



PLASMA DISPLAY TV

Chassis: F65A(P_HD)_B430

Model : PS42B430P2WXXH

SERVICE *Manual*

PLASMA DISPLAY TV



PS42B430P2W

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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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1. Precaution

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

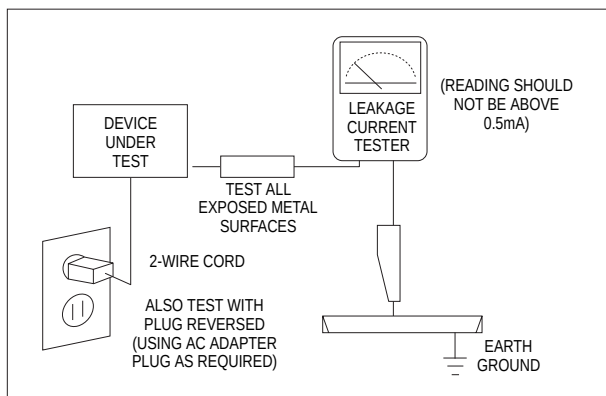
1-1 Safety Precautions

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 there aren't any gaps between the front and rear cover that anyone could insert their fingers into and receive any electrical shock. These gaps include ventilation holes, cracks, etc.

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 ANSI C 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 marked 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.
(UL / FCC ;æ Refer to the Back Cabinet)
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 should be 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.
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

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

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.

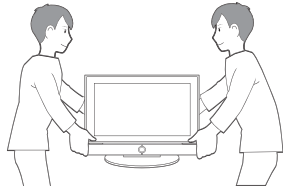
CAUTION

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.

3. Disassembly & Reassembly

3-1 Overall Disassembly & Reassembly

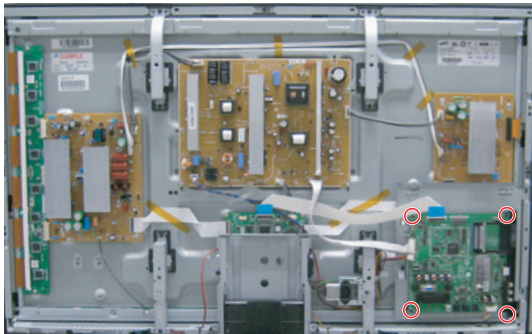
⚠ Notice

- 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.

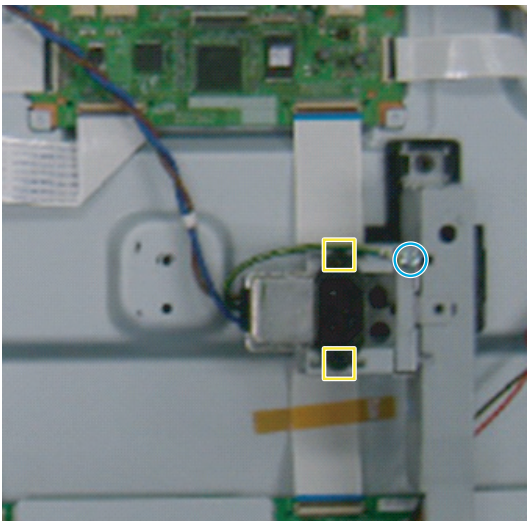
3-1-1 Separation of ASSY COVER P-REAR

Part Name	Description	Description Photo
Cover Rear	① Remove 17 screws. (ⓐ) : BH,+,B,M4,L3,ZPC(BLK) ② Remove 6 screws. (ⓑ) : PH,+,WSP,S,M4,L35,ZPC(BLK) ③ Remove the rear cover. ⚠ : Please lay the PDP unit face down on a soft surface when removing the stand.	  

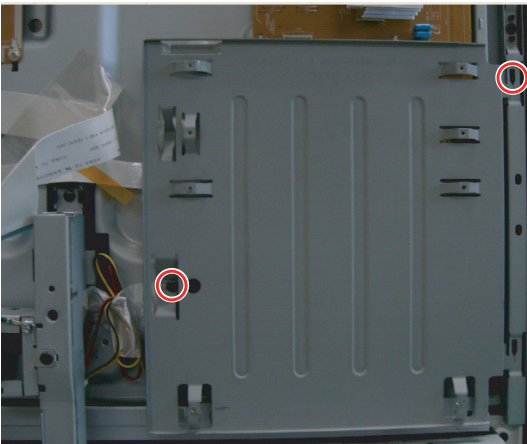
3-1-2 Separation of ASSY PCB MISC-MAIN

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.	 

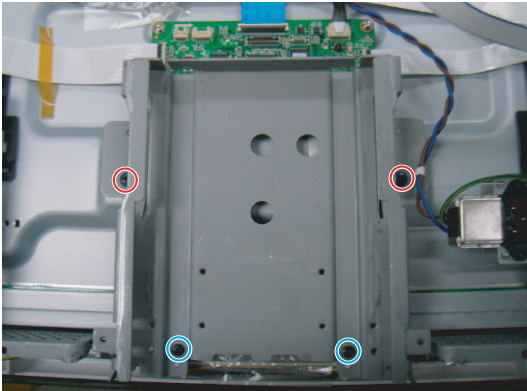
3-1-3 Separation of FILTER-EMI AC LINE

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

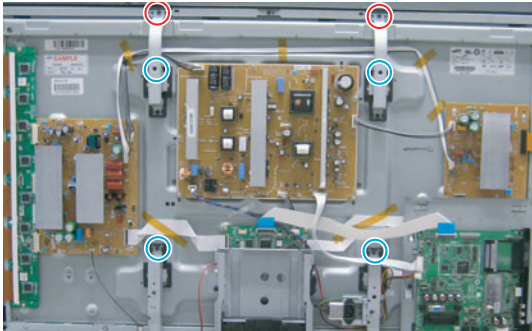
3-1-4 Separation of BRACKET-PCB

Part Name	Description	Description Photo
Bracket PCB	① Remove screw.() : BH,+,B,M4,L3,ZPC(BLK) ② Remove the BRACKET-PCB.	 

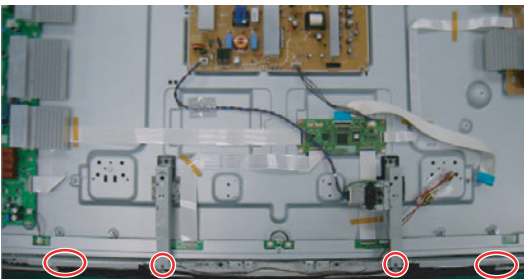
3-1-5 Separation of ASSY BRACKET

Part Name	Description	Description Photo
Bracket	① Remove 2 screws. () : BH,+,PT,S Tite,M4,L10,ZPC(BLK) ② Remove 2 screws. () : BH,+,B,M4,L3,ZPC(BLK) ③ Remove Bracket.	  

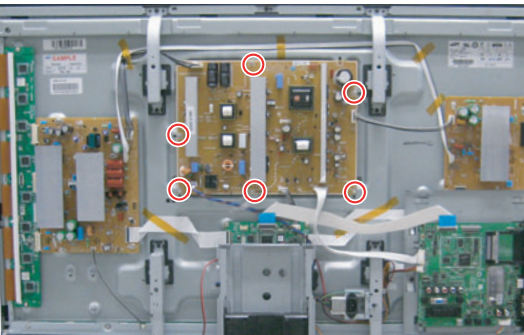
3-1-6 Separation of ASSY BRACKET P-WALL

Part Name	Description	Description Photo
Wall Bracket	① Remove 2 screws. () : BH,+,B,M4,L3,ZPC(BLK) ② Remove 4 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.	  

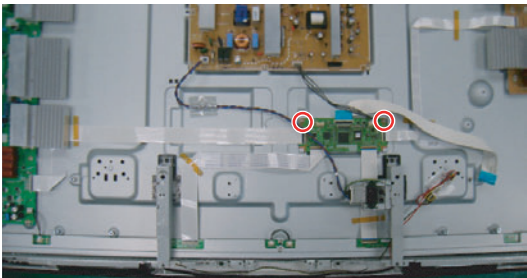
3-1-7 Separation of ASSY SPEAKER P

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

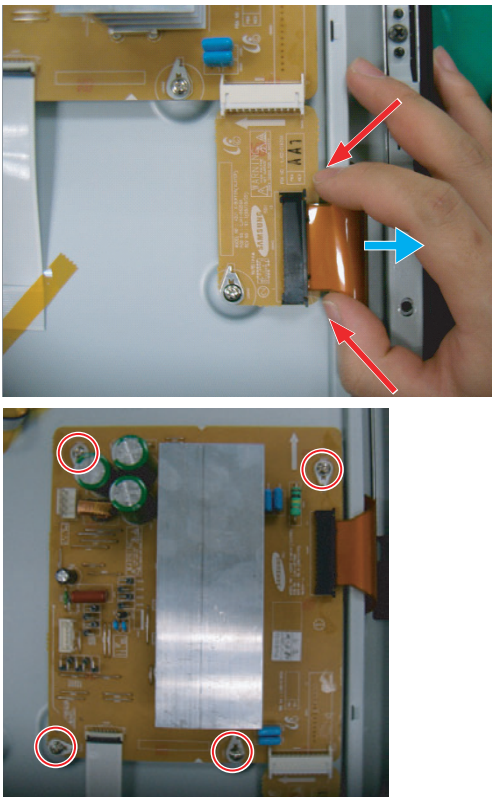
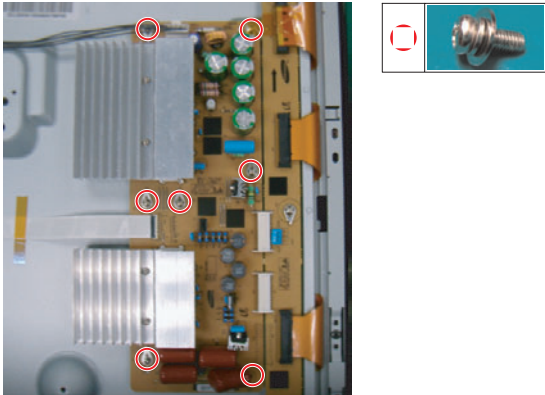
3-1-8 Separation of SMPS-PDP TV

Part Name	Description	Description Photo
SMPS	① Detach all connectors from the SMPS. ② Remove 6 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.	 

3-1-9 Separation of ASSY PDP MODULE P-LOGIC MAIN BOARD

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

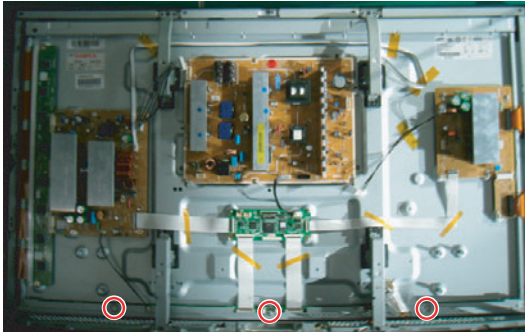
3-1-10 Separation of ASSY PDP MODULE P-X MAIN BOARD

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. ⚠ : Pinch the sides, but then push down in the ribbon, it should slide out after that.	
X-Main Board	① Remove 7 screws. : PH,+,WWP,M3,L8,NI PLT ② Remove the X-Main Board.	
X-Main Board	① Remove the X-Main Board.	

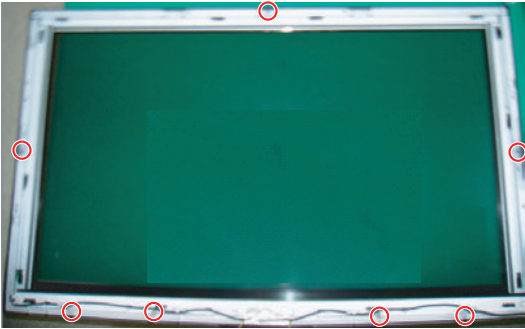
3-1-11 Separation of ASSY PDP MODULE P-Y MAIN BOARD

Part Name	Description	Description Photo
Flat Cable	① Detach the scan board connectors from the panel .	 
Y-Scan Board	① Remove 2 screws. : PH,+,WWP,M3,L8,NI PLT	 

3-1-12 Separation of ASSY PDP MODULE P-ADDRESS BUFFER BOARD

Part Name	Description	Description Photo
Buffer board shield	① Remove 3 screws. : PH,+,WWP,M3,L8,NI PLT ② Remove the still bar. ► Before removing the still bar, you should lift up the panel a little.	 

3-1-13 Separation of ASSY PANEL BRACKETS

Part Name	Description	Description Photo
Panel Brackets	① Remove 7 screws. () : BH,+,B,M4,L3,ZPC(BLK) ② Remove the Side Panel Brackets.	 

MEMO

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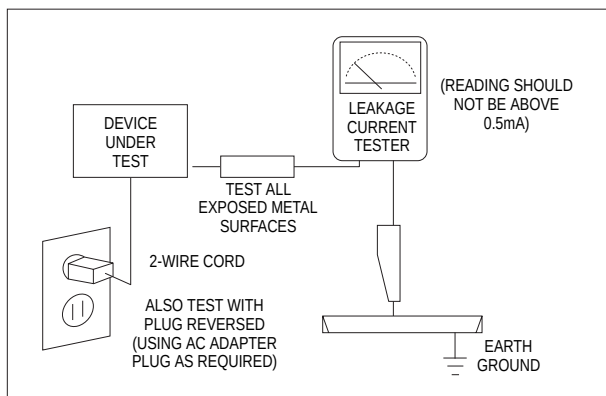
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Fig. 1-1 AC Leakage Test



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Furthermore, any changes or additions to the original design/engineering will invalidate the warranty.

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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.

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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.
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10. The sharp edges of the metal material may cause physical damage, so protect yourself by wearing gloves during the repair.
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(e.g.) Contrast: 25, Brightness: 50

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

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.
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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.
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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.
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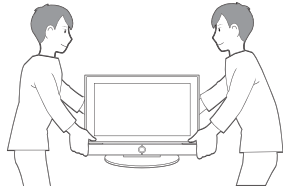
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1-4 Installation Precautions

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.

2. Product Specification

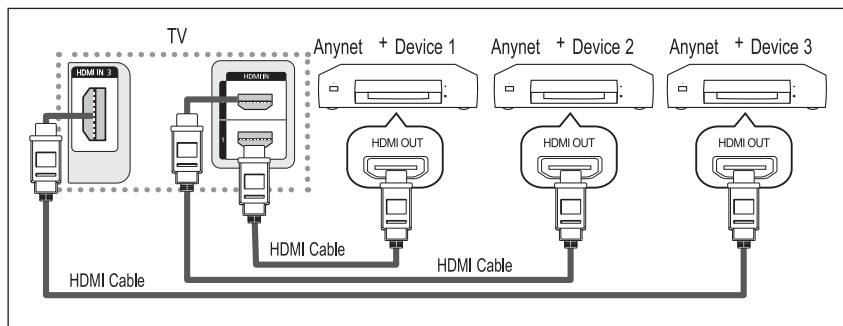
2-1 Product Specification

Features			
Block	Specification	Major IC	Remark
RF	Digital/Analog (DTV Built In)	Tuner DNOQ403SH151A SAMSUNG	
PDP Module	Samsung SDI U1P Module	42"HD	New Module
Power	Samsung/Dong-yang electro mechanics SMPS		
Video	NTSC 3.58, ATSC HDMI Component, PC	SEMS12	
Sound	SRS TruSurround HD, Dolby Digital	NTP3200	Optical Output
Cabinet	B430 Design		
Specification			
Model	PS42B430P2D		
Screen Size	42 Inches (16:9)		
Dimensions (WxHxD)	1055.0 x 667.4 x 73 mm (without stand) 1055 x 728.2 x 316 mm (with stand)		
Weight	24.3 kg (without stand) 28 kg (with stand)		
PC Resolution	1024 x 768 @ 60Hz		
Power consumption	240W		
Frequency	Hsync 50Khz Vsync 50Khz		
Voltage	AC 100 ~ 240V, 50/60HZ		
ANTENNA input	ANT AIR IN ※ 75Ω unbalanced		
VIDEO input	AV COMPONENT - 480i/480p/720p/1080i/1080p COMPONENT2 - 480i/480p/720p/1080i/1080p HDMI1 : 480p/720p/1080i/1080p HDMI2(DVI Compatible) - 480p/720p/1080i/1080p * 480i can be displayed on HDMI, however it is not contained in EDID data		
AUDIO input	AV COMPONENT - 480i/480p/720p/1080i/1080p COMPONENT2 - 480i/480p/720p/1080i/1080pC DVI		
Audio Output	AUDIO (L/R)		
Speaker Output	10W+10W (40dB+40dB)		
New Features	Anynet+		

■ New Features explanation

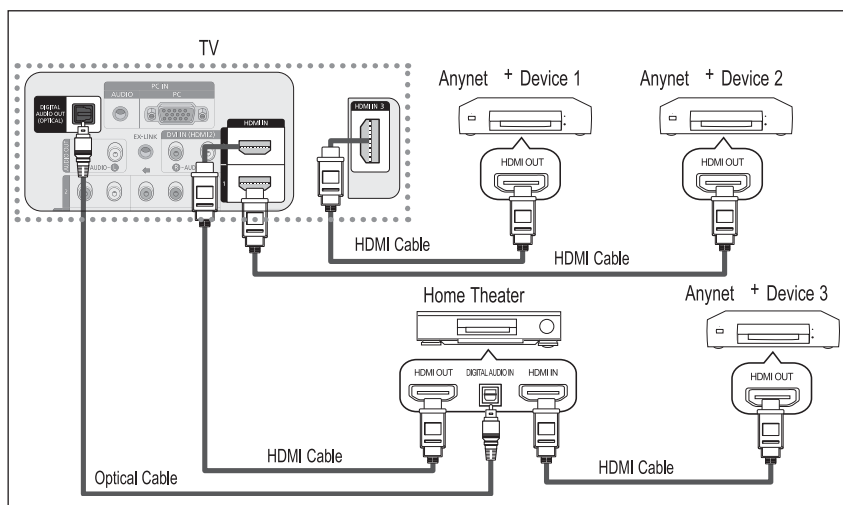
- Anynet+ : Anynet+ is an AV network system that enables you to control all connected Samsung AV devices with your Samsung TV's remote.

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 the Optical cable between [Digital Audio Out (Optical)] on your TV and Digital Audio Input on the Home Theater.
- Connect only one Home Theater.
- You can listen to 5.1 channel sound through the home theater's speakers. Otherwise, you can only listen to 2 channel stereo sound in other cases. Make sure to connect the Digital Audio IN (Optical) of the home theater and the TV correctly to listen to TV sound through the home theater. However, you cannot listen to sound from the BD recorder that is sent to the home theater via the TV in 5.1 channel sound because the TV outputs only 2 channel stereo sound. Please see the manual for the home theater.
- 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 12 AV devices in total. Note that you can connect up to 3 devices of the same type.

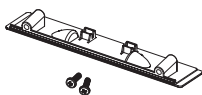
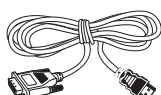
2-2 Specifications Analysis

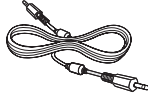
※ ○: application, X: non-application

SubItems	SubItems	B430 PS42B430P2	P410 PS42A410C1
Design			
Basic	Inch	42"	42"
	Chassis Name	F65A	F59A
	Cabinet Name	42BB1	P410
	Display Type	PDP TV	PDP TV
	Built-In Tuner	X	X
	Resolution	1024 x 768 @60Hz	1024 x 768 @60Hz
	PDP Module	U1A HD	W3 HD
	Screen Size	42 inches	42 inches
	Picture ratio	16:9	16:9
	Dimensions (WxHxD)	1055 x 728.2 x 316 mm (With stand)	1055 x 728.2 x 316 mm (With stand)
Picture	Weight	28 kg	30 kg
	Brightness	1,500 Cd/m ²	1,000 Cd/m ²
	Contrast Ratio	10,000 : 1	10,000 : 1
Audio	Picture Enhancer	X	FBE3X
	Equalizer	O	O
	Auto Volume Control	O	O
	Surround Sound	SRS TruSurround	SRS TruSurround
	Speaker Output	10W + 10W	10W + 10W
	Speaker	2.2CH (2Way)	2.2CH (2Way)
Features	PIP	X	X
	Double Screen	O	O
	Caption	X	X
	Still Image	O	O
	My Color Control	O	O
	Color Weakness	X	X
	Energy Saving	O	O
Connections	Screen Burn Protection	O	O
	Antenna	1 Input	1 Input
	AV Input	1 Input (Side)	1 Input (Side)
	S-Video	X	1 Input (Side)
	Component (Y/PB/PR)	2 Input	2 Input
	PC (D-SUB)	X	1 Input
	DVI	X	X
	HDMI	2 Input	2 Input
	Scart	X	X
	Optical	O	O
	Coaxial	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	BN59-00865A	Samsung Service center
		Power Cord	3903-000145	
		Owner's Instructions	BN68-02011B	
		Warranty Card Registration Card Safety Guide Manual	- - AA68-03242Q	
		Cloth-Clean	BN63-01798B	
		Ferrite Core for Power Cord	3301-001305	
		Cover-Bottom Screws (2ea)	BN63-05671A 6003-001621	
Sold Separately		HDMI Cable 9.843 feet	BN39-00641A	Electronics Store/ Internal shopping mall
		HDMI/DVI cable 9.843 feet	BN39-00643A	
		Component Cables (RCA) 4.171 feet	BN39-00279A	

Accessories		Item	Item code	Remark
Sold Separately		Optical Cable	None	Electronics Store/ Internal shopping mall
		PC Cable 6.004 feet	BN39-00115A	
		PC Audio Cable 6.562 feet	BN39-00061B	
		Antenna Cable 9.843 feet	BN39-00333A	

MEMO

4. Troubleshooting

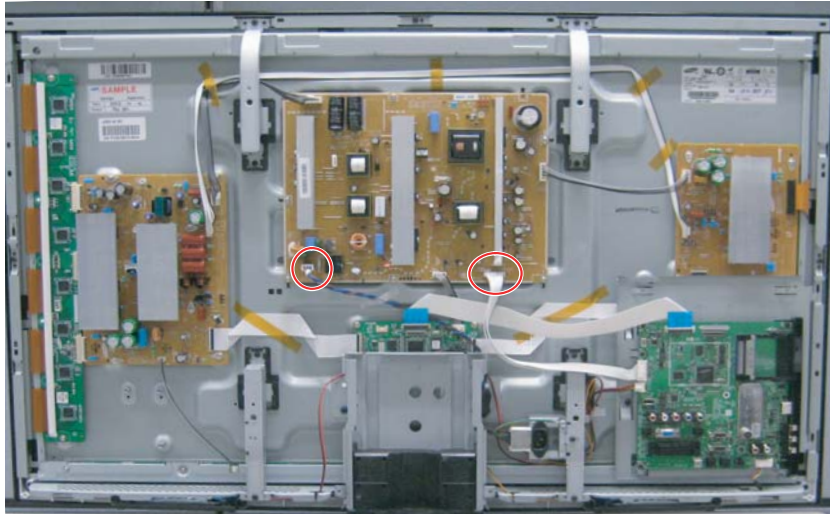
4-1 Troubleshooting

4-1-1 First Checklist for Troubleshooting

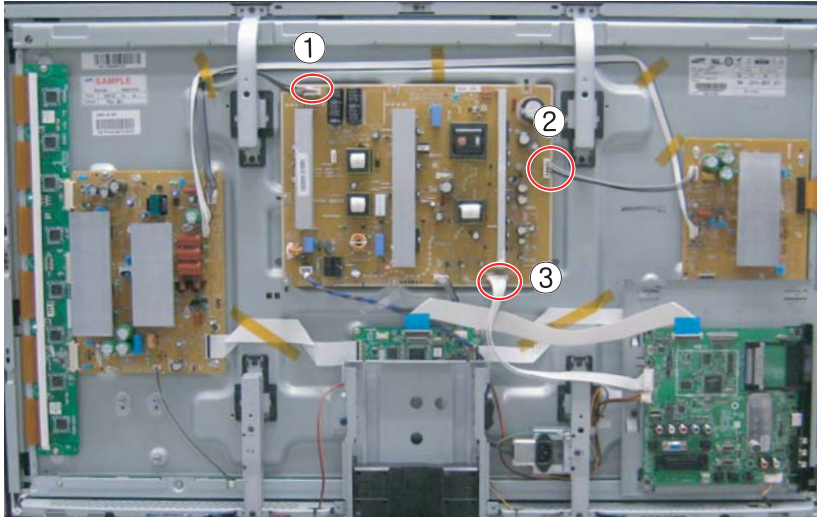
1. Check the various cable connections first.
 - Check to see if there is a burnt or damaged cable.
 - Check to see if there is a disconnected or loose cable connection.
 - Check to see if the cables are connected according to the connection diagram.
2. Check the power input to the Main Board.
3. Check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

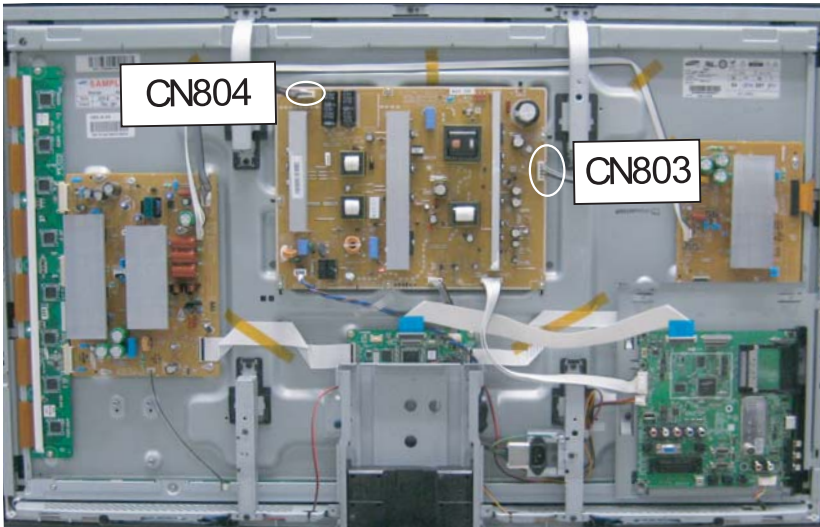
■ No Power

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 units 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 status inside the unit. - Check the fuses of each part. - Check the output voltage of SMPS. - Replace the Main Board.
Troubleshooting Procedures	 <pre> graph TD Q1[1 Is the AC IN socket connector and the SMPS CN800S connected?] -- No --> A1[Insert the AC in connector and the SMPS CN800S connector] Q1 -- Yes --> Q2[1 Is the Fuse F801S of the SMPS Power Input Part blown?] Q2 -- Yes --> A2[Replace Fuse F801S] Q2 -- No --> Q3[2 SMPS CN801 Pin 3 : STB 5V Pin 2 PS-ON : Check to see if it is 0V] Q3 -- No --> A3[Replace the SMPS] Q3 -- Yes --> A4[Replace the Main Board] </pre>

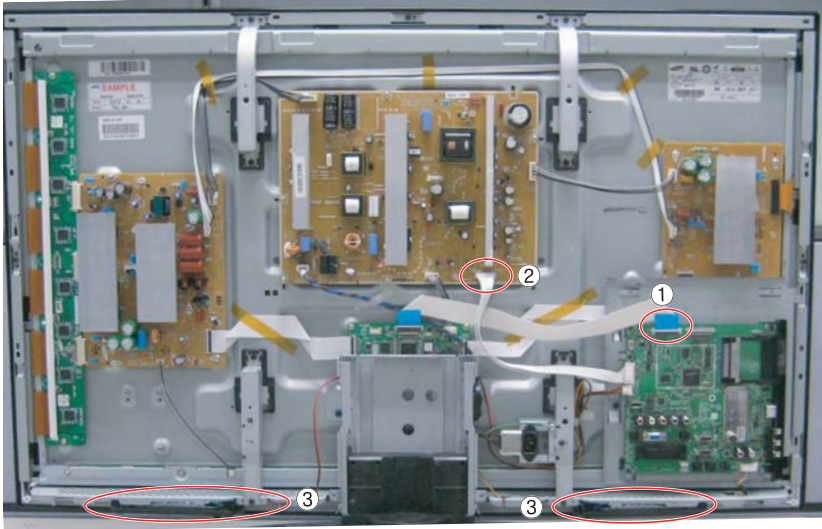
■ When the unit is repeatedly turned on and off

Symptom	- The SMPS relay is repeatedly turned 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	 <pre> graph TD Q1["① Does the symptom continue when connecting the power after removing CN810 from the SMPS?"] A1No["No"] A1Yes["Yes"] Q2["② Does the symptom continue when connecting the power after removing CN809 from the SMPS?"] A2No["No"] A2Yes["Yes"] Q3["③ Does the symptom continue when connecting the power after removing CN807 from the SMPS?"] A3No["No"] A3Yes["Yes"] R1["Replace the Y Main Board"] R2["Replace the X Main Board"] R3["Replace the Logic Board"] R4["Replace the SMPS"] Q1 -- No --> R1 Q1 -- Yes --> Q2 Q2 -- No --> R2 Q2 -- Yes --> Q3 Q3 -- No --> R3 Q3 -- Yes --> R4 </pre>
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.

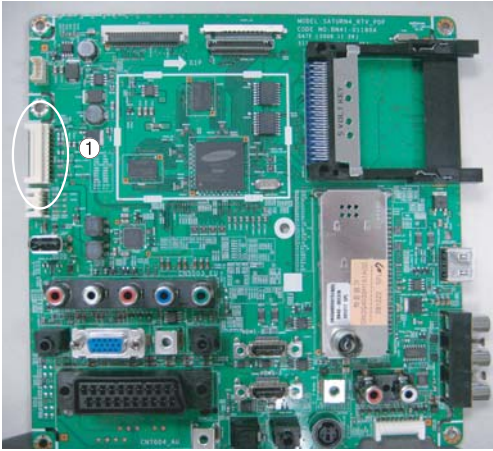
■ No Picture (When audio is normal)

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	 <pre> graph TD A[Check the LED operation of Logic Board Is it normally operating?] -- No --> B[Replace the Logic Board] A -- Yes --> C[Check the output of LVDS Is it normally operating?] C -- No --> D[Replace the Main Board] C -- Yes --> E[Check the each output of the SMPS Is it normally operating?] E -- No --> F[Replace the SMPS] E -- Yes --> G[Check the each output of the SMPS after disconnecting the power cable from SMPS. And replace X-main, Y-main Board, Y-scan Board.] G -- No --> H[Replace the Y Scan Board] </pre>
Caution	When separating and connecting the cables such as CN810, CN809, 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	 <pre> graph TD A[Is the antenna connection setting properly configured?] -- No --> B[Configure properly] A -- Yes --> C[1 Check CN1001 pin2 for +5V] C -- No --> D[Replace the SMPS] C -- Yes --> E[Replace the Main Board] </pre>

■ Drive Board Troubleshooting

1) Troubleshooting Summary

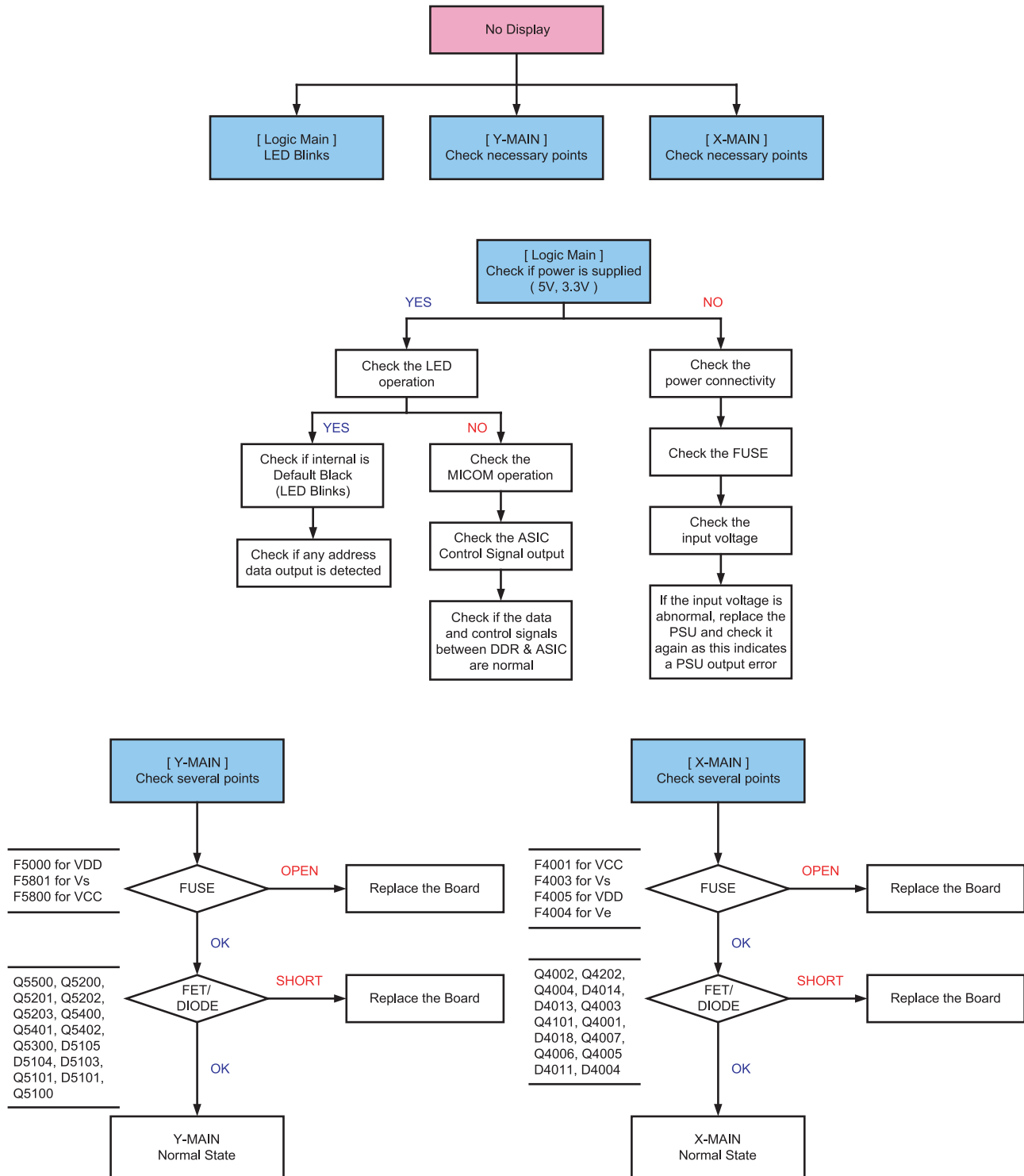
Condition Name	Description	Related Board
No Voltage Output	Operating Voltage don't exist	PSU
No Display	Operating Voltage exist, but an Image doesn't exist on screen	Y-MAIN, X-MAIN, Logic Main, Cable
Abnormal Display	Abnormal Image (not open or short) is no screen	Y-MAIN, X-MAIN, Logic Main
Sustain Open	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.

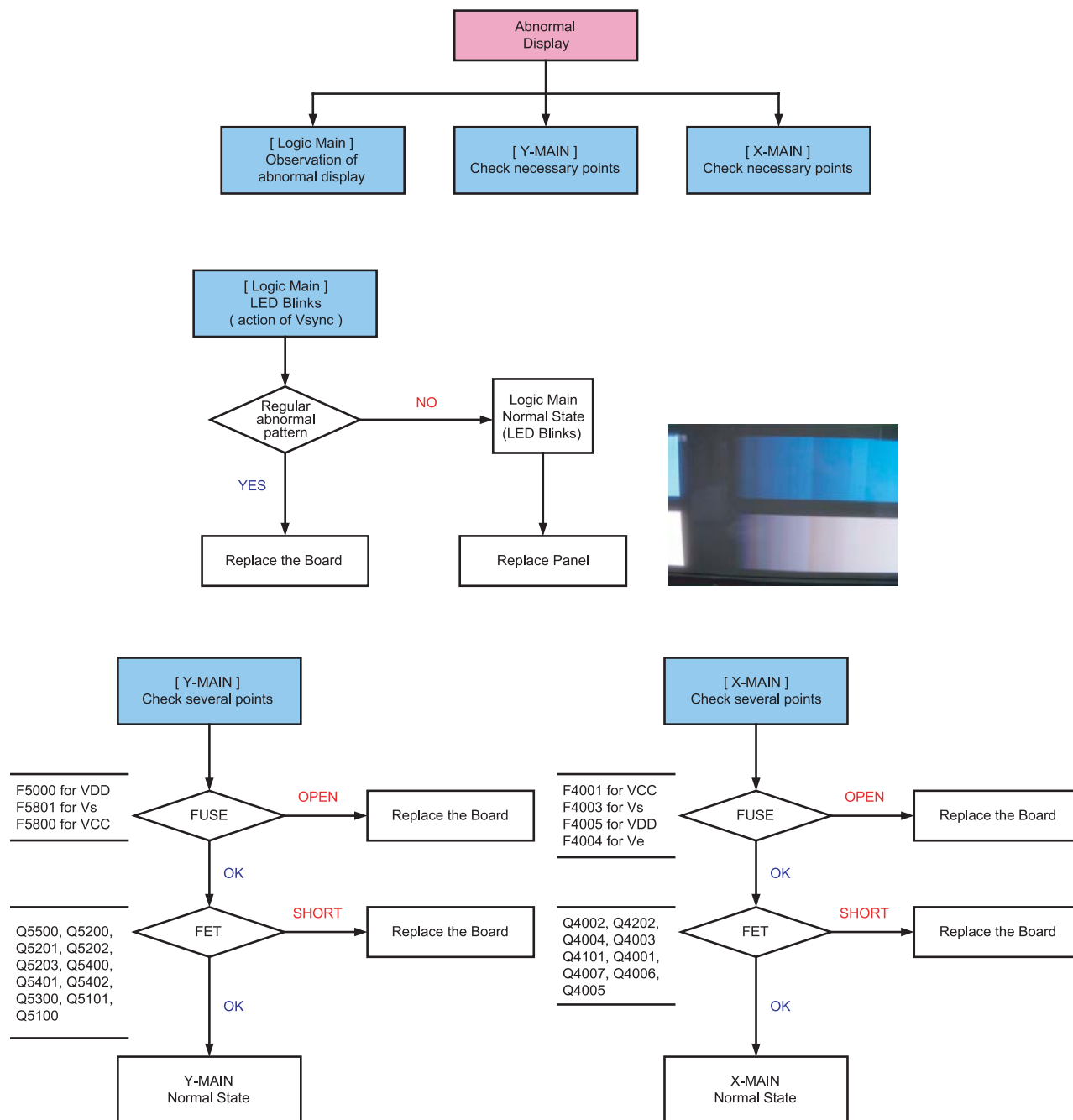
This page shows you how to check the boards, and the following pages show you how to find the defective board.



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.

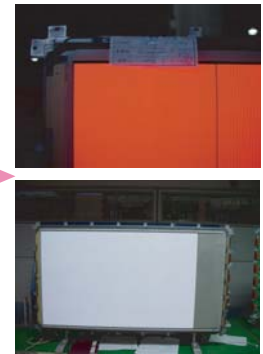
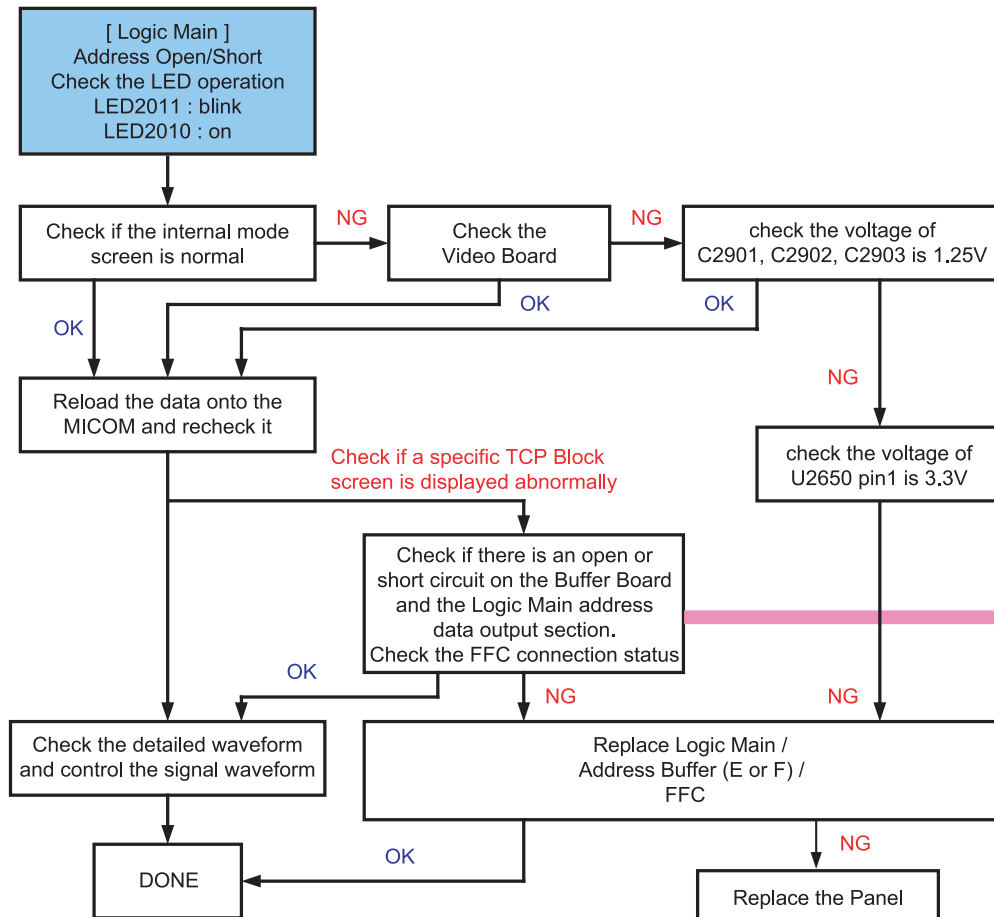
This page shows you how to check the boards, and the following pages show you how to find the defective board.



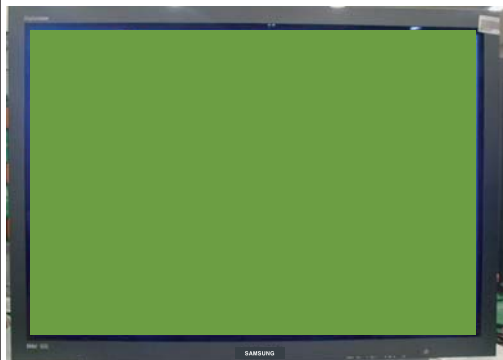
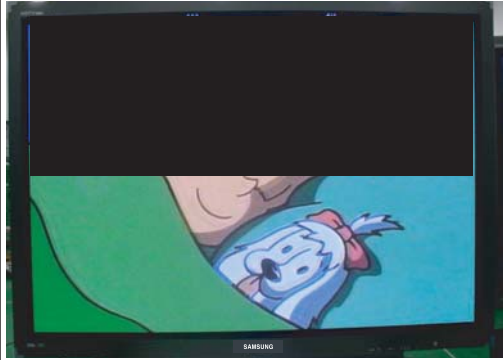
③ Address Open, Short

► 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.



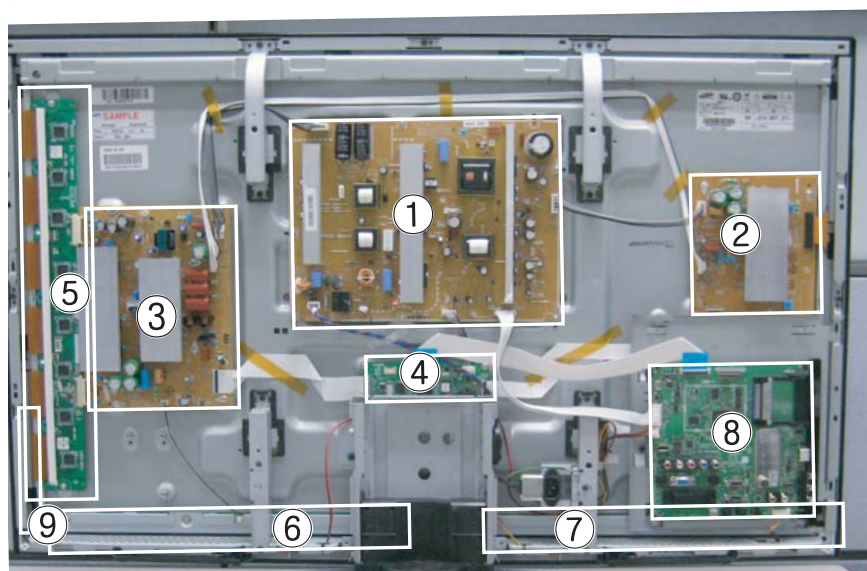
4-1-3 Troubleshooting

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 resetting - 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 (42" Only)
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



4-2 Adjustment

4-2-1 Service Instruction

■ Before performing service

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

1) Stand by

- Europe: **INFO** → **MENU** → **MUTE** → **POWER ON**

2. Factory Remote

1) You can enter as pushing Display + Factory in state of power-on.

2) Push Factory Key again, and you can enter Aging mode. Push Factory Key again, and you can go back Factory mode.
(Factory ↔ Aging)

3) Push Display + 3 Speed Key, and you can enter aging mode.

3. Settings when entering Factory mode

- Sharp Screen (Dynamic), Color Tone (Cool1), Factory (Dynamic CE Off)

4. The contents to change when entering Service Mode

5. Adjustment Procedures

No	Item	Mode	Remark
1	Picture Mode	Dynamic	
2	Color Tone Mode	Cool 1	
3	Picture Size	Wide	
4	Dynamic Contrast	Off	
5	Digital NR	Off	
6	PIP	Off	
7	Gama	Off	OSD is ON

- 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.

6. Initial SERVICE MODE DISPLAY State

```

Option
ADC/WB
Control
Advanced
Expert
T-CRLPEUC-XXXX
T-CRLPEUHC-XXXX
T-CRLPEUS-XXXX
DTP-LP-XXXX-XX
DTP-LP-App-XXXX-XX
Option : 2010 0100
ADC : HDMI X COMP X PC X AV X
EDID : FAIL
HDCP : SUCCESS
PDP : P45E_42Sp
Bulld Date : XX-XX-XXXX
    
```

※ 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

1. Option

Item	Data	Range
Factory Reast		
Type	42FSpM3	50FSpL4/42HSnB3/50HSnB4/42HSpB3D/50HSpB4D/42FSpM3
Model	PB450	PB530/PB430/PB450
TUNER	Auto	Sem_SL/Alps_SL/Auto
Region	EU	ND/ASIA/CHN/EU/
DDR	SAMSUNG	Etron/SAMSUNG
Light Effect	ON	Off/ON
Inch		
Ch	SUWON	SESK/SHE/TTSEC/SDMA/SERK/SEIN/ASVIA/SIEL/TSE/SUWON
Medialink Type		
Local Set	Others	Russia/Others
PDP GROUP	P45E_42SP	"P45E_50Sp/P45N_42Sp/P45N_50Sp/P45A_42Sp/P45A_50Sp/P43E_42Sn/P43E_50Sn/P43N_42Sn/P43N_50Sn/P43A_42Sn/P43A_50Sn/P45E_Sp"

2. CONTROL

EDID

Item	Default data	Range
EDID ON/OFF	Off	on
EDID WRITE ALL	Failure	wait/Success
EDID WRITE PC	Failure	wait/Success
EDID WRITE DVI	Failure	wait/Success
EDID WRITE HDMI1	Failure	wait/Success
EDID WRITE HDMI2	Failure	wait/Success
EDID WRITE HDMI3	Failure	wait/Success
EDID WRITE HDMI4	Failure	wait/Success
EDID VERSION	HDMI 1.2	HDMI 1.3

Sud Page

Item	Default data	Range
Mute Time(VIDEO)	4	5/6/7/8/9/10/0/1/2/3
ready	Failure	Success
TTX LIST	Flof	List
TTX	On	Off
TTX Group	Lang OSD	"W Europe/E Europe/Russia/Greek/Turkey/Arab/Farsi/Arabhdw"
1	On	Off
Hotplugcontrol	On	Off
Spread Spectrum	On	Off
(Step1	149	0/255
(Step2	0	0/3
(Range1)	215	0/255
(Range2)	0	0/63
(DDR Spread)	2% Spread	Off/1% Spread
Auto Power	On	Off
DDR		
Arab	Off	
NT Conversion	Off	
Mirror	Off	On
HDMI EQ1	Middle	High/Strong/Low
HDMI EQ2	Middle	High/Strong/Low
HDMI EQ3	Middle	High/Strong/Low
HDMI EQ4		
EER Count	24205	
WM Calib		OK
Panel Enter Key		
Panel Display Time	0hr	
CHECKSUM	0x0000	WAIT/0x4F7A
View Log		
Font Date Viewer		
Dimm Type	INT	INT_NEG/EXT_POS/EXT_NEG/EXT
Gamma	Off	0.85/0.88/0.90/0.93/0.95/0.98
Carrier Mute	Off	On
Anynet+	On	Off
HPD Polarity		
High Devi	Off	On
Volume Curve	EU	EA/
Hotplug Delay	9	0/63
HP Ident	High	Low
PC Ident	On	Off
Language	Chiha	French/English
Info Live		
Watchdog	Off	On
LVDS Format	JEDIA	VESA
OSD Resolution	1024*768	
Bus Stop		
OTA Code		
Panel Auto Setting		
OTA Duration Test		
Alternate Del		

PDP Option

Item	Default data	Range
PIXEL SHIFT TEST	Off	On
LOGIC CIONNECT	Off	On
PATTERN SELECT		
PANEL VERSION	VF1P	
PANEL INCH	50HD	
PANEL TYPE	aOH	
PANEL TEMPERATURE	47	
LOGIC SW VERSION	2008-12-02	
LOGICSW CHECKSUM	9AB5H	
SAPC_Timer	On	Off
APC_Speed	Slow	Fast
LOGIC USB/D/L	Off	Success

Hotel Option

Item	Default data	Range
Hotle Mode	Off	On
Power On Channel	1	0/99
Power On Source	ATV	Scart/AV/Comp/PC/HDMI1/HDMI2/HDMI3/DTV
Power On Volume	10	0/100
Min Volume	0	0/100
Max Volume	100	0/100
Panel Butten Lock	Off	On/PowerSound
Pic Menu Lock	Off	On
Video Mute Ch	1	0/99
Video Mute Ch On/Off	Off	On
Music Mode (AV)	Off	On
Music Mode (PC)	Off	On
Music Mode (Comp)	Off	On
Music Mode Backlight	Off	On
Menu Display	On	Off
Power On Option	Last Option	Standby/Power On
Auto PC	Off	On
Energy Saving	Off	Low/Mid/High/Auto
Cloning : TV to USB		
Cloning : USB to TV		

Shop Option

Item	Default data	Range
Shop Mode	Off	On
USB DEMO ON(SEC)		
USB DEMO OFF(SEC)		

Sound

Item	Default data	Range
FM Prescsacle	28	0/40
AM Prescale	9	0/40
Nicam Prescale	32	0/40
A2 M2S Threshold	32	0/40
A2 S2M Threshold	0x0A	0x00/0x7F
A2 PilotPhaseOn	0x00	0x00/0x7F
A2 PilotPhaseOff	0X00	0x00/0x7F
A2 IdentOn	0X00	0x00/0x7F
A2 IdentOff	0X00	0x00/0x7F
A2 Carr1AmpOnThr	0X00	0XFF
A2 Carr1AmpOffThr	0X14	0xFF
A2 Carr1SnOnThr	0x00	0xFF
A2 Carr1SnOffThr	0x00	0XFF
A2 Carr2AmpOnThr	0X00	0XFF
A2 Carr2AmpOffThr	0x00	0XFF
A2 Carr2AmpOffThr	0x00	0XFF
A2 Carr2SnrOnThr	0x00	0XFF
A2 Carr2SnrOffThr	0x00	0XFF
Nicam Sig Error On	0x16	0x7F
Nicam Sig Error Off	0x14	0x7F
Compression mode	On	Off
Dolby Test Mode	On	Off
DTV Level	-12dB	0dB
Master Vol	30	0/47
PWM Modulation	208	0/255
DRC1 Threshold	0x37	0xFF
DRC2 Threshold	0x50	0xFF
SPEAKER EQ	On	Off
SC1 Vol	16	0/40
SC2 Vol	16	0/40
Audio delay	60ms	0ms/150ms

Config Option

Item	Default data	Range
AV Number	1	0/2
SVIDEO Number	0	1
COMP Number	1	0/2
HDMI Number	3	0/4
SCART Number	1	0/2
DVI Number	0	1
HP Number	0	1
USB PORT		
LNA SUPPORT	Off	On
MFT OFFSET		

3. ADC Wb

ADC

Item	Default data	Range
AV Calibration		Wait/Failure
COMP Calibration		
PC Calibration		
HDMI Calibration		

ADC Target

Item	Default data	Range
1st_AV_Low	18	0/255
1st_AV_High	220	0/255
1st_AV_Delta	1	0/255
1st_Comp_Low	16	0/255
1st_Comp_High	235	0/255
1st_Comp_Delta	1	0/255
1st_PC_Low	2	0/255
1st_PC_High	235	0/255
1st_PC_Delite	1	0/255
2nd_Low	1	0/255
2nd_High	235	0/255
2nd_Delta	1	0/255

ADC RESULT

Item	Default data	Range
1st_AV_Gain	125	0/255
1st_AV_Offset	139	0/255
1st_Comp_Gain	73	
1st_Comp_Gain_Cb	73	
1st_Comp_Gain_Cr	73	
1st_Comp_Offset	127	
1st_Comp_Offset_Cb	127	
1st_Comp_Offset_Cr	127	
1st_PC_R_Gain	96	
1st_PC_G_Gain	95	
1st_PC_B_Gain	95	
1st_PC_R_Offset	144	
1st_PC_G_Offset	139	
1st_PC_B_Offset	139	
2nd_R_Offset	108	0/255
2nd_G_Offset	108	0/255
2nd_B_Offset	108	0/255
2nd_R_Gain	168	0/255
2nd_G_Gain	168	0/255
2nd_B_Gain	168	0/255

WB

Item	Default data	Range
Sub Brightness	128	0/255
R_Offset	128	0/255
G_Offset	128	0/255
B_Offset	128	0/255
Sud Contrast	128	0/255
R_Gain	128	0/255
G_Gain	128	0/255
B_Gain	128	0/255

4. Advanced FBE

Item	Default data	Range
Pattern Select		
B-Slpe Gain		
B-Tilt Min		
B-Tilt Max		
Lfunc-Basis		
Hfunc-Basic		
Mean_Offset1		
Mean_Offset2		
Mean Slope		
ACR Offset		
ACR Th1		
ACR Th2		
Skin Enable		
Skin Uv		
Mskin Uv		
Sub Color		

WB Movie

Item	Default data	Range
WB Movie	Off	On
Color Mode	Movie	Standard/Dynamic
Color Tone	Cool	Normal/Warm1/Warm2
Msub Brigh	128	0/255
MsubContr	128	0/255
W1_Rgain	138	0/255
W1_Bgain	109	0/255
W1_ROFFS	128	0/255
W1_BOFFS	128	0/255
W2_RGAIN	144	0/255
W2_BGAIN	84	0/255
W2_ROFFS	128	0/255
W2_BOFFS	128	0/255
N_RGAIN	128	0/255
N_BGAIN	128	0/255
N_ROFFS	128	0/255
N_BOFFS	128	0/255
Movie Contr	100	0/100
Movie Brigh	45	0/100
Movie Color	55	0/100
Movie Sharp	75	0/100
Movie Tint	50	0/100
Move BkLight	10	0/10
M.Gamma	Off	0.85/0.88/0.90/0.93/0.95/0.98/M1/M2/M3/M4
M_Sub Gamma	0	3/-3

EPA Standard

Item	Default data	Range
Std Contr	95	0/100
Std Bright	45	0/100
Std Sharp	50	0/100
Std Color	50	0/100
Std Tint	50	0/100
Std Backlight	4	0/10

ADJUST

Item	Default data	Range
Dynamic Dimming	Off	on
LNA Plus		
(RF dB1 Level)	3	0/255
(RF dB2 Level)	6	0/255
(RF dB3 Level)	12	0/255
(RF dB4 Level)	31	0/255
Power Key Protect	Off	On
Uart Select	Auto Wall	Debug/MDC/On1/On2
Debug Mode	DeBug Off	Debug Smart/DeBug RunTi
Back End Mute		
PDP FRC		
Visual Test	Disable	Enable
Standby Mode Time	45 Min	2 Min
Delete alt.ver	2 Flash	
OTA confirm Time	90Min	2 Min
OTA limit Time	3 hour	3 Min
Dynamic CE	Off	on
FWC	Off	on
1080p 48Hz	On	Off
PWM Max	100	1/100

YC_Delay

Item	Default data	Range
PAL BG	1	0/3
PAL DK	1	0/3
PAL I	1	0/3
SECAM BG	4	0/7
SECAM DK	4	0/7
SECAM L	4	0/7
NTSC 358	1	0/3
NTSC 443	1	0/3
AV PAL	1	0/3
AV SECAM	4	0/7
AV NT358	1	0/3
AV NT 443	1	0/3
AV PAL 60	1	0/3

SHARPNESS

Item	Default data	Range
H1 Gain	0x16	0x00/0x3f
H2 Gain	0x18	0x00/0x3f
H3 Gain	0x18	0x00/0x3f
H4 Gain	0x12	0x00/0x3f
V1 Gain	0x0D	0x00/0x3f
V2 Gain	0x0D	0x00/0x3f
H overshoot	0x20	0x00/0FF
V overshoot	0x20	0x00/0FF
H undershoot	0x20	0x00/0FF
V undershoot	0x20	0x00/0FF
Coring TH2	0x03	0x01/0x0F
Coring TH1	0x01	0x01/0x0F

PE

Item	Default data	Range
Skin_x	0x00	0x00/0x0A
Skin_y	0x00	0x00/0x0A
B_slope	0x90	0xA0/0x9F
DLC_ML	0x70	0xA0/0x9F
DLC_MH	0x70	0xA0/0x9F
DLC_H	0xEB	0x00/0xFF
Skin_SAT	0x00	0x00/0x0F
Skin_HUE	0x40	0x00/0x7F
M_Skin_HUE	0x40	0x00/0x7F
M_Skin_X	0x00	0x00/0x0A
M_Skin_Y	0x00	0x00/0x0A
Mid_color_level	0xB4	0x00/0xFF

PQ Others

Item	Default data	Range
7.5 IRE NTSC	Off	On
7.5 IRE	16	0/60

Color Space

Item	Default data	Range
Red Sat	0x10	0x00/0x1E
Red Hue	0x40	0x00/0x7F
Green Sat	0x1A	0x00/0x1E
GreenHue	0x70	0x00/0x7F
Blue Sat	0x19	0x00/xX1E
BlueHue	0x50	0x00/0x7F
Cyan Sat	0x19	0x00/0x1E
Cyan Hue	0x50	0x00/0x7F
Magenta Sat	0x10	0x00/0x1E
Magenta Hue	0x40	0x00/0x7F
Yellow Sat	0x15	0x00/0x1E
Yellow Hue	0x10	0x00/0x7F
FWC Blue	0x15	0x00/0x1E
FWC Red	0x0F	0x00/0x1E

EEPROM RESET

Item	Default data	Range
EEPROM RESET	Off	
NVR ALL Clear	Off	On

Expert

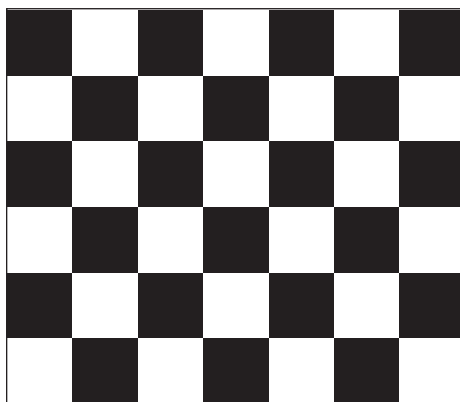
Item	Default data	Range
N/D ADJ	OFF	On/FIX
SOURCE	Current	All

4-2-4 Service Adjustment - You must perform Calibration in the Lattice Pattern before adjusting the White Balance.

■ Color Calibration

Adjust spec.

1. Source : HDMI
2. Setting Mode : 1280*720@60Hz
3. Pattern : Pattern #24 (Chess Pattern)



(Chess Pattern)

4. Use Equipment : CA210 & Master MSPG925 Generator

※ Use other equipment only after comparing the result with that of the Master equipment.

Input mode	Calibration	Pattern
CVBS IN (Model_#1)	Perform in NTSC B&W Pattern #24	Lattice
Component IN (Model_#6)	Perform in 720p B&W Pattern #24	Lattice
PC Analog IN (Model_#21)	Perform in VESA XGA (1024x768) B&W Pattern #24	Lattice
HDMI IN	Perform in 720p B&W Pattern #24	Lattice

<Table 1>

■ Method of Color Calibration (AV)

- 1) Apply the NTSC Lattice (N0. 3) pattern signal to the AV IN 1 port
- 2) Press the Source key to switch to "AV1" mode
- 3) Enter Service mode
- 4) Select the "Calibration" menu
- 5) Select the "AV Calibration" menu.
- 6) In "AV Calibration Off" status, press the "▶" key to perform Calibration.
- 7) When Calibration is complete, it returns to the high-level menu.
- 8) You can see the change of the "AV Calibration" status from Failure to Success.

■ Method of Color Calibration (Component)

- 1) Apply the 720p Lattice (N0. 6) pattern signal to the Component IN 1 port
- 2) Press the Source key to switch to "Component1" mode
- 3) Enter Service mode
- 4) Select the "Calibration" menu
- 5) Select the "Comp Calibration" menu.
- 6) In "Comp Calibration Off" status, press the "▶" key to perform Calibration.
- 7) When Calibration is complete, it returns to the high-level menu.
- 8) You can see the change of the "Comp Calibration" status from Failure to Success.

■ Method of Color Calibration (PC)

- 1) Apply the VESA XGA Lattice (N0. 21) pattern signal to the PC IN port
- 2) Press the Source key to switch to "PC" mode
- 3) Enter Service mode
- 4) Select the "Calibration" menu
- 5) Select the "PC Calibration" menu.
- 6) In "PC Calibration Off" status, press the "▶" key to perform Calibration.
- 7) When Calibration is complete, it returns to the high-level menu.
- 8) You can see the change of the "PC Calibration" status from Failure to Success.

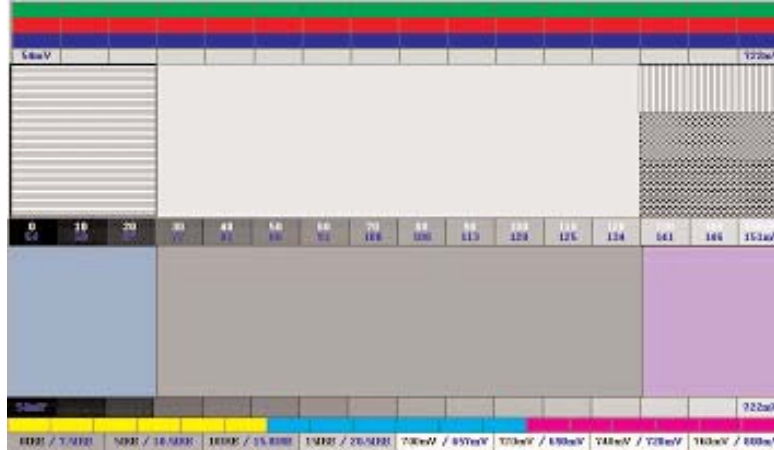
■ Method of Color Calibration (HDMI)

- 1) Apply the 720p Lattice (N0. 6) pattern signal to the HDMI1/DVI IN port
- 2) Press the Source key to switch to "HDMI1" mode
- 3) Enter Service mode
- 4) Select the "Calibration" menu
- 5) Select the "HDMI Calibration" menu.
- 6) In "HDMI Calibration Off" status, press the "▶" key to perform Calibration.
- 7) When Calibration is complete, it returns to the high-level menu.
- 8) You can see the change of the "HDMI Calibration" status from Failure to Success.

■ White Balance

Adjust spec.

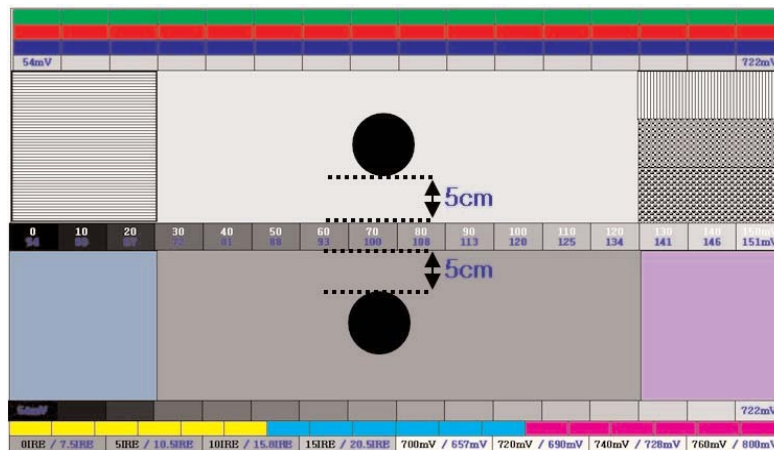
1. Source : HDMI
2. Setting Mode : 1280*720@60Hz
3. Pattern : Pattern #92
4. Use Equipment : MIK-7256 (MSPG925L)



(SAMSUNG WHITE BALANCE Adjustment PATTERN with FPD)

5. Work order

- ① Connect HDMI (DVI) output terminal of MIK-7256 (MSPG925L) to the HDMI input in main set
- ② Set the input to HDMI mode
- ③ Enter the White Balance menu of service mode
- ④ Contact CA-210 sensor to glass filter



(Fixed Position of CA210 Probe)

- ⑤ Adjust the low light
 - Adjust Sub-Bright (LBE) to set the 'Y' value
 - Adjust R-Offset ('x') and B-Offset ('y') to the color coordinates.
 - * Do not adjust G-Offset data
- ⑥ Adjust the high light.
 - Adjust Sub-Contrast (LBE) to set the 'Y' value
 - Adjust R-Gain ('x') and B-Gain ('y') to the color coordinates.
 - * Do not adjust the G-gain data

Input mode		(CA-210)		
		x	Y(L)	T(K), MPCD
CVBS (NTSC)	H/L	278	FIX	10,500 (± 0)
			(Sub_CT:128)	
	L/L	278	10.5 cd/m ²	11,000 (-3)
			(3.0 Ft)	
COMP (720P)	H/L	278	FIX	10,500 (± 0)
			(Sub_CT:128)	
	L/L	278	10.3 cd/m ²	11,000 (-6)
			(3.0 Ft)	
HDMI (720P)	H/L	278	FIX	10,500 (± 0)
			(Sub_CT:128)	
	L/L	278	10.3 cd/m ²	10,500 (± 0)
			(3.0 Ft)	

4-2-5 Replacements & Calibration

* PDP 42" Check items listed after changing each

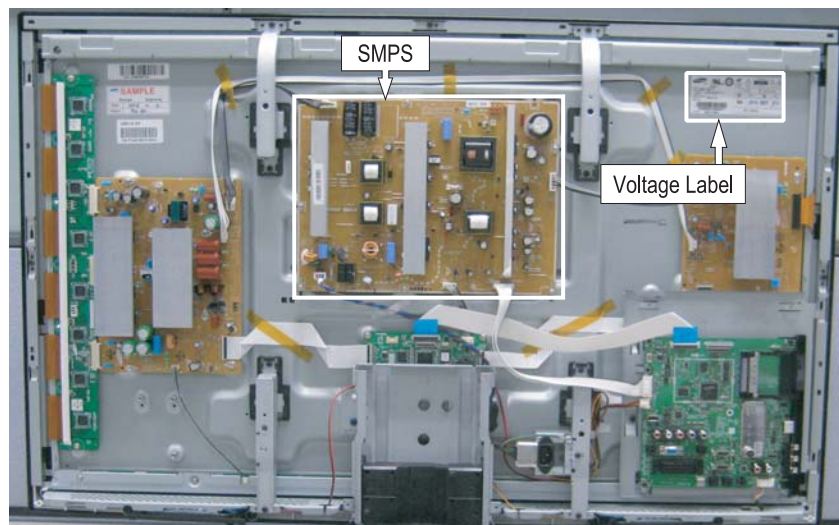
Replaced assembly items	Check Items
ASSY PCB MISC-MAIN	1) Auto Program 2) White Balance Adjust
SMPS-PDP TV	Vs, Va voltage check and adjust
ASSY PDP MODULE P-LOGIC MAIN	Not to be adjusted
ASSY PDP MODULE P-X-MAIN	
ASSY PDP MODULE P-Y-MAIN	
ASSY PDP MODULE P-Y-MAIN SCAN BUFFER	
ASSY PDP MODULE P-ADDRESS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

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

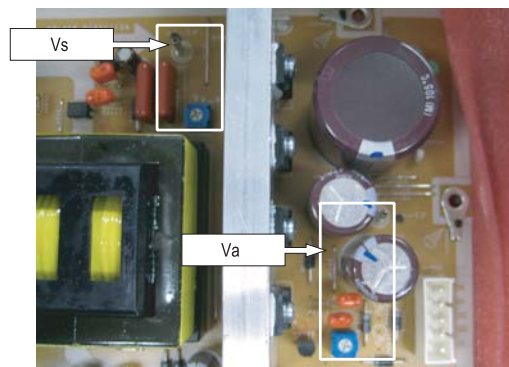
■ Voltage Adjustment

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.)

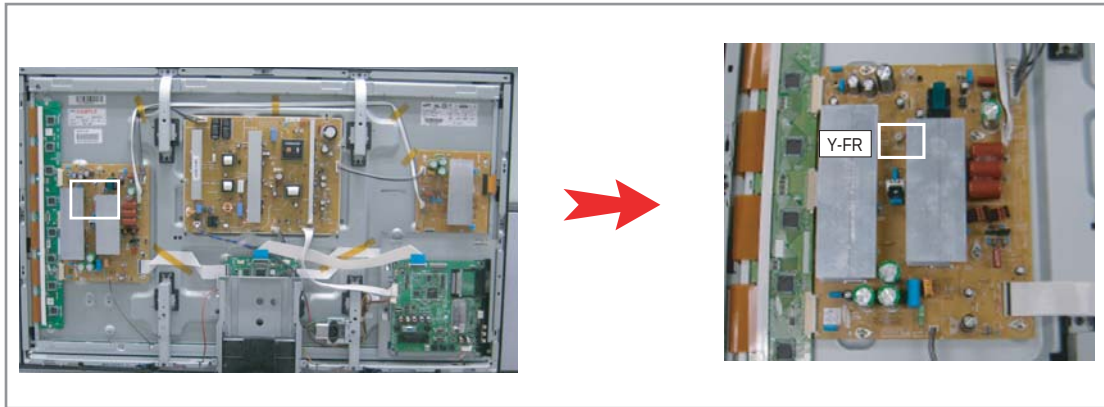
	Value	Board Adjustment
Vs	207	SMPS
Va	54	
Vset	-	
Ve	95	
Vscan	-190	



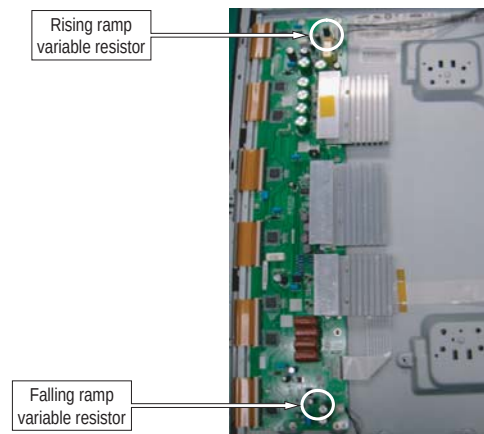
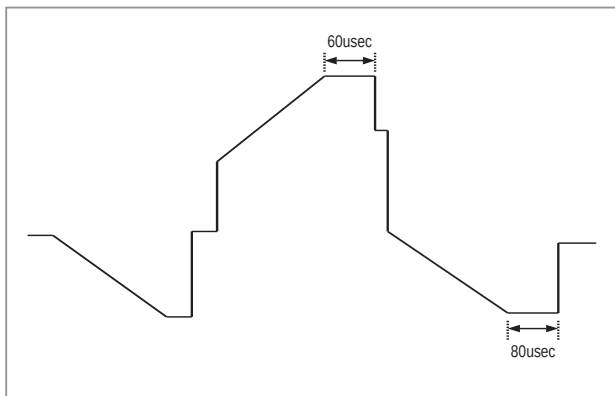
2. A point of adjusting SMPS-MAIN voltage.



■ 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 USB Download Method

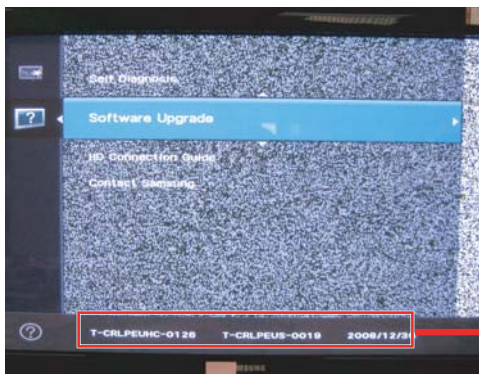
1. Copy the Upgrade Files into the path "T-CRLAUSC" in USB flash driver.
2. USB Download
 - ① Insert the USB Memory Stick to the USB port in Stand-by mode.
 - ② Turn the power on.
 - ③ Press "MENU" and find "SW Upgrade" in Menu "SETUP".
 - ④ Select the "SW Upgrade" from the menu.
 - ⑤ Select "USB" from the menu.
 - ⑥ The banner OSD "Scanning for USB..." is displayed.
 - ⑦ The banner OSD "Upgrade version **** to version ****" is displayed. Select "Yes".
 - ⑧ The banner OSD "Upgrade version **** to version ****" is displayed. It takes about 30 sec.
(Warning: Don't remove USB flash driver during upgrade.)
 - ⑨ The banner OSD "Upgrade is completed" is displayed when the upgrade is completed.
 - ⑩ Remove the USB flash driver from PDP TV and check the program version.



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

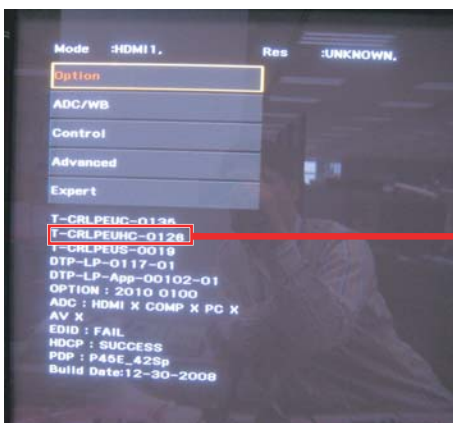
1. Procedures for checking in the User Menu

- ① Select the "Setup" menu in the Menu screen
- ② Place the cursor over the "SW Upgrade" of "Setup" and press the "info" key on the remote control.
- ③ The version of the program is displayed at the bottom of the Menu screen



PROGRAM VERSION

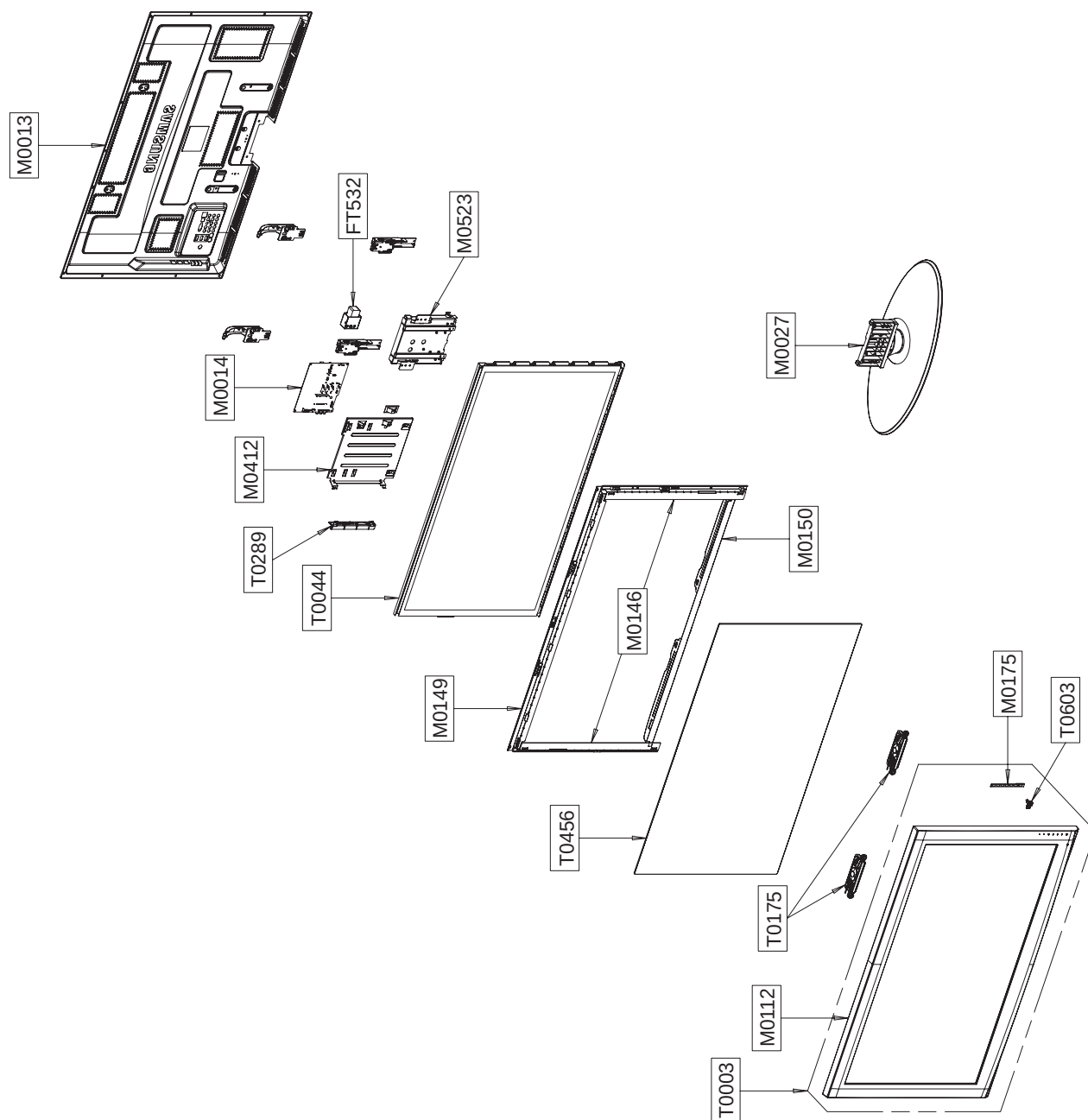
2. How to check Program Version on factory mode.



PROGRAM VERSION

5. Exploded View & Part List

5-1 PS42B430P2WXXH Exploded View



Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
FT532	2901-001548	FILTER-EMI AC LINE	250V,6A,UL, CSA, VDE,	1	S.A	
M0013	BN96-10614B	ASSY COVER P-REAR	PB430 42,PCM T0.5,BKN	1	S.A	
M0014	BN94-02836A	ASSY PCB MISC-MAIN	PS42B430P2MXXC	1	S.A	△
M0027	BN96-09927A	ASSY STAND P-BASE	42/50(PB450)	1	S.A	
M0112	BN63-04217N	COVER-FRONT	PB430 42,ABS+PMMA,HB,BK27,S/	1	S.N.A	
M0146	BN96-10616A	ASSY BRACKET P-FILTER SIDE	PB430 42,SAZC	2	S.N.A	
M0149	BN96-10615A	ASSY BRACKET P-FILTER TOP	PB430 42,SAZCC	1	S.N.A	
M0150	BN96-10199D	ASSY BRACKET P-FILTER BOTTOM	PB450 42,SE	1	S.N.A	
M0175	BN96-10706B	ASSY BOARD P-TOUCH FUNCTION&IR	PS42B430P	1	S.N.A	
M0412	BN96-10232A	ASSY BRACKET P-PCB	PB450 42,SECC,T0.6	1	S.N.A	
M0523	BN96-10231F	ASSY BRACKET P-SUPPORT STAND	PB450 42,SE	1	S.A	
T0003	BN96-10613B	ASSY COVER P-FRONT	PB430 42,ABS+PMMA,HB,	1	S.A	
T0044	BN96-10452B	ASSY PDP MODULE P	SA42AX-YD11,PP42AB057B	1	S.A	△
T0175	BN96-09465A	ASSY SPEAKER P	8ohm,4pin,10W,R:850 / L:3	1	S.N.A	
T0289	BN63-05298A	COVER-AV	50PB550,ABS HB,BLK(BK500)	1	S.A	
T0456	BN67-00247A	GLASS-FILTER EMI	42" P410,without AR & B	1	S.A	△
T0603	BN64-00628A	WINDOW-RMC	50P9,PC,VIOLET	1	S.N.A	

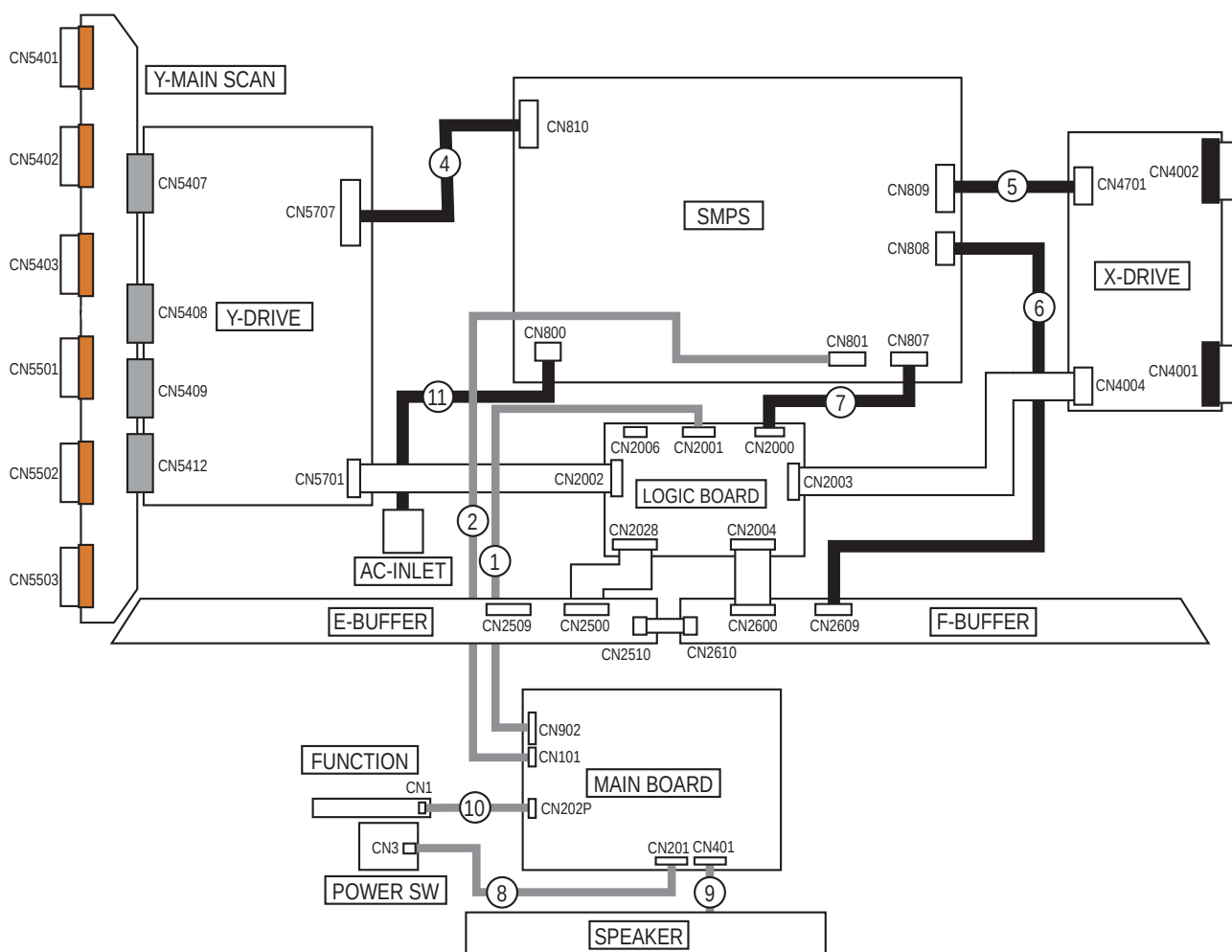
5-2 PS42B430P2WXXH Service Item

※ 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	BN96-10614B	ASSY COVER P-REAR	PB430 42,PCM T0.5,BKN	1	
M0014	BN94-02836A	ASSY PCB MISC-MAIN	PS42B430P2MXXC	1	△
M0027	BN96-09927A	ASSY STAND P-BASE	42/50(PB450)	1	
M0154	BN96-09752A	ASSY PDP P-Y-MAIN BUFFER BOARD	S42AX-YB0	1	
M2893	BN39-01214A	LEAD CONNECTOR	UL1007#26,300MM,SMH200-24	1	
T0003	BN96-10613B	ASSY COVER P-FRONT	PB430 42,ABS+PMMA,HB,	1	
T0037	BN96-09753A	ASSY PDP P-LOGIC MAIN BOARD	S42AX-YB07,P	1	
T0044	BN96-10452B	ASSY PDP MODULE P	SA42AX-YD11,PP42AB057B	1	△
T0045	BN96-09749A	ASSY PDP P-X-MAIN BOARD	S42AX-YB07,PL42A	1	△
T0045	BN96-09750A	ASSY PDP P-X-MAIN BUFFER BOARD	S42AX-YB0	1	
T0074	BN59-00865A	REMOCON	DLP,CRT,TM940,EUROPE,39,92g	1	
T0262	BN96-09751A	ASSY PDP P-Y-MAIN BOARD	S42AX-YB07,PL42A	1	△
T0764	BN44-00273B	SMPS-PDP TV	42U1_DY,AC/DC,314.23W,AC90~2	1	△
T0937	BN96-09754A	ASSY PDP P-ADDRESS E-BUFFER BO	S42AX-YB0	1	
T0938	BN96-09755A	ASSY PDP P-ADDRESS F- BUFFER B	S42AX-YB0	1	

6. Wiring Diagram

6-1 Overall Wiring



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

Use	① LVDS	⑧ POWER CABLE	⑪ AC INLET
Code	BN96-07158K	BN39-00827A	BN96-07190A
Photo			

6-1-1 Pin Connection

① CN902(MAIN B'D) ↔ CN2001(LOGIC B'D)			
Pin No.	Signal	Pin No.	Signal
1	RxIN1b-	16	GND
2	RxIN1b+	17	RxIN3-
3	RxIN0b-	18	RxIN3+
4	RxIN0b+	19	GND
5	RxIN0-	20	I2C_READY
6	RxIN0+	21	GND
7	GND	22	3D_SYNC
8	RxIN1-	23	GND
9	RxIN1+	24	UART Tx
10	GND	25	GND
11	RxIN2-	26	UART Rx
12	RxIN2+	27	Start_OPT
13	GND	28	SCL
14	RxCLKIN-	29	GND
15	RxCLKIN+	30	SDA

② CN101(MAIN B'D) ↔ CN801(MAIN SMPS)			
Pin No.	Signal	Pin No.	Signal
1	PS_ON	13	D5.3V
2	VS_ON	14	D5.3V
3	STBY	15	D5.3V
4	GND_STBY	16	D5.3V
5	GND_15Vamp	17	GND_15V
6	GND_15Vamp	18	GND_15V
7	15Vamp	19	D15V
8	15Vamp	20	GND_15V
9	GND_5.3V	21	D15V
10	GND_5.3V	22	D15V
11	GND_5.3V	23	AC_DET
12	GND_5.3V	24	NC[Vt]

④ CN810(SMPS) ↔ CN5707_42"(Y B'D) CN5407_50"(Y B'D)		⑤ CN809(SMPS) ↔ CN4701(X B'D)		⑦ CN807(SMPS) ↔ CN2000(LOGIC B'D)		⑧ CN201(MAIN B'D) ↔ POWER&IR		⑨ CN401(MAIN B'D) ↔ SPEAKER	
Pin No.	Signal	Pin No.	Signal	Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
1	Vs	1	Vs	1	D5.3V	1	IR	1	R+_OUT
2	Vs	2	Vs	2	D5.3V	2	GND	2	R-_OUT
3	GND	3	GND	3	GND	3	A5V	3	L+_OUT
4	Vg	4	GND	4	GND	4	LED_STB	4	L-_OUT
5	GND	5	Vg	5	Vg	5	BUZZER	⑪ CN800(SMPS) ↔ AC INLET	
6	Va					6	KEY_INPUT1		
						7	KEY_INPUT2		
						8	GND		
						9	NC	Pin No.	Signal
						10	NC	1	AC Neutral
								2	N/C
								3	AC Live

6-1-2 Connector role

Loc. No.	Description
CN5401	Horizontal Y-scan line(1~128) of Module and Y-Main Scan Connect
CN5402	Horizontal Y-scan line(129~256) of Module and Y-Main Scan Connect
CN5403	Horizontal Y-scan line(256~384) of Module and Y-Main Scan Connect
-	Y-Main Scan(High) and Y-Main Scan(Low) Connect
CN5501	Horizontal Y-scan line(384~512) of Module and Y-Main Scan Connect
CN5502	Horizontal Y-scan line(512~640) of Module and Y-Main Scan Connect
CN5503	Horizontal Y-scan line(640~768) of Module and Y-Main Scan Connect
CN5407	Upper Y-Drive and Y-Main Scan Connect
CN5507	Lower Y-Drive and Y-Main Scan Connect
CN5707	Vs(205V),Vg(15v) Power input connect(6Pin) of Y-Drive
CN5701	Y-Drive control signal from Logic Board
CN810	Vs(205V),Vg(15v) Power input connect(6Pin) of SMPS for Y-Drive
CN809	Vs(205V),Vg(15v) Power input connect(6Pin) of SMPS for X-Drive
CN808	Va(63V) ,5.3V Power input connect(3Pin) of SMPS for F-Buffer
CN807	Power input connect(10pin) for Logic Board
CN801	Image signal(LVDS) connect(41pin) from Main Board
CN800	AC Power input connect from AC-inlet
CN4002	Horizontal X-scan line of Module and X-scan Connect(first Block)
CN4001	Horizontal X-scan line of Module and X-scan Connect(second Block)
-	Horizontal X-scan line of Module and X-scan Connect(third Block)
CN2000	Power input connect(10pin) of Logic Board from SMPS
CN2001	Image signal(LVDS) connect(41pin) of Logic board from Main Board
CN2002	Y-Drive control signal of Logic Board
CN2004	Address Data(684th~1366th) connect for F-Buffer board
CN2028	Address Data(1st~683th) connect for E-Buffer board
CN2500	Address Data(1st~683th) connect from Logic Board
CN2510	Power input connect from F-Buffer Board
CN2610	Power input connect to E-Buffer Board
CN2600	Address Data(684th~1366th) connect from Logic board
CN2609	Va(63V) ,5.3V Power input connect(3Pin) from SMPS
CN1101	Power input connect(24Pin) from SMPS
CN2202	Image signal(LVDS) connect(41pin) for Logic board
CN1605	Function input(source,ch up/down...) connect on Main board
CN1404	Video signal input connect form Side AV ass'y
CN1606	Power SW input connect on Main Board
CN1203	Speak out connect on Main Board
CN101	Video signal input connect on Side AV ass'y
CN1	Function input(source,ch up/down...) connect to Main board
CN3	Power SW input connect to Main Board

MEMO