PDP-TELEVISION

Chassis : F31A(P_Europe_HD)_Calla
Model : PS42Q91HX/XEH
PS50Q91HX/XEH

SERVICE Manual

PDP-TELEVISION

PS-42Q91H
PS-50Q91H

CONTENTS

Refer to the service manual in the GSPN (see the rear cover) for the more information.

GSPN (Global Service Partner Network)

Area	Web Site
North America	service.samsungportal.com
Latin America	latin.samsungportal.com
CIS	cis.samsungportal.com
Europe	europe.samsungportal.com
China	china.samsungportal.com
Asia	asia.samsungportal.com
Mideast & Africa	mea.samsungportal.com

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Table of Contents

4. Troubleshooting

4-1 Troubleshooting

4-1-1 First Checklist for Troubleshooting

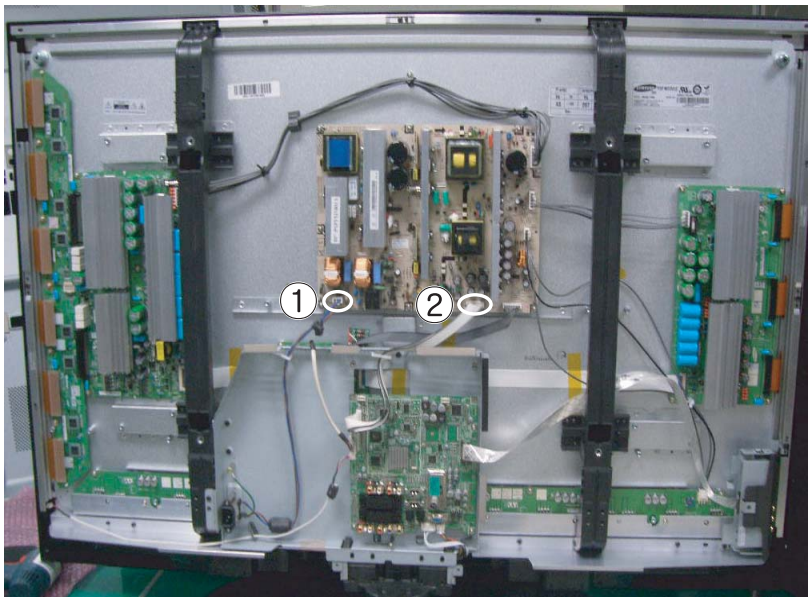
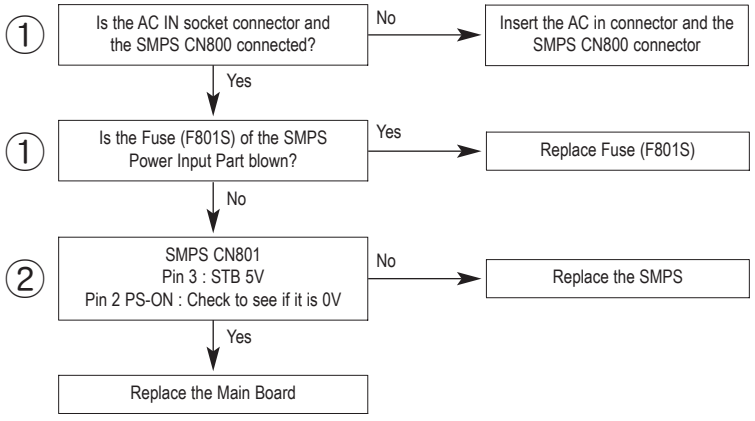
1. Check the various cable connections first.
   - Check to see if there is a burnt or damaged cable.
   - Check to see if there is a disconnected or loose cable connection.
   - Check to see if the cables are connected according to the connection diagram.

2. Check the power input to the Main Board.

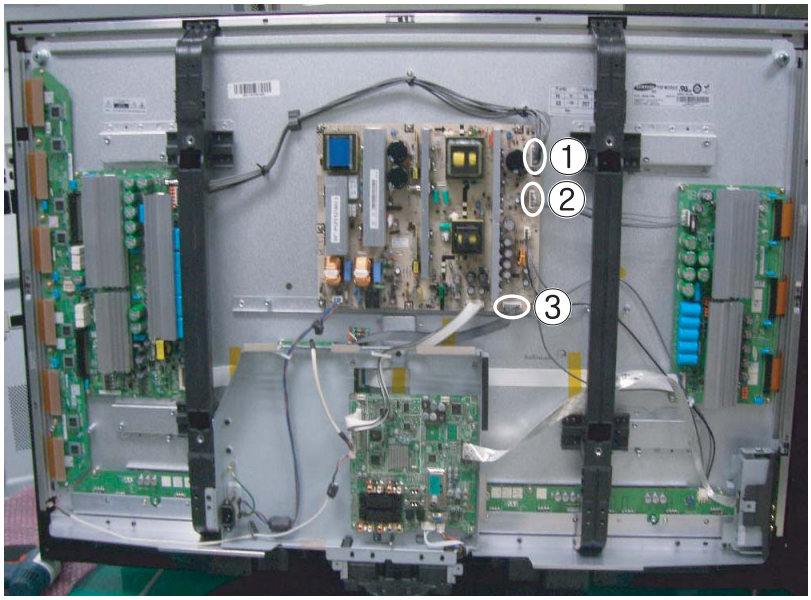
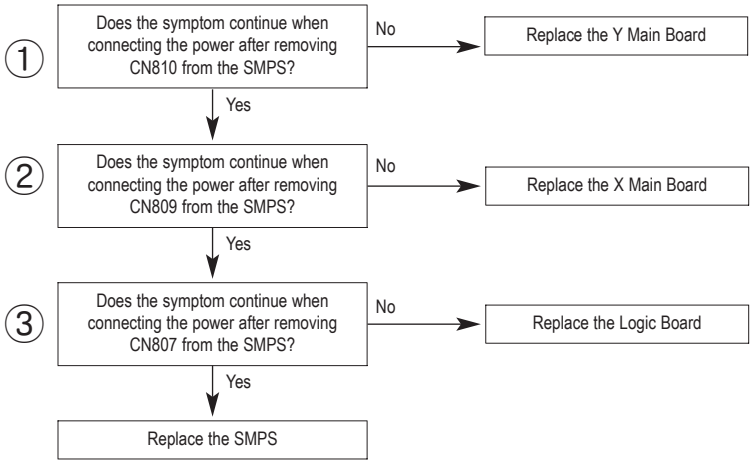
3. Check the voltage in and out between the SMPS ↔ Main Board, between the SMPS ↔ X, Y Main Board, and between the Logic Boards.

4-1-2 Checkpoints by Error Mode

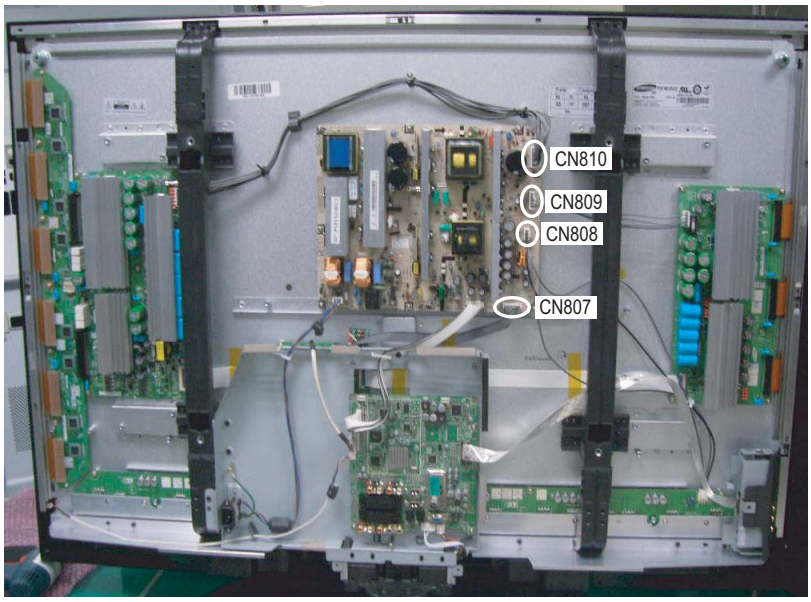
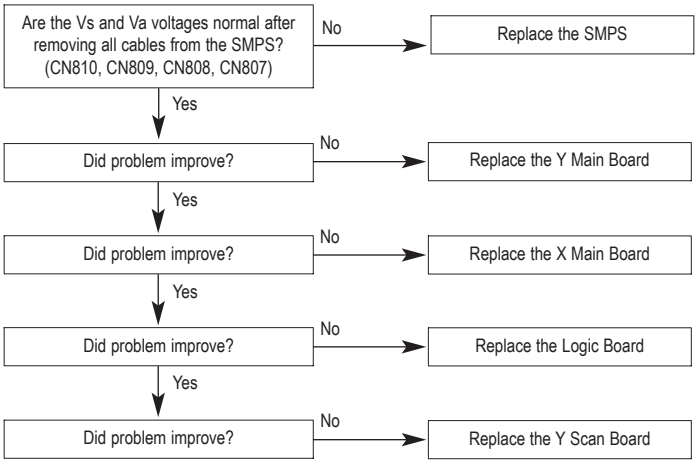
■ No Power

Symptom	- The LEDs on the front panel do not work when connecting the power cord. - The SMPS relay does not work when connecting the power cord. - The unit appears to be dead.
Major Checklist	The SMPS relay or the LEDs on the front panel does not work when connecting the power cord if the cables are improperly connected or the Main Board or SMPS is not functioning. In this case, check the following: - Check the internal cable connection. - Check the fuses. - Check the output voltages of the SMPS. - Replace the Main Board.
Troubleshooting Procedures	 

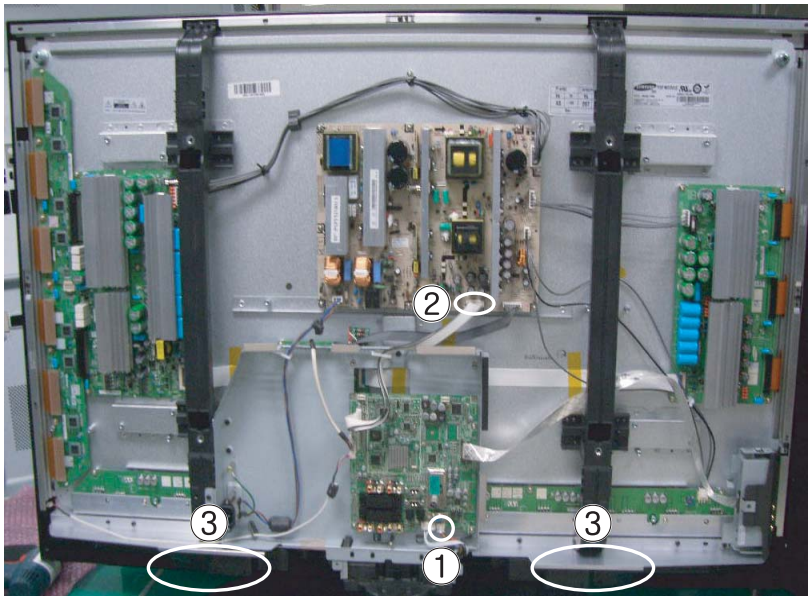
■ When the unit is repeatedly turning on and off

Symptom	- The SMPS relay is repeatedly turning on and off.
Major Checklist	In general, the SMPS relay repeatedly turns on and off by the protection function due to a defect on a board connected to the SMPS. - Disconnect all cables from the SMPS, operate the SMPS alone and check if the SMPS works properly and if each voltage output is correct. - If the symptom continues even when SMPS is operated alone, replace the SMPS. - If the symptom is not observed when operating the SMPS alone, find any defective assemblies by connecting the cables one by one.
Troubleshooting Procedures	 
Caution	WHEN SEPARATING AND CONNECTING THE CABLES SUCH AS CN810, CN809, CN808, CN807 OF THE MAIN SMPS, CN4701 OF THE X MAIN BOARD, AND CN5707 OF THE Y MAIN BOARD, A SPARK MAY BE GENERATED BY THE ELECTRIC CHARGE OF THE HIGH CAPACITY CAPACITOR. THEREFORE, WAIT SOME TIME AFTER DISCONNECTING THE POWER CORD FROM THE UNIT.

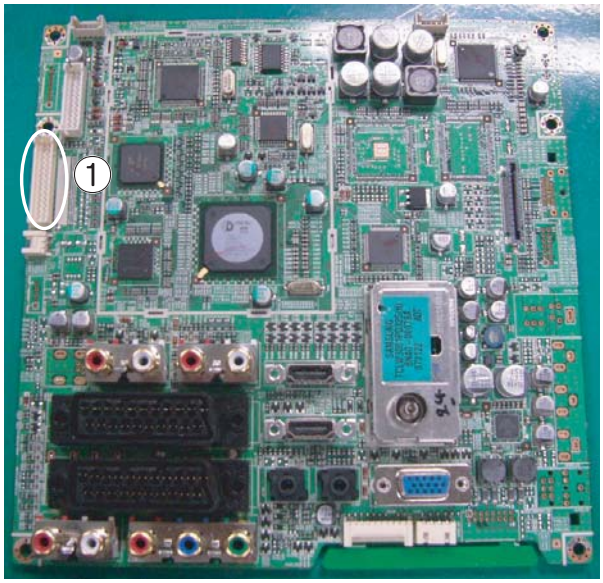
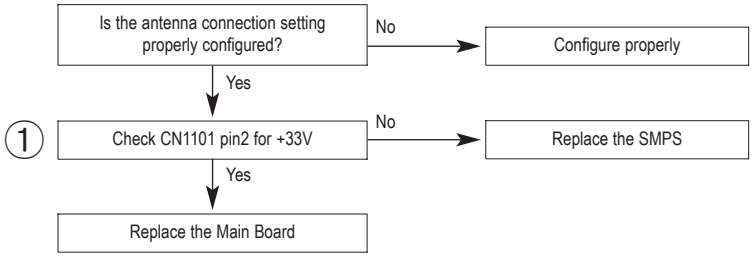
■ No Picture (When audio is normal)

Symptom	- Audio is normal but no picture is displayed on the screen.
Major Checklist	- This may happen when the Main Board is functioning but the X, Y Main Board, Logic Board, or Y Buffer Boards are not. - The output voltage of the Main SMPS. - This may happen when the LVDS cable connecting the Main Board and the Logic Board is disconnected.
Troubleshooting Procedures	 
Caution	WHEN SEPARATING AND CONNECTING THE CABLES SUCH AS CN810, CN809, CN808, CN807 OF THE MAIN SMPS, CN4701 OF THE X MAIN BOARD, AND CN5707 OF THE Y MAIN BOARD, A SPARK MAY BE GENERATED BY THE ELECTRIC CHARGE OF THE HIGH CAPACITY CAPACITOR. THEREFORE, WAIT SOME TIME AFTER DISCONNECTING THE POWER CORD FROM THE UNIT.

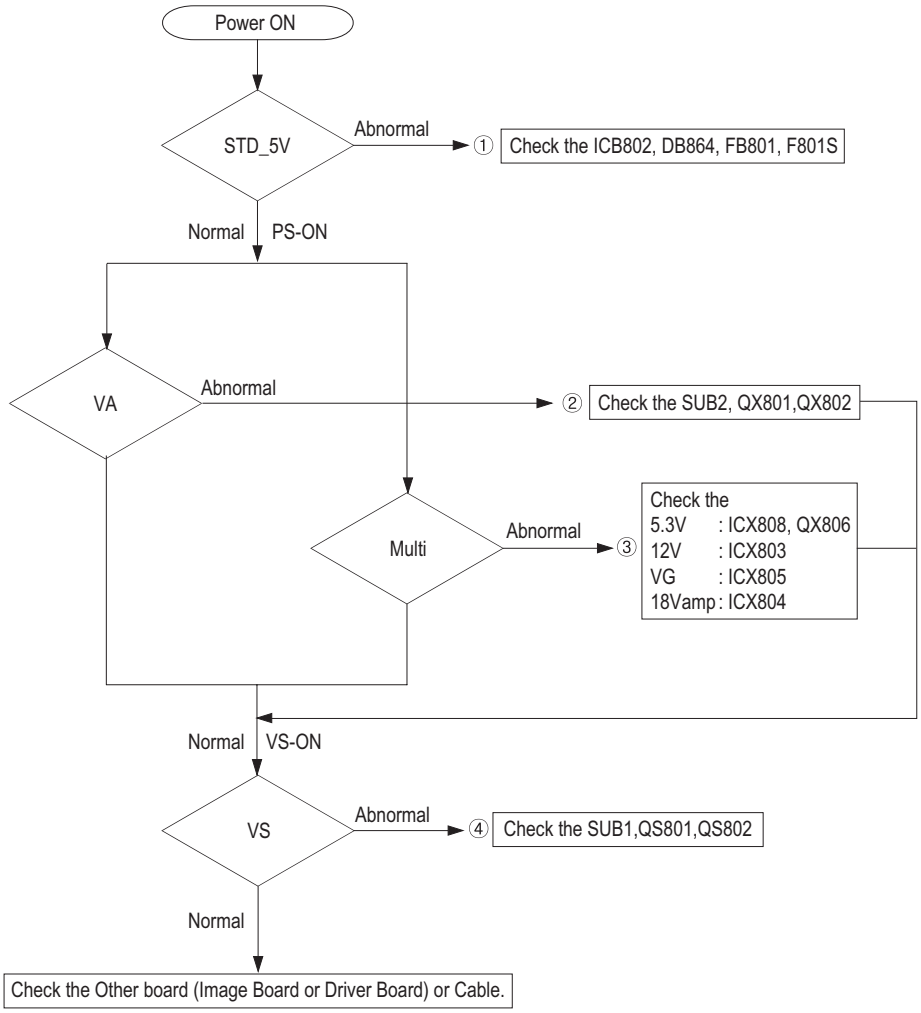
■ No Sound

Symptom	- Video is normal but there is no sound.
Major Checklist	- When the speaker connectors are disconnected or damaged. - When the sound processing part of the Main Board is not functioning. - Speaker defect.
Troubleshooting Procedures	 ① Is the cable connection between the Main Board and the speaker properly connected? — No → Connect the cable properly or replace the cable, if necessary. Yes ② Is the output voltage of SMPS normal? (CN801 #13) — No → Replace the SMPS Yes Is the speaker output terminal of the Main Board normal? — No → Replace the Main Board Yes ③ Replace the Speaker

■ No Video

Symptom	- A normal/cable network analog broadcast screen is blank or abnormal but OSD is OK.
Major Checklist	- Check the antenna connection settings (Air: NTSC / ATSC, Cable: NTSC) - Check the CVBS cable connection. - Check the power input of the Main board.
Troubleshooting Procedures	 

■ SMPS Troubleshooting



■ Drive Board Troubleshooting

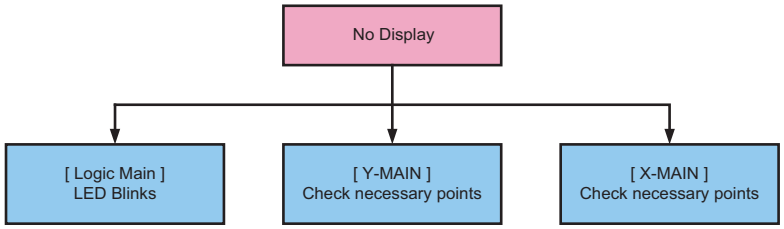
1) Troubleshooting Summary

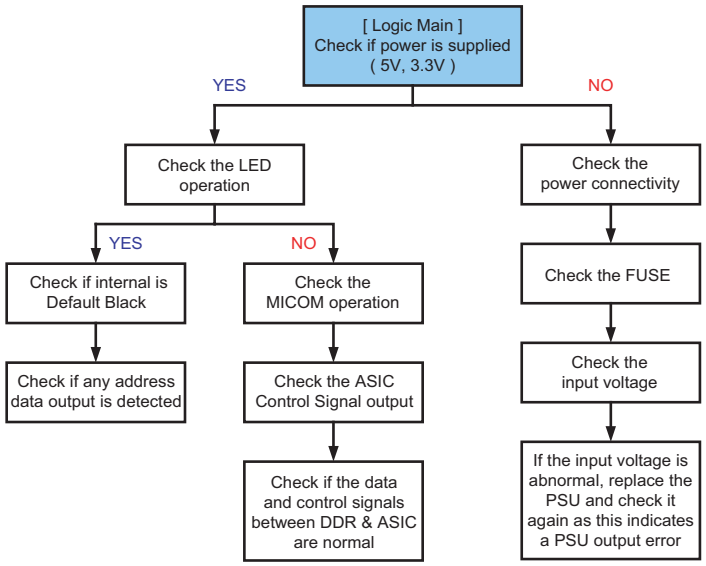
Condition Name	Description	Related Board
No Voltage Output	Operating Voltage don't exist	PSU
No Display	Operating Voltage exist, but an Image doesn't exist on screen	Y-MAIN, X-MAIN, Logic Main, Cable
Abnormal Display	Abnormal Image (not open or short) is no screen	Y-MAIN, X-MAIN, Logic Main
Sustain Open	Some horizontal lines don't exist on screen	Scan Buffer, FPC of X/Y
Sustain Short	Some horizontal lines appear to be linked on screen	Scan Buffer, FPC of X/Y
Address Open	Some vertical lines don't exist on screen	Logic Main, Logic Buffer, TCP
Address Short	Some vertical lines appear to be linked on screen	Logic Main, Logic Buffer, TCP

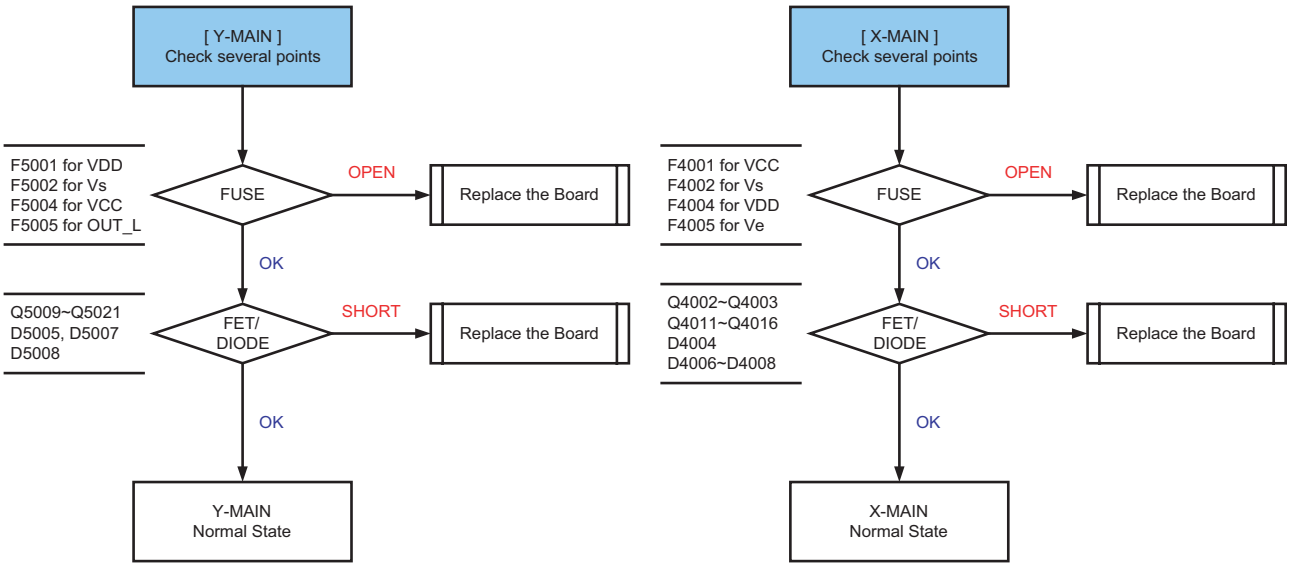
2) Troubleshooting Procedure in Abnormal Conditions

① No Display

▶ No Display is related with Y-MAIN, X-MAIN, Logic Main and so on.
This page shows you how to check the boards, and the following pages show you how to find the defective board.

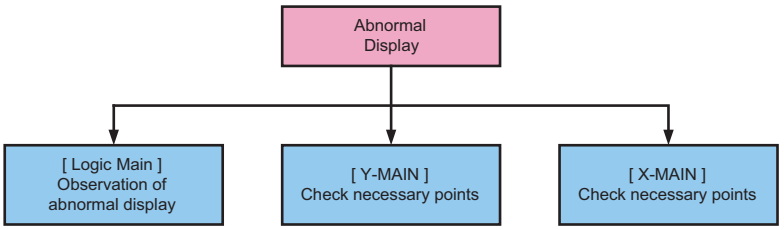


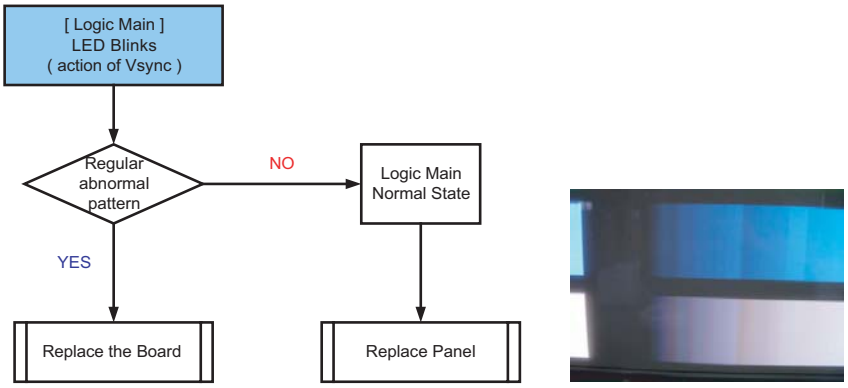


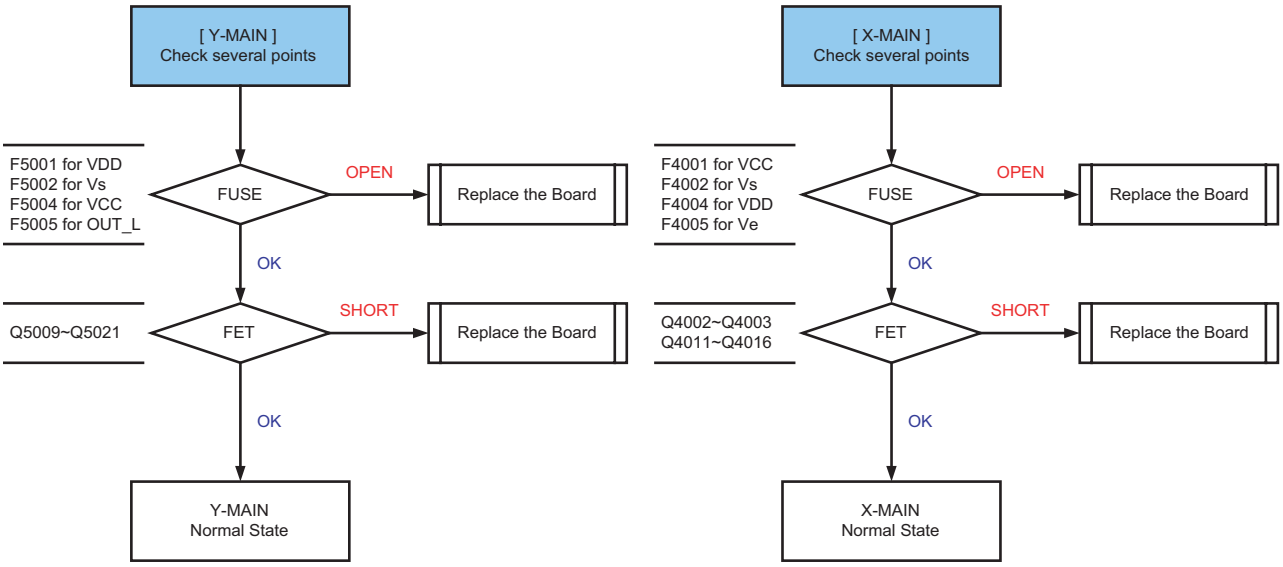


② Abnormal Display(Abnormal Image is on Screen.(except abnormality in Sustain or Address))

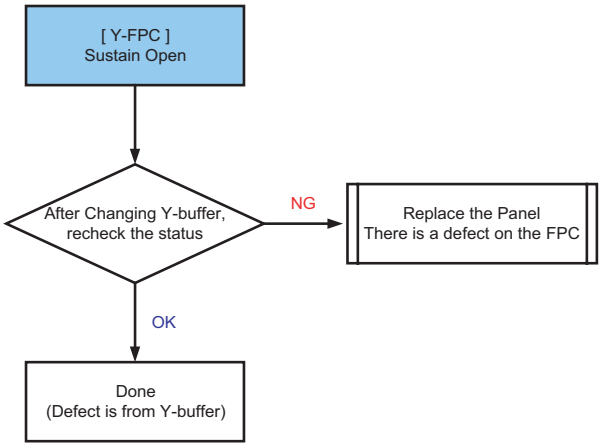
▶ Abnormal Display is related with Y-MAIN, X-MAIN, Logic Main and so on.
This page shows you how to check the boards, and the following pages show you how to find the defective board.



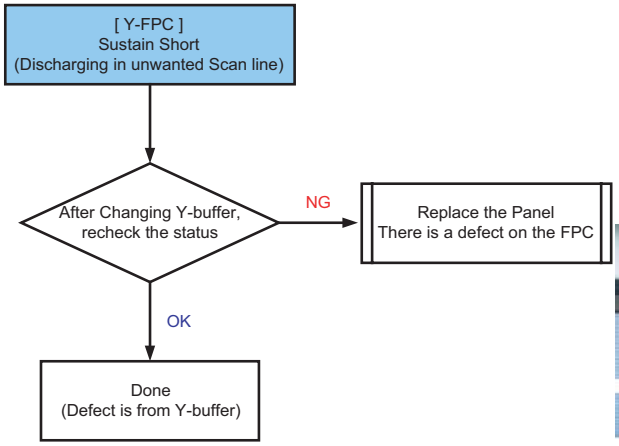




③ Sustain Open (some horizontal lines don't exist on screen)

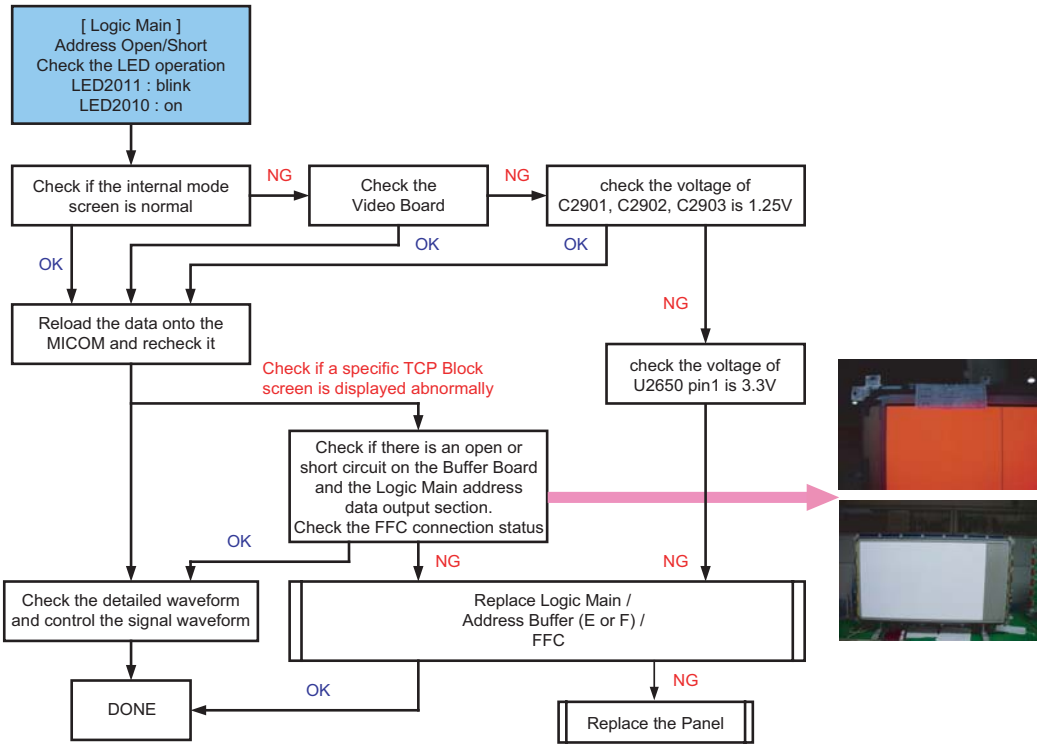


④ Sustain Short (some horizontal lines appear to be linked on Video)



⑤ Address Open, Short

▶ Address Open and Short is related with Logic Main, Logic Buffer, FFC, TCP film and so on.
This page shows you how to check the boards, and the following pages show you how to find the defective board.



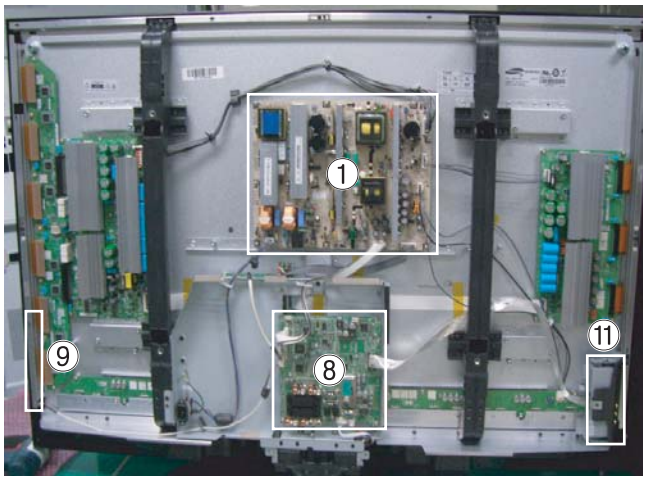
4-1-3 Faults and Corrective Actions

Symptom	Related Image	Causes and Countermeasures
A blank vertical cell (block) appears on the screen.		Address buffer defect - Replace the corresponding upper/lower buffers (E, F) COF defect (burnt) - Replace the module
A green screen appears when the TV is turned on.		The Scale is not reseting - Replace the Main board
The OSD box appears but there is no text.		Incorrect program version - Check the version of each program - Replace the Main board
A blank upper (or lower) block appears on the screen.		Upper/Lower Y Buffer defect - Replace the corresponding upper/lower buffers (E, F)

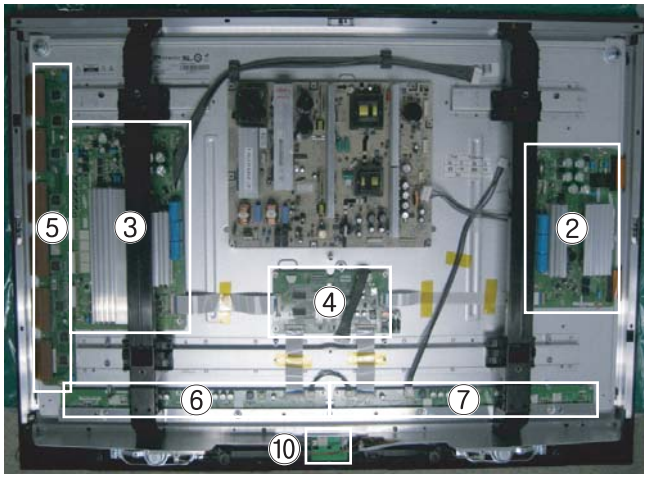
Symptom	Related Image	Causes and Countermeasures
Either the main or sub picture does not appear.		Replace the Main board
A vertical green line appears on the screen.		The SMPS voltage is incorrect - Adjust the SMPS voltage according to the voltage printed on the module label
Dim screen (blurred in red)		X-Main board defect - Replace the X-Main board
A blank screen appears		- Replace the Y-Main board

4-1-4 Troubleshooting Procedures by assembly

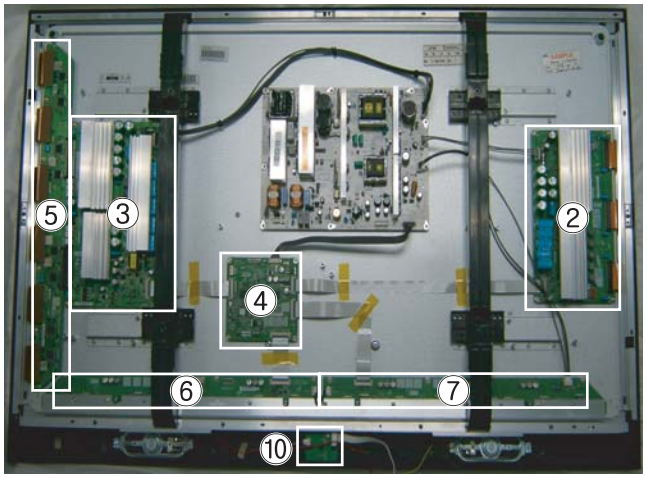
No	Assembly	Major Symptoms
1	SMPS-PDP TV	No power, Blank screen, the Relay repeats On and Off.
2	ASSY PDP MODULE P-X-MAIN	Blank screen
3	ASSY PDP MODULE P-Y-MAIN	Blank screen
4	ASSY PDP MODULE P-LOGIC MAIN	Blank screen, Screen noise
5	ASSY PDP MODULE P-Y-MAIN SCAN BUFFER	Row Bar screen is blank
6	ASSY PDP MODULE P-ADDRESS E BUFFER	Corresponding Buffer Board block screen is blank.
7	ASSY PDP MODULE P-ADDRESS F BUFFER	Corresponding Buffer Board block screen is blank.
8	ASSY PCB MISC-MAIN	No Power, Abnormal screen for each input source, PIP screen trouble, Sound trouble
9	ASSY BOARD P-FUNCTION	The side function key does not work properly
10	ASSY BOARD P-POWER&IR	The remote control does not work properly, the LED does not work properly.
11	ASSY BOARD P-SIDE AV	The AV2 and S-VIDEO2 modes do not work properly



<PDP 42”>



<PDP 50”>



4-2 Adjustment

4-2-1 Service Instruction

■ Before Performing After Sales Services

1. Check if the measurement and test equipment is working properly.
2. Secure sufficient work space for disassembling the product.
3. Prepare a soft pad for disassembling the product.

■ Service adjustment item after replacement of Board

<If adjustment equipment is available>

① PDP Option of Factory Mode → set the Factory Data Type item as the suitable value of relevant model.
② Adjust Calibration of Factory Mode for each mode.
③ Adjust White Balance of Factory Mode.

<If adjustment equipment is not available>

① Write down the value of HDMI White Balance of Factory Mode before replacing Board.
② PDP Option of Factory Mode → set the Factory Data Type item as the suitable value of relevant model.
③ Set the value of HDMI White Balance with the value written down before.

4-2-2 How to Access Service Mode

1. General Remote

To Enter: POWER OFF → INFO → MENU → MUTE → POWER ON
(Interval between key strokes: less than 3 sec)

To Exit: POWER OFF → POWER ON

2. Factory Remote

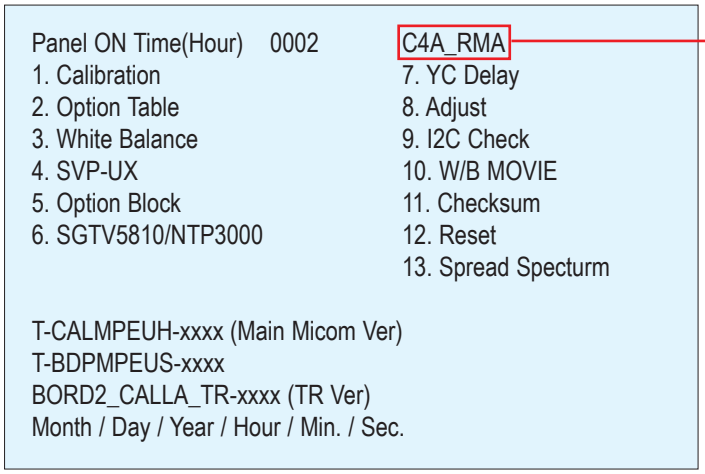
To Enter: POWER ON → INFO → FACTORY Key (Interval between key strokes: less than 3 sec)

To Exit: POWER OFF → POWER ON
Press the Factory key twice with a key stroke interval of more than 1 second (Pressing once enters Aging Mode)

3. Settings when entering Factory mode
- Sharp Screen (Dynamic), Color Tone (Cool1), Factory (Dynamic CE Off)

4. Adjustment Procedures
- Channel ▲ ▼ Key : Select an item.
- Volume ◀ ▶ Key : Adjust the value up or down.
- MENU Key : Save the changes to the EEPROM and return to the higher-level mode.
- Using the Numeric (0~9) keys, you can select a channel.
- Using the SOURCE key, you can switch AV modes.

5. Initial SERVICE MODE DISPLAY State



※ The version of the firmware displayed at the bottom of the screen may differ and the firmware is subject to change for the improvement of product functions.

※ If you have adjusted the settings in Service Mode, you have to reset the product.

4-2-3 Factory Data ★ The underlined are items applied during the service adjustment. None of the others should be adjusted.

1. Calibration

Item	Data
AV Calibration	Success
Comp Calibration	Success
PC Calibration	Success
HDMI Calibration	Success

2. Option Table(Service)

Item	PDP 42"	PDP 50"	Option index
	C4A_RMA initial value	C5A_RMA initial value	
Ready	OFF	OFF	ON / OFF
Inch Option	42"	50"	42" / 50"...
Panel Vender	AMLCDINT	AMLCDINT	AUO/CMO...
Gamma	OFF	OFF	ON / OFF
Panel Type	Normal1	Normal1	Normal1 / Normal2...
Model Option	Bord Plus	Bord Plus	Call / Lily / Brod Plus / Jasmine
Tuner	SEMCO	SEMCO	SEMCO / ALPS
Tuner TOP	8	8	0 ~ 31
Auto Power	ON	ON	ON / OFF
Nordic	OFF	OFF	ON / OFF
LNA Menu	ON	ON	ON / OFF
TTX On/Off	ON	ON	ON / OFF
TTX List	Flof	Flof	Flof / List
Carrier Mute	OFF	OFF	ON / OFF
High Deviation	OFF	OFF	ON / OFF
VOL.Curve	Small	Small	Small / Large
HDMI Hotplug	1	1	0 / 1
HDMI Clock Ctrl	1	1	0 / 1
HDMI Hotplug Dly	9	9	3~50
Hotel Option			
Hotel Mode	OFF	OFF	ON / OFF
Power On Channel	1	1	1 ~ 99
Power On Volume	10	10	1 ~ 100
Max Volume	100	100	1 ~ 100
Local Key Lock	OFF	OFF	ON / OFF
Power On Source	RF	RF	RF/Ext.1...
Shop Mode	OFF	OFF	ON / OFF
Color Space	ON	ON	ON / OFF
PC Ident	OFF	OFF	ON / OFF

Item	PDP 42"	PDP 50"	Option index
	C4A_RMA initial value	C5A_RMA initial value	
Language	English	English	English / German...
ANYNET+	ON	ON	ON / OFF
Ch.Table	SUWON	SUWON	SUWON / SESK / SEH / TTSEC
TTX Group	Auto	Auto	Auto / West Europe...
iDTV_Cntry	UK	UK	UK / France...

3. White Balance

Item	Range	Tv/AV/Scart	Comp/iDTV	PC	HDMI
Sub-Briteness	00H ~ FFH	128	128	128	128
R-offset	00H ~ FFH	128	128	128	128
G-offset	00H ~ FFH	128	128	128	128
B-offset	00H ~ FFH	128	128	128	128
Sub-Contrast	00H ~ FFH	128	128	128	128
R-Gain	00H ~ FFH	128	128	128	128
G-Gain	00H ~ FFH	128	128	128	128
B-Gain	00H ~ FFH	128	128	128	128

4. SVP-UX

① ComB Filter

Item	Range
Y-Filter	00H ~ FFH

② Sharpness

Item	Range	RF	AV	Comp 480i	Comp 480p	Comp 720p	Comp 1080i	HDMI	PC	iDTV
H2Gain	00 ~ 1FH	05H	05H	05H	05H	04H	04H	0AH	05H	05H
H4Gain	00 ~ 1FH	04H	0AH	05H	05H	02H	02H	0AH	05H	05H
V2Gain	00 ~ 1FH	0CH	0CH	0AH	0CH	0AH	0AH	10H	0AH	0AH
V4Gain	00 ~ 1FH	0CH	10H	0CH	0CH	0AH	0AH	10H	0AH	0AH
Sr2Gain	00 ~ 1FH	00H	00H	00H	00H	00H	00H	00H	00H	00H
Sr4Gain	00 ~ 1FH	00H	02H	00H	00H	02H	02H	04H	02H	02H
Sl2Gain	00 ~ 1FH	00H	00H	00H	00H	00H	00H	00H	00H	00H
Sl4Gain	00 ~ 1FH	00H	02H	00H	00H	02H	02H	04H	02H	02H
Peakth1	00H ~ FFH	06H	02H	03H	03H	03H	03H	03H	08H	04H
Peakth2	00H ~ FFH	2FH	2FH	2FH	2FH	2FH	2FH	2FH	2FH	2FH
Peskth3	00H ~ FFH	3FH	3FH	3FH	3FH	3FH	3FH	3FH	3FH	3FH

③ NR

Item	Range	Initial value
Y_NR_OFF	00H ~ FFH	00H
C_NR_OFF	00H ~ FFH	00H
Y_NR_ON	00H ~ FFH	00H
C_NR_ON	00H ~ FFH	00H

④ RGB Calibration

Item	Range	TV/AV/S_Video	Component	PC	HDMI
R-Offset	00H ~ FFH	3AH	40H	32H	82H
G-Offset	00H ~ FFH	3AH	40H	32H	82H
B-Offet	00H ~ FFH	3AH	40H	32H	82H
R-Gain	00H ~ FFH	A6H	92H	A9H	6CH
G-Gain	00H ~ FFH	A6H	92H	A9H	6CH
B-Gain	00H ~ FFH	A6H	92H	A9H	6CH

⑤ ADC Calibration

Item	Range	TV/AV/S_Video	Component	PC	HDMI
TCD3 Contrast	00H ~ FFH	79H	78H	78H	78H
TCD3 Brightness	00H ~ FFH	29H	20H	20H	20H
TCD3 CR	00H ~ FFH	80H	80H	80H	80H
TCD3 CB	00H ~ FFH	80H	80H	80H	80H
TCD3 Delay	00H ~ FFH	00H	00H	00H	00H
Analog Y Offset	00H ~ FFH	40H	3DH	44H	40H
Analog PB Offset	00H ~ FFH	80H	80H	44H	80H
Analog PR Offset	00H ~ FFH	80H	80H	44H	80H
Analog Y Gain	00H ~ FFH	D6H	B3H	A4H	80H
Analog PB Gain	00H ~ FFH	80H	B3H	ACH	80H
Analog PR Gain	00H ~ FFH	80H	B3H	A7H	80H
Black Level	00H ~ FFH	00H	00H	00H	00H
Svp Brightness	00H ~ FFH	00H	00H	00H	00H

⑥ Calibration Target

Item	Range	low	high	Delta
AV ADC	00H ~ FFH	10H	DCH	02H
COMP ADC	00H ~ FFH	10H	EBH	02H
PC ADC	00H ~ FFH	10H	DCH	04H
ALL RGB	00H ~ FFH	01H	EBH	0AH

⑦ Color Management

Item	Range	Initial value
Skin Direction	Reddish / Yellowish	Reddish
Skin Enhance	00H ~ FFH	00H
Green Stretch	00H ~ FFH	00H
Blue Stretch	00H ~ FFH	00H

5. Option Block

① FRC(Micronas)

② FRC2X

Item	Range	Initial value
OUTCON	1 ~ 3	0
GAMMA	1 ~ 7	0
OCC_MODE	0 / 1	0
FALLBACK	0 / 1	0
DBG_MARK	0 / 1	0
SPR_CBR	0 / 1	0
BIT_EXPAND	0 / 1	0
INV_BIT_EXPAND	0 / 1	0
REPEAT_MODE	0 / 1	0
DEMO_ON_OFF	0 / 1	0
MMU_RD_START	00H ~ FFH	00H
ME_RD_START	00H ~ FFH	00H
MC_RD_START	00H ~ FFH	00H
CMZL(0x36E)	00H ~ FFH	0H
BLOL(0x2A7)	00H ~ FFH	0H
LOGO(0x2A7)	00H ~ FFH	0H

③ FBE2

ITEM	Range	RF	AV/ S-Video	Comp 480i/576i	Comp 480p/576p	Comp 720p/1080i/1080p	HDMI	DTV	PC
Pattern Select	0 ~ 20	0	0	0	0	0	0	0	0
BS-On	0 / 1	1	1	1	1	1	1	1	1
B-Slope Gain	0 ~ 255	34	44	64	64	64	64	64	64
B-Tilt Min	0 ~ 255	20	20	20	20	20	20	20	20
B-Tilt Max	0 ~ 255	120	120	120	120	120	120	120	120
B-Tilt Slope	0 ~ 255	128	128	128	128	128	128	128	128
LFunc-Basis	0 ~ 255	30	20	50	40	70	55	75	55
Hfunc-Basis	0 ~ 255	30	40	50	40	75	65	88	65
Mean-Offset1	0 ~ 255	20	100	75	75	75	75	75	75
Mean Offset2	0 ~ 255	120	200	155	155	225	225	225	225
Mean Slope	0 ~ 255	56	56	45	45	85	85	85	85
Input Offset	0 ~ 255	128	128	128	128	128	128	128	128
Input Gain	0 ~ 255	128	128	128	128	128	128	128	128
ACR Offset	0 ~ 128	15	15	15	15	15	15	15	15
ACR Th1	0 ~ 255	30	30	30	30	30	30	30	30
ARC Th2	0 ~ 255	130	130	100	130	130	130	130	130
Skin Enable	0 / 1	1	1	1	1	1	1	1	1
Skin Tu	0 ~ 255	165	165	150	150	165	165	128	165
Skin Tv	0 ~ 255	140	140	140	140	128	128	128	128
M Skin Tu	0 ~ 255	128	128	128	128	128	128	128	128
M Skin TV	0 ~ 255	128	128	128	128	128	128	128	128
Sub Color	0 ~ 255	115	128	135	135	140	150	143	150
M-Au-Sub Color	0 ~ 255	128	128	128	128	128	128	128	128
M-Wi-Sub Color	0 ~ 255	128	128	128	128	128	128	128	128
MW-Skin-Tu	0 ~ 255	128	128	128	128	128	128	128	128
MW-Skin-Tv	0 ~ 255	128	128	128	128	128	128	128	128

④ Pdp Logic

ITEM	Range	Initial value
Pattern Srlect	0 ~ 63	0
Data updata	ON / OFF	OFF
Data Type	42"EU MRT/42"EU MESH/...	42"EU MRT
CDC Sw	ON / OFF	OFF
CDC Strengh Th	0 ~ 31	0
BRE Sw	ON / OFF	OFF
FRC Repeat Mode	ON / OFF	OFF
FRC CBG Mark On	0 ~ 15	0
ERC Bypass	ON / OFF	OFF
Panel Type	-	0H
Panel Inch	-	SD
Panel Version	-	
Logic Sw Version	-	0H 0H 0H

6. SGTV5810/NTP3000

ITEM	Range	Initial value
ID Tone Shift	1H ~ FH	01H
ID Tone Thresh	00H ~ FFH	7FH
Demod Prescaler	00H ~ 20H	13H
Master Volume	00H ~ 30H	13H
PWM Modulation	80H ~ F2H	F1H
DRC Threshold	00H ~ 7FH	06H
Speaker EQ	ON / OFF	OFF

7. YC Delay

ITEM	Range	Initial value
RF PAL-B/G	00H ~ FFH	AAH
RF PAL-D/K	00H ~ FFH	99H
RF PAL-I	00H ~ FFH	99H
RF SECAM-B/G	00H ~ FFH	88H
RF SECAM-D/K	00H ~ FFH	44H
RF SECAM-L/L'	00H ~ FFH	88H
RF NTSC 3.58	00H ~ FFH	44H
RF NTSC 4.43	00H ~ FFH	CCH
AV PAL	00H ~ FFH	AAH
AV SECAM	00H ~ FFH	88H
AV NTSC 3.58	00H ~ FFH	30H
AV NTSC 4.43	00H ~ FFH	AAH
AV PAL60	00H ~ FFH	77H

8. Adjust

ITEM	Range	Initial value
Video Mute Time	0 ~ 255	10
Dynamic Contrast	ON / OFF	ON
Dynamic Dimming	ON / OFF	ON
Dynamic CE	ON / OFF	OFF
LNA PLUS		
RFDB-1 Level	0 ~ 255	2
RFDB-2 Level	0 ~ 255	5
RFDB-3 Level	0 ~ 255	7
RFDB-4 Level	0 ~ 255	24
Magazine LNA	ON / OFF	OFF
PixelShift Test	ON / OFF	OFF
Debug	ON / OFF	OFF
ACR	ON / OFF	OFF
D-Watchdog	ON / OFF	ON
UART Select	MAIN / IDTV / PDP Lvds ON / PDP Lvds /OFF	OFF

9. I2C Check

10. W/B MOVIE

ITEM	Range	TV/AV/S_Video	Component	PC	HDMI	Scart1/2
WB Movie	ON / OFF	OFF	OFF	OFF	OFF	OFF
Color Mode	Movie	Movie	Dynamic	Dynamic	Dynamic	Dynamic
Color Tone		Cool1	Cool1	Cool1	Cool1	Cool1
Msub Brigh	0 ~ 255	128	128	128	128	128
Msub Contr	0 ~ 255	128	128	128	128	128
W1_RGAIN	0 ~ 255	157	161	144	161	157
W1_BGAIN	0 ~ 255	76	74	117	76	76
W1_R_OFFS	0 ~ 255	119	119	127	118	119
W1_B_OFFS	0 ~ 255	138	140	110	141	138
W2_RGAIN	0 ~ 255	142	143	149	142	142
W2_BGAIN	0 ~ 255	48	47	93	51	48
W2_R_OFFS	0 ~ 255	129	127	124	128	129
W2_B_OFFS	0 ~ 255	143	145	110	143	143
NO_RGAIN	0 ~ 255	141	139	137	141	141
NO_BGAIN	0 ~ 255	104	102	123	104	104
NO_R_OFFS	0 ~ 255	126	125	126	121	126
NO_B_OFFS	0 ~ 255	136	133	114	133	136
C2_RGAIN	0 ~ 255	124	122	123	125	124
C2_BGAIN	0 ~ 255	142	141	156	143	142
C2_R_OFFS	0 ~ 255	128	129	117	128	128
C2_B_OFFS	0 ~ 255	128	127	116	128	128
Movie Contr	0 ~ 100	100	100	100	100	100
Movie Brigh	0 ~ 100	45	45	45	45	45
Movie Color	0 ~ 100	55	55	55	55	55
Movie Sharp	0 ~ 100	75	75	75	75	75

11. Checksum xxxx

12. Reset

13. Spread Spectrun

ITEM	Range	Initial value
Spectrum	ON / OFF	ON
Delta	-128 ~ +128	0
Positive	0 ~ 99	8
Negative	0 ~ 99	2
Speed	0 ~ 7	0
Time	0 ~ 7	4
FBE Spectrum	ON / OFF	OFF
FEE Delta	0 ~ 5	0

4-2-4 Service Adjustment

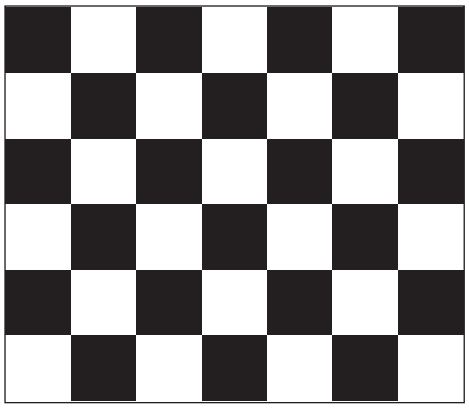
■ White Balance - Calibration

If picture color is wrong, do calibration first.

Execute calibration in Factory Mode

1. Source : VIDEO
2. Setting Mode : PAL Video (MODE : #2)
3. Pattern : Pattern #24 (Chess Pattern)
4. Use Equipment : K-7256 or Equipment of equality level
5. Work order
   1) Enter by Factory Mode select "1. CALIBRATION".
   2) Select "AV CALIBRATION" again in CALIBRATION MENU.
   3) After Completing Calibration, come out "Av success". OSD on the screen (bottom-side) for about 3 seconds.

Source AV : PAL composite, Component : 1280*720/60Hz
PC : 1024*768/60Hz



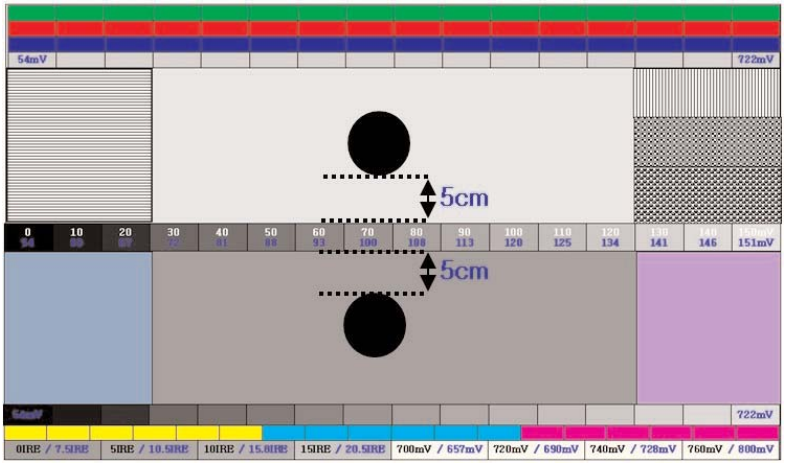
(Chess Pattern)

■ White Balance - Adjustment

If picture color is wrong, check White Balance condition.

Equipment : CA210, Patten : Toshiba
Adjust W/B in Factory Mode

Sub brightness and R/G/B Offset controls low light region
Sub contrast and R/G/B Gain controls high light region
Source AV : PAL composite, Component : 1280*720/60Hz,
HDMI[DVI] : 1280*720/60Hz



(SAMSUNG WHITE BALANCE Adjustment PATTERN with FPD)

[Test Pattern : MSPG-945 Series Pattern #16]

* Color temperature
  1500K +/-500, -6 ~-20 MPCD

* Color coordinate
  H/L : 270/280 +/- 2
  L/L : 270/280 +/- 3, 2.1 Ft +/-0.05 Ft

■ Conditions for Measurement

1. On the basis of toshiba ABL pattern : High Light level (57 IRE)
   - INPUT SIGNAL GENERATOR : MSPG-925LTH
   * Mode No 2 : 744X484@60 Hz
     No 6 : 1280X720@60 Hz
     No 21 : 1024X768@60 Hz
   * Pattern No 36 : 16 Color Pattern
     No 16 : Toshiba ABL Pattern

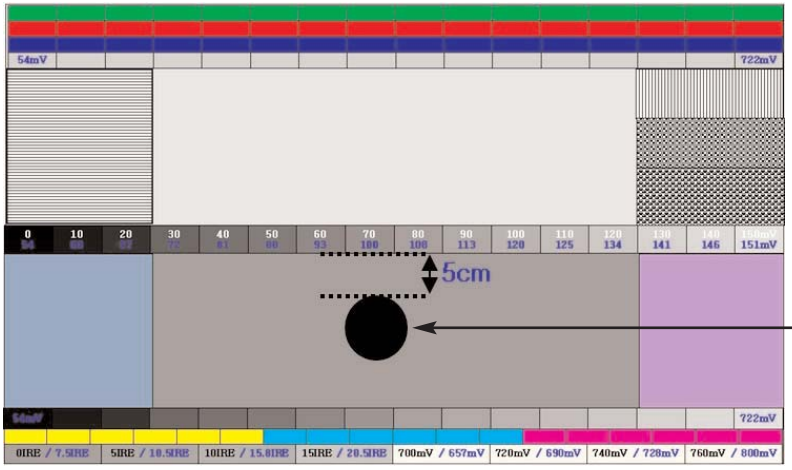
2. Optical measuring device : CA210 (FL)
   Please use the MSPG-925 LTH generator for model PS-42Q91H, PS-50Q91H.

■ Method of Adjustment

1. Adjust the white balance of AV, Component and DVI Modes.
   (AV → Component)
   a) Set the input to the mode in which the adjustment will be made (RF → DTV → PC → DVI).
      * Input signal - VIDEO Mode : Model #2 (744*484 Mode), Pattern #16
      - DTV, DVI Mode : Model #6 (1280*720 Mode), Pattern #16
      - HDMI Mode : Model #6 (1280*720 Mode), Pattern #16

   b) Enter factory color control, confirm the data.

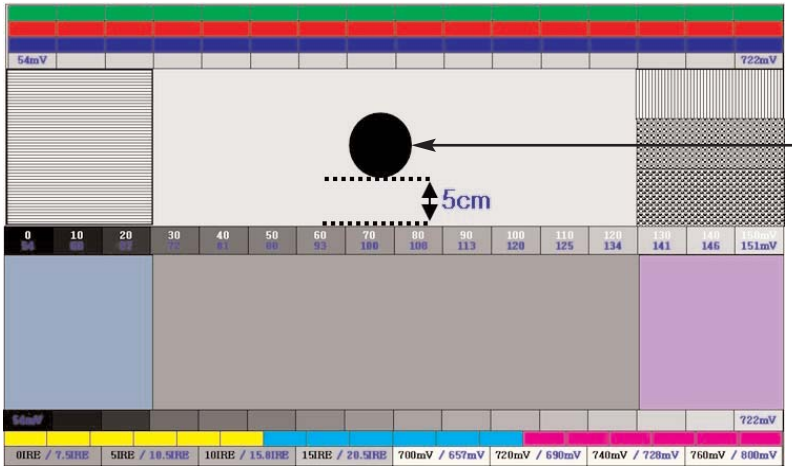
   c) Adjust the low light. (Refer to table 1, 2 in adjustment position by mode)
      - Adjust sub - Brightness to set the 'Y' value.
      - Adjust red offset ('x') and blue offset ('y') to the color coordinates.



(SAMSUNG WHITE BALANCE Adjustment PATTERN with FPD)

   * Do not adjust green offset data.

   d) Adjust the high light. (Refer to table 1, 2 in adjustment position by mode)
      - Adjust red gain ('x') and blue gain ('y') to the color coordinates.



(SAMSUNG WHITE BALANCE Adjustment PATTERN with FPD)

   * Do not adjust the green gain and sub-contrast (Y) data.

4-2-5 Replacements & Calibration

* PDP 42" Check items listed after changing each

Replaced assembly items	Check Items
ASSY PCB MISC-MAIN	1) Auto Program 2) White Balance Adjust
SMPS-PDP TV	Vs, Va voltage check and adjust
ASSY PDP MODULE P-LOGIC MAIN	Not to be adjusted
ASSY PDP MODULE P-X-MAIN	
ASSY PDP MODULE P-Y-MAIN	
ASSY PDP MODULE P-Y-MAIN SCAN BUFFER	
ASSY PDP MODULE P-ADDRESS E BUFFER	
ASSY PDP MODULE P-ADDRESS F BUFFER	
ASSY BOARD P-SIDE A/V	

* PDP 50" Check items listed after changing each

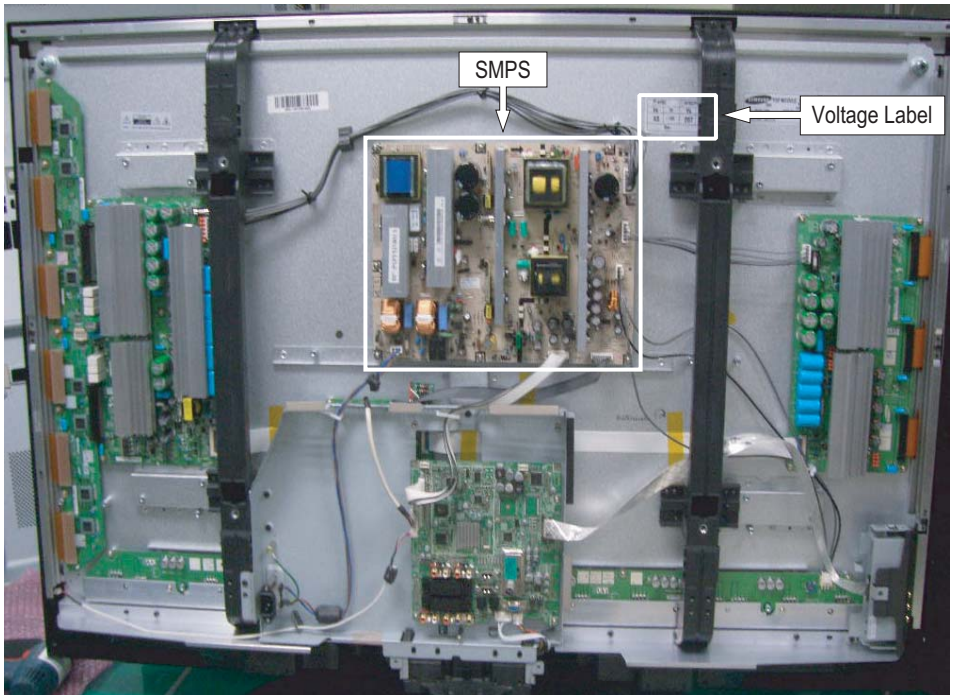
Replaced assembly items	Check Items
ASSY PCB MISC-MAIN	1) Auto Program 2) White Balance Adjust
SMPS-PDP TV	Vs, Va voltage check and adjust
ASSY PDP MODULE P-LOGIC MAIN	Not to be adjusted
ASSY PDP MODULE P-X-MAIN	
ASSY PDP MODULE P-Y-MAIN	
ASSY PDP MODULE P-Y-MAIN SCAN BUFFER	
ASSY PDP MODULE P-Y-MAIN SCAN BUFFER	
ASSY PDP MODULE P-ADDRESS E BUFFER	
ASSY PDP MODULE P-ADDRESS F BUFFER	
ASSY BOARD P-SIDE A/V	

※ When replacing the SMPS or PDP panel, you have to check the voltage printed on the panel sticker and adjust it.

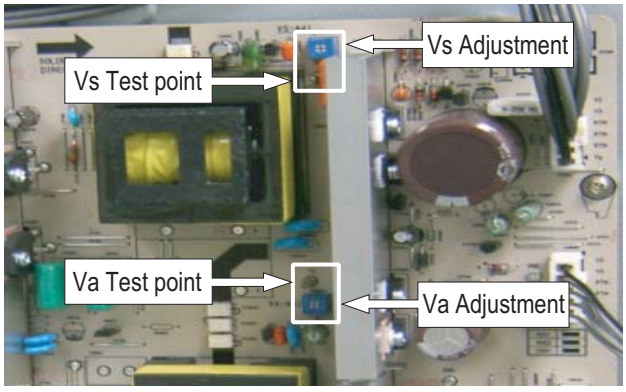
■ Voltage Adjustment

1. After replacing the SMPS or PDP panel, you must adjust the voltage referring to the voltage label printed on the panel.
   (If you do not adjust the voltage, an abnormal discharge symptom may appear.)

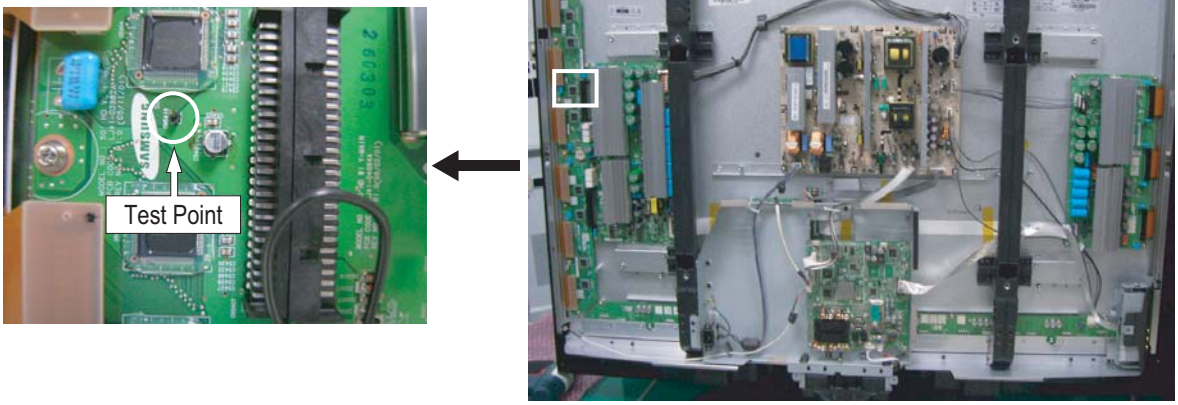
	Value	Board Adjustment
Vs	210	SMPS
Va	63	
Vset	-	
Ve	94	
Vscan	-190	



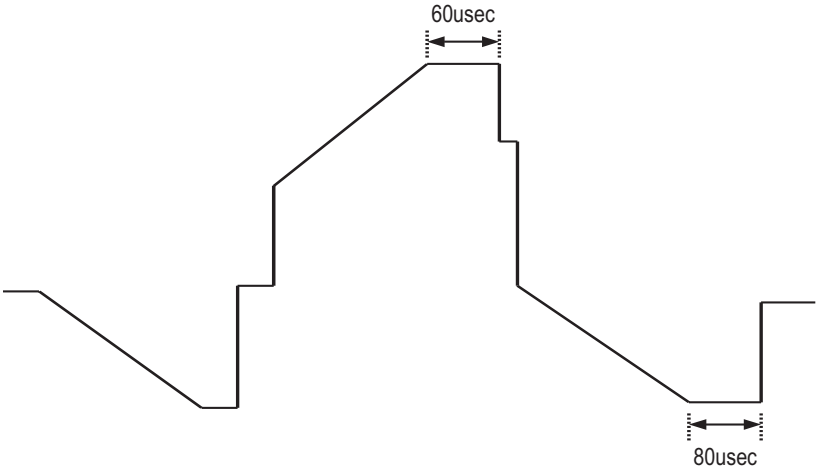
2. A point of adjusting SMPS-MAIN voltage.

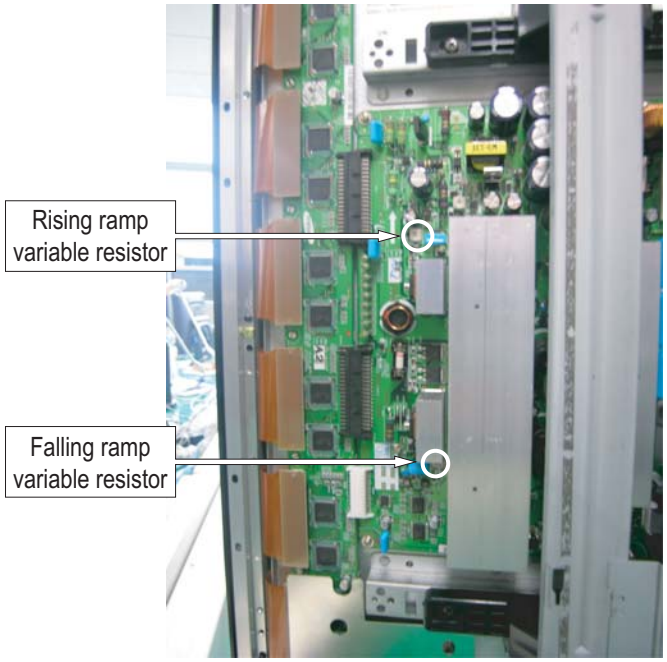


■ Y-RR and Y-FR controls



Set the main reset (rising : 60usec, falling : 80usec) by change the value of variable resistor.



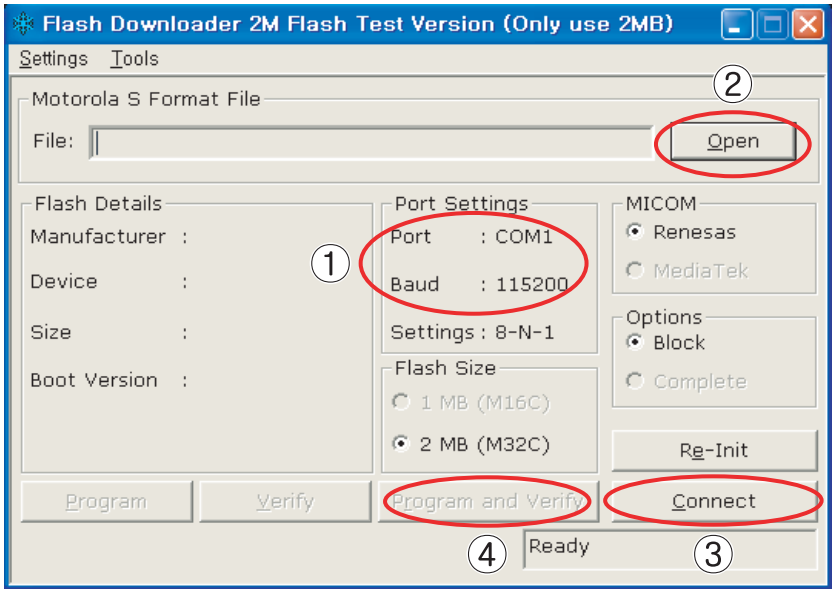


4-3 Upgrade

4-3-1 How to Update Flash ROM (with RS-232C Cable)

1. Connect Set (Service Jack) and Jig Cable to execute Program Update.

2. Turn Off (On Stand by mode) the Set
   - Run Down load tool

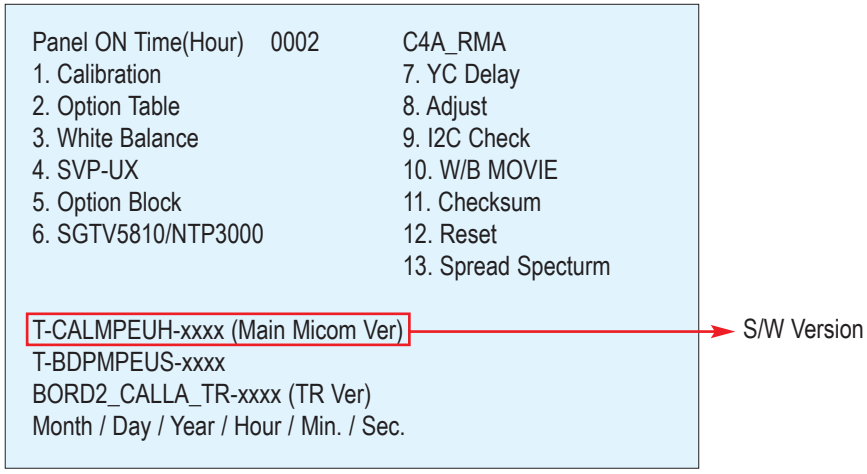


   1) Check ①
   2) Select MOT file by Open ②
   3) Click Connect Button ③
   4) Turn On the Set
   5) Click ④

3. Turn off (= AC Power off) the Set (waiting a few seconds) and turn on again.
   S/W Down Load Time: 6min

4-3-2 How to Check the Version of the Program

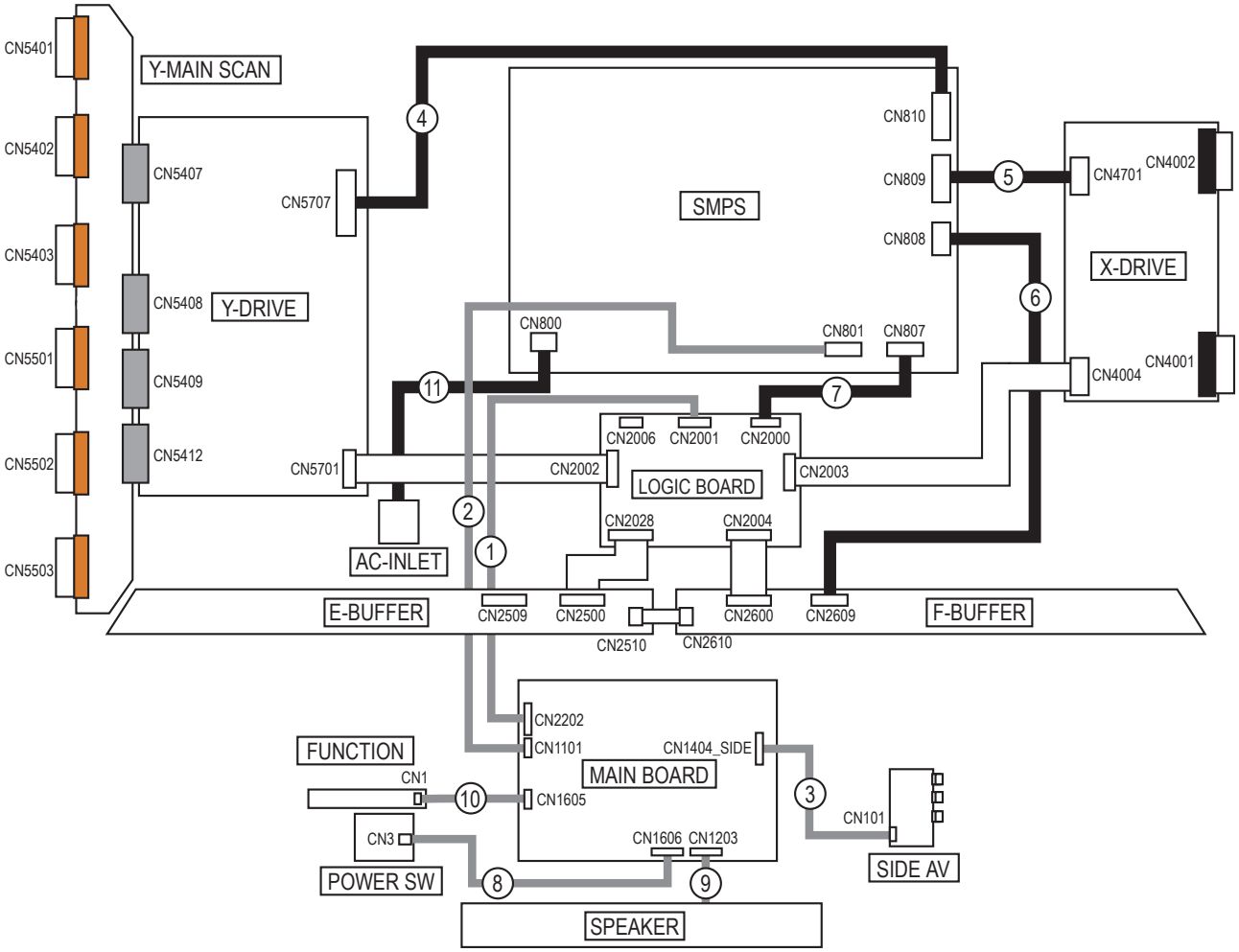
1. Procedures for checking in the Factory Menu.
   When entering Factory Mode, the version of the software is displayed at the bottom of the menu as described on page 4-17.



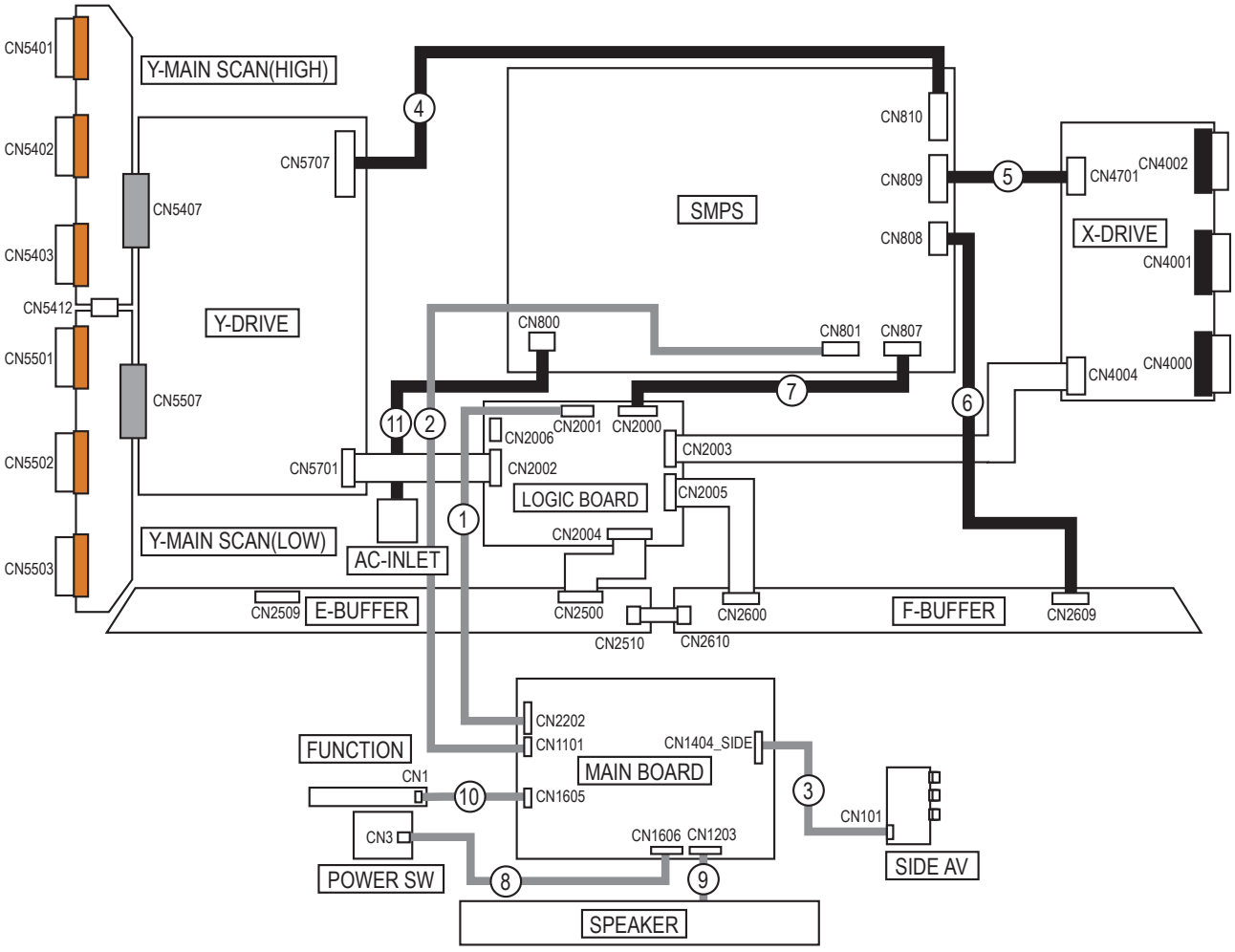
6. Wiring Diagram

6-1 Overall Wiring

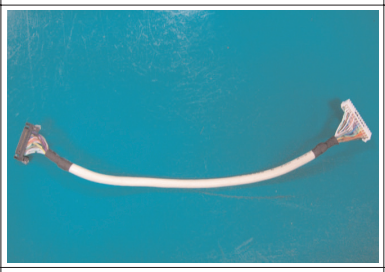
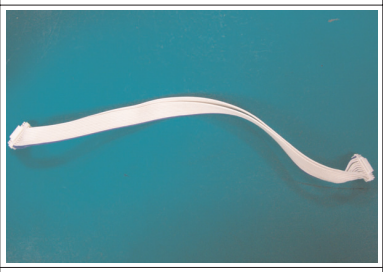
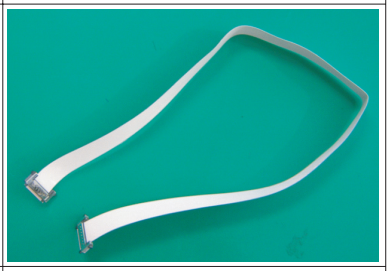
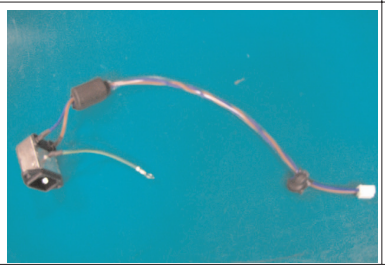
<42" Overall Wiring>



<50" Overall Wiring>



※ The code number of cable(Lead-connector) can be changed, see "5. Exploded View & Part List."

Use	① LVDS 31P-30P	② POWER 24P	③ Flat Cable
Code	BN39-00859A	BN39-00881A	42" - BN96-05164A 50" - BN96-05176A
Photo			
Use	⑪ AC_INPUT	-	-
Code	42" - 2901-001378 50" - 2901-001340	-	-
Photo			

6-1-1 Pin Connection

① CN2202(MAIN B'D) ↔ CN2001(LOGIC B'D)			
Pin No.	Signal	Pin No.	Signal
1	RxIN0-	16	NC
2	RxIN0+	17	GND
3	RxIN1-	18	WP
4	RxIN1+	19	SCL
5	RxIN2-	20	SDA
6	RxIN2+	21	LVDS Opt
7	RxINCLK-	22	DCC Opt
8	RxINCLK+	23	GND
9	RxIN3-	24	GND
10	RxIN3+	25	GND
11	NC	26	Vdd
12	NC	27	Vdd
13	NC	28	Vdd
14	NC	29	Vdd
15	NC	30	Vdd

② CN1101(MAIN B'D) ↔ CN801(MAIN SMPS)			
Pin No.	Signal	Pin No.	Signal
1	PS_ON	13	5V
2	N/C (Auto_V)	14	5V
3	STBY	15	5V
4	GND_STBY	16	5V
5	GND_18V AMP	17	GND_12V
6	GND_18V AMP	18	GND_12V
7	18V AMP	19	12V
8	18V AMP	20	GND_12V
9	GND_5V	21	12V
10	GND_5V	22	12V
11	GND_5V	23	N.C(FAN_ON)
12	GND_5V	24	N.C(FAN_DET)

③ CN1404(MAIN B'D) ↔ CN101(SIDE AV)							
Pin No.	Signal	Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
1	GND	12	TXC-	23	NC	34	VIDEO_SR_IN
2	TX2+	13	GND	24	NC	35	VIDEO_SL_IN
3	TX2-	14	MICOM_CEC	25	GND	36	HP_IDENT
4	GND	15	GND	26	SVHS_IDENT	37	HP_OUT_R
5	TX1+	16	TSCL	27	SVHS_Y	38	HP_OUT_L
6	TX1-	17	TSDA	28	GND	39	USB_VCC
7	GND	18	LSCL	29	SVHS_C	40	B1.8V
8	TX0+	19	HDMI3_5V	30	GND	41	B3.3V
9	TX0-	20	HPD_SIL9185	31	VIDEO_IDENT		
10	GND	21	DDC_WP	32	VIDEO_CVBS		
11	TXC+	22	GND	33	GND		

④ CN810(SMPS) ↔ CN5707(Y B'D)

Pin No.	Signal
1	Vg
2	GND
3	GND
4	GND
5	Vs
6	Vs

⑤ CN809(SMPS) ↔ CN4701(X B'D)

Pin No.	Signal
1	Vg
2	GND
3	GND
4	Vs
5	Vs

⑥ CN808(SMPS) ↔ CN2609(E-BUFFER)

Pin No.	Signal
1	Va
2	GND
3	5.3V

⑦ CN807(SMPS) ↔ CN2000(LOGIC B'D)

Pin No.	Signal
1	STBY
2	VS_ON
3	N/C
4	PS_ON
5	RTN
6	5.3V
7	RTN
8	RTN
9	5.3V
10	5.3V

⑧ CN1606(MAIN B'D) ↔ POWER&IR

Pin No.	Signal
1	IR
2	GND
3	A5V_1
4	LED_STB
5	BUZZER
6	KEY_INPUT1
7	KEY_INPUT2
8	GND
9	B5V
10	LED_CTRL

⑨ CN1203(MAIN B'D) ↔ SPEAKER

Pin No.	Signal
1	R+_OUT
2	R-_OUT
3	L+_OUT
4	L-_OUT

⑩ CN1605(MAIN B'D) ↔ FUNCTION

Pin No.	Signal
1	KEY_INPUT1
2	KEY_INPUT2
3	GND

⑪ CN800(SMPS) ↔ AC INLET

Pin No.	Signal
1	AC Neutral
2	N/C
3	AC Live

6-1-2 Connector role

42" Loc. No.	50" Loc. No.	Description
CN5401	CN5401	Horizontal Y-scan line(1~128) of Module and Y-Main Scan Connect
CN5402	CN5402	Horizontal Y-scan line(129~256) of Module and Y-Main Scan Connect
CN5403	CN5403	Horizontal Y-scan line(256~384) of Module and Y-Main Scan Connect
-	CN5512	Y-Main Scan(High) and Y-Main Scan(Low) Connect
CN5501	CN5501	Horizontal Y-scan line(384~512) of Module and Y-Main Scan Connect
CN5502	CN5502	Horizontal Y-scan line(512~640) of Module and Y-Main Scan Connect
CN5503	CN5503	Horizontal Y-scan line(640~768) of Module and Y-Main Scan Connect
CN5407	CN5407	Upper Y-Drive and Y-Main Scan Connect
CN5507	CN5507	Lower Y-Drive and Y-Main Scan Connect
CN5707	CN5707	Vs(205V),Vg(15v) Power input connect(6Pin) of Y-Drive
CN5701	CN5701	Y-Drive control signal from Logic Board
CN810	CN810	Vs(205V),Vg(15v) Power input connect(6Pin) of SMPS for Y-Drive
CN809	CN809	Vs(205V),Vg(15v) Power input connect(6Pin) of SMPS for X-Drive
CN808	CN808	Va(63V) ,5.3V Power input connect(3Pin) of SMPS for F-Buffer
CN807	CN807	Power input connect(10pin) for Logic Board
CN801	CN801	Image signal(LVDS) connect(41pin) from Main Board
CN800	CN800	AC Power input connect from AC-inlet
CN4002	CN4002	Horizontal X-scan line of Module and X-scan Connect(first Block)
CN4001	CN4001	Horizontal X-scan line of Module and X-scan Connect(second Block)
-	CN4000	Horizontal X-scan line of Module and X-scan Connect(third Block)
CN2000	CN2000	Power input connect(10pin) of Logic Board from SMPS
CN2001	CN2001	Image signal(LVDS) connect(41pin) of Logic board from Main Board
CN2002	CN2002	Y-Drive control signal of Logic Board
CN2004	CN2005	Address Data(684th~1366th) connect for F-Buffer board
CN2028	CN2004	Address Data(1st~683th) connect for E-Buffer board
CN2500	CN2500	Address Data(1st~683th) connect from Logic Board
CN2510	CN2510	Power input connect from F-Buffer Board
CN2610	CN2610	Power input connect to E-Buffer Board
CN2600	CN2600	Address Data(684th~1366th) connect from Logic board
CN2609	CN2609	Va(63V) ,5.3V Power input connect(3Pin) from SMPS
CN1101	CN1101	Power input connect(24Pin) from SMPS
CN2202	CN2202	Image signal(LVDS) connect(41pin) for Logic board
CN1605_PDP	CN1605_PDP	Function input(source,ch up/down¡¦) connect on Main board
CN1606	CN1606	Power SW input connect on Main Board
CN1203	CN1203	Speak out connect on Main Board
CN1404_SIDE	CN1404_SIDE	Video signal input connect on Side AV ass'y
CN1101	CN1101	Power input connect(24Pin) from SMPS
CN2202_HD	CN2202_HD	Image signal(LVDS) connect(41pin) for Logic board

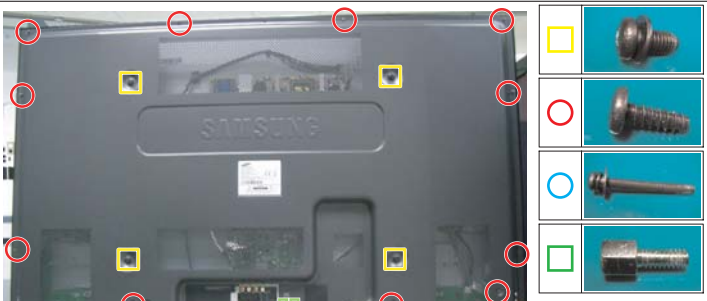
3. Disassembly & Reassembly

3-1 Overall Disassembly & Reassembly

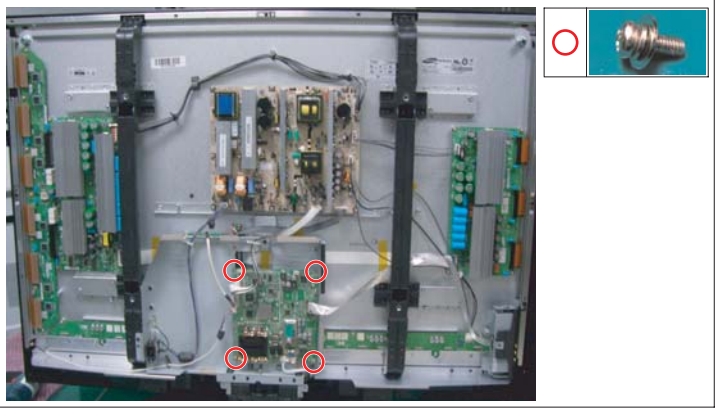
⚠ Notice

- Be sure to separate the power cord before disassembling the unit.
- Discharge the capacitors first when separating PCB's with high capacity capacitors such as SMPS, X Main Board, Y Main Board, etc. (A spark may be generated by the electric charge, and there is danger of electronic shock.)
- Check that the cables are properly connected referring to the circuit diagram when disassembling or assembling the unit taking care not to damage the cables.
- Take care not to scratch the Glass Filter in the front.
- Assemble the boards in the reverse order of the disassembly.
- The plasma must be layed down on a flat padded surface for disassembly and reassembly.

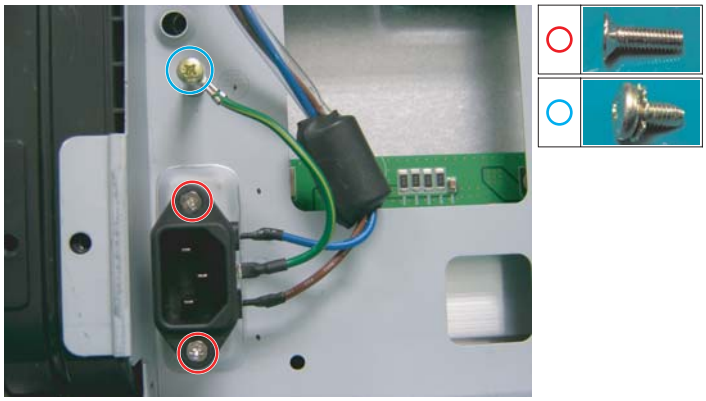
3-1-1 Separation of ASSY COVER P-REAR

Part Name	Description	Description Photo
Cover Rear	① Remove 4 screws. (□) : M8,L16,ZPC(BLK),SWRCH18A,WP ② Remove 15 screws. (○) : BH,+,B,M4,L3,ZPC(BLK) ③ Remove 4 screws. (○) : PH,+,WSP,S,M4,L35,ZPC(BLK) ④ Remove the 2 Hex nuts for the PC input. (□) : #4-40,L6,NI PLT,C3601,- ⑤ Remove the Cover Rear. ⚠: Please lay the PDP unit face down on a soft surface when removing the stand.	

3-1-2 Separation of ASSY PCB MISC-MAIN

Part Name	Description	Description Photo
Main Board	① Detach all connectors from the Main Board. ② Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT ③ Remove the Main Board.	

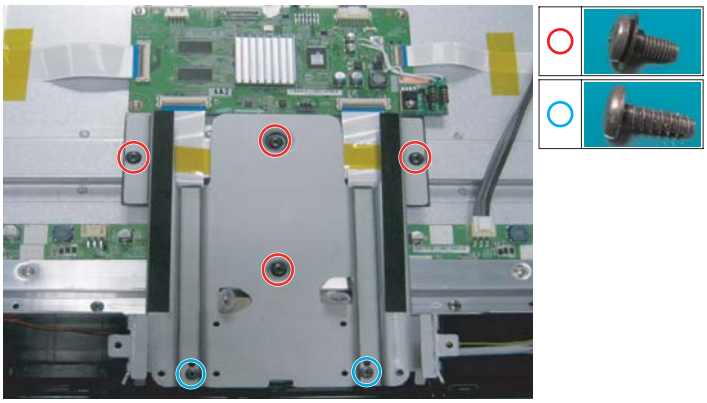
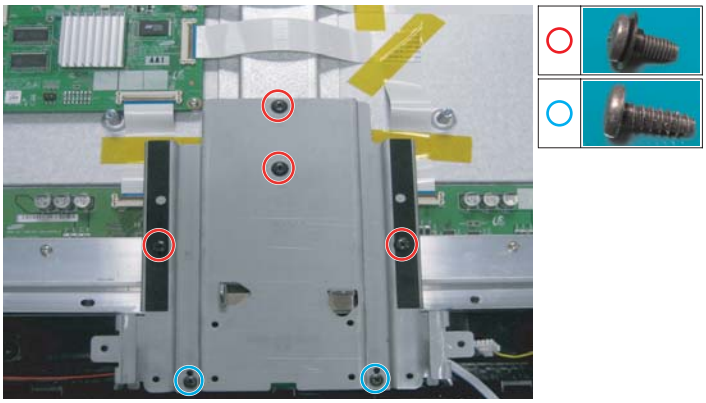
3-1-3 Separation of FILTER-EMI AC LINE

Part Name	Description	Description Photo
FILTER-EMI AC LINE	① Detach connector from Main SMPS. ② Remove 2 screws. (◯) : PH,+,WWP,M3,L8,NI PLT ③ Remove a screw. (◯) : BH,+,S,M4,L10,ZPC(BLK) ④ Remove FILTER-EMI AC LINE.	

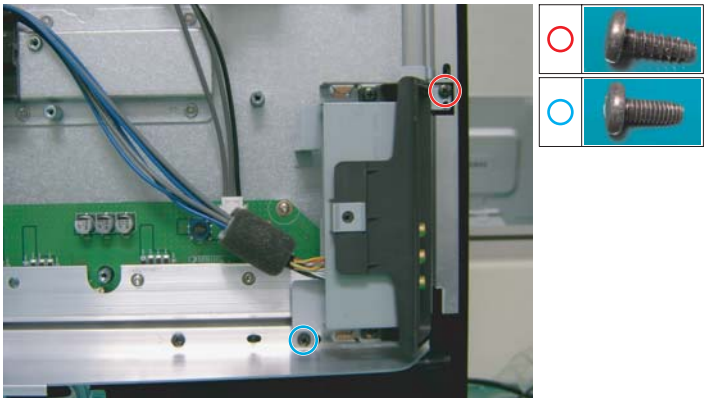
3-1-4 Separation of BRACKET-PCB

Part Name	Description	Description Photo
Bracket PCB	① Remove a screw. : BH,+,S,M4,L10,ZPC(BLK) ② Remove the BRACKET-PCB.	

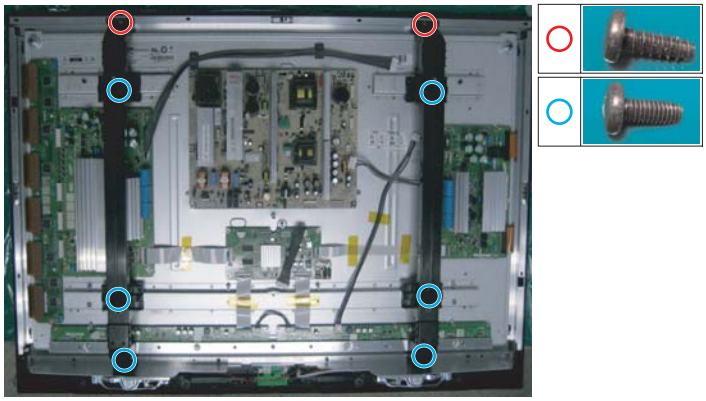
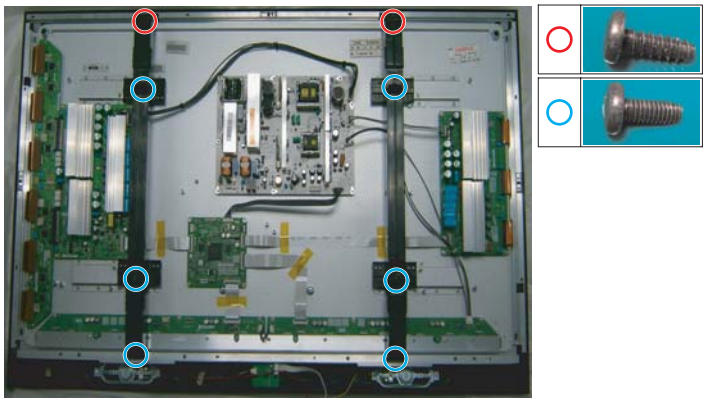
3-1-5 Separation of ASSY BRACKET

Part Name	Description	Description Photo
42" Bracket	① Remove 4 screws. (◯) : BH,+,S,M4,L10,ZPC(BLK) ② Remove 2 screws. (◯) : BH,+,B,M4,L3,ZPC(BLK) ③ Remove Bracket.	
50" Bracket	① Remove 4 screws. (◯) : BH,+,S,M4,L10,ZPC(BLK) ② Remove 2 screws. (◯) : BH,+,B,M4,L3,ZPC(BLK) ③ Remove Bracket.	

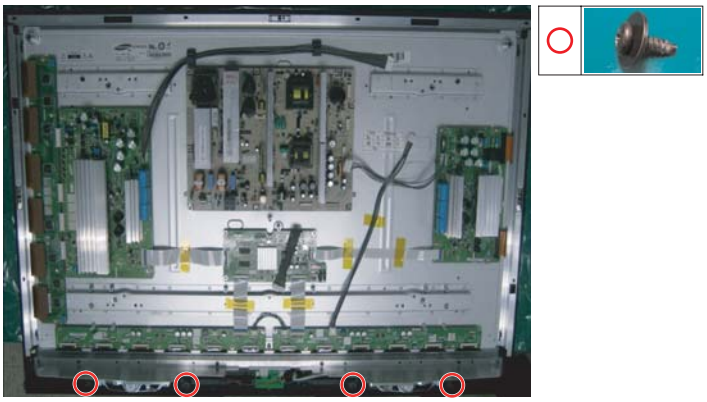
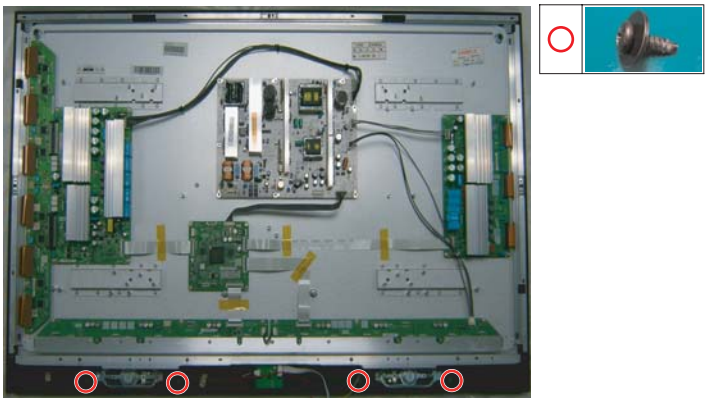
3-1-6 Separation of ASSY BOARD P-SIDE AV

Part Name	Description	Description Photo
Side AV	① Remove a screw. (◯) : BH,+,B,M4,L3,ZPC(BLK) ② Remove a screw. (◯) : BH,+,S,M4,L10,ZPC(BLK) ③ Remove the Side AV.	

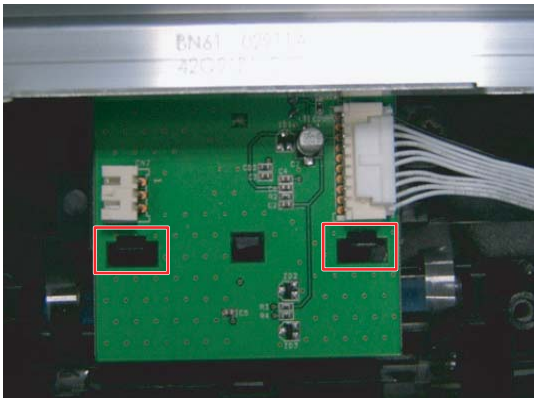
3-1-7 Separation of ASSY BRACKET P-WALL

Part Name	Description	Description Photo
42" Wall Bracket	① Remove 2 screws. (◯) : BH,+,B,M4,L3,ZPC(BLK) ② Remove 6 screws. (◯) : BH,+,S,M4,L10,ZPC(BLK) ③ Remove Wall Bracket. ⚠: Please lay the PDP panel face down on a soft surface when separating front cover.	
50" Wall Bracket	① Remove 2 screws. (◯) : BH,+,B,M4,L3,ZPC(BLK) ② Remove 6 screws. (◯) : BH,+,S,M4,L10,ZPC(BLK) ③ Remove Wall Bracket. ⚠: Please lay the PDP panel face down on a soft surface when separating front cover.	

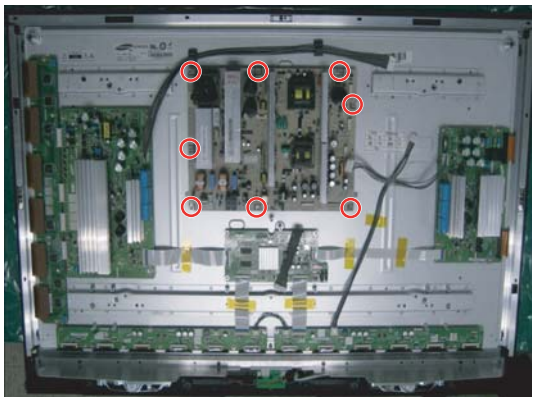
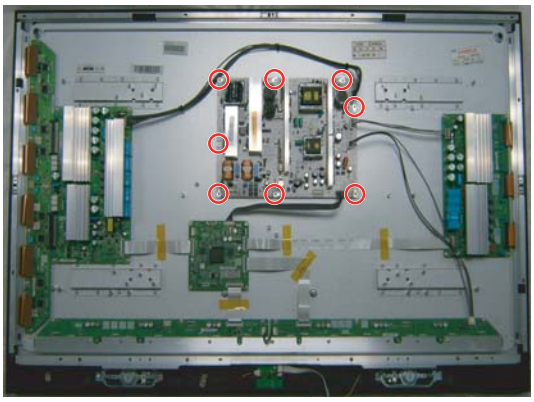
3-1-8 Separation of ASSY SPEAKER P

Part Name	Description	Description Photo
42" Speaker	① Remove 4 screws. : BH,+,WP,B,M4.0,L3,ZPC(BLK), SWRCH18A ② Remove the Speaker.	
50" Speaker	① Remove 4 screws. : BH,+,WP,B,M4.0,L3,ZPC(BLK), SWRCH18A ② Remove the Speaker.	

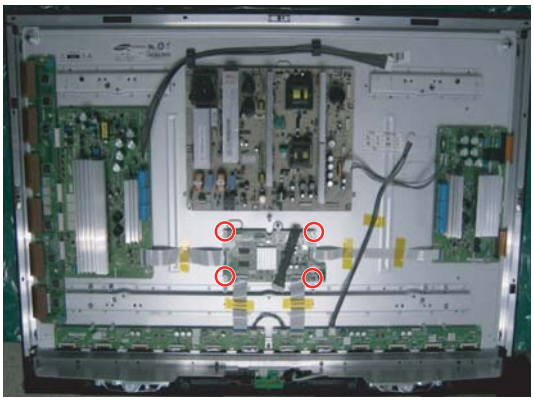
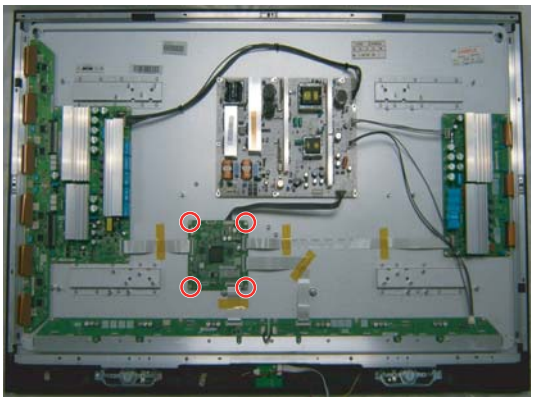
3-1-9 Separation of ASSY BOARD P-POWER&IR

Part Name	Description	Description Photo
Power & IR Board	① Detach all connectors from the Power&IR Board. ② Remove the Power&IR PCB unlocking the 2 holders.	

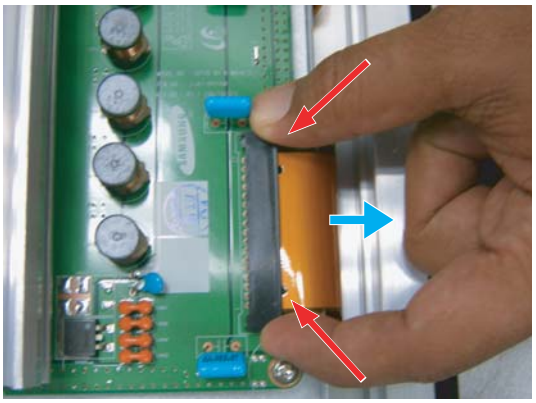
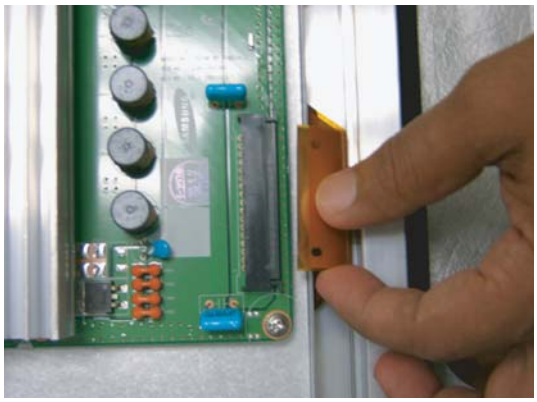
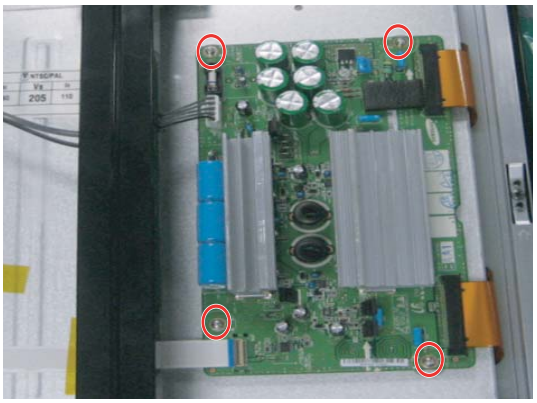
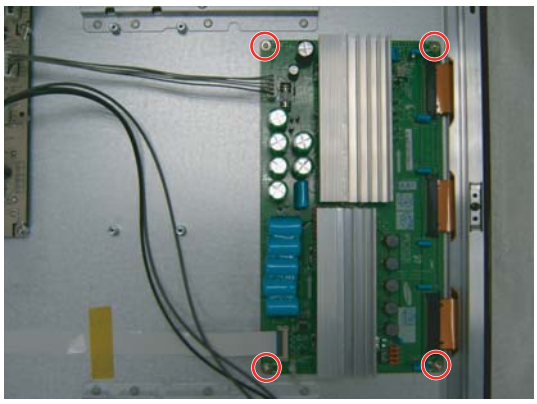
3-1-10 Separation of SMPS-PDP TV

Part Name	Description	Description Photo
42" SMPS	① Detach all connectors from the SMPS. ② Remove 8 screws. : PH,+,WWP,M3,L8,NI PLT ③ Remove the SMPS. ⚠: Wear gloves when handling the power board as there may be some remaining electrical charge in the capacitor. Specifically, avoid touching any part of the capacitor.	 
50" SMPS	① Detach all connectors from the SMPS. ② Remove 8 screws. : PH,+,WWP,M3,L8,NI PLT ③ Remove the SMPS. ⚠: Wear gloves when handling the power board as there may be some remaining electrical charge in the capacitor. Specifically, avoid touching any part of the capacitor.	 

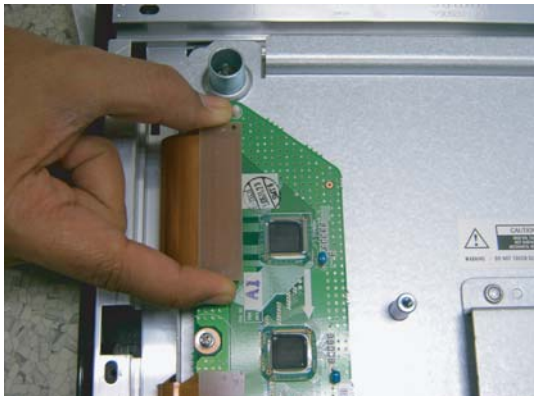
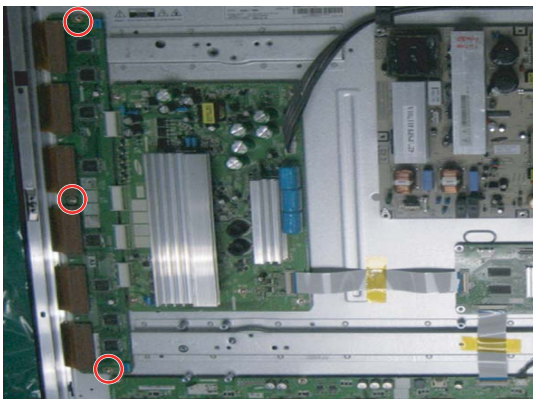
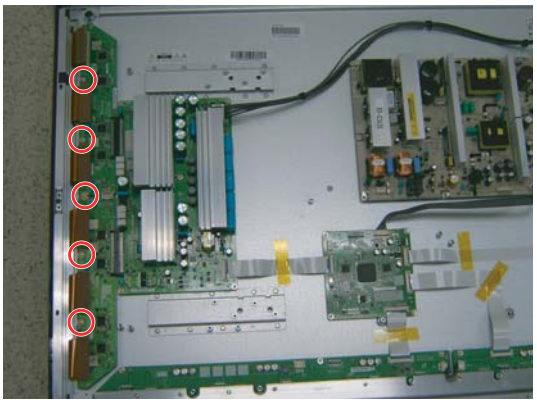
3-1-11 Separation of ASSY PDP MODULE P-LOGIC MAIN BOARD

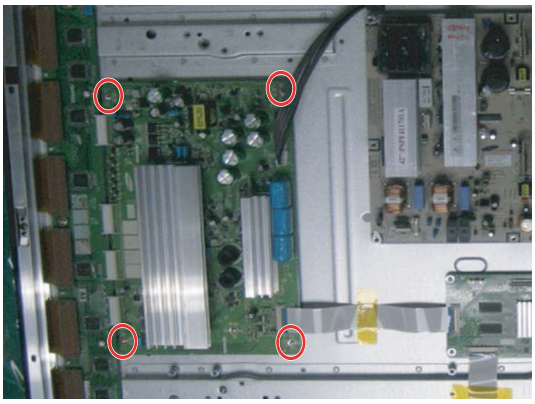
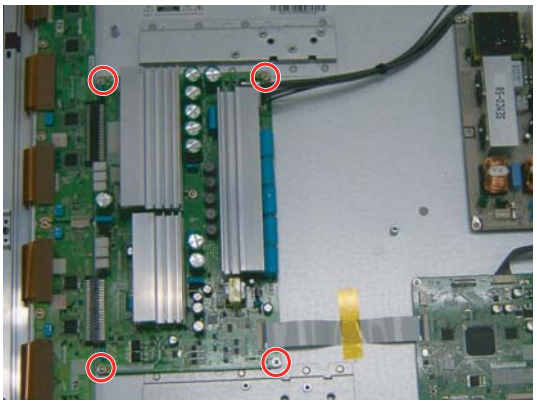
Part Name	Description	Description Photo
42" Logic Board	① Detach all connectors from the Logic Main Board. ② Remove 4 screws. : WSP,PH,+,M3,L8,NI PLT ③ Remove the Logic Main Board.	 
50" Logic Board	① Detach all connectors from the Logic Main Board. ② Remove 4 screws. : WSP,PH,+,M3,L8,NI PLT ③ Remove the Logic Main Board.	 

3-1-12 Separation of ASSY PDP MODULE P-X MAIN BOARD

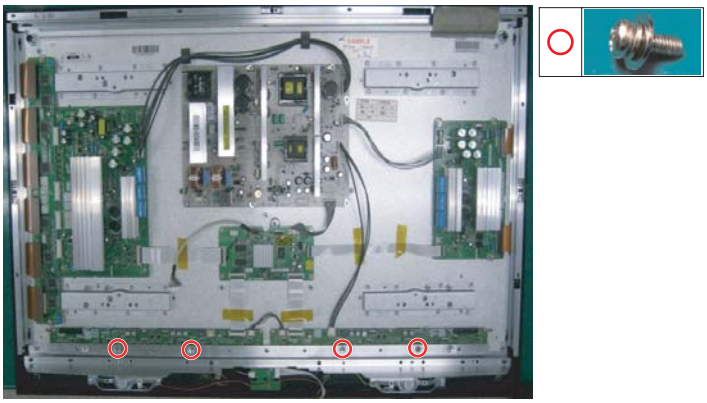
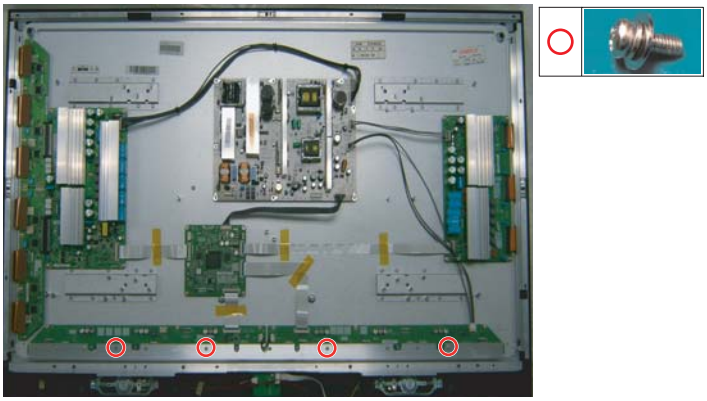
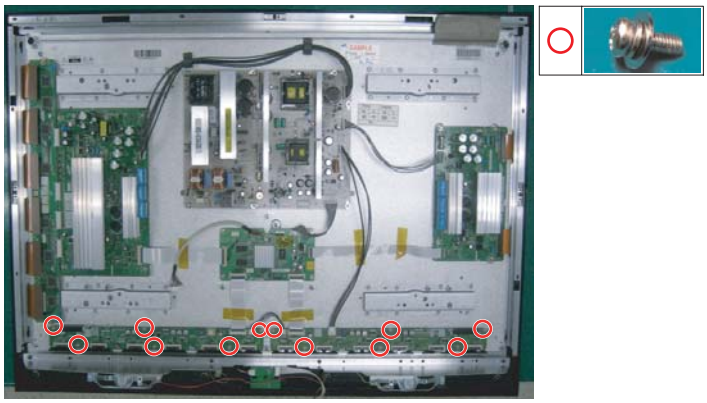
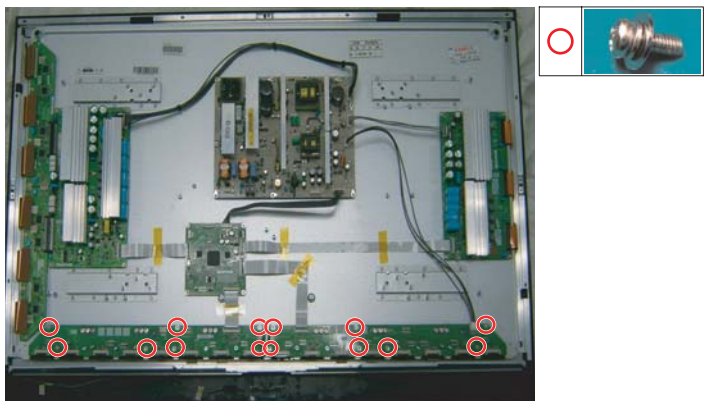
Part Name	Description	Description Photo
Flat Cable	① Detach all Connectors from the X-Main Board. ※ To separate the Flat Cable of the X-Board, press the upper and the lower sides of the connector.	 
42" X-Main Board	① Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT ② Remove the X-Main Board.	 
50" X-Main Board	① Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT ② Remove the X-Main Board.	 

3-1-13 Separation of ASSY PDP MODULE P-Y MAIN BOARD

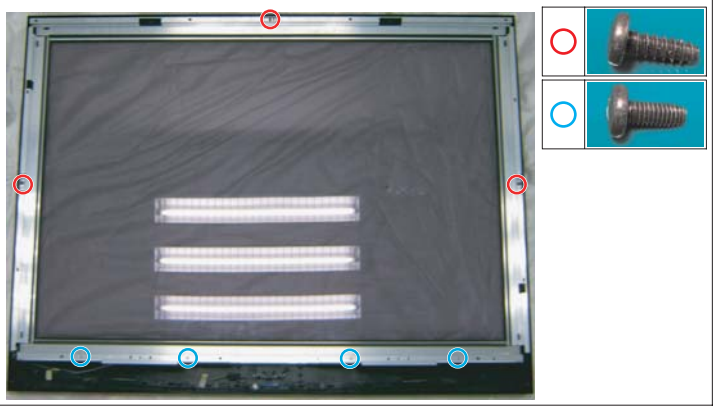
Part Name	Description	Description Photo
Flat Cable	① Detach the 6 scan board connectors from the panel by pulling the holder from both the top and bottom ends.	 
42" Y-Scan Board	① Remove 3 screws. : PH,+,WWP,M3,L8,NI PLT	 
50" Y-Scan Board	① Remove 5 screws. : PH,+,WWP,M3,L8,NI PLT	 

Part Name	Description	Description Photo
42" Y-Main Board	① Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT ② Detach all connectors from the Y-Main Board.	 
50" Y-Main Board	① Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT ② Detach all connectors from the Y-Main Board.	 

3-1-14 Separation of ASSY PDP MODULE P-ADDRESS BUFFER BOARD

Part Name	Description	Description Photo
42" Still Bar	① Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT ② Remove the Still Bar.	
50" Still Bar	① Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT ② Remove the Still Bar.	
42" Buffer Board	① Detach the all connectors from the buffer board. ② Remove 3 screws. : PH,+,WWP,M3,L8,NI PLT ③ Remove the E-Board and F-Board.	
50" Buffer Board	① Detach the all connectors from the buffer board. ② Remove 14 screws. : PH,+,WWP,M3,L8,NI PLT ③ Remove the E-Board and F-Board.	

3-1-15 Separation of ASSY PANEL BRACKETS

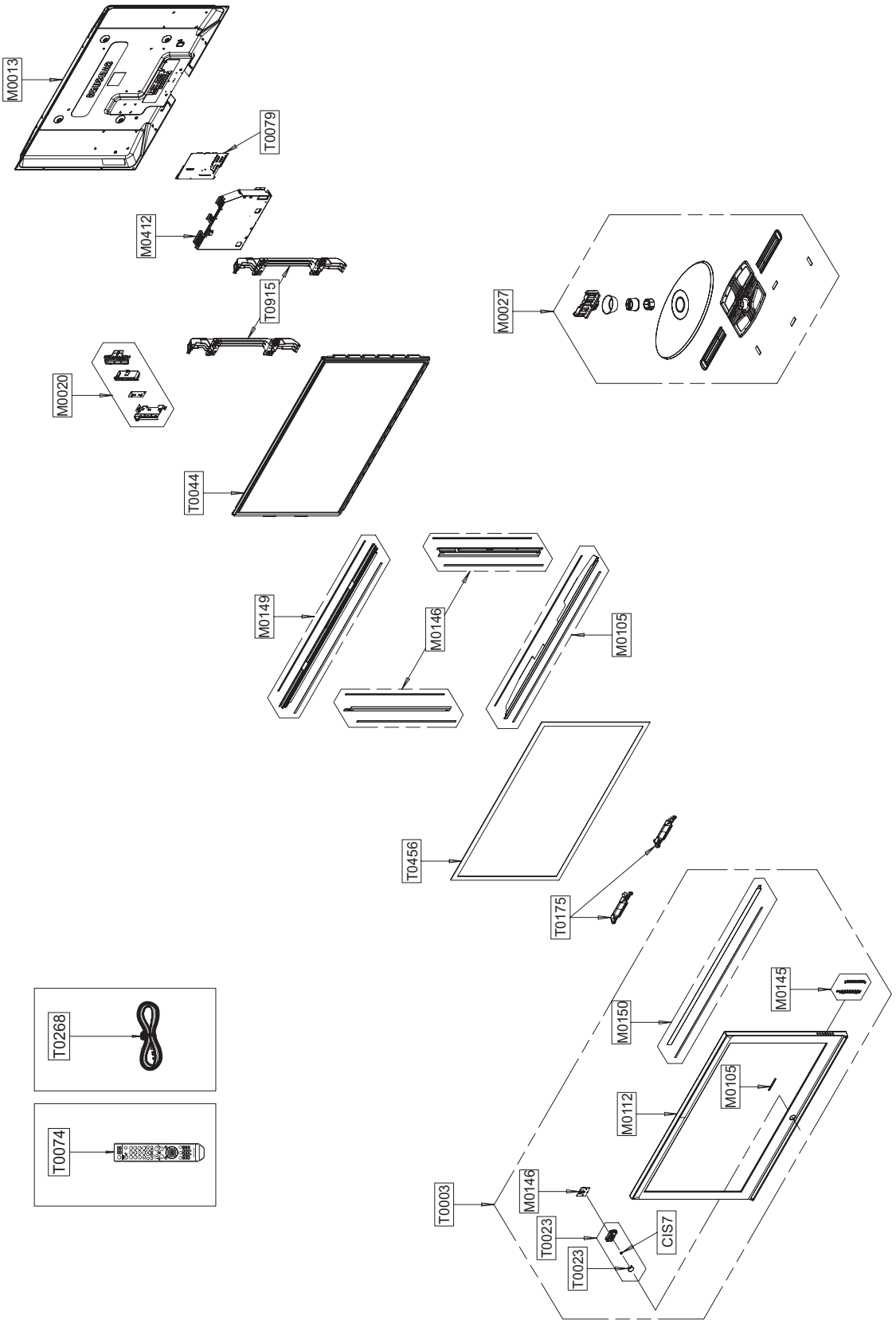
Part Name	Description	Description Photo
Panel Brackets	① Remove 3 screws. (◯) : BH,+,B,M4,L3,ZPC(BLK) ② Remove 4 screws. (◯) : BH,+,S,M4,L10,ZPC(BLK) ③ Remove the Side Panel Brackets.	

3-1-16 Separation of ASSY PCB FUNCTION

Part Name	Description	Description Photo
Function Board	① Remove 2 screws. : BH,+,B,M4,L3,ZPC(BLK) ② Remove the Function Board.	

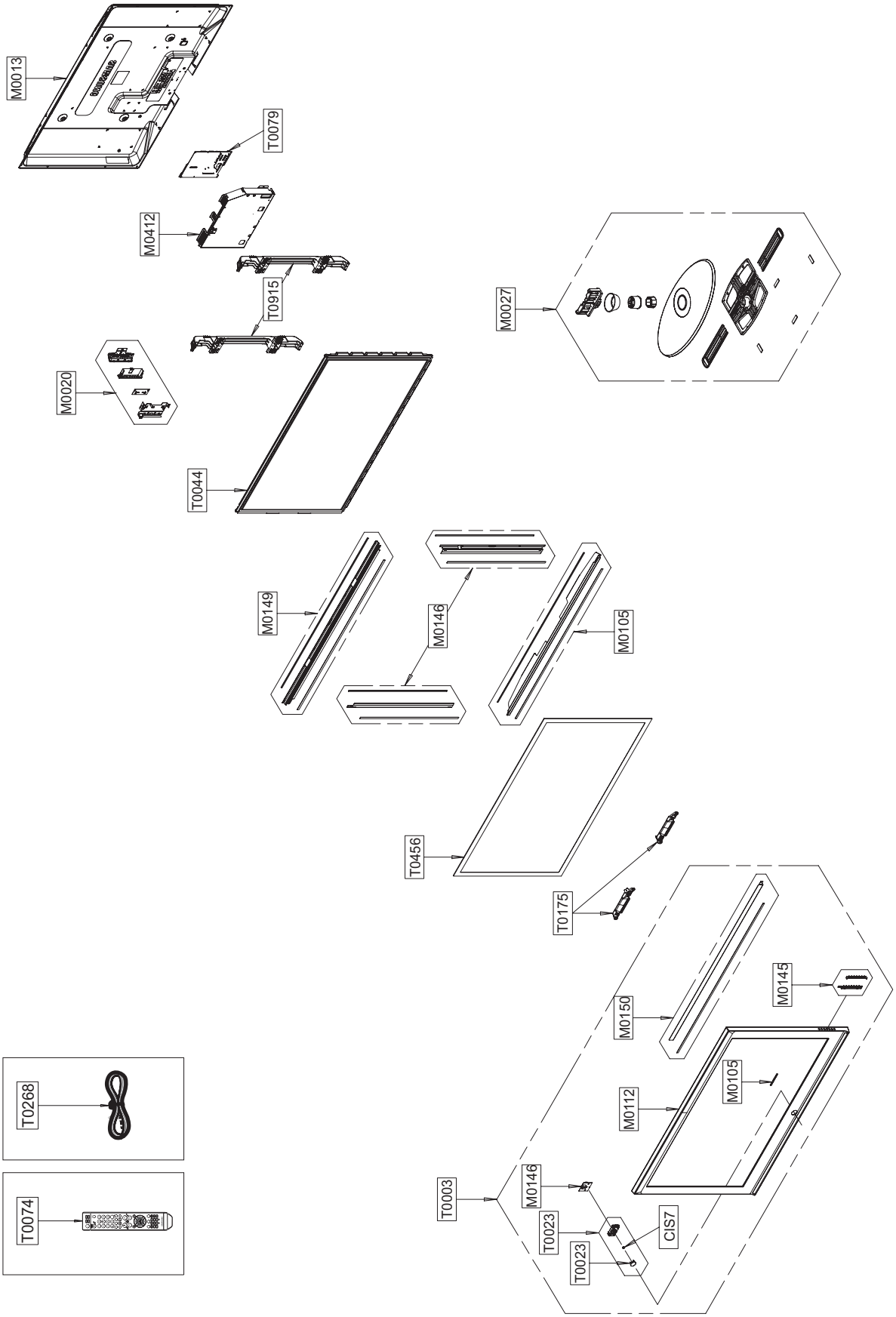
5. Exploded View & Part List

5-1 PS42Q91HX/XEH Exploded View



Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
CIS7	AA61-60003B	SPRING ETC-CS	-,SUS304,-,-,OD11.2,N7,OD1	1	S.N.A	
M0013	BN96-04709A	ASSY COVER P-REAR	42Q9/C9,EU(Ready),PCM	1	S.A	
M0020	BN96-04849B	ASSY BOARD P-SIDE AV	CALLA 42",SJ07-01-0	1	S.N.A	
M0027	BN96-05835A	ASSY STAND P-BASE	42Q9/42C9,ABS,SF-0507,	1	S.A	
M0105	BN67-00190A	LENS-LED	42Q9,PC,light blue,Material of	1	S.N.A	
M0112	BN63-03362B	COVER-FRONT	42Q9(1Mold),ABS,HB,BK23,STEA	1	S.N.A	
M0145	BN96-04853B	ASSY BOARD P-FUNCTION	Lily/Calla,CT5000-	1	S.A	
M0146	BN96-04687A	ASSY BRACKET P-FILTER SIDE	42Q9,AL6063,T	2	S.N.A	
M0146	BN96-04861D	ASSY BOARD P-POWER & IR	Lily/Calla,CT500	1	S.A	
M0149	BN96-04685A	ASSY BRACKET P-FILTER TOP	42Q9,AL6063,T1	1	S.N.A	
M0150	BN96-04691B	ASSY BRACKET P-SUPPORT FILTER	42Q9,Al 60	1	S.N.A	
M0150	BN96-04686A	ASSY BRACKET P-FILTER BOTTOM	42Q9,AL6063	1	S.N.A	
M0412	BN96-04903C	ASSY BRACKET P-PCB	42Q9,SECC T0.8	1	S.N.A	
T0003	BN96-04910B	ASSY COVER P-FRONT	42Q9(1Mold),ABS HB,BK	1	S.A	
T0023	BN96-04707A	ASSY COVER P-KNOB POWER	C9/Q9,ABS HB	1	S.A	
T0023	BN64-00567A	KNOB POWER	42Q9,PC,VIOLET	1	S.N.A	
T0044	BN96-04592A	ASSY PDP MODULE P-MODULE	42HD W2,PL42AX0	1	S.A	⚠
T0074	BN59-00602A	REMOCON	BORDEAUX PLUS,TM87C,samsung 28p+	1	S.A	
T0079	BN94-01182C	ASSY PCB MISC-MAIN	PS42Q91H,PS42Q92H,EU,	1	S.N.A	⚠
T0175	BN96-04819A	ASSY SPEAKER P	8ohm,Q9 42inch,10W,4P con	1	S.A	
T0268	3903-000145	CBF-POWER CORD	DT,EU,FP3/YES,U(IEC C13-R	1	S.A	
T0456	BN67-00183A	GLASS-FILTER EMI	42" Q7,P7,No B/C,MRT,42	1	S.A	⚠
T0915	BN61-02894B	HOLDER-MODULE	42Q9,PC ABS	2	S.N.A	

5-2 PS50Q91HX/XEH Exploded View



Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
CIS7	AA61-60003B	SPRING ETC-CS	-,SUS304,-,-,OD11.2,N7,OD1	1	S.N.A	
M0013	BN96-04711A	ASSY COVER P-REAR	50Q9/C9,EU(Ready),PCM	1	S.A	
M0020	BN96-04849A	ASSY BOARD P-SIDE AV	CALLA 40~50",SJ06-0	1	S.N.A	
M0027	BN96-04714B	ASSY STAND P-BASE	C9/Q9,ABS HB SF-0507,B	1	S.A	
M0105	BN67-00190A	LENS-LED	42Q9,PC,light blue,Material of	1	S.N.A	
M0112	BN63-03361B	COVER-FRONT	50Q9(1Mold),ABS,HB,BK23,STEA	1	S.N.A	
M0145	BN96-04853B	ASSY BOARD P-FUNCTION	Lily/Calla,CT5000-	1	S.A	
M0146	BN96-04690A	ASSY BRACKET P-FILTER SIDE	50Q9,AL6063,T	2	S.N.A	
M0146	BN96-04861D	ASSY BOARD P-POWER & IR	Lily/Calla,CT500	1	S.A	
M0149	BN96-04688A	ASSY BRACKET P-FILTER TOP	50Q9,AL6063,T1	1	S.N.A	
M0150	BN96-04692A	ASSY BRACKET P-SUPPORT FILTER	50Q9,AL606	1	S.N.A	
M0150	BN96-04689A	ASSY BRACKET P-FILTER BOTTOM	50Q9,AL6063	1	S.N.A	
M0412	BN96-04903C	ASSY BRACKET P-PCB	42Q9,SECC T0.8	1	S.N.A	
T0003	BN96-04911B	ASSY COVER P-FRONT	50Q9(1Mold),ABS HB,BK	1	S.A	
T0023	BN96-04707A	ASSY COVER P-KNOB POWER	C9/Q9,ABS HB	1	S.A	
T0023	BN64-00567A	KNOB POWER	42Q9,PC,VIOLET	1	S.N.A	
T0044	BN96-05772A	ASSY PDP MODULE P	PL50HW025A,50HD W2A,PL	1	S.A	⚠
T0074	BN59-00602A	REMOCON	BORDEAUX PLUS,TM87C,samsung 28p+	1	S.A	
T0079	BN94-01217C	ASSY PCB MISC-MAIN	PS50Q91H,PS50Q92H,EU,	1	S.N.A	⚠
T0175	BN96-04703A	ASSY SPEAKER P	8ohm,P9 Q9,15W,4P connect	1	S.A	
T0268	3903-000145	CBF-POWER CORD	DT,EU,FP3/YES,U(IEC C13-R	1	S.A	
T0456	BN67-00194A	GLASS-FILTER EMI	50" W2 HD,Sputter MRT,	1	S.A	⚠
T0915	BN61-02895B	HOLDER-MODULE	50Q9,PCABS	2	S.N.A	

5-3 PS42Q91HX/XEH Service Item

※ This is the list which is available to repair the real material at the time of service.

Loc. No.	Code No.	Description	Specification	Q'ty	Remark
M0013	BN96-04709A	ASSY COVER P-REAR	42Q9/C9,EU(Ready),PCM	1	
M0027	BN96-05835A	ASSY STAND P-BASE	42Q9/42C9,ABS,SF-0507,	1	
M2893	BN39-00859A	LEAD CONNECTOR	CALLA 50",UL20276#30,UL/C	1	
M2893	BN39-00881A	LEAD CONNECTOR	LILLY 42"/50",UL1007#26,U	1	
T0003	BN96-04910B	ASSY COVER P-FRONT	42Q9(1Mold),ABS HB,BK	1	
T0044	BN96-04592A	ASSY PDP MODULE P-MODULE	42HD W2,PL42AX0	1	⚠
T0074	BN59-00602A	REMOCON	BORDEAUX PLUS,TM87C,samsung 28p+	1	
T0079	BN94-01182C	ASSY PCB MISC-MAIN	PS42Q91H,PS42Q92H,EU,	1	⚠
T0175	BN96-04819A	ASSY SPEAKER P	8ohm,Q9 42inch,10W,4P con	1	
T0764	BN44-00161A	SMPS-PDP TV	HPS4253,SEM,AC/DC,370W,AC100	1	⚠
T1910	BN96-04593A	ASSY PDP MODULE P-X-MAIN	42HD W2,PL42AX0	1	⚠
T1911	BN96-04594A	ASSY PDP MODULE P-Y-MAIN	42HD W2,PL42AX0	1	⚠
T1914	BN96-04597A	ASSY PDP MODULE P-ADDRESS-E BU	42HD W2,P	1	
T1915	BN96-04598A	ASSY PDP MODULE P-ADDRESS-F BU	42HD W2,P	1	
T1917	BN96-04596A	ASSY PDP MODULE P-LOGIC MAIN	42HD W2,PL4	1	
T9698	BN96-04595A	ASSY PDP MODULE P-Y-MAIN SCAN	42HD W2,PL	1	

5-4 PS50Q91HX/XEH Service Item

※ This is the list which is available to repair the real material at the time of service.

Loc. No.	Code No.	Description	Specification	Q'ty	Remark
M0013	BN96-04711A	ASSY COVER P-REAR	50Q9/C9,EU(Ready),PCM	1	
M0027	BN96-04714B	ASSY STAND P-BASE	C9/Q9,ABS HB SF-0507,B	1	
M2893	BN39-00859A	LEAD CONNECTOR	CALLA 50",UL20276#30,UL/C	1	
M2893	BN39-00881A	LEAD CONNECTOR	LILLY 42"/50",UL1007#26,U	1	
T0003	BN96-04911B	ASSY COVER P-FRONT	50Q9(1Mold),ABS HB,BK	1	
T0044	BN96-05772A	ASSY PDP MODULE P	PL50HW025A,50HD W2A,PL	1	
T0074	BN59-00602A	REMOCON	BORDEAUX PLUS,TM87C,samsung 28p+	1	⚠
T0079	BN94-01217C	ASSY PCB MISC-MAIN	PS50Q91H,PS50Q92H,EU,	1	
T0175	BN96-04703A	ASSY SPEAKER P	8ohm,P9 Q9,15W,4P connect	1	⚠
T0764	BN44-00162A	SMPS-PDP TV	HPS5053,SEM,AC/DC,460W,AC100	1	
T1910	BN96-06091A	ASSY PDP MODULE P-X-MAIN BOARD	PL50HW025	1	⚠
T1911	BN96-06092A	ASSY PDP MODULE P-Y-MAIN BOARD	PL50HW025	1	⚠
T1914	BN96-06096A	ASSY PDP MODULE P-ADDRESS E BU	PL50HW025	1	⚠
T1915	BN96-06097A	ASSY PDP MODULE P-ADDRESS F BU	PL50HW025	1	
T1917	BN96-06095A	ASSY PDP MODULE P-LOGIC MAIN	PL50HW025A,	1	
T1960	BN96-06093A	ASSY PDP MODULE P-Y-MAIN UPPER	PL50HW025	1	
T1961	BN96-06094A	ASSY PDP MODULE P-Y-MAIN LOWWE	PL50HW025	1	

MEMO

1. Precaution

To avoid possible damage, electric shocks or exposure to radiation, follow the instructions below with regard to safety, installation, service and ESD.

1-1 Safety Precautions

1. Make sure all protective devices are properly installed including non-metallic handles and compartment covers when installing or re-installing the chassis or chassis assemblies.

2. Make sure that no gaps exist between the cabinets for children to insert their fingers in to prevent children from receiving electric shocks. Gaps mentioned above include ventilation holes between the PDP module and the cabinet mask, and the improper installation of the rear cabinet.

   Errors may occur when the resistance is below 1.0 MΩ or over 5.2 MΩ.
   In these cases, make sure that the device is repaired before sending it back to the customer.

3. Check for Electricity Leakage (Figure 1-1)
   Warning: Do not use an insulated transformer for checking the leakage. Use only those current leakage testers or mirroring systems that comply with ANSIC 101.1 and the Underwriter Laboratory's specifications (UL1410, 59.7).

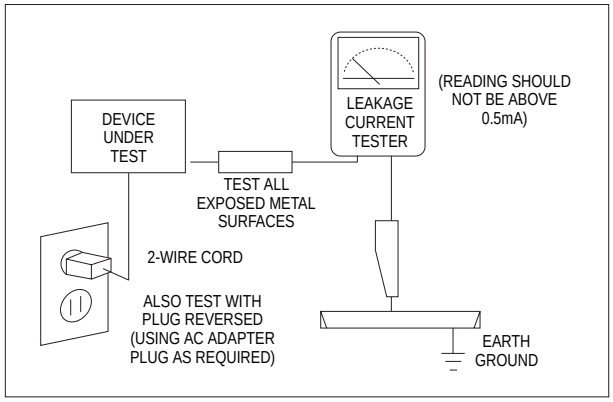


Fig. 1-1 AC Leakage Test

4. A high voltage is maintained within the specified limits using safety parts, calibration and tolerances. When voltage exceeds the specified limits, check each special part.

5. Warning for Engineering Changes:
   Never make any changes or additions to the circuit design or the internal part for this product.
   Ex: Do not add any audio or video accessory connectors. This might cause physical damage. Furthermore, any changes or additions to the original design/engineering will invalidate the warranty.

6. Warning - Hot Chassis:
   Some TV chassis are directly connected to one end of the AC power cord for electrical reasons.
   Without insulated transformers, the product can only be repaired safely when the chassis is connected to the earth end of the AC power source.

   To make sure the AC power cord is properly connected, follow the instructions below. Use the voltmeter to measure the voltage between the chassis and the earth ground. If the measurement is over 1.0V, unplug the AC power cord and change the polarity before re-inserting it. Measure the voltage between the chassis and the ground again.

7. Some TV chassis are shipped with an additional secondary grounding system. The secondary system is adjacent to the AC power line. These two grounding systems are separated in the circuit using an unbreakable/unchangeable insulation material.

8. When any parts, material or wiring appear overheated or damaged, replace them with new immediately. When any damage or overheating is detected, correct this immediately and make a regular check of possible errors.

9. Check for the original shape of the lead, especially that of the antenna wiring, any sharp edges, the AC power and the high voltage power. Carefully check if the wiring is too tight, incorrectly placed or loose. Never change the space between the part and the printed circuit board. Check the AC power cord for possible damages. Keep the part or the lead away from any heat-emitting materials.

10. Safety Indication:
    Some electrical circuits or device related materials require special attention to their safety features, which cannot be viewed by the naked eye. If an original part is replaced with another irregular one, the safety or protective features will be lost even if the new one has a higher voltage or more watts.

    Critical safety parts should be bracketed with (⚠ ⚠). Use only regular parts for replacements (in particular, flame resistance and dielectric strength specifications). Irregular parts or materials may cause electric shock or fire.

1-2 Servicing Precautions

Warning 1: First carefully read the "Safety Instruction" in this service manual.
When there is a conflict between the service and the safety instructions, follow the safety instruction at all times.

Warning 2: Any electrolytic capacitor with the wrong polarity will explode.

1. The service instructions are printed on the cabinet, and should be followed by any service personnel.

2. Make sure to unplug the AC power cord from the power source before starting any repairs.
   (a) Remove or re-install parts or assemblies.
   (b) Disconnect the electric plug or connector, if any.
   (c) Connect the test part in parallel with the electrolytic capacitor.

3. Some parts are placed at a higher position than the printed board. Insulated tubes or tapes are used for this purpose. The internal wiring is clamped using buckles to avoid contact with heat emitting parts. These parts are installed back to their original position.

4. After the repair, make sure to check if the screws, parts or cables are properly installed. Make sure no damage is caused to the repaired part and its surroundings.

5. Check for insulation between the blade of the AC plug and that of any conductive materials (i.e. the metal panel, input terminal, earphone jack, etc).

6. Insulation Check Process: Unplug the power cord from the AC source and turn the switch on. Connect the insulating resistance meter (500v) to the AC plug blade.

   The insulating resistance between the blade of the AC plug and that of the conductive material should be more than 1 MΩ.

7. Any B+ interlock should not be damaged.
   If the metal heat sink is not properly installed, no connection to the AC power should be made.

8. Make sure the grounding lead of the tester is connected to the chassis ground before connecting to the positive lead. The ground lead of the tester should be removed last.

9. Beware of risks of any current leakage coming into contact with the high-capacity capacitor.

10. The sharp edges of the metal material may cause physical damage, so protect yourself by wearing gloves during the repair.

11. Due to the nature of plasma display panels, partial after-images may appear if a still picture is displayed on the screen for a long period of time.
    This is caused by brightness deterioration due to the storage effect of the panel, and to prevent this from happening, we recommend that the brightness and contrast are reduced.
    (e.g.) Contrast: 25, Brightness: 50

1-3 Static Electricity Precautions

1. Some semi-conductive ("solid state") devices are vulnerable to static electricity. These devices are known as ESD. ESD includes the integrated circuit and the field effect transistor. To avoid any materials damage from electrostatic shock, follow the instructions described below.

2. Remove any static electricity from your body by connecting the earth ground before handling any semi-conductive parts or assemblies. Alternatively, wear a dischargeable wrist-belt.
   (Make sure to remove any static electricity before connecting the power source - this is a safety instruction for avoiding electric shock)

3. Remove the ESD assembly and place it on a conductive surface such as aluminum foil to prevent accumulating static electricity.

4. Do not use any Freon-based chemicals.
   Such chemicals will generate static electricity that causes damage to the ESD.

5. Use only grounded-tip irons for soldering purposes.

6. Use only anti-static solder removal devices.
   Most solder removal devices do not support an anti-static feature. A solder removal device without an anti-static feature can store enough static electricity to cause damage to the ESD.

7. Do not remove the ESD from the protective box until the replacement is ready. Most ESD replacements are covered with lead, which will cause a short to the entire unit due to the conductive foam, aluminum foil or other conductive materials.

8. Remove the protective material from the ESD replacement lead immediately after connecting it to the chassis or circuit assembly.

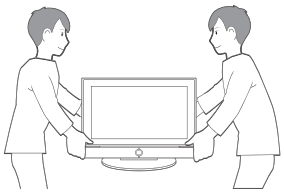
9. Take extreme caution in handling any uncovered ESD replacements. Actions such as brushing clothes or lifting your leg from the carpet floor can generate enough static electricity to damage the ESD.

CAUTION

These servicing instructions are for use by qualified service personnel only.
To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

1-4 Installation Precautions

1. For safety reasons, more than two people are required for carrying the product.



2. Keep the power cord away from any heat emitting devices, as a melted covering may cause fire or electric shock.

3. Do not place the product in areas with poor ventilation such as a bookshelf or closet. The increased internal temperature may cause fire.

4. Bend the external antenna cable when connecting it to the product. This is a measure to protect it from being exposed to moisture. Otherwise, it may cause a fire or electric shock.

5. Make sure to turn the power off and unplug the power cord from the outlet before repositioning the product. Also check the antenna cable or the external connectors if they are fully unplugged. Damage to the cord may cause fire or electric shock.

6. Keep the antenna far away from any high-voltage cables and install it firmly. Contact with the high-voltage cable or the antenna falling over may cause fire or electric shock.

7. When connecting the RF antenna, check for a DTV receiving system and install a separate DTV reception antenna for areas with no DTV signal.

8. When installing the product, leave enough space (4") between the product and the wall for ventilation purposes.
   A rise in temperature within the product may cause fire.

9. When moving a PDP with removable speakers, detach the speakers first before moving the main body.
   Moving the PDP main body without separating the speakers may cause the speakers to detach, possibly causing damage or injury.

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2. Product Specification

2-1 Product Specification

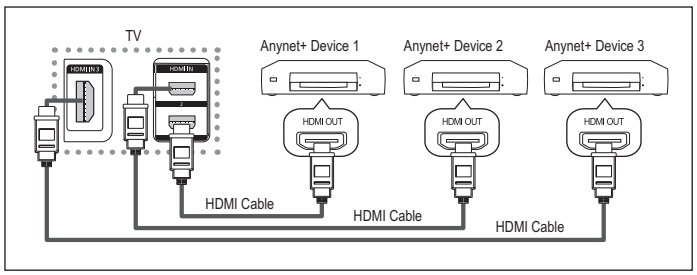
Features			
Block	Specification	Major IC	Remark
RF	Tuner	TCPW3001PD32S	SEMCO
PDP Module	Samsung SDI W2A	42"HD/50"HD	SAMSUNG SDI
Power	Input Voltage: AC 100~240V, 50/60Hz		
Video	Scaler	SVP-UX68	
	Video Decoder		
Sound	Sound AMP	NTP3000	Neo Fidelity
	Audio CODEC	SGTV5810	
Cabinet	Q9 Design		

Specification		
Model	PS-42Q91H	PS-50Q91H
Screen Size	42 Inches (16:9)	50 Inches (16:9)
Dimensions (WxHxD)	1055 x 757 x 316 mm (With stand)	1231 x 849 x 316 mm (With stand)
Weight	34 kg (With stand)	44 kg (With stand)
Voltage	AC 100~240V, 50/60Hz	
Colour System	PAL, SECAM, NTSC4.43, NTSC 3.58	
Sound System	BG, DK, I, M	
PC Resolution	1024 x 768 @ 85Hz	1360 x 768 @ 60Hz
ANTENNA input	AIR IN (75Ω unbalanced)	
VIDEO input	SCART1, SCART2 AV (Side), S-VIDEO (Side) COMPONENT IN (480i/P, 576i/P, 720P, 1080i) PC IN (MINI D-SUB 15P) HDMI1 HDMI2 (DVI IN) HDMI3 (Side)	
AUDIO input	SCART1, SCART2 AV (Side), S-VIDEO (Side) Component PC DVI	
Audio Output	AUDIO (L/R)	
Speaker Output	10W + 10W	15W + 15W
New Features	Anynet+	

■ New Features explanation

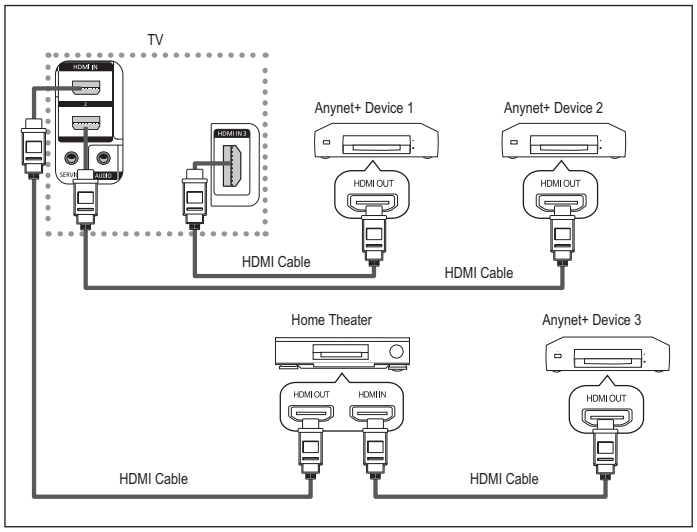
- Anynet+ : Anynet+ is an AV network system that enables you to control all connected Samsung AV devices with your Samsung TV's remote.

To directly connect to TV



Connect the [HDMI 1], [HDMI 2] or [HDMI 3] jack on the TV and the HDMI OUT jack of the corresponding Anynet+ device using the HDMI cable.

To connect to Home Theater



1 Connect the [HDMI 1], [HDMI 2] or [HDMI 3] jack on the TV and the HDMI OUT jack of the corresponding Anynet+ device using the HDMI cable.

2 Connect the HDMI IN jack of the home theater and the HDMI OUT jack of the corresponding Anynet+ device using the HDMI cable.

⟶ Connect only one receiver.

⟶ You can connect an Anynet+ device using the HDMI cable. Some HDMI cables may not support Anynet+ functions.

⟶ Anynet+ works when the AV device supporting Anynet+ is in the Standby or On status.

⟶ Anynet+ supports up to 8 AV devices in total.

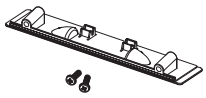
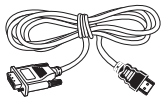
2-2 Specifications Analysis

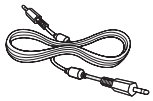
※ ○: application, X: non-application

Model		PS-42Q91H (Calla-42HD)	PS-50Q91H (Calla-50HD)	PS-42P7HD (Alps-42HD)
Design				
Basic	Display Type	PDP TV	PDP TV	PDP TV
	Built-In Tuner	O	O	O
	PC Resolution	1024 x 768 @ 85Hz	1360 x 768 @ 60Hz	1024 x 768 @75Hz
	PDP Module	W2A	W2A	V5.1
	Screen Size	42 inches	50 inches	42 inches
	Aspect Ratio	16 : 9	16 : 9	16 : 9
	Dimensions (WxHxD)	1055 x 757 x 316 mm (With stand)	1231 x 849 x 316 mm (With stand)	1055 x 775 x 341 mm (With stand)
	Weight	34 kg (With stand)	44 kg (With stand)	40.4 kg (With stand)
Picture	Brightness	1,500 Cd/m2	1,300 Cd/m2	1,100 Cd/m2
	Contrast Ratio	10000:1	10000:1	10000:1
	Image Enhacer	FBE2X	FBE2X	FBE
Audio	Equalizer	O	O	O
	Auto Volume	O	O	O
	Surround Sound	SRS TruSurround	SRS TruSurround	SRS TruSurround
	Speaker Output	10 W + 10 W	15 W + 15 W	15 W + 15 W
	Speaker	2CH	2.2CH (2Way)	Included
Features	PIP	O	O	O
	Double Screen	O	O	X
	Caption	X	X	X
	Still Image	O	O	O
	My Color Control	O	O	X
	Color Weakness	X	X	X
	Energy Saving	O	O	O
	Screen Burn Protection	O	O	O
Connections	Antenna	1 Input	1 Input	1 Input
	CVBS	1AV(Side)	1AV(Side)	1AV(Rear)
	S-Video	O	O	1 Input
	Component(Y/PB/PR)	1 Input	1 Input	1 Input
	PC(D-SUB)	1 Input	1 Input	1 Input
	DVI	O	O	O
	HDMI	3 Input	3 Input	2 Input
	Scart	2 Input	2 Input	2 Input
	Optical	O	O	O
	Coaxial	X	X	X

※ For the power supply and power consumption, refer to the label attached to the product.

2-3 Accessories

Accessories		Item	Item code	Remark
Supplied Accessories		Remote Control Batteries	BN59-00602A 4301-000103	Samsung Service center
		Power Cord	3903-000145	
		Owner's Instructions	BN68-01171P	
		Registration Card Safety Guide Manual	AA68-03575A AA68-03242E	
		Cloth-Clean	BN63-01798A	
		Ferrite Core for Earphone/Power Cord	3301-001110	
		Ferrite Core for S-VIDEO/Power Cord	3301-001305	
		Cover-Bottom Screws (2ea)	BN63-03055A 6003-001621	
Accessories that can be purchased additionally		S-VIDEO Cable 1200mm	BN39-00149A	Electronics Store/ Internal shopping mall
		HDMI Cable 3000mm	BN39-00641A	
		HDMI/DVI cable 3000mm	BN39-00643A	
		Component Cables (RCA) 1500mm	BN39-00279A	
		Scart Cable	None	

Accessories		Item	Item code	Remark
Accessories that can be purchased additionally		PC Cable 1830mm	BN39-00115A	Electronics Store/ Internal shopping mall
		PC Audio Cable 2000mm	BN39-00061B	
		Antenna Cable 3000mm	BN39-00333A	

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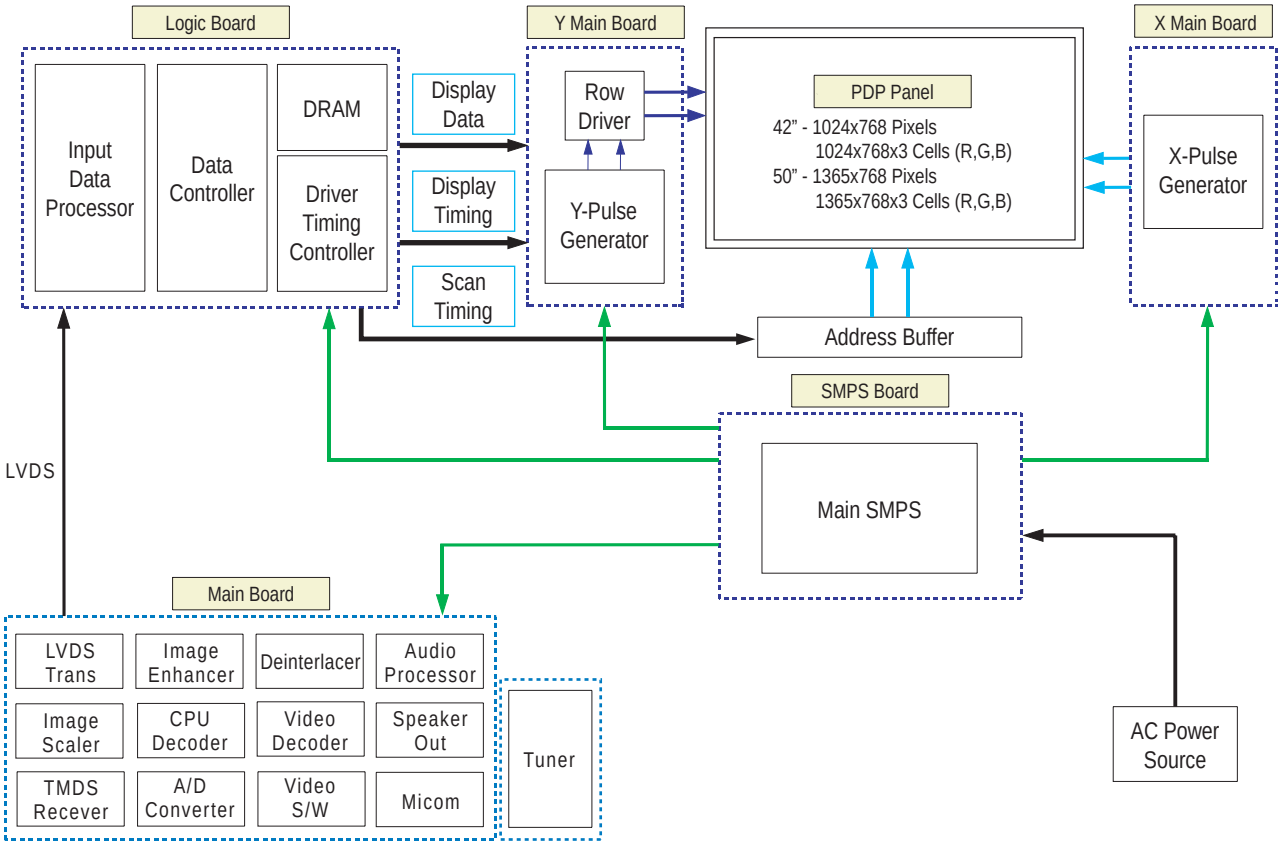
7. Schematic Diagram

7-1 Circuit Description



■ SMPS Board

The SMPS used for the PDP has been designed to be efficient, compact and lightweight. For VS and VA outputs, a LLC converter has been used. For the other outputs, a Flyback converter has been used.

■ LOGIC Board

The logic circuit consists of a Logic Main Board and an Address Buffer Board. The Logic Main Board decodes the video signal encoded by the Video Board, outputs the ADDRESS data signal for each pattern and generates X and Y drive signals. The Address Buffer Board buffers and transfers the ADDRESS data output signal using TCP IC.

- LVDS with built-in video signal processing (W/L, error diffusion, APC, FCR, etc.) applied and 1 ASIC chip.
- Outputs the address Drive IC control and data signals to the Buffer Board.
- Outputs the control signal for the X and Y Drive Boards.
- Monitors major drive voltages (Micom Circuit Block); detects if a surge voltage has been applied and protects the Drive Circuit.
- Temperature Adaptive Operating Mode (Low Temperature/Room Temperature/High Temperature); Discharge optimization for each temperature level.

■ X-MAIN Board

Connects to the X terminal block, 1) provides maintaining voltage waveform (including ERC), and 2) maintains the Ve bias in the Scan section.

■ Y-MAIN Board

Connects to the Y terminal block, 1) provides maintaining voltage waveform (including ERC), 2) provides Y Rising, Falling Ramp waveforms, and 3) maintains the Vscan bias.

■ Address Buffer Board

It delivers the data signal and control signal to the TCP.

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7-2 Schematic Diagram

7-2-1 Power

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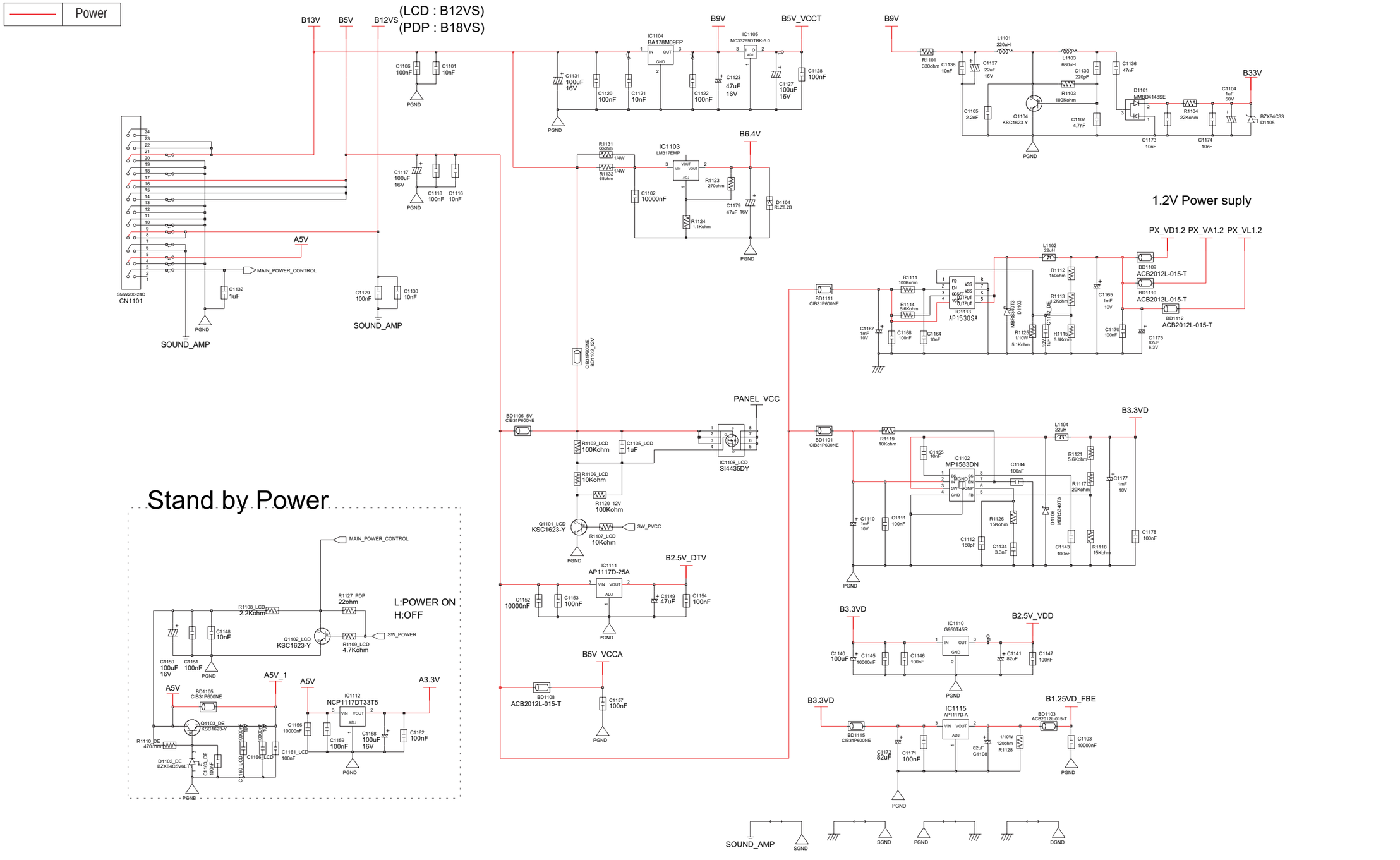

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7-2-2 Sound Processing

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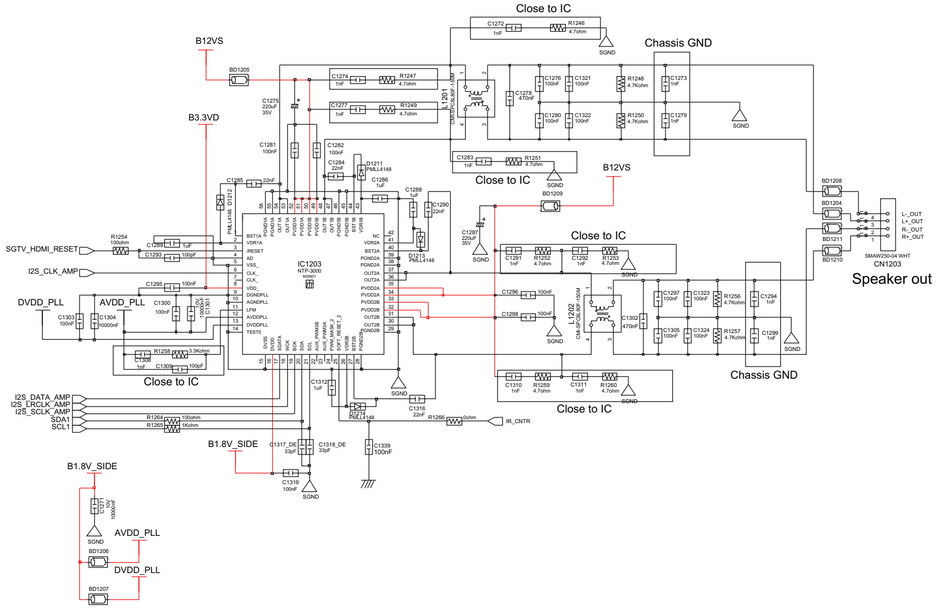
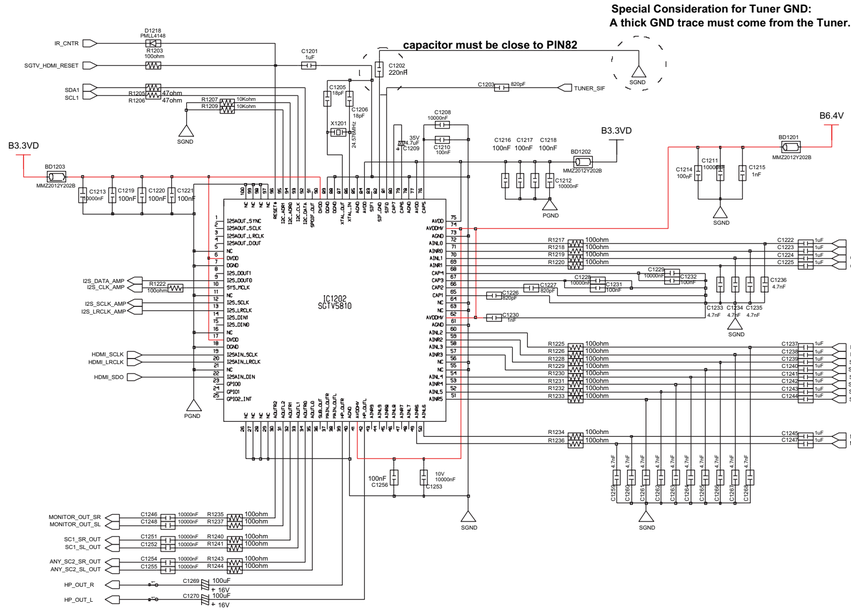
Power

SOUND AMP

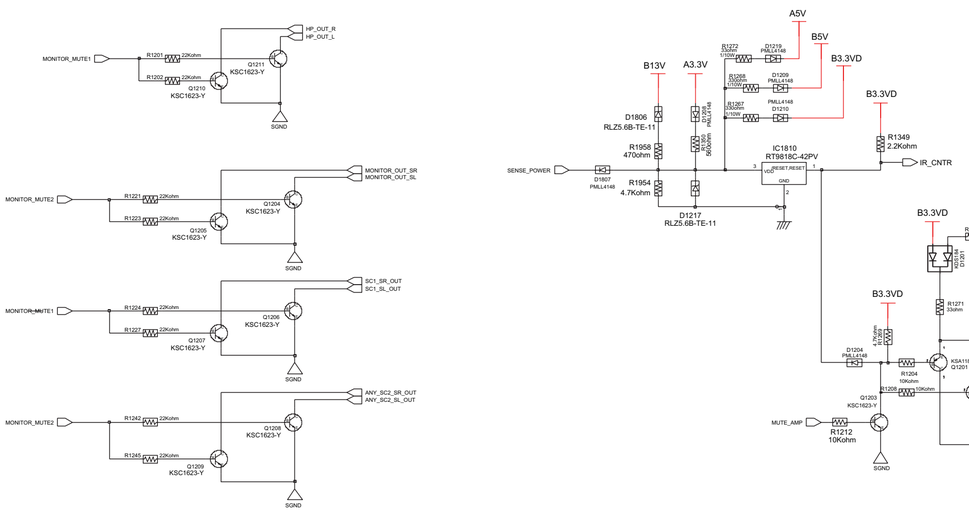


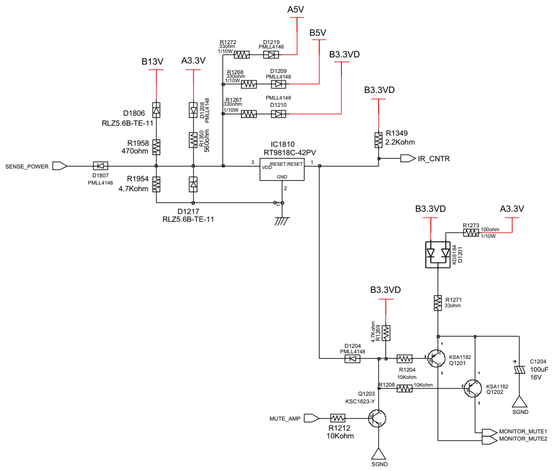
SOUND



HDMI RECEIVER

POP NOISE SOLUTION





f31a-p-sdiag-7-a2.qxd 2007-04-19 오후 3:58 페이지7-5

7-2-3 Input & Output Jack I (Normal)

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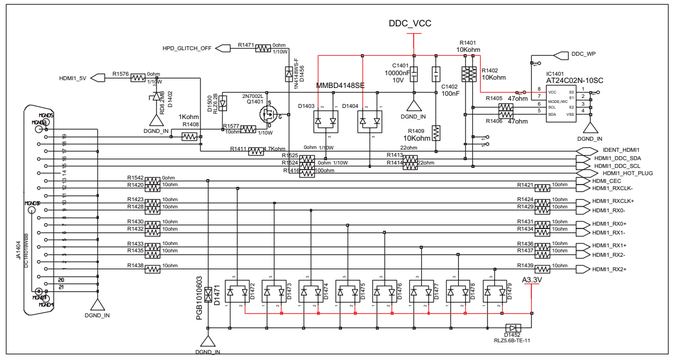
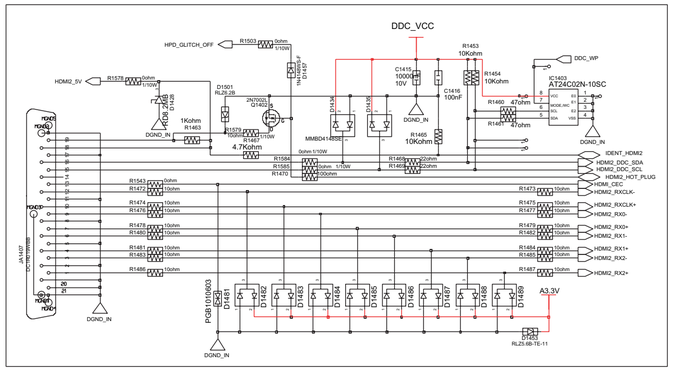
Power

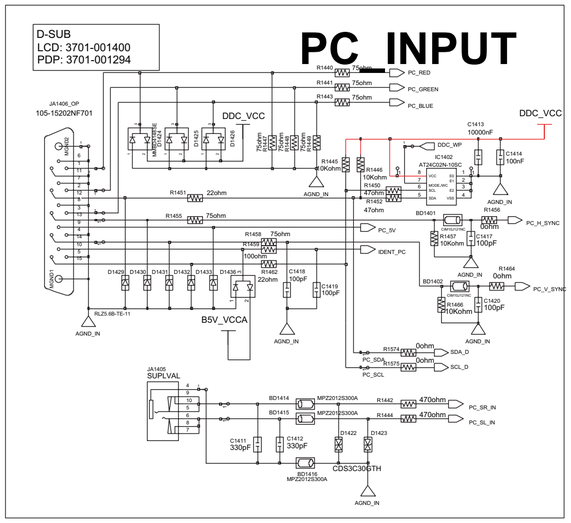
HDMI INPUT 1



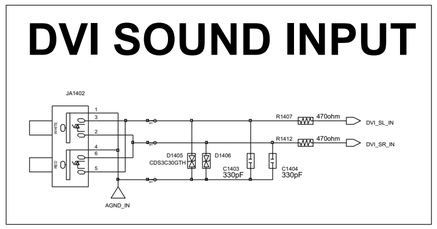
HDMI INPUT 2



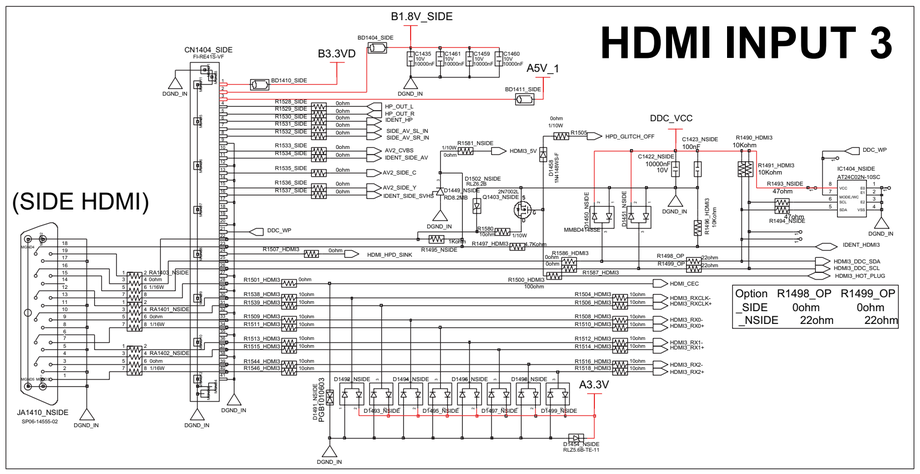
PC_INPUT



DVI SOUND INPUT

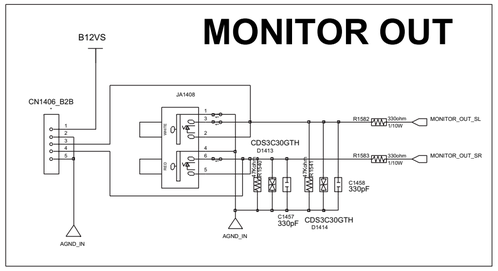


HDMI INPUT 3

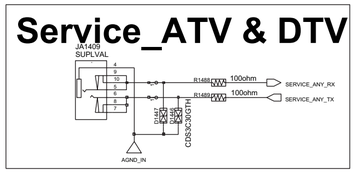


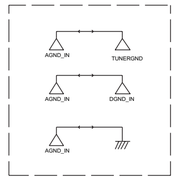
Option _SIDE _NSIDE	R1498_OP	R1499_OP
	0ohm	0ohm
	22ohm	22ohm

MONITOR OUT

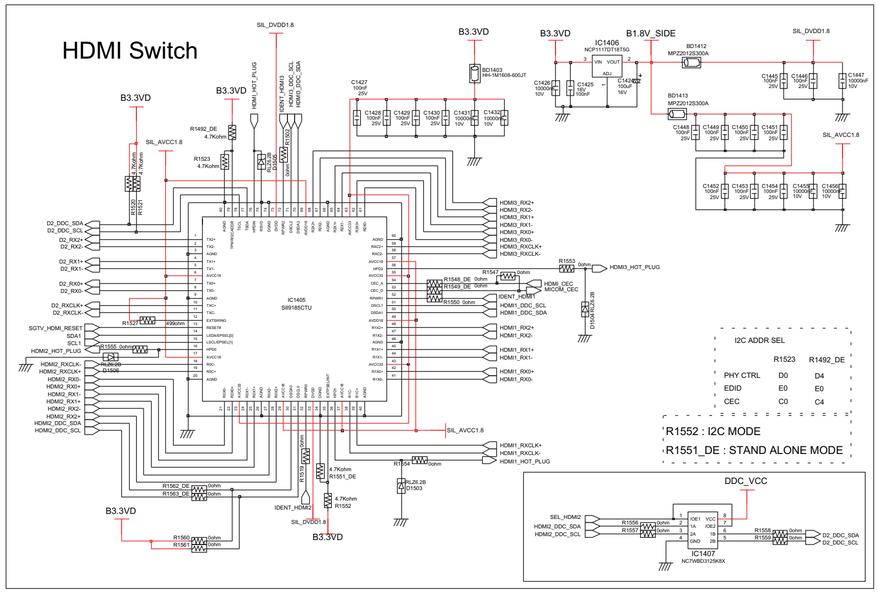


Service_ATV & DTV

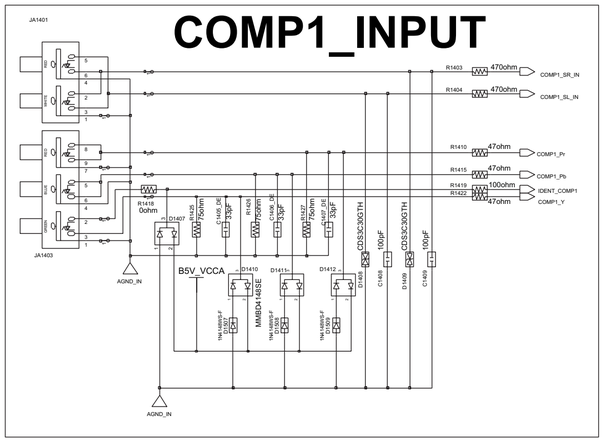




HDMI Switch

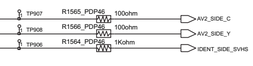


COMP1_INPUT

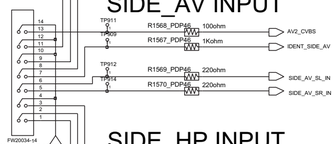


PDP_SIDE AV OPTION

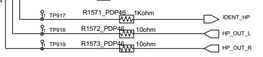
SIDE_SVIDEO INPUT



SIDE_AV INPUT



SIDE_HP INPUT



f31a-p-sdiag-7-a2.qxd 2007-04-19 오후 3:59 페이지7-6

7-2-4 Input & Output Jack II (Option)

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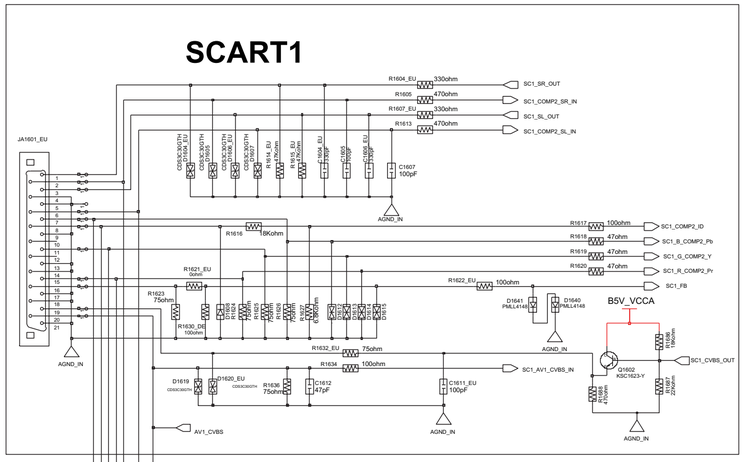
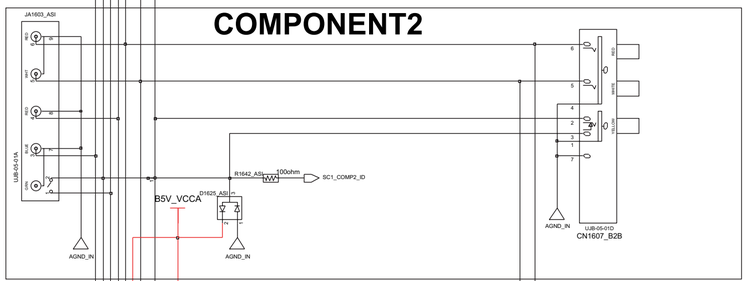
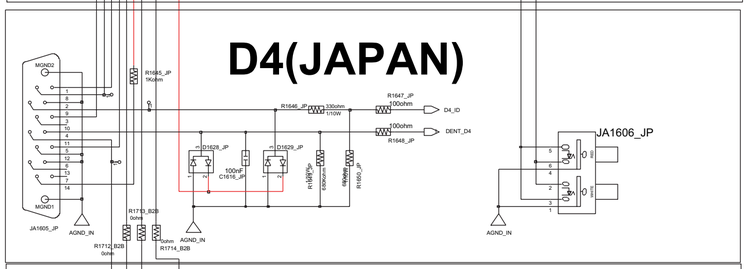
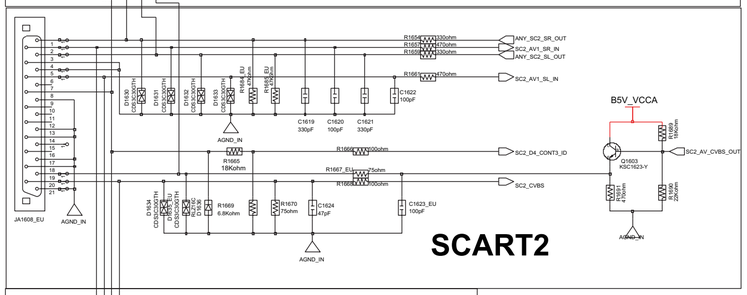
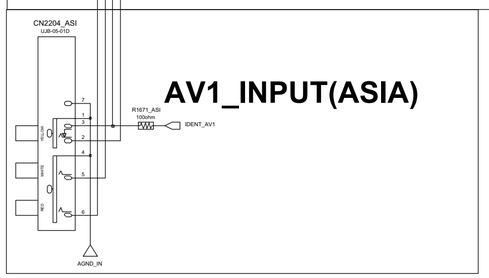
Power

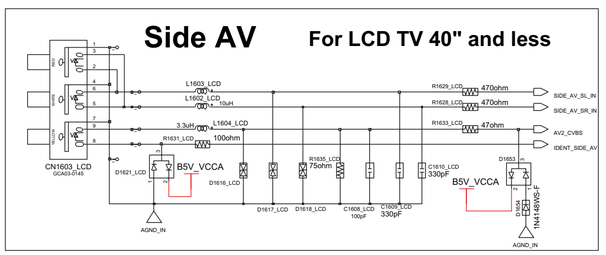


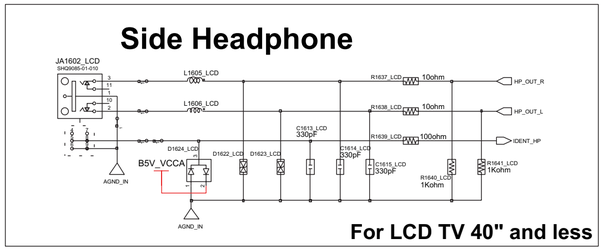


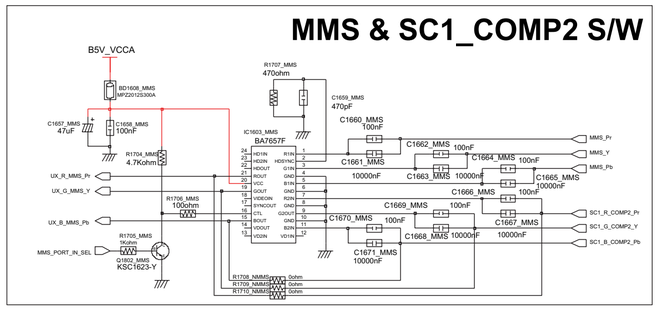


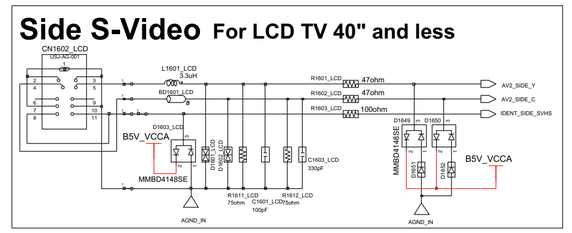


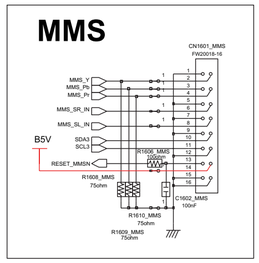


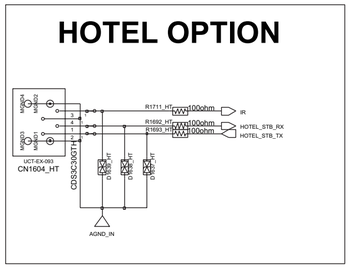


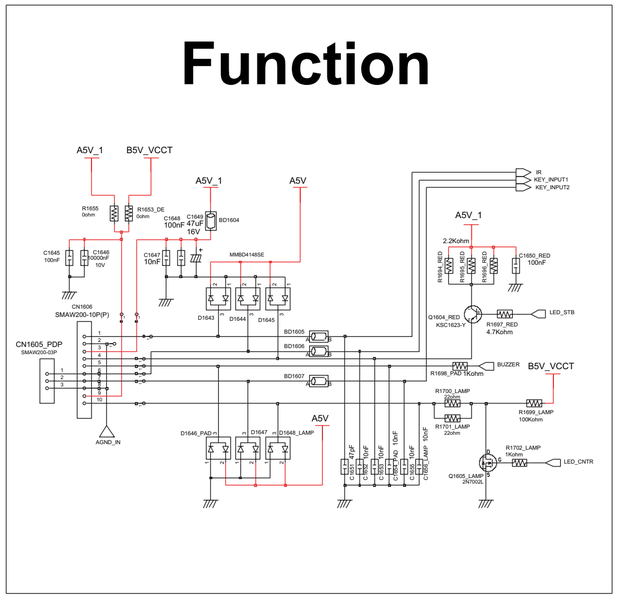












f31a-p-sdiag-7-a2.qxd 2007-04-19 오후 4:00 페이지7-7

7-2-5 MICOM

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Power

SOCKER SMT instead of FLASH !!!

SOCKET : 3704-001184

SW_PVCC PORT : Panel On/off(LCD)
LVDS enable(PDP)

Locate them to write
In bottom PCB

MAIN_MICOM

SUB_MICOM

SUBMICOM DOWNLOAD JACK

RAM

HOTEL OPTION

UART_SEL1	UART_SEL2	SELECT
H	H	OFF
H	H	ATV
H	L	IDTV
L	H	PDP LVDS ON
L	L	PDP LVDS OFF

f31a-p-sdiag-7-a2.qxd 2007-04-19 오후 4:01 페이지7-8

7-2-6 SVP-UX (Scaler)

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Power

SVP-WX68

MAIN MICOM Up-date

I2C Chip Debug

B5V_VCCA

CN2001_TEST

R2001_TEST 0ohm SDA1

R2002_TEST 0ohm SCL1

R2003_TEST 0ohm BUS_STOP

PX_VL1.2

PX_LVDS_VDD

PX_LVDS_VSS

PX_AVSS_BG_ASS

PX_AVDD3_BG_ASS

PX_AVDD1_ADC1

PX_AVSS_ADC1

PX_AVDD1_ADC2

PX_AVSS_ADC2

PX_AVSS_ADC3

PX_AVDD_ADC3

PX_AVSS_ADC4

PX_AVDD_ADC4

PX_PLL_SS2

PX_PLL_DD2

PX_PLL_SS1

PX_PLL_DD1

PX_AVSS_PLL_ASS

PX_AVSS_PLL_ASS

SVPD(0:7)

MCA(0:7)

ALE

DOWNLOAD_OE

OE

SDA1

SCL1

CSN

DDR_MD(0:31)

DDR_MAD(0:11)

IC2001-1
SVP-UX68

A5V_1

R2008 1Kohm

C2017 1uF

VDDH_B3.3V

VDDMQ

PX_VD1.2_LOCAL

C2039 1uF

C2041 1uF

C2027 10nF

C2044 10nF

C2040 1uF

C2042 1uF

C2043 10nF

C2045 10nF

TXOUTB6- R2070_FBE 0ohm LV_E(0)

TXOUTB6+ R2071_FBE 0ohm LV_E(1)

TXOUTB5- R2072_FBE 0ohm LV_E(2)

TXOUTB5+ R2073_FBE 0ohm LV_E(3)

TXOUTB4- R2074_FBE 0ohm LV_E(4)

TXOUTB4+ R2075_FBE 0ohm LV_E(5)

TXOUTBCLK- R2082_FBE 0ohm LV_E(6)

TXOUTBCLK+ R2084_FBE 0ohm LV_E(7)

TXOUTB3- R2086_FBE 0ohm LV_E(8)

TXOUTB3+ R2088_FBE 0ohm LV_E(9)

TXOUTB4- R2090_FBE 0ohm LV_E(10)

TXOUTB4+ R2092_FBE 0ohm LV_E(11)

LV_E(0:11)

PC_BLUE
PC_GREEN
PC_RED
UX_VREFP_2
UX_VREFN_2
UX_VREFP_1
UX_VREFN_1
HDMI_SCLK
HDMI_SDO
HDMI_LRCLK
D2_DDC_SDA
D2_DDC_SCL
PX_DGND
PX_REGVCC

B3.3VD

C2074 100nF

R2152 10Kohm
R2151 10Kohm
R2150 10Kohm

HDMI_RX2+
HDMI_RX2-
HDMI_RX1+
HDMI_RX1-
HDMI_RX0+
HDMI_RX0-
TMDS_GND

HDMI_RXCLK+
HDMI_RXCLK-
PX_AVCC

TP_ANTSTO

PX_PVCC

LV_O(0:11)

R2053 0ohm
R2061 40ohm
INT#
SVP_ADC_RESET

R2082 470ohm

C2121 100nF

IC2001-2
SVP-UX68

C2080 18pF

4C-49/SMSH-24MHZ-16PF

R2021 15kohm

X2001 24.0MHz

C2082 18pF

R2225 33ohm

C2086 100nF
C2084 100nF
C2085 100nF
C2089 680nF
C2090 680nF
C2092 100nF
C2093 100nF
C2095 100nF
C2096 100nF
C2097 100nF
C2098 100nF
C2100 100nF
C2101 100nF

R2055 75ohm
R2056 75ohm
R2057 75ohm
R2058 75ohm
R2059 75ohm
R2060 75ohm

PX_MLF1
PX_PLF2
TUNER_CVBS
COMP1_Y
UX_G_MMS_Y
AV2_SIDE_Y
SC1_CVBS_OUT
SC2_AV_CVBS_OUT
AV2_SIDE_C
COMP1_Pb
UX_B_MMS_Pb
SC1_AV1_CVBS_IN
COMP1_Pr
UX_R_MMS_Pr
SC2_CVBS
AV2_CVBS
SC1_FB
PC_H_SYNC
PC_V_SYNC
PX_AVDDAPLL
PX_AVSSAPLL
PX_AVDDAPLL
PX_AVSSAPLL

R2231 100ohm
R2232_UX 0ohm
R2233_UX 0ohm

HDMI_PC_G_COMP_Y(1)
HDMI_PC_G_COMP_Y(0)
HDMI_PC_B_COMP_Pb(1)
HDMI_PC_B_COMP_Pb(0)
HDMI_PC_R_COMP_Pr(1)
HDMI_PC_R_COMP_Pr(0)

R2053_FBE 0ohm LV_O(7)
R2031_FBE 0ohm LV_O(6)
R2057_FBE 0ohm LV_O(11)
R2035_FBE 0ohm LV_O(10)
R2028_FBE 0ohm LV_O(9)
R2023_FBE 0ohm LV_O(8)
R2034_FBE 0ohm LV_O(5)
R2054_FBE 0ohm LV_O(4)
R2036_FBE 0ohm LV_O(3)
R2040_FBE 0ohm LV_O(2)
R2041_FBE 0ohm LV_O(1)

R2158_DE 1Kohm

DP_HS

R2157_DE 1Kohm

R2159 1Kohm

HDMI_PC_B_COMP_Pb(2:9)
HDMI_PC_G_COMP_Y(2:9)
HDMI_PC_R_COMP_Pr(2:9)

B3.3VD

L2002 2.2uH
L2004 2.2uH

PX_AVDD3_ADC1
PX_AVDD3_ADC2

C2004 1uF
C2008 1uF

BD2002 ACB2012L-015-T
C2046 82uF 6.3V
C2016 1uF
PX_AVDD3_BG_ASS
PX_AVSS_BG_ASS

BD2003 ACB2012L-015-T
C2022 1uF
C2023 1uF
C2024 1uF
PX_LVDS_VDD
PX_LVDS_VSS

BD2014 ACB2012L-015-T
C2032 10nF
C2033 10nF
C2034 10nF
C2035 10nF
VDDH_B3.3V

BD2005 ACB2012L-015-T
C2052 1uF
PX_REGVCC
PX_DGND

BD2007 ACB2012L-015-T
C2056 1uF
PX_PVCC
TMDS_GND

BD2008 ACB2012L-015-T
C2059 1uF
C2060 1uF
C2061 1uF
PX_AVCC
TMDS_GND

ADC

B3.3VD AVDD_ADC_3.3V

BD2009_WX ACB2012L-015-T

C2001_WX 100nF

C2007_WX 10000nF 10V

C2005_WX 100nF

C2002_WX 100nF

AVDD_MPLL_3.3V

BD2010_WX ACB2012L-015-T

C2009_WX 100nF

C2013_WX 10000nF 10V

C2010_WX 100nF

B3.3VD AVDD_PLL_3.3V

BD2011_WX ACB2012L-015-T

C2015_WX 100nF

C2021_WX 10000nF 10V

C2018_WX 100nF

B2.5V_DTV

B3.3VD

B2.5V_DTV_WX

B3.3VD_WX

C2145_WX C2147_WX 100uF

C2148_WX 100nF

C2144_WX C2146_WX 10000nF 10V

C2149_WX C2150_WX C2151_WX C2152_WX C2153_WX C2154_WX C2155_WX C2156_WX 100nF

B3.3VD

AVDD_ADC_3.3V AVDD_PLL_3.3V

R2148 100ohm

C2025_WX 100nF

C2028_WX 100nF

C2026_WX 1uF

PC_H_SYNC
PC_V_SYNC

R2095_WX 0ohm
R2096_WX 0ohm

PC_BLUE
PC_GREEN
PC_RED

R2097_WX 33ohm
R2098_WX 33ohm
R2099_WX 68ohm
R2105_WX 33ohm
R2106_WX 33ohm
R2107_WX 33ohm
R2108_WX 33ohm
R2109_WX 33ohm
R2110_WX 33ohm
R2140_WX 33ohm
R2143_WX 33ohm
R2145_WX 33ohm

C2122_WX 47nF
C2123_WX 1uF
C2125_WX 47nF
C2126_WX 47nF
C2127_WX 47nF
C2128_WX 47nF
C2129_WX 47nF
C2137_WX 1uF
C2138_WX 47nF
C2136_WX 47nF
C2139_WX 47nF
C2135_WX 47nF
C2140_WX 47nF
C2134_WX 47nF
C2133_WX 1uF
C2141_WX 47nF
C2130_WX 47nF
C2131_WX 47nF
C2132_WX 47nF

COMP1_Pb
COMP1_Y
COMP1_Pr
SC1_B_COMP2_Pb
SC1_G_COMP2_Y
SC1_R_COMP2_Pr

R2102_WX 33ohm
R2103_WX 33ohm
R2104_WX 33ohm
R2141_WX 33ohm
R2142_WX 33ohm
R2144_WX 33ohm
R2146_WX 33ohm

C2142_WX 22pF

C2143_WX 22pF

X2002_WX 14.31818MHz

AVDD_MPLL_3.3V

B3.3VD

SVP_ADC_RESET

R2111_DE 10Kohm

R2112_WX 10Kohm

R2113_WX 100ohm
R2114_WX 100ohm
R2115_WX 100ohm

SCL1
SDA1

R2147_WX 10Kohm

R2117_WX 10Kohm

IC2002_WX
MST3560M-LF-170

R2123_WX 22ohm
R2124_WX 22ohm

R_RA2001_WX 4 RA2001_WX 6 22ohm 8 1/16W

R_RA2002_WX 4 RA2002_WX 6 22ohm 8 1/16W

HDMI_PC_B_COMP_Pb(2:9)

R2118_WX 33ohm
R2119_WX 33ohm
R2120_WX 33ohm
R2121_WX 33ohm
R2122_WX 33ohm

VSOUT_ADC
HSOUT_ADC
DE_WX
CLK_WX

50V 15pFx4 C2163_WX

50V 15pFx4 C2162_WX

R_RA2003_WX 4 RA2003_WX 6 22ohm 8 1/16W

R_RA2004_WX 4 RA2004_WX 6 22ohm 8 1/16W

R_RA2005_WX 4 RA2005_WX 6 22ohm 8 1/16W

R_RA2006_WX 4 RA2006_WX 6 22ohm 8 1/16W

R_RA2007_WX 4 RA2007_WX 6 22ohm 8 1/16W

HDMI_PC_G_COMP_Y(2:9)

HDMI_PC_R_COMP_Pr(2:9)

50V 15pFx4 C2161_VX

50V 15pFx4 C2160_VX

50V 15pFx4 C2159_vx

50V 15pFx4 C2158_vx

50V 15pFx4 C2157_VX

PX_VA1.2

L2001 2.2uH
L2003 2.2uH
L2005 2.2uH
L2006 2.2uH

C2003 1uF
C2011 1uF
C2017 1uF

PX_AVDD_ADC1
PX_AVSS_ADC1
PX_AVDD_ADC2
PX_AVSS_ADC2
PX_AVDD_ADC3
PX_AVSS_ADC3
PX_AVDD_ADC4
PX_AVSS_ADC4

B3.3VD PX_VL1.2

R2149

C2020 1uF

C2019 2.7nF

R2063

C2031 1uF

C2030 2.7nF

PX_PAVDD1
PX_MLF1
PX_PAVSS1
PX_PAVDD2
PX_PLF2
PX_PAVSS2

BD2006 ACB2012L-015-T

C2062 1uF

C2055 1uF

PX_AVDDAPLL
PX_AVSSAPLL

PX_VD1.2

C2099 82uF 6.3V

C2105 10nF
C2106 10nF
C2107 10nF
C2108 10nF
C2109 10nF
C2110 10nF
C2111 10nF

C2112 10nF
C2113 10nF
C2114 10nF
C2115 10nF
C2116 10nF
C2117 10nF
C2118 10nF
C2119 10nF
C2120 10nF

PX_VD1.2_LOCAL

UX_VREFP_2
UX_VREFN_2
UX_VREFP_1
UX_VREFN_1

C2071 1uF
C2075 1uF
C2070 1uF
C2073 1uF
C2076 1uF
C2072 1uF

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7-2-7 DDR & Tuner

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Power

DDR

Near to DDR

B2.5V_VDD

IC2201
EM6A9320BI-4M

4M X 32 DDR
1105-001791

TUNER

B33V B5V_VCCT B9V

TU2202

FBE

B3.3VD

B1.25VD_FBE

B1.25VD_FBE

* INPUT SEL : H-TTL, L-LVDS
* MODE-SEL : H-FHD, L-HD

*LCD PANEL OPTION
R2281_OP
-> CCFL 22 ohm
-> FFL 620 ohm

for CIS Option - DIM Control