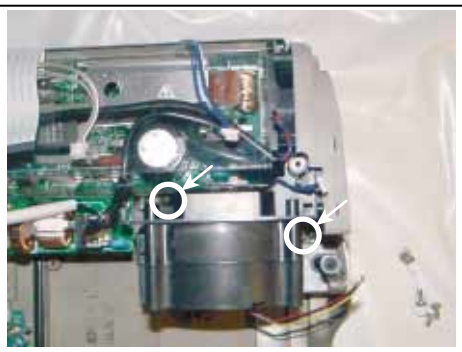
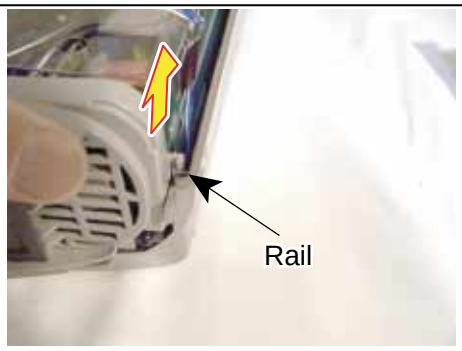
3-5. MULTI-PBS (Polarizing Beam Splitter)

Step	Figure	Explanation
1		Remove 3 screws (M3 x 15) ....A Screw : type [M-8]  Remove 1 screws (M2.5 x 15) ....B Screw : type [M-9] 
2		Press the Multi-PBS up from cooling space.
3		Remove the Multi-PBS.
4		[Note] Make sure the direction of the PBS when you install. 

3-6. Polarized Plate

Step	Figure	Explanation
1		Remve the one screw.
2		Remove the stopper.
3		Remove the holder and polarized plate.
4		[Note] The film side must be faced to the LCD panel when installing and the color must be related with the color of LCD panel.
5		Tighten a screw in the position where 100% black image screen gets the darkest.

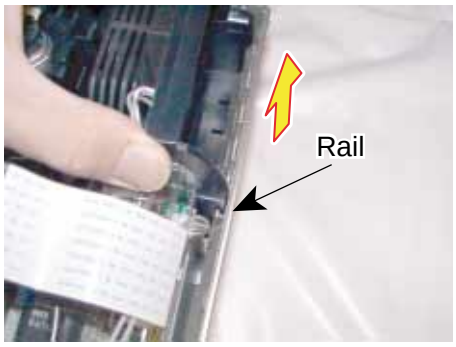
3-7. Intake Fan

Step	Figure	Explanation
1		Remove 2 screw (3 x 8). Screw : type [M-2] 
2		Remove intake fan block from the bottom cabinet.(It pulls up along with a rail.)
3		Remove filter block from the bottom cabinet.
4		The filter is split like this.
5		Remove 2 screws (3 x 8). Screw : type [M-2] 

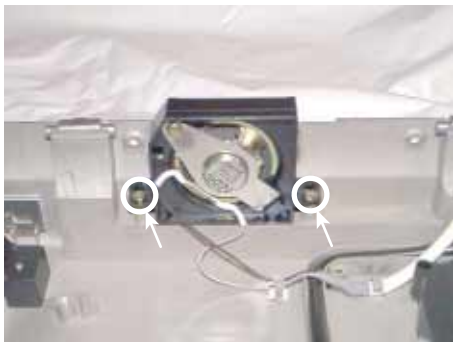
3-7. Intake Fan (Continued)

Step	Figure	Explanation
6		Remove 2 screw (3 x 47). Screw : type [M-5] 
7		The Intake fan block is split like this.

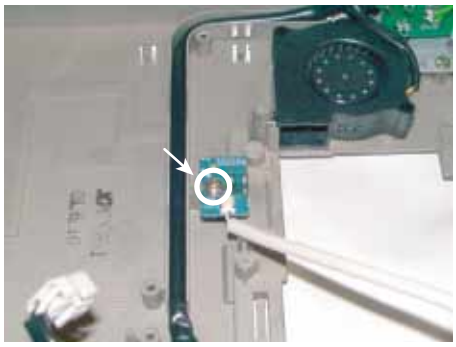
3-8. Exaust Fan

Step	Figure	Explanation
1		Remove 1 screw (3 x 8). Screw : type [M-2] 
2		Remove intake fan block from the bottom cabinet.(It pulls up along with a rail.)
3		Remove 2 screws (3 x 15). Screw : type [M-6] 
4		The exaust fan block is split like this.

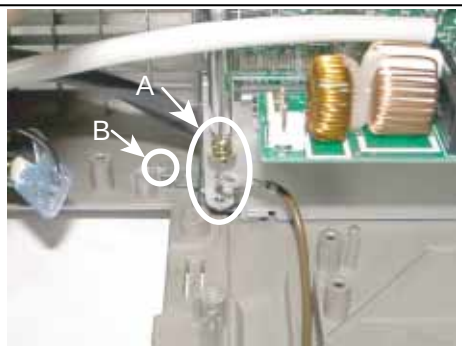
3-9. Speaker Block

Step	Figure	Explanation
1		Remove 2 screws (3 x 8). Screw : type [M-2] 
2		Remove 1 screw (3 x 8). The speaker will be removed like this. Screw : type [M-2] 

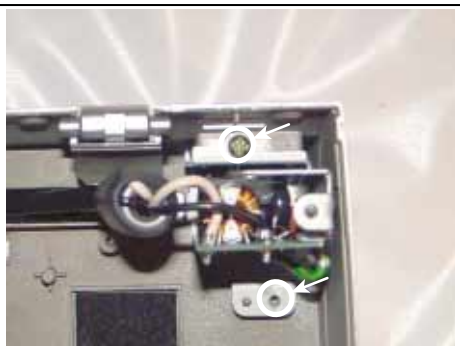
3-10. Switch PC Board

Step	Figure	Explanation
1		Remove 1 screws (3 x 8). Screw : type [M-2] 
2		[Note] The safety interlock switch is pushed when the lamp cover is replaced.

3-11. Power Supply

Step	Figure	Explanation
1		Disconnect the cable from the AC inlet.
2		A : Remove 1 screw (M3 x 5). Screw : type [M-3]  B : Remove 1 screw (3 x 8). Screw : type [M-2] 
3		Remove 1 screw (3 x 8). Screw : type [M-2] 
4		Lift up back side of the power unit .
5		Remove 2 hook from the bottom cabinet in the direction of this arrow.

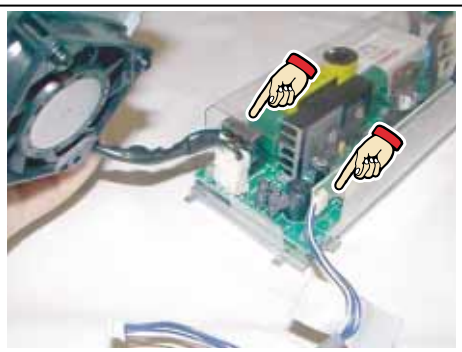
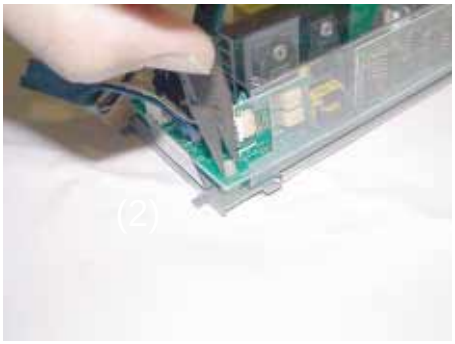
3-11. Power Supply (Continued)

Step	Figure	Explanation
6		Remove 2 screws (3 x 8) Screw : type [M-2] 
7		Remove EMC filter unit.

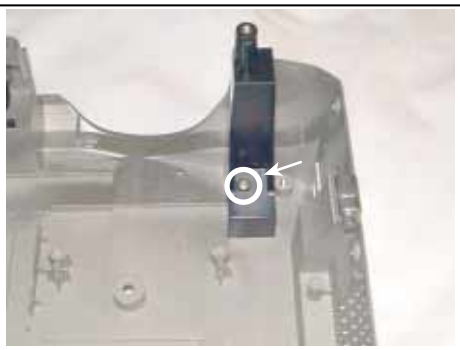
3-12. Ballast power Supply

Step	Figure	Explanation
1		Remove black tape.
2		Remove 2 hooks in the direction of this arrow.

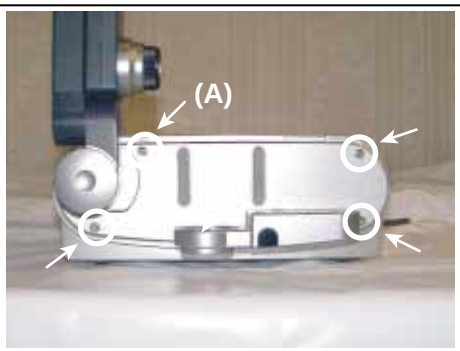
3-12. Ballast power Supply (Continued)

Step	Figure	Explanation
3		Lift up the main power supply unit.
4		Disconnect the power supply cable and cntrol cable.
5		Release 4 P.C. board holder.
6		Release P.C. board holder by using tweezers.
7		Ballast power supply block is split like this.

3-13. PCB Holder

Step	Figure	Explanation
1		Remove 1 screw (3 x 8). Screw : type [M-2] 

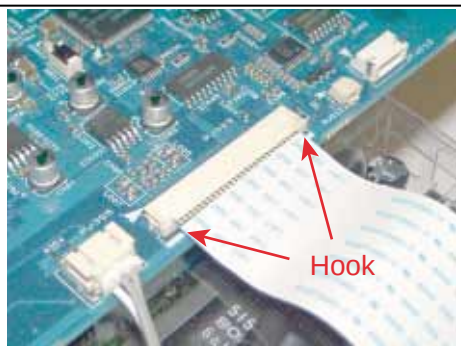
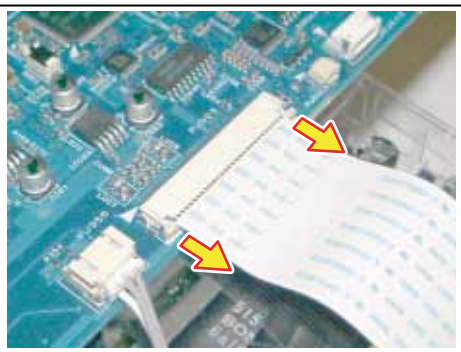
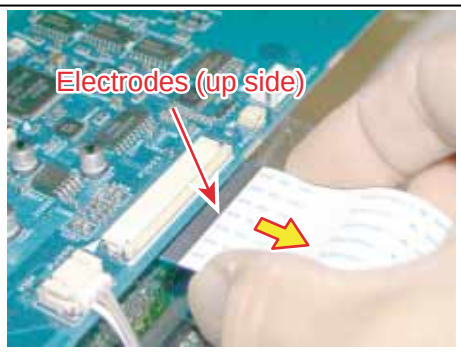
3-14. Document camera (How to remove from the main body)

Step	Figure	Explanation
1		Remove 5 screws (M3 x 6). Screw : type [M-1]  [Note] Please remove the screw (A) last. Then, support the camera block by hand, otherwise it falls.
2		Disconnect the connector from the main body. [Note] For disassembly of the document camera, refer to page 3-6.

3-15. Screws for Mechanical Patrs

Type	Form	Size	Location
M-1		M3 x 6	Top Cover (11), Main PCB (8), Document camera (5) and Lamp House (1)
M-2		3 x 8	Power Supply and Ballast Power Supply (4), Ballast cable connector (2), Intake FAN (4), Switch PCB(1), Lamp House(5), Exhaust FAN (1), Optical Engine(3), Speaker Block (3) and PCB Holder(1)
M-3		3 x 6	Power Supply Earth Wire(1)
M-4		3 x 12	Optical Engine (3)
M-5		3 x 47	Intake FAN (2)
M-6		3 x 12	Exaust FAN (2)
M-7		2 x 4	Camera Cover (3)
M-8		3 x 15	Optical Engine PBS Cover (3)
M-9		2.5 x 15	Optical Engine PBS Cover (1)
M-10		M3 x 8	Main PCB (2)

3-16. How to disconnect FFC/FPC Connector

Step	Figure	Explanation
1		Conformity of Location number. MAIN PCB: PJ701
2		Release Two hooks. [Note] Hooks stop on the way. Please do not pull out by superfluous power.)
3		FFC/FPC cable can be disconnected.

4. ELECTRICAL ADJUSTMENT

4-1. Preparation

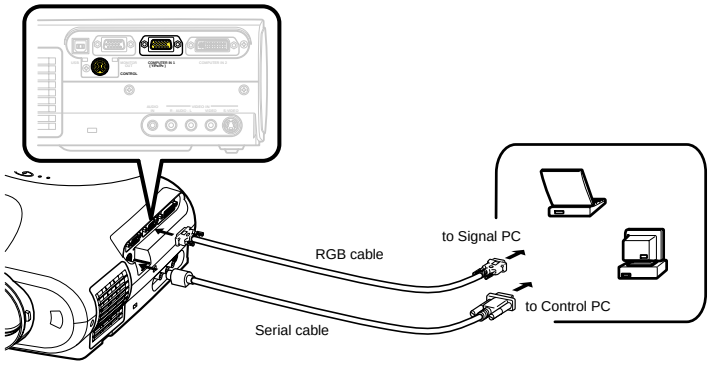
< Test Equipments and Jigs >

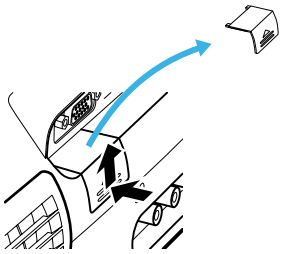
- Personal computer (Windows P/C, OS:windows 95/98)
- Adjustment software
  (SINGO98.exe, FieldAdjust.exe)
- RGB cable, Serial control cable (for RS-232C)

< Connection and Setting of Personal Computer >

(1) Connection of personal computer

Connect a computer as shown in following Fig. 1-4-1.
Use the supplied serial control cable for connection.





Remove the RS232C cover.

Fig. 1-4-1

(2) Shading adjustment software

When the shading adjustment software (FieldAdjust.exe) is started, screen like the following image (Fig. 1-4-2) appears.

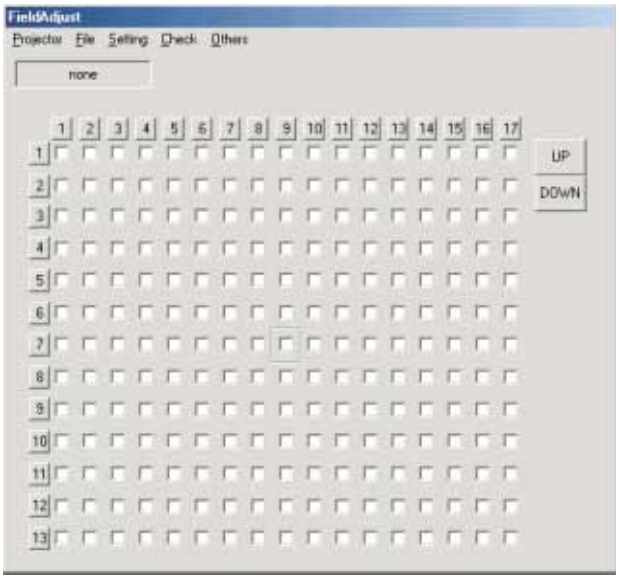


Fig. 1-4-2

4-2. Shading adjustment software

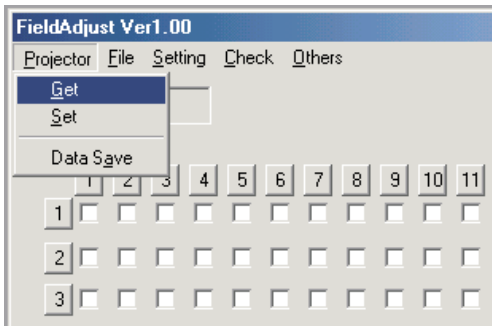
1. When DRIVE PCB is exchanged.

Step1. Get shading data from old Drive PCB.
Step2. Save the data to PC memory.
Step3. Exchange the Drive PCB.
Step4. Set the old data to new Drive PCB.

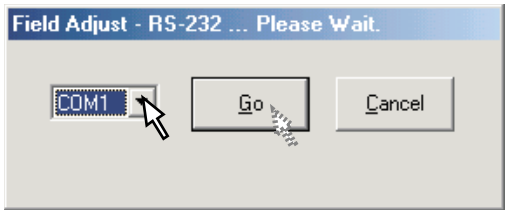
(Brfore Exchanging Drive PC Board)

1-1 Get the shading data from the projector

(1) Select [get] from [Projector] menu.



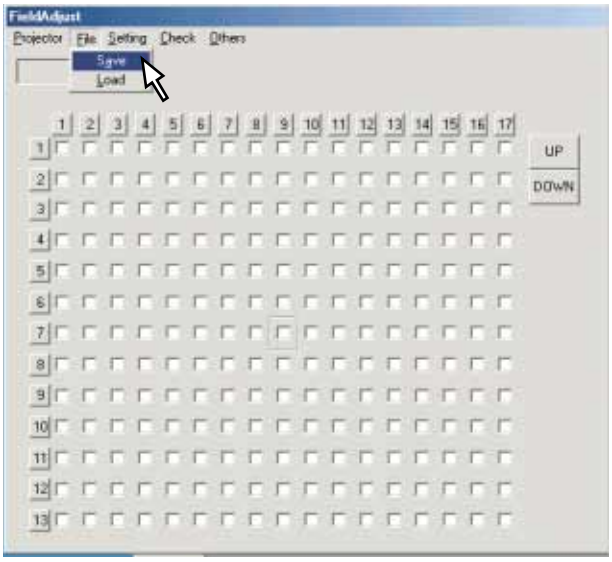
(2) Select commucation port and press [Go] button.



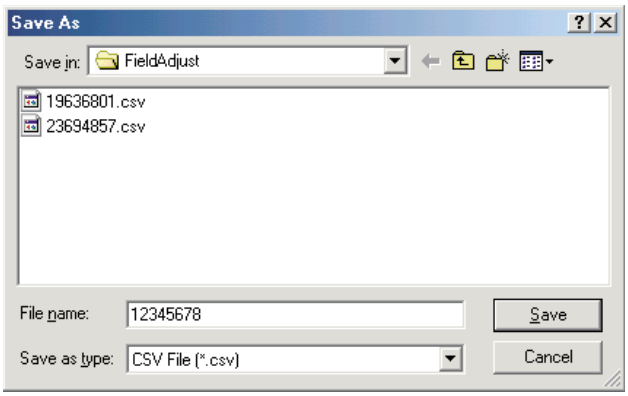
(3) After getting the shading data, the following message appired. Press [OK] button.

1-2 Save the original shading data to PC

(1) Select [Save] from [File] menu.



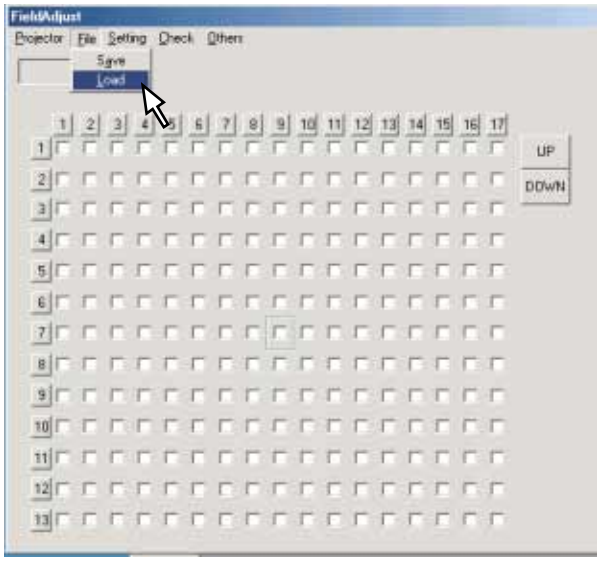
(2) Input file name and press [Save] button.



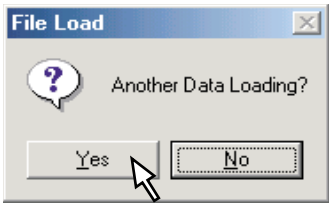
(After Exchanging Drive PC Board)

1-3 Set the shading data to the projector

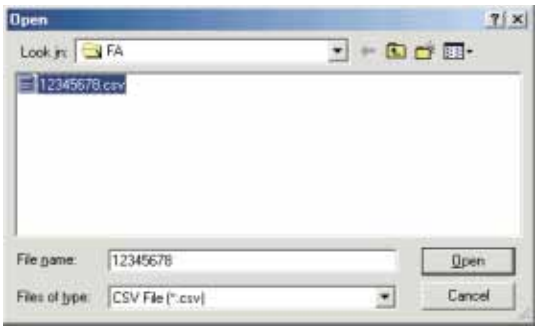
(1) When you load the data from PC, select [Load] form [File] menu.



(2) Press [Yes] button.

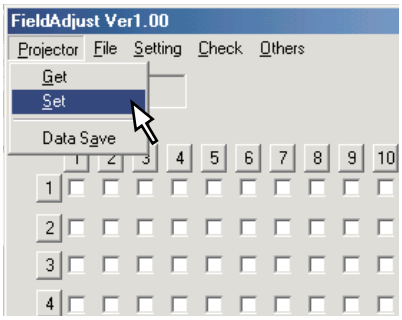


(3) Input file name and press [Open] button.

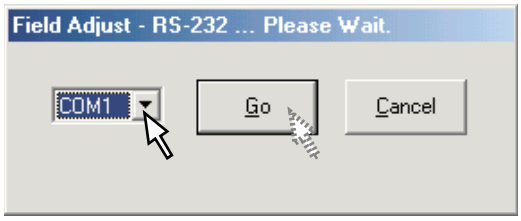


1-4 Set the shading data to the projector

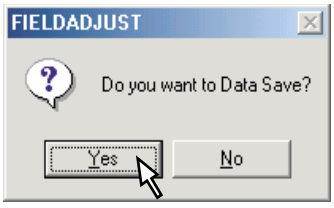
(1) Select [set] from [Projector] menu.



(2) Select commucation port and press [Go] button.



(3) If you save data to the projector press [Yes] button.

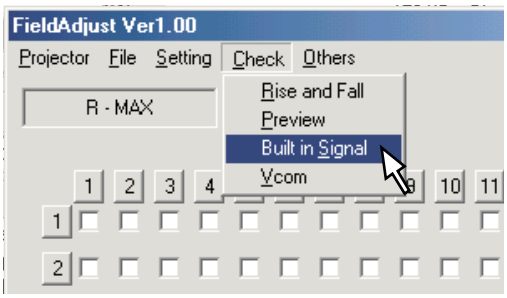


2. When LCD Panels are exchanged.

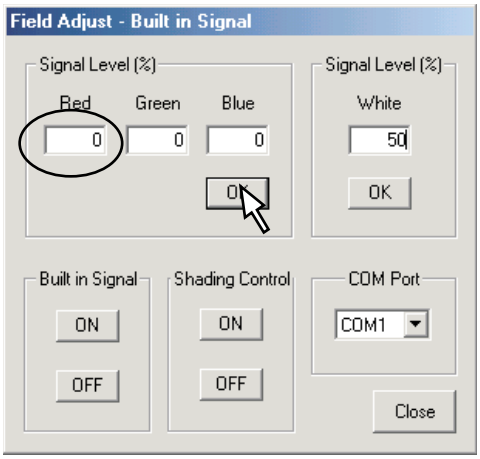
Step1. Adjust the VCOM data (front and celing) .
This adjustment makes the flicker of a panel into the minimum.
Step2. Adjust the Shading data.
Step3. Set the new data to the Projector.

2-1 Adjust the VCOM data

(1) Select [Built in Signal] from [Check] menu.
This menu can output the signal pattern built in the projector.

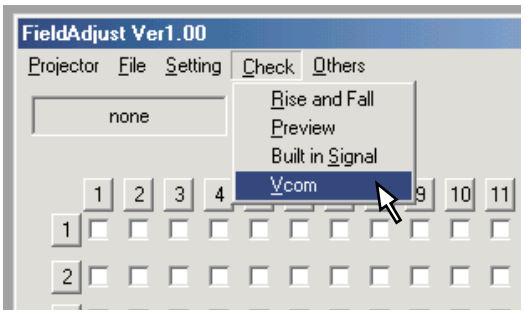


(2) Set the color level and press [OK] button
(When you adjust Red VCOM, set red level 100%.)

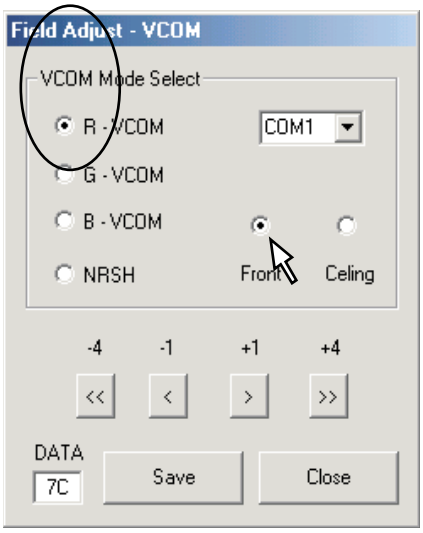


After setting press [Close] button.

(3) Select [Vcom] from [Check] menu.

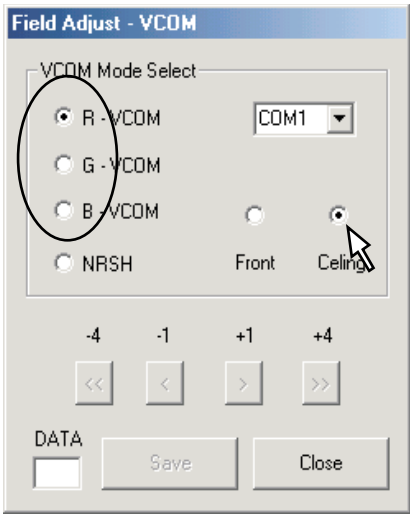


(4) Select [Front] button first, and select R,G or B button.
(When you adjust the R level, then select R-VCOM



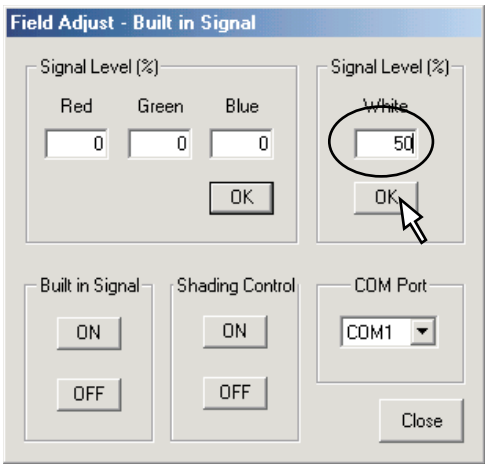
(5) Push [+1] or [-1] button, change data and look for the point with which a flicker serves as the minimum.
If you push [+4] or [-4] button, the data moves fast.

(6) Nxt, select [Celing] button, and select R,G or B button.

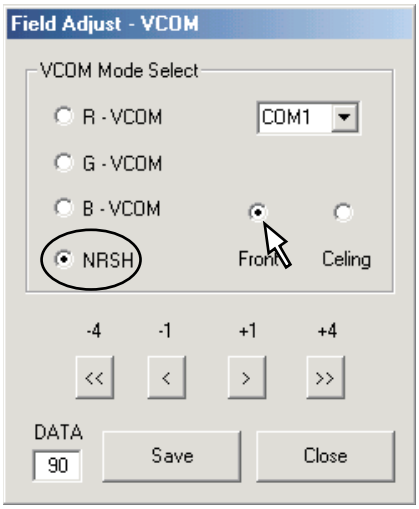


(7) After adjusting, push [Save] button .

(8) Change the internal signal patern.
Set the white level 50% and press [OK] button.



(9) Select [Front] button, and select [NRSH] button.

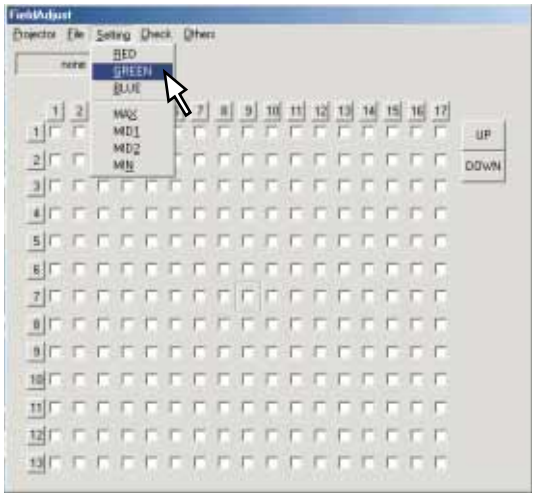


(10) Push [+1] or [-1] button, change data and look for the point with which a vertical stripe serves as the minimum.
If you push [+4] or [-4] button, the data moves fast.

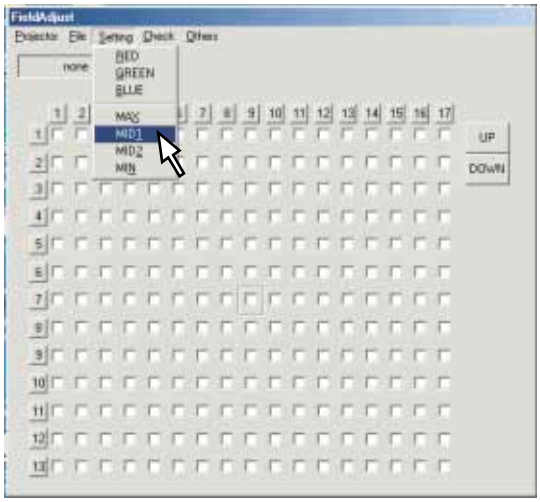
(11) After adjusting, push [Save] button .

2-2 Adjust the shading data

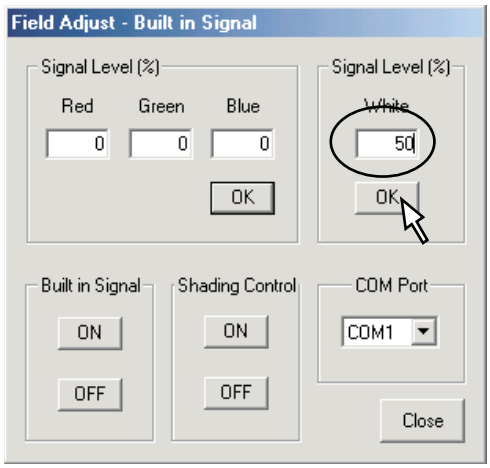
(1) Select adjusting color (Red/Green/Blue) form the [Setting] menu.



(2) Select adjusting level (Max/Mid1/Mid2/Min) form the [Setting] menu.



(3) Select the internal signal patern. (White Patern) Set the following level and press [OK] button.



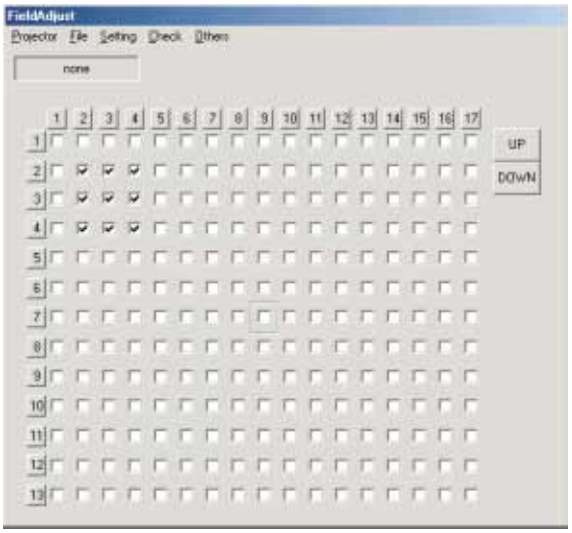
After setting push [Close] button.

Note:
You must change the builtin signal level corresponding to the chosen level.

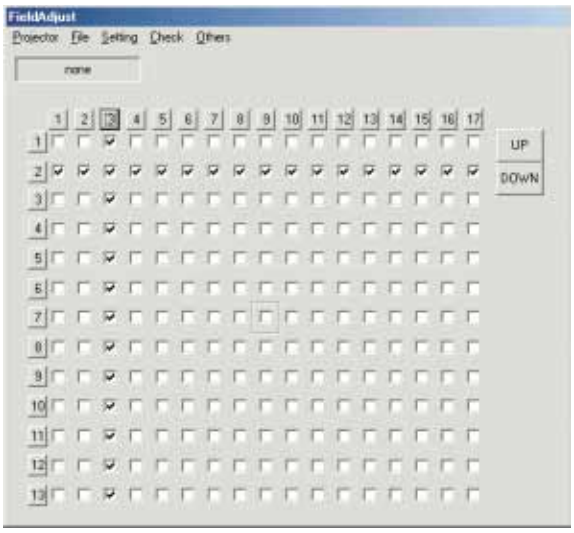
Max : 75%
Mid1 : 50%
Mid2 : 26%
Min : 11%

Example:
If you select [Mid1], set the builtin signal level 40%.

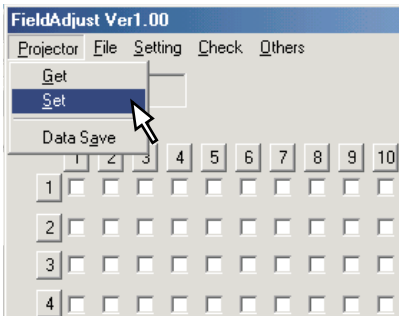
(4) Select the adjusting area (check box). Click the [up] or [down] button to change the shading data.



(Note) When a number button is chosen, a straight line can be chosen.



(5) Select [Set] from the [Projector] menu.



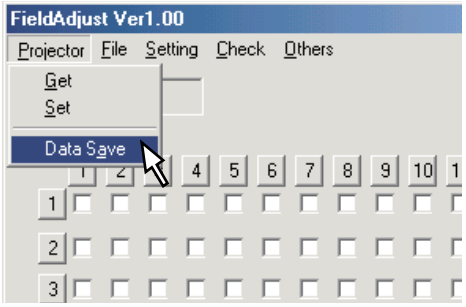
(6) After sending the all data, the following mesage appired. Click the [OK] button.

(7) The same adjustment is made in othe colors and each four levels.

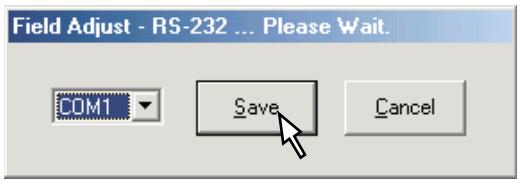
(8) Repeat the step of (1) to (7) until shading will be in a good state.

2-3 Set the shading data to the projector

(1) Select [Data Save] form the [Projector] menu.



(2) Push [Save] button.



SECTION 2
SERVICING DIAGRAMS

1. TROUBLE SHOOTING

CAUSE	CHECK POINT	CHEK ITEM	JUDGE
Power is not on	Flat cable of Power supply (disconnect PJ003)	Standby voltage (See page 2-3)	(NG) → Power supply is NG. (OK) → Check next step.
	PJ003(connect PJ003)	Standby voltage	(NG) → Main PCB is NG, or any cable connection is NG.
Power off during use	LED Display	Lighting pattern	See 2-2
Lamp is not on	Lamp	Any damage inside or not	(Damaged) → Change with new lamp. (Not Damaged) → Check Lamp cover or lamp power supply. However, even if the lamp has no damage, there is the case it has trouble also.
No image	"No Signal" OSD message	Indicated or not	(Indicated) → RGB/Video terminal is NG, or Main PCB is NG. (Not Indicated) → Check next step.
	Test signal R G B	Signal shape	(Correct) → LCD panel is NG, or PJ851/PJ901/PJ951 is NG. (Incorrect) → Main PCB is NG.

ATTENTION

LED displays various error pattern. (See 2-2)
Be careful because the same error occurs in the bad contact of the cable as well.
LED error combination display always show the latest error.

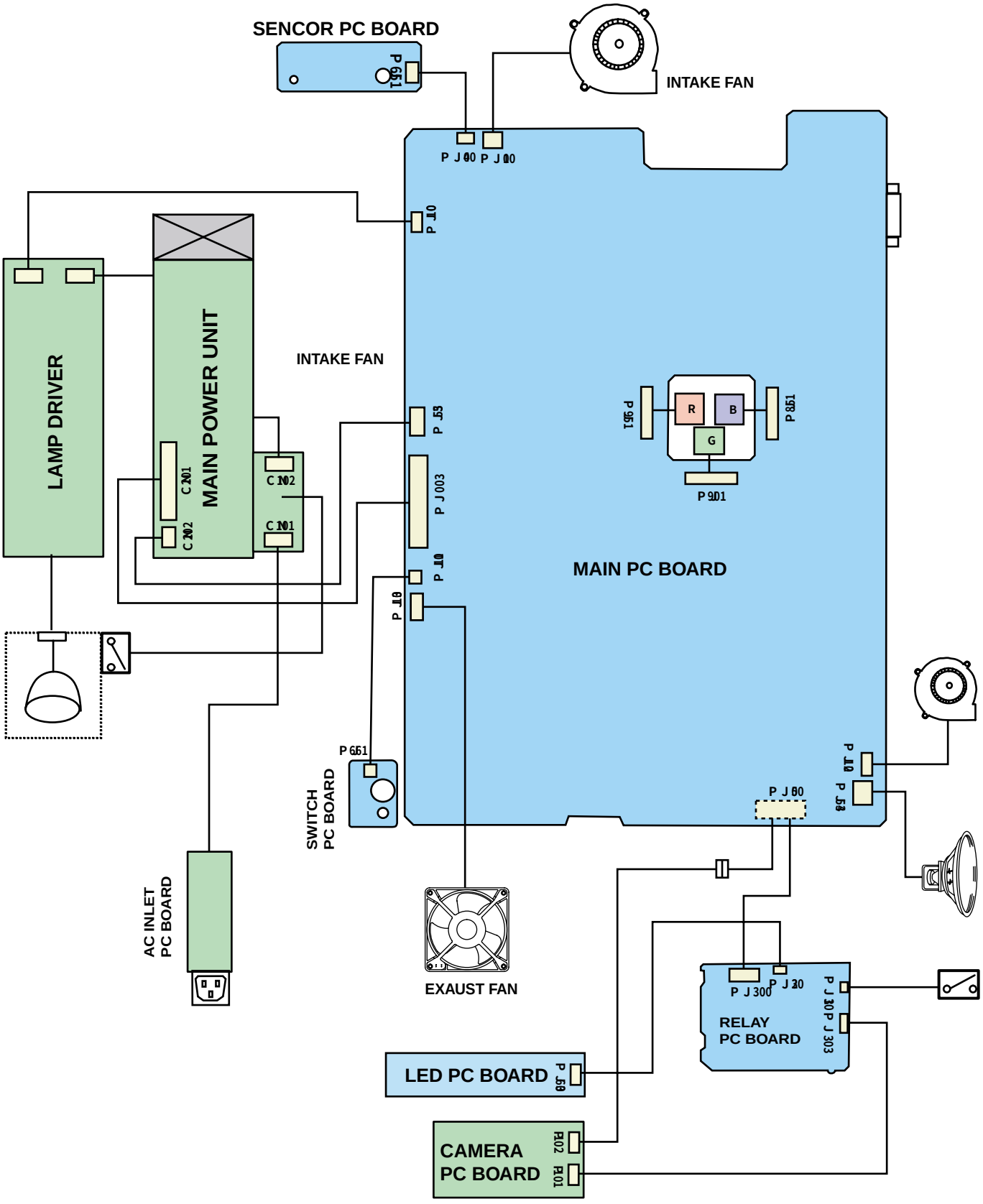
2. LED DISPLAY (Problems Shown on LED Indicator Combination)

Error Cord No.	Status of Indicator Light				Cause and Trouble	Solution
	FAN	TEMP	LAMP	ON		
00	(OFF)	(OFF)	(OFF)	(OFF)	Standby-power is not on > There's a problem with the power unit or system microcomputer.	Check the power unit. Check the connector. Check the main PC board.
01	(GREEN)	(OFF)	(RED)	(RED)	The lamp went out during use or the lamp will not switch on > The bulb has reached the end of it's life.	Change new lamp. There may also be trouble in ballast power supply.
02	(GREEN)	(OFF)	(RED flashing)	(RED)		
03 04	(GREEN)	(OFF)	(Orange flashing)	(RED)	The power turns off >Trouble with the Lamp cover	The lamp cover is not properly attached. Unplug the power cord and reattach the lamp cover.
05	(GREEN)	(Orange)	(OFF)	(RED)	The power turns off or does not come on > The inside is too hot, or the projector has been working in an area of high temperature. Error Cord 05: Near the Lamp housing 06: Near the Intake fan 07: Polarized filter	Place the projector correctly so the intake and exhaust fan's holes are not covered. Turn the projector off, and leave it for a while, and turn it on again. Clean the air filter.
06	(GREEN)	(RED)	(OFF)	(RED)		
07	(GREEN)	(Orange flashing)	(OFF)	(RED)		
09	(RED)	(OFF)	(OFF)	(RED)	The power turns off or does not come on > Trouble with the cooling fans. Error Cord 09: Lamp fan 10: Exaust fan 11: Intake fan	Check the each cooling fan.
10	(Orange flashing)	(OFF)	(OFF)	(RED)		
11	(RED flashing)	(OFF)	(OFF)	(RED)		
12	(GREEN)	(OFF)	(Orange)	(RED)	The power turns off > System micon error.	
13	(GREEN)	(Orange)	(GREEN)	(RED)	Error Cord 12: Device Error 13: Status Error	Wait for two minutes, and turn on the power again.

NOTE

In each mode shown with this color, the projector returns to the standby mode after error indication for about 2 minutes.

3. WIRING BLOCK DIAGRAM



4. CONNECTOR PIN ASSIGNMENT

PJ001 (MAIN) ⟷ INTAKE FAN

1	FAN4 CONTROL V	+6 to +12V
2	GND	0V
3	FAN4 PULSE	+3.3V(Pulse)

PJ003 (MAIN) ⟷ POWER SUPPLY

1	+4.5V	+4.5V
2	+4.5V	+4.5V
3	+4.5V	+4.5V
4	+4.5V	+4.5V
5	GND	0V
6	GND	0V
7	GND	0V
8	GND	0V
9	+6.5V	+6.5V
10	+6.5V	+6.5V
11	+6.5V	+6.5V
12	+6.5V	+6.5V
13	GND	0V
14	GND	0V
15	GND	0V
16	GND	0V
17	-9V	-9V
18	GND	0V
19	+15V	+15V
20	+15V	+15V
21	GND	0V
22	GND	0V
23	+17V	+17V
24	GND	0V
25	LAMP PWR CONT	N.C.
26	AC FREQ	+5V(Pulse)
27	FAN PW	0V(ON)/5V(OFF)
28	GND	0V

PJ004 (MAIN) ⟷ PJ651(SENSOR)

1	PW+3.3V	+3.3V
2	PWS3V-SCL	+3.3V/0V
3	PWS3V-SDA	+3.3V/0V
4	GND	0V

PJ006 (MAIN) ⟷ PJ300(RELAY)+CAMERA UNIT

1	CAM-Y	+0.93Vp-p
2	GND	0V
3	CAM-Cr	+1.15Vp-p
4	CAM-Cb	+1.15Vp-p
5	CAM-HD	+3.2Vp-p
6	GND	0V
7	CAM-Vd	1
8	GND	0V
9	GND	0V
10	GND	0V
11	N.C.	0V
12	+17V	+17V
13	GND	0V
14	GND	0V
15	CAM-Rx	+/-7V(data)
16	+6.5V	+6.5V
17	CAM-Tx	+/-7V(data)
18	CAM-DET	0V
19	CAM-REM	+5V
20	CAM-LIGHT	0V(OFF)/5V(ON)
21	CAM-PWR	0V(OFF)/5V(ON)
22	CAM-KEY0	0V(ON)/5V(OFF)
23	CAM-LED	0V(OFF)/5V(ON)
24	CAM-KEY1	0V(ON)/5V(OFF)
25	N.C.	0V
26	N.C.	0V
27	CAM-ARM	0V(down)/5V(up)
28	CAM-KEY3	0V(ON)/5V(OFF)
29	CAM-KEY5	0V(ON)/5V(OFF)
30	CAM-KEY4	0V(ON)/5V(OFF)

PJ010 (MAIN) ⟷ LAMP DRIVER

1	LAMP-ERROR	0V(Normal)/5V(Error)
2	GND	0V
3	FAN+5V	+5V
3	LAMP-PWR	0V(ON)/5V(OFF)
3	N.C.	0V

PJ011 (MAIN) ⟷ PJ661(SWITCH)

1	COVER	0V(Close)
2	GND	0V

PJ012 (MAIN) ⟷ PBS FAN

1	FAN DRIVE	+6 to +12V
2	GND	0V
3	FAN4 PULSE	+3.3V(Pulse)

PJ013 (MAIN) ⟷ EXAUST FAN

1	FAN DRIVE	+6 to +12V
2	GND	0V
3	FAN4 PULSE	+3.3V(Pulse)
4	N.C.	0V

PJ300 (RELAY) ⟷ PJ006 (MAIN)

1	N.C.	0V
2	+17V	+17V
3	GND	0V
4	GND	0V
5	CAM-Rx	+/-7V(data)
6	+6.5V	+6.5V
7	CAM-Tx	+/-7V(data)
8	CAM-DET	0V
9	CAM-REM	+5V
10	CAM-LIGHT	0V(OFF)/5V(ON)
11	CAM-PWR	0V(OFF)/5V(ON)
12	CAM-KEY0	0V(ON)/5V(OFF)
13	CAM-LED	0V(OFF)/5V(ON)
14	CAM-KEY1	0V(ON)/5V(OFF)
15	N.C.	0V
16	N.C.	0V
17	CAM-ARM	0V(down)/5V(up)
18	CAM-KEY3	0V(ON)/5V(OFF)
19	CAM-KEY5	0V(ON)/5V(OFF)
20	CAM-KEY4	0V(ON)/5V(OFF)

PJ301 (RELAY) ⟷ ARM SWITCH

1	CAM-ARM	+5V
2	GND	0V

PJ302 (RELAY) ⟷ PJ360(LED)

1	+15V	+15V
2	GND	0V
3	GND	0V

PJ303 (MAIN) ⟷ CAMERA UNIT

1	+9V	+9V
2	GND	0V
3	+4V	+4V
4	N.C.	0V
5	CAM-Rx	+/-7V(data)
6	CAM-Tx	+/-7V(data)

PJ354 (MAIN) ⟷ SPEAKER

1	SPEAKER OUT	+1V
2	GND	0V

PJ355 (MAIN) ⟷ ???

1	+15V	+15V
2	GND	0V
3	GND	0V

PJ851,PJ901,PJ951 (DRIVE) ⟷ LCD PANEL

1	GND	0 V
2	DIRY	0 /15.5V
3	DY	0 to +15.5V(Pulse)
4	LCCOM R/G/B	
5	NRS	2 to +7V
6	RV12/GV12/BV12	2 to +12V
7	RV11/GV11/BV11	2 to +12V
8	RV10/GV10/BV10	2 to +12V
9	RV9/GV9/BV9	2 to +12V
10	RV8/GV8/BV8	2 to +12V
11	RV7/GV7/BV7	2 to +12V
12	RV6/GV6/BV6	2 to +12V
13	RV5/GV5/BV5	2 to +12V
14	RV4/GV4/BV4	2 to +12V
15	RV3/GV3/BV3	2 to +12V
16	RV2/GV2/BV2	2 to +12V
17	RV1/GV1/BV1	2 to +12V
18	GND	0 V
19	DIRX	0 /15.5V
20	ENBX1	0 to +15.5V(Pulse)
21	ENBX2	0 to +15.5V(Pulse)
22	DX	0 to +15.5V(Pulse)
23	CLX1	0 to +15.5V(Pulse)
24	NCLX1	0 to +15.5V(Pulse)
25	+15.5V	+15.5V
26	+15.5V	+15.5V
27	NRG	0 to +15.5V(Pulse)
28	CLY	0 to +15.5V(Pulse)
29	NCLY	0 to +15.5V(Pulse)
30	DY	0 to +15.5V(Pulse)

SECTION 3
PARTS LIST

SAFETY PRECAUTION

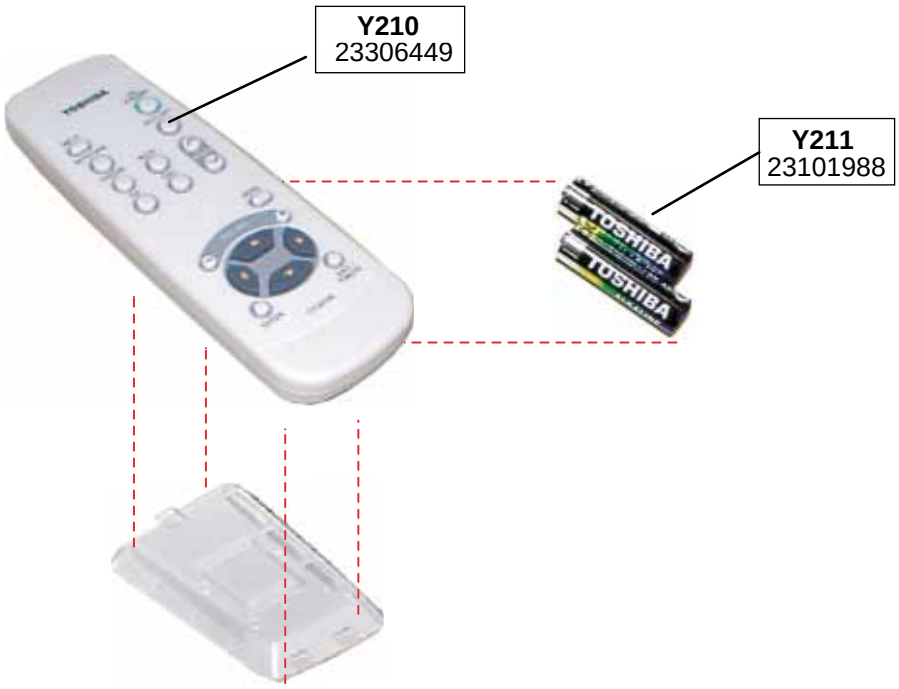
Replace only with part number specified. The mounting position of replacement is to be identical with originals. The substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

NOTICE

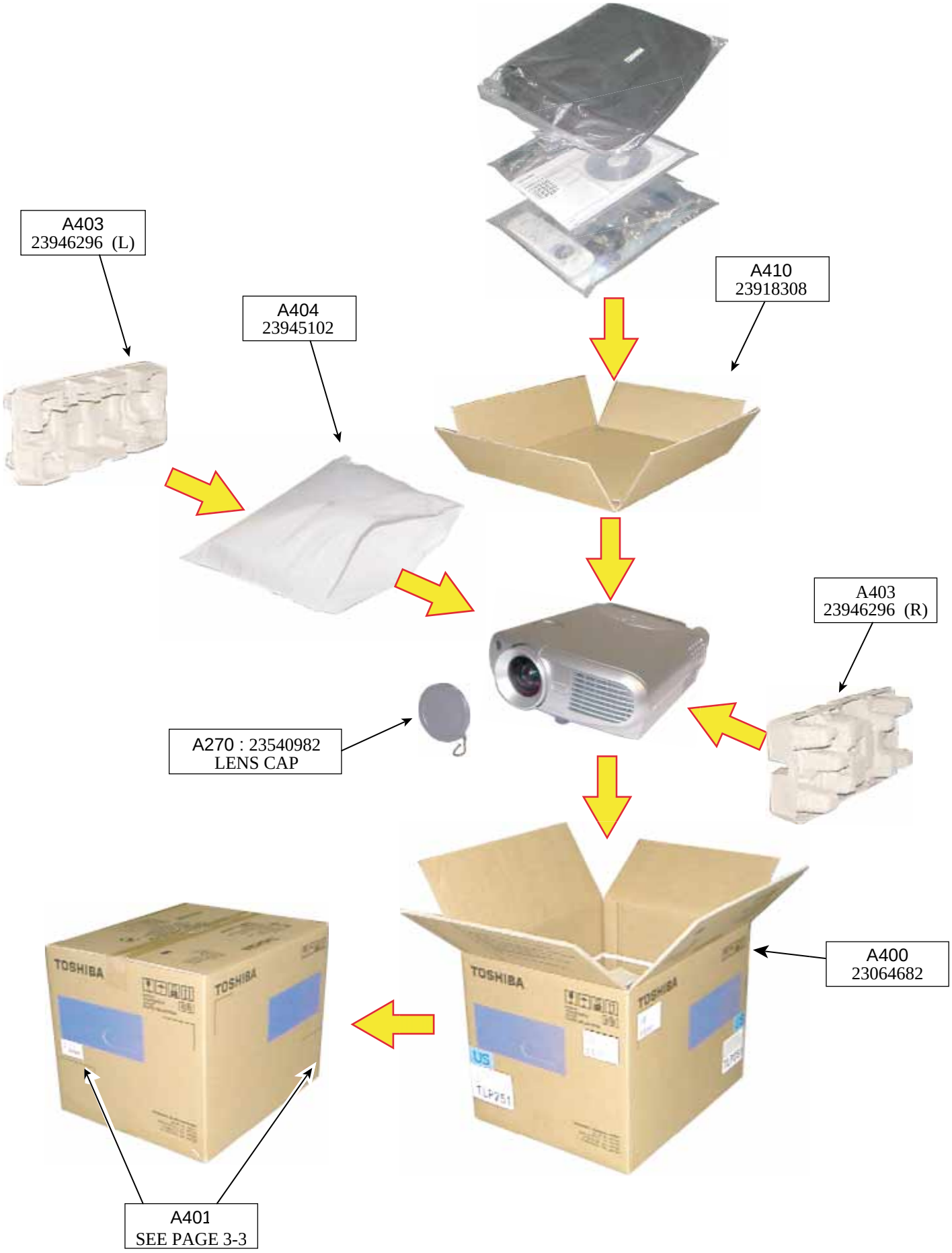
The part number must be used when ordering parts in order to assist in processing, be sure to include the model number and description.

1. EXPLODED VIEWS

1-1. Remote Control Unit



1-2. Packing Assembly

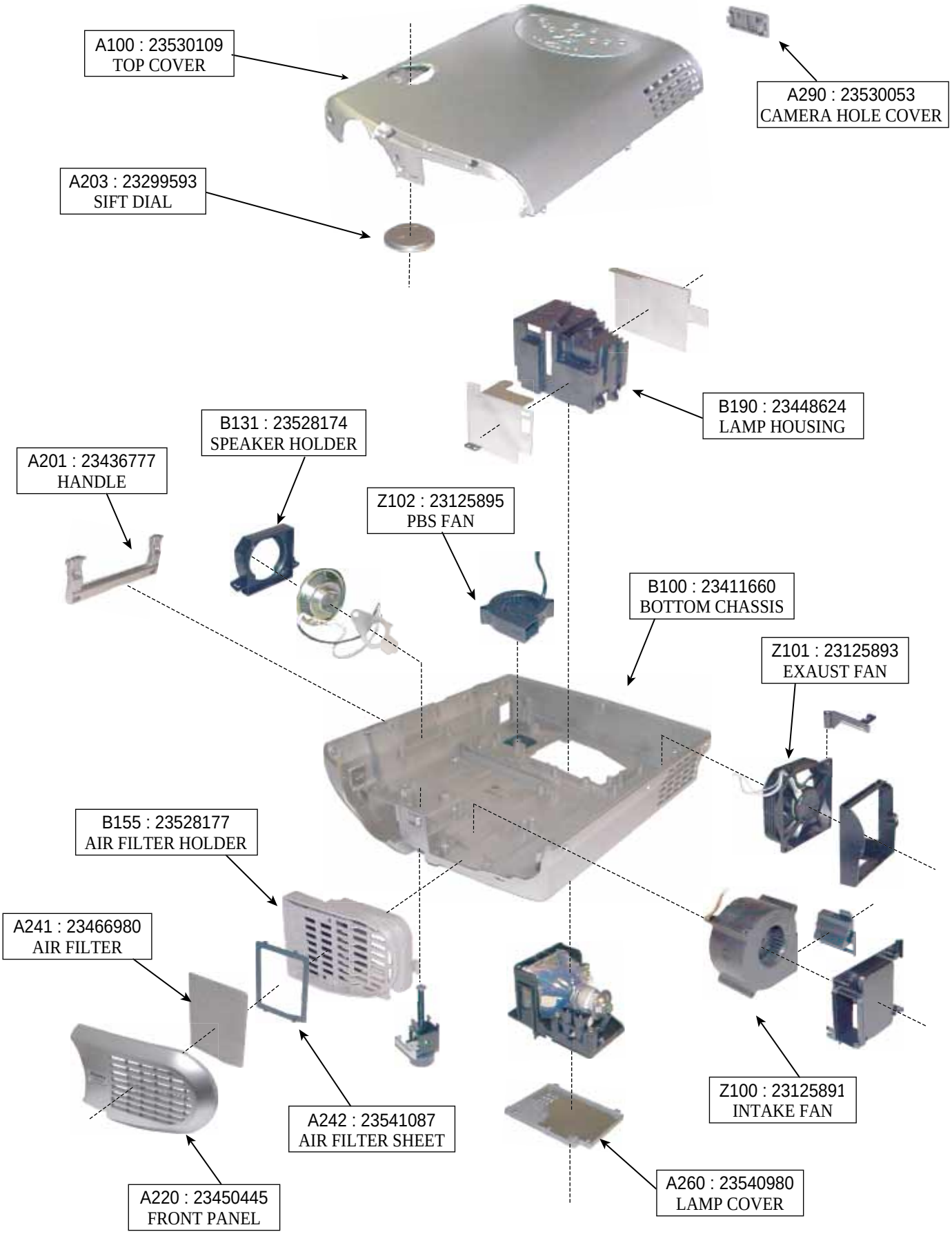


1-3. Accessories

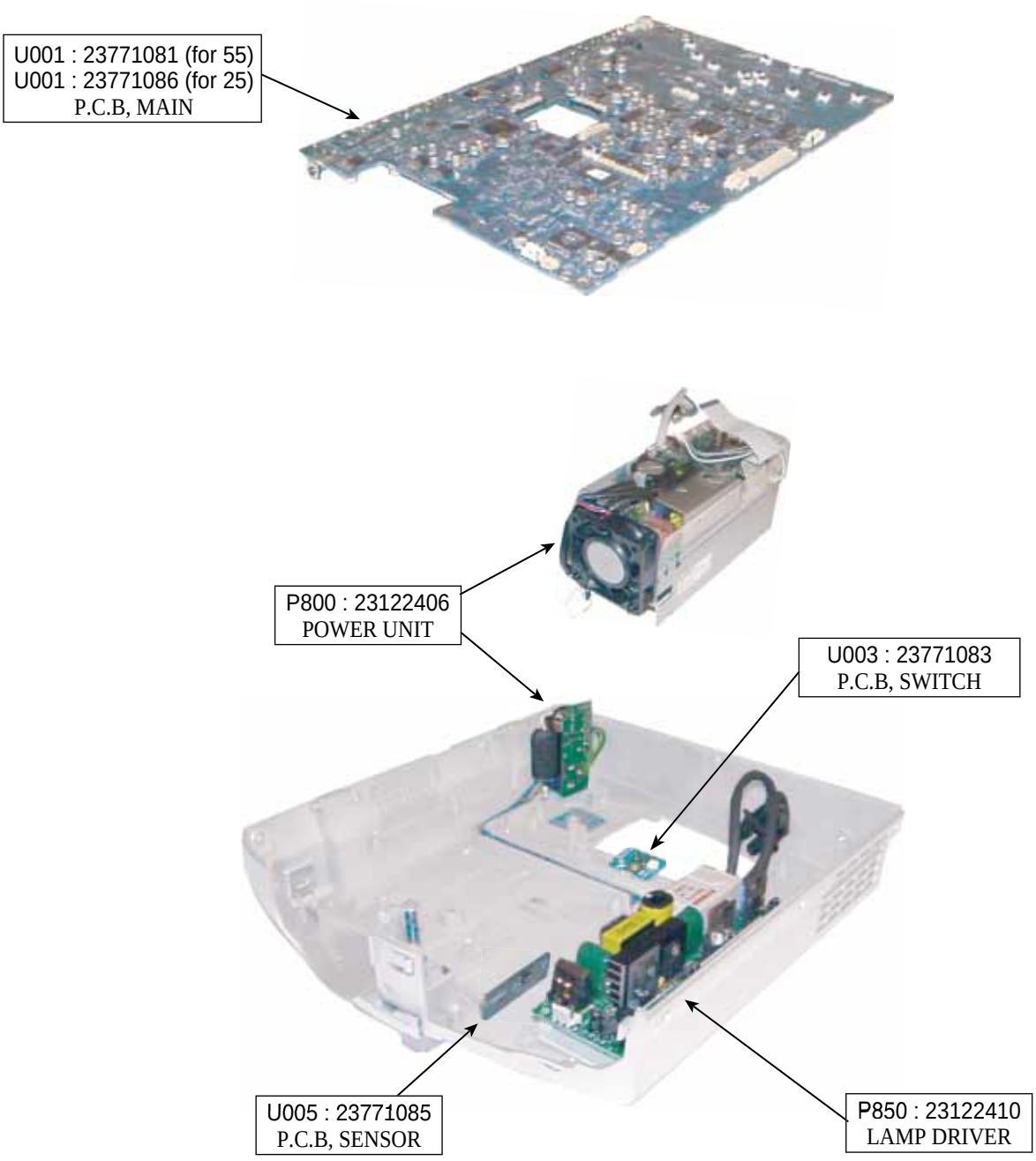
PARTS NO	SN	FORM
Y100	23368803 RGB cable	
Y101	23368800 Video cable	
Y102	23368798 Audio cable for Computer	
Y103	23368799 Audio cable for Video	
Y104	23368676A Control cable (RS-232C)	
Y105	23368796 USB cable	
Y260	23372148 Power cord (U)	
Y260	23372169 Power cord (UK)	
Y260	23372167 Power cord (E)	

PARTS NO	SN	FORM
Y210	23306449	
Y211	23101988	
Y200	23565503	
Y201 Y204 Y205 Y202	23565504 23565506 23565507 23565505	E/F E-EG E-F/SP U-SPA 
Y225 Y227 Y226 Y221 Y222 Y223	23589299 23589301 23589300 23589295 23589296 23589297	GER ITA POR ENG FRA SPA 
Y265	23448633	

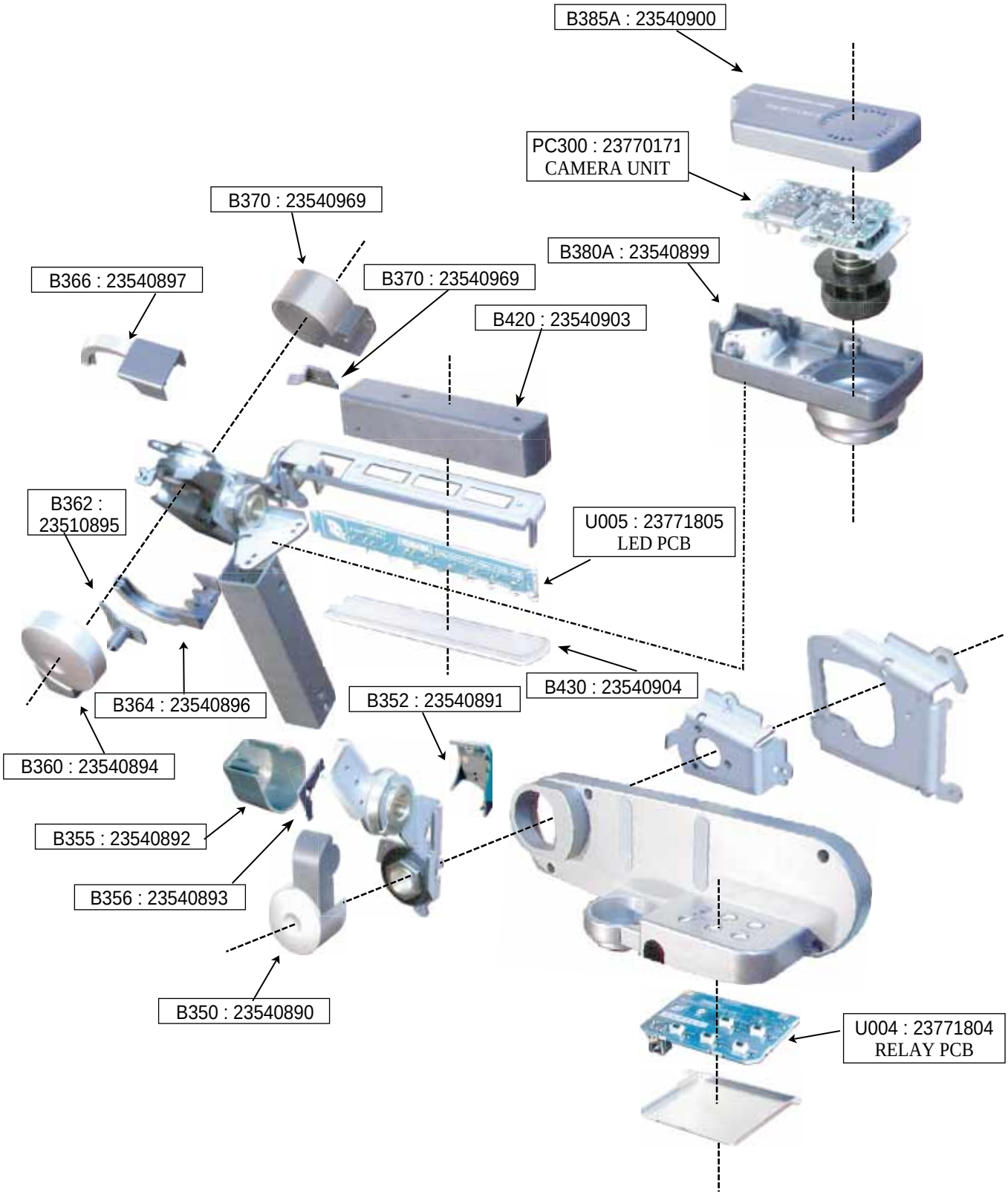
1-4. Chassis Assembly



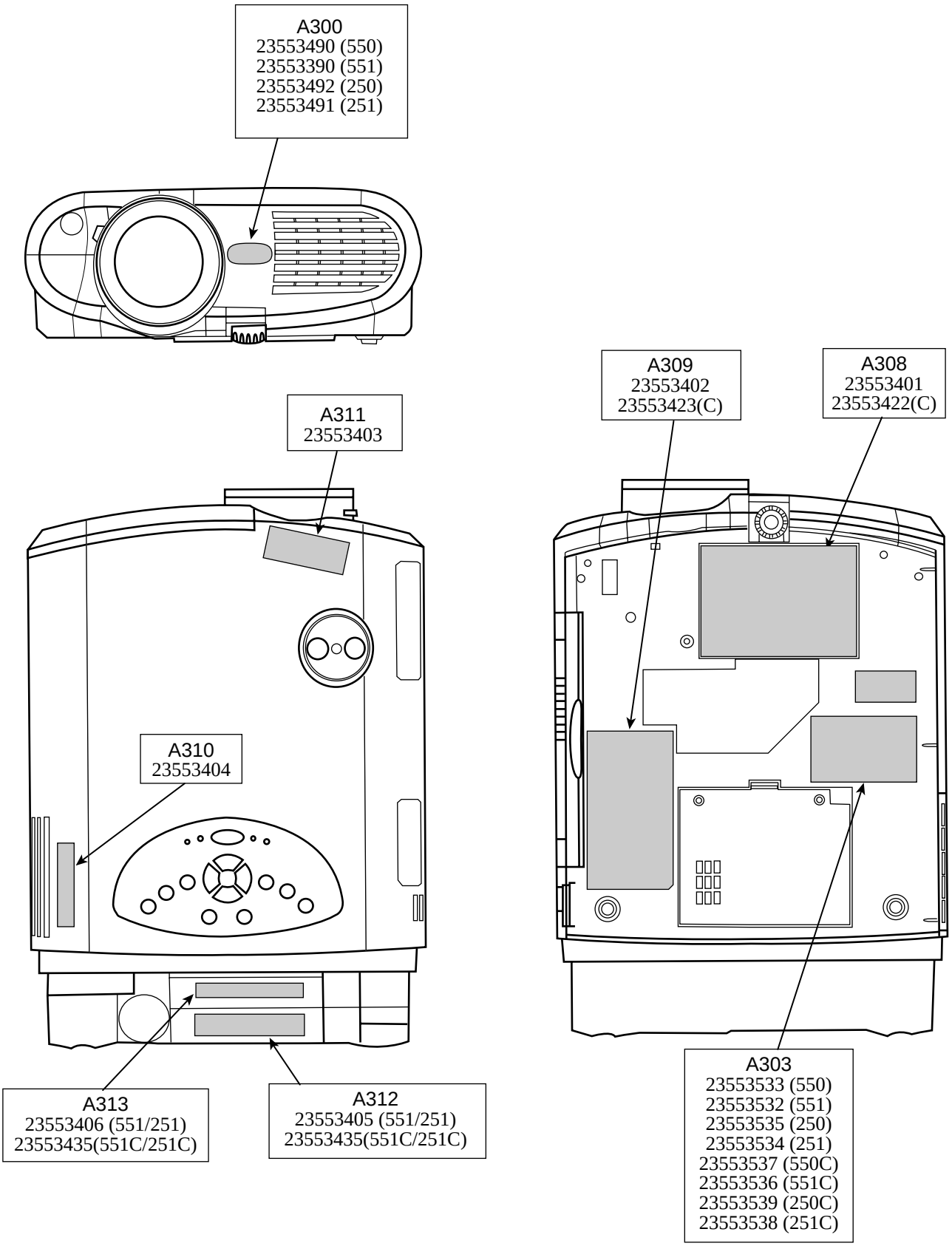
1-5. PC Board and Power Unit Assembly



1-6. Document Camera Assembly



1-7. Labels


A300
23553490 (550)
23553390 (551)
23553492 (250)
23553491 (251)
A309
23553402
23553423(C)
A308
23553401
23553422(C)
A311
23553403
A310
23553404
A313
23553406 (551/251)
23553435(551C/251C)
A312
23553405 (551/251)
23553435(551C/251C)
A303
23553533 (550)
23553532 (551)
23553535 (250)
23553534 (251)
23553537 (550C)
23553536 (551C)
23553539 (250C)
23553538 (251C)

2. PARTS LIST

LOCATION NUMBER	PARTS NUMBER	DESCRIPTION
		- MECHANICAL PARTS -
A001???	23530108	TOP
A100	23530109	TOP COVER
A201	23436777	HANDLE
A203	23299593	SHIFT DIAL
A204	23058300	2W3SZN
A220	23450445	FRONT PANEL
A241	23466980	AIR FILTER
A242	23541087	AIR FILTER HOLDER
A260	23540980	REAR PANEL
A270	23540982	LENS CAP
A273	23553269	CONNECTOR COVER
A300	23553390	FRONT TAG (551)
A300	23553490	FRONT TAG (550)
A300	23553491	FRONT TAG (251)
A300	23553492	FRONT TAG (250)
A303	23553532	RATING LABEL (551)
A303	23553533	RATING LABEL (550)
A303	23553534	RATING LABEL (251)
A303	23553535	RATING LABEL (250)
A320	23553540	CARTON BOX LABEL (551)
A320	23553541	CARTON BOX LABEL (550)
A320	23553542	CARTON BOX LABEL (251)
A320	23553543	CARTON BOX LABEL (250)
A400	23064682	CARTON BOX
A403	23946296	PACKING
A410	22918308	PARTITION
A502	23564859	SHIPPING LABEL(251)
B100	23411660	BOTTOM CHASSIS
B114	23890934	FOOT BUTTON CAP
B131	23528174	SPEAKER HOLDER
B153	23528175	INTAKE FAN HOLDER
B154	23738030	SCREW BRDT2W 3x47
B155	23528177	FILTER HOLDER
B190	23448624	LAMP HOUSING
B210	23528178	EXAUST FAN HOLDER
B213	23035312	SCREW TTB2W 3x12
B310	23540888	CAMERA COVER ASSEMBLY
B320	23890922	CAMERA BASE ASSY
B330	23890925	ARM COVER ASSEMBLY
B350	23540890	1ST JOINT COVER M
B352	23540891	1ST JOINT COVER S
B355	23840892	2ND JOINT COVER M
B356	23540893	2ND JOINT COVER S
B360	23540894	3RD JOINT COVER(1A)
B362	23510895	3RD JOINT COVER(1B)
B364	23540896	3RD JOINT COVER(2A)
B366	23540897	3RD JOINT COVER(2B)
B370	23540969	3RD JOINT COVER(3A)
B372	23540970	3RD JOINT COVER(3B)
B380A	23540899	CAMERA BOTTOM COVER
B385A	23540900	CAMERA TOP COVER
B420	23540903	LED BACK COVER
B421	70391378	SCREW PPC-E-2x3
B430	23540904	LED CLEAR COVER
B474	23723264	SCREW PP-2.6x4
B475	23969946	TAPE (BLACK)

LOCATION NUMBER	PARTS NUMBER	DESCRIPTION
		- ELECTRICAL PARTS -
P800	23122406	POWER UNIT (APS-175)
P850	23122410	LAMP DRIVER (HVP1503DC-3)
PC300	23770171	CAMERA UNIT (IKK82LC)
U001	23771081	MAIN PC BOARD(550/551)
U001	23771086	MAIN PC BOARD(250/251)
U002	23771082	SENSOR PC BOARD(550/551)
U003	23771083	SWITCH PC BOARD(550/551)
U004	23771084	RELAY PC BOARD
U005	23771085	LED PC BOARD
Y101	23368800	VIDEO CABLE (PIN-PIN 3M)
Y103	23368799	AUDIO CABLE (MINI-PINx2 3M)
Y210	23306449	REMORT CONTROL UNIT
Y230	23956341	NAME TAG (551)
Y265	233448633	SOFT CASE
Z102	23125895	FAN (D05F-12PH)
		- OPTICAL PARTS -
E200	23405066	OPTICAL ENGINE (4C81-20) for 55
E200?	23405067	OPTICAL ENGINE (4C81-00) for 25
E201B	23301417	LCD PANEL(L3P07X-25G01B) for 55
E201B	23301423	LCD PANEL(L3P07S-21G01B) for 25
E201G	23301416	LCD PANEL(L3P07X-25G01G) for 55
E201G	23301422	LCD PANEL(L3P07S-21G01G) for 25
E201R	23301415	LCD PANEL(L3P07X-25G01R) for 55
E201R	23301421	LCD PANEL(L3P07S-21G01R) for 25
E292	23056500	SW5SZN

SPECIFICATIONS

Main Unit

	TLP550 / 250	TLP551 / 251
Power requirements	AC 100-240V 50/60Hz	
Power consumption	240W (standby:15W)	250W (standby:15W)
Mass	4.2kg	5.0kg
Dimensions	W260mmxH95mmxD295mm	W260mmxH95mmxD352mm
Ambient environment	Temperature:0 to 35 cent degree Humidity:30% to 70% HR	
Lamp	160W High pressure Hg lamp	
Speaker	2W (monaural)	
RGB INPUT	RGB signal :(D-sub 15pin)	
VIDEO INPUT	S-Video signal : Mini DIN-4pin Video signal : 1V(p-p), 75 ohm	
CONTROL terminal	Mini DIN-8pin(RS-232C)	
Cabinet Material	ABS	
Document camera		1/2 inches CCD 810000 pixels

LCD

Projection system	3-panel transmission
Panel size	1.3 inches
Driving system	TFT active matrix
Picture elements	55 : 786,432 pixels (1024x768dits), 25 : 480,000 pixels (800x600dits)

Projection Lens

Lens	Zooming lens F=2.02-2.35 f=14.48-17.38mm
Focusing	Manual operation
Zooming	Manual operation

Accessories

Owner's manual	1
Owner's manual (CD-ROM)	1
Wireless remote control	1
Battery	2
Power cord	1
RGB cable	1 (3m)
Video cable	1 (3m)
Audio cable for computer	1 (3m)
Audio cable for video	1 (3m)
Control cable	1 (1.8m)
USB cable	1 (2m)

The design and specification are subject to change without notice.

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