



Plasma TV

Chassis

F5MA

Model Code

PS51F5500ARLXL

SERVICE MANUAL

Plasma TV

Contents



PS51F5500AR

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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 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 of a too great magnitude between the PDP module and the cabinet mask, and the improper installation of the rear cabinet.

Errors may occur when the resistance is below $1.0\text{M}\Omega$ or over $5.2\text{M}\Omega$. In these cases, make sure that the device is repaired before sending it back to the customer.

- 3) Check for Electricity Leakage (AC Leakage Test)



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).

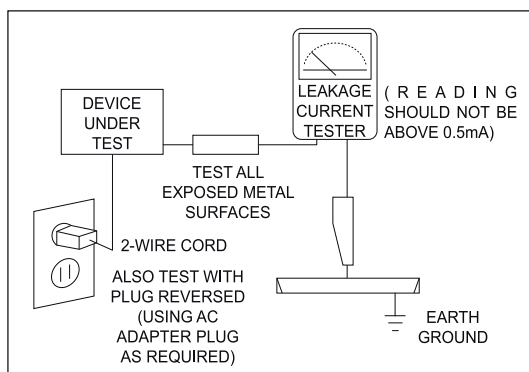


Figure 1.1 AC Leakage Test

- 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 earthed 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 earthed ground. If the measurement is over 1.0V , unplug the AC power cord and change the polarity before reinserting 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 regular ones 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.
 - 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 1MΩ.
 - 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.



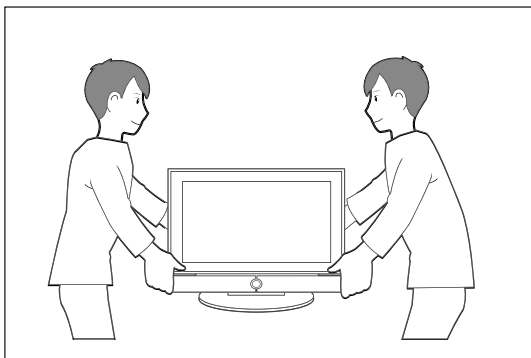
CAUTION

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 a minimum of two people are required to carry this 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. Model Comparison

Series			PF5500
Front View			
Front Color			Black
Dimensions W x D x H (inch)	51"	Without Stand	1191.9 x 57.0 x 709.1
		With Stand	1191.9 x 307.2 x 798.8
	60"	Without Stand	1396.9 x 57.0 x 831.3
		With Stand	1396.9 x 375.5 x 928
	64"	Without Stand	1483.8 x 57.0 x 877.1
		With Stand	1483.8 x 375.5 x 974.5
Weight (lbs)	51"	Without Stand	18.5 kg
		With Stand	26.5 kg
	60"	Without Stand	27.5 kg
		With Stand	38.3 kg
	64"	Without Stand	33 kg
		With Stand	44.8 kg
Feature			smart tv 2.0

2.2. Feature & Specifications



■ Features

- Digital-TV, RF, 4HDMI, 1-Component(AV), 3-USB2.0(Media Play), Optical, Lan
- Brightness : 1500cd / m²
- Contrast Ratio : 10000:1
- Dolby Digital+, SRS theater

■ Specification

Model		PS51F5500	PS60F5500	PS64F5500
Display Resolution		1920 x 1080		
Environmental Considerations Operating Temperature Operating Humidity Storage Temperature Storage Humidity		50°F to 104°F (10°C to 40°C) 10% to 80%, non-condensing -4°F to 113°F (-20°C to 45°C) 5% to 95%, non-condensing		
Stand Swivel (Left / Right)		-20° ~ 20°		
Dimensions (W x H x D) Body		46.9 x 27.9 x 2.2 inches (1191.9 x 709.1 x 57.0 mm)	54.9 x 32.7 x 2.2 inches (1396.9 x 831.3 x 57.0 mm)	58.4 x 34.5 x 2.2 inches (1483.8 x 877.1 x 57.0 mm)
With Stand		46.9 x 31.4 x 12.0 inches (1191.9 x 798.8 x 307.2 mm)	54.9 x 36.5 x 14.7 inches (1396.9 x 928 x 375.5 mm)	58.4 x 38.3 x 14.7 inches (1483.8 x 974.5 x 375.5 mm)
Weight	With Stand	44.7 lbs (20.3 kg)	66.3 lbs (30.1 kg)	78.4 lbs (35.6 kg)
	Without Stand	40.7 lbs (18.5 kg)	60.6 lbs (27.5 kg)	72.7 lbs (33.0 kg)
Screen Size		51" Class (50.6 measured diagonally)	60" Class (59.9 measured diagonally)	64" Class (64.0 measured diagonally)
Sound (Output)		10W x 2		

2.3. Specifications Analysis

Model		PS51F5500 PS60F5500 PS64F5500	PN51E550
Design			
Basic	Display Type	PDP TV	PDP TV
	Resolution	1,920 x 1,080	1920 X 1080
	Premium Display Panel	X	X
	Real Black Pro Panel	X	X
	Clear Image Panel	O	O
Picture	Picture Engine	3D Hype rReal Engine	3D Hype rReal Engine
	600Hz Subfield Motion	O	O
	Dynamic Contrast Ratio	Mega DCR	Mega DCR
	Cinema Smooth	O	O
	Motion Judder Canceller	X	X
	Wide Color Enhancer (Plus)	O	O
	Film Mode	O	O
	Relax Mode Support	X	X
Audio	Dolby	Dolby Digital Plus / Pulse	Dolby Digital Plus / Pulse
	SRS / DNSe+	SRS Theater Sound 3D	SRS Theater Sound HD
	dts 2.0 + Digital Out / DTS Premium Audio	DTS Premium Audio	DTS Premium Audio
	3D Sound	O	X
	Sound Customizer	X	X
	Speaker Type	Down Firing + Full Range	Down Firing + Full Range
	Sound Output (RMS)	10W x 2	10W X 2
	Woofers	X	X



TIP

O : Supported

X : Not Supported



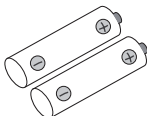


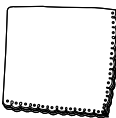




NOTE

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


2.4. Accessories

2.4.1. Supplied Accessories

Accessories	Item	Item code
	Ferrite Core	-
	Power Cord	3903-000441
	Batteries (AAA x 2)	4301-000121
	Remote Control	AA59-00778A
	Stand Wire Holder	BN61-08370A
	Cleaning Cloth	BN63-01798B
	Owner's Instructions	BN68-05116A
	3D Glasses	BN96-25614A


3. Disassembly and Reassembly

This section of the service manual describes the disassembly and reassembly procedures for the PDP TV.


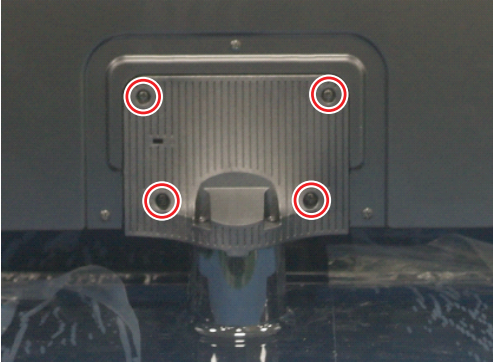

**WARNING**

This PDP TV contains electrostatically sensitive devices. Use caution when handling these components.

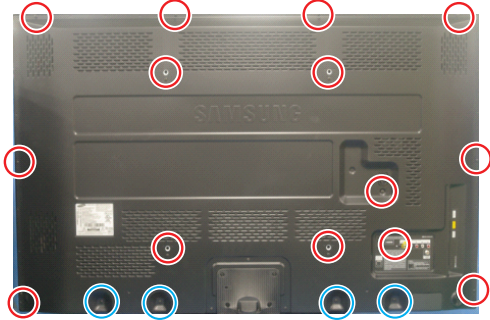


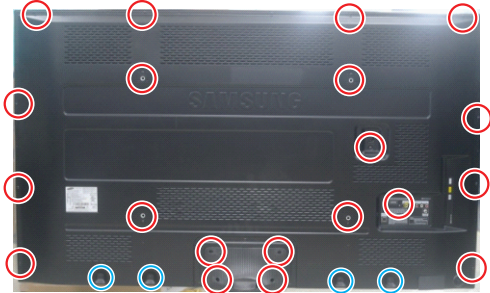


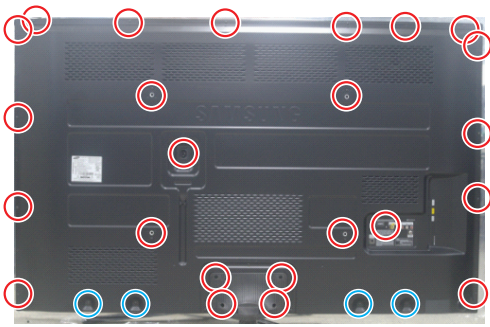


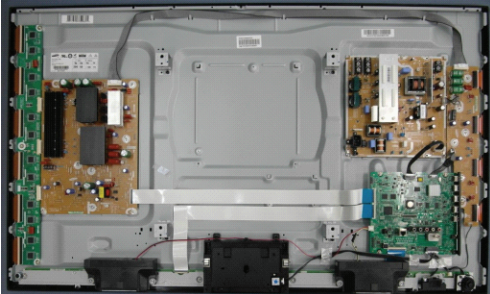
3.1. Overall Disassembly and Reassembly

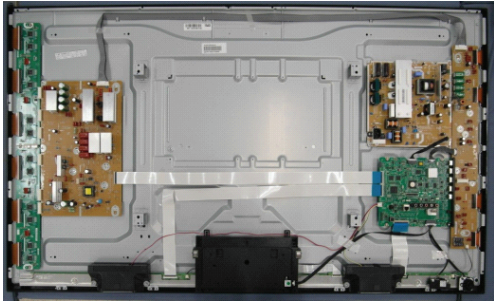
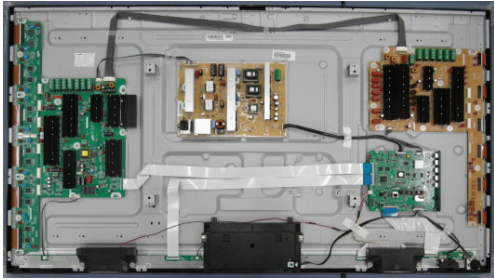

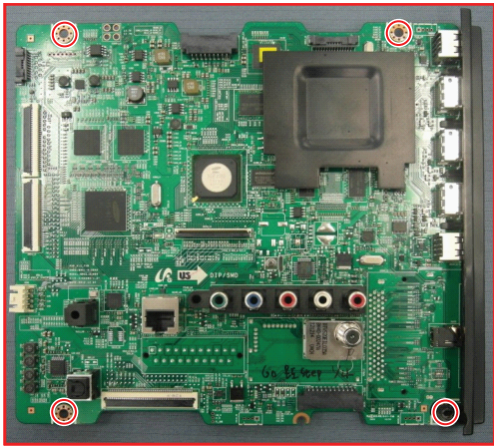

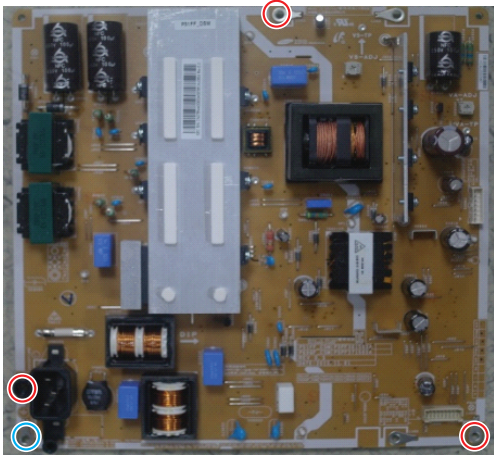


**CAUTION**

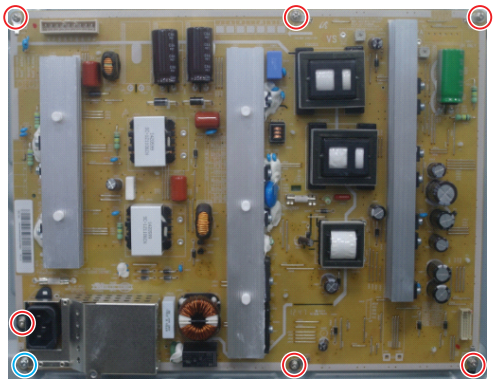


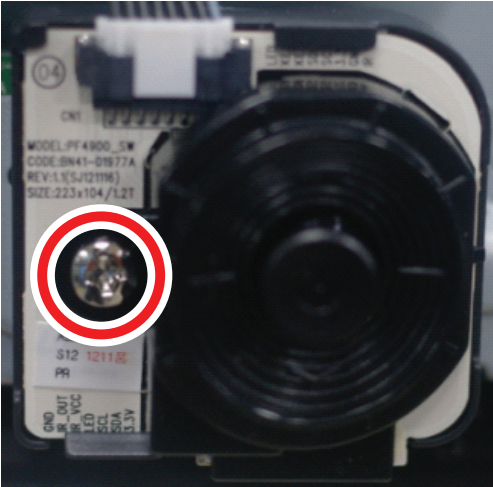
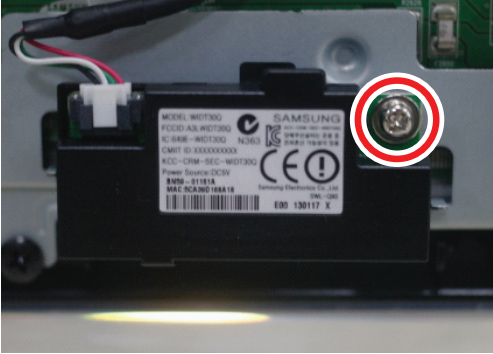
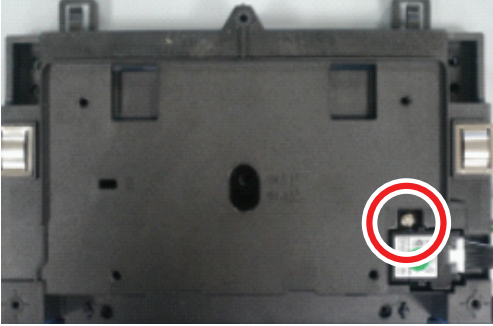



- Disconnect the PDP TV from the power source before disassembly.
- Follow these directions carefully; never use metal instruments to pry apart the cabinet.
- If there is no additional comment, it is same for all inches.

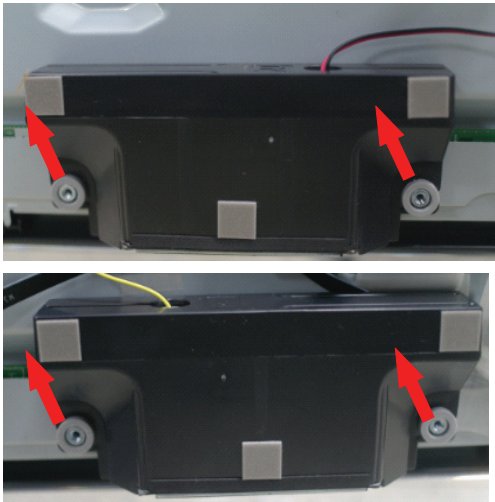
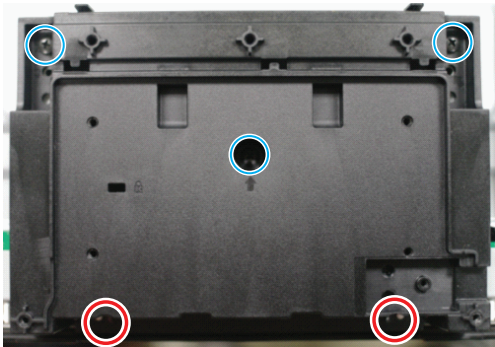


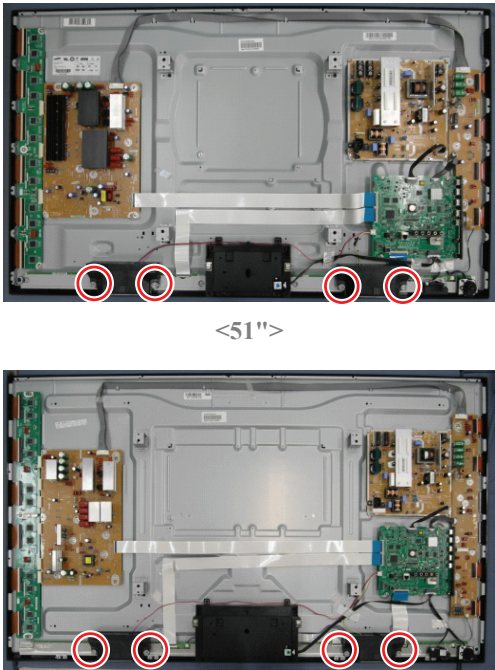


Description	Description Photo	Screw
1. Place monitor face down on cushioned table. Remove screws from the Stand. Remove stand.	 <p><51"></p>  <p><51"></p>	 <p>6003-001782 M4 * L12</p>

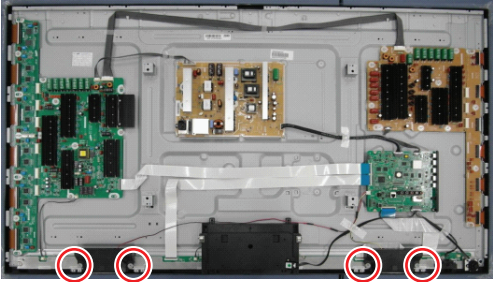

Description	Description Photo	Screw
	<div><p><60"></p><p><60"></p></div>	<div><p>6003-001782 M4 * L12</p></div>
	<div><p><64"></p><p><64"></p></div>	<div><p>6003-001782 M4 * L12</p></div>

Description	Description Photo	Screw
2. Remove the screws of rear-cover.	 <p><51"></p>	 <p>6003-001782 M4 * L12</p>  <p>6003-000337 M4 * L10</p>
	 <p><60"></p>	 <p>6003-001782 M4 * L12</p>  <p>6003-000337 M4 * L10</p>
	 <p><64"></p>	 <p>6003-001782 M4 * L12</p>  <p>6003-000337 M4 * L10</p>
3. Lift up and remove the rear-cover.	 <p><51"></p>	

Description	Description Photo	Screw
	 <60" >  <64" >	
<p>4. Remove the screws of main board.</p> <div data-bbox="220 1003 742 1153">  CAUTION Disconnect all connectors prior to removing boards. </div>	 <51" >	 6001-002606 M3 * L10
<p>5. Remove the screws of SMPS. Remove the SMPS.</p>	 <51" > <60" >	 6001-002606 M3 * L10  6003-001439 M3 * L10

Description	Description Photo	Screw
	 <64">	 6001-002606 M3 * L10  6003-001439 M3 * L10
<p>6. Remove the screw of Function. Remove the Function.</p> <p>Remove the screw of WI-FI module. Remove the WI-FI module. WI-FI code : BN59-01161A</p> <p>Remove the screw of blue-tooth module. Remove the blue-tooth module. Blue-tooth code : BN96-25376A</p>	  	 6001-002606 M3 * L10  6001-002606 M3 * L10  6001-002606 M3 * L10

Description	Description Photo	Screw
7. Remove the speakers. (R/L)		
Remove the screw of Cover bottom.		 6003-001782 M4 * L12  6003-000337 M4 * L10
8. Remove the screws of the front-cover.	 <51"> <60">	 6003-001782 M4 * L12  6003-001782 M4 * L12

Description	Description Photo	Screw
	 <p><64"></p>	 <p>6003-001782 M4 * L12</p>

4. Troubleshooting

4.1. 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) How to distinguish if the problem is caused by Main board or Logic Board.

- No Video : If the problem is No Video but Logic Board is on and Indication LED is blinking repeatedly and faster than normal booting, replace the Logic board.
- Distorted Picture : Check the inner patterns.

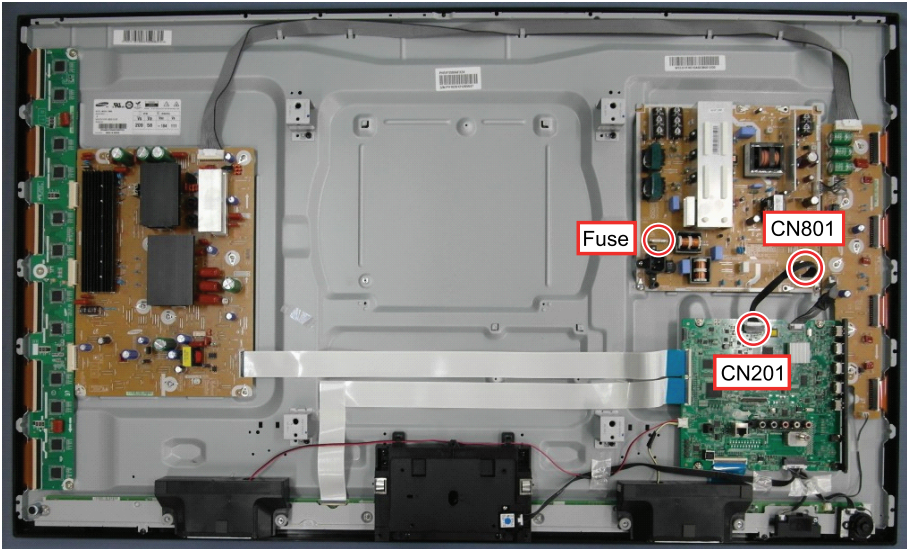
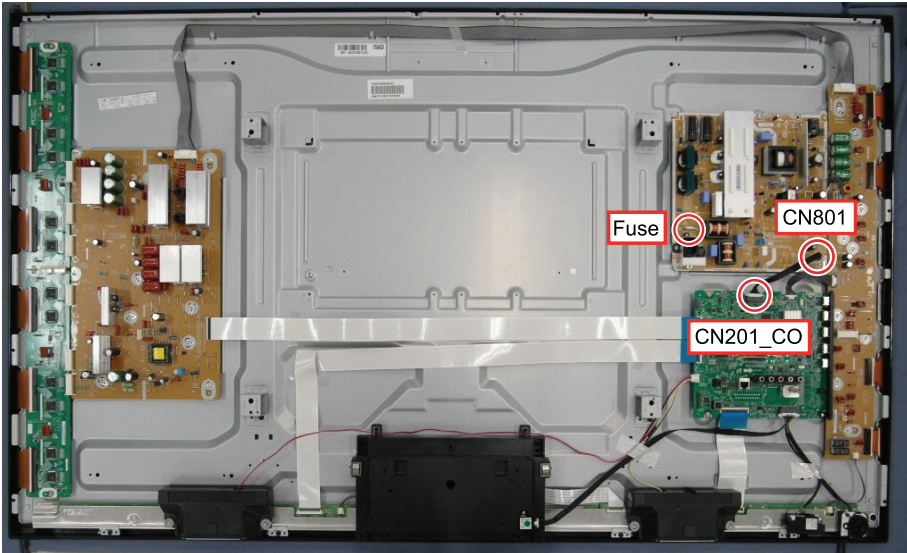
Inner pattern	Picture	Problem
OK	NG	Main Board
NG	NG	Main / Logic Board or Panel.

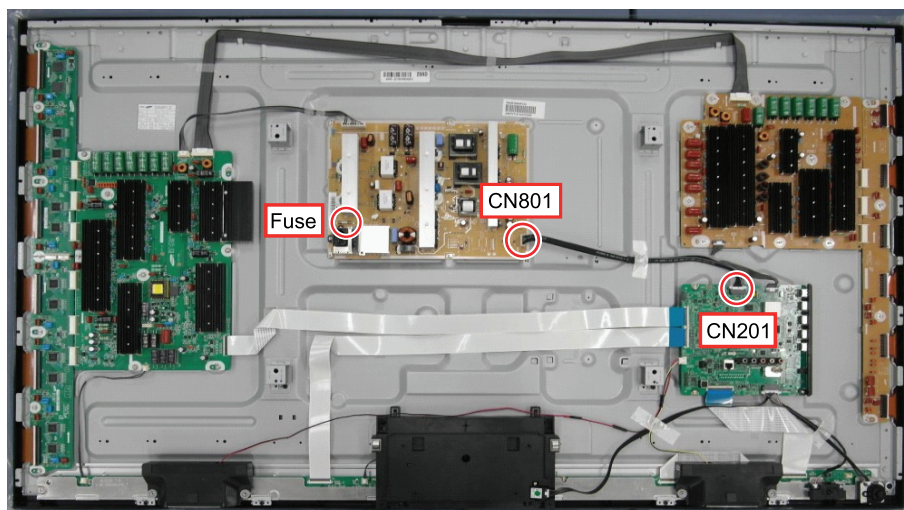
- How to check Logic test pattern?
 - Entering Factory mode
 - Move to SVC menu
 - Move to Test Pattern
 - Check test patterns.
 - If logic board doesn't have problem then you may see below pattern by pressing ► key



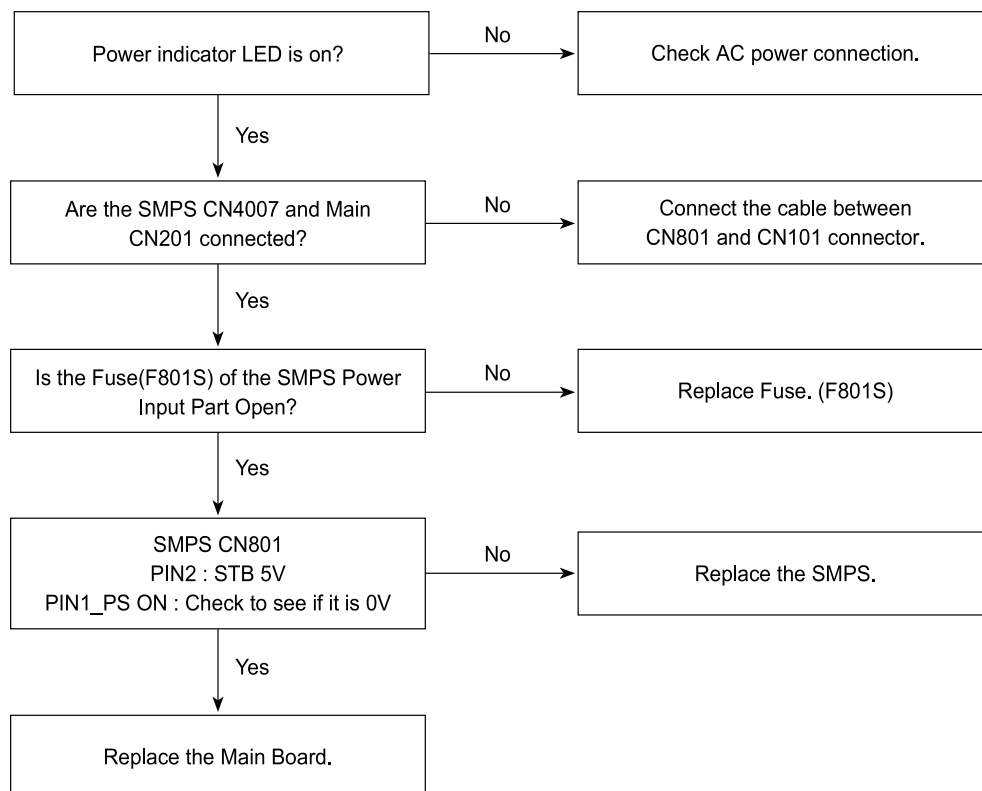
4.2. Checkpoints by Error Mode

■ No Power

Symptom	<ul style="list-style-type: none">• 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	<p>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:</p> <ul style="list-style-type: none">• Check the internal cable connection status inside the unit.• Check the fuses of each part.• Check the output voltages of the SMPS.• Replace the Main Board.
Diagnostics	<div><p><51" PDP></p><p><60" PDP></p></div>

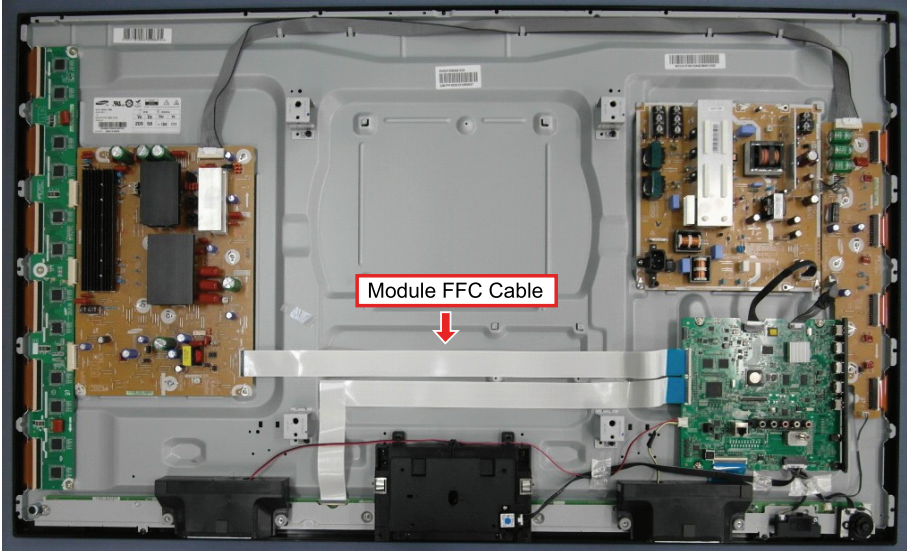
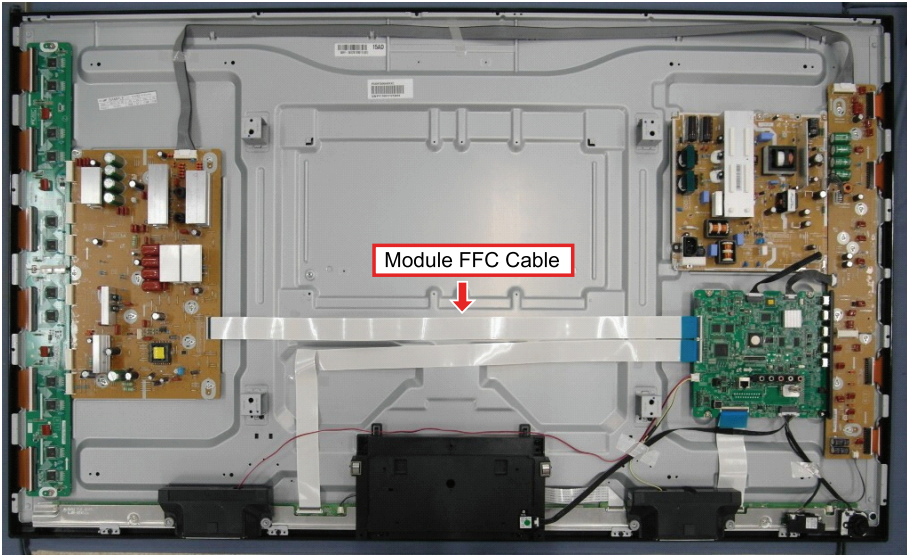


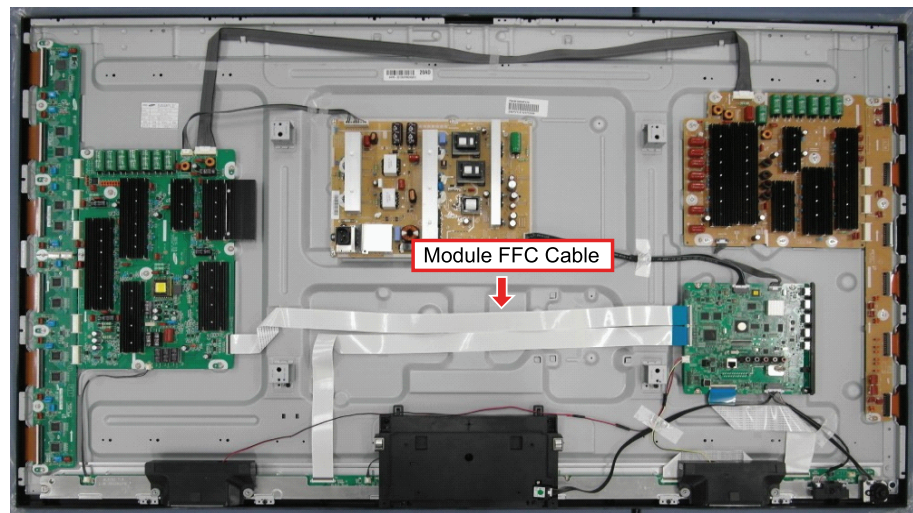
<64" PDP>

**CAUTION**

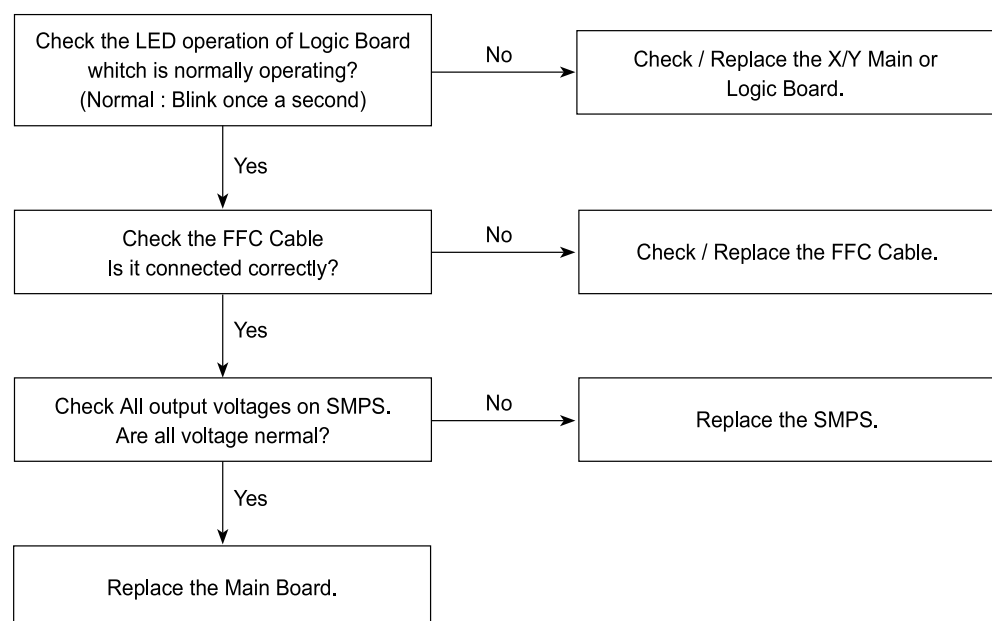
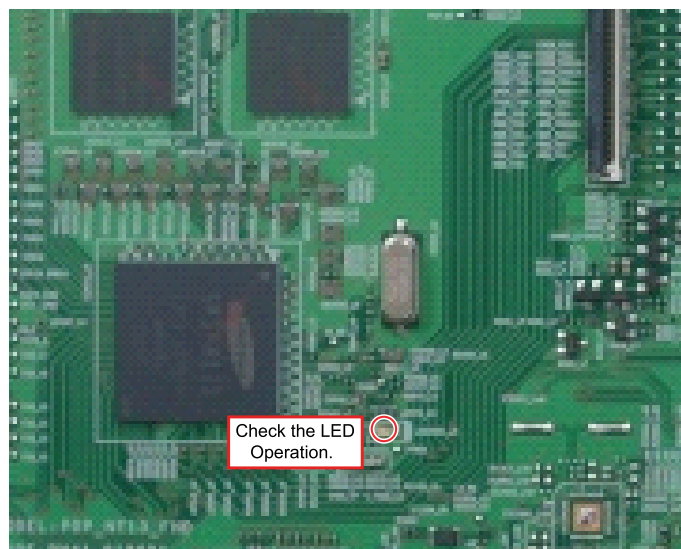
Make sure to disconnect the power before working on the SMPS board.

■ No Video

Symptom	<ul style="list-style-type: none">• Audio is normal but no picture is displayed on the screen.
Major Checklist	<ul style="list-style-type: none">• The output voltage of the Main SMPS.• This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	<div><p><51" PDP></p><p><60" PDP></p></div>



<64" PDP>

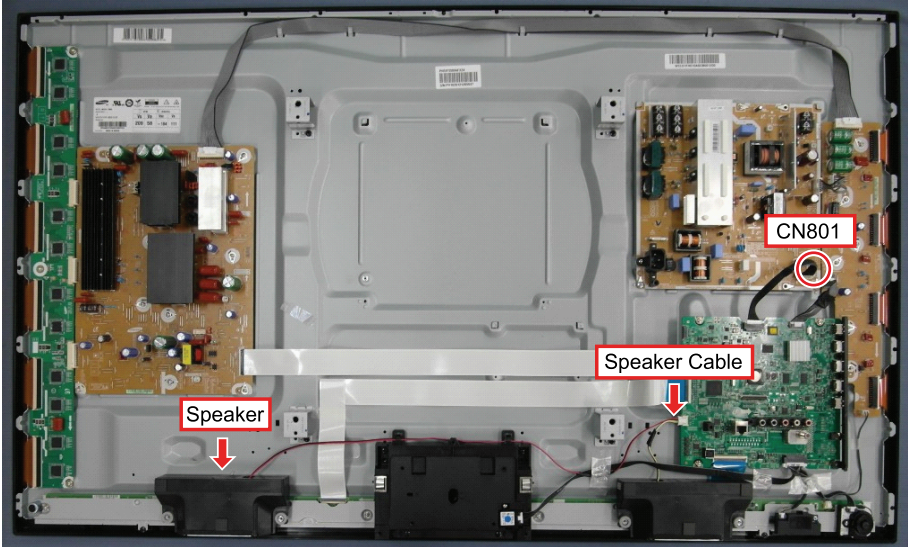
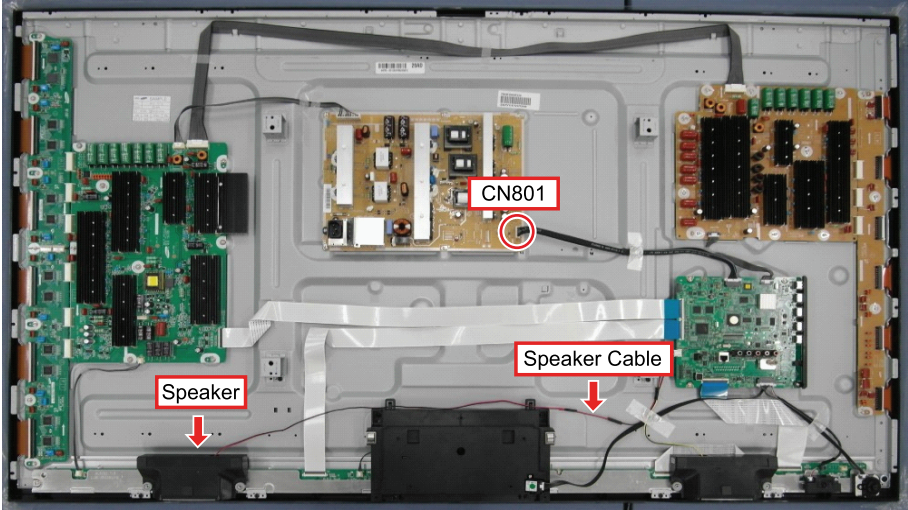


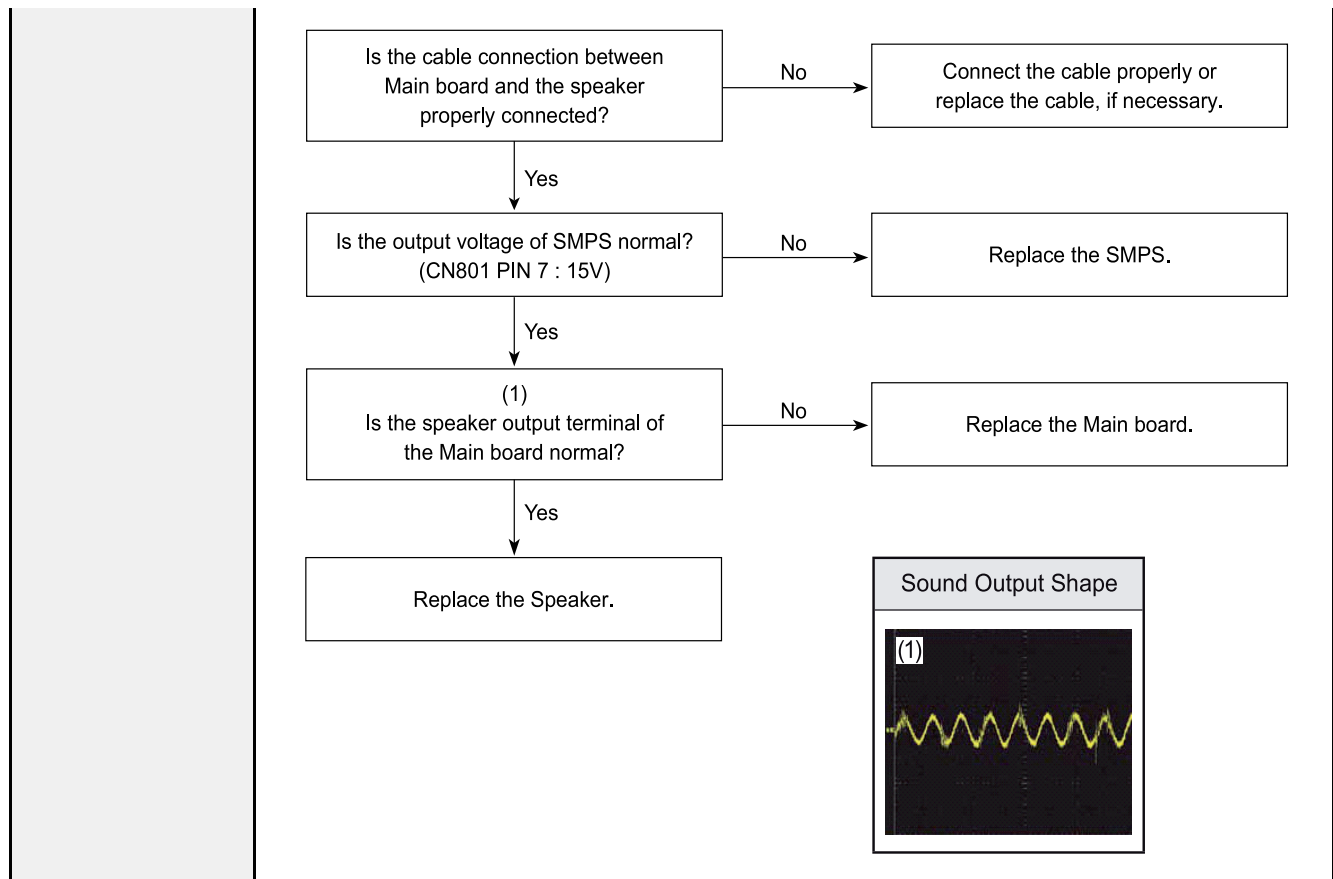


CAUTION

Make sure to disconnect the power before working on the SMPS board.

■ No Sound




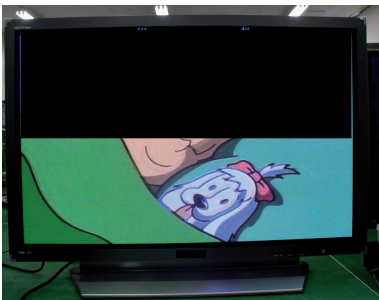

Symptom	<ul style="list-style-type: none">• Video is normal but there is no sound.
Major Checklist	<ul style="list-style-type: none">• When the speaker connectors are disconnected or damaged.• When the sound processing part of the Main Board is not functioning.• Speaker defect.• SMPS not supplying voltage to the main board.
Diagnostics	<div><p><51" 60" PDP></p><p><64" PDP></p></div>

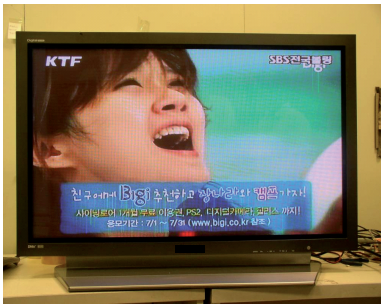




CAUTION

Make sure to disconnect the power before working on the IP board.

4.2.1. Example of Trouble Shooting

Symptom	Related Image	Causes and Countermeasures
A blank vertical cell (block) appears on the screen.		<ul style="list-style-type: none"> Address buffer defect <ul style="list-style-type: none"> Replace the corresponding upper/lower buffers. COF defect (burnt) <ul style="list-style-type: none"> Replace the module.
A green screen appears when the TV is turned on.		<ul style="list-style-type: none"> The Scale is not resecting. <ul style="list-style-type: none"> Replace the Main board.
The OSD box appears but there is no text.		<ul style="list-style-type: none"> Incorrect program version. <ul style="list-style-type: none"> Check the version of each program. Replace the Main board.
A blank upper (or lower) block appears on the screen.		<ul style="list-style-type: none"> Upper/Lower Y Buffer defect <ul style="list-style-type: none"> Replace the corresponding upper/lower buffers.
Either the main or sub picture does not appear.		<ul style="list-style-type: none"> Replace the Main board.

Symptom	Related Image	Causes and Countermeasures
A vertical green line appears on the screen.		<ul style="list-style-type: none"> The SMPS voltage is incorrect. <ul style="list-style-type: none"> Adjust the SMPS voltage according to the voltage printed on the module label.
Dim screen (blurred in red)		<ul style="list-style-type: none"> X-Main board defect <ul style="list-style-type: none"> Replace the X-Main board.
A blank screen appears.		<ul style="list-style-type: none"> Replace the Y-Main board.





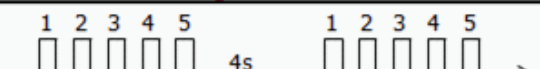
4.2.2. Operating Logic LED

■ Normal

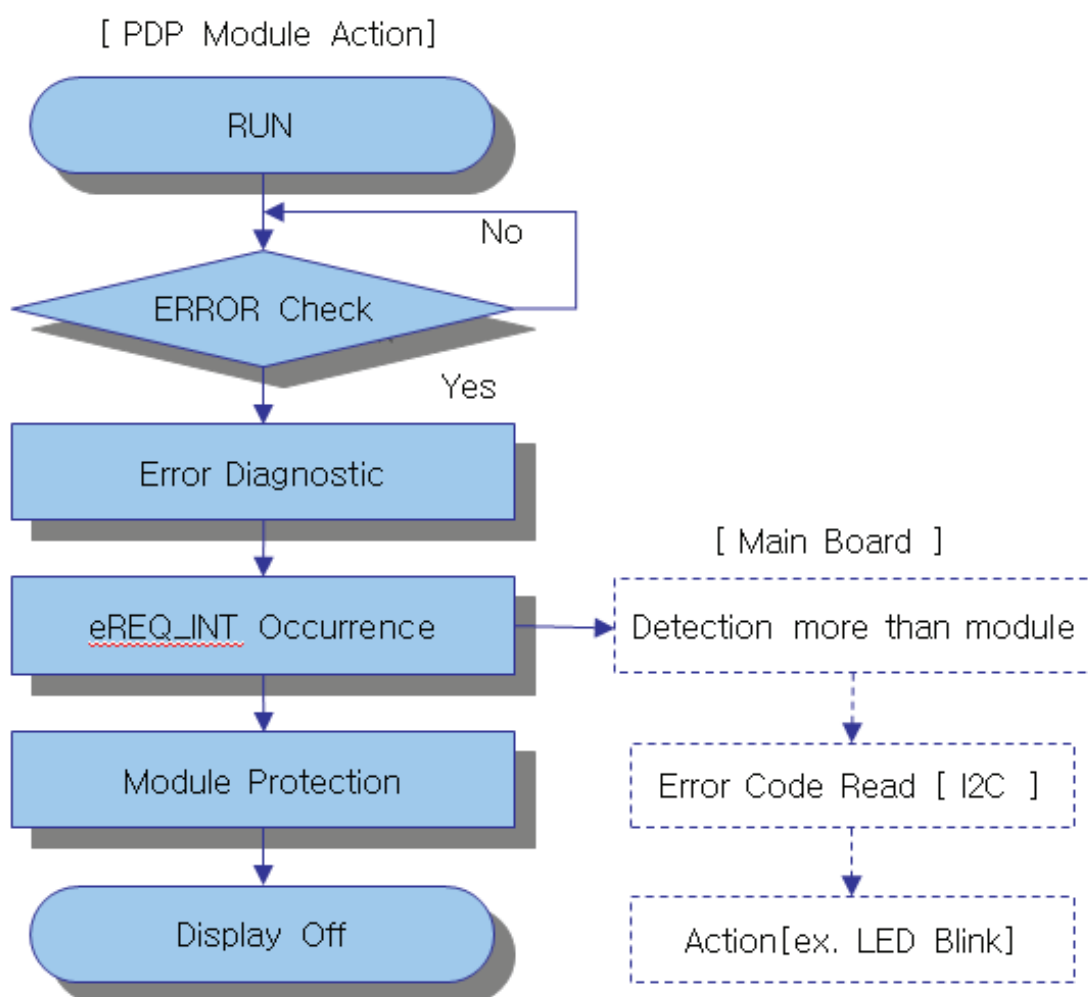
- LED blink time is once per 0.5s

■ Abnormal

- LED Blink interval is 0.3s and Off time 4s

Error Part	Operation / Blink		Error Code(Hex)
X,Y Driver Fail	Off	1	 Y main or X-buffer Fail Check
Temp Protect		2	 Checking temperature sensor in logic board
Logic Board Fail		3	 Checking the Logic & Main board I2C
Err code Detect		4	 Logic S/W Fail
Module Protection		5	 Checking PDP Module State

■ PDP Module Action



4.3. Factory Mode Adjustments

4.3.1. Detail Factory Option

- If you replace the main board with new one, please change the factory option as well.
- The options you must change are “Type”.

Model Name		PS51F5500	PS60F5500	PS64F5500
Panel	Vendor	SDI	SDI	SDI
	Code	BN96-25240A	BN96-25241A	BN96-25242A
	Spec			
SMPS	Code	BN44-00600A	BN94-06194B	BN44-00618A
Main Assy	Chassis Ass'y	BN94-06269C	BN94-06269D	BN94-06269E
	PBA Ass'y code	BN97-07113H	BN97-07113J	BN97-07113K
Factory				
0	Factory Reset	-		
1	Type	51FFHcD	60FFHcD	64FFHcD
2	Local set	AD_AU_NZ2		
3	SW Model	PF5500		
4	BOM Model	-		
5	Tuner	SI_ADI		
6	Ch table	NONE		
7	Country	-		
8	Front Color	P-W-D-55		

4.3.2. Entering Factory Mode

■ To enter 'Service Mode' Press the remote-control keys in this sequence.

- If you do not have Factory remote-control.



- If you have Factory remote-control.



- If you don't have Factory remote control, can't control some menu.

Option
Control
Debug
SVC
ADC/WB
Advanced
T-MST12UABC-xxxx T-MST12DEUS-xxxx BT Version : xxxx Camera Version : xxxx E-Manual : xxxx EDID SUCCESS CALIB : AV/COMP/PC/HDMI/ Option : xxxx,US,5500,NONE USB RS232C : OFF SDAL-X12-MAIN-xxxx-xxxx RFS : "X12 0071" KER/201x-xx-xx KERNEL : 8.0837, D / Onboot :xxxx.x Backend IC[x], Data Ver : xxxx TCON Version : xxxx DTP-DTVTD-xxxx Model : PS51F5500 Wired MAC SUCCESS Wireless MAC SUCCESS DRM : Crt O, Nf O, Wv O, Hc O, Dc O, Mx O, MI O Factory Data Ver : 97 EERC Version : 51 DTP-BP-HAL-3183 DTP-AP-CNC-3151 DTP-AP-MM-3145 DTP-AP-WP-3148 DTP-BP-MW-3156 DTP-BP-APP-3156 POP-FLA-13-TEMP Date of purchase : mm/dd/yyyy

4.3.3. Factory Data

■ Option

Factory Menu Name		Data	Remark
Factory Reset			
Type			51FFHcD/60FFHcD/64FFHcD
Local Set		US	
SW Model		PF5500	
BOM Model			
TUNER		SI_ADI	
Ch Table		NONE	
MRT Option	Front Color	P-W-D-55	
	LVDS FORMAT	VESA	
	Language_Arabic	US	
	Region	USA	
	PnP Language	ENG_US	
	WIFI REGION	S	
	OTN Support	ON	
	OTA Support	OFF	
	TTX	OFF	
	China HD	OFF	
	NT Conversion	OFF	
	Num of DTV	1	
	Num of AV	1	
	Num of COMP	1	
	Num of HDMI	3	
	Num of SCART	0	
	Num of USB Port	2	
	Num of HeadPhone	0	
	Num of RVU	1	
	Num of Display	2	
	Num of IPTV	0	
	Num of RUI	0	
	Num of PVR RECORD	0	
	TOOLS Support	40	
	LNA Support	OFF	
	24Px4 Support	OFF	
	BD Wise Support	ON	
	Data Service Support	OFF	
	PVR Support	OFF	
	CI Support	OFF	

Factory Menu Name		Data	Remark
	LEDMotionPlus Support	ON	
	Natural Mode Support	ON	
	Relax Mode Support	OFF	
	HDMI/DVI SEL	3	
	Select LCD/PDP	PDP	
	Wall Mount	OFF	
	HV Flip	OFF	
	Light Effect	OFF	
	e-Pop Default	1	
	CAMERA Support	OFF	
	NETWORK Support	3	
	EcoSensor Support	ON	
	3D Support	ON	
	BT Support	ON	
	BT ADDRESS		
Engineer Option	Auto Power	MEMORY	
	Type Of PANEL KEY	None	
	5 Way Function Key	L_BACK	
	Contents Bar	OFF	
	Cable Modulation	QAM	
	Standby led on/off	OFF	
	Recognition Support		
	IF AGC	0	
	D AGC	0	
	PH BW	0	
	FQ BW	0	
	PH RATE	0	
	PD EN	0	
	PEQ Inx	0	
	WF Scale		
	WF Type	0	
	Nu of Network Stream	1	
	DP V Size	0	
	Backend Device	PARMA	
	BT_AUDIO_ON_OFF	OFF	
	Config_AV_PATH		
	ECO Standby	OFF	
	Fast Logo Delay	0	
	Num of PANEL KEY	6	

■ Control

Menu	Item		Data	Remark
EDID	EDID ON/OFF		OFF	
	EDID WRITE ALL		...	
	EDID WRITE HDMI		...	
	EDID Ver		...	
	EDID Port			
Sub Option	RS-232 Jack		UART	
	Watchdog		OFF	
	Checksum		0x0000	
	Fast Boot in Production		OFF	
	USB Serial		OFF	
	Eeprom Reset			
	ECO IC TYPE		NONE	
	Info Link Server Type		development	
	Info Link Country		None	
	TTX Group			
	Visual Test			
	MediaPlayDB			
	OPTION_SWU			
		OTN Server Type	operating	
		OTN Test Server	OFF	
		SWU Reset		
		SWU Duration	OFF	
		SWU Fail Test	OFF	
	OPTION_NUM			
		Num of ATV	1	
		Num of SVIDEO	0	
		Num of PC	0	
		Num of DVI	0	
		Num of OPTICAL Link	1	
		Num of MEDIA	1	
		Num of Tuner	1	
		Num of ISP	1	
	RF Remocon Support		OFF	
	CDD mode			
	DPMS Support		OFF	
	Num of IPTV CIP		0	
	Num of CI		0	
	Num of DECODER		0	
	T-CON Device			

Menu	Item	Data	Remark
	BOARD CONTROL	OFF	
	HP LINE	LineOut	
	RM		
	Server Type	Operating	
	RTS Mode	OFF	
	PSA		
	FKP Download1	0	
	FKP Download2	0	
	LMK threshold	3	
	Low threshold	10	
	High threshold	15	
	CSB	ON	
	CLB	ON	
PDP Option	Pixel Shift Test	OFF	
	Logic SW	0	
	Panel Temperature	0	
	LOGIC Waveform Day	0	
	Logic CheckSum	0	
	MRT	0	
	SAPC Timer		
	APC Speed		
Hotel Option	Hospitality Mode	OFF	
	Power On	...	
	Menu OSD	...	
	Operation	...	
	Music Mode	...	
	External Source	...	
	Eco Solution	...	
	Cloning	...	
Shop Option	Shop Mode	OFF	
	Exhibition Mode	OFF	
	3D Cube	OFF	
Asia Option	Unbalance	OFF	
	AF Level adjust	3	
	TX Power Level	0	
	Mono Last Memory	OFF	
	H Shaking	OFF	
Sound	Carrier_Mute	OFF	
	High Devi	OFF	
	Speaker Delay Normal	0x96h	

Menu	Item	Data	Remark
	SPDIF PCM Gain	-9dB	
	FM M Prescale	0x30h	
	FM Prescale	0x44h	
	AM Prescale	0x32h	
	NICAM Prescale	0x48h	
	BTSC Mono Prescale	0x19h	
	BTSC stereo Prescale	0x2Fh	
	BTSC SAP Prescale	0x2Bh	
	A2Ident High THID	36	
	A2Ident Low THID	9	
	Pilot Level High Thld	0x28h	
	Pilot Level Low Thld	0x10h	
	Carrier2 Amp High THID	4	
	Carrier2 Amp Low THID	3	
	Carrier2 SNR High THR	16	
	Carrier2 SNR Low THR	80	
	Sig Error On	35	
	Sig Error Off	41	
	Amp Model	TAS5745	
	Amp Volume	0xcbh	
	Amp Scale	0x2Fh	
	Amp Check Sum		
	Woofer Type	0	
	Woofer Scale	0x8ah	
	Woofer Check Sum	NONE	
	Woofer Local EQ Checksum	0	
	Speaker EQ	ON	
	PEQ Test	Ready	
	Local Speaker EQ	0	
	Local EQ Checksum	0	
	Speaker cut-off Ferq	4	
	Audio-IP Test		
	SRS Tuning Parm	0	
	TruBass-Checksum	0	
	Mic Scale	0	
	Subwoofer Support	0	
	India Sound	OFF	
	AudioDock BT delay	50	
	Wall Filter Type	0	
	Wiselink Delay Menu	70	

■ Debug

Menu	Item	Data	Remark
Spread Spectrum	LVDS Spread	ON	
	DDR Spread	1.0% Spectrum	
	Period	30K	
	Amplitude	1	
	HD SSC ON/Off	ON	
	HD SSC Value	1	
	LVDS SSC ON/Off	ON	
	LVDS SSC Value	0	
	DDR SSC ON/Off	ON	
	DDR SSC Value	1	
	FRC LVDS SSC ON/OFF	ON	
	FRC LVDS SSC MRR	10	
	FRC LVDS SSC MFR	1	
	FRC LVDS SSC Period	1	
	FRC LVDS SSC Modulation	1	
	FRC DDR SSC ON/OFF	ON	
	FRC DDR SSC MRR	15	
	FRC DDR SSC MFR	1	
	FRC DDR SSC Period	1	
	FRC DDR SSC Modulation	1	
DDR Margin	A CTRL_OFFSET_0_3	ON	
	A CTRL_OFFSET_D	1.0% Spectrum	
	B CTRL_OFFSET_0_3	30K	
	B CTRL_OFFSET_D	1	
ND ADJ Support		ON	
MICOM POWER OFF		1	
RF Mute Time		ON	

Menu	Item		Data	Remark
CI+1.3			0	
FRC			ON	
	FRC FDISPLAY ON/OFF		1	
	3D FDISPLAY ON/OFF		ON	
	PC Mode ON/OFF		10	
	Tuner Margin		1	
	MPEG Margin		1	
	H.264 Margin		1	
	CAM Wait Time		ON	
	TS Clock deldy		15	
	TCON_TEMP READ		1	
	TEMP LAST		1	
	DCC VERSION		1	
	DCC CHK SEL		0	
	DCC CHECK LOCAL		0x0	
	DCC CHECK TOTAL		0x0	
	MulitACC Checksum		0	
	IIC Bus stop		OFF	
Tuner Status	DVB	SNR		
		BER		
		Signal Strength		
		Bandwidth		
		Frequency		
		LNA Status		
		FFT		
		Modulation		
		Code Rate		
		GI		
		Hier Modulation		
		Frequency offset		
		Timing offset		
		AGC		
		UCB		
		PLL Type		
		DEMOD Type		
		TPS Lock		

Menu	Item	Data	Remark
	RS Lock		
	SSI		
	SQI		
	Firmware Version		
	ISDB-T	FFT Size_1	
		Guard Interval_1	
		Freq. Offset_1	
		SNR_1	
		IF AGC_1	
		TMCC Lock_1	
		TS Packer_1	
		Master Lock_1	
		A_Modulation_1	
		A_Code Rate_1	
		A_Timer InterLeave_1	
		A_Segments Num_1	
		A_BER_1	
		B_Modulation_1	
		B_Code Rate_1	
		B_Timer InterLeave_1	
		B_Segments Num_1	
		B_BER_1	
		C_Modulation_1	
		C_Code Rate_1	
		C_Timer InterLeave_1	
		C_Segments Num_1	
		C_BER_1	

■ SVC

Menu	Item	Data	Remark
Test Pattern	Pattern Sel	OFF	
	Logic Pattern Sel		
	Logic Level Sel		
	FRC Pre Test Pattern	0	
	FRC Post Test Pattern	0	
	FRC3D Fdisplay	OFF	
	FRC3D PC Mode	OFF	
	SOC TCON Test Pattern	0	
	SOC TCON Pattern Level	##	
	SOC TCON FRC Pattern	0	
	HDMI WB Pattern	OFF	
	HDMI Pattern Sel	0	
	Parma Pre Test Pattern	0	
	Parma Post Test Pattern	0	
Panel Display Time		0Hr	
SVC Info		0	
Delete S/N		0	
Upgrade	T-CON Usb Download	...	
	T-CON CheckSum	...	
	Logic Usb D/L	Failute	
	SUBMICOM UPGRADE	Ready	
	BT UPGRADE		
	BT FREPAIRING	ON	
	Function Upgrade	Failute	
	FRC3D FW Upgrade		
	Camera Upgrade		
	Mic Upgrade		
	CPLD USB Download		
	JP MICOM UPGRADE	Failute	
	DP MICOM UPGRADE	Failute	

Menu	Item	Data	Remark
	Jump Upgrade	Failute	
	Smart Hub Reset	0	
ER Count	WD Count	0	
	AR Count	0	
	WIFI ER Count	0	
	BT ER Count	0	
	HDMI Err Cnt	0	
	Camera ER Count	0	
LOG(View Log)	Select Log Type	NVRAM	
	Log View	0	
	Delete Log		
	Debug Log Down		
	Emergency Log Copy		
Self Diagnosis	Loop Back		
	LAN Test		
	AV Audio Test		
	DVIN Audio Test		
	CVBS Test		
	COMP Test		
	USB HUB Test		
	HDMI Test		
	SCART Audio Test		
	SCART CVBS Test		
	SCART RGB Test		
	CPU		
	DDR		
	FLASH		
	EEPROM		
	Sound AMP		
	HDMI Switch IC		
	USB HUB IC		
	WIFI		
	LVDS		
	T-CON/FRC		
	PCB Test		
	MOIP		
	App Self Test		
	Device self Test		
	Voltage		

Menu	Item	Data	Remark
	EcoSensor		
	BT		
	EXT Sound Inspection		
	Woofer Sound Inspection	NONE	
	ATV CH Inspection		
	DTV CH Inspection		
	Satellite CH Inspection		
IPERF		Stopped	
OPTION HDMI			
Expert			
DVB CI			
CAL Data Backup			
CAL Data Restore			

■ ADC/WB

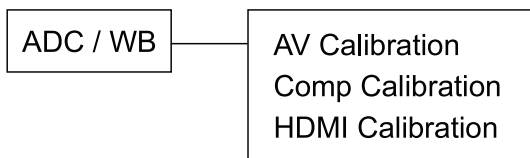
Menu	Item		Data	Remark
ADC	AV Calibration		Success	
	Comp Calibraion		Success	
	PC Calibration		Success	
	HDMI Calibration		Success	
ADC Result	1st_Y_GH		258	
	1st_Y_GL		128	
	1st_Cb_BH			
	1st_Cb_BL			
	1st_Cr_RH			
	1st_Cr_RL			
	2nd_R_L		132	
	2nd_G_L		132	
	2nd_B_L		132	
	2nd_R_H		70	
	2nd_G_H		70	
	2nd_B_H		70	
White Balance	R-Offset		128	
	G-Offset		128	
	B-Offset		128	
	R-Gain		128	
	G-Gain		128	
	B-Gain		128	
	WB_W2_R_Offset		128	
	WB_W2_B_Offset		128	
	WB_W2_R_Gain		164	
	WB_W2_B_Gain		63	
	WB_N_R_Offset		128	
	WB_N_B_Offset		128	
	WB_N_R_Gain		151	
	WB_N_B_Gain		108	
MGA	MGA On/Off		OFF	
	R1_Gain			
	B1_Gain			
	G1_Gain			
	R2_Gain			
	B2_Gain			
	G2_Gain			
	R3_Gain			
	B3_Gain			

Menu	Item		Data	Remark
	G3_Gain			
	R4_Gain			
	B4_Gain			
	G4_Gain			
	R5_Gain			
	B5_Gain			
	G5_Gain			
	R6_Gain			
	B6_Gain			
	G6_Gain			
	R7_Gain			
	B7_Gain			
	G7_Gain			
	R8_Gain			
	B8_Gain			
	G8_Gain			
	R9_Gain			
	B9_Gain			
	G9_Gain			
	R10_Gain			
	B10_Gain			
	G10_Gain			

4.4. White Balance – Calibration

4.4.1. White Balance - Calibration

- Factory

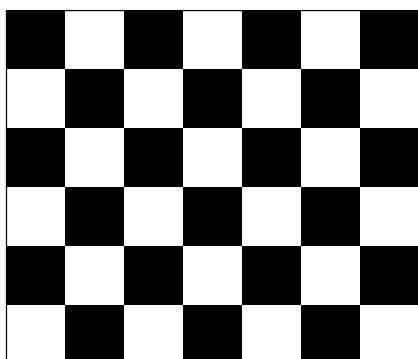


4.4.2. Service Adjustment

- You must perform Calibration in the Lattice Pattern before adjusting the White Balance.

■ Color Calibration

- Adjust spec.
 - Source : HDMI
 - Setting Mode : 1280*720@60Hz
 - Pattern : Pattern #24 (Chess Pattern)



- 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/PAL 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

- **Method of Color Calibration (AV)**

- 1) Apply the NTSC/PAL 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 “ADC” 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 “ADC” 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 (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 “ADC” 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.

4.4.3. White Balance - Adjustment

Factory	(Low light)	(High light)
ADC / WB - White Balance	Sub Bright R offset G offset B offset	Sub Contrast R gain G gain B gain

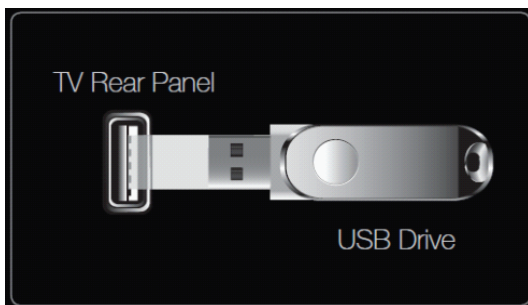
4.5. Software Upgrade

Samsung may offer upgrades for the TV's firmware in the future.

These upgrades can be performed via the TV when it is connected to the Internet, or by downloading the new firmware from samsung.com to a USB memory device.

- Alternative Software (Backup) shows The previous version that will be replaced.
- Software is represented as 'Year/Month/Day_Version'.
The more recent the date, the newer the software version.
Installing the latest version is recommended.

■ By USB



Insert a USB drive containing the firmware upgrade downloaded from samsung.com into the TV.
Please be careful to not disconnect the power or remove the USB drive while upgrades are being applied.

The TV will turn off and turn on automatically after completing the firmware upgrade.
Please check the firmware version after the upgrades are complete (the new version will have a higher number than the older version).

When software is upgraded, video and audio settings you have made will return to their default (factory) settings.
We recommend you write down your settings so that you can easily reset them after the upgrade.

■ By Online

Upgrades the software using the Internet.

- First, configure your network. For detailed procedures on using the Network Setting, refer to the 'Setting the Network' instructions.
- If The internet connection doesn't operate properly, connection can be broken, please retry downloading. If the problem still happens, download by USB and upgrade.

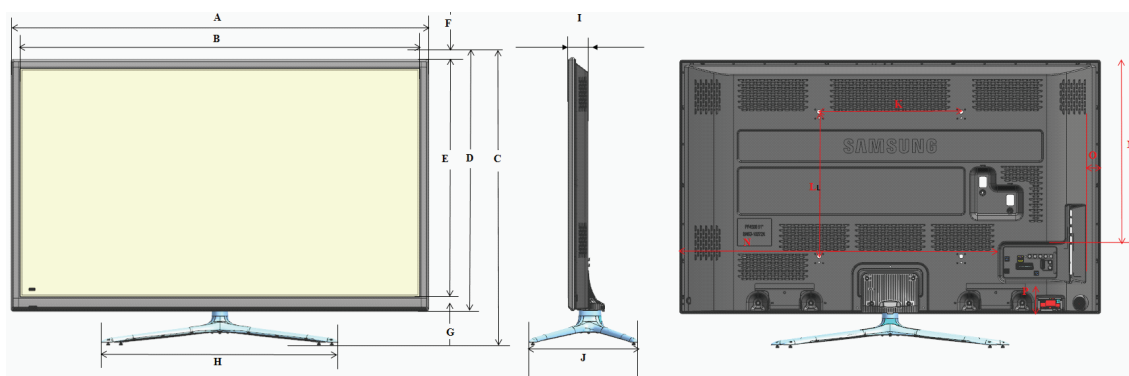
■ Alternative Software

Alternative Software doesn't allow you to change the SW to the previous version, please check

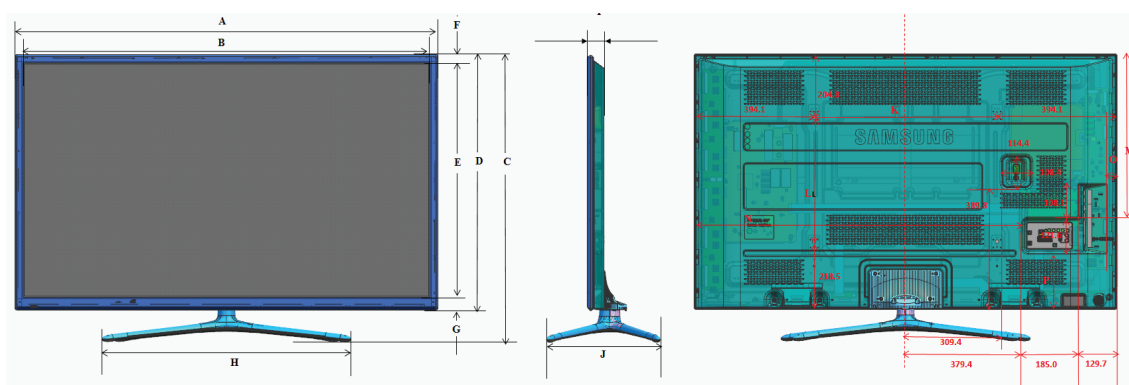
- If Software was changed, existing Software is displayed.
- you can change current Software to Alternative Software by 'Alternative Software'.

4.6. Rear Cover Dimension

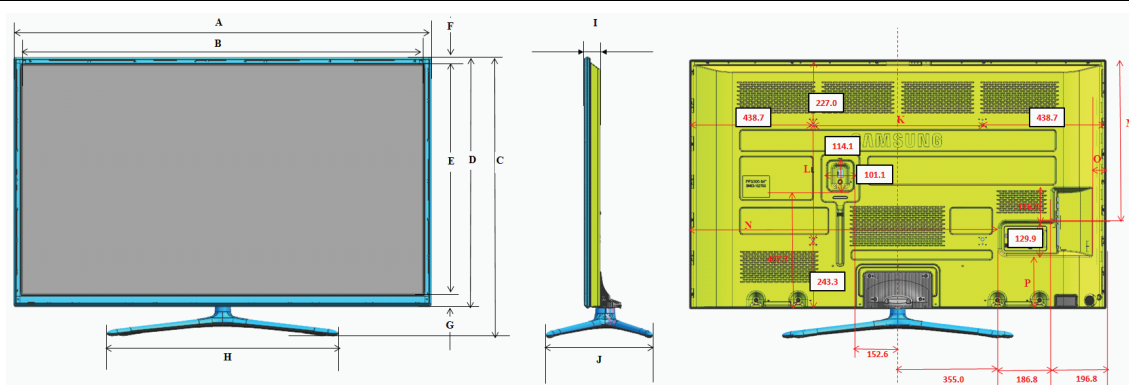
PF5500 51" COVER-REAR Dimension



PF5500 60" COVER-REAR Dimension



PF5500 64" COVER-REAR Dimension



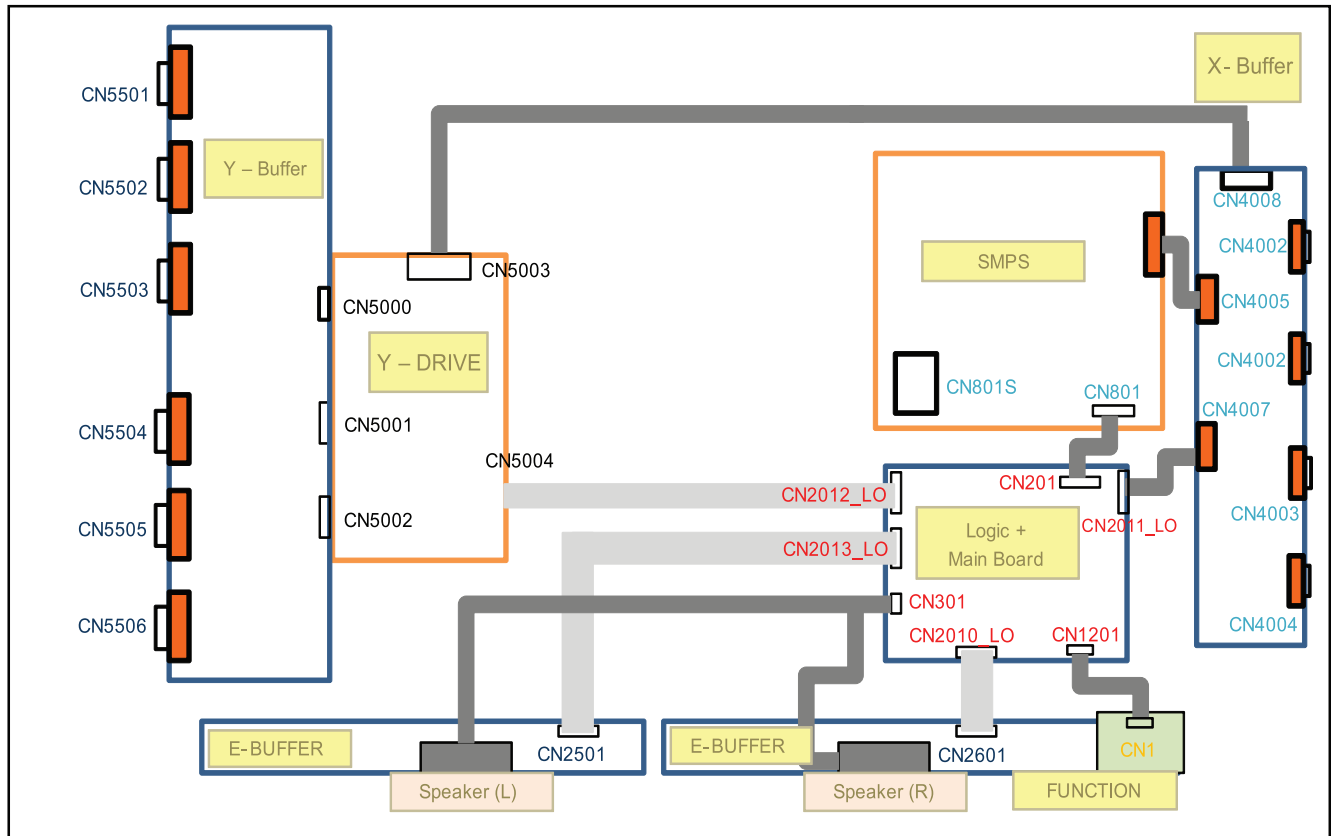
Model	Inch	Dimension							
		A	B	C	D	E	F	G	H
PF5500	51"	1185.2	1132.9	792.1	702.1	634.5	26.3	41.3	671.0
PF5500	60"	1388.3	1333.5	924.1	823.3	754.4	27.5	41.3	819.0
PF5500	64"	1478.0	1424.0	967.0	870.0	804.0	25.0	41.3	819.0

Model	Inch								
		I	J	K	L	M	N	O	P
PF5500	51"	55.7	307.2	400.0	400.0	496.9	891.5	36.4	79.5
PF5500	60"	55.7	375.5	600.0	400.0	519.8	1068.7	27.5	172.4
PF5500	64"	55.7	375.5	600.0	400.0	554.4	1088.8	43.6	176.6

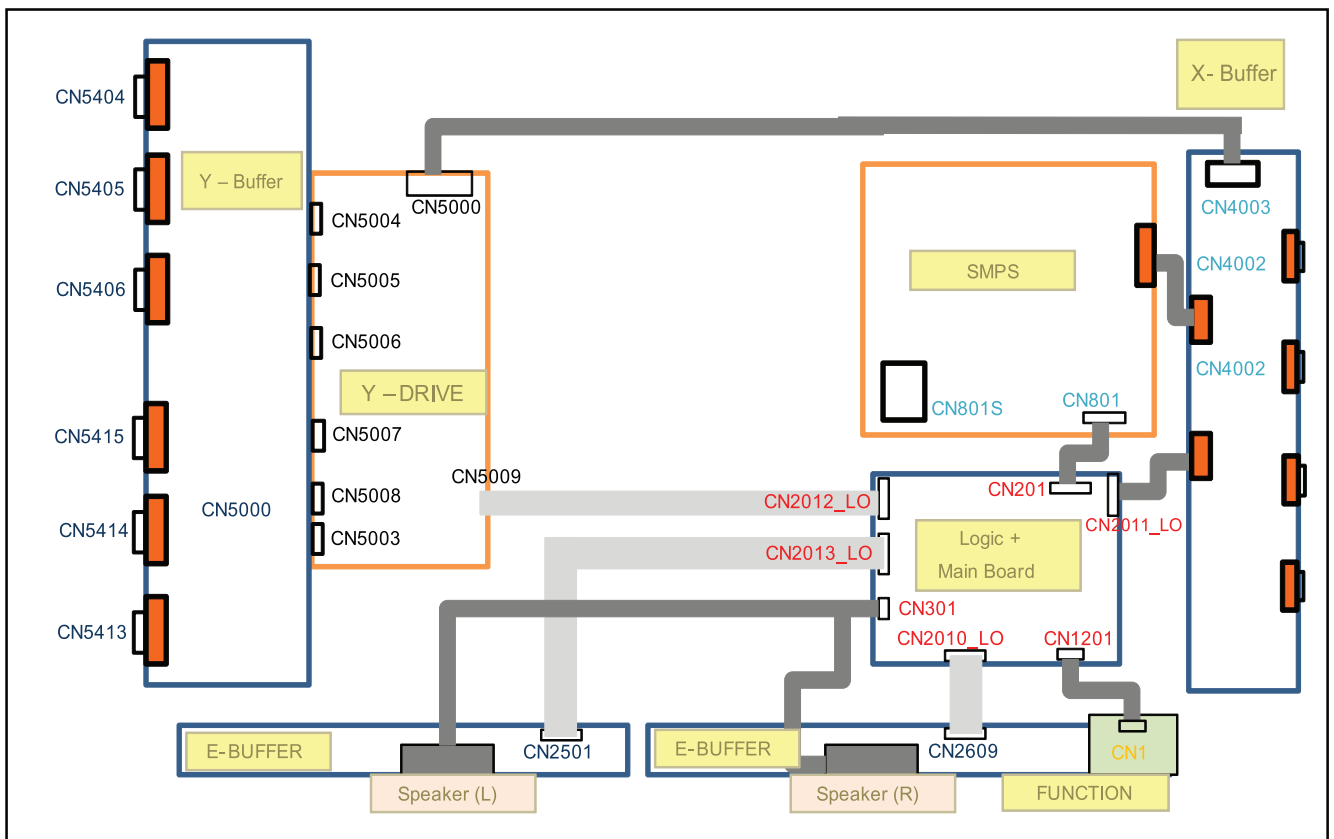
5. Wiring Diagram

5.1. Overall Wiring

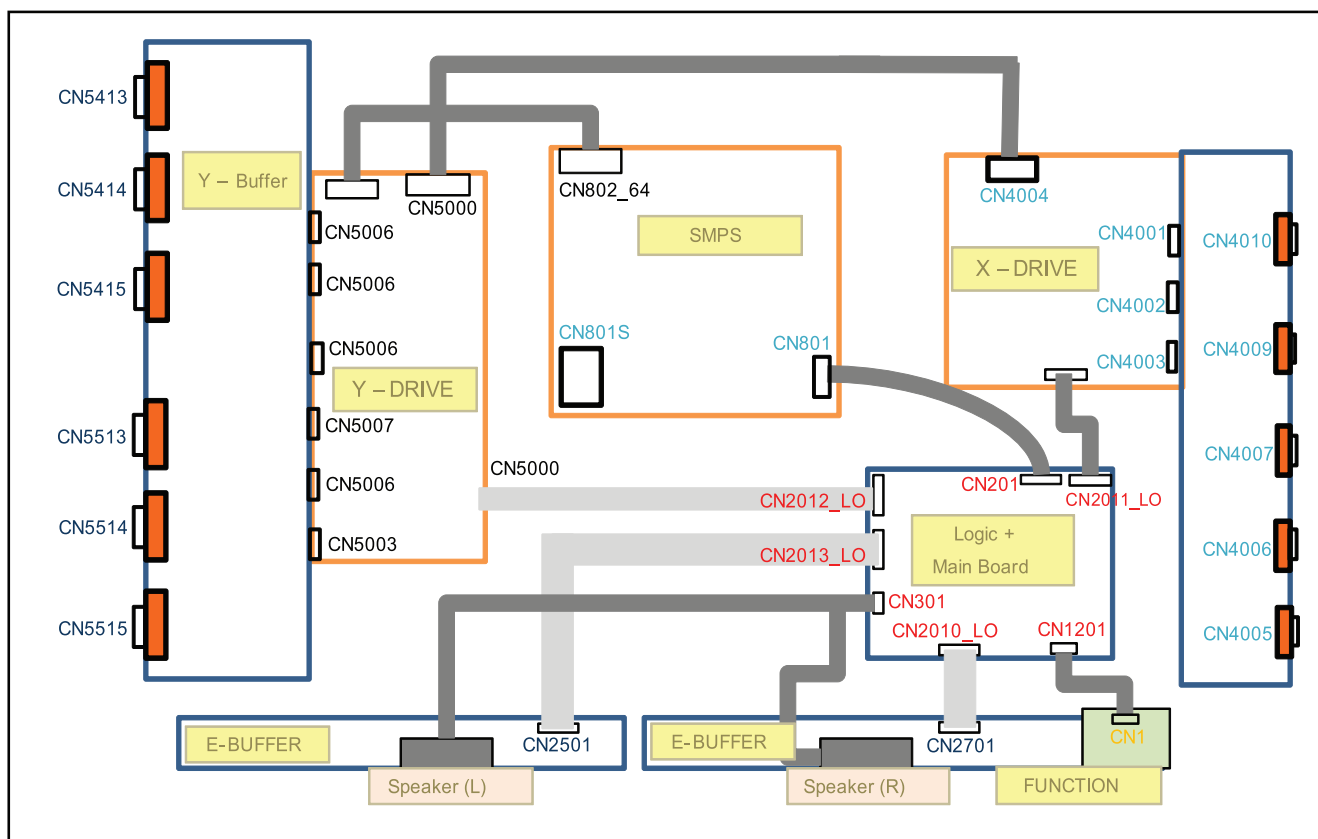
■ 51" FF



■ 60" FF




■ 64" FF




NOTE

The code number of cable (Lead-connector) can be changed, see “Exploded Views and Parts List”.


■ 51" Cable (Lead-connector)

Use	POWER 18 Pin
Code	51" : BN39-01781A (130mm)
Photo	

■ 60" Cable (Lead-connector)

Use	POWER 18 Pin
Code	60" : BN39-01781B (150mm)
Photo	

■ 64" Cable (Lead-connector)

Use	POWER 18 Pin
Code	64" : BN39-01781F (420mm)
Photo	

5.1.1. Pin Connection

SMPS ↔ Main Board [Power Harness]			
Pin No. (SMPS)	Signal (SMPS)	Pin No. (Main Board)	Signal (Main Board)
1	A5.3V	1	VS_ON
2	SW-POWER	2	GND
3	B15VS_PW	3	VS_CON
4	GND	4	GND
5	GND	5	B5V_ASIC_PW
6	GND	6	B5V_ASIC_PW
7	B5.3V_PW	7	B5V_ASIC_PW
8	B5.3V_PW	8	B15V_PW
9	B15V_PW	9	GND
10	GND	10	B15V_PW
11	B15V_PW	11	B5.3V_PW
12	B5V_ASIC_PW	12	B5.3V_PW
13	B5V_ASIC_PW	13	GND
14	B5V_ASIC_PW	14	GND
15	GND	15	GND
16	VS_CON	16	B15VS_PW
17	GND	17	SW-POWER
18	VS_ON	18	A5.3V

CN1202 (Main Board) ↔ CN1 (Function)			
Pin No. (SMPS)	Signal (MAIN BOARD)	Pin No. (SMPS)	Signal (Main Board)
1	IR	12	BT_USB_DM
2	GND	13	KEY2
3	GND	14	B5.2V
4	BT_SYNC_INPUT	15	LED
5	A3.3V	16	BT_WAKE
6	BT_SYNC_OUTPUT	17	BT_RESET
7	SCL	18	POWER_DET
8	GND	19	WIFI_B5V
9	SDA	20	WIFI_USB_DM
10	BT_USB_DP	21	WIFI_USB_DP
11	KEY1	22	GND

CN1201(Main Board) ↔ CN1(Function)	
Pin No. (FUNCTION)	Signal(Main Board)
1	IR
2	GND
3	A3.3V
4	SCL
5	SDA
6	KEY1
7	KEY2
8	LED

CN1201(Main Board) ↔ CN1(Function)	
Pin No. (FUNCTION)	Signal(Main Board)
1	BT_RESET
2	POWER_DET
3	BT_WAKE
4	B5.2V
5	BT_USB_DM
6	BT_USB_DP
7	GND
8	BT_SYNC_INPUT
9	BT_SYNC_OUTPUT
10	GND

CN1201(Main Board) ↔ CN1(Function)	
Pin No.(WIFI)	Signal(Main Board)
1	GND
2	WIFI_USB_DP
3	WIFI_USB_DM
4	WIFI_B5V
5	NC

CN301 (Main Board) ↔ SPEAKER	
Pin No. (SMPS)	Signal (SMPS)
1	R+_OUT
2	R-_OUT
3	L+_OUT
4	L-_OUT



GSPN (GLOBAL SERVICE PARTNER NETWORK)

Area	Web Site
Europe, MENA, CIS, Africa	https://gspn1.samsungcsportal.com
E.Asia, W.Asia, China, Japan	https://gspn2.samsungcsportal.com
N.America, S.America	https://gspn3.samsungcsportal.com

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