

DAEWOO

S/M No. : TSP110AEF0

Service Manual

Model : DSP-4210GM

CHASSIS : SP-110



DAEWOO ELECTRONICS CO., LTD

[http : //svc.dwe.co.kr](http://svc.dwe.co.kr)

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1. SAFETY & PRECAUTIONS

SAFETY CHECK AFTER SERVING

Examine the area surrounding the repaired location for damage or deterioration. Observe that screw, parts and wires have been returned to original positions. Afterwards, perform the following tests and conform the specified values in order to verify compliance with safety standards.

1-1. Insulation resistance test

Confirm the specified insulation resistance between power cord plug prong and externally exposed parts of the set (video and audio input terminals, speaker out terminals etc) is greater than values given in table 1 below.

1-2. Dielectric strengthen test

Confirm specified dielectric strengthen between power cord plug prongs and exposed accessible parts of the set (video and audio input terminals, speaker out, etc) is greater than values given table 1 below.

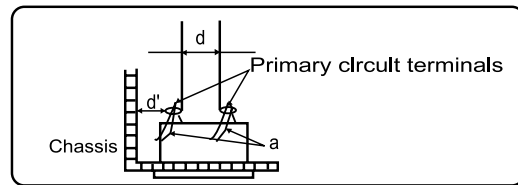


Fig.1

1-3. Clearance distance

When replacing primary circuit component, confirm specified clearance distance (d), (d') between soldered terminals (see Fig1), and between terminals and surrounding metallic parts. See table 1 below.

Rating for selected areas (table 1)

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance(d),(d')
100V	Japan	$\geq 1\text{M}\Omega / 500\text{V DC}$	1kV AC 1min.	≥ 3
110 to 130V	USA & Canada	-	900V AC 1min	≥ 3.2
110 to 130V 200 to 240V	Europe Australia Latin America	$\geq 10\text{M}\Omega / 500\text{V DC}$	4kV AC 1min.	$\geq 6(d)$ $\geq 8(d)$ (a : Power cord)

* Class model only

NOTE

This table is unofficial and for reference only. Be sure to confirm the precise values for your particular.

1-4. Leakage current test

Confirm specified or lower leakage current between B(earth ground, power cord plug prongs) and externally exposed accessible parts (video and audio input terminals, speaker out, etc.)

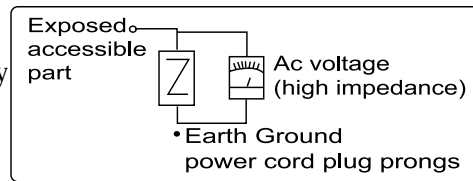

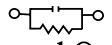




Fig.2

Measuring method:(Power ON) Insert load Z between B(earth ground, power cord plug prongs) and exposed

accessible parts. Use AC voltmeter to measure AC voltage across both terminals of load Z. See Fig.2 and following table.

Leakage current ratings for selected are as

Ac Line Voltage	Region	Load Z	Leakage Current(i)	Clearance Distance(d),(d')
100V	Japan	 1 k Ω	$i \leq 1\text{mA}_{\text{rms}}$	Exposed accessible parts
110 to 130V	USA & Canada	 1 k Ω 15 μF	$i \leq 0.5\text{mA}_{\text{rms}}$	Exposed accessible parts
110 to 130V 200 to 240V	Europe Australia	 2 k Ω	$i \leq 0.7\text{mA peak}$ $i \leq 2\text{mA}_{\text{dc}}$	Antenna earth terminals
		 50k Ω	$i \leq 0.7\text{mA peak}$ $i \leq 1\text{mA}_{\text{dc}}$	Other terminals

NOTE

This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

2. PRODUCT SPECIFICATION

[DSP-4210GM]

ITEM	SPECIFICATION	REMARK
1. GENERAL 1-1. MODEL NO 1-2. CHASSIS NO 1-3. SCREEN SIZE 1-4. COUNTRY 1-5. RESOLUTION 1-6. REMOCON TRANSMITTER TYPE 1-7. SAFETY STANDARD	DSP-4210GM SP-110 42" (16:9) WORLD WIDE 853(W) X 480(H) R-V2A(ENGLISH), R-V2AK(KOREAN) UL, CSA, CE, KE	
2. MECHANICAL 2-1. DIMENSION 1) WITHOUT STAND 2) WITH STAND 3) BOX 2-2. WEIGHT 1) WITHOUT STAND 2) WITH STAND	W X H X D = 1055 X 652 X 85 W X H X D = 1055 X 730 X 85 W X H X D = 1190 X 870 X 480 33kg 39kg	
3. ELECTRICAL & OPTICAL 3-1. COMPOSITE VIDEO INPUT SIGNAL 3-2. Y/C INPUT SIGNAL 3-3. DTV/DVD INPUT SIGNAL 3-4. PC SIGNAL 3-5. SOUND INPUT SIGNAL	NTSC,PAL,SECAM,PAL-M/N,NTSC4.43 1 INPUT (75 Ω , 1Vp-p) 50/60Hz, Super Jack 1 Input(75 Ω ,1Vp-p) Y,Pb/Cb,Pr/Cr 1 Input (75 Ω ,1Vp-p) * DTV Resolution Mode (Y, Pb, Pr) : 1920X1080i, 1280X720p, 640X480p * DVD (Y,Cb,Cr) : 50/60Hz R,G,B,H,V 15Pin D-sub jack 1 Input (75 Ω ,1Vp-p) * Resolution Mode : VGA - UXGA Composite, Y/C : L/R Phone Jack 1Pair DTV/DVD : L/R Phone Jack 1Pair PC : L/R Phone Jack 1Pair * Input Impedance 47 k Ω ↑	

ITEM	SPECIFICATION	REMARK
3-6. Optical Characteristics 1) Display Resolution 2) Peak Luminance 3) Contrast Ratio 4) Color Temperature 3-7. Scaling 3-8. Zoom 3-9. PIP 3-10.OSD 3-11. AC Power 3-12. Power Consumption 3-13. Sound Output 3-14. LAN Interface 3-15. Settop Box Interface 3-16. Others	16:9 Wide 853 X 480 160cd/ m ² 500:1 8000° K <Scaling Mode> PC, DTV : Fill to Aspect Ratio, Fill to Screen DVD, VIDEO : Normal, Wide, Panaroma, Letter Box, Letter Box with Sub Title <Scaling Adjust> PC,DTV (User Control) : H-Size, V-Size H-Position, V-Position Zoom ⁺ , 4Direction Paning Avaible Video Window in DTV/PC Picture PIP Size, Position Changeable 8Language KOREAN,ENGLISH,NETHERLAND, FRENCH,SPANISH,GERMAN, PORTUGUESE,ITALIAN AC 90V-264V, 50/60Hz 350 WATTS L : 8Watts, R : 8Watts Option Option Freeze Picture, Video Rotation	
4. USER CONTROL & ACCESSORIES 4-1.CONTROL 1) SET 2) REMOCON TRANSMITTER 4-2. ACCESSORIES	AC POWER, MENU, INPUT SELECT, UP, DOWN, LEFT, RIGHT INPUT SELECT,POWER,RECALL, ZOOM- ZOOM+,MENU,UP,DOWN,LEFT,RIGHT, PICTURE MODE,FREEZE,SCREEN MODE, MUTE 1) REMOCON : R-V2A, R-V2AK 2) BATTERY : “AAA” 2EA 3) INSTRUCTION MANUAL 4) STAND (OPTION) 5) WALL HANGER (OPTION) 6) SPEAKER UNIT 2ASS'Y (OPTION)	

4. Adjustment

4-1. How to confirm the original data of VIDEO PCB

- (1) Input selection : You select video mode
- (2) You confirm the original data of user control
 - Brightness : 36 (:20 in case of DTV/PC input mode)
 - Contrast : 60
 - Sharpness : 2
 - Colour : 32
 - Tint : 0 (Center)
- (3) You confirm the original data of SERVICE MODE (PW364)
(See 4-4)
 - Sub-Brightness : 60
 - Sub-Contrast : 70
 - R-Bias : 63
 - G-Bias : 63
 - B-Bias : 68
 - R-Gain : 53
 - G-Gain : 57
 - B-Gain : 76

4-2. How to adjust POWER PCB

- (1) Devices for measurement : Digital volt meter, Pattern generator
- (2) Conditions : You adjust as follows after assembling set and inputting WHITE PATTERN.
 - 1) V_{SUS} (Sustain voltage) : Voltage sustaining electronic discharge
TP : P12
Adjustment control : RV600
Standard voltage : 166V
 - 2) V_{SCAN} (Scan voltage) : Scan voltage when recording DATA
TP : PA9 #6 PIN of Y PCB
Adjustment control : RV14
Standard voltage : -160V
 - 3) V_{ADD} (ADDRESS voltage) : Voltage recording DATA
TP : P14
Adjustment control : VRS1
Standard voltage : 80V

4-3. X/Y PCB adjustment

- (1) Devices for measurement : Digital volt meter, Pattern generator
- (2) Previous adjustment voltage : You adjust as follows after assembling set and inputting BLUE PATTERN.

- 1) V_{SHELF} (SHELF voltage) : X-electrode sustain voltage when recording DATA
 TP : RCU25
 Adjustment control : RU5
 Standard voltage : +60V
- 2) V_{VH} (SCAN VH voltage) : VH voltage of SCAN IC when scanning
 TP : RY7 voltage each side
 Adjustment control : RY6
 Standard voltage : -70V
- (3) The final operation adjustment
 - 1) Input a monochrome pattern of R,G,B. And then you check if there are abnormal OFF-state pixels (which must be in ON-state but are in OFF-state).
 If any, increase V_{SUS} voltage slowly from 166V to remove abnormal OFF state pixels in that pattern.
 - 2) If there is no abnormal OFF-state pixel in monochrome pattern of R,G,B, make sure if there is abnormal OFF-state in Magenta, Cyan, Yellow or not. If any, increase V_{SUS} slowly in that pattern.
 - 3) Increase V_{SUS} , which is set as above, by 1V.
 - 4) Make sure if there are abnormal ON-state pixels(which must be on OFF-state but are in ON-state, for example, R or G) in Blue pattern after aging Blue pattern 5 minutes. If any, set V_{SCAN} slowly from - 160V to - 150V and decrease V_{SHELF} slowly to remove wrong electronic discharge.

4-4. White balance adjustment

- (1) Feed grey scale signal to video input terminal.
- (2) Confirm the original data of user control (See 4-1).
- (3) Press Remote controller in order starting with UP => MUTE => RECALL => MUTE BUTTON to access Service adjustment mode and select PW364. And then confirm the original data of the Service mode PW364 register. (See 4-1).
- (4) Make sure you can't recognize any grey scale errors in the form of colour tint in this darker bands.
- (5) You attach the sensor of a White balance meter to the white part on the upper end of this grey scale pattern.
- (6) Set White balance changing R,G,B-Gain.
 - You make sure that R,G,B-Gain must be set within the limit of 63 ± 20 . If it is over the limit, it is N.G.
 - How to adjust temperature of colour
 $X = 0.290 \pm 0.01$, $Y = 0.310 \pm 0.01$
 Temperature of colour : 8,300° K
- (7) You can set Luminance level changing Sub-contrast.
 - If the set data of Sub-contrast is over the limit of 80, it is N.G.
- (8) Press Menu button, to escape from Service mode.

5. When fitting a new board

5-1. Video

- (1) Check the related adjustments are correctly set as per previous page.

5-2. X-Sustain

- (1) Set the V_{SHELF} voltage according to the list of adjustments.
- (2) The data of adjustment voltage is on the label, which is attached on the metal part under Y-Sustain board.

5-3. Y-Sustain

- (1) Set the V_{vh} voltage according to the list of adjustments.
- (2) The data of adjustment voltage is on label, which is attached on the metal part under Y-Sustain board.

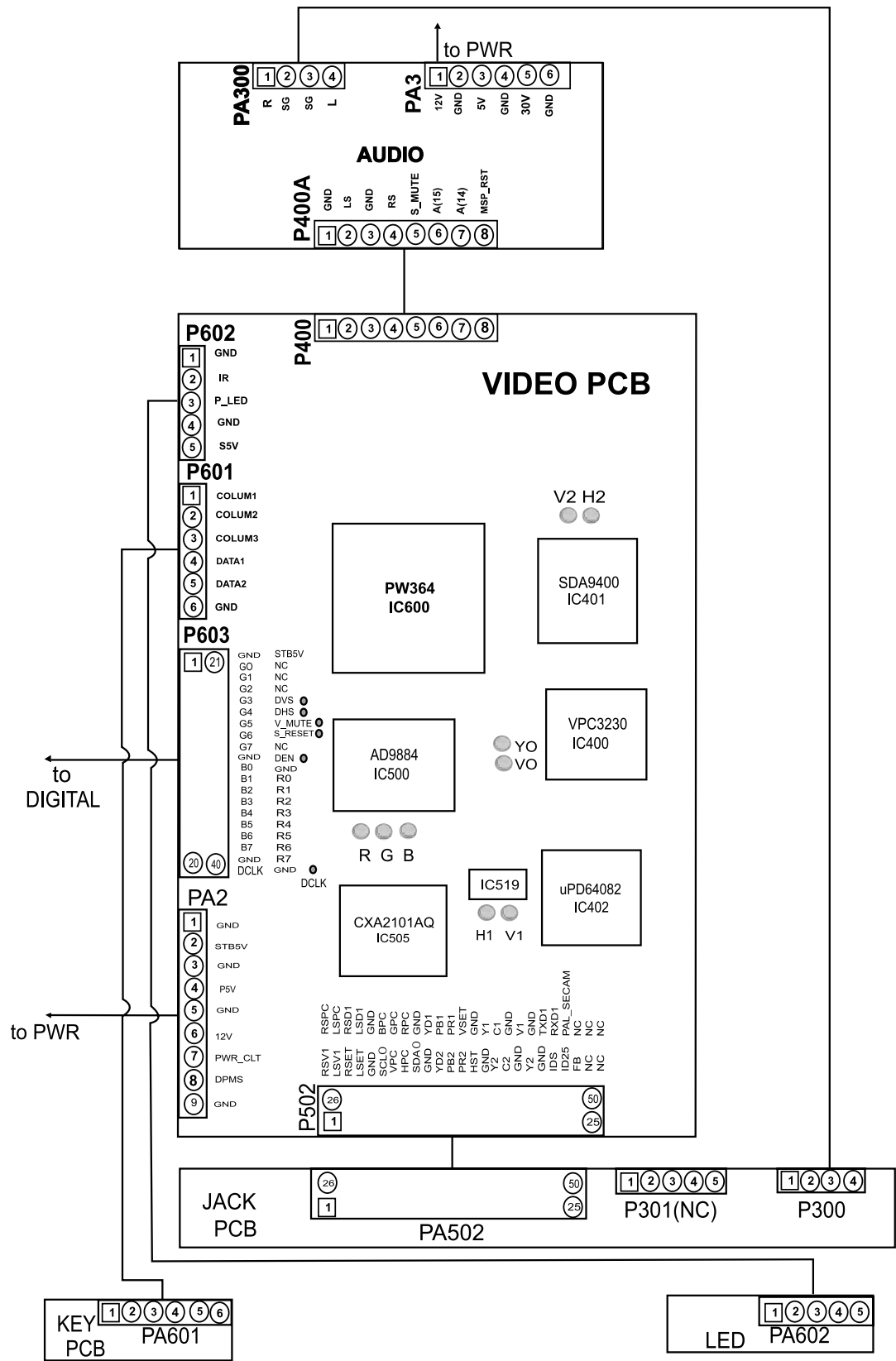
5-4. Power module

- (1) You set each voltage according to the list of adjustments.
- (2) The data of adjustment voltage is on the label, which is attached on the metal part under Y-Sustain board.

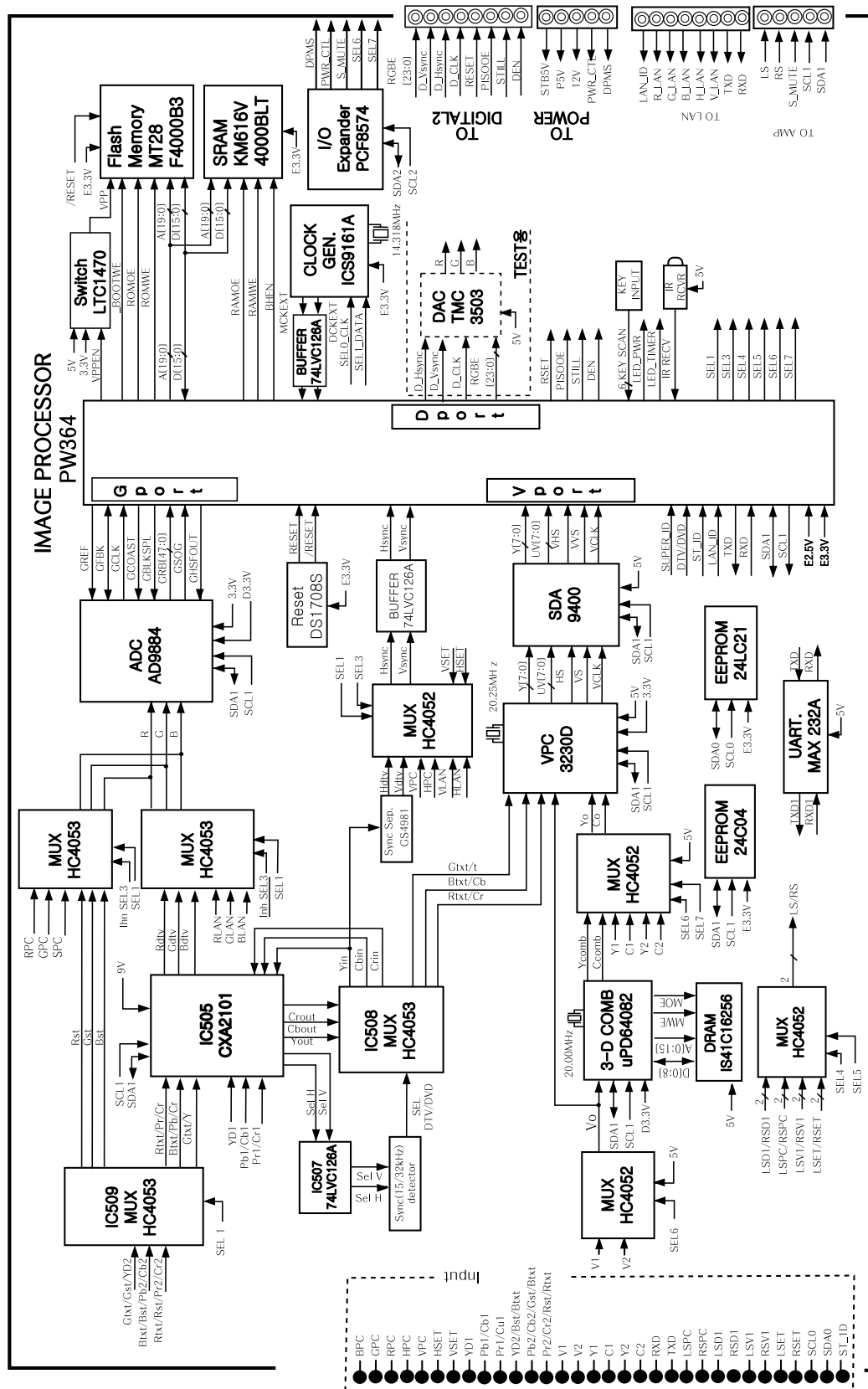
6. Trouble shooting

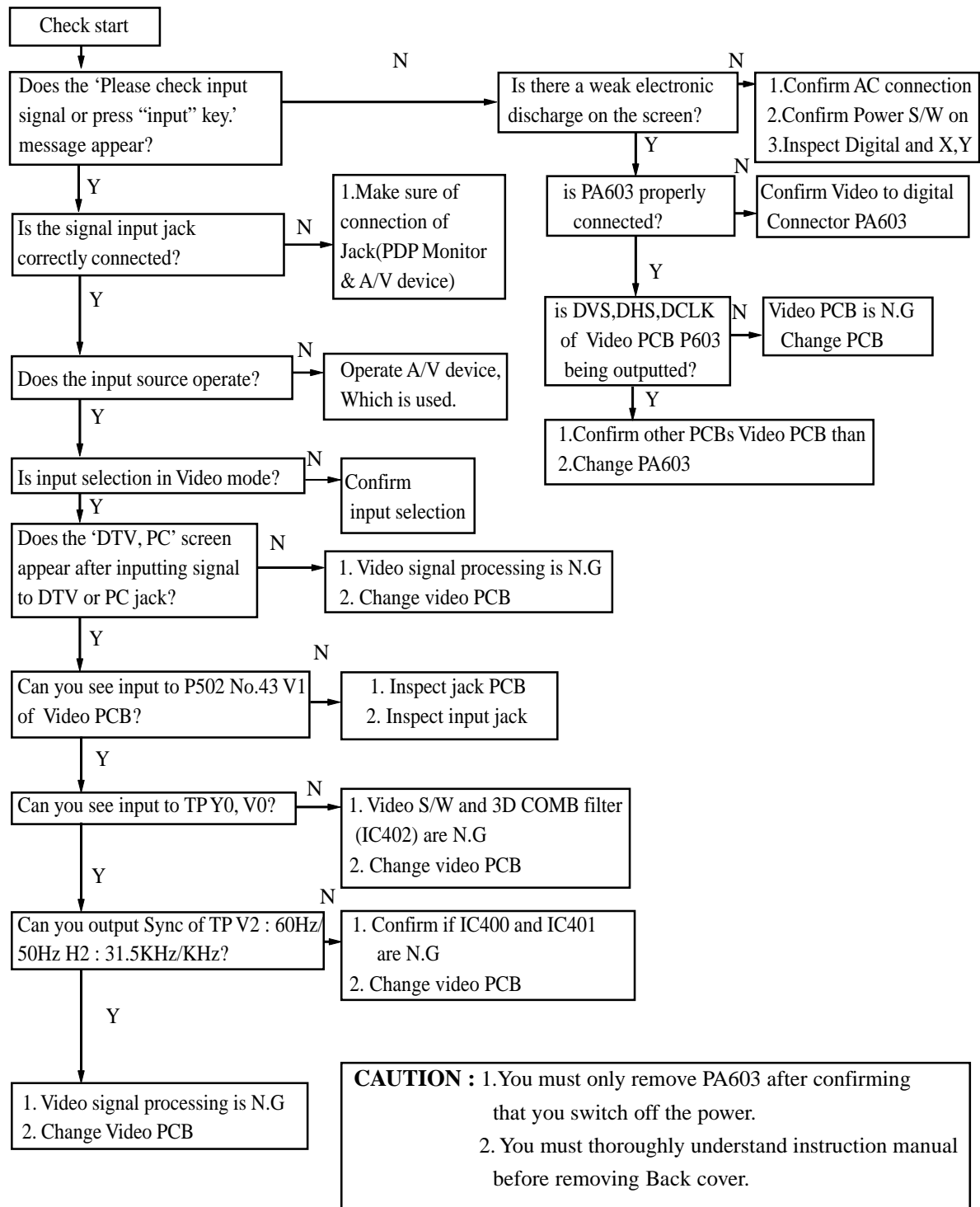
- 6-1. Audio/video
- 6-2. Digital
- 6-3. X-SUSTAIN
- 6-4. Y-SUSTAIN
- 6-5. SCAN Board
- 6-6. DATA H/L, Connection(LU,CU,RU,LD,CD,RD)
- 6-7. Power

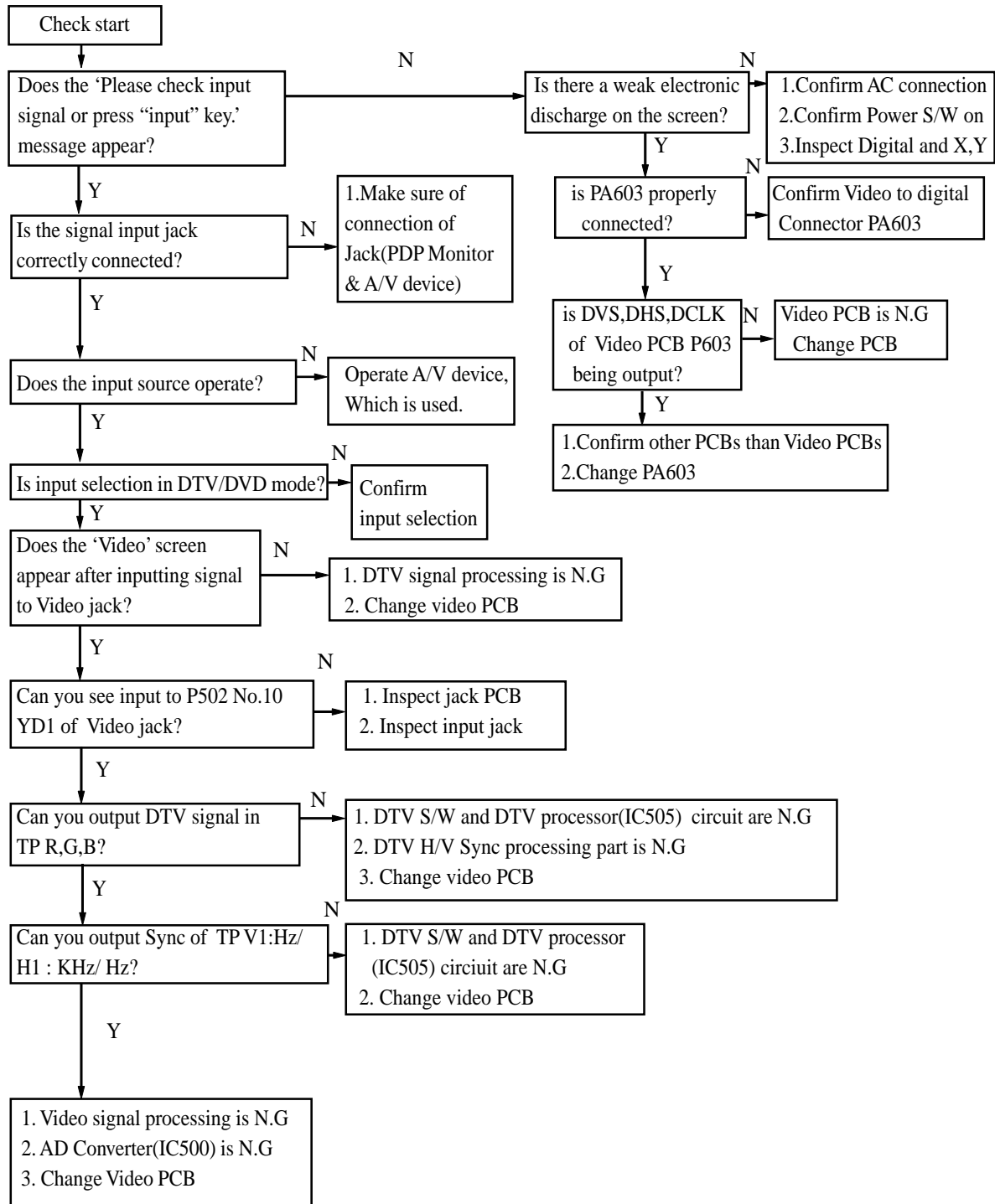
6-1. Audio/Video



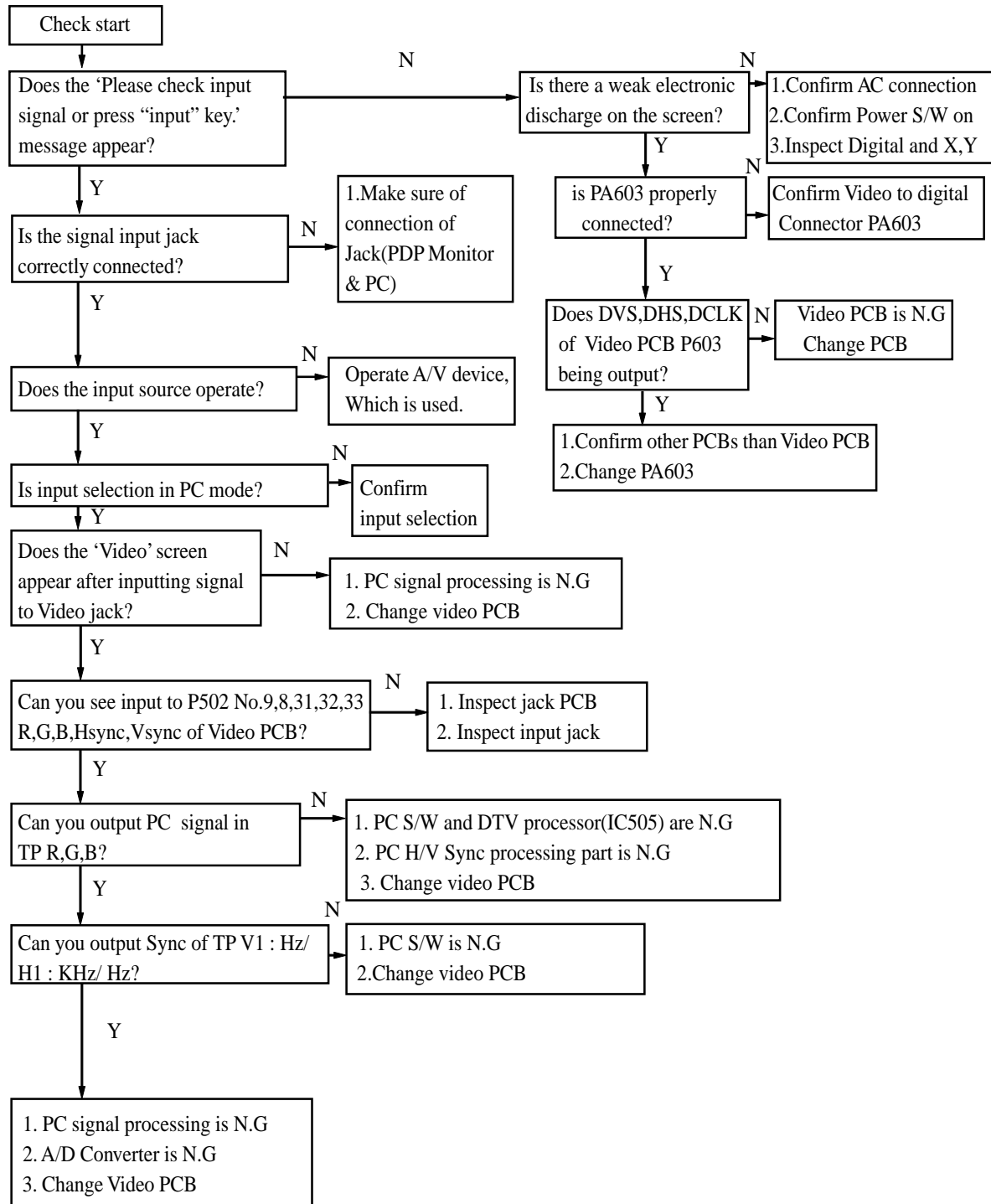
*** IMAGE PROCESSOR PART BLOCK DIAGRAM**

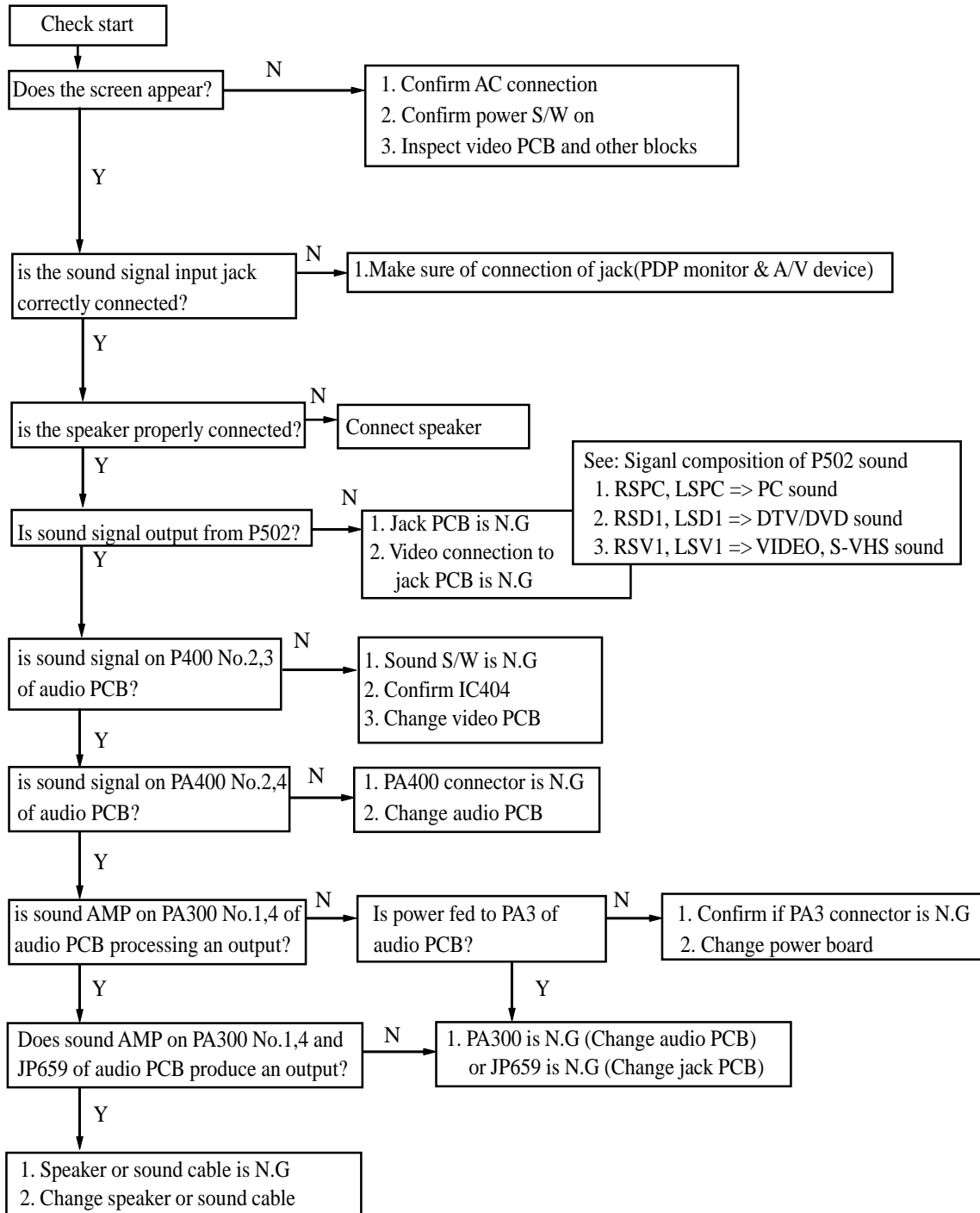


NO Video screen (Composite input)

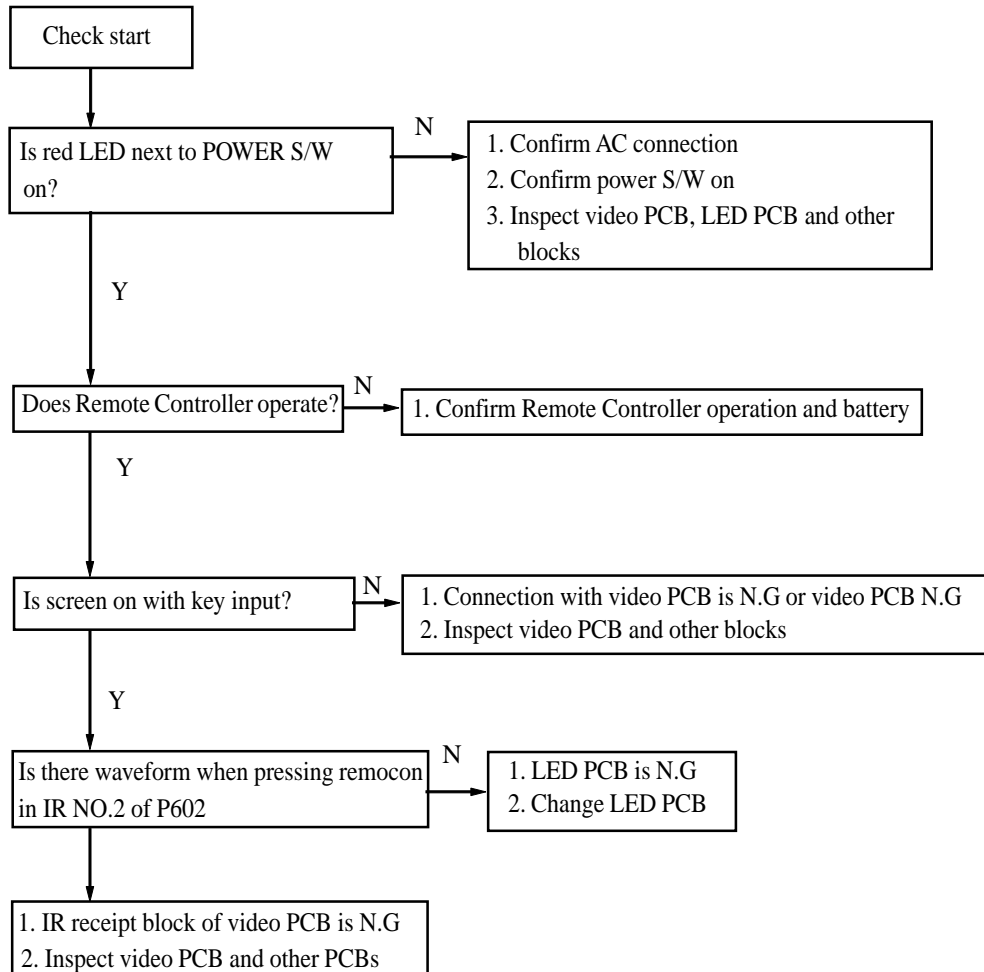
NO DTV screen (1080I, 720P, 480P)

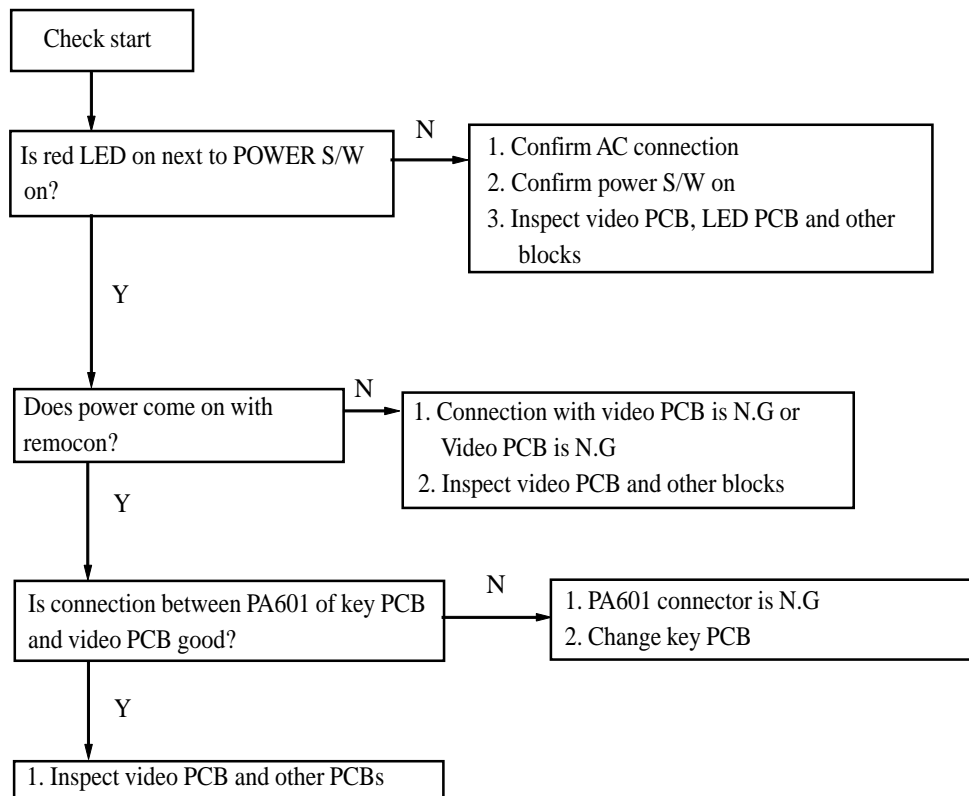
NO PC screen



NO Sound

NO Remote Controller operation



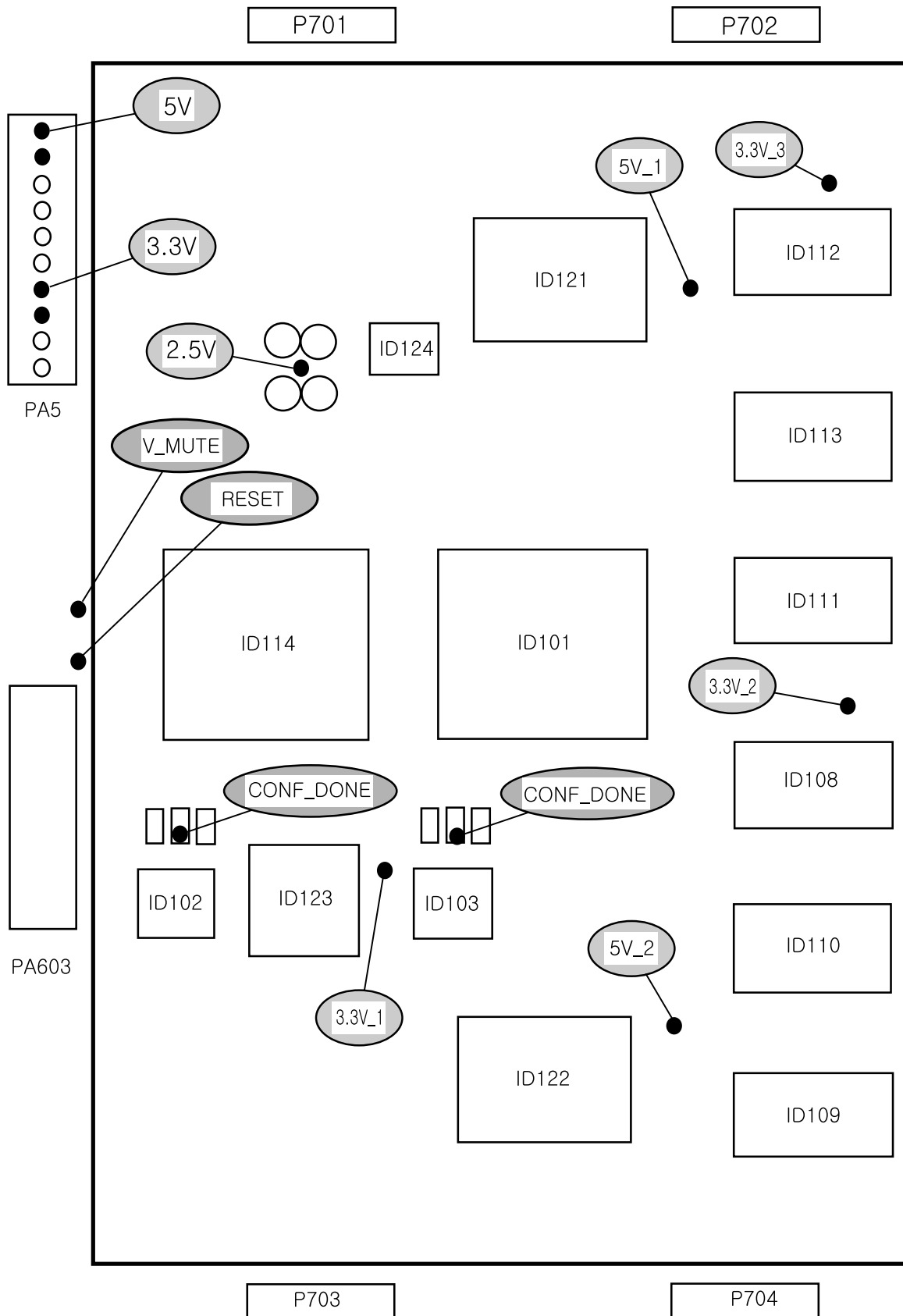
NO Key operation

6-2. DIGITAL

Checking Order for normal operation of Digital Board and Check Points

(* Measure RMS voltage with a multi-meter, refer to the attached picture for position of check points)

1. After make sure that the set turns off, turn off the High Voltage ON/OFF Switch of the Power Board and then turn on the set
2. Confirm whether there is an input of 5V, 3.3V into Power Connector (PA5).
 - 5V input (pin No.1,2) : If 4.5V ~ 5.2V, O.K.
 - 3.3V input (pin No.7,8) : If 3.0V ~ 3.5V, O.K.
3. Confirm whether Power 2.5V, 3.3V_1, 3.3V_2, 3V_3, 5V_1, 5V_2
 - 2.5V : If 2.2V ~ 2.7V, O.K.
 - 3.3V : If 3.0V ~ 3.5V, O.K.
 - 5V : If 4.5V ~ 5.2V, O.K.
4. Confirm Reset and V_MUTE
 - Reset : If 3.0V ~ 3.5V, O.K.
 - V_MUTE :If 3.0V ~ 3.5V, O.K.
5. Confirm CONF_DONE (ID102, ID103)
 - CONF_DONE : If 3.0V ~ 3.5V, O.K.



6-3. X-SUSTAIN BOARD

1. Separate PA7 and PA114 connector
2. Check the remaining electrical voltage of PA7
 - (1) Check the Voltage of Terminal 170V : If maintained beyond 10 volt, discharge (below 5 volt) with resistance of beyond 1K ohm 5 Watt
3. Confirm the value of series and parallel resistance of RU10//RU13-RU11//RU14-RU12//RU15
 - (1) Each value of resistance : 6.8 ohm 5 Watt
 - (2) The total value of resistance : 10.2 +/- 0.5 ohm
 - (3) In case of wrong value of resistance, replace (open) board and confirm each connector : the state of insertion (installation)
4. In case of normal value of resistance, measure the value as following table1.
 - (1) Use a Diode Tester
 - (2) If abnormal part is found, replace the board
 - (3) In case of normal state, Inspect connectors and other boards

Table 1. PA7 The value of Diode Tester of each terminal

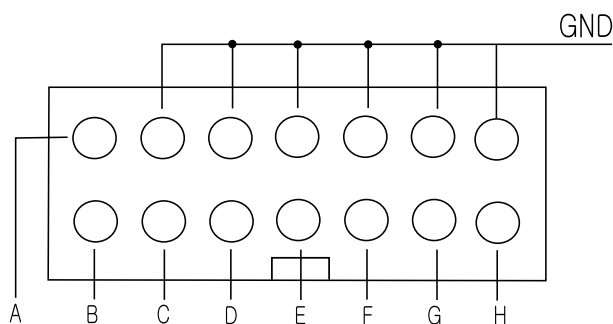
* + : red, - : black

	NAME	DIODE TESTER	MEASURE	DIODE TESTER	MEASURE
1	170V	+	About 5 sec. Later, Open	-	0.49
	GND	-		+	
2	15V	+	About 3 sec. Later, Open beyond 2V	-	0.47
	GND	-		+	
3	CU1(5V)	+	Beyond 1.43	-	0.48
	GND	-		+	

Table 2. PA114 The value of Diode Tester of each terminal

* + : red, - : black

The configuration of terminal (top view, components side)



DIODE TESTER		MEASURE	DIODE TESTER		MEASURE
-	+		+	-	
GND	A	0.6	GND	A	0.5
	B	0.6		B	0.5
	C	0.6		C	0.5
	D	0.6		D	0.5
	E	0.6		E	0.5
	F	0.6		F	0.5
	G	0.6		G	0.5
	H	0.6		H	0.5

Table 3. The value of Diode Tester of each Semiconductor

* + : red, - : black

		NAME	DIODE TESTER	MEASURE	DIODE TESTER	MEASURE
1	QU5/QU6	D	+	ABOUT 5 SEC. LATER, OPEN	-	0.48
		S	-		+	
2	QU7/QU8	D	+	Open	-	0.48
		S	-		+	
3	QU17/QU18	D	+	Open	-	0.45
		S	-		+	
4	QU15/QU16	D	+	Open	-	0.45
		S	-		+	
5	QU23~QU26	D	+	Open	-	0.4
		S	-		+	
6	QU19~QU22	D	+	Open	-	0.4
		S	-		+	
7	QU12	D	+	Open	-	0.49
		S	-		+	
8	QU11	D	+	Beyond 2.3	-	0.49
		S	-		+	
9	QU9	D	+	ABOUT 5 SEC.LATER, OPEN	-	0.5
		S	-		+	
10	QU4	D	+	Open	-	0.5
		S	-		+	
11	QU13/QU14	D	+	Open	-	0.48
		S	-		+	

6-3. Y-SUSTAIN BOARD

1. Separate PA9, PA111 connector
2. Confirm the remaining electrical Voltage of PA9
 - (1) Confirm the Voltage of Terminal 170V : If maintained beyond 10 volt, discharge(below 5 volt) with resistance of beyond 1K ohm 5 Watt
 - (2) Confirm the Voltage of Terminal -155V : If maintained beyond -10 volt, discharge(below -5 volt) with resistance of beyond 1K ohm 5Watt
3. Confirm the resistance of RY2 (470 ohm 5Watt)
 - (1) In case of wrong value, replace board and confirm each connector
4. In case of normal value of resistance, measure the value as following Table 1.
 - (1) Use a Diode Tester
 - (2) If abnormal part is found, replace the board
 - (3) In case of normal state, Inspect connectors and other boards

Table 1. PA9 The value of Diode Tester of each terminal

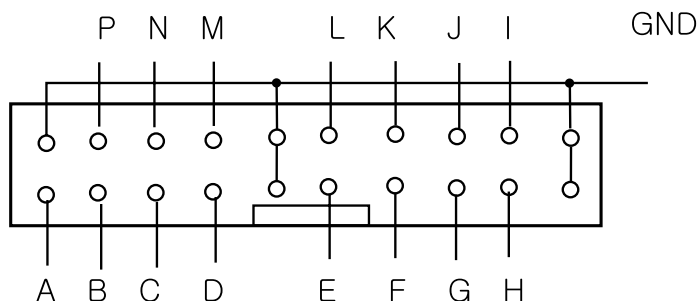
* + : red, - : black

	NAME	DIODE TESTER	MEASURE	DIODE TESTER	MEASURE
1	170V	+	About 3 Sec. Later, Open	-	Beyond 0.8
	GND	-		+	
2	-155V	+	Beyond 0.7	-	Open
	GND	-		+	
3	ON/OFF	+	Open	-	Beyond 2.4
	GND	-		+	
4	15V	+	Beyon 0.7	-	About 5 Sec. Later, beyond 0.4
	GND	-		+	

Table 2. PA111 The value of Diode Tester of each terminal

* + : red, - : black

The configuration of terminal (top view, components side)



DIODE TESTER		MEASURE	DIODE TESTER		MEASURE
-	+		+	-	
GND	A	1.2	GND	A	0.5
	B	0.6		B	0.5
	C	0.6		C	0.5
	D	0.6		D	0.5
	E	1.2		E	0.5
	F	1.2		F	0.5
	G	0.6		G	0.5
	H	0.6		H	0.5
	I	0.6		I	0.5
	J	0.6		J	0.5
	K	1.2		K	0.5
	L	0.6		L	0.5
	M	0.6		M	0.5
	P	1.2		P	0.5

Table 3. The value of Diode Tester of each Semiconductor

* + : red, - : black

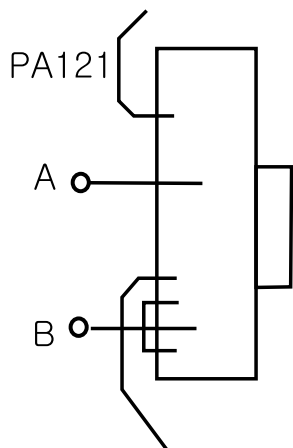
		NAME	DIODE TEST	MEASURE	DIODE TEST	MEASURE
1	QY5~QY8	D	+	ABOUT 3 SEC. LATER, OPEN	-	0.4
		S	-		+	
2	QY9~QY12	D	+	Open	-	0.4
		S	-		+	
3	QY1~QY2	D	+	Open	-	0.4
		S	-		+	
4	QY3~QY4	D	+	Open	-	0.4
		S	-		+	
5	QY25~QY28	D	+	Open	-	0.4
		S	-		+	
6	QY20~QY23	D	+	Open	-	0.4
		S	-		+	
7	QY15~QY16	D	+	Open	-	0.4
		S	-		+	
8	QY19	D	+	Open	-	0.4
		S	-		+	
9	QY14	D	+	Open	-	0.4
		S	-		+	
10	QY13	D	+	Beyond 1	-	Open
		S	-		+	
11	QY2	D	+	Open	-	0.4
		S	-		+	

6-5. SCAN BOARD

1. Confirm the DIOED TESTER, PCB separately

2. The configuration

(1) The Voltage Terminal of Scan (top view, components side)



	DIODE TESTER	MEASURE	DIODE TESTER	MEASURE
A	+	Beyond 0.6	-	Open
B	-		+	

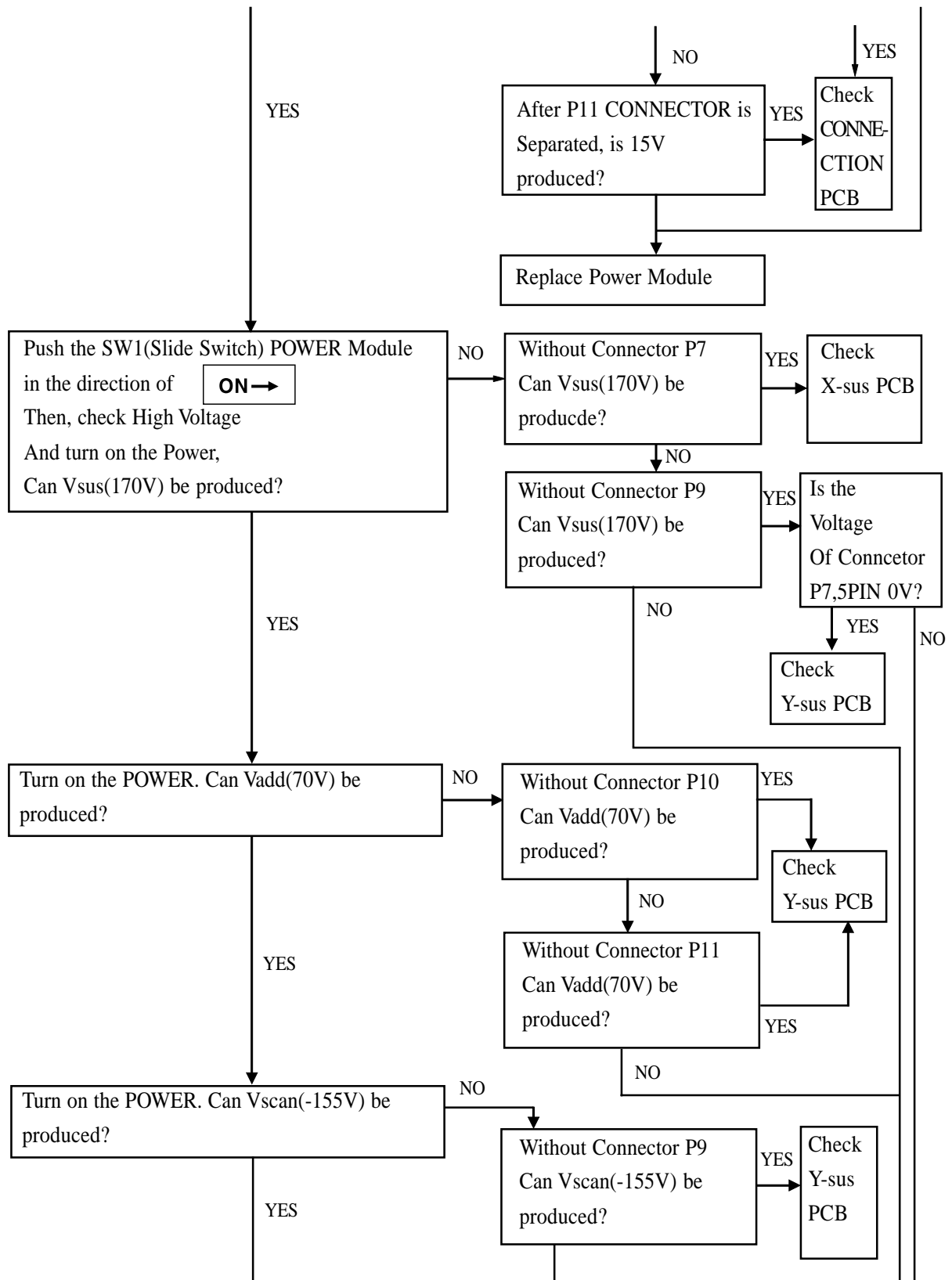
6-6. DATA H/L, CONNECTION(RU,CU,LU,RD,CD,LD)

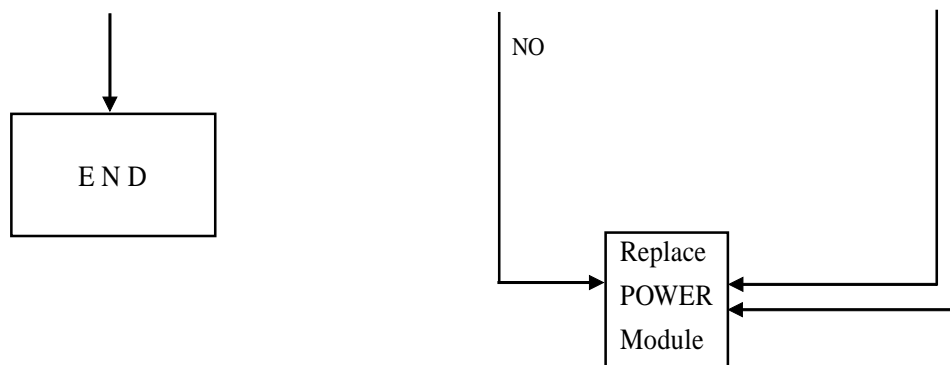
1. Confirm the upper part and the lower part
 - (1) Separate PA10 and PA11
 - (2) Confirm DIODE TESTER
2. Separate P112
 - (1) Confirm LU and two DATA H boards
3. Separate PA113
 - (1) Confirm CU and DATA H board
 - (2) Confirm RU and two DATA H boards
4. Separate P115
 - (1) Confirm LD and two DATA L boards
5. Separate P116
 - (1) Confirm CD and DATA L board
 - (2) Confirm RD and two DATA L boards

Table 1. The value of Diode Tester of each terminal

* + : red, - : black

	NAME	DIODE TESTER	MEASURE	DIODE TESTER	MEASURE
1	Vadd	+	Open	-	0.6
	GND	-		+	
2	5V	+	Beyond	-	0.5
	GND	-	1.3	+	



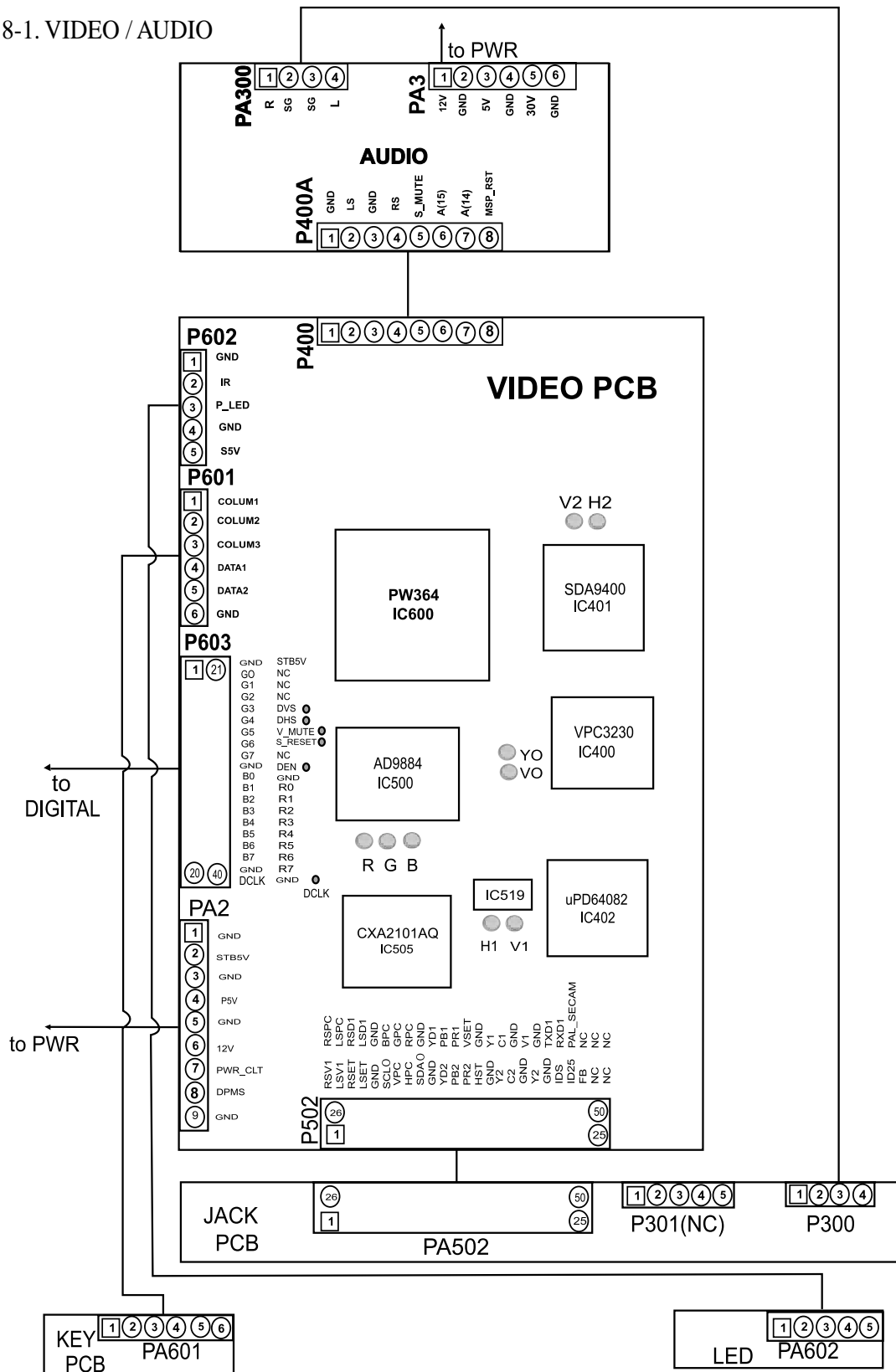


7. Assembly List

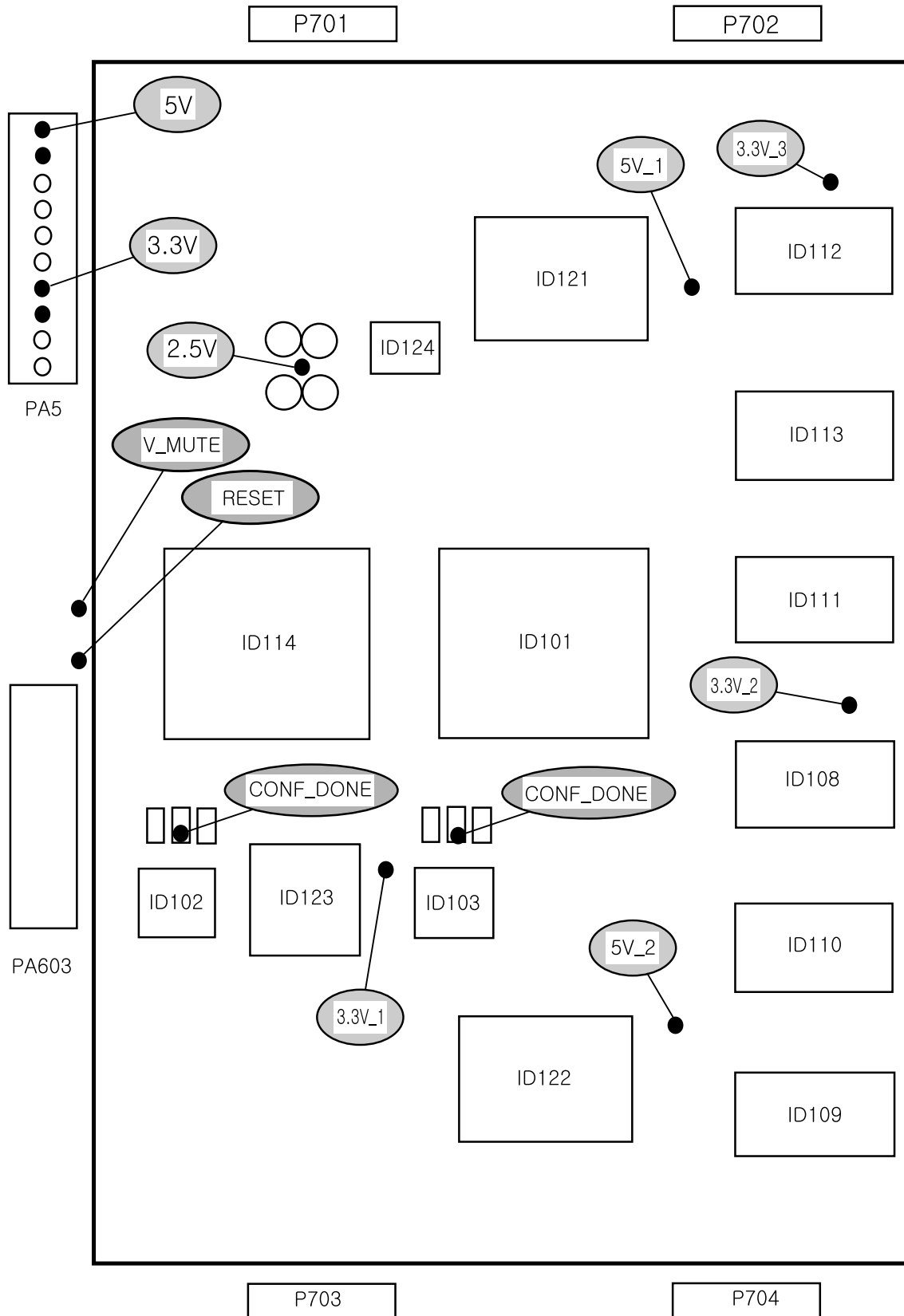
NO	PCB ASS'Y NAME	WORKING PROCESS ASS'Y NAME	ASSEMBLY CODE
1	ACCESSORY AS		PEACPWD011
2	PACKING AS		PEPKCPD011
3	CABINET AS		PECACAD011
4	MASK FRONT AS		PEFMSJD011
5	VIDEO PCB AS		
6		PCB VIDEO MANUAL A	PEVDMSD011
7		PCB VIDEO CHIP B AS	PEVDJ2D011
8		PCB VIDEO CHIP A AS	PEVDJ1D011
9	DIGITAL PCB AS		
10		PCB DIGITAL MANUAL	PEDGMSD011
11		PCB DIITAL CHIP B	PEDGJ2D011
12		PCB DIGITAL CHIP A A	PEDGJ1D011
13	DATA_H PCB AS	PCB DATA H AS	PED1MSD011
14		PCB DATA H CHIP A A	PED1J1D011
15	DATA_L PCB AS		
16		PCB DATA L MANUAL	PED2MSD011
17		PCB DATA L CHIP A A	PED2J1D011
18	SCAN PCB AS		
19		PCB SCAN MANUAL A	PES1MSD011
20		PCB SCAN CHIP A AS	PES1J1D011
21	X-SUS PCB AS		
22		PCB X-SUS MANUAL A	PEXSMSD011
23		PCB X-SUS RHU AS	PEXSJ0D011
24		PCB X-SUS M-10 AS	PEXSJBD011
25		PCB X-SUS RADIAL AS	PEXSJRD011
26		PCB X-SUS CHIP A AS	PEXSJ1D011
27	Y-SUS PCB AS		
28		PCB Y-SUS MANUAL A	PEYSMSD011
29		PCB Y-SUS RHU AS	PEYSJ0D011
30		PCB Y-SUS M-10 AS	PEYSJBD011
31		PCB Y-SUS RADIAL AS	PEYSJRD011
32		PCB Y-SUS CHIP A AS	PEYSJ1D011
33	AUDIO PCB AS		
34		PCB AUDIO MANUAL A	PEAUMSD011
35		PCB AUDIO RADIAL AS	PEAUJRD011
36		PCB AUDIO AXIAL AS	PEAUJAD011
37	JACK PCB AS		
38		PCB JACK MANUAL AS	PEJAMSD011
39	XSA PCB AS		
40		PCB XSA MANUAL AS	PEXAMSD011
41	CONN UNION PCB AS		
42		PCB UNION CHIP A AS	PEUNJ1D011
43		PCB UNION AS	PEUNSWD011
44		PCB RIGHT-DO MANU	PERWMSD011
45		PCB RIGHT-DO A AS	PERWJ1D011

8. Block Diagram

8-1. VIDEO / AUDIO

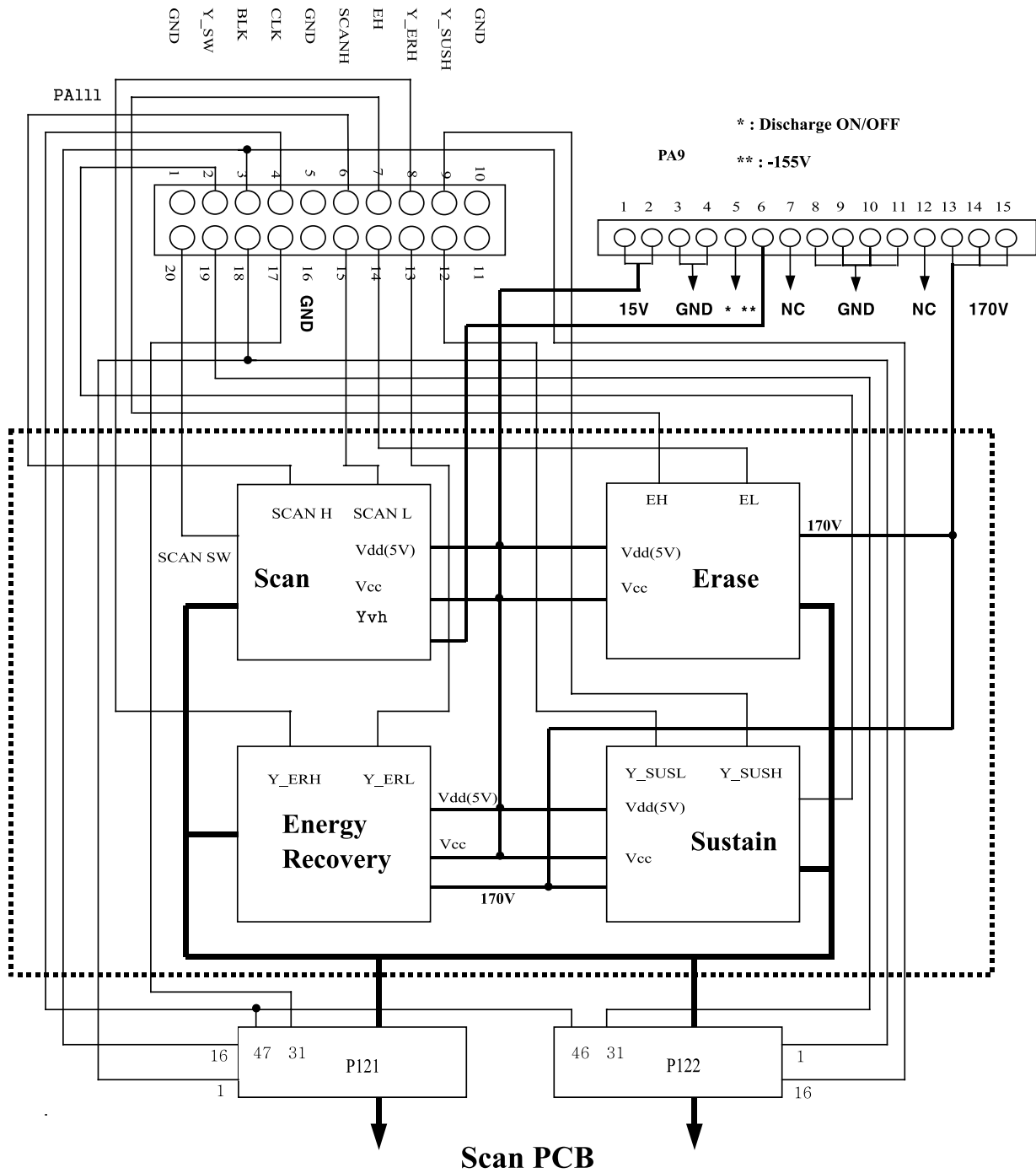


8-2. Digital



8-3. Y-Sustain

Y-Sustain Block Diagram

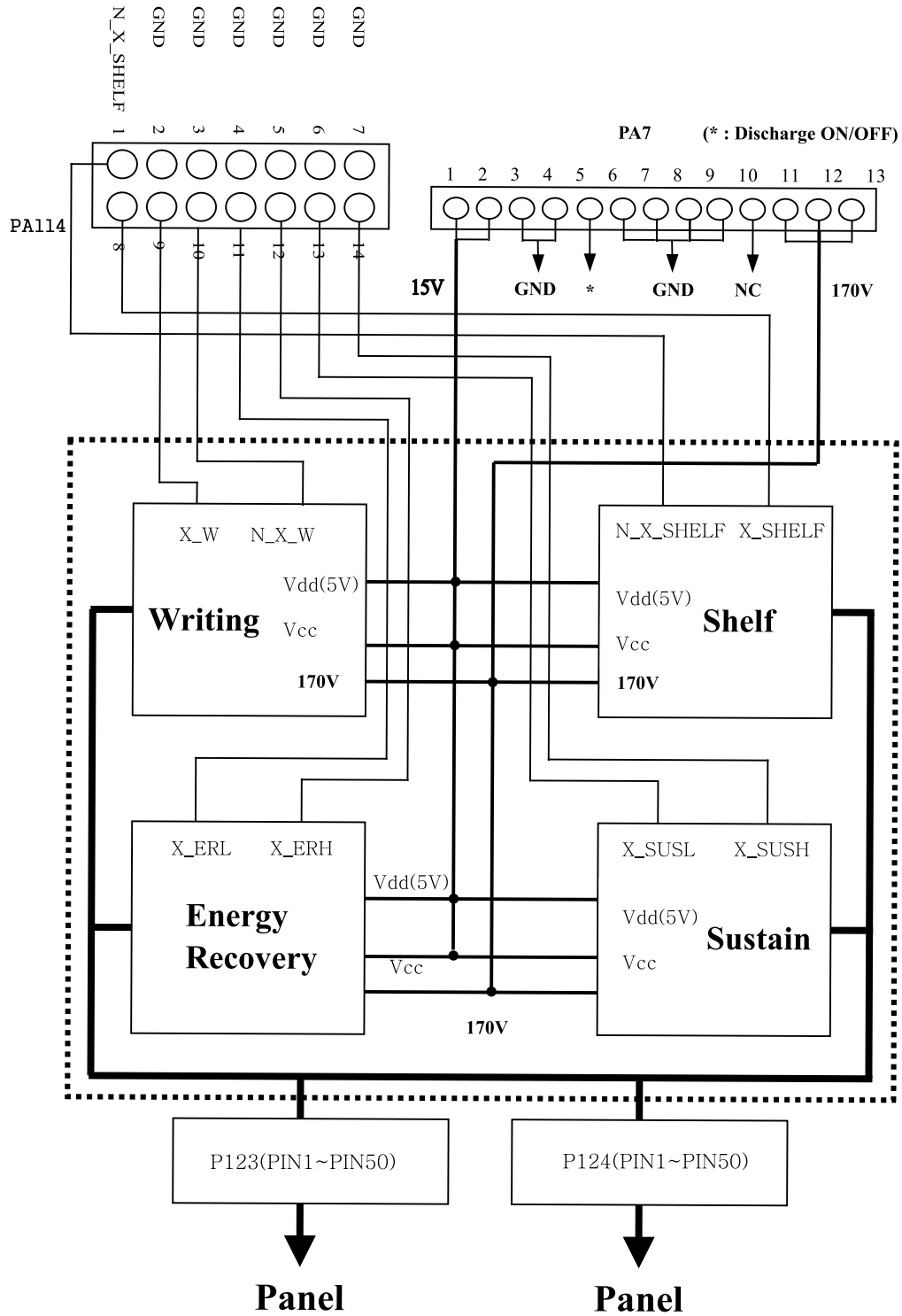


(16:BLK / 1:CLR / 46:CLK / 31:SI1)

(16:BLK / 1:CLR / 46:CLK / 31:SI2)

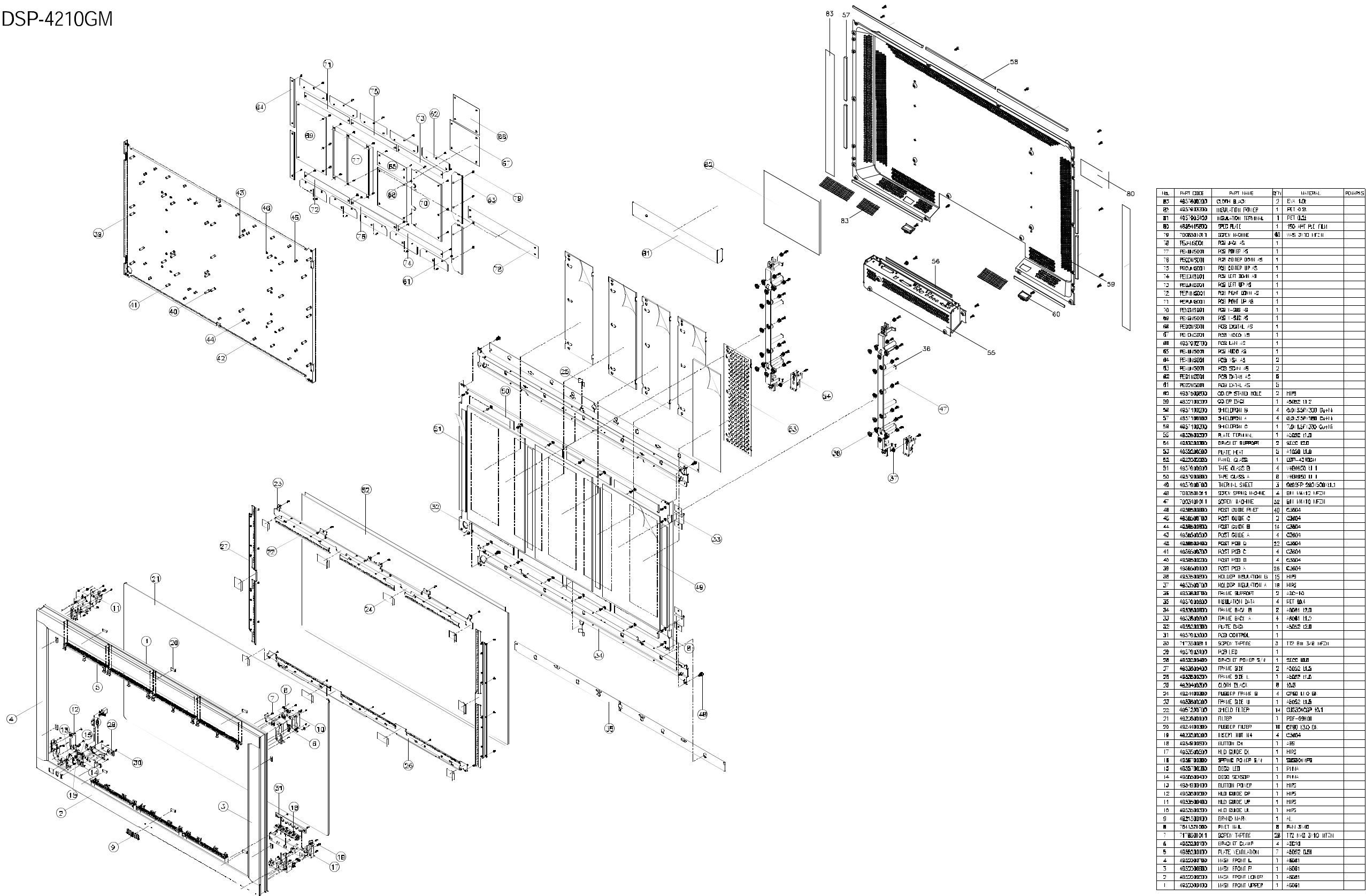
8-4. X-Sustain

X-Sustain Block Diagram



EXPLODED VIEW

DSP-4210GM



NO.	PART CODE	PART NAME	QTY	MATERIAL	REMARKS
1	482500000	INSIDE FRONT LOWER	1	ABS	
2	482500000	INSIDE FRONT LOWER	1	ABS	
3	482500000	INSIDE FRONT LOWER	1	ABS	
4	482500000	INSIDE FRONT LOWER	1	ABS	
5	482500000	INSIDE FRONT LOWER	1	ABS	
6	482500000	INSIDE FRONT LOWER	1	ABS	
7	482500000	INSIDE FRONT LOWER	1	ABS	
8	482500000	INSIDE FRONT LOWER	1	ABS	
9	482500000	INSIDE FRONT LOWER	1	ABS	
10	482500000	INSIDE FRONT LOWER	1	ABS	
11	482500000	INSIDE FRONT LOWER	1	ABS	
12	482500000	INSIDE FRONT LOWER	1	ABS	
13	482500000	INSIDE FRONT LOWER	1	ABS	
14	482500000	INSIDE FRONT LOWER	1	ABS	
15	482500000	INSIDE FRONT LOWER	1	ABS	
16	482500000	INSIDE FRONT LOWER	1	ABS	
17	482500000	INSIDE FRONT LOWER	1	ABS	
18	482500000	INSIDE FRONT LOWER	1	ABS	
19	482500000	INSIDE FRONT LOWER	1	ABS	
20	482500000	INSIDE FRONT LOWER	1	ABS	
21	482500000	INSIDE FRONT LOWER	1	ABS	
22	482500000	INSIDE FRONT LOWER	1	ABS	
23	482500000	INSIDE FRONT LOWER	1	ABS	
24	482500000	INSIDE FRONT LOWER	1	ABS	
25	482500000	INSIDE FRONT LOWER	1	ABS	
26	482500000	INSIDE FRONT LOWER	1	ABS	
27	482500000	INSIDE FRONT LOWER	1	ABS	
28	482500000	INSIDE FRONT LOWER	1	ABS	
29	482500000	INSIDE FRONT LOWER	1	ABS	
30	482500000	INSIDE FRONT LOWER	1	ABS	
31	482500000	INSIDE FRONT LOWER	1	ABS	
32	482500000	INSIDE FRONT LOWER	1	ABS	
33	482500000	INSIDE FRONT LOWER	1	ABS	
34	482500000	INSIDE FRONT LOWER	1	ABS	
35	482500000	INSIDE FRONT LOWER	1	ABS	
36	482500000	INSIDE FRONT LOWER	1	ABS	
37	482500000	INSIDE FRONT LOWER	1	ABS	
38	482500000	INSIDE FRONT LOWER	1	ABS	
39	482500000	INSIDE FRONT LOWER	1	ABS	
40	482500000	INSIDE FRONT LOWER	1	ABS	
41	482500000	INSIDE FRONT LOWER	1	ABS	
42	482500000	INSIDE FRONT LOWER	1	ABS	
43	482500000	INSIDE FRONT LOWER	1	ABS	
44	482500000	INSIDE FRONT LOWER	1	ABS	
45	482500000	INSIDE FRONT LOWER	1	ABS	
46	482500000	INSIDE FRONT LOWER	1	ABS	
47	482500000	INSIDE FRONT LOWER	1	ABS	
48	482500000	INSIDE FRONT LOWER	1	ABS	
49	482500000	INSIDE FRONT LOWER	1	ABS	
50	482500000	INSIDE FRONT LOWER	1	ABS	
51	482500000	INSIDE FRONT LOWER	1	ABS	
52	482500000	INSIDE FRONT LOWER	1	ABS	
53	482500000	INSIDE FRONT LOWER	1	ABS	
54	482500000	INSIDE FRONT LOWER	1	ABS	
55	482500000	INSIDE FRONT LOWER	1	ABS	
56	482500000	INSIDE FRONT LOWER	1	ABS	
57	482500000	INSIDE FRONT LOWER	1	ABS	
58	482500000	INSIDE FRONT LOWER	1	ABS	
59	482500000	INSIDE FRONT LOWER	1	ABS	
60	482500000	INSIDE FRONT LOWER	1	ABS	
61	482500000	INSIDE FRONT LOWER	1	ABS	
62	482500000	INSIDE FRONT LOWER	1	ABS	
63	482500000	INSIDE FRONT LOWER	1	ABS	
64	482500000	INSIDE FRONT LOWER	1	ABS	
65	482500000	INSIDE FRONT LOWER	1	ABS	
66	482500000	INSIDE FRONT LOWER	1	ABS	
67	482500000	INSIDE FRONT LOWER	1	ABS	
68	482500000	INSIDE FRONT LOWER	1	ABS	
69	482500000	INSIDE FRONT LOWER	1	ABS	
70	482500000	INSIDE FRONT LOWER	1	ABS	
71	482500000	INSIDE FRONT LOWER	1	ABS	
72	482500000	INSIDE FRONT LOWER	1	ABS	
73	482500000	INSIDE FRONT LOWER	1	ABS	
74	482500000	INSIDE FRONT LOWER	1	ABS	
75	482500000	INSIDE FRONT LOWER	1	ABS	
76	482500000	INSIDE FRONT LOWER	1	ABS	
77	482500000	INSIDE FRONT LOWER	1	ABS	
78	482500000	INSIDE FRONT LOWER	1	ABS	
79	482500000	INSIDE FRONT LOWER	1	ABS	
80	482500000	INSIDE FRONT LOWER	1	ABS	

DAEWOO

DAEWOO ELECTRONICS CO., LTD

686, AHYEON-DONG MAPO-GU

SEOUL, KOREA

C.P.O. BOX 8003 SEOUL, KOREA

TELEX : DWELEC K28177-8

CABLE : "DAEWOOELEC"

E-mail : djkoo@web.dwe.co.kr

TEL : 82-2-360-7806

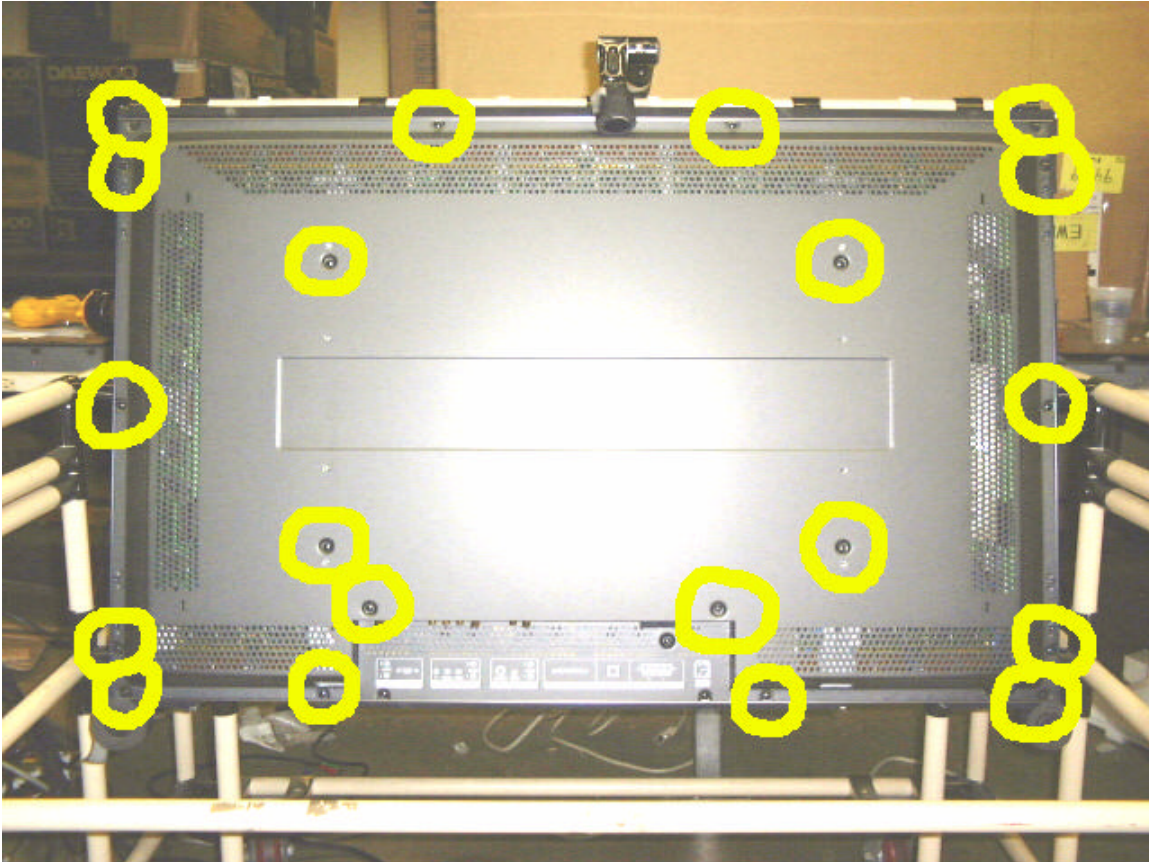
FAX : 82-2-360-7877

DSP-4210GM
Data-board change procedure

Daewoo Electronics

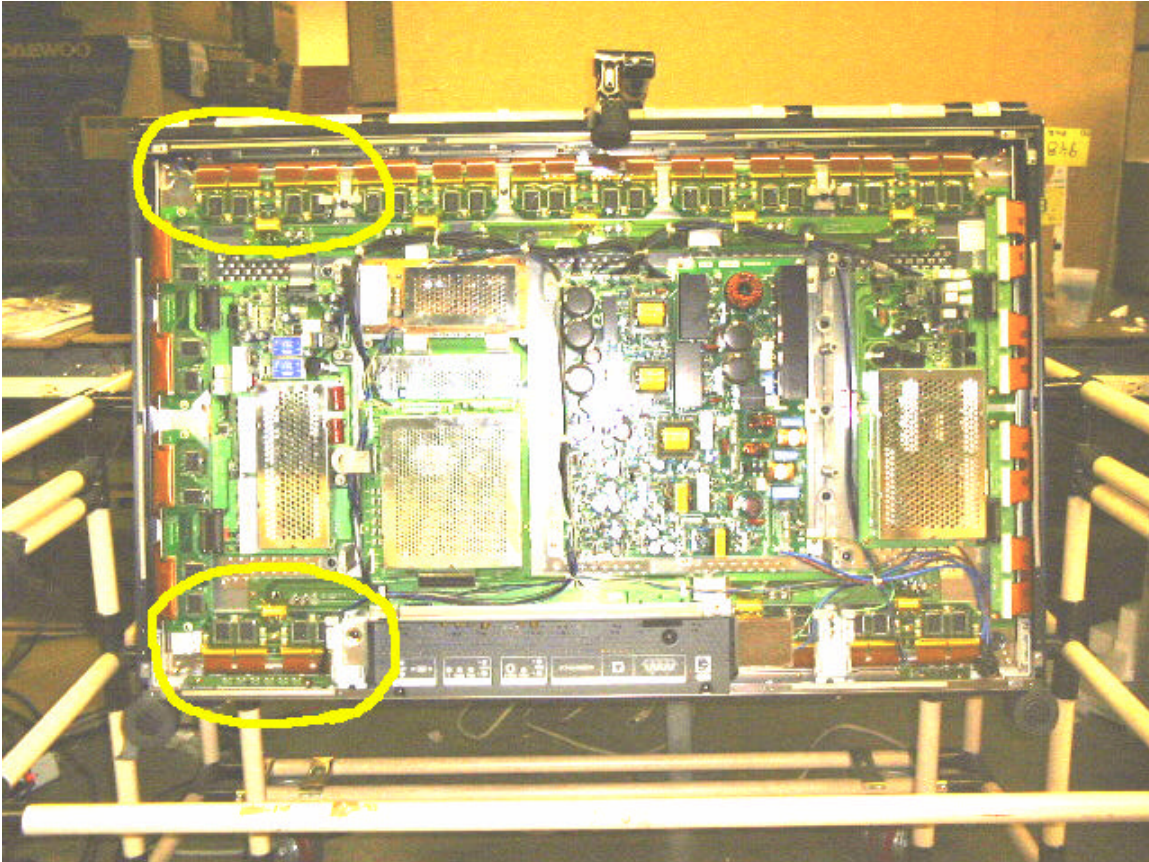
Step 1.

Un-screw the following locations.



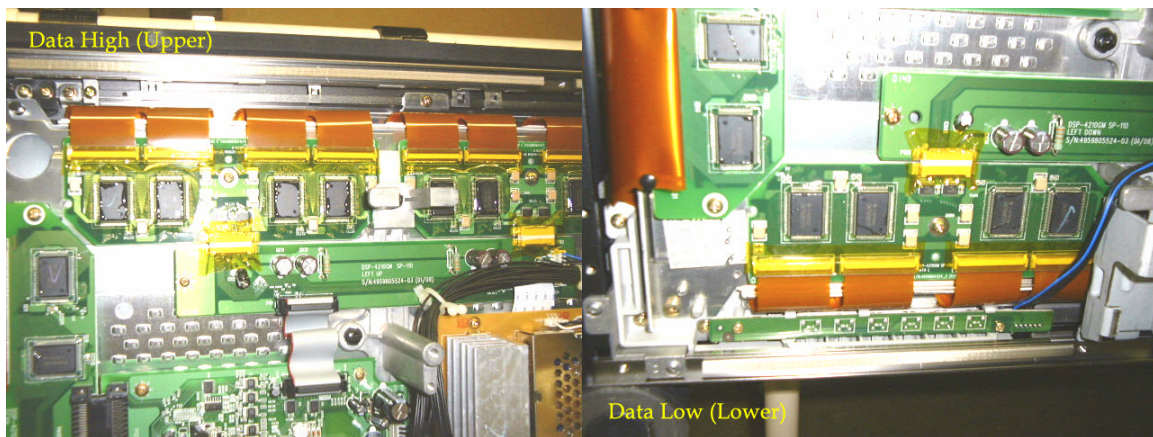
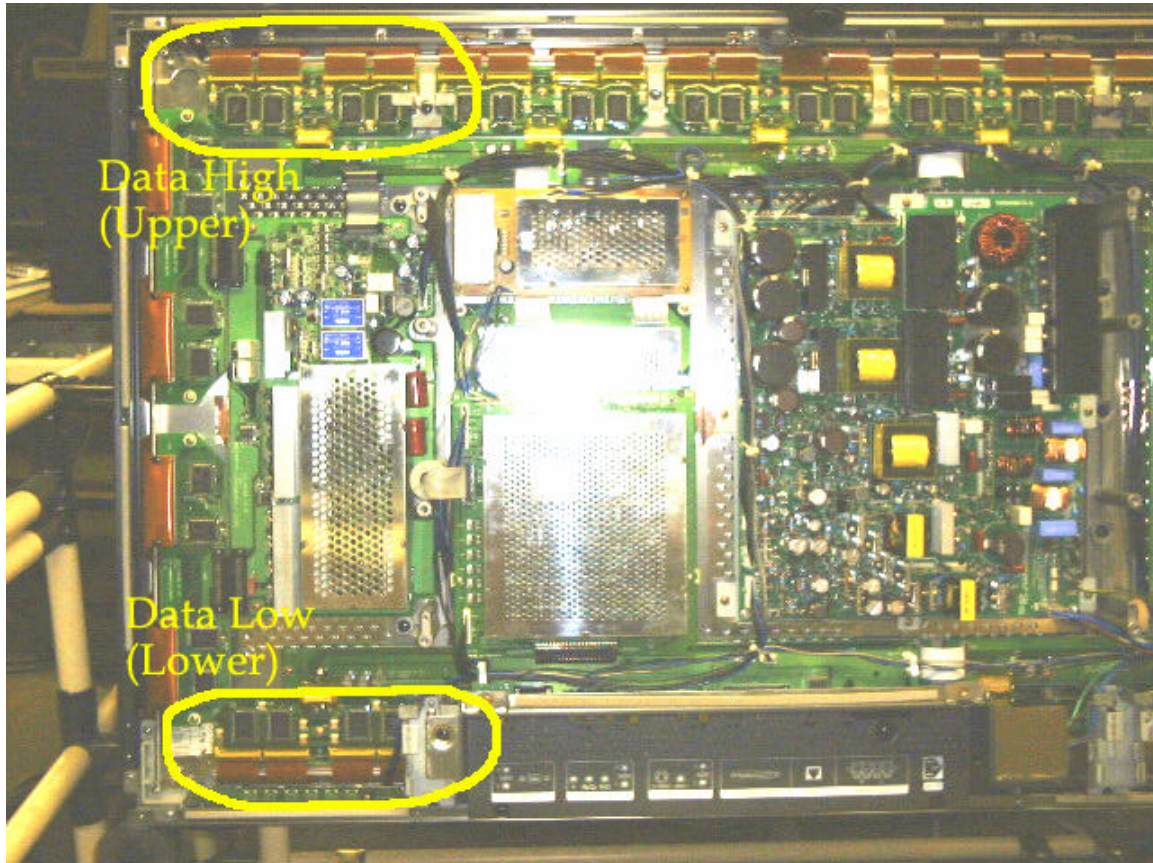
This is backside of PDP. The circled locations are where the screws in order to take off the back panel.

Step 2
Inside look of PDP



This is inside look of PDP. The upper data board is different from bottom. Upper: "Data High", Lower: "Data Low". You can read these on the board.

Step 3



Step 4

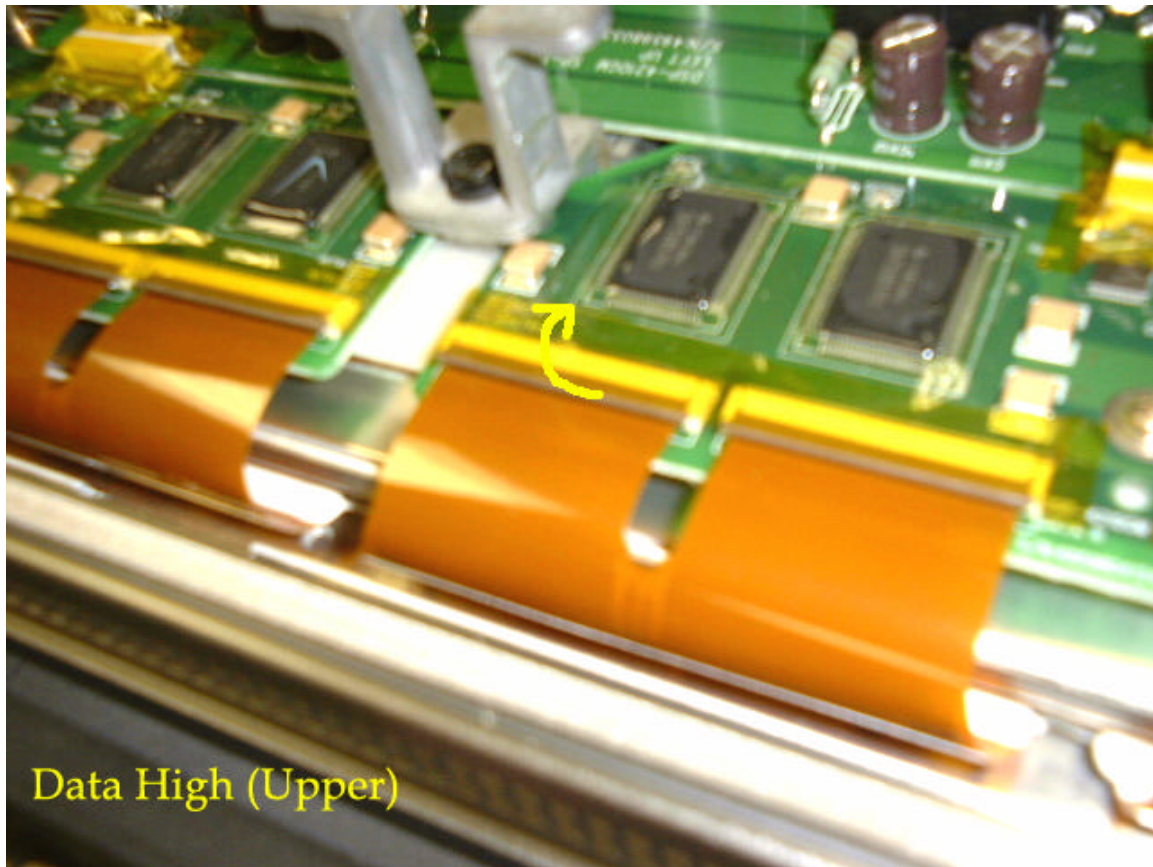
Testing. Find out the exact location of the line by pictures.



Connect any video source and display. This is normal picture.

Step 5

Testing. Unhook the data connector.

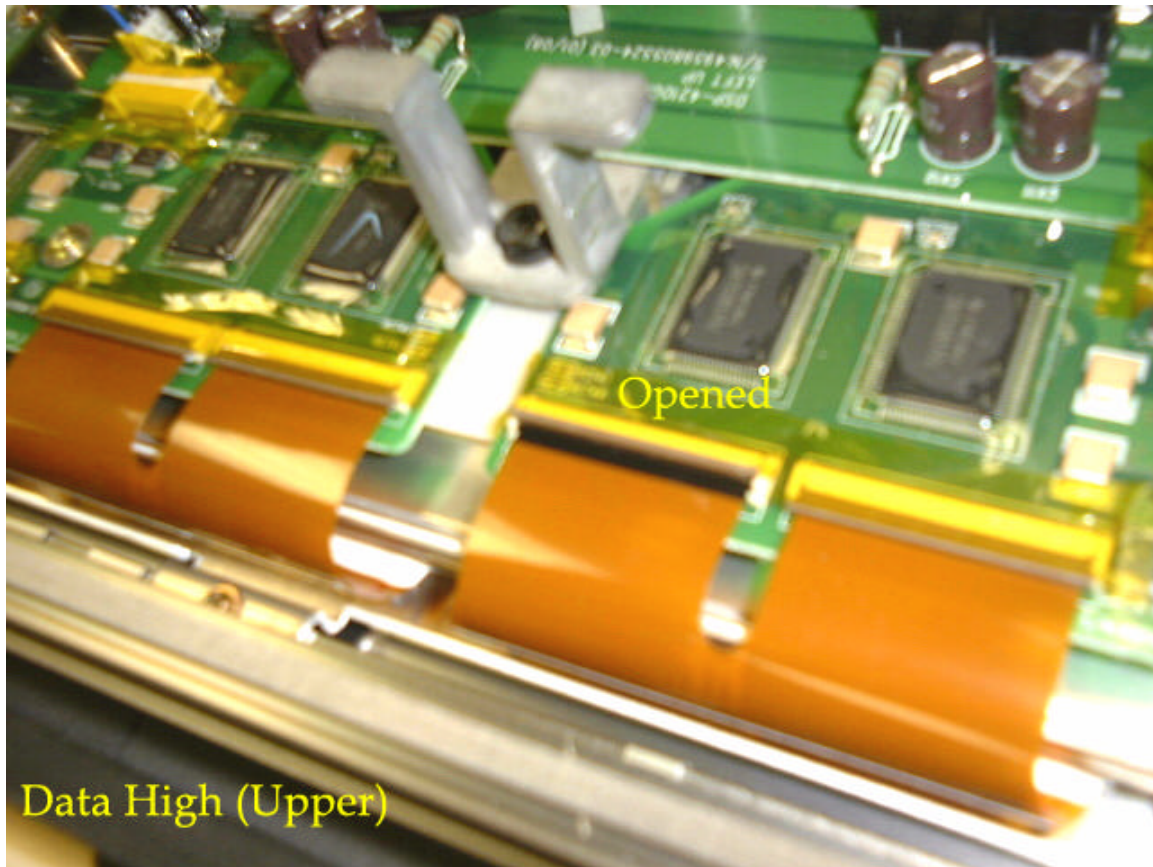


Data High (Upper)

Find out exact location of the line and unhook the connector right above that position.

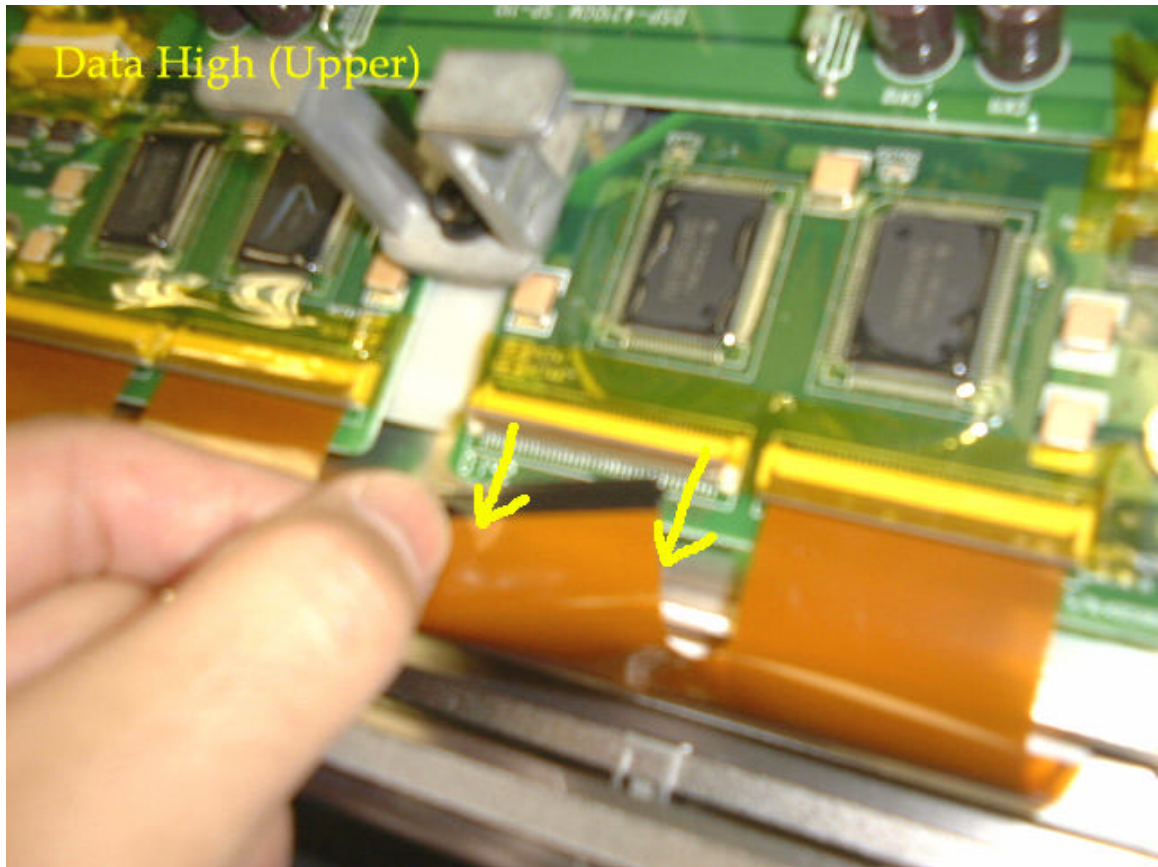
Step 6

Picture of opened hook.



Step 7

Take out the connect strip.



Step 8

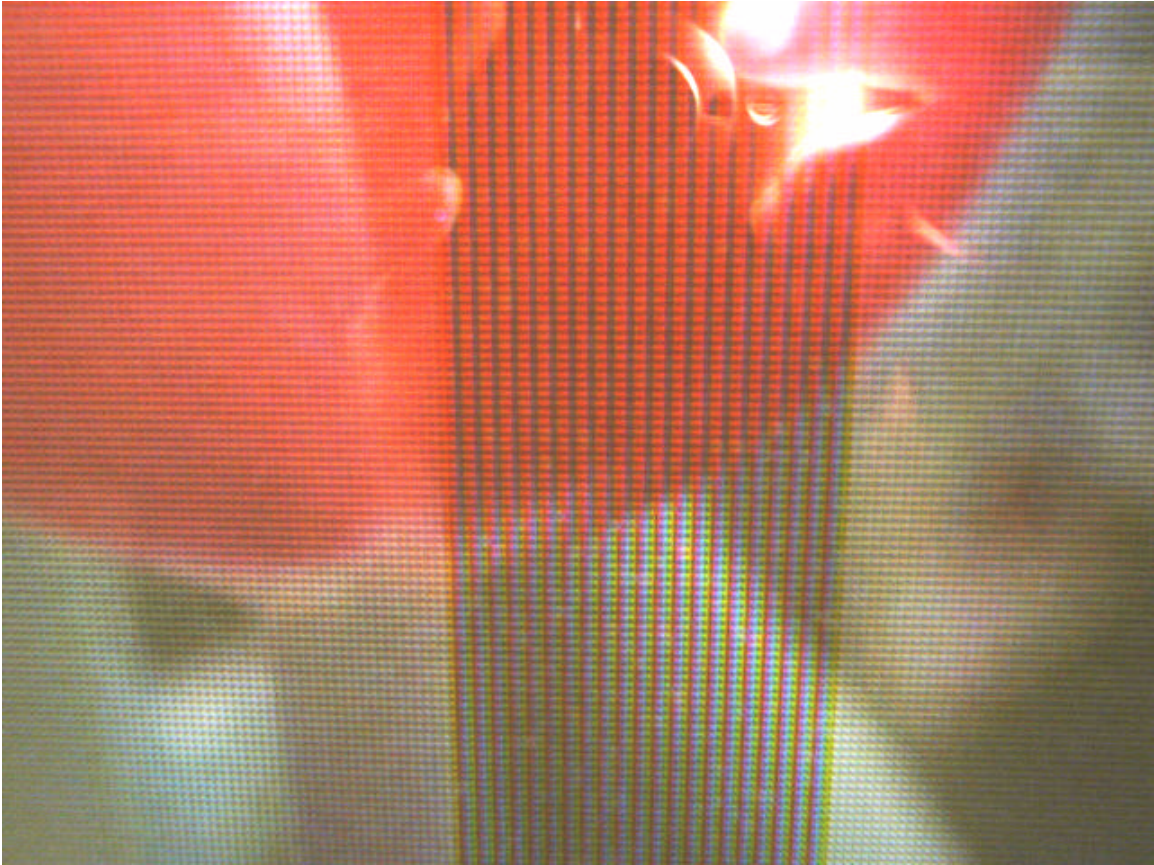
Exam the picture.



You will see some thin dead lines vertically.

Step 9

Close look of the picture

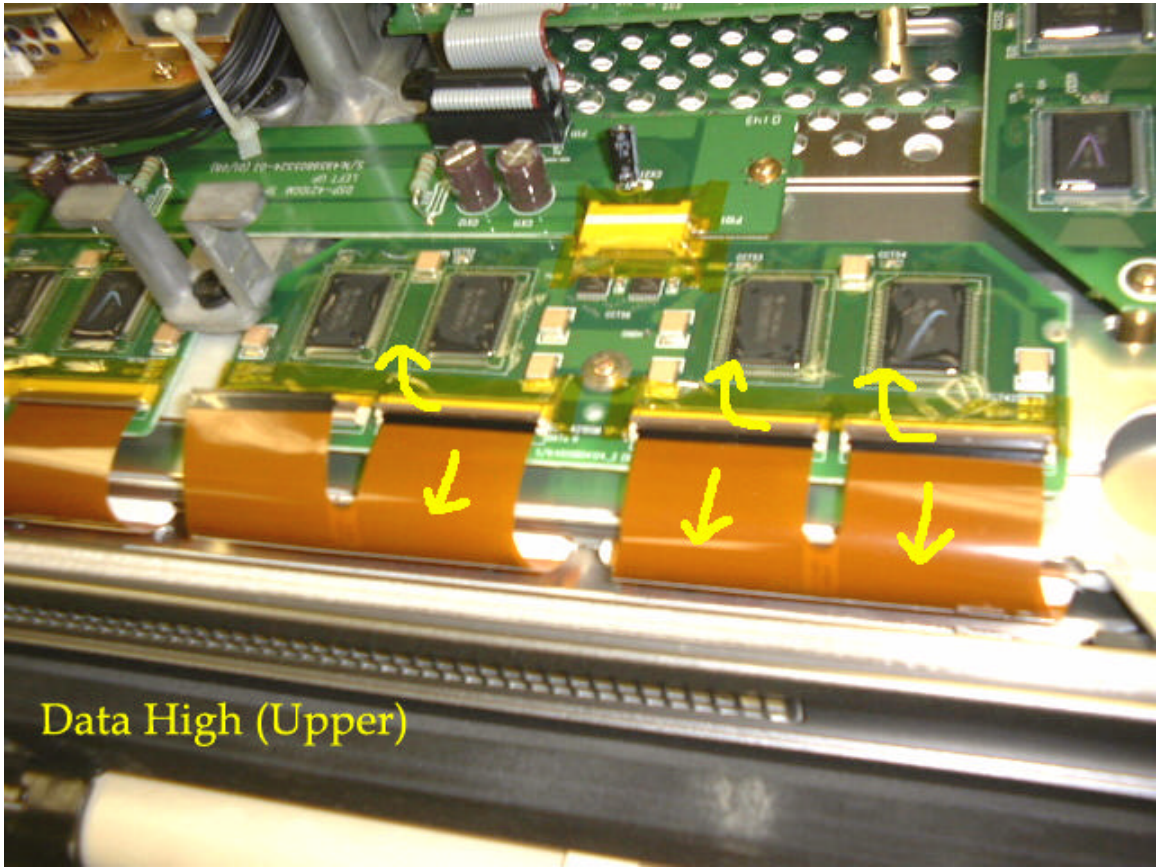


If you still see the problem line in between these dead lines, then you have to change the “Data Low (Lower)” board.

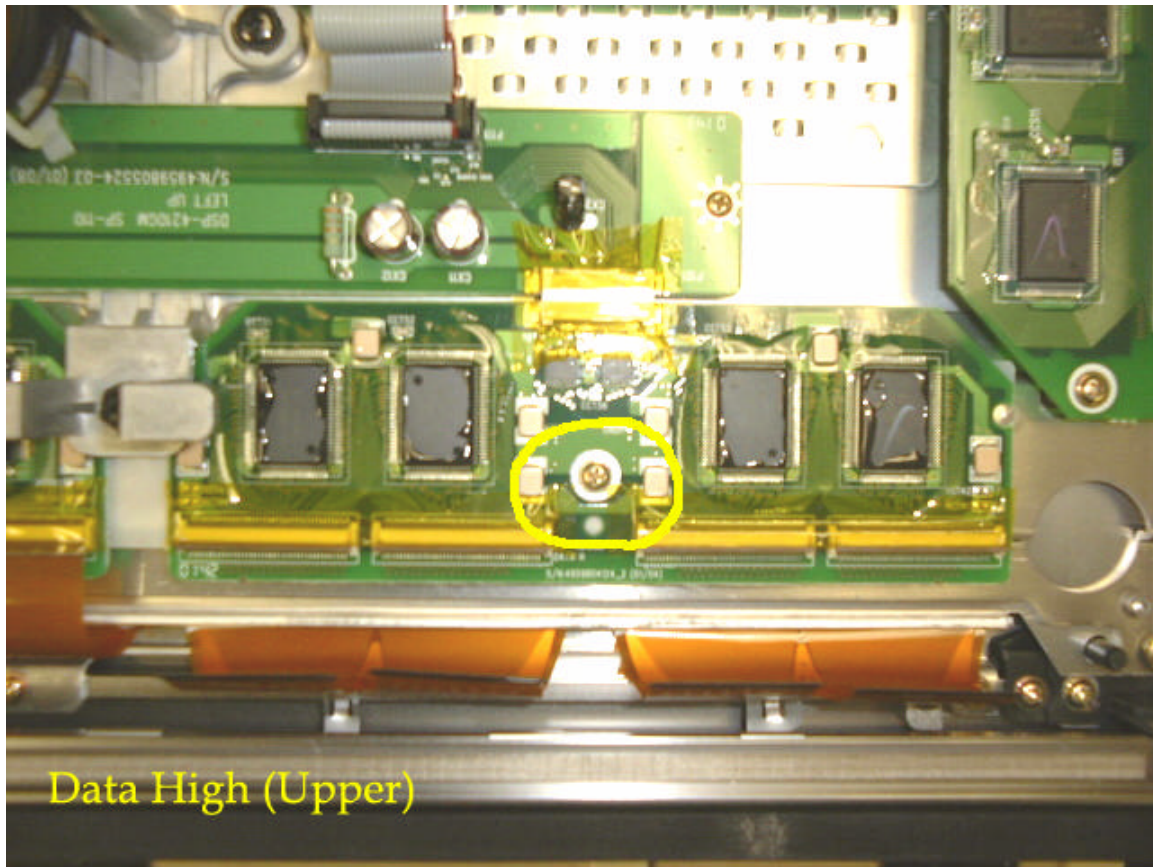
If you cannot see the problem line between these dead lines, you have to change the “Data High (Upper)” board.

Step 10

Changing Data High. Unhook all the connectors.

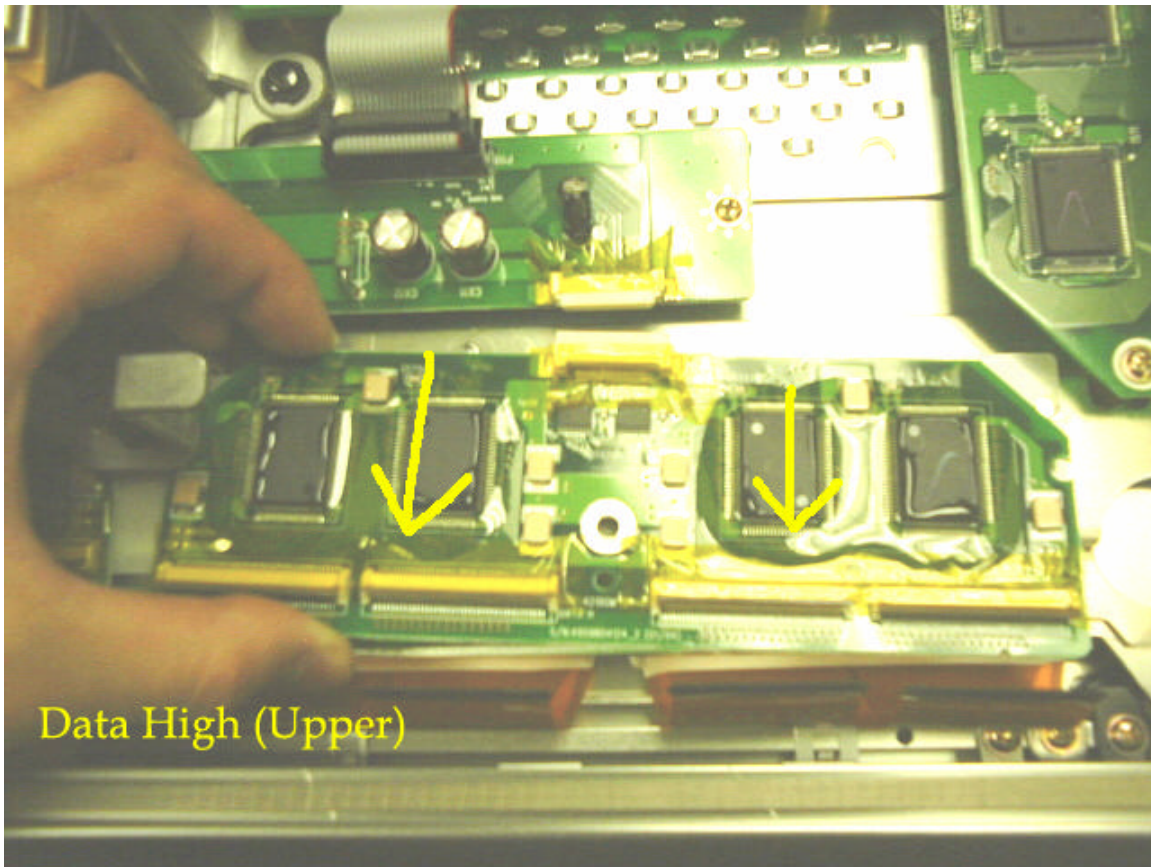


Step 11
Unscrew



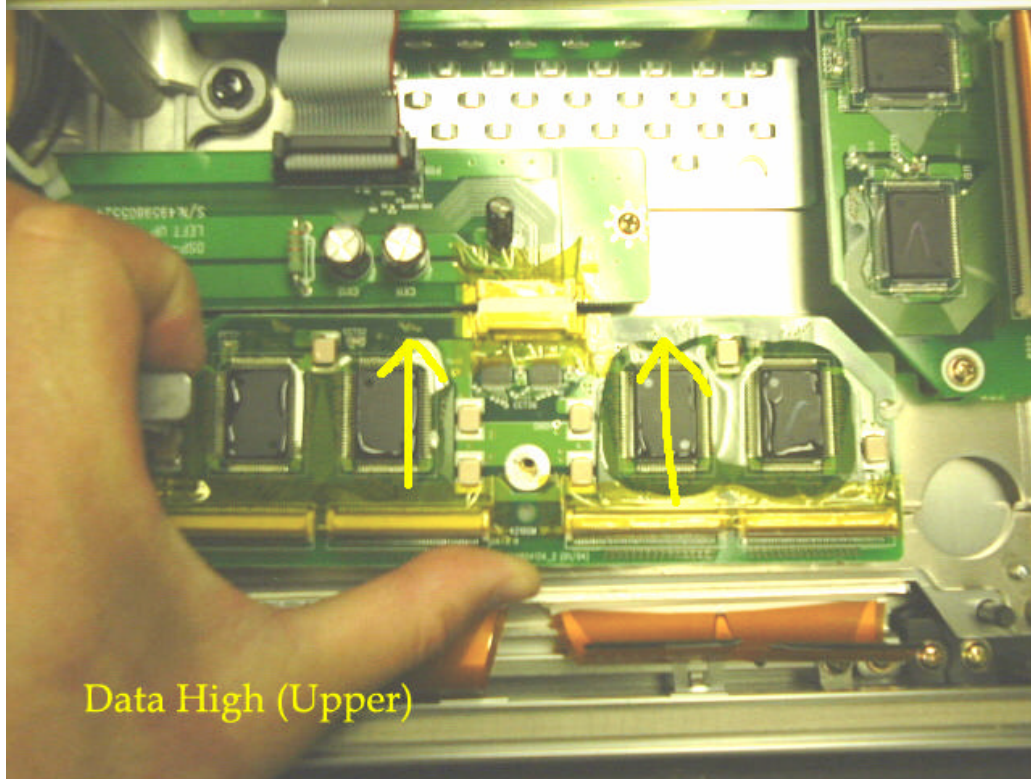
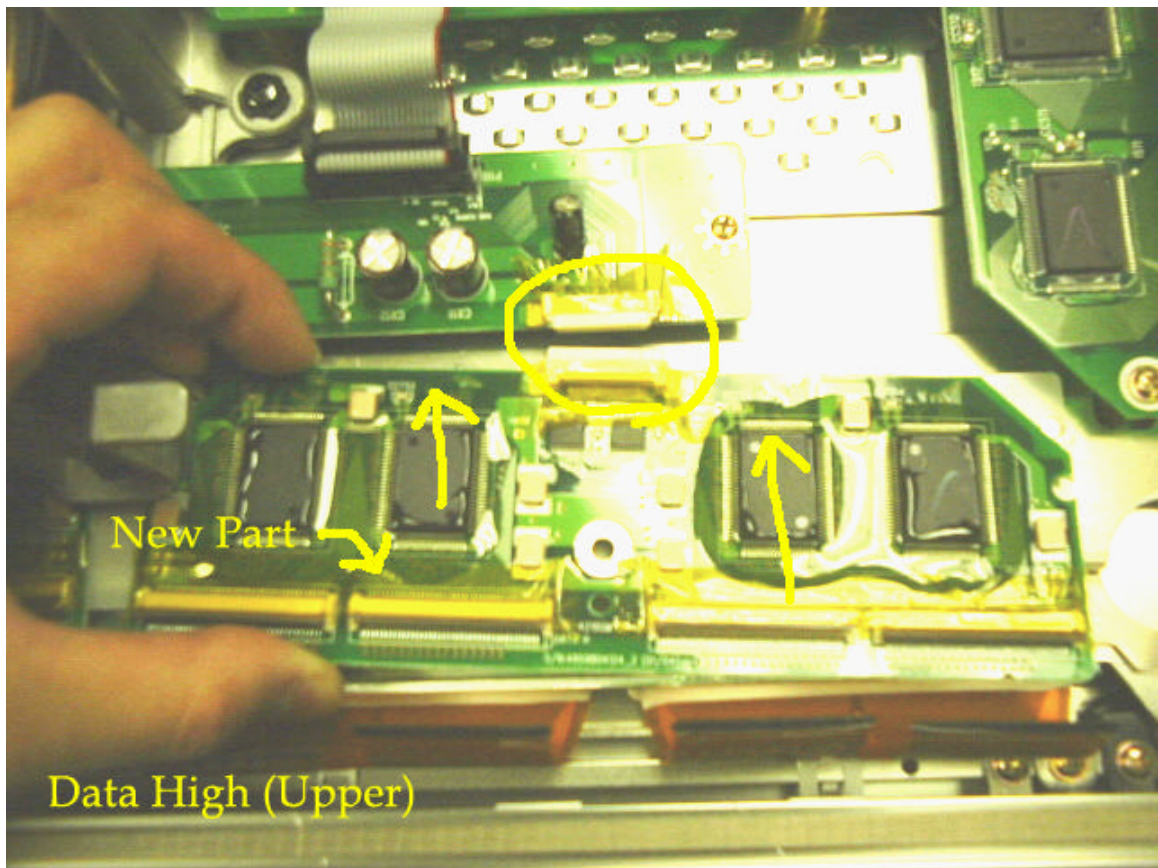
Step 12

Pull the data board and replace with new one.



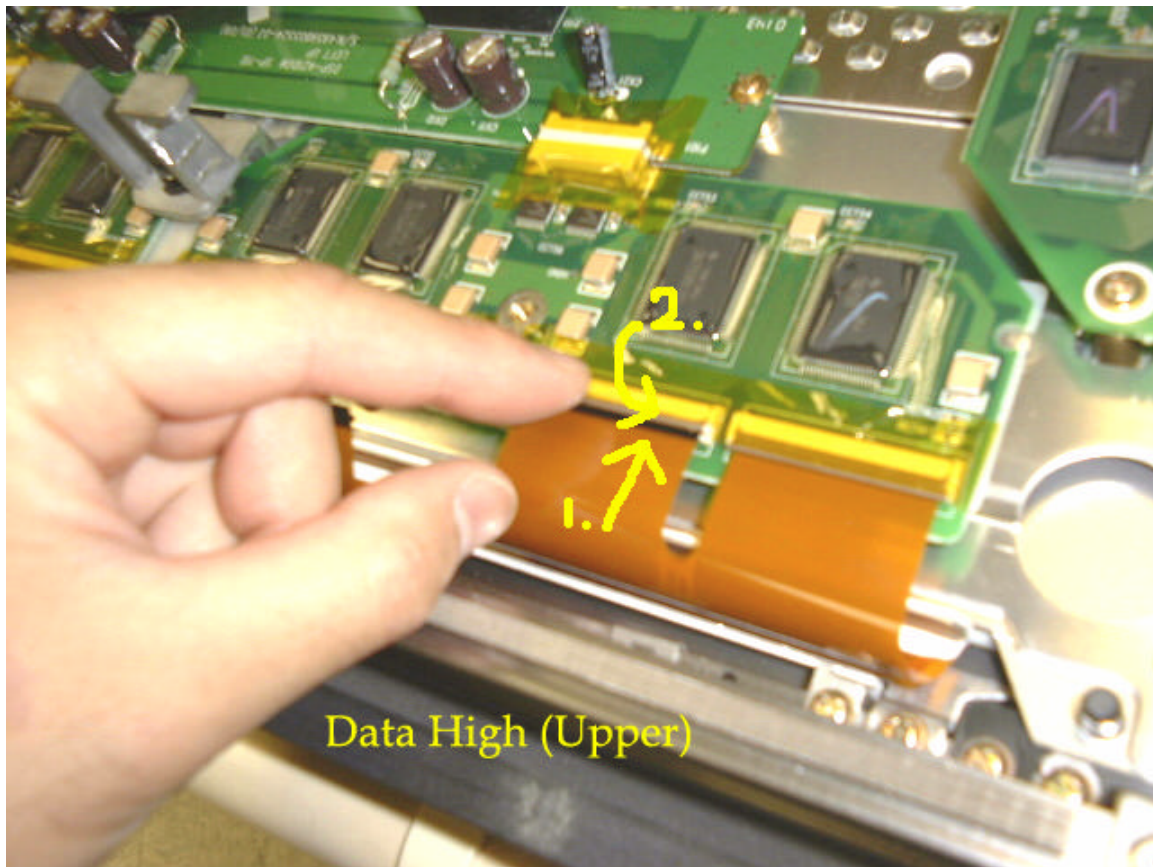
Step 13

Slide in the new board



Step 14

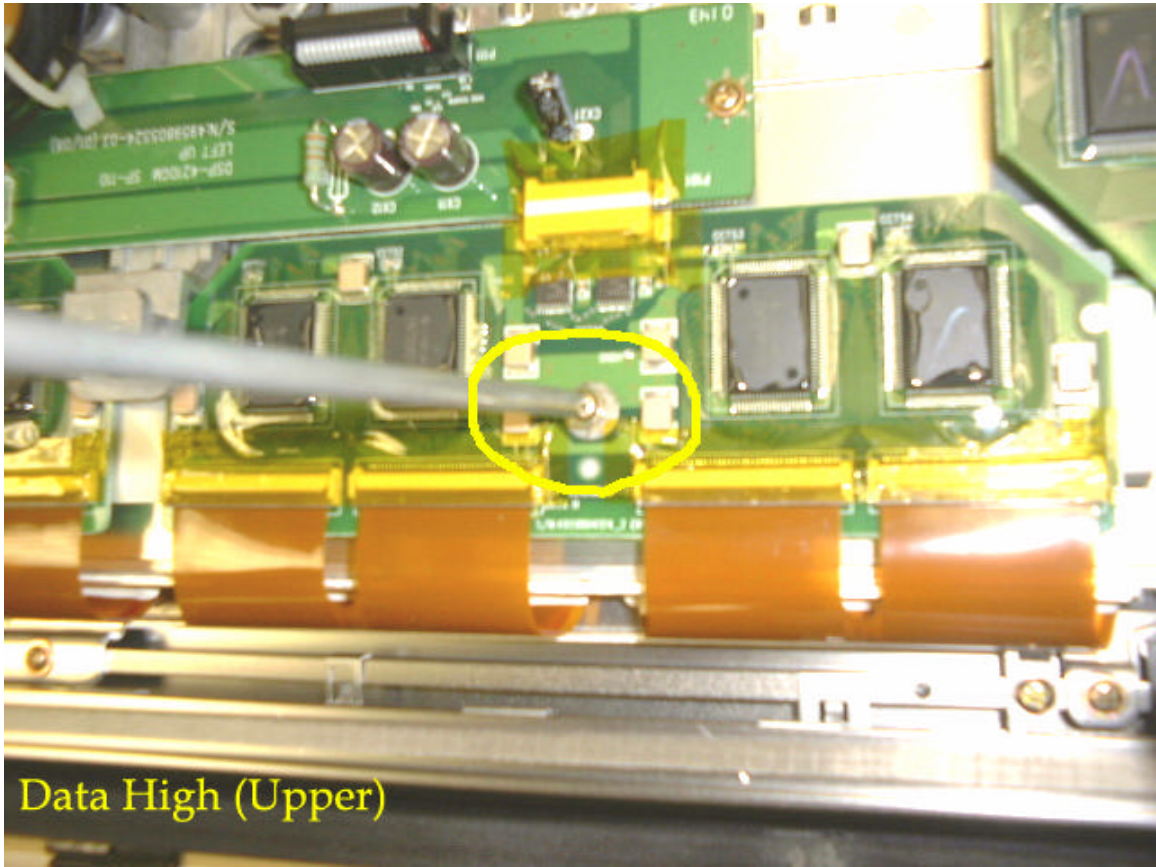
1. Push in the connector
2. Push down the clip.



**** Caution ****

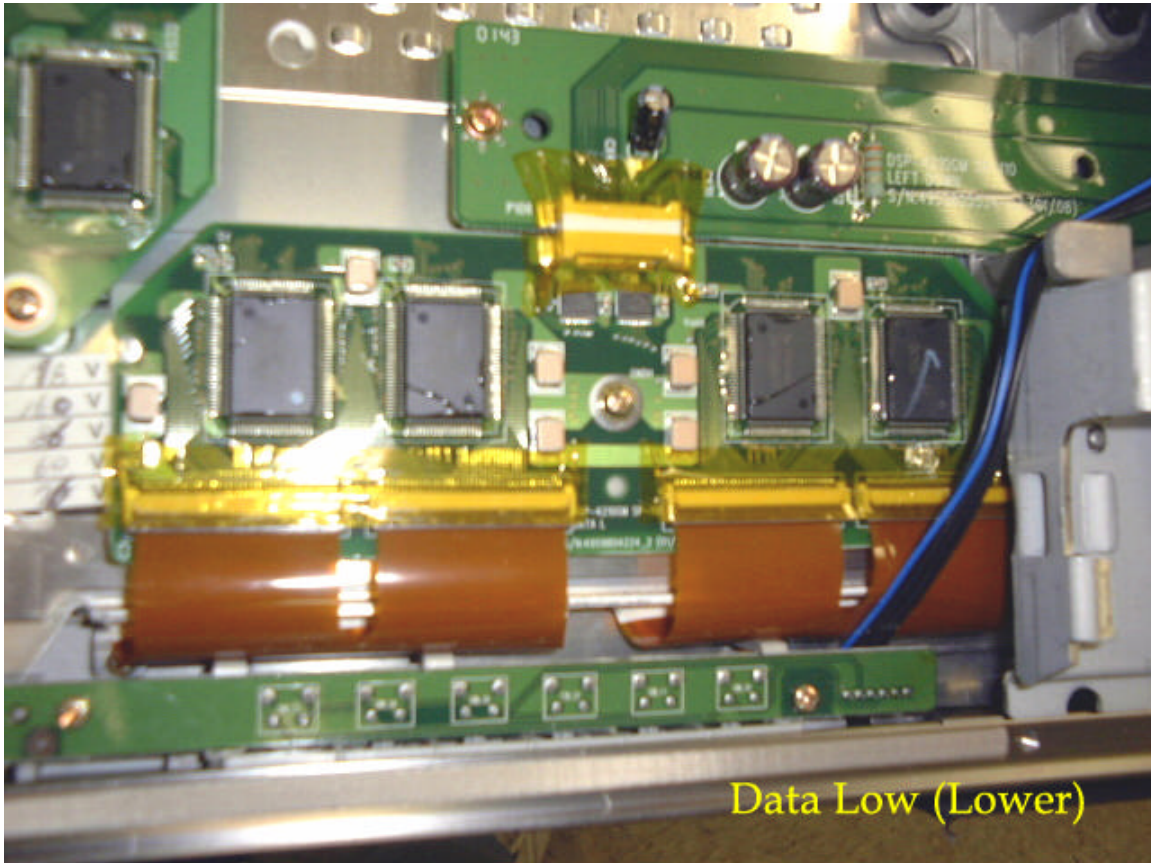
At the tip of the connector, there is a little hook. So lift a little and push in all the way, and then clip down.

Step 15
Screw in.



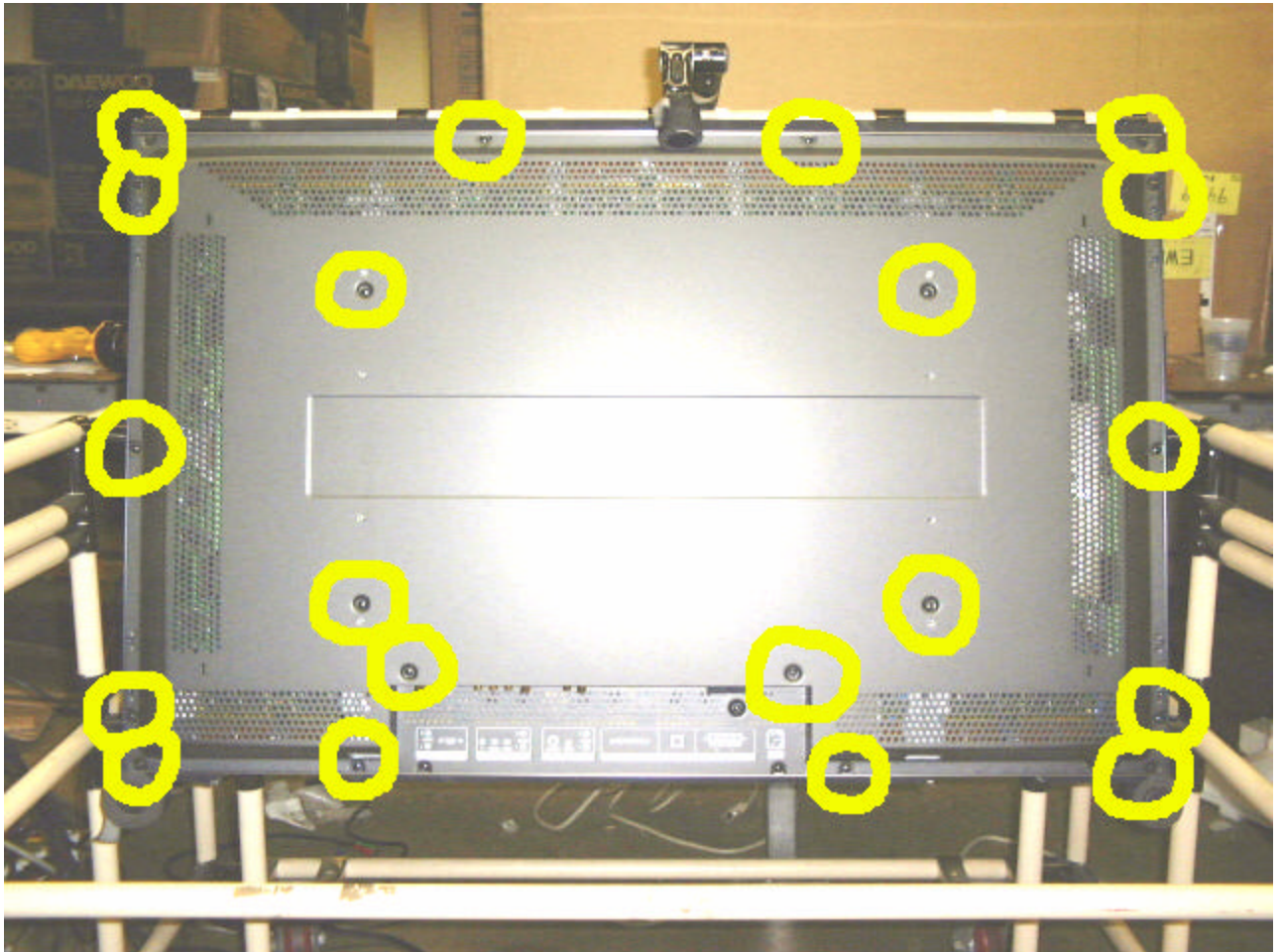
Step 16

Same technic is applied if you have to change the “Data Low (Lower)”



Step 17

Put back the back cover.



Please send back the Defected parts to the following address.

**Daewoo Electronics DTV Service.
120 Chubb Ave.
Lyndhurst, NJ 07071**

If you have any question?

**Call 1-800-Daewoo-8 (1-800-323-9668) or,
Email: service@daewoodigital.com**

How To Access Service Mode for Screen Control

1. Turn on the PDP.
2. Set up the PDP and a picture source. E.g. PDP and DVD are connected with component or composite connection.
3. Play any DVD and select a picture scene and pause it. When you select a picture scene, try to find a scene has bright (light source) spot and dark (shadow) spot in the same picture. (e.g. A little dark room with bright light comes through a window.)
4. Go into the "service menu" mode using your remote control.
(Press following order on your remote: Up -> Mute -> Recall -> Mute)
5. You will see the Following option on the center of the screen.

CXA2101AQ

VPC3230D

PW364

MSP3405P

PICTURE

Test Pattern

Factory

6. Highlight the option "PW364" by pressing "down" arrow.
7. Select the option by pressing "right" arrow.
8. You will see the following option.
S Brt
S Cont
R Bias
G Bias
B Bias
R Gain
G Gain
B Gain
9. "S Brt" is the Brightness and "S Cont" is the Contrasts.
10. Write down all the values on that screen and use this as a reference.
11. Highlight S Brt.
12. Change its value to "0" by press left arrow.
13. Highlight S Cont.
14. Change its value to "0" by press left arrow. (You will see almost nothing)

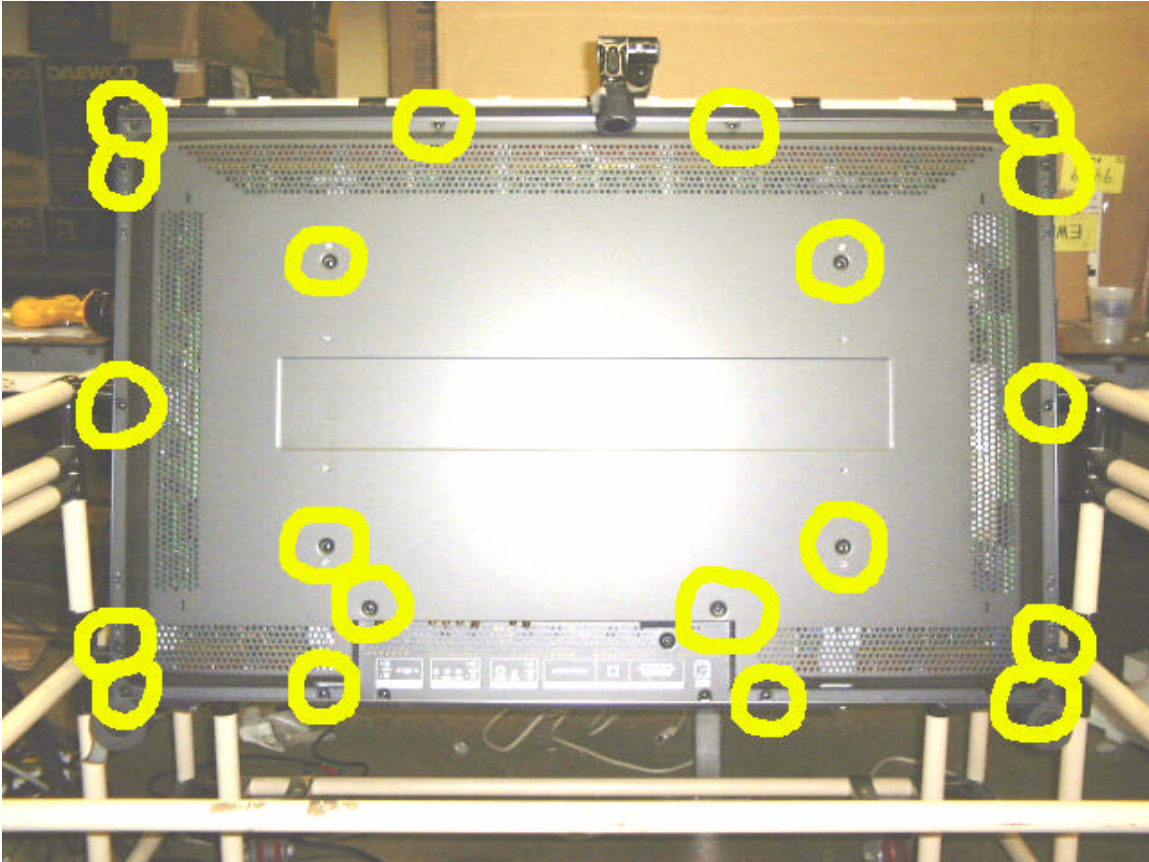
15. Increase "S Cont" value using "Right" arrow until you see the bright spot of the picture.
You still don't see the dark (shadow) spot of the screen but it is ok.
16. Highlight "S Brt" by pressing "up" arrow once.
17. Increase its value using "right" arrow until you see the dark (shadow) spot of the screen.
18. Exit the service menu by pressing "Exit" button twice.
19. Turn off the PDP and Turn on again.
20. Enjoy your PDP.

DSP-4210GM
Horizontal Data-board change procedure

Daewoo Electronics

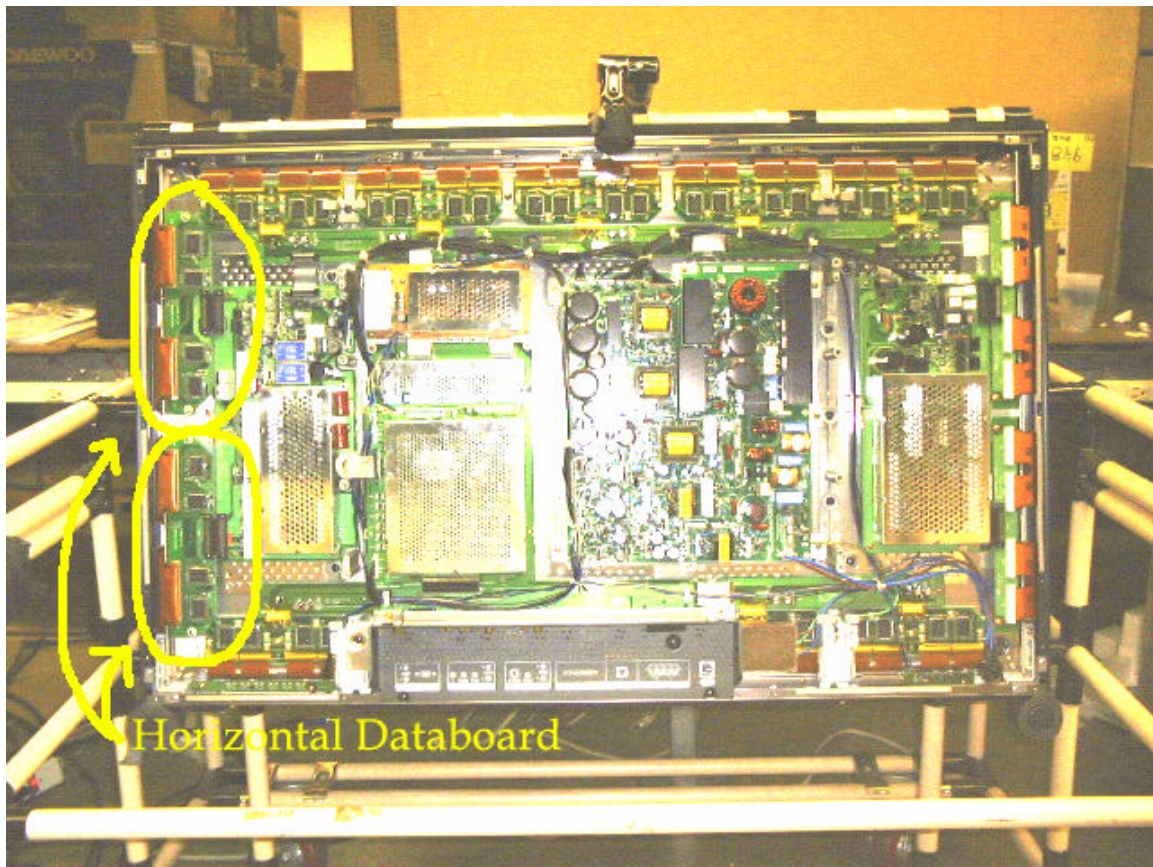
Step 1.

Un-screw the following locations.



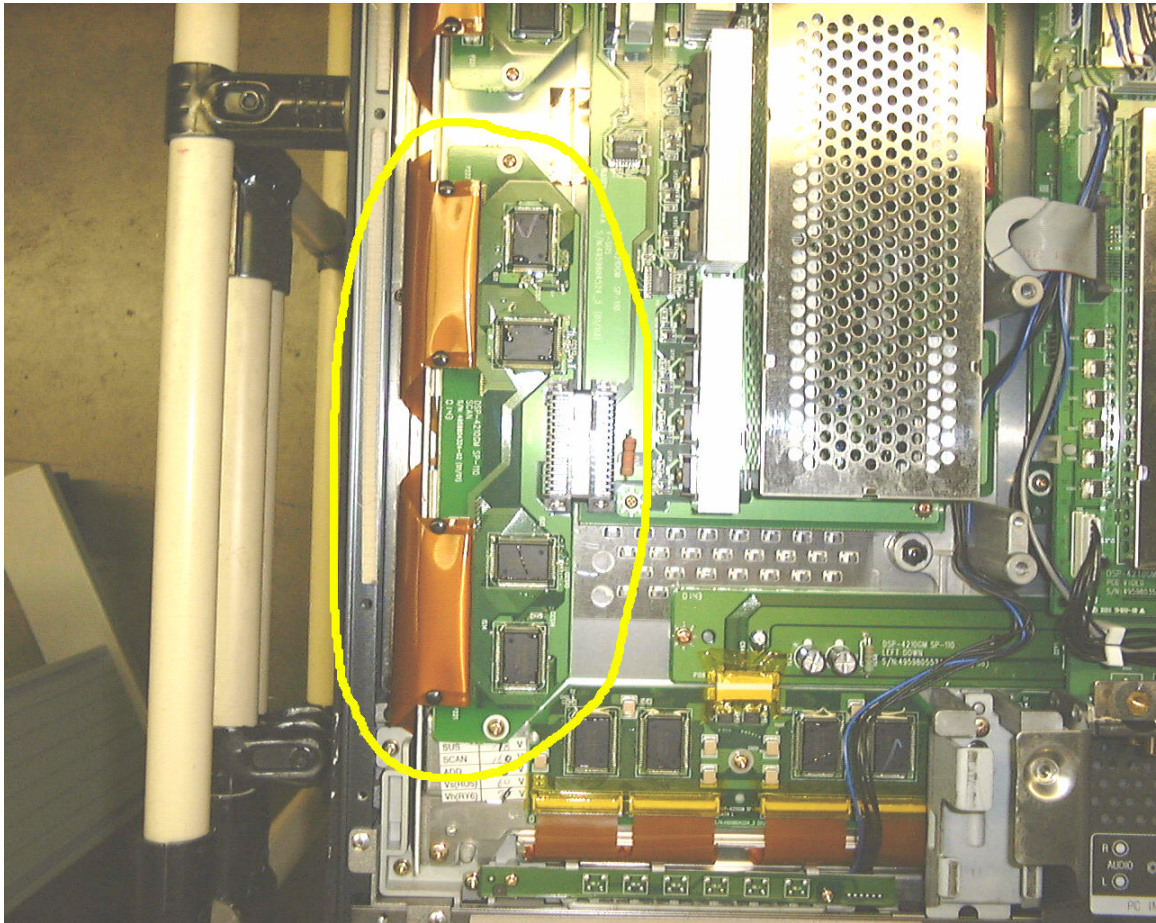
This is backside of PDP. The circled locations are where the screws in order to take off the back panel.

Step 2
Inside look of PDP

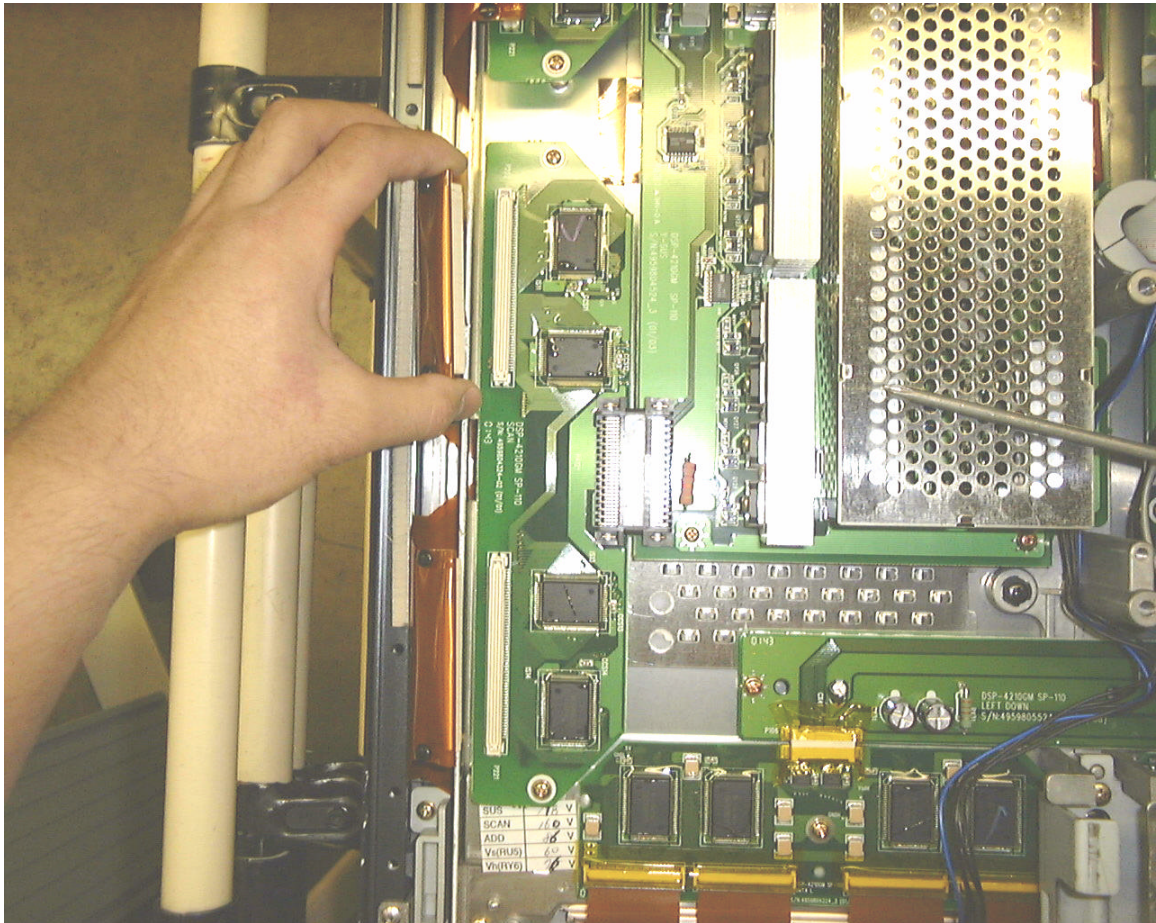


Step 3

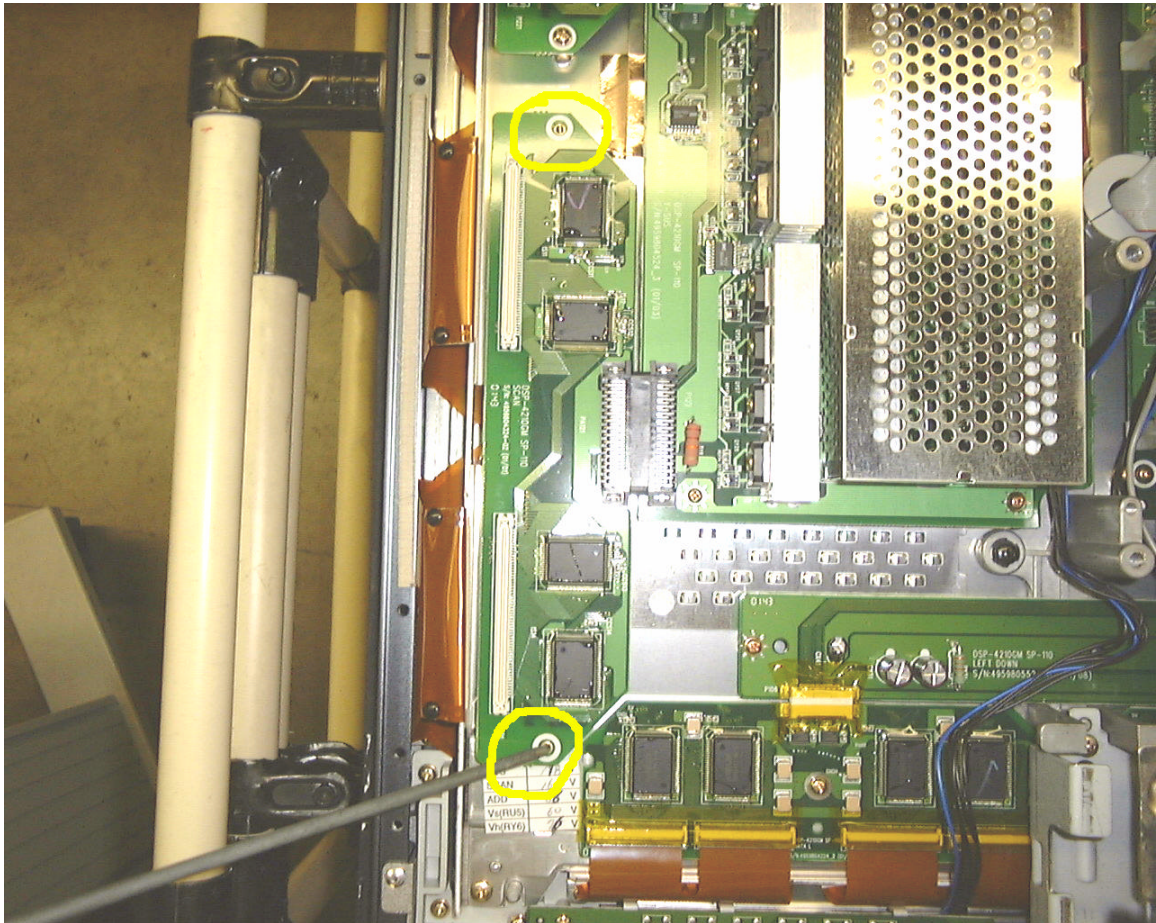
Horizontal Data board (Showing bottom one for example)



Step 4
Pull out the 2 connectors.

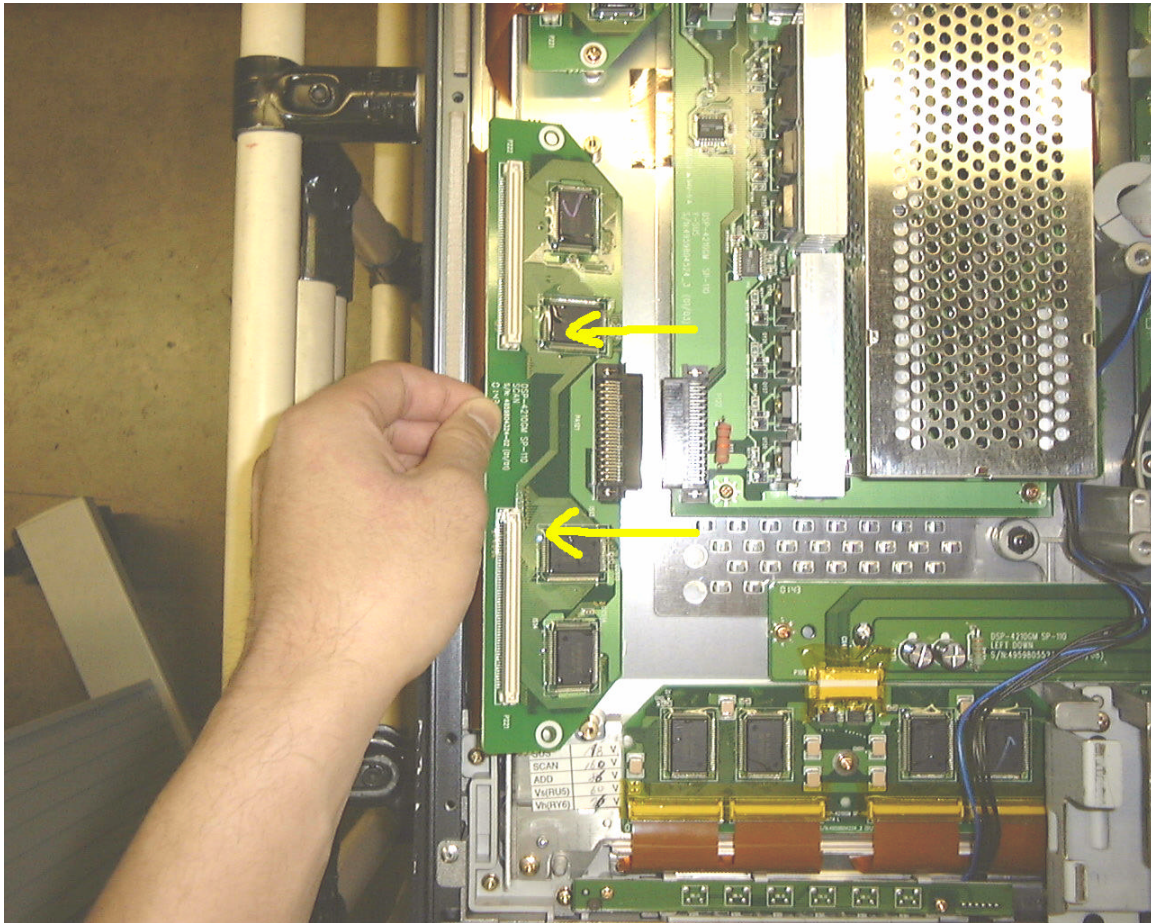


Step 5
Unscrew 2 positions



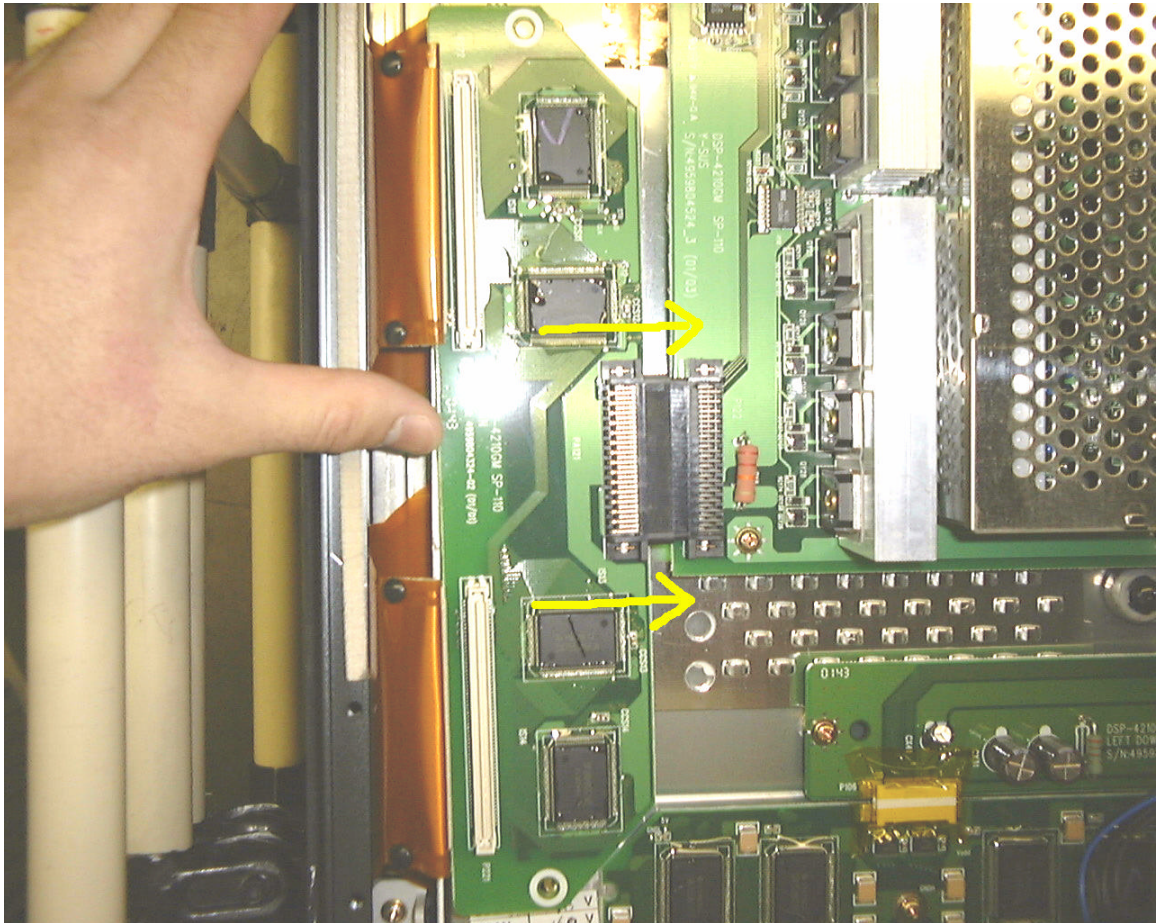
Step 6

Slide and disconnect the board from main unit.



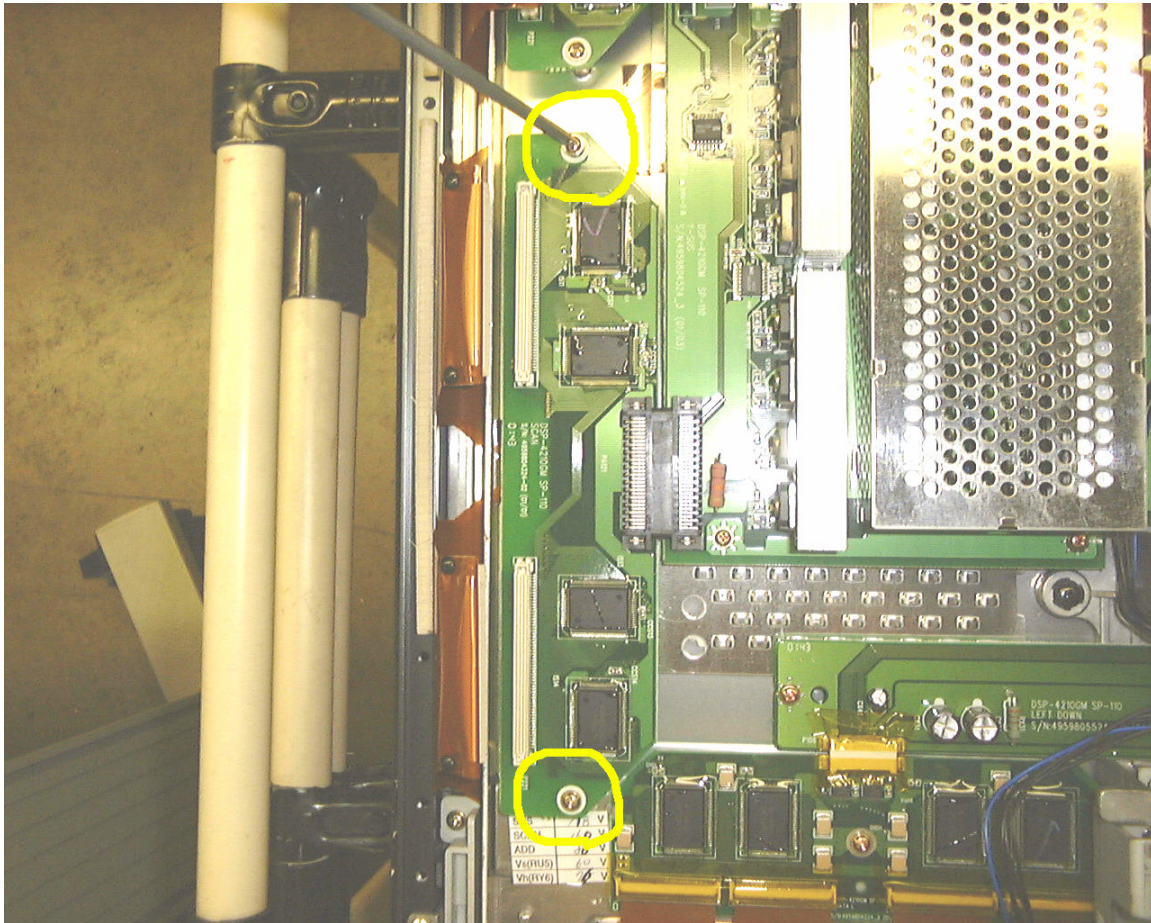
Step 7
Slide in the new board.

Step 7
Slide in the new board.

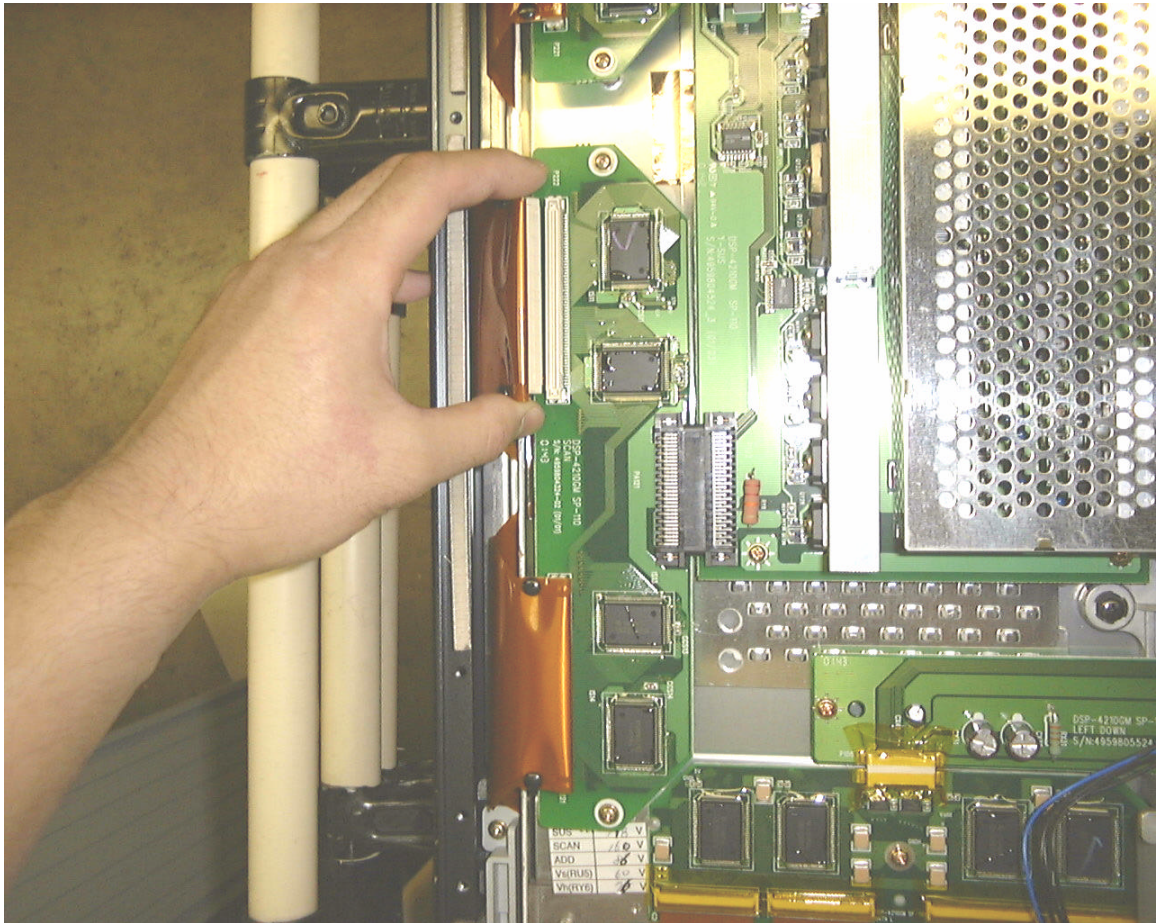


Step 8
Screw in the 2 screws in the position

Step 8
Screw in the 2 screws in the position

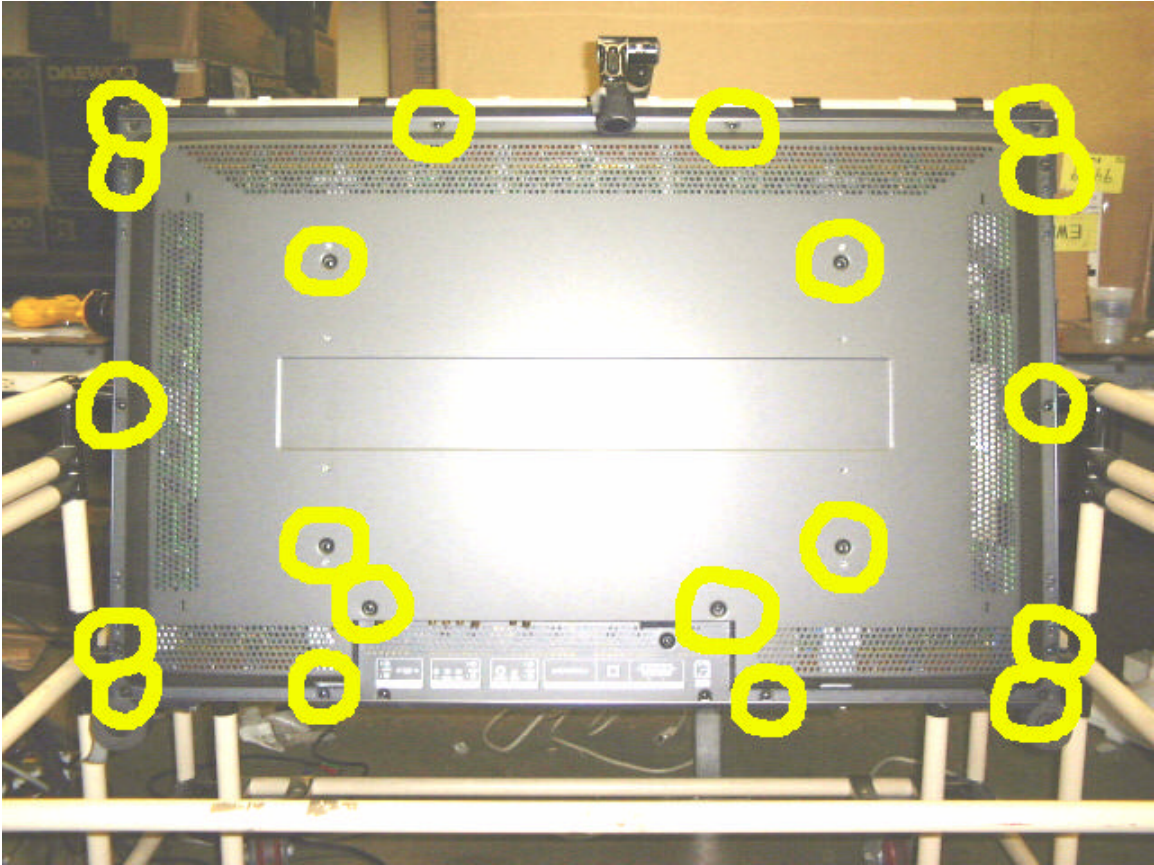


Step 9
Put in the data connector.



Step 10

Cover the back panel and screw in those positions.



Step 11

Please send back to us the unused and defected part.

Please mark which one is unused and defected.

Address:

**Daewoo Electronics Research Center
120 Chubb Ave.
Lyndhurst, NJ 07071**

Phone Number

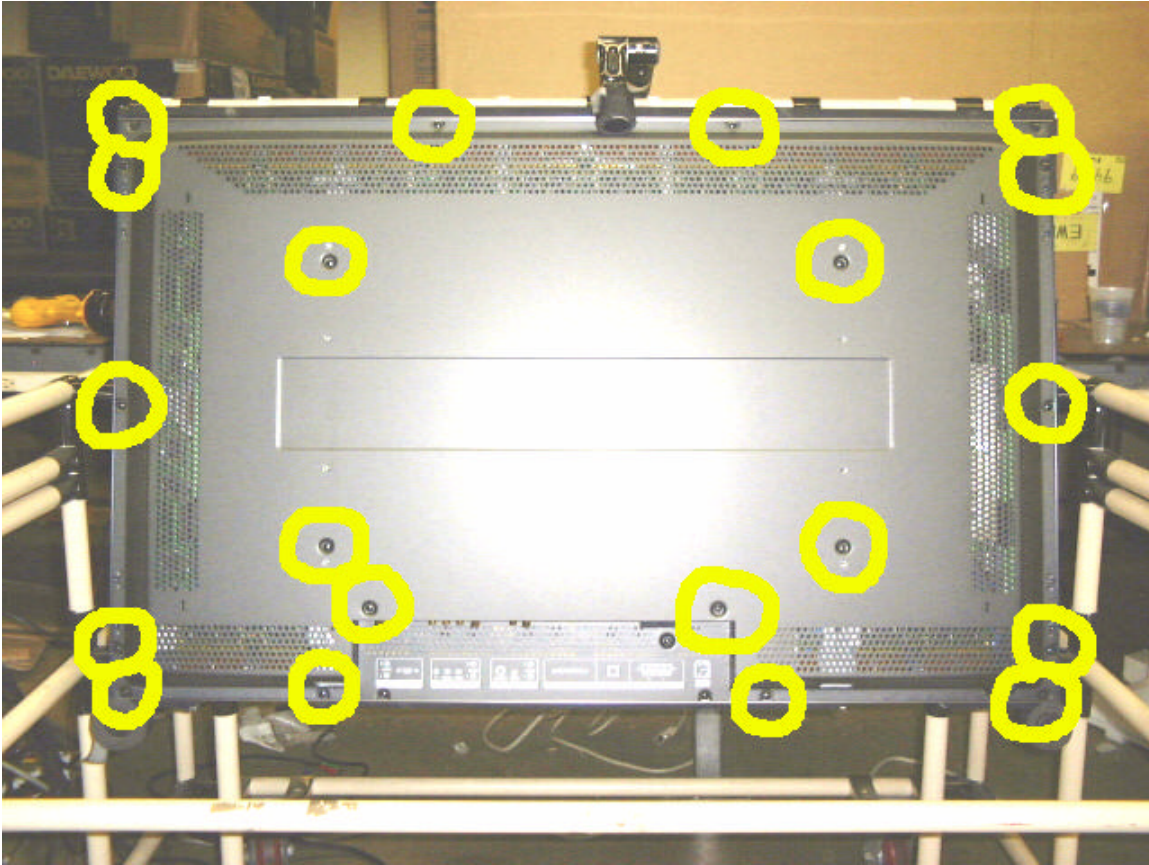
201-964-9349

DSP-4210GM
Data board change procedure
(When multiple thin lines occur in-group)

Daewoo Electronics

Step 1.

Un-screw the following locations.



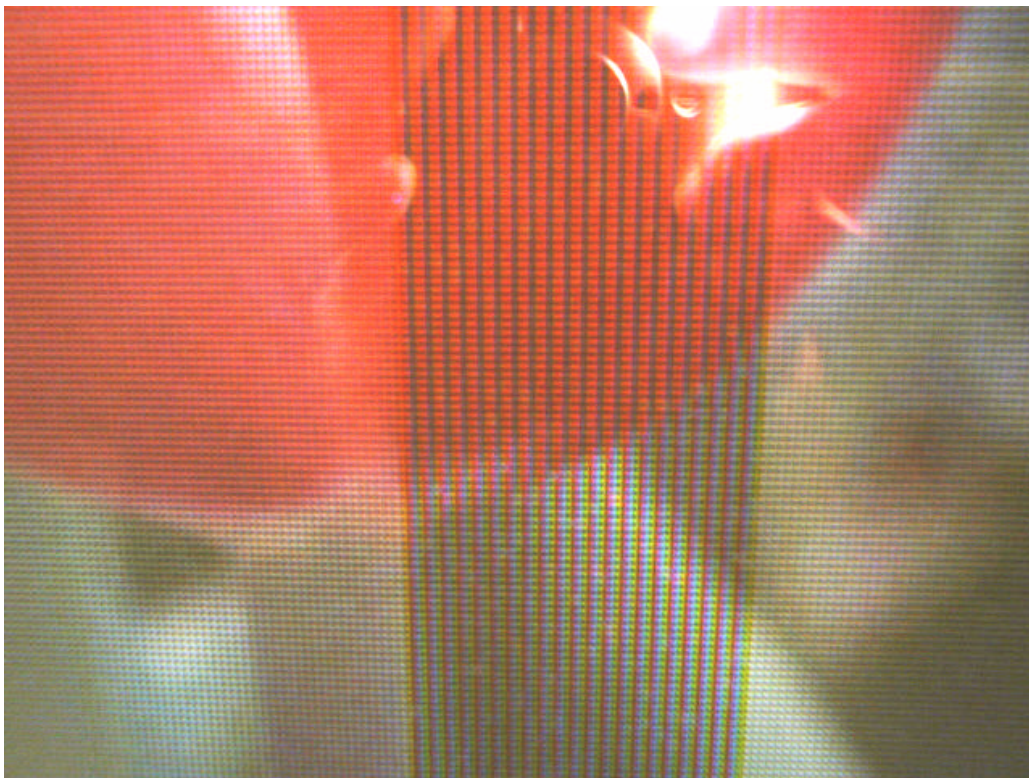
This is backside of PDP. The circled locations are where the screws in order to take off the back panel.

Step 2

Look for the position of the lines occur.



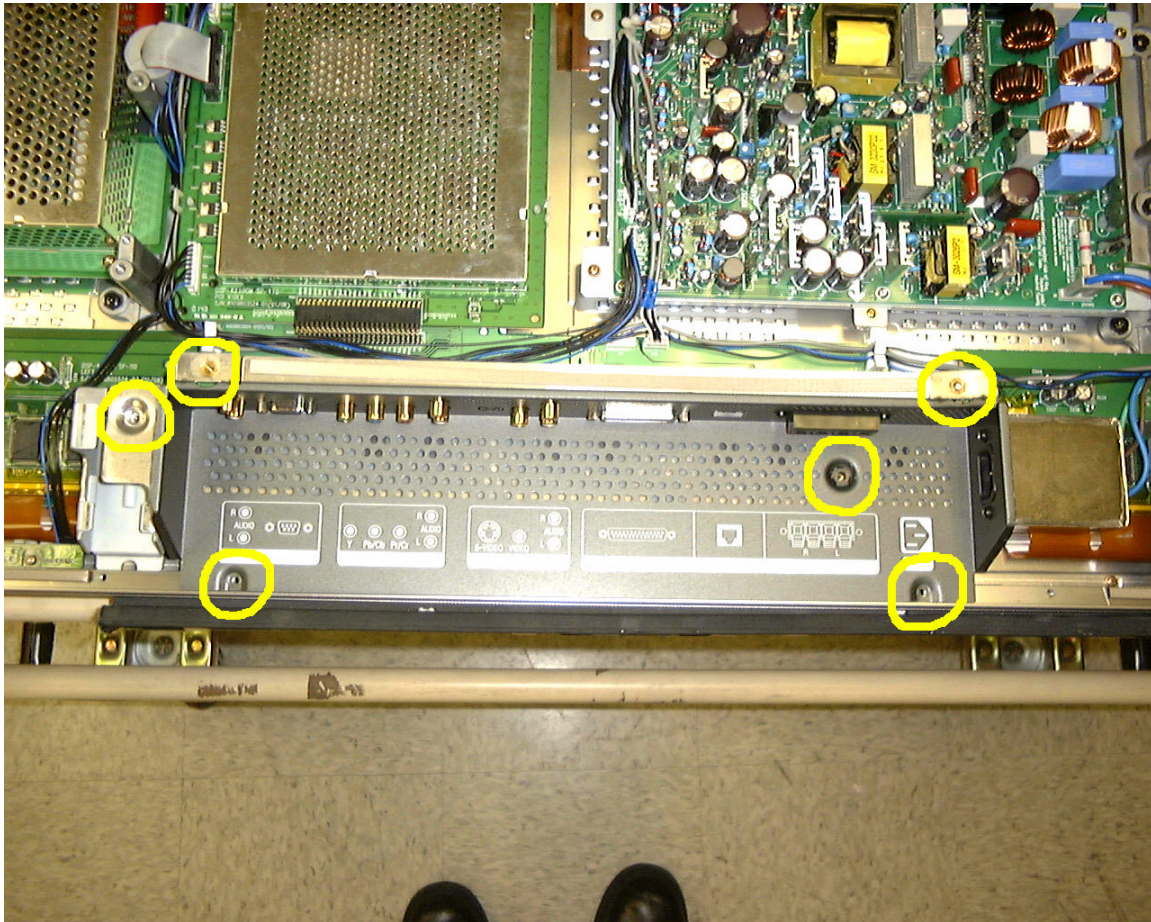
Close Look



If the lines occur in the middle of screen, disassemble the connector part.

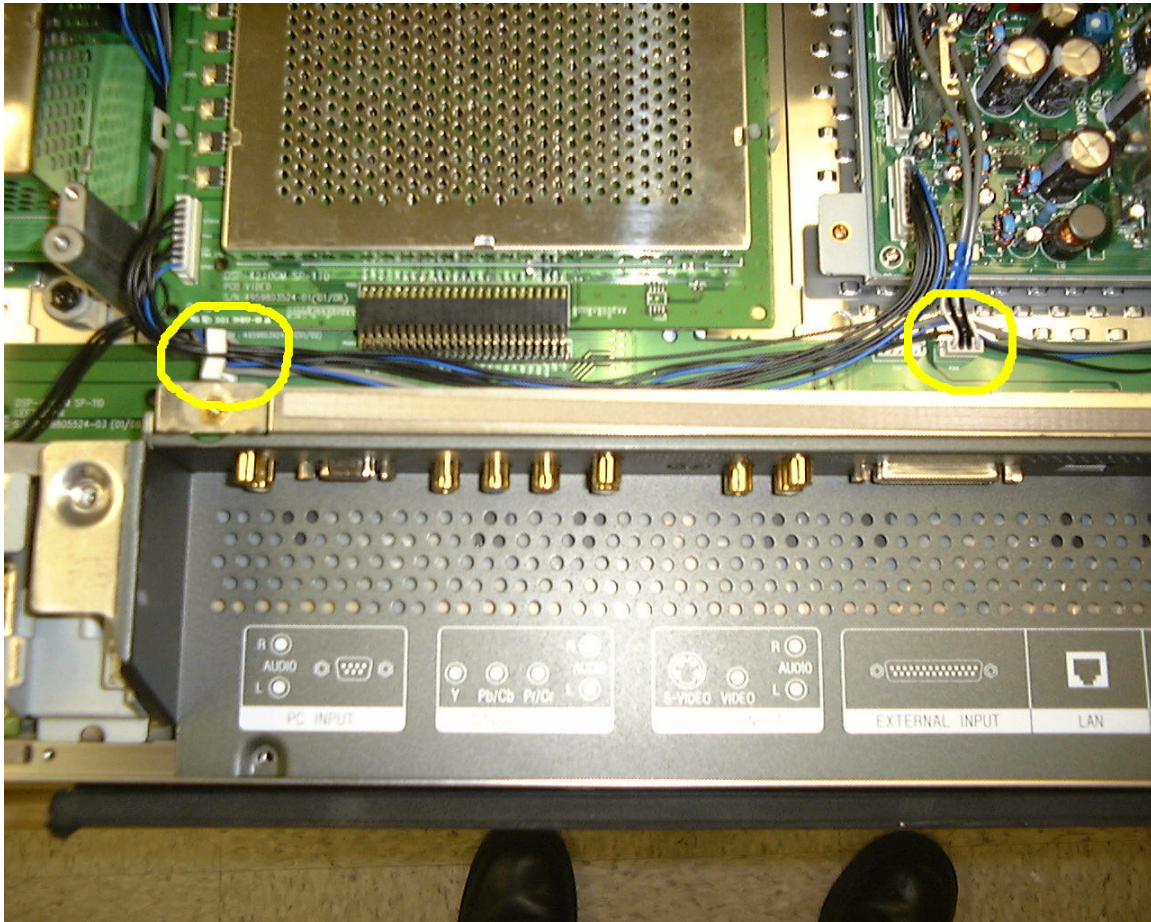
Step 3.

Unscrew those positions.

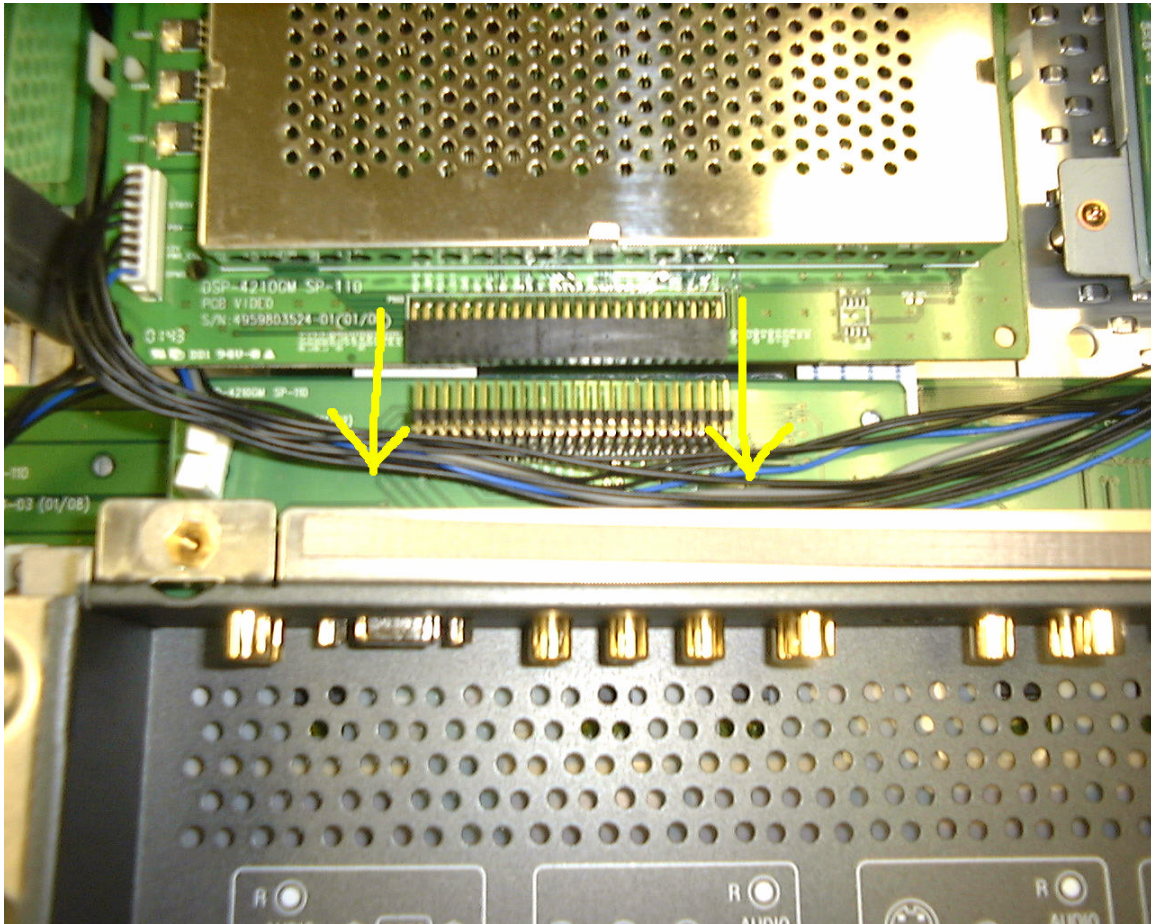


Step 4

Take out the wires and the connector.



Step 5.
Slide out the input connector consol.

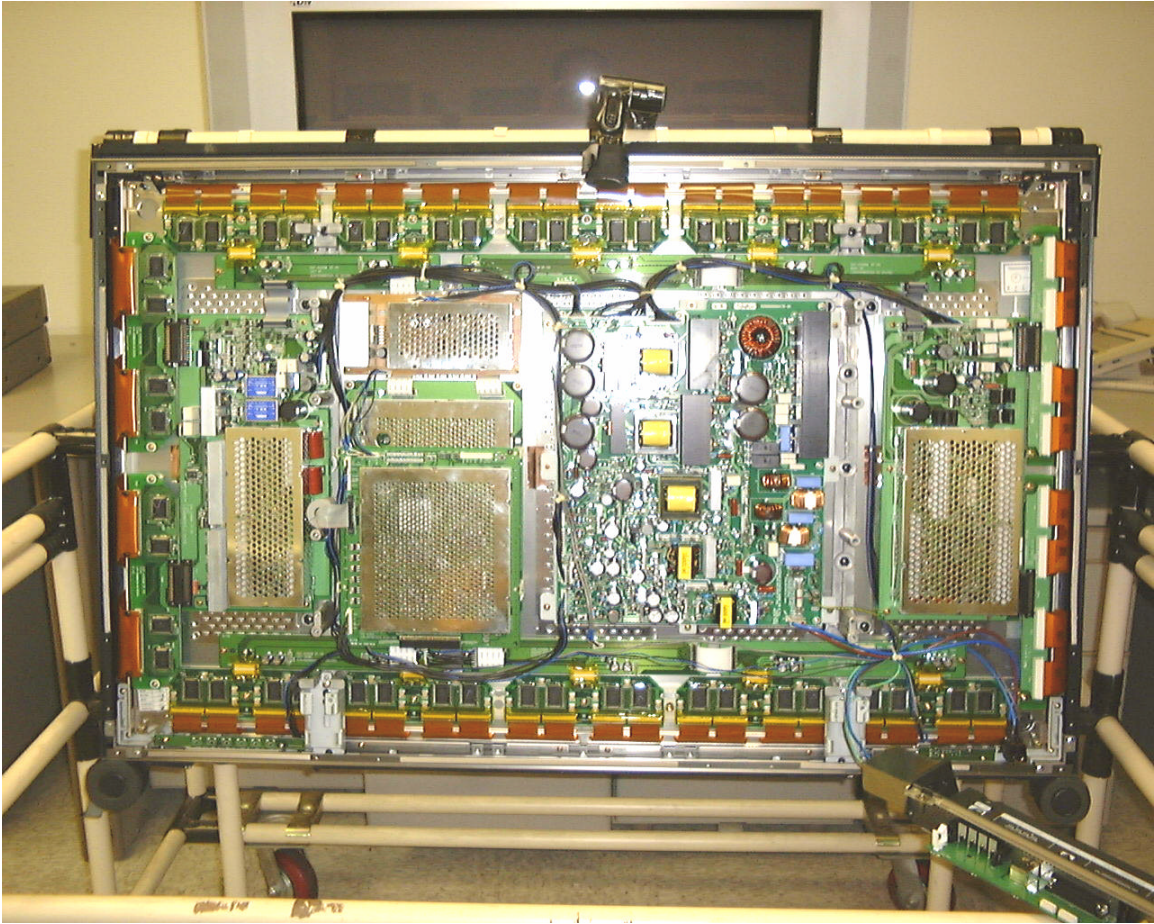


**** Note ****

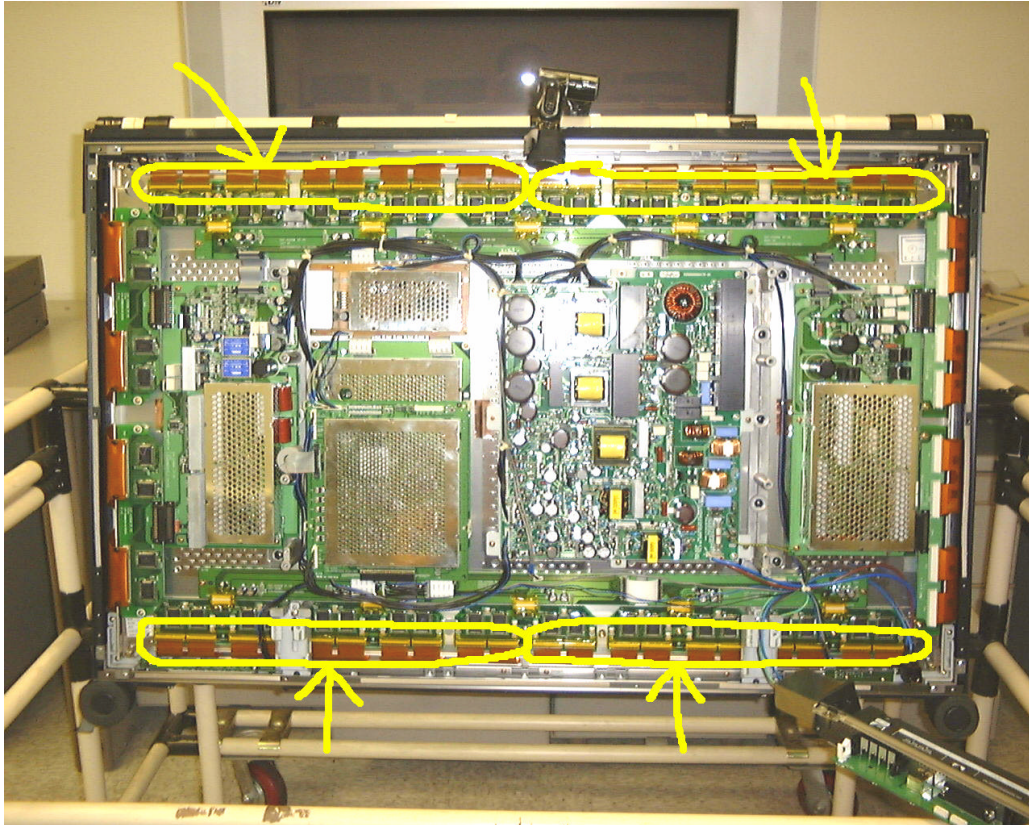
Input connecting consol is still connected with power cable. Therefore, Do not pull the consol to get completely separate from the main unit.

Step 6.

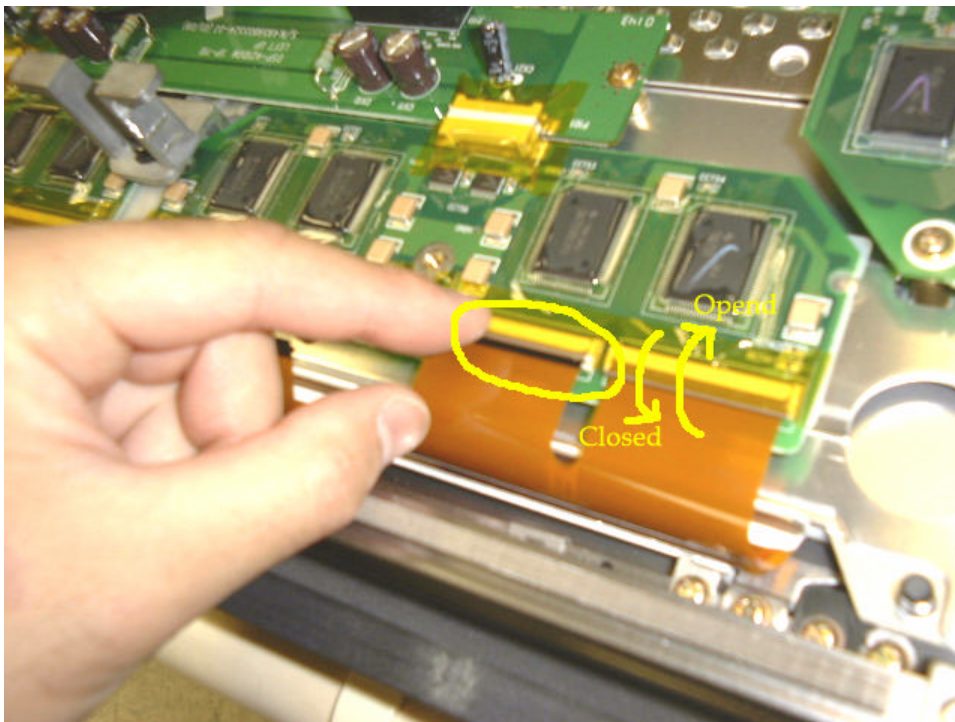
Picture after input connecting consol is detached.



Step 7.
Check if any connection is loosed.



Close Look



If there is no connector that is loosed, change data-board.

Step 7.

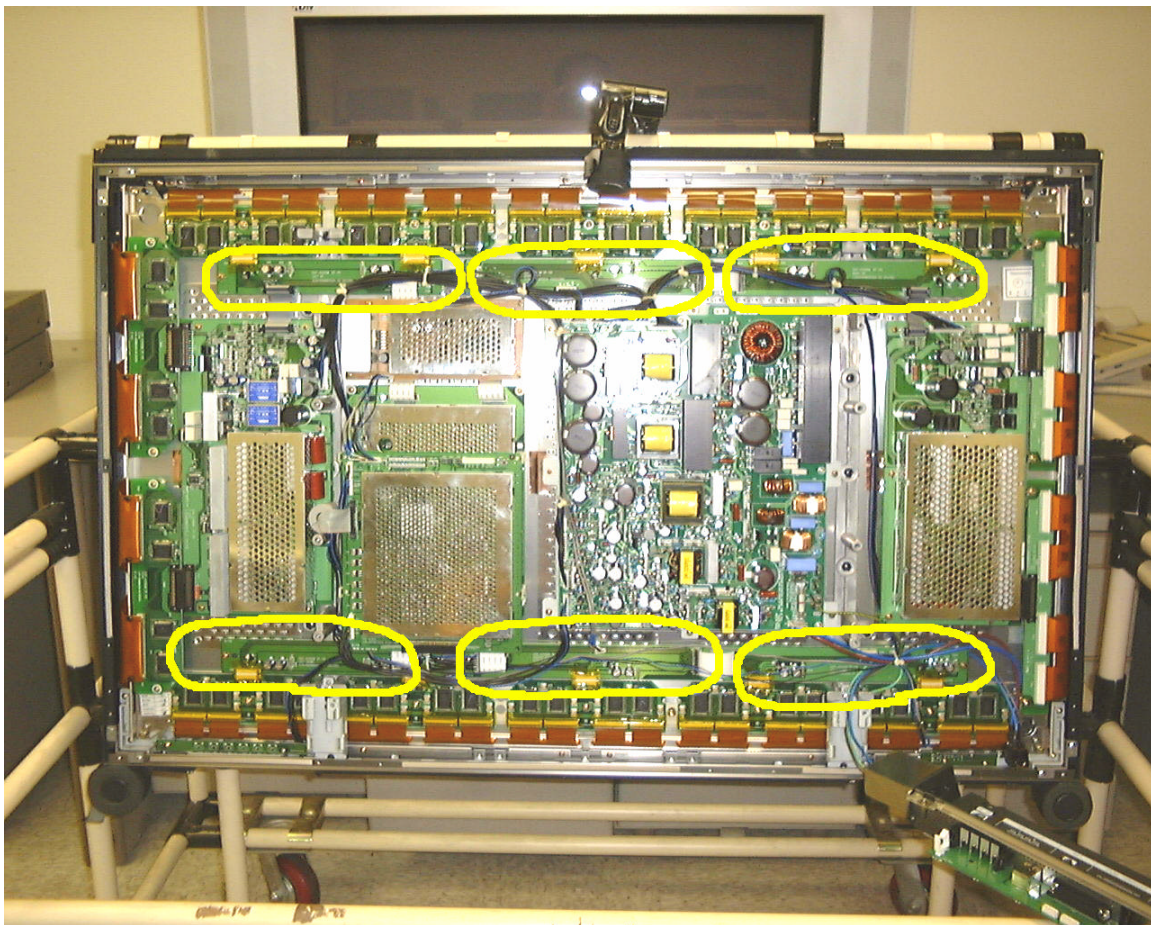
Change Data-board.

See Data-board Change procedure.

Step 8.

Changing Data-board controller. (Step 8 ~ Step ??)

Location of Data-board Controller

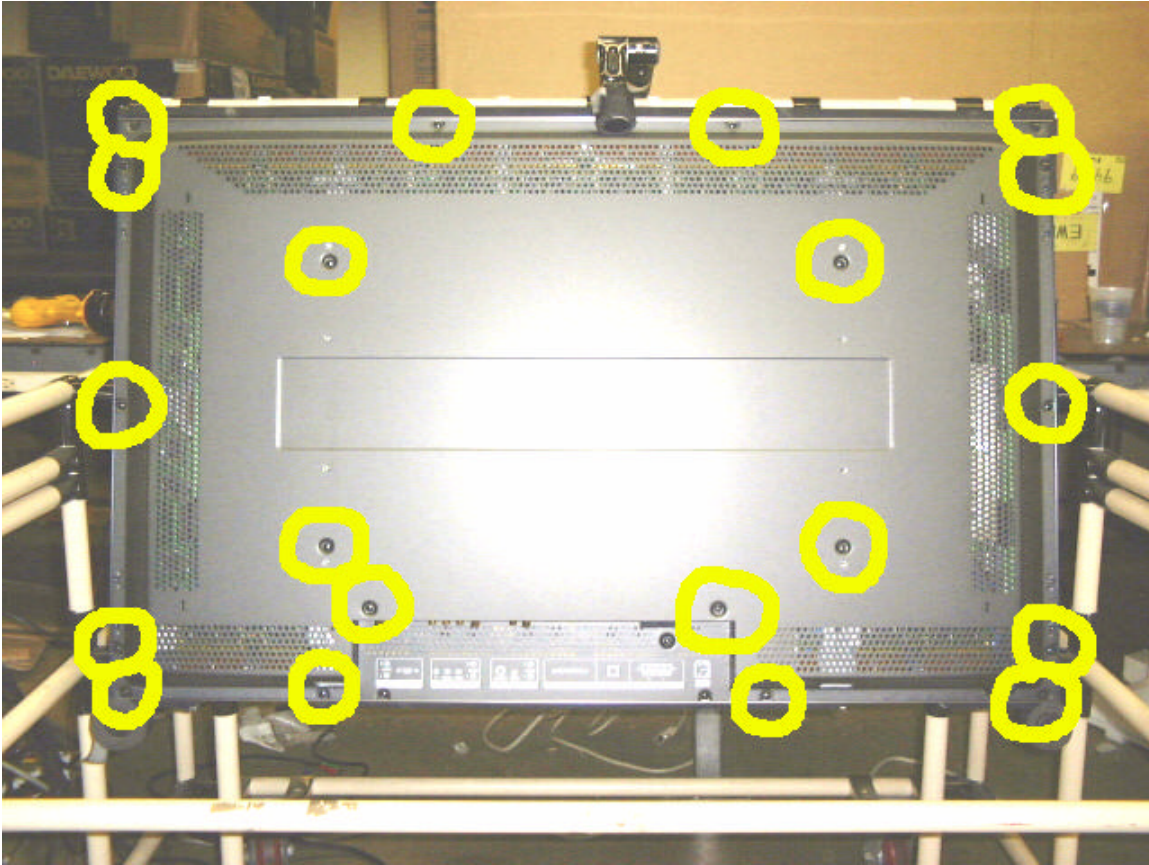


DSP-4210GM
Video board change procedure
(Analog/Digital)

Daewoo Electronics

Step 1.

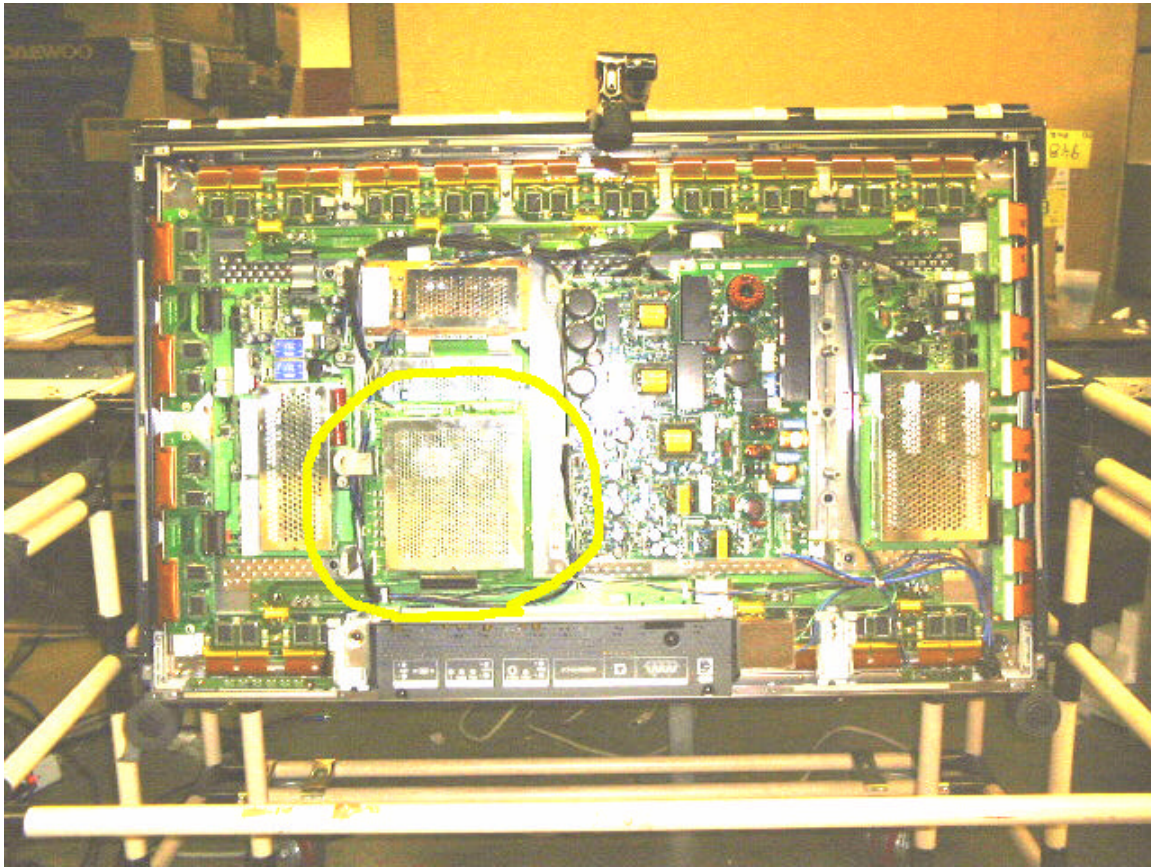
Un-screw the following locations.



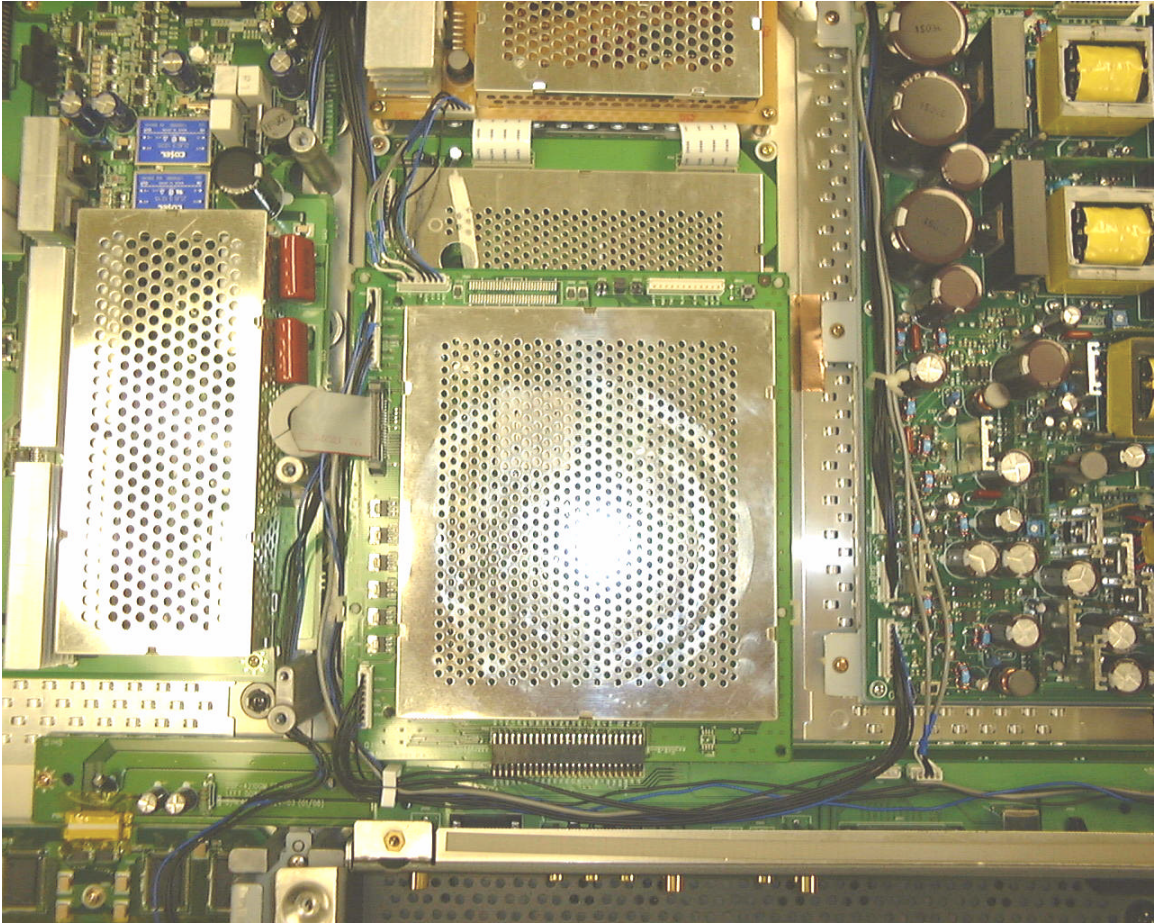
This is backside of PDP. The circled locations are where the screws in order to take off the back panel.

Step 2

Video Board. Analog video board (top), Digital video board (bottom).

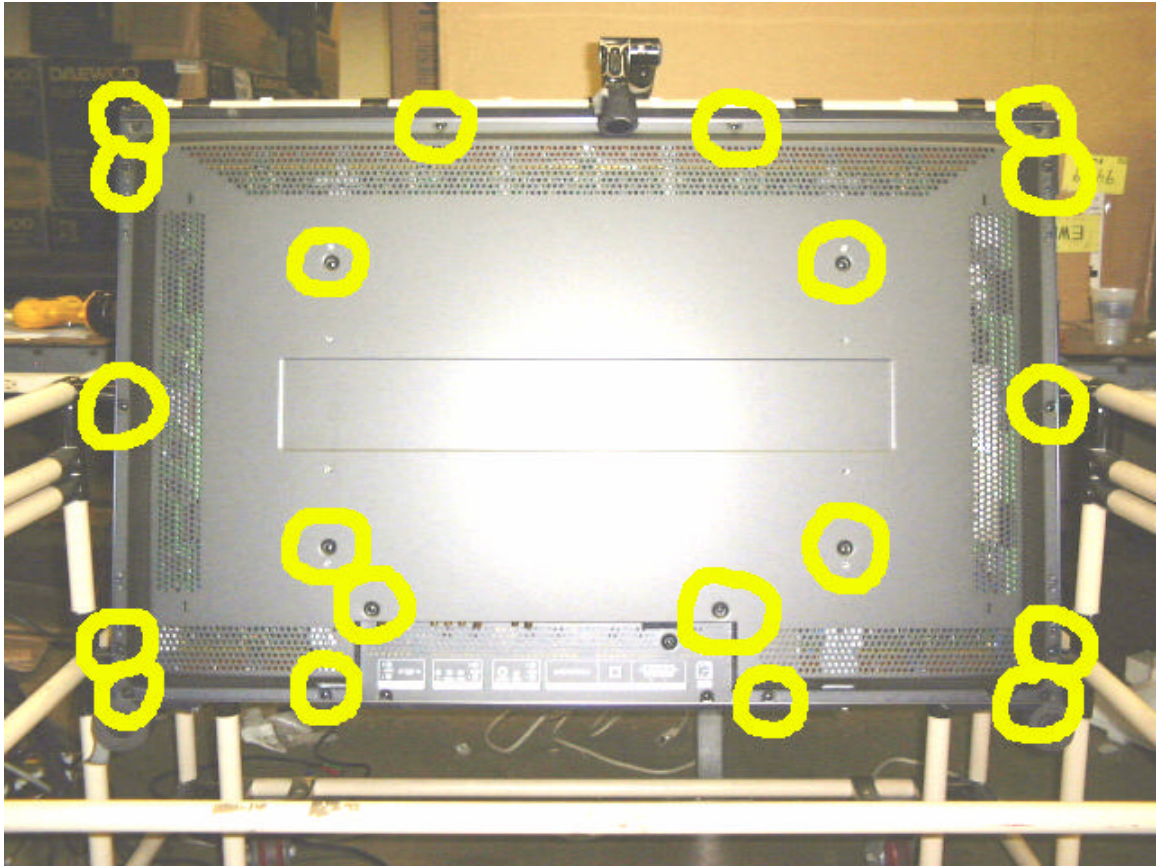


Step 3



Step 10

Cover the back panel and screw in those positions.



Step 11

Please send back to us the unused and defected part.

Please mark which one is unused and defected.

Address:

**Daewoo Electronics Research Center
120 Chubb Ave.
Lyndhurst, NJ 07071**

Phone Number

201-964-9349