LCD TV

Chassis: U59E

Model: LN40E550F7F
LN46E550F6F

SERVICE MANUAL

LCD TV

LN**E550F*F

Contents

1. Precautions
2. Product specifications
3. Disassembly and Reassembly
4. Troubleshooting
5. Wiring Diagram

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

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1. Precautions

1.1. Safety Precautions

Follow these safety, servicing and ESD precautions to prevent damage and to protect against potential hazards such as electrical shock.

1-1-1. Warnings

WARNING

For continued safety, do not attempt to modify the circuit board.
Disconnect the AC power and DC power jack before servicing.

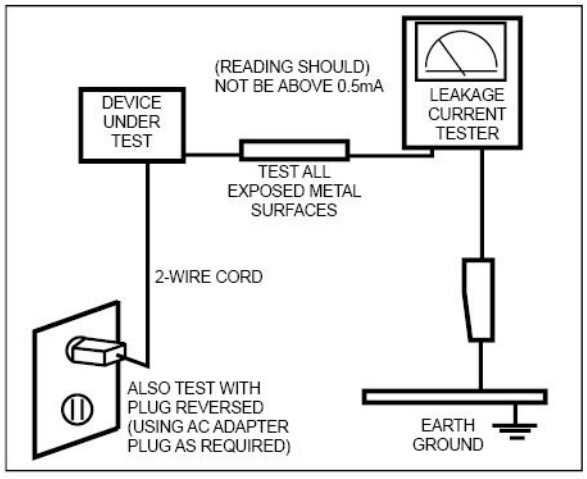
1-1-2. Servicing the LCD TV

1. When servicing the LCD TV, Disconnect the AC line cord from the AC outlet.
2. It is essential that service technicians have an accurate voltage meter available at all times. Check the calibration of this meter periodically.

1-1-3. Fire and Shock Hazard

Before returning the monitor to the user, perform the following safety checks:

1. Inspect each lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the monitor.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistorcapacitor networks, mechanical insulators, etc.
3. Leakage Current Hot Check:



WARNING

Do not use an isolation transformer during this test.
Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).

4. With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: metal cabinets, screwheads and control shafts.
   The current measured should not exceed 0.5 milliamp.
   Reverse the power-plug prongs in the AC outlet and repeat the test.

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1-1-4. Product Safety Notices

Some electrical and mechanical parts have special safetyrelated characteristics which are often not evident from visual inspection. The protection they give may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by ⚠ on schematics and parts lists. A substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

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1.2. Servicing Precautions

An electrolytic capacitor installed with the wrong polarity might explode.

Before servicing units covered by this service manual, read and follow the Safety Precautions section of this manual.

If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions.

1-2-1. General Servicing Precautions

1. Always unplug the unit's AC power cord from the AC power source and disconnect the DC Power Jack before attempting to: (a) remove or reinstall any component or assembly, (b) disconnect PCB plugs or connectors, (c) connect a test component in parallel with an electrolytic capacitor.
2. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
3. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the area around the serviced part has not been damaged.
4. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
5. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500 V) to theblades of the AC plug. The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
6. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

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1.3. Static Electricity Precautions

Some semiconductor (solid state) devices can be easily damaged by static electricity. Such components are commonly called Electrostatically Sensitive Devices (ESD). Examples of typical ESD are integrated circuits and some field-effect transistors. The following techniques will reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. To avoid a shock hazard, be sure to remove the wrist strap before applying power to the monitor.
2. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.
3. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.
4. Use only a grounded-tip soldering iron to solder or desolder ESDs.
5. Use only an anti-static solder removal device. Some solder removal devices not classified as “anti-static” can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
7. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION Be sure no power is applied to the chassis or circuit and observe all other safety precautions.

8. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting your foot from a carpeted floor can generate enough static electricity to damage an ESD.

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1.4. Installation Precautions

1. For safety reasons, more than a 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 highvoltage cable or the antenna falling over may cause fire or electric shock.
7. When installing the product, leave enough space (0.4m) between the product and the wall for ventilation purposes. A rise in temperature within the product may cause fire.

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2. Product specifications

2.1. Model Comparison

Item	Inches		LE550
Front View	All		
Detail View	All		
	All		
Front Color	All		Steam Mold Black
Dimensions (W x D x H)	40"	With Stand	970.0 x 240.0 x 653.0 (mm) / 38.2 x 9.4 x 25.7 (inches)
		Without Stand	970.0 x 78.6 x 591.3 (mm) / 38.2 x 3.1 x 23.3 (inches)
	46"	With Stand	1124.1 x 260.1 x 733.2 (mm) / 43.4 x 10.2 x 28.9 (inches)
		Without Stand	1124.1 x 78.7 x 667.3 (mm) / 43.4 x 3.1 x 26.3 (inches)
Weight (lbs)	40"	With Stand	17.40 (kg) / 38.40 (lbs)
		Without Stand	14.50 (kg) / 32.00 (lbs)
	46"	With Stand	17.40 (kg) / 38.40 (lbs)
		Without Stand	14.50 (kg) / 32.00 (lbs)
Panel Type	All		Anti Glare
Internal Memory	All		None
DDR	All		64Mbtye
Feature	All		Media Play(JPEG)

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2.2. Feature & Specifications

Model	LN40E550F7F
Feature	
• Digital-TV, RF, 2-HDMI, 1-Component, 1-A/V, 1-USB2.0 • Brightness : 250cd/m^2 • High Contrast Ratio : MEGA • Response Time : 5ms	

Specifications		
Item	**Description**	
LCD Panel	40 inch FHD 60Hz	
Scanning Frequency	Horizontal : 60 kHz ~ 73 kHz (Automatic) Vertical : 47 Hz ~ 63 Hz (Automatic)	
Display Colors	16.7 M color	
Maximum Resolution	Horizontal : 1920 Pixels Vertical : 1080 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5 % positive at 75 Ω, internally terminated	
Input Sync Signal	H / V Separate, TTL, P. or N.	
Maximum Pixel Clock rate	74.25 MHz	
Active Display (Horizontal / Vertical)	886.5 (H) x 500.4 (V) (mm) / 34.9 (H) x 19.7 (V) (inches)	
AC power voltage & Frequency	AC 110 V ~ 120 V, 60 Hz	
Power Consumption	Under 180 W (Under 1 W, Stand by)	
Dimensions Set (W x D x H)	With Stand	970.0 x 240 x 653.0 (mm) / 38.2 x 9.4 x 25.7 (inches)
	Without Stand	970.0 x 78.6 x 591.3 (mm) / 38.2 x 3.1 x 23.3 (inches)
Weight (Set)	With Stand	17.40 (kg) / 38.40 (lbs)
	Without Stand	14.50 (kg) / 32.00 (lbs)
TV System	Tunning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	ATSC & Clear QAM
	Sound	NTSC-M
Environmental Considerations	Operating Temperature : 32°F ~ 122°F (0°C ~ 50°C) Operating Humidity : 20 % ~ 90 % Storage Temperature : -4°F ~ 140°F (-20°C ~ 60°C) Storage Humidity : 10 % ~ 90 %	
Audio Spec	MAX Internal Audio Output Power : Each 10 W (Left / Right) Equalizer : 5 band Output Frequency • RF : 20 Hz ~ 15.4 kHz • AV / Componet / HDMI : 20 Hz ~ 20 kHz	
Note : SRS Trusurround HD,Film mode, Energy Saving		

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Model	LN46E550F6F
Feature	
• Digital-TV, RF, 2-HDMI, 1-Component, 1-A/V, 1-USB2.0 • Brightness : 250cd/m^2 • High Contrast Ratio : MEGA • Response Time : 5ms	

Specifications		
Item	**Description**	
LCD Panel	46 inch FHD 60 Hz	
Scanning Frequency	Horizontal : 60 kHz ~ 73 kHz (Automatic) Vertical : 47 Hz ~ 63 Hz (Automatic)	
Display Colors	16.7 M color	
Maximum Resolution	Horizontal : 1920 Pixels Vertical : 1080 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5 % positive at 75 Ω, internally terminated	
Input Sync Signal	H / V Separate, TTL, P. or N.	
Maximum Pixel Clock rate	74.25 MHz	
Active Display (Horizontal / Vertical)	1021.1 (H) x 574.0 (V) (mm) / 40.2 (H) x 22.6 (V) (inches)	
AC power voltage & Frequency	AC 110 V ~ 120 V, 60 Hz	
Power Consumption	Under 180 W (Under 1 W, Stand by)	
Dimensions Set (W x D x H)	With Stand	1102.4 x 260.1 x 733.2 (mm) / 43.4 x 10.2 x 28.9 (inches)
	Without Stand	1102.4 x 78.7 x 667.3 (mm) / 43.4 x 3.1 x 26.3 (inches)
Weight (Set)	With Stand	21.50 (kg) / 47.40 (lbs)
	Without Stand	17.70 (kg) / 39.00 (lbs))
TV System	Tunning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	ATSC & Clear QAM
	Sound	NTSC-M
Environmental Considerations	Operating Temperature : 32°F ~ 122°F (0°C ~ 50°C) Operating Humidity : 20 % ~ 90 % Storage Temperature : -4°F ~ 140°F (-20°C ~ 60°C) Storage Humidity : 10 % ~ 90 %	
Audio Spec	MAX Internal Audio Output Power : Each 10 W (Left / Right) Equalizer : 5 band Output Frequency • RF : 20 Hz ~ 15.4 kHz • AV / Componet / HDMI : 20 Hz ~ 20 kHz	
Note : SRS Trusurround HD,Film mode, Energy Saving		

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2.3. Specification Comparison to Old Models

O: application, X: non-application

Model	LD5K (LN**E550F*F)			LD5K(LN**D550)		
Design						
Display Type	LCD TV			LCD TV		
Built-in Tuner	O			O		
Resolution	1920 X 1080			1920 X 1080		
LCD Panel	TFT LCD Panel 60 Hz			TFT LCD Panel 60 Hz		
Screen Size	40" / 46"			40" / 46"		
Picture ratio	16 : 9			16 : 9		
Power Consumption	40"	Under 180 W (Under 1 W, Stand by)		40"	Under 180W (Under 0.3 W, Stand by)	
	46"	Under 210 W (Under 1 W, Stand by)		46"	Under 210W (Under 0.3 W, Stand by)	
Dimensions (W x H x D)	40"	with stand	38.2 x 9.4 x 25.7 (inches)	40"	with stand	39.1 x 10.0 x 26.3 (inches)
		without stand	38.2 x 3.1 x 23.3 (inches)		without stand	39.1 x 3.2 x 24.1 (inches)
	46"	with stand	43.4 x 10.2 x 28.9 (inches)	46"	with stand	44.3 x 10.8 x 29.2 (inches)
		without stand	43.4 x 3.1 x 26.3 (inches)		without stand	44.3 x 3.2 x 27.0 (inches)
Weight	40"	with stand	38.40 (lbs)	40"	with stand	38.90 (lbs)
		without stand	32.00 (lbs)		without stand	31.50 (lbs)
	46"	with stand	47.40 (lbs)	46"	with stand	50.70 (lbs)
		without stand	39.00 (lbs)		without stand	42.80 (lbs)
Brightness	40"	250 cd/m^2		40"	250 cd/m^2	
	46"	250 cd/m^2		46"	250 cd/m^2	
Contrast Ratio	40"	MEGA		40"	MEGA	
	46"	MEGA		46"	MEGA	
Picture Enhancer	DNIe(X5N)			HyperReal Engine (X5)		
Equalizer	5 Band			5 Band		
Auto Volume Control	O			O		
Surround Sound	SRS TruSurround HD			Dolby Digital Plus / Pulse		

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Speaker Output	40"	10 W X 10 W	40"	10 W X 10 W
	46"	10 W X 10 W	46"	10 W X 10 W
PIP	X		O	
Caption	O		O	
Entertainment Mode	X		X	
Game Mode	O		O	
Energy Saving	O		O	
NETWORK	X		X	
Anynet+	X		O	
Antenna	1 (Cable / Air)		1 (Cable / Air)	

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2.4. 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			LN40E550F7F	LN46E550F6F
Panel		Vendor	CMI	AMLCD
		CODE	BN07-01092A	BN07-00981A
		SPEC	V400H2-L01	LTF460HN01
SMPS		Vendor	Hansol	Hansol
		CODE	BN44-00440B	BN44-00441A
		SPEC	I40F1_BHS	I46F1_BHS
Byte	Item	Chassis Assy	BN91-09156F	BN91-08794J
0	Factory Reset	Pbaassy Code	BN94-05680F	BN94-05626M
1	Type	-	-	-
2	Model	-	E550	E550
3	Tuner	-	ALPS	ALPS
4	Audio Amp	-	NTP7411S	NTP7411S
5	Front Color	-	NONE	NONE
6	Local Set	-	Other	Other
7	Exhibition Mode	-	Off	Off

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2.5. Accessories

Product	Description	Code. No	Remark
	Remote Control / Batteries (AAA x 2)	BN59-01006A	Supplied Accessories
	Power Cord	3903-000599	
	Users Manual	BN68-04313A	
	Cleaning Cloth	BN63-01798B	

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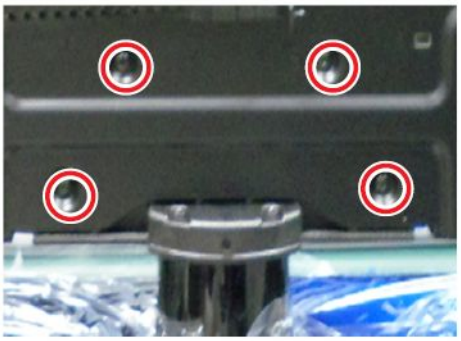
3. Disassembly and Reassembly

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

3.1. Disassembly and Reassembly

CAUTION

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

Description	Inch	Picture Description	Screws
1 Place monitor on cushioned table.			
2 Remove screws from the stand.			6003-001782
3 Remove stand.			

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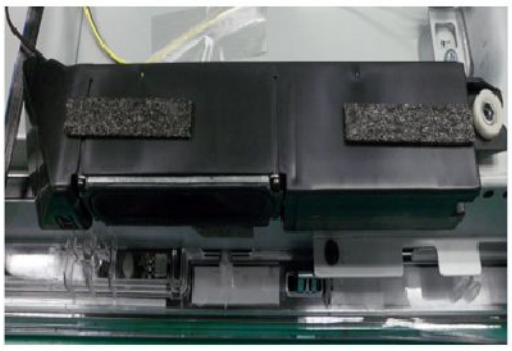
Description	Inch	Picture Description	Screws
4 Remove the screws of rear-cover. 40" : 11 EA 46" : 14 EA	40"		 6003-001782
	46"		 6003-001782
5 Lift up the rear-cover.			
6 Remove the left and right speaker.			

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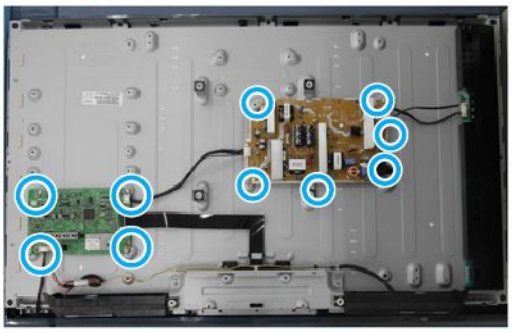
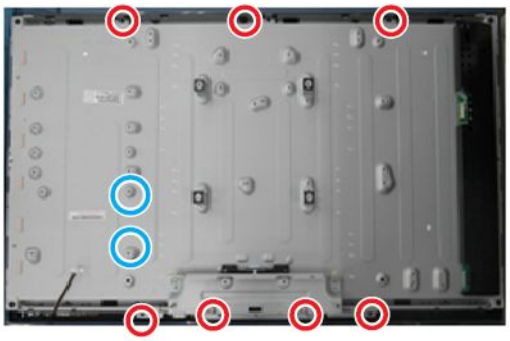
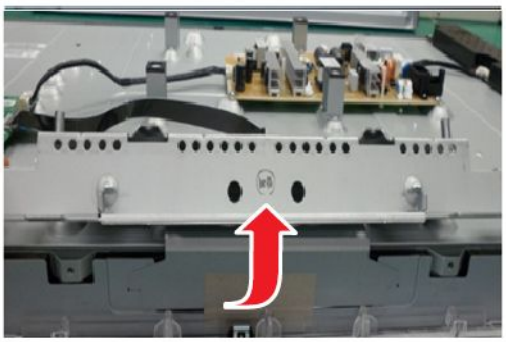
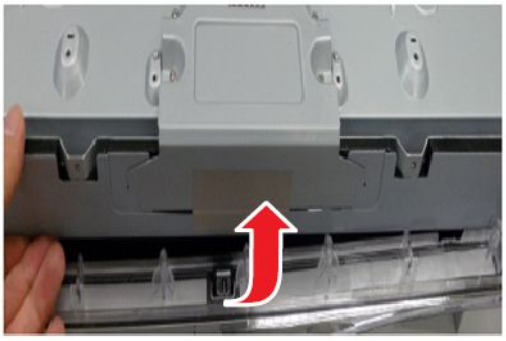
Description	Inch	Picture Description	Screws
7 Remove the screws of main board and IP board. 40" : 11EA 46" : 11EA			 6001-002284
8 Remove the screws of stand link.			 6001-002284 6003-001782
9 Lift up the stand link.			
10 Lift up the panel.			

NOTE

Reassembly procedures are in the reverse order of disassembly procedures.

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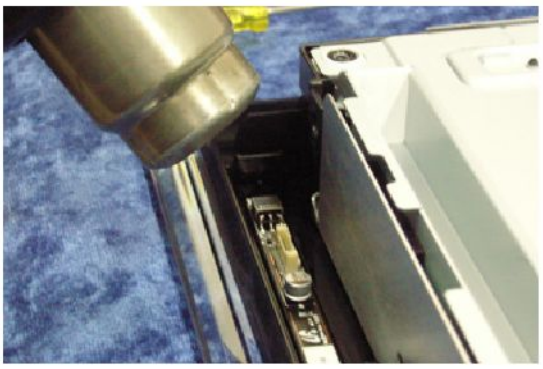
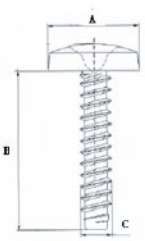
3.2. How to disassembly Function & IR ASSY

Description	Picture Description
1 Remove the Clips of front cover (for 32D403).	
2 Remove the front cover.	
3 Heat the Function Assy by Heat Gun and Lift up the Function Assy.	

■ Screw Size

Code No.	A (mm)	B (mm)	C (mm)	Q'ty	
6001-002284	7.80~8.30	7.40~8.60	3.83~3.98	40" , 46" : 17EA	
6003-001782	7.80~8.30	7.40~8.60	3.83~3.98	40" : 22EA , 46" : 24EA	

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4. Troubleshooting

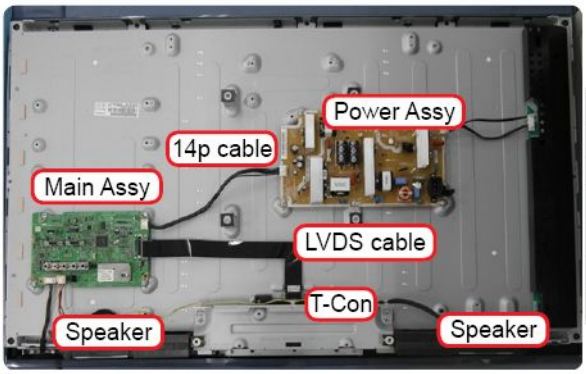
4.1. Troubleshooting

4-1-1. Previous check

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.



CN201 / 203 Main Assy				CMN801 Power Assy			
1	B5 V	2	SW_PW	1	B5V	2	SW_PW
3	B5 V	4	A5 V	3	B5 V	4	A5 V
5	GND	6	GND	5	GND	6	GND
7	B12VS	8	GND	7	B12VS	8	GND
9	B12VS	10	SW_INV	9	B12VS	10	SW_INV
11	B13 V	12	NC	11	B13 V	12	NC
13	B13 V	14	DMM	13	B13 V	14	DMM

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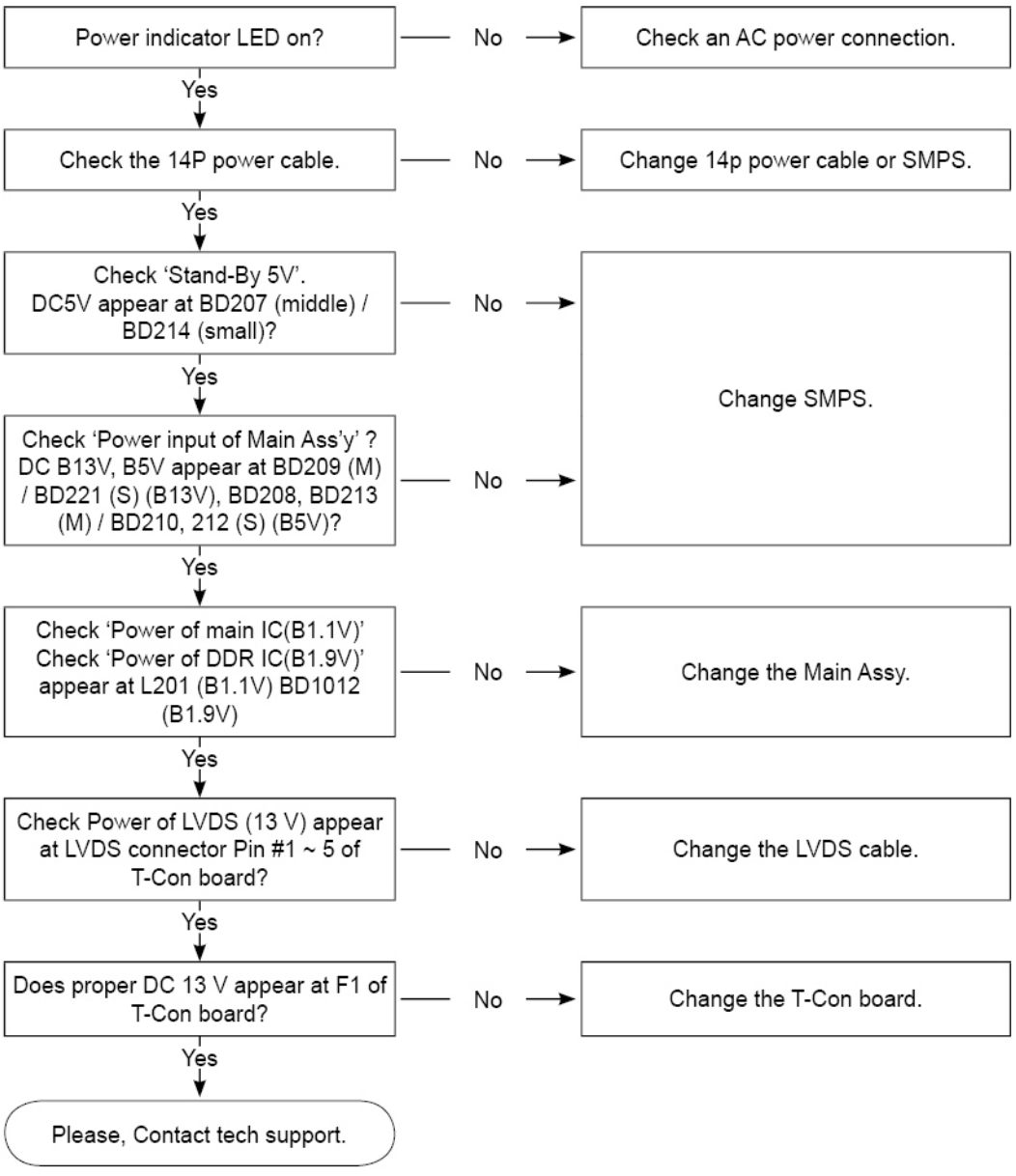
4-1-2. No Power

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 checkpoints	• The IP 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.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

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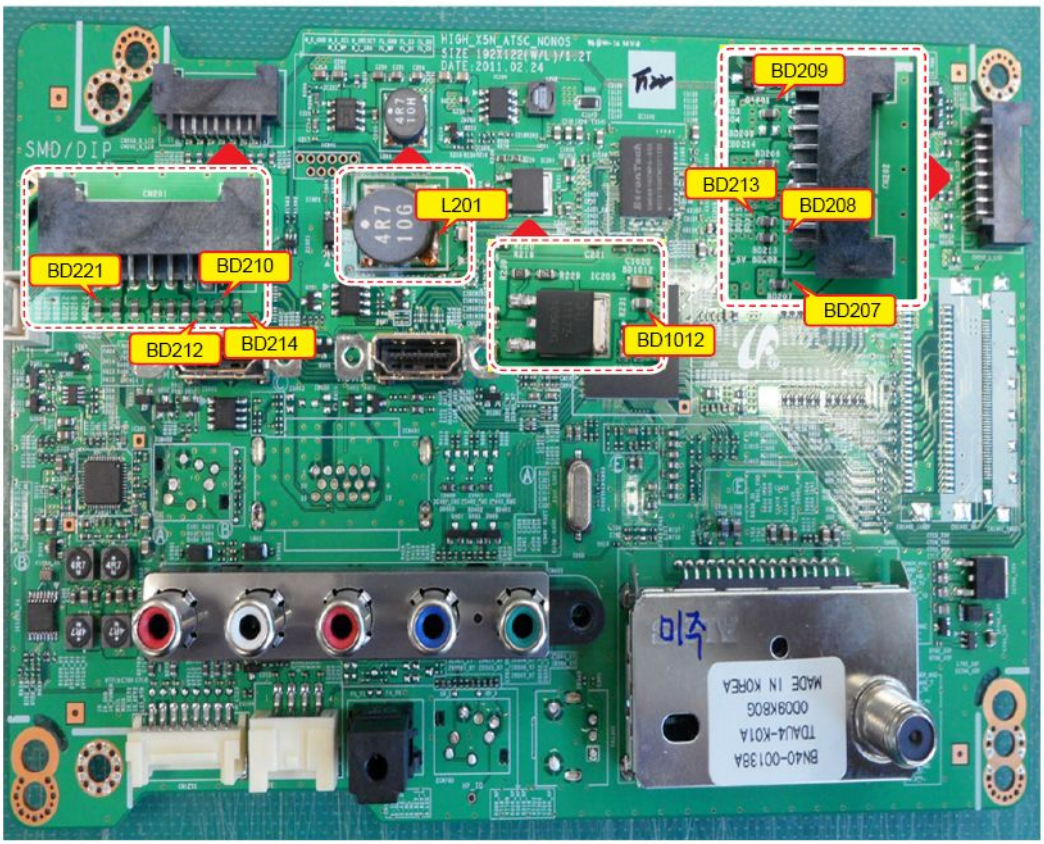
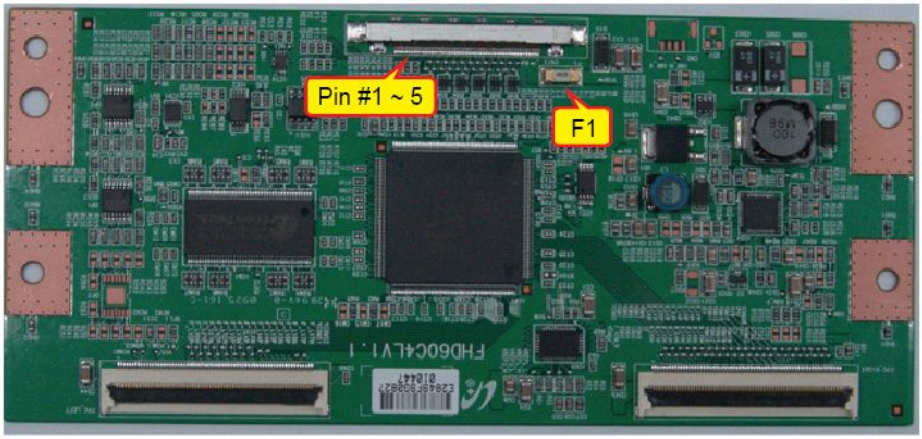
■ Location of Parts

Main Board

T-Con


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4-1-3. No video_HDMI1, 2 - Digital signal

Symptom	• Audio is normal but no picture is displayed on the screen.
Major checkpoints	• Check the HDMI source. • Check the HDMI switch, Check the Chelsea. • This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	Power indicator LED is off, Lamp (Backlight) on, no video? — No → Check a set in the 'Stand-by mode'. Yes Check the Self Diagnosis (Support → Self Diagnosis → Picture Test) Dose the promblem still exist self diagnosis? — No → Check external devices and connections. Yes Check the HDMI source and check the connection of HDMI cable? — No → Input the HDMI signal properly. Yes ❸ Does the signal appear at CN502 (Pin#12 , #7) (HDMI1) CN503 (Pin#12 , #7) (HDMI2) (HDMI RX_Clk , RX_ Data)? — No → Check CN502, CN503. Check HDMI cable. Change the Main Assy. Yes ❷ Does the digital data appear at TP-E_ TXCLK+, E_TXCLK- , O_TXCLK+, O_TXCLK-. — No → Check IC1001 (X5N). Change the Main Assy. Yes Check the LVDS cable? Check the T-Con board? Replace the LCD panel? — No → Please, Contact Tech support.
Caution	Make sure to disconnect the power before working on the IP board.

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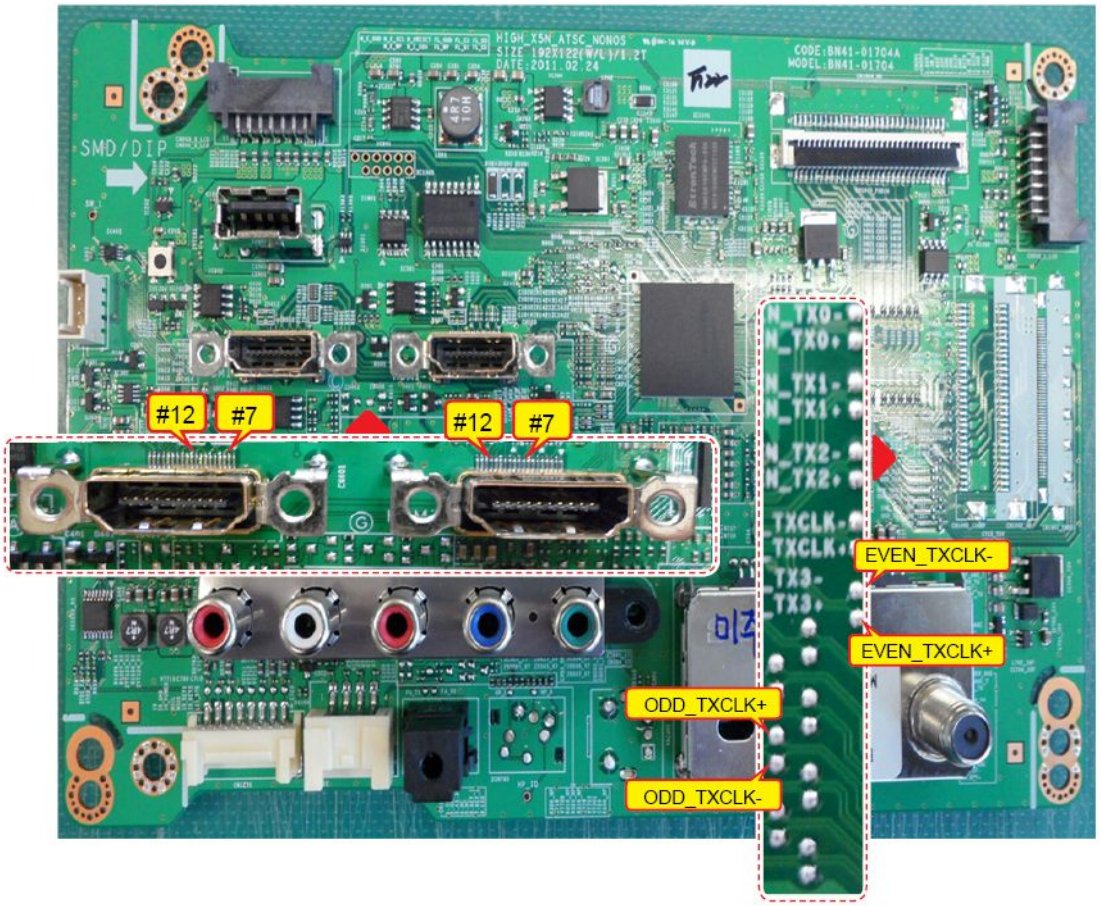
■ Location of Parts

Main Board



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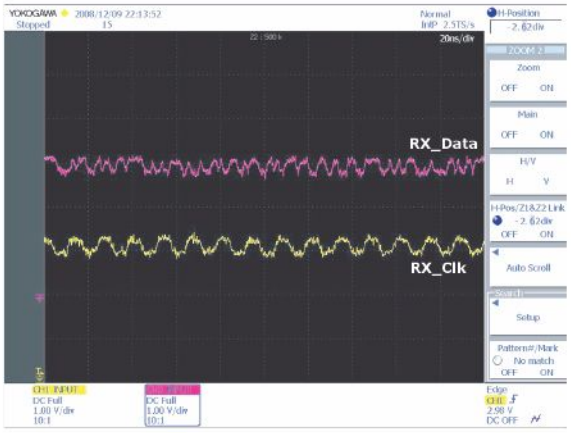
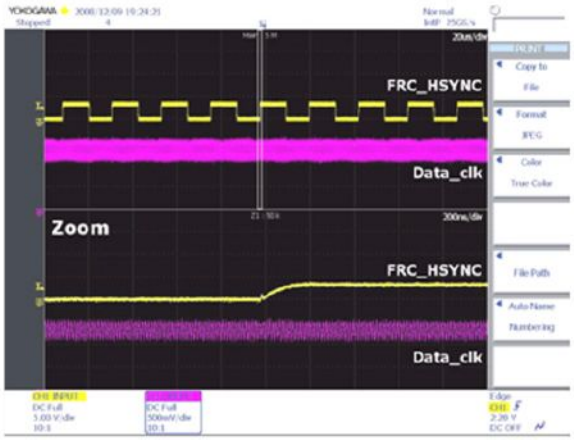
■ WAVEFORMS

❸	HDMI input (RX_Data, RX_Clk)



❷	LVDS output



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4-1-4. No Video_Tuner - CVBS

Symptom	• Audio is normal but no picture is displayed on the screen.
Major checkpoints	• Check the Tuner CVBS source. • Check the Tuner, Check the Chelsea. • This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	Power indicator LED is off, Lamp (Backlight) on, no video? — No → Check a set in the 'Stand-by mode'. ↓ Yes Check the RF source and check the connection of RF cable? — No → Input the RF source properly. ↓ Yes Check the Self Diagnosis (Support → Self Diagnosis → Picture Test) Dose the promblem still exist self diagnosis? — No → Check external devices and connections. ↓ Yes Does the DC TU5V TU33V appear at #2, #4 Pin of Tuner? — No → Change the Main Assy. ↓ Yes Check the CVBS data at #8 Pin of Tuner? — No → Change the Main Assy. ↓ Yes ❷ Does the digital data appear at TP-E_TXCLK+, E_TXCLK- , O_TXCLK+, O_TXCLK-? — No → Check IC1001 (X5). Change the Main Assy. ↓ Yes Check the LVDS cable? Check the T-Con board? Replace the LCD panel? — No → Please, Contact Tech support.
Caution	Make sure to disconnect the power before working on the IP board.

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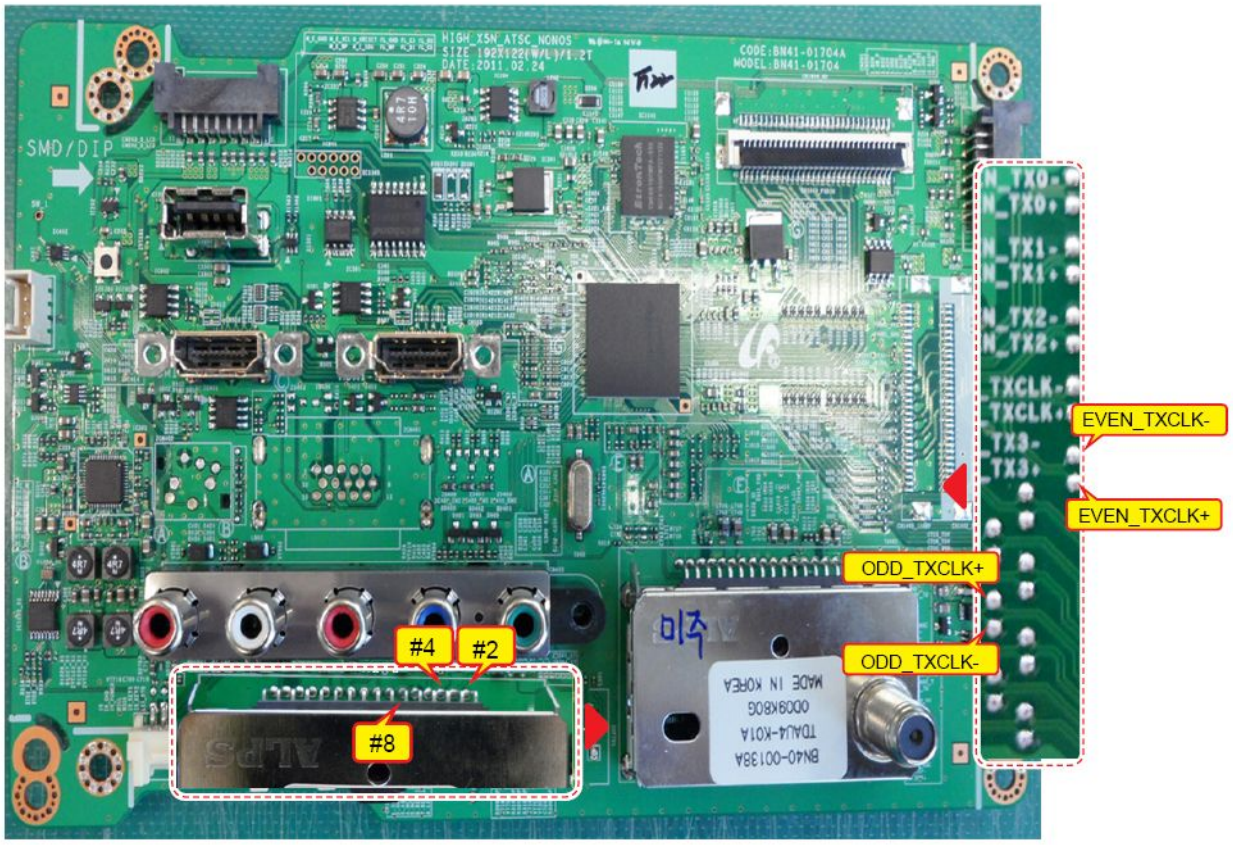
■ Location of Parts

Main Board



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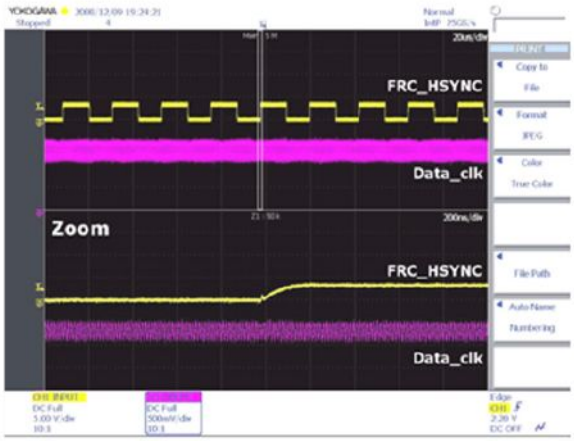
■ WAVEFORMS

❷	LVDS output



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4-1-5. No Video_Tuner DTV

Symptom	• Audio is normal but no picture is displayed on the screen.
Major checkpoints	• Check the DTV source. • Check the Tuner, Check the Chelsea. • This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	Power indicator LED is off. Lamp (Backlight) on, no video? — No → Check a set in the 'Stand-by mode'. ↓ Yes Check the connection of RF cable? — No → Input the RF source properly. ↓ Yes Check the Self Diagnosis (Support → Self Diagnosis → Picture Test) Dose the promblem still exist self diagnosis? — No → Check external devices and connections. ↓ Yes Check the 'signal strength' in Self Diagnosis menu Strength is enough? — No → Check the D-TV source. ↓ Yes Does the DC TU5 V TU33V appear at #2, #4 Pin of Tuner? — No → Change the Main Assy. ↓ Yes ❷ Does the digital data appear at TP-E_TXCLK+, E_TXCLK- , O_TXCLK+, O_TXCLK-? — No → Check IC1001 (X5). Change the Main Assy. ↓ Yes Check the LVDS cable? Check the T-Con board? Replace the LCD panel? — No → Please, Contact Tech support.
Caution	Make sure to disconnect the power before working on the IP board.

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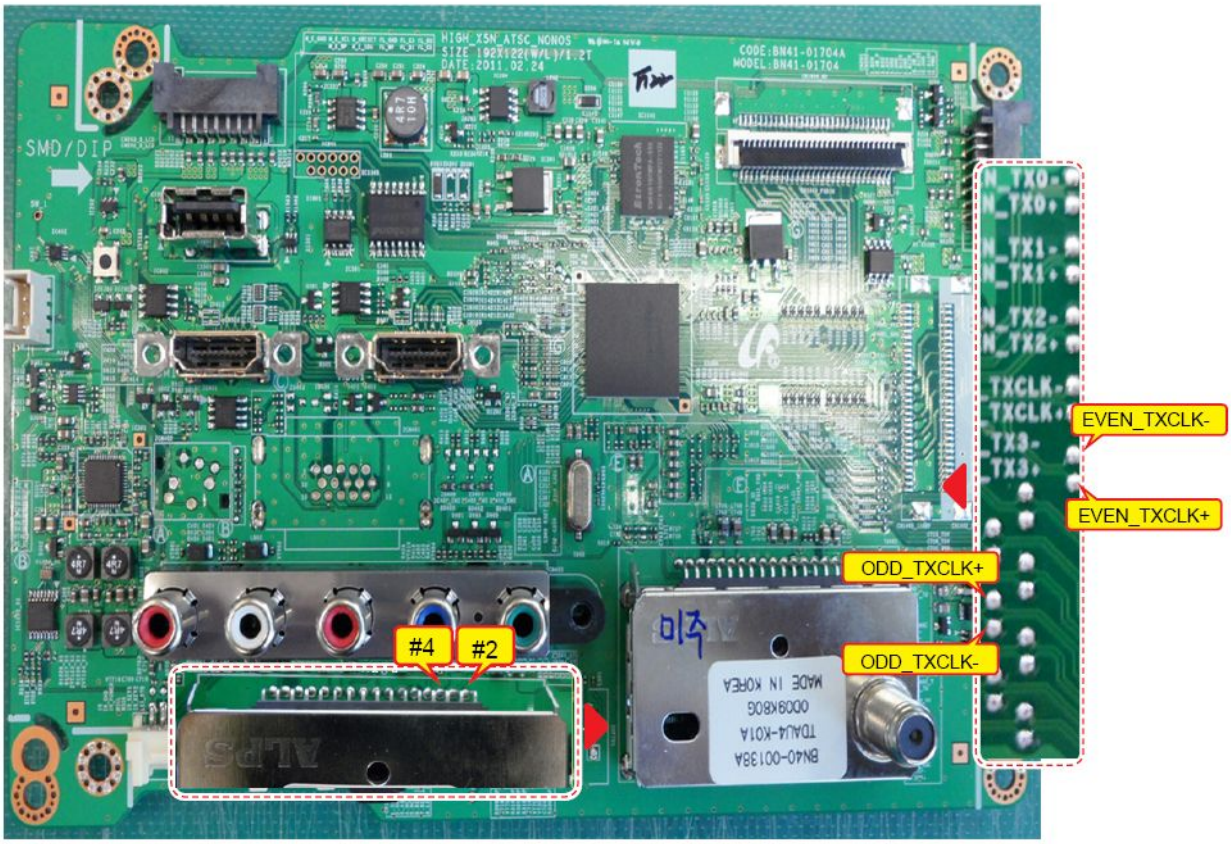
■ Location of Parts

Main Board



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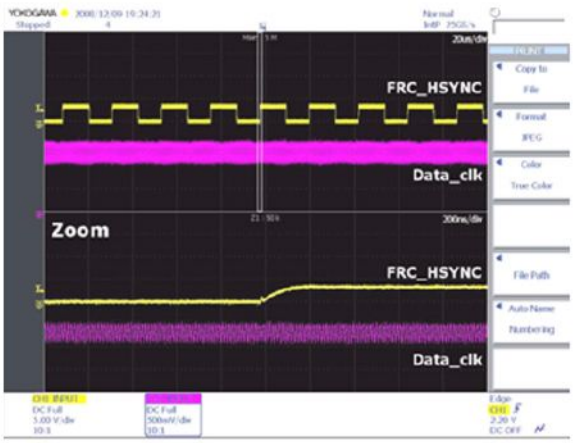
■ WAVEFORMS

❷	LVDS output



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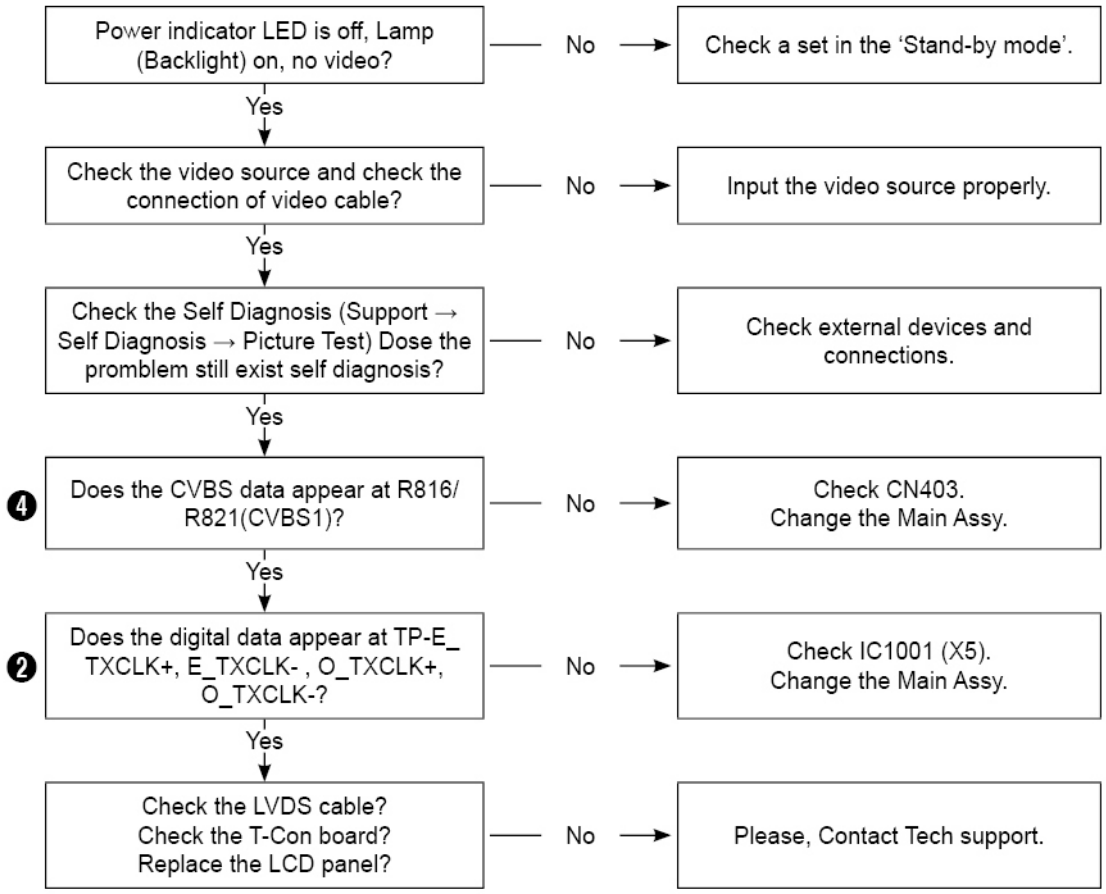
4-1-6. No Video_Video CVBS

Symptom	• Audio is normal but no picture is displayed on the screen.
Major checkpoints	• Check the Video CVBS source. • Check the Chelsea. • This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

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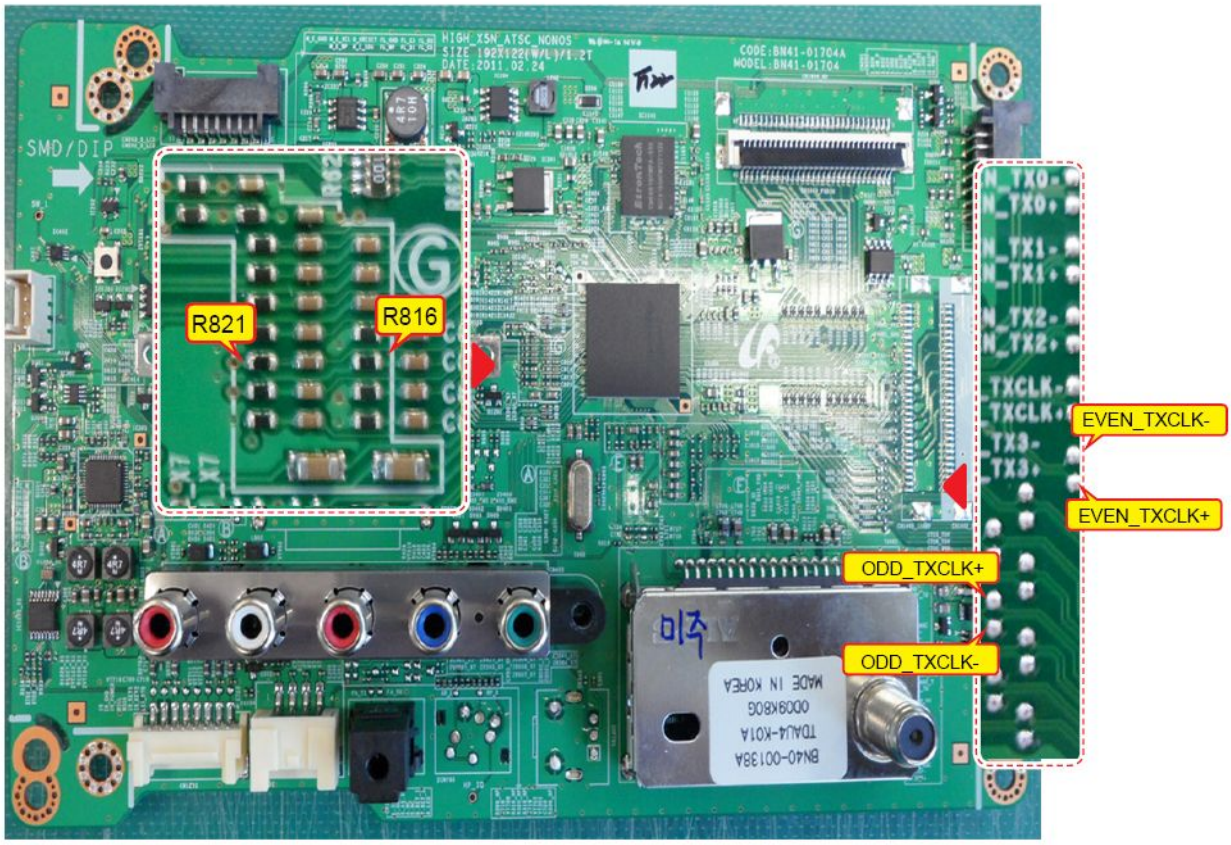
■ Location of Parts

Main Board



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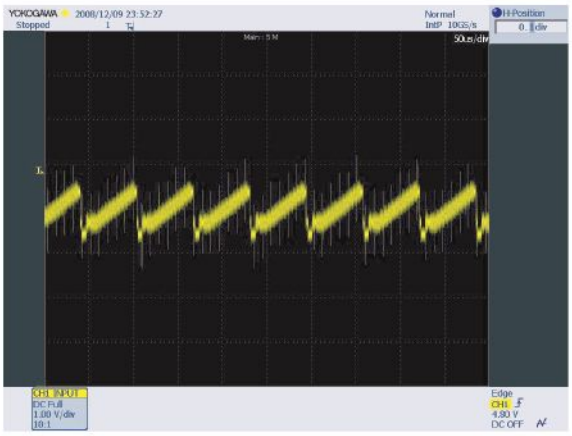
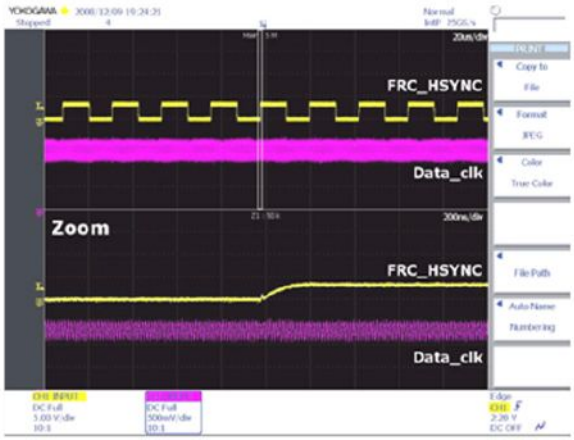
■ WAVEFORMS

❹	CVBS OUT (Grey Bar)



❷	LVDS output



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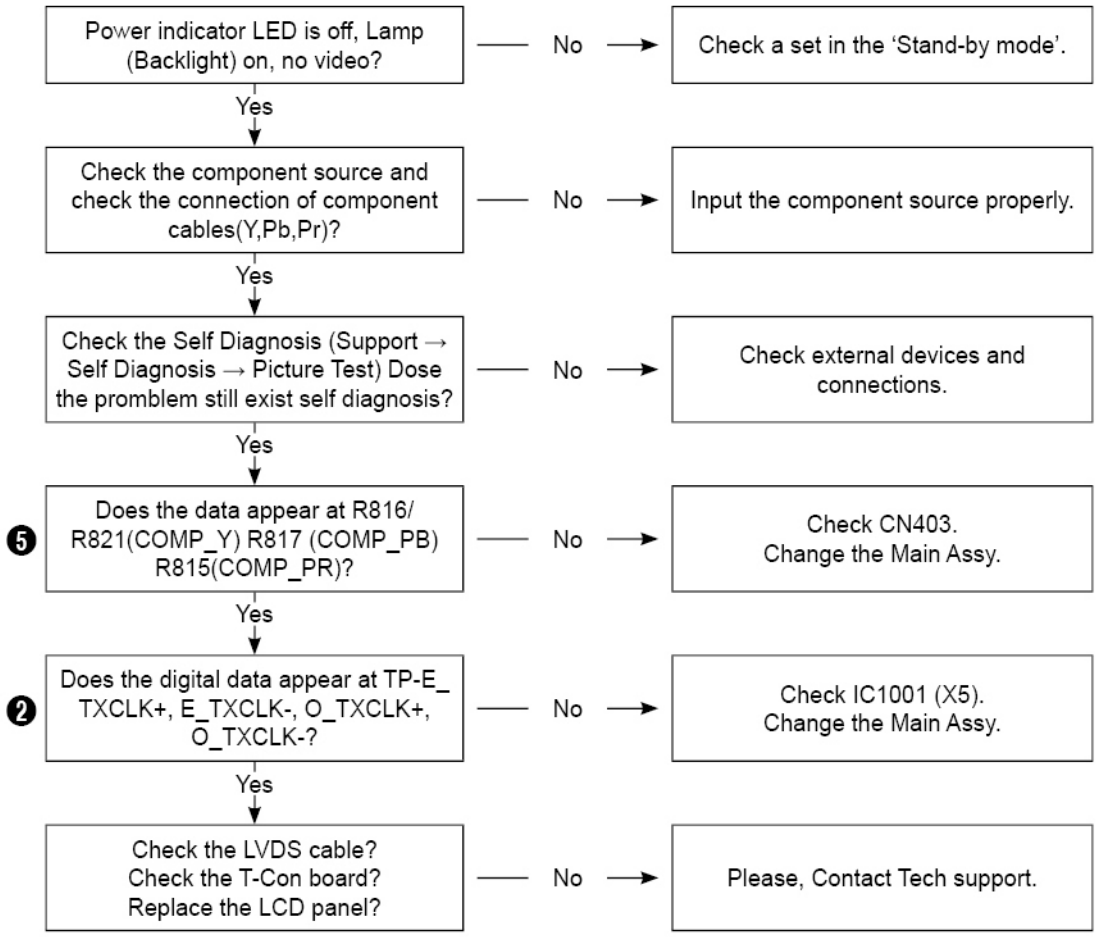
4-1-7. No Video_Component

Symptom	• Audio is normal but no picture is displayed on the screen.
Major checkpoints	• Check the Component source. • Check the chelsea. • This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

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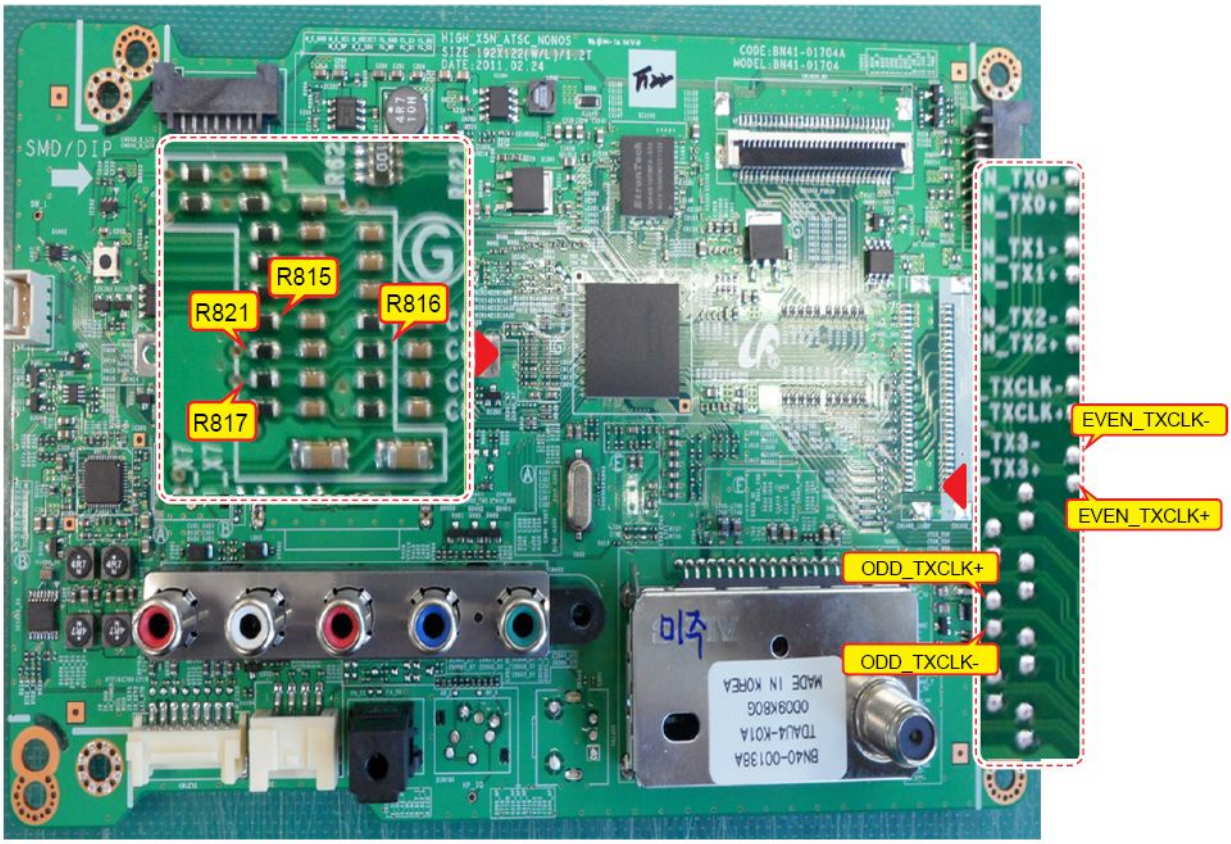
■ Location of Parts

Main Board



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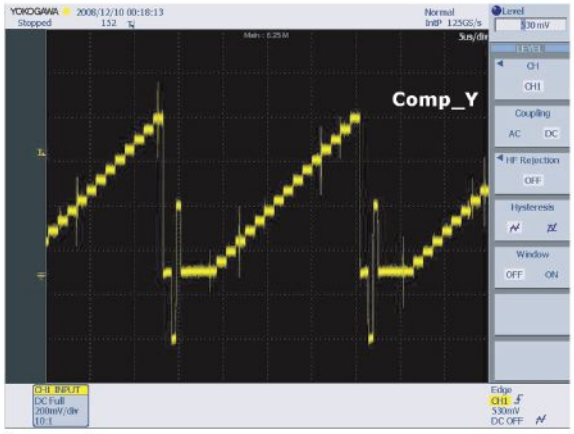
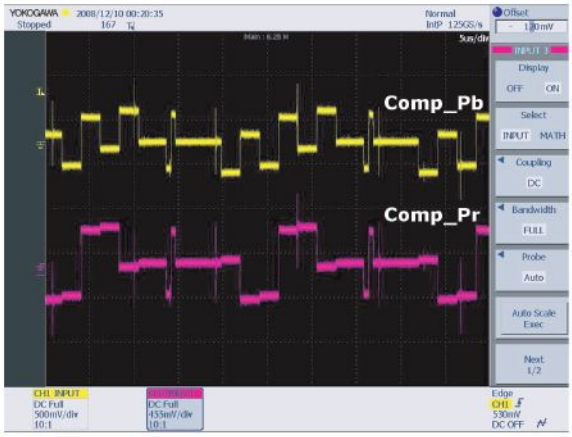
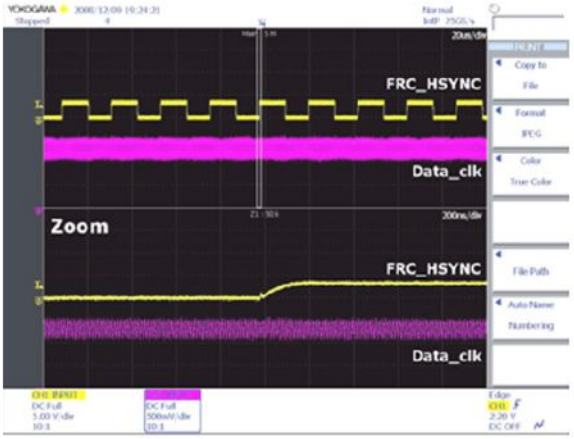
■ WAVEFORMS

❺	Compnent_Y (Gray scale) / Pb / Pr (Color bar)





❷	LVDS output



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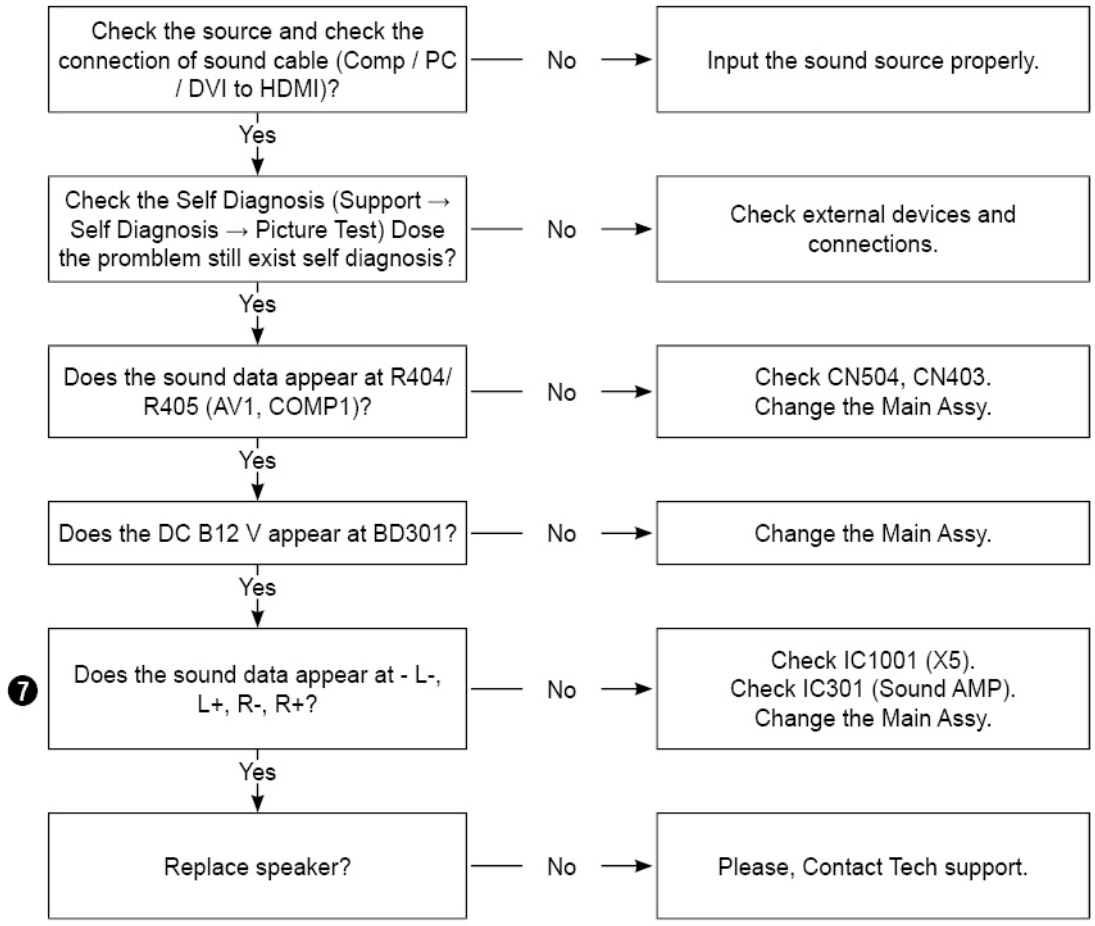
4-1-8. No Sound

Symptom	• Video is normal but there is no sound.
Major checkpoints	• When the speaker connectors are disconnected or damaged. • When the sound processing part of the Main Board is not functioning. • Speaker defect.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

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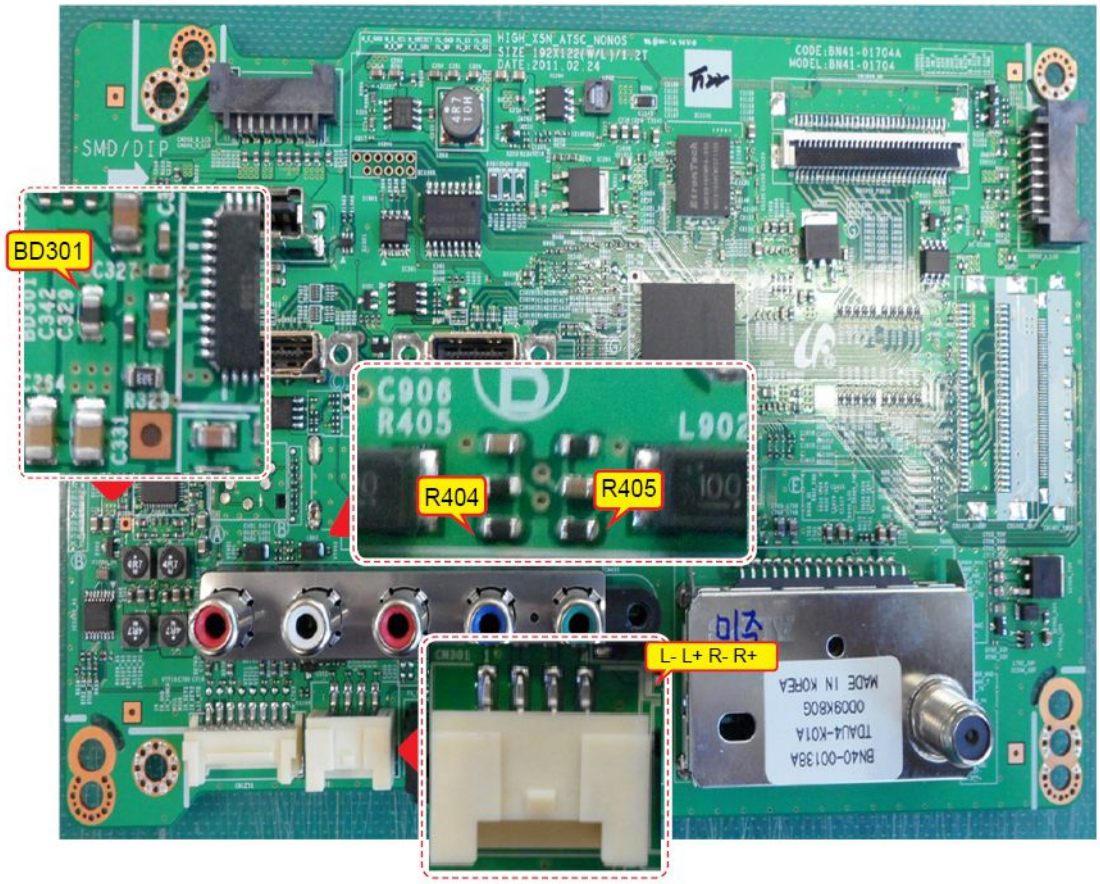
■ Location of Parts

Main Board


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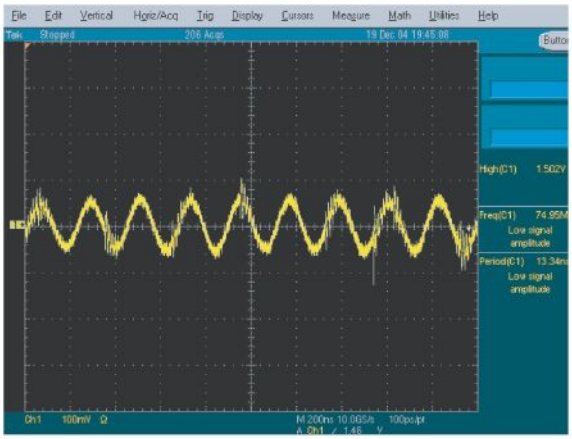
■ WAVEFORMS

❼	Speaker out



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4.2. Factory Mode Adjustments

4-2-1. Entering Factory Mode

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

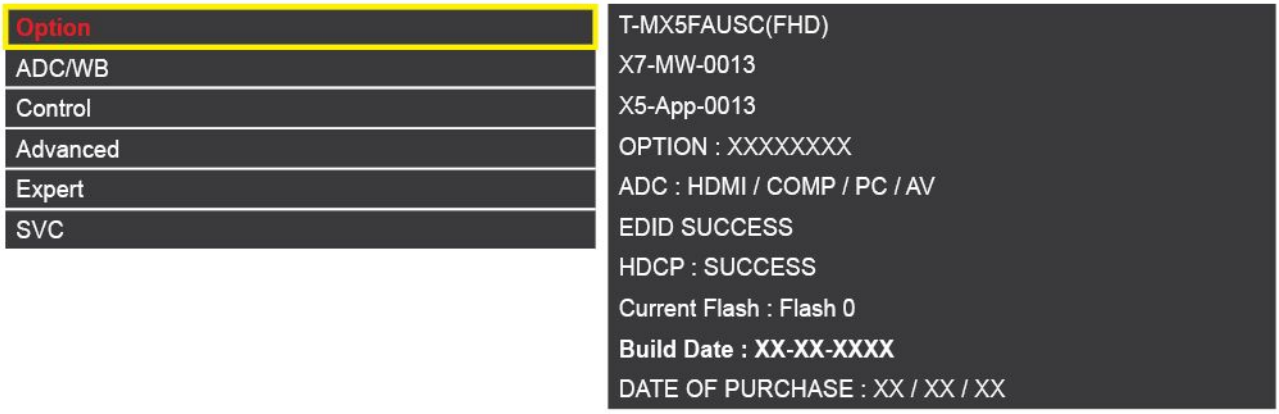
- If you do not have Factory remote - control

Power OFF → MUTE → 1 → 8 → 2 → Power ON

- If you have Factory remote-control

INFO → Factory

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



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4-2-2. Factory Data

■ Option

Factory Menu Name	Data	Range	Remark
Factory Reset	-	-	
Type	-	-	
Model	E550	-	
TUNER	ALPS	ALPS / Xugang / SECCustom	
Audio Amp	TAS5715	TAS5715 / NTP3200	
Front Color	NONE		
Local Set	Other	Other/S,America	
Exhibition Mode	Off	On	

■ ADC/WB

Factory Menu Name	Data	Range	Remark
ADC			
AV Calibration	Success	Success / Failure	
Comp Calibration	Success	Success / Failure	
PC Calibration	Success	Success / Failure	
HDMI Calibration	Success	Success / Failure	
ADC Target			
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_Delta	1	0~255	
2nd_Low	1	0~255	
2nd_High	235	0~255	
2nd_Delta	1	0~255	
ADC Result			
1st_AV_Gain	121		
1st_AV_Offset	141		

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Factory Menu Name	Data	Range	Remark
1st_Comp_Gain	70		
1st_Comp_Gain_Cb	70		
1st_Comp_Gain_cr	70		
1st_Comp_Offset	127		
1st_Comp_Offset_Cb	127		
1st_Comp_Offset_Cr	127		
1st_PC_R_Gain	94		
1st_PC_G_Gain	93		
1st_PC_B_Gatin	94		
1st_PC_R_Offset	127		
1st_PC_G_Offset	127		
1st_PC_B_Offset	127		
2nd_R_Offset	113	0~255	
2nd_G_Offset	113	0~255	
2nd_B_Offset	113	0~255	
2nd_R_Gain	144	0~255	
2nd_G_Gain	144	0~255	
2nd_B_Gain	144	0~255	
WB			
Sub Brightness	128	0~255	
R_Offset	128	0~255	
G_Offset	128	0~255	
B_Offset	128	0~255	
Sub Contrast	128	0~255	
R_Gain	128	0~255	
G_Gain	128	0~255	
B_Gain	128	0~255	
Movie R Offset	133	0~255	
Movie B Offset	129	0~255	
Movie R Gain	131	0~255	
Movie B Gain	64	0~255	

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■ Control

Factory Menu Name	Data	Range	Remark
EDID			
EDID ON/OFF	Off	On/Off	
EDID WRITE ALL		Success/Failure	
EDID WRITE PC		Success/Failure	
EDID WRITE DVI		Success/Failure	
EDID WRITE HDMI1		Success/Failure	
EDID WRITE HDMI2		Success/Failure	
EDID WRITE HDMI3		Success/Failure	
EDID WRITE HDMI4		Success/Failure	
EDID VERSION		HDMI 1.3/HDMI1/2	
Sub Option			
Mute Time(VIDEO)	4	0~10	
ready	Failure		
HotPlug	On		
Hotplugcontrol	On		
Spread Spectrum			
Spread Spectrum	On	On/Off	
Period	60K	40K/50K/60K	
Amplitude	2	0/0.5/1/1.5/2	
DDR Spread	2%	Off/1%/2%	
Auto Power	On		
Arab	Off		
NT Conversion	Off		
Mirror	ON (Middle) / OFF(Small)	ON (Middle) / OFF(Small)	
HDMI EQ1	Middle	Low/Middle/High/Strong	
HDMI EQ2	Middle	Low/Middle/High/Strong	
HDMI EQ3	Middle	Low/Middle/High/Strong	
HDMI EQ4	Middle	Low/Middle/High/Strong	
EER Count	2230		
WM Calib			
Panel Enter Key			
Panel Display Time			
Checksum	XXXX		

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Factory Menu Name	Data	Range	Remark
View Log			
Font Data Viewer			
Dimm Type	EXT	EXT/INT	
Gamma	0.88	0.88/0.90/0.93/0.95/0.98/Off	
Carrier Mute	Off	On/Off	
Anynet+	Off	On/Off	
HPD Polarity			
High Devi	Off	On/Off	
Volume Cureve	NT	NT/EU/EA	
HotPlug Delay	3	0~63	
HP Ident	Low	High/Low	
PC Ident	On	On/Off	
Info Live			
Watchdog	On	On/Off	
LVDS Format	JEIDA / VESA	JEIDA / VESA	
OSD Resolution	1366*768		
Bus Stop			
OTA Code			
OTA Duration Test			
Alternate Del			
Ignore VCT Version	On	On/Off	
Change OSD Language	KOR	ENG/KOR	
VCR Mode	Off	On/Off	
PDP Option			
Hotel Option			
Shop Option			
Shop Mode	OFF	ON/OFF	
USB DEMO ON(SEC)			
USB DEMO OFF(SEC)			
Sound			
BD Mode			
A2K Prescale	20	0~40	
BTSC Mono Prescale	20	0~40	
BTSC streo Prescale	20	0~40	
SAP Prescale	20	0~40	
BTSC M2S Threshold	0x80	0xA0~0x9F	

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Factory Menu Name	Data	Range	Remark
BTSC S2M Threshold	0x70	0xA0~0x9F	
BTSC Pilot NSR On Thr			
BTSC Pilot NSR Off Thr			
BTSC Stereo On Thr			
BTSC Stereo Off Thr			
SAP Amp On Thr			
SAP Amp Off Thr			
SAP NSR On Thr			
SAP NSR Off Thr			
Carrier Mute Amp On Thr			
Carrier Mute Amp Off Thr			
Carrier NSR On Thr			
Carrier NSR Off Thr			
Carrier Mute Thr High	0x39	0x00~0x7F	
Carrier Mute Thr Low	0x26	0x00~0x7F	
MP3 Level	-6dB	-12dB~0dB	
Master Vol	16	0~255	
PWM Modulation	85	0~255	
DRC1 Threshold	0x35	0x00~0x7F	
DRC2 Threshold	0x23	0x00~0x7F	
SPEAKER EQ	On	On/Off	
SC1 Vol	16	0~255	
SC2 Vol	16	0~255	
Audio Delay	20ms	0~150ms	
SUB AMP Master Vol			
SUB AMP PWM Mod			
SUB DRC Thresh			
SUB Speaker EQ			
[Edu] SPK Level	1	0~8	
[Edu] MIC Level	1	0~8	
[Edu] PGA Gain	2dB	0~59dB	
EQ Check Sum	0xFA9C		
Config Option			
Num of AV	1	0~3	
Num of SVIDEO	0	1~3	
Num of Comp	1	1~3	

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Factory Menu Name	Data	Range	Remark
Num of HDMI	2	0~4	
Num of SCART	0		
DVI Sound	1	0~1	
HeadPhone	0	0~1	
Num of USB Port			
LNA SUPPORT	On	On/Off	
MFT Offset			
Test Pattern			
Master Test Pattern	Off	Off/1~13	
FBE Test Pattern			
LOGIC Test Pattern	Off	Off/1~31	

■ Advanced

Factory Menu Name	Data	Range	Remark
PBE			
WM Movie			
Mode	Off	On/Off	
Color Mode	Movie		
Color Tone	Cool		
Msub Brigh	128		
Msub Contr	128		
W1_RGAIN	138		
W1_BGAIN	104		
W1_ROFFS	130		
W1_BOFFS	127		
W2_RGAIN	131		
W2_BGAIN	64		
W2_ROFFS	133		
W2_BOFFS	129		
W3_RGAIN	128		
W3_BGAIN	128		
W3_ROFFS	128		
W3_BOFFS	128		
N_RGAIN	131		
N_BGAIN	122		
N_ROFFS	128		
N_BOFFS	129		

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Factory Menu Name	Data	Range	Remark
Movie Countr	100		
Movie Brigh	45		
Movie Color	55		
Movie Sharp	55		
Movie Tint	50		
Movie BkLight	10		
M.Gamma	Off		
M_Sub Gamma	0		
EPA Standard			
Std Contr	100	0~100	
Std Bright	45	0~100	
Std Sharp	50	0~100	
Std Color	50	0~100	
Std Tint	50	0~100	
Std Backight	8	0~10	
ADJUST			
Dynamic Dimming	Off	On/Off	
LNA Plus			
RF dB1 Level	4	0~255	
RF dB2 Level	6	0~255	
RF dB3 Level	10	0~255	
RF dB4 Level	20	0~255	
Power Key Protect	Off	On/Off	
UART Select	Auto Wall	Auto Wall/Debug/MDC/On1/On2	
Debug Mode	Debug Off	Debug Off/Debug Smart/Debug RunTime	
Back End Mute			
PDP FRC			
VisualTEST Plus	Disable		
Standby Mode Time	45 Min	2 Min/45 Min	
Delete alt.ver	2 Flash		
OTA confirm Time	90 Min	3 Min/90 Min	
OTA limit Time	3 Hour	3 Min/3Hour	
Dynamic CE	Off	On/Off	
FWC	Off	On/Off	
1080p 48Hz	On	On/Off	

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Factory Menu Name	Data	Range	Remark
PWM Max	100	1~100	
Quick Start			
DTV LNA	Auto	On/Off	
HDCP Download	Off	On/Off	
USB Download	Off	On/Off	
YC_Delay			
PAL BG	1	0~3	
PAL DK	1	0~3	
PAL I	1	0~3	
SECAM BG	4	0~3	
SECAM DK	4	0~3	
SECAML	4	0~3	
NTSC 358	1	0~3	
NTSC 443	0	0~3	
AV PAL	1	0~3	
AV SECAM	4	0~3	
AV NT358	1	0~3	
AV NT443	1	0~3	
AV PAL60	1	0~3	
SHARPNESS			
H1 GAIN	0X12	0X00~0XFF	
H2 GAIN	0X08	0X00~0XFF	
H3 GAIN	0X08	0X00~0XFF	
H4 GAIN	0X08	0X00~0XFF	
V1 GAIN	0X10	0X00~0XFF	
V2 GAIN	0X0E	0X00~0XFF	
H OVERSHOOT	0X20	0X00~0XFF	
V OVERSHOOT	0X20	0X00~0XFF	
H UNDERSHOOT	0X20	0X00~0XFF	
V UNDERSHOOT	0X20	0X00~0XFF	
CORING TH2	0X01	0X01~0X0F	
CORING TH1	0X01	0X01~0X0F	
PE			
SKIN_X	0X00	0X00~0XFF	
SKIN_Y	0X01	0X00~0XFF	

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Factory Menu Name	Data	Range	Remark
B_SLOPE	0X8A	0X00~0XFF	
DLC_ML	0X90	0X00~0XFF	
DLC_MH	0X90	0X00~0XFF	
DLC_H	0XEB	0X00~0XFF	
SKIN_SAT	0X00	0X00~0XFF	
SKIN_HUE	0X20	0X00~0XFF	
M_SKIN_HUE	0X40	0X00~0XFF	
M_SKIN_X	0X00	0X00~0XFF	
M_SKIN_Y	0X00	0X01~0X0F	
MID_COLOR_LEVEL	0XB8	0X01~0X0F	
M_MID_COLOR_LEVE	0X95	0X01~0X0F	
PQ OTHERS			
7.5 IRE NTSC	OFF	ON/OFF	
7.5 IRE OFFSET	16	0~60	
COLOR SPACE			
RED SAT	0X12	0X00~0XFF	
RED HUE	0X40	0X00~0XFF	
GREEN SAT	0X16	0X00~0XFF	
GREEN HUE	0X70	0X00~0XFF	
BLUE SAT	0X1A	0X00~0XFF	
BLUE HUE	0X70	0X00~0XFF	
CYAN SAT	0X16	0X00~0XFF	
CYAN HUE	0X40	0X00~0XFF	
MAGENTA SAT	0X16	0X00~0XFF	
MAGENTA HUE	0X40	0X00~0XFF	
YELLOW SAT	0X0F	0X00~0XFF	
YELLOW HUE	0X70	0X00~0XFF	
FWC BLUE	0X0F	0X00~0XFF	
FWC RED	0X0F	0X00~0XFF	
EEPROM RESET			
EEPROM RESET	OFF	ON/OFF	
NVR ALL CLEAR	OFF	ON/OFF	
EXPERT			
N/D ADJ	OFF	ON/OFF	

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Factory Menu Name	Data	Range	Remark
SOURCE	CURRENT		

■ SVC

Factory Menu Name	Data	Range	Remark
MODE	DYNAMIC	DYNAMIC/MOVIE	
SCC ON/OFF	OFF	ON/OFF	
SCC INPUT DATA			
HX	272	0~1024	
HY	278	0~1024	
LX	272	0~1024	
LY	278	0~1024	
SSCC CONST			
SSCC HX	554	0~1024	
SSCC HY	573	0~1024	
SSCC LX	550	0~1024	
SSCC LY	576	0~1024	
PSCC CONST			
PSCC HX	554	0~1024	
PSCC HY	573	0~1024	
PSCC LX	550	0~1024	
PSCC LY	576	0~1024	
SCC SOURCE DATA	PBA	PBA/PANEL	
SWAP	PBA	PBA/PANEL	
PANEL AUTO SETTING			
1st_AV_Low	64	0 ~ 1020	
1st_AV_High	880	0 ~ 1020	
1st_AV_Delta	2	0 ~ 7	
1st_COMP_Y_Low	64	0 ~ 1020	
1st_COMP_Cb_Low	…		
1st_COMP_Cr_Low	…		
1st_COMP_Y_High	940	0 ~ 1020	
1st_COMP_Cb_High	…		
1st_COMP_Cr_High	…		
1st_COMP_Delta	2	0~7	
1st_PC_R_Low	16	0 ~ 1020	
1st_PC_G_Low	…		
1st_PC_B_Low	…		

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Factory Menu Name	Data	Range	Remark
1st_PC_R_High	1004	0 ~ 1020	
1st_PC_G_Low	…		
1st_PC_B_Low	…		
1st_PC_Delta	2	0~7	
2nd_AV_R_Low	4	fixed	
2nd_AV_G_Low	4	fixed	
2nd_AV_B_Low	4	fixed	
2nd_AV_R_High	940	fixed	
2nd_AV_G_High	940	fixed	
2nd_AV_B_High	940	fixed	
2nd_AV_Delta	2	0~7	
2nd_COMP_R_Low	4	fixed	
2nd_COMP_G_Low	4	fixed	
2nd_COMP_B_Low	4	fixed	
2nd_COMP_R_High	940	fixed	
2nd_COMP_G_High	940	fixed	
2nd_COMP_B_High	940	fixed	
2nd_COMP_Delta	2	0~7	
2nd_PC_R_Low	4	fixed	
2nd_PC_G_Low	4	fixed	
2nd_PC_B_Low	4	fixed	
2nd_PC_R_High	940	fixed	
2nd_PC_G_High	940	fixed	
2nd_PC_B_High	940	fixed	
2nd_PC_Delta	2	0~7	
2nd_HDMI_R_Low	4	fixed	
2nd_HDMI_G_Low	4	fixed	
2nd_HDMI_B_Low	4	fixed	
2nd_HDMI_R_High	940	fixed	
2nd_HDMI_G_High	940	fixed	
2nd_HDMI_B_High	940	fixed	
2nd_HDMI_Delta	2	0~7	
ADC Result			
1st_Y_GH	0	fixed	
1st_Y_GL	0	fixed	
1st_Cb_BH	0	fixed	

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Factory Menu Name	Data	Range	Remark
1st_Cb_BL	0	fixed	
1st_Cr_RH	0	fixed	
1st_Cr_RL	0	fixed	
2nd_R_L	134	0 ~ 255	
2nd_G_L	134	0 ~ 255	
2nd_B_L	134	0 ~ 255	
2nd_R_H	49	0 ~ 255	
2nd_G_H	49	0 ~ 255	
2nd_B_H	49	0 ~ 255	
WB			
Sub Brightness	128	0 ~ 1023	
R_Offset	512	0 ~ 1023	
G_Offset	512	0 ~ 1023	
B_Offset	512	0 ~ 1023	
Sub Contrast	128	0 ~ 1023	
R_Gain	512	0 ~ 1023	
G_Gain	512	0 ~ 1023	
B_Gain	512	0 ~ 1023	
Movie R Offset	…	fixed	
Movie B Offset	…	fixed	
Movie R Gain	…	fixed	
Movie B Gain	…	fixed	

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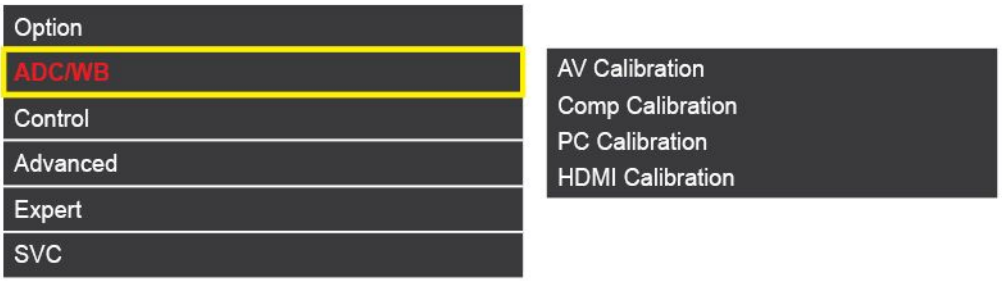
4.3. White Balance - Calibration

4-3-1. White Balance - Calibration

1. Into the Factory Mode.
2. Select SVC Menu.
3. Select ADC/WB menu.
4. Select ADC menu.



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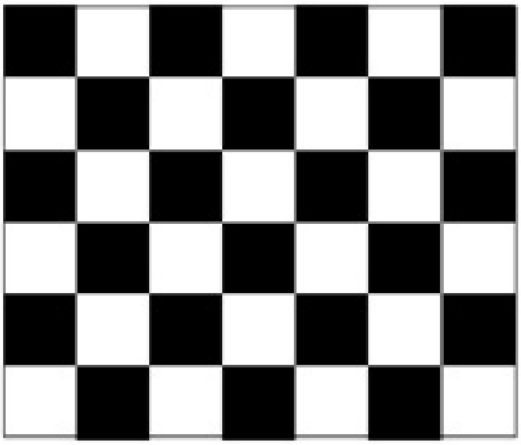
4-3-2. Service Adjustment

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

■ Color Calibration

1. Source: HDMI
2. Setting Mode: 1280 x 720 @ 60 Hz
3. Pattern: Pattern #24 (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 (1024 x 768) B&W Pattern #24	Lattice
HDMI IN	Perform in 720p B & W Pattern #24	Lattice

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■ Method of Color Calibration (AV)

1. Apply the NTSC Lattice (N0. 3) pattern signal to the AV IN 1 port.
2. Press the Source button to switch to “AV 1” mode.
3. Enter Service mode.
4. Select the “ADC” menu.
5. Select the “AV Calibration” menu.
6. In “AV Calibration Off” status, press the “ ► ” button 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 button to switch to “Component 1” mode.
3. Enter Service mode.
4. Select the “ADC” menu.
5. Select the “Comp Calibration” menu.
6. In “Comp Calibration Off” status, press the “ ► ” button 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 button to switch to “PC” mode.
3. Enter Service mode.
4. Select the “ADC” menu.
5. Select the “PC Calibration” menu.
6. In “PC Calibration Off” status, press the “ ► ” button 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 button 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 “ ►” button 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.

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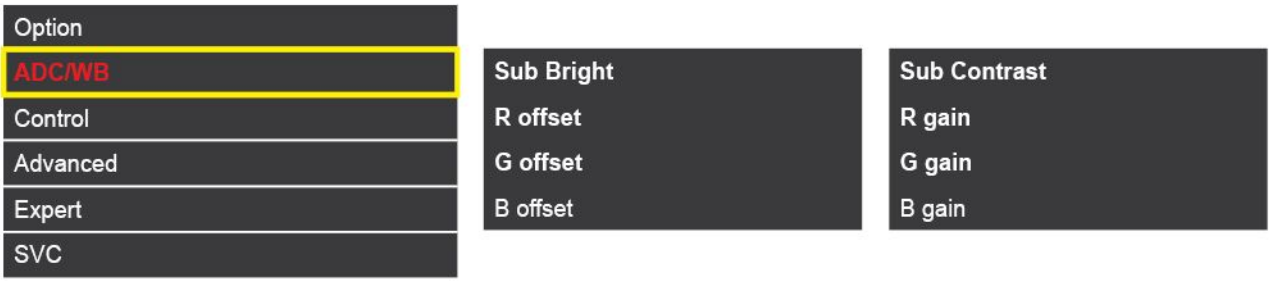
4-3-3. White Balance - Adjustment

1. Into the Factory Mode.
2. Select SVC Menu.
3. Select ADC/WB menu.
4. Select WB menu.



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4-3-4. White Ratio (Balance) Adjustment

■ White Ratio (Balance) Adjustment

You can adjust the white ratio in factory mode (1:Calibration, 3:White-Balance).

Since the adjustment value and the data value vary depending on the input source, you have to adjust these in CVBS, Component 1 and HDMI 1 modes.

The optimal values for each mode are configured by default. It varies with Panel's size and Specification.

- Equipment : CS-210
- Pattern: MIK K-7256 #92 "Flat W/B Pattern" as standard
- Use other equipment only after comparing the result with that of the Master equipment.

Calibration and Manual setting for WB adjustment.

HDMI: Calibration at #24 Chessboard Pattern → Manual adjustment #92 pattern (720p)

COMP: Calibration at #24 Chessboard Pattern → Manual adjustment at #92 pattern (720p)

CVBS: Calibration at #24 Chessboard Pattern → Manual adjustment at #92 pattern (NTSC)

If finishing in HDMI mode, adjustment coordinate is almost same in AV / COMP mode.

White Balance Manual Adjustment.

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White Balance Manual Adjustment

LN40E550F7F

P - Mode	Adjustment Coordinate CA - 210				
		x	y	Y (Luminance)	T (K) + MPCD
[Dynamic Cool1] HDMI Comp CVBS	H / L	272	278	42.3 fL (Sub_CT:133 Fix)	12,000 (+ -0)
	L / L	272	278	2.4 fL (Sub-Brt:128 Fix)	12,000 (+ -0)
[Movie Warm2] HDMI Comp CVBS	H / L	306	327	- fL (M_Sub_CT:128 Fix)	6,500 (+6)
	L / L	306	327	- fL (Sub_Brt:128 Fix)	6,500 (+6)

LN46E550F6F

P - Mode	Adjustment Coordinate CA - 210				
		x	y	Y (Luminance)	T (K) + MPCD
[Dynamic Cool1] HDMI Comp CVBS	H / L	272	278	42.3 fL (Sub_CT:133 Fix)	12,000 (+ -0)
	L / L	272	278	2.4 fL (Sub-Brt:128 Fix)	12,000 (+ -0)
[Movie Warm2] HDMI Comp CVBS	H / L	306	327	- fL (M_Sub_CT:128 Fix)	6,500 (+6)
	L / L	306	327	- fL (Sub_Brt:128 Fix)	6,500 (+6)

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4.4. Software Upgrade

Software Upgrade upgrades can be performed by downloading the latest firmware from samsung.com to a USB memory device.

Current Version - the software already installed in the TV.

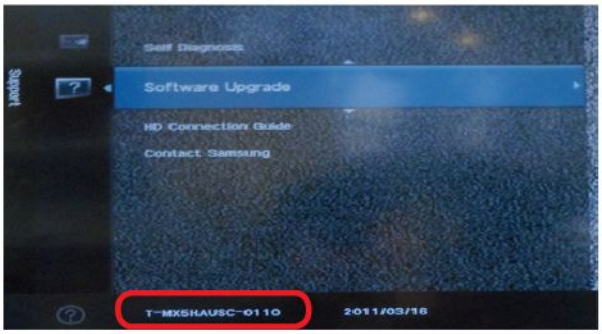
NOTE

Software is represented as 'Year / Month / Day_Version'.

4-4-1. How to check the SW version

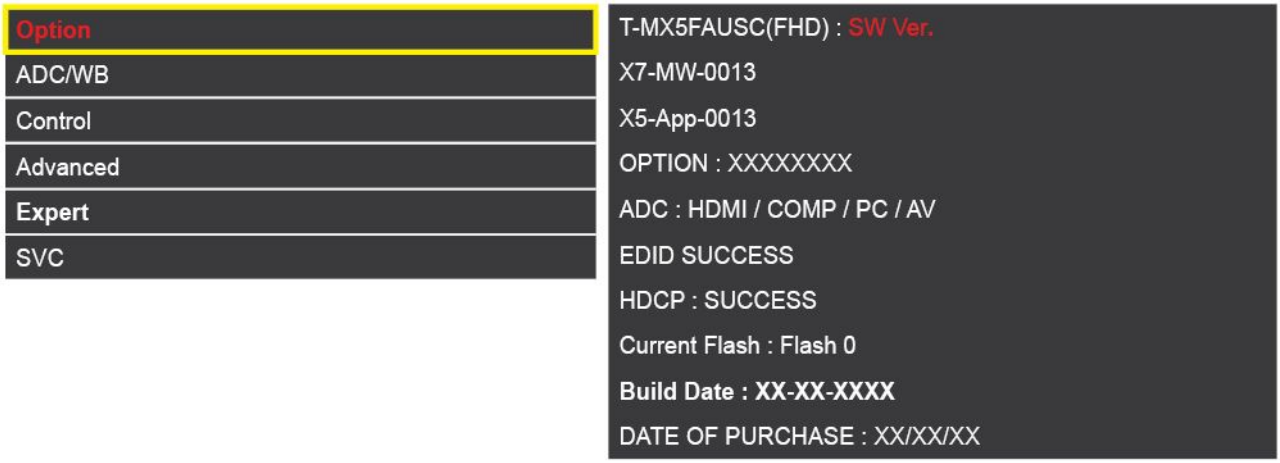
■ Use the Main menu

1. Click the "MENU" button in remote controler.
2. Select Support menu.
3. Locate the menu cursor "Software Upgrade" menu.
4. Click the [Info] button.
5. Check the Main SW and Micom version.



■ Use the factory mode

1. Access the factory mode



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4-4-2. How to Upgade SW and Micom

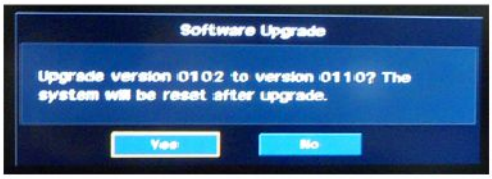
Insert a USB drive containing the firmware upgrade downloaded from samsung.com into the TV. Please be careful to not disconnect the power or remove the USB drive while upgrades are being applied. The TV will turn off and turn on automatically after completing the firmware upgrade. Please check the firmware 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.

■ Main SW upgrade

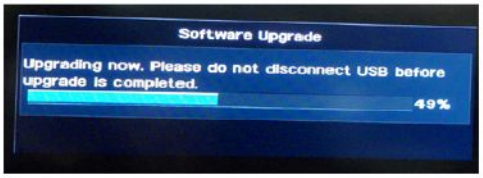
1. Store the sw program named “T-MX5FAUSC”(FHD) in USB memory stick.
2. Connect the USB.

3. Click the “**MENU**” button in remote controler.
4. Select “**Support**” menu
5. Locate the menu cursor “**Software Upgrade**” menu.

6. Click the “**ENTER**” button.



7. Click the “**ENTER**” button.



8. Wait for upgrade complete.
9. Check the SW version.

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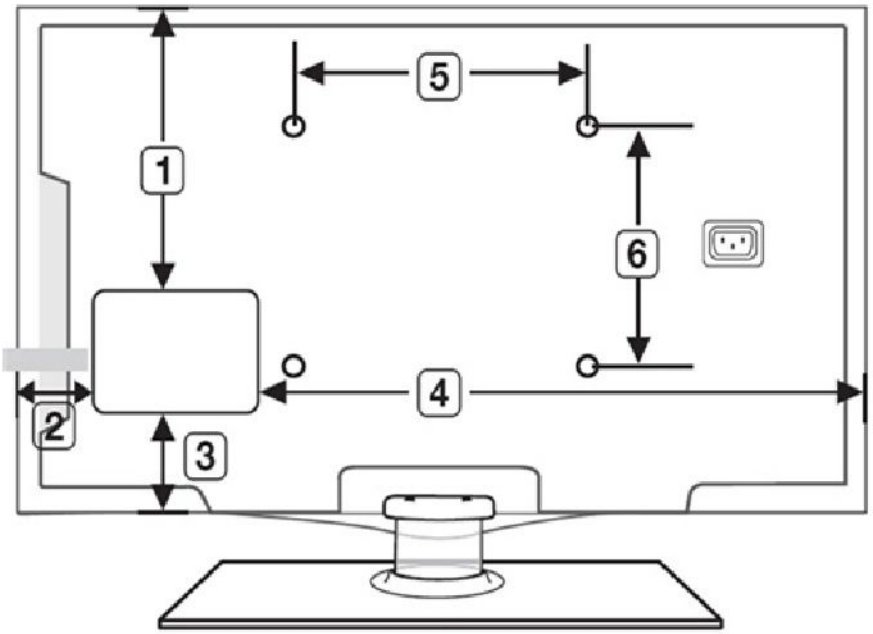
4.5. Rear Cover Dimension

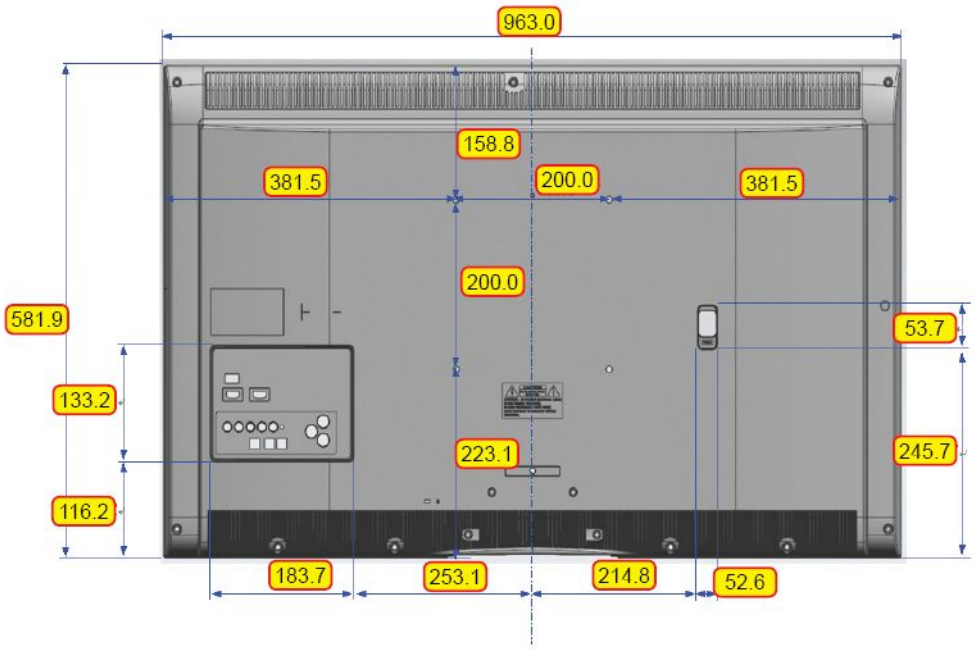
Cover-Rear Area



(Unit : mm)

Model	1	2	3	4	5	6
LN40E550F7F	327.7	61.0	91.4	693.4	200.7	200.7
LN46E550F6F	401.3	86.4	91.4	800.1	398.8	398.8

■ LN40E550F7F



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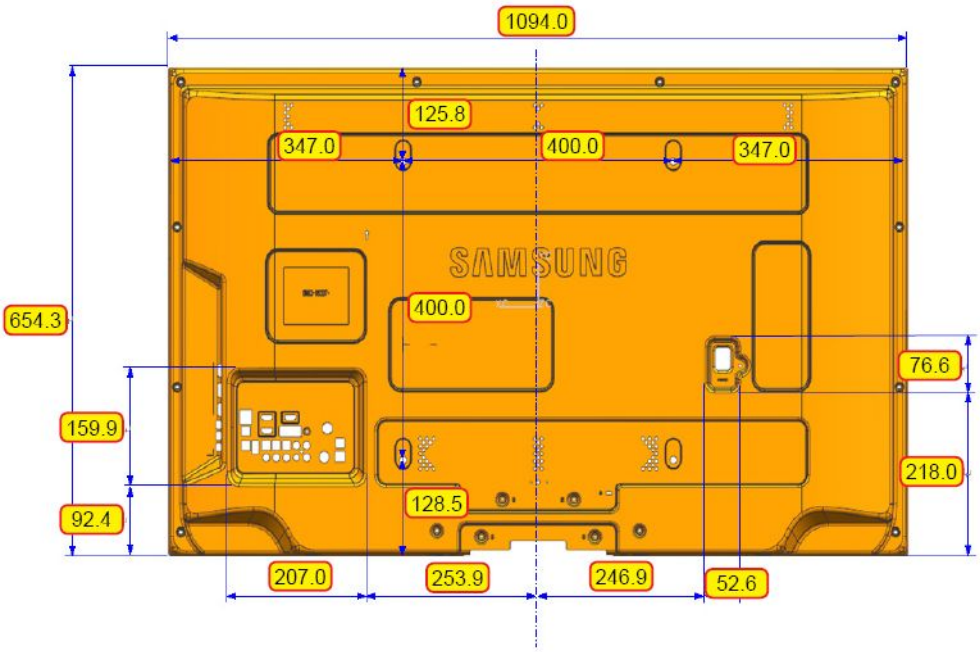
■ LN46E550F6F



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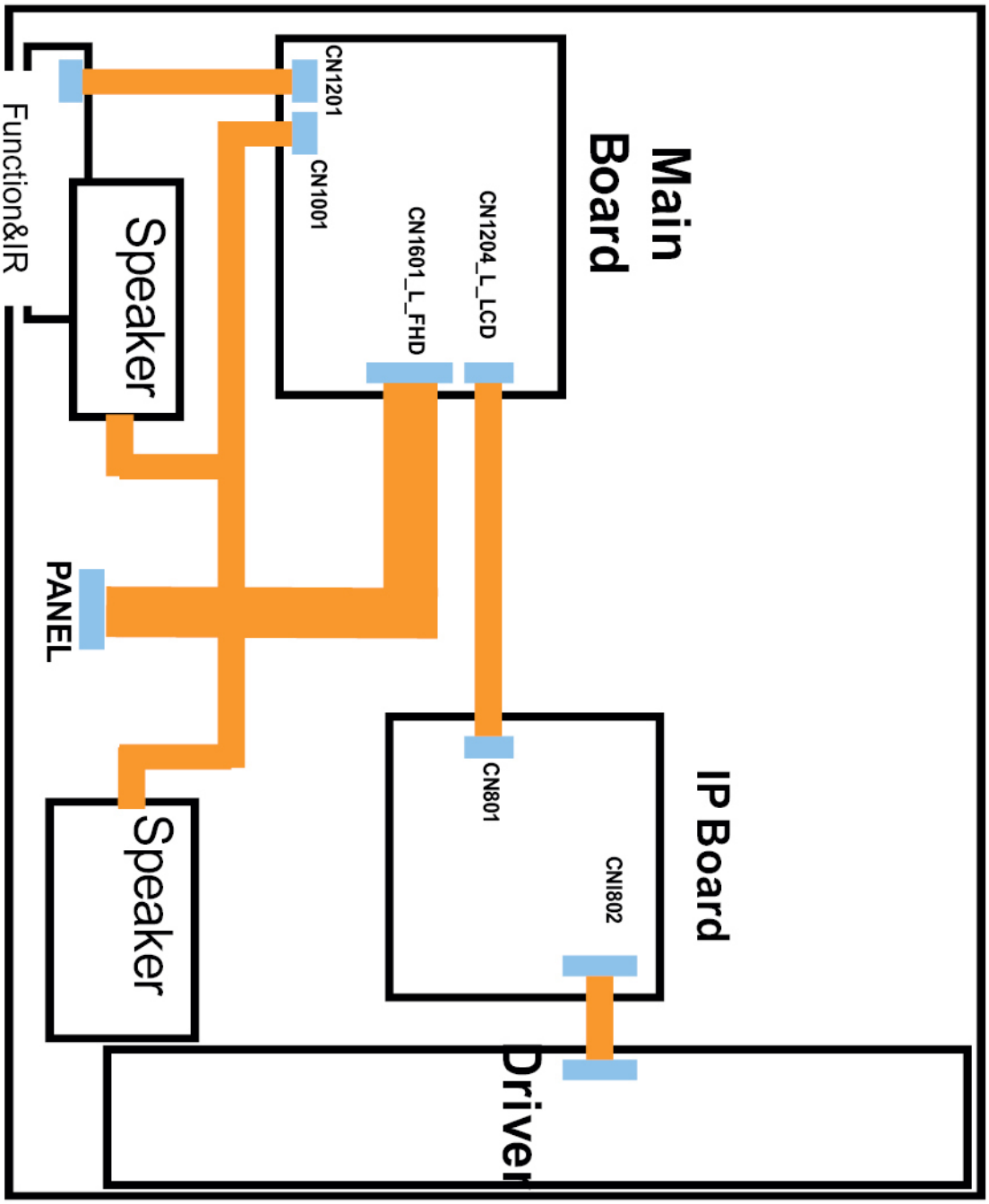
5. Wiring Diagram

5.1. Wiring Diagram



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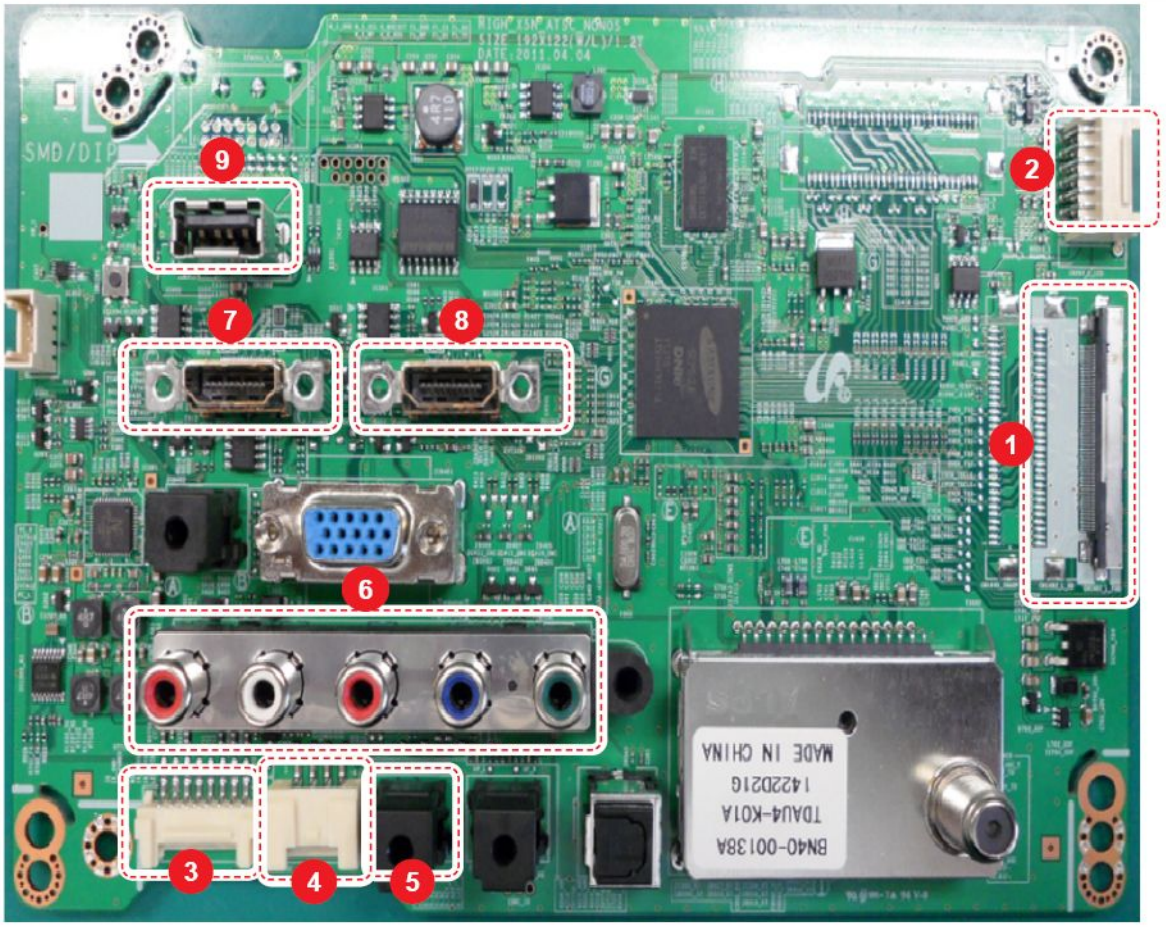
5.2. Connector

Main Board



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1 CN1601_L_FHD (to Panel)			
1	NC	27	EVEN[0]-
2	NC	28	GND
3	NC	29	ODD[4]+
4	NC	30	ODD[4]-
5	NC	31	ODD[3]+
6	NC	32	ODD[3]-
7	FORMAT	33	GND
8	SDA_Panel	34	ODDCLK+
9	TCON_WP	35	ODDCLK-
10	NC	36	GND
11	SDA_Panel	37	ODD[2]+
12	SCL_Panel	38	ODD[2]-
13	GND	39	ODD[1]+
14	EVEN[4]+	40	ODD[1]-
15	EVEN[4]-	41	ODD[0]+
16	EVEN[3]+	42	ODD[0]-
17	EVEN[3]-	43	GND
18	GND	44	GND
19	EVENCLK+	45	GND
20	EVENCLK-	46	NC
21	GND	47	Panel_VCC
22	EVEN[2]+	48	Panel_VCC
23	EVEN[2]-	49	Panel_VCC
24	EVEN[1]+	50	Panel_VCC
25	EVEN[1]-	51	Panel_VCC
26	EVEN[0]+		

2 CN204_L_LCD (to Powr board)			
1	B5V	8	GND
2	SW_POWER	9	B12VS
3	B5V	10	SW_INVERTER
4	A5V	11	B13V
5	GND	12	NC
6	GND	13	B13V
7	B12VS	14	PWM_DIMM

3 CN1201 (FUNCTION)			
1	IR	5	MSDA
2	GND	6	FUNC_INTR
3	A3.3V	7	LED_STB
4	MSCL	8	NC

4 CN301 (SPEAKER)			
1	R+	3	L+
2	R-	4	L-

5 CN1203(DEBUG)			
1	GND	4	DEBUG_TX
2	DEBUG_RX	5	DEBUG_TX
3	DEBUG_TX	6	GND

6 CN403 (COMPONETN)			
1	GND	9	GND
2	COMP1_Y	10	GND
3	IDENT_AV	11	SL
4	GND	12	SR
5	PB	13	GND
6	IDENT_COMP	14	SR
7	GND	15	SL
8	PR		

7 CN502 (HDMI1)			
1	HDMI1_RX2+	11	GND
2	GND	12	HDMI1_RXCLK-
3	HDMI1_RX2-	13	HDMI_CEC
4	HDMI1_RX1+	14	GND
5	GND	15	SCL
6	HDMI1_RX1-	16	SDA
7	HDMI1_RX0+	17	GND
8	GND	18	5V
9	HDMI1_RX0-	19	HPD
10	HDMI1_RXCLK+		

8 CN601 (HDMI 2)			
1	HDMI2_RX2+	11	GND
2	GND	12	HDMI2_RXCLK-
3	HDMI2_RX2-	13	HDMI_CEC
4	HDMI2_RX1+	14	GND
5	GND	15	SCL
6	HDMI2_RX1-	16	SDA
7	HDMI2_RX0+	17	GND
8	GND	18	5V
9	HDMI2_RX0-	19	HPD
10	HDMI2_RXCLK+		

9 CN1502 (USB 1)			
1	USB_VCC	3	USB_DP
2	USB_DM	4	GND

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5.3. Connector Functions

Connector	Functions
CN201 ↔ IP CN801	Supply main power and dimming signal from IP board to Main Board.
CN1601_FHD / CN1602_HD ↔ T-Con CNF1	The LVDS signal transfered from Main Board to Panel.

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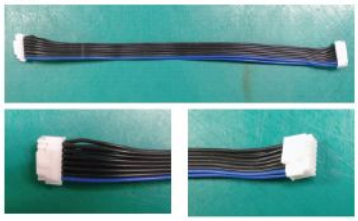
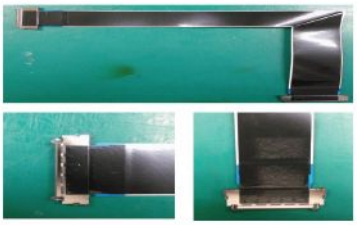
5.4. Cables

Use	LEAD (Main - IP 14P)	LEAD (IP - Driver Board 7P)	LVDS (Main - T-Con)
Code	40" : BN39-01449C 46" : BN39-01449D	40" : BN39-01448C 46" : BN39-01448C	40" : BN96-17116C 46" : BN96-22239G
Photo			

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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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