



LED TV

Chassis : U8DB

Model : UN32H5500AG

UN40H5500AG

UN48H5500AG

SERVICE Manual

LED TV



UN**H5500AG

Contents

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

Contents

1. Precautions	1-1
1-1. Safety Precautions	1-1
1-1-1. Warnings.....	1-1
1-1-2. Servicing the LED TV	1-1
1-1-3. Fire and Shock Hazard	1-1
1-1-4. Product Safety Notices	1-2
1-2. Servicing Precautions.....	1-3
1-2-1. General Servicing Precautions	1-3
1-3. Static Electricity Precautions	1-4
1-4. Installation Precautions	1-5
2. Product Specifications.....	2-1
2-1. Product information	2-1
2-2. Product specification	2-2
2-2-1. Detailed Specifications	2-2
2-2-2. Specifications	2-7
2-3. Accessories	2-8
3. Disassembly and Reassembly	3-1
3-1. Disassembly and Reassembly	3-1
3-2. Disassembly(PTC).....	3-5
4. Troubleshooting	4-1
4-1. Troubleshooting	4-1
4-1-1. Previous Check	4-1
4-2. How to Check Fault Symptom	4-3
4-2-1. NO Power	4-3
4-3. Factory Mode Adjustments	4-6
4-3-1. Detail Factory Option	4-6
4-3-2. Entering Factory Mode	4-7
4-3-3. Factory Data	4-8
4-4. White Balance	4-23
4-4-1. Calibration	4-23
4-4-2. Service Adjustment.....	4-23
4-4-3. Adjustment	4-25
4-5. White Ratio (Balance) Adjustment.....	4-26
4-6. Software Upgrade.....	4-28
4-6-1. By USB	4-28
4-6-2. By Online	4-28
4-6-3. Alternative Software (Backup)	4-28
4-7. 5500 Dimension.....	4-29
5. Wiring Diagram	5-1
5-1. Wiring Diagram	5-1
5-2. Connector	5-6
5-3. Connector Functions	5-9



**This Service Manual is a property of Samsung Electronics Co.,Ltd.
Any unauthorized use of Manual can be punished under applicable
International and/or domestic law.**

**© 2014 Samsung Electronics Co.,Ltd.
All rights reserved.
Printed in Korea**

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



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

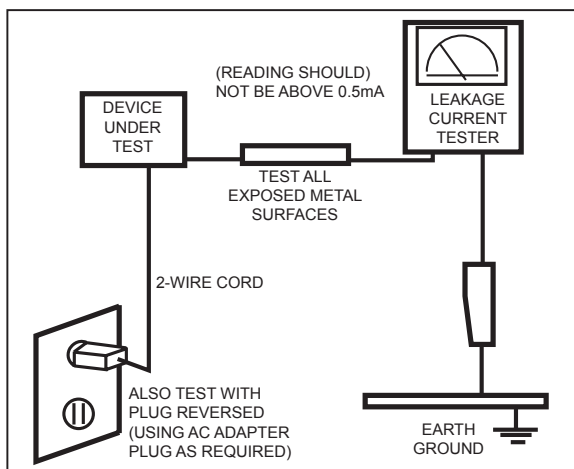
1-1-2. Servicing the LED TV

1. When servicing the LED 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 resistor/capacitor networks, mechanical insulators, etc.
3. Leakage Current Hot Check:




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.

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.

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 the blades 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.

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.



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.

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.
8. If an equipment is provided with a replaceable battery, and if replacement by an incorrect type could result in an explosion (for example, with some lithium batteries), the following applies:

**CAUTION**

- Risk of explosion if battery is replaced by an incorrect type dispose of used batteries according to the instructions.
- Do not dispose of batteries in a fire.
- Do not short circuit, disassemble or overheat the batteries.
- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- Do not be exposed to excessive heat such as sunshine, fire or the like.

2. Product Specifications

2-1. Product information

Model	UN**H5500AG		
Front View	 <p>* W : Width H : High D : Depth</p>		
Detail View			
Front Color	Black		
Dimensions (W x H x D)	32"	With Stand	721.4 x 465.1 x 163.4 mm / 28.4 x 18.3 x 6.4 inches
		Without Stand	721.4 x 428.5 x 64.9 mm / 28.4 x 16.9 x 2.6 inches
	40"	With Stand	906.6 x 578.2 x 196.4 mm / 35.7 x 22.8 x 7.7 inches
		Without Stand	906.6 x 532.9 x 65.1 mm / 35.7 x 21.0 x 2.6 inches
	48"	With Stand	1075.1 x 673.8 x 203.9 mm / 42.3 x 26.5 x 8.0 inches
		Without Stand	1075.1 x 627.6 x 65.5 mm / 42.3 x 24.7 x 2.6 inches
	50"	With Stand	1118.4 x 697.1 x 205 mm / 44.0 x 27.4 x 8.1 inches
		Without Stand	1118.4 x 651.9 x 66.8 mm / 44.0 x 25.7 x 2.6 inches
Weight	32"	With Stand	5.38 kg / 11.9 lbs
		Without Stand	5.0 kg / 11.0 lbs
	40"	With Stand	8.2 kg / 18.1 lbs
		Without Stand	7.5 kg / 16.5 lbs
	48"	With Stand	12.0 kg / 26.5 lbs
		Without Stand	9.8 kg / 21.6 lbs
	50"	With Stand	13.5 kg / 29.8 lbs
		Without Stand	12.88 kg / 28.4 lbs

2-2. Product specification

2-2-1. Detailed Specifications


NOTE

Design and specifications are subject to change without prior notice.

Item		UN**H5500AGXPR
General Information	Product	LED
	Series	5
	Country	PARAGUAY
Display	Screen Size	32"/40"/48'
	Resolution	1,920 x 1,080
	Ultra Clear Panel	N/A
Video	Picture Engine	HyperReal Engine
	Clear Motion Rate	120
	Dynamic Contrast Ratio	Mega Contrast
	Micro Dimming	N/A
	Precision Black (Local Dimming)	N/A
	Wide Color Enhancer (Plus)	Yes
	Wide Color Gamut	N/A
	Color Accuracy	N/A
	Auto Depth Enhancer	N/A
	Film Mode	Yes
	Natural Mode Support	Yes
Audio	Dolby MS10 / MS110	Dolby MS10
	DTS Studio Sound / DNSe+	DTS Studio Sound
	DTS Premium Sound / DTS Premium Sound 5.1	DTS Premium Sound 5.1
	3D Sound	N/A
	Auto Volume Leveler	Yes
	Sound Output (RMS)	10W X 2
	Speaker Type	Down Firing + Full Range
	Woofer	N/A
Smart TV	Smart Hub	Yes
	Samsung SMART TV	Yes
	On TV	No
	Movies & TV Shows	No
	Multimedia	Yes

Item		UN**H5500AGXPR
Smart TV	Apps	Yes
	News On	Yes
	Game	No
	My Space	No
	Social	Yes
	Fitness	Yes
	Kids	No
	Multi-Screen (Dual / Quad Screen)	N/A
	Skype™ on Samsung TV	Yes
	Web Browser	Yes
	Search	Yes
Smart Interaction	Voice Interaction	N/A
	Voice Control	N/A
	Camera Built-in	N/A
	Face recognition	Ready
	Motion control	Ready
Smart Convergence	Contents Streaming	Yes
	Screen Mirroring	Yes
	Samsung SMART View	Yes
	Smart Home	No
	Wake On LAN	No
	WiDi	N/A
Tuner/Broadcasting	DTV Tuner	ISDB-T
	Analog Tuner	Yes (Trinorma)
	MHP / MHEG / HbbTV / ACAP / GINGA / OHTV	GINGA(UY)
Connectivity	HDMI	3
	USB	2
	Component In (Y/Pb/Pr)	1
	Composite In (AV)	1 (Common Use for Component Y)
	Ethernet (LAN)	Yes
	Headphone	No
	Audio Out (Mini Jack)	Yes
	Digital Audio Out (Optical)	1
	PC In (D-sub)	N/A
	PC/DVI Audio In (Mini Jack)	N/A

2. Product specifications

Item		UN**H5500AGXPR
Connectivity	RF In (Terrestrial / Cable input)	1/1/0
	Ex-Link (RS-232C)	No
	IR Out	No
	CI Slot	No
	Scart	No
	MHL CE 3.0	N/A
	One Connect (Jack)	N/A
	WiFi Direct	Yes
	MHL	N/A
	Dongle Ready (3G / LTE)	No
	HDMI 1.4 3D Auto Setting	N/A
	HDMI 1.4 A/Return Ch. Support	Yes
	InstaPort S (HDMI quick switch)	N/A
	Wireless LAN Adapter Support	N/A
	Wireless LAN Built-in	Yes
	Anynet+ (HDMI-CEC)	Yes
Design	Design	RHCM
	Bezel Type	VNB
	Slim Type	Slim 1
	Front Color	Black
	Light Effect (Deco)	N/A
	Stand Type	Square Mold
	Swivel (Left/Right)	N/A
	Camera Type	N/A
Additional Feature	Samsung 3D	N/A
	3D Converter	N/A
	Instant On	N/A
	N-KIT	N/A
	Quad Core+	No
	Accessibility	ZOOM
	Digital Clean View	Yes
	Auto Channel Search	Yes
	Auto Power Off	Yes
	Clock&On/Off Timer	Yes

Item		UN**H5500AGXPR
Additional Feature	Sleep Timer	Yes
	BD Wise Plus	N/A
	Caption (Subtitle)	Yes
	ConnectShare™ (USB 2.0)	Movie
	AC/DC TV	N/A
	Sports Mode	Advanced (w/ Soccer Panel)
	Screen Capture	N/A
	Sound Capture	N/A
	Embedded POP	Yes
	EPG	Yes
	Extended PVR	Yes
	Game Mode	Yes
	History	Yes
	Multiroom Compatible	No
	OSD Language	Local Languages
	Picture-In-Picture	Yes
	USB HID Support	Yes
	Smart Evolution Support	N/A
	TV SoundConnect	N/A
	Teletext (TTXT)	No
	Time Shift	Yes
	Analog Clean View	No
	Triple Protector	No
	GUI	Golden Bridge
Eco Feature	Eco Mark	Planet First
	Eco Label	N/A
	Eco Sensor	Yes
	Energy Efficiency Class	N/A
Accessory	3D Active Glasses (Included)	N/A
	Remote Controller Model	TM1250A
	Batteries (for Remote Control)	Yes
	Samsung Smart Touch Control (Included)	N/A
	Electric Stand Support	N/A
	Electric Wall Mount Support	N/A
	Ultra Slim Wall Mount Supported	N/A

2. Product specifications


Item		UN**H5500AGXPR
Accessory	Mini Wall Mount Supported	Yes
	Vesa Wall Mount Supported	Yes
	Floor Stand Support	N/A
	TV Camera (Included)	N/A
	IR Extender Cable (Included)	No
	Network Speaker (Included)	N/A
	Wireless Keyboard (Included)	N/A
	Wireless LAN Adaptor (Included)	N/A
	User Manual	Yes
	E-Manual	Yes
	ANT-Cable	No
	Power Cable	Yes
	Slim Gender Cable	N/A

2-2-2. Specifications

■ Specifications


Model	UN**H5500AG		
Item	Description		
Screen Size (Diagonal)	32 inches	40 inches	48 inches
LCD Panel	FHD 60Hz		
Display Colors	16.7M color		
Display Resolution	1,920 x 1,080		
Input Signal	Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated		
Input Sync Signal	H/V Separate, TTL, P. or N.		
Maximum Pixel Clock Rate	74.25MHz		
AC Power Voltage & Frequency	AC 110 V ~ 120 V, 60 Hz		
Environmental Considerations	Operating Temperature: 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity: 10% ~ 80%, non-condensing Storage Temperature: -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity: 5% ~ 95%, non-condensing		
Sound (Output)	20W (10W X 2)		

2-3. Accessories

 **NOTE**

- The items' colors and shapes may vary depending on the model.
- Cables not included in the package contents can be purchased separately.
- The part code for some accessories may differ depending on your region.

Product	Code. No	Product	Code. No
• Remote Control	BN59-01178K	• Power Cord	3903-000851
• Batteries (AAA x 2)	4301-000121	• User Manual	BN68-05853B

Image	Product	Code. No
	• Holder-Wire Stand	BN61-08370A

3. Disassembly and Reassembly

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


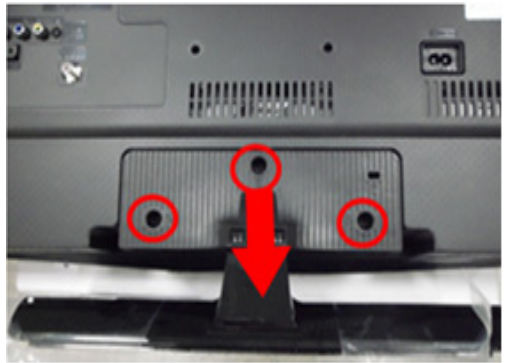



This LED TV contains electrostatically sensitive devices. Use caution when handling these components.



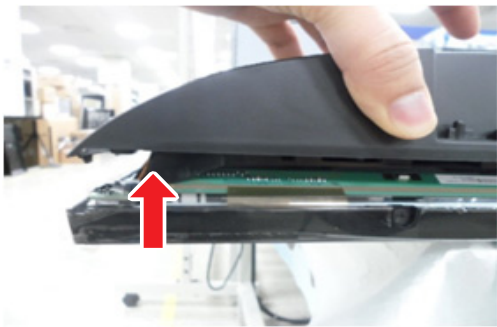
3-1. Disassembly and Reassembly

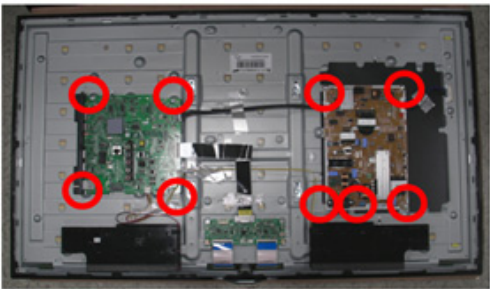




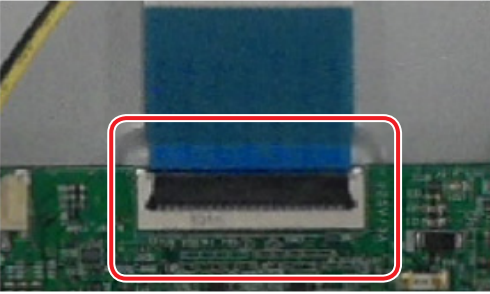
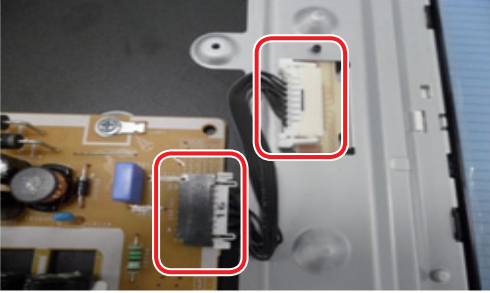


1. Disconnect the LED TV from the power source before disassembly.
2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.
3. If there is no additional coment, it is same for all inches.

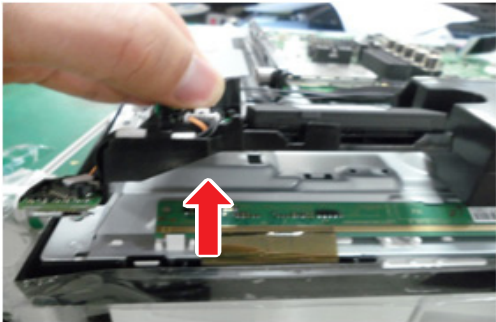
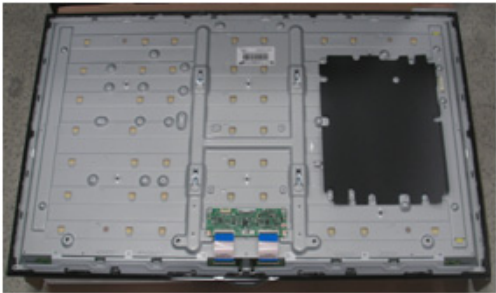
Description	Picture Description	Screws
1 Place TV face down on cushioned table.		
2 Remove screws from the Stand and Remove Stand. <ul style="list-style-type: none">– 32" : 3ea– 40"/48"/50" : 4ea		<div><div>Torque : 9~ 10Kgf.cm</div><div>6003-001782</div></div>

3. Disassembly and Reassemble

Description	Picture Description	Screws
<div>3</div> <div>Remove screws of Rear Cover.</div> <div><div>– 32" : 12ea</div><div>– 40" : 16ea</div><div>– 48" : 18ea</div><div>– 50" : 20ea</div></div>		<div><div>Torque : 9~ 10Kgf.cm</div></div> <div>6003-001782</div> <div><div>Torque : 7~ 8Kgf.cm</div></div> <div>6003-002755</div>
<div>4</div> <div>Remove the Rear-Cover.</div>		

Description	Picture Description	Screws
5 Remove 9 screws of Main Board and Power Board.		<div><div>Torque : 7~ 8Kgf.cm</div><div>6001-003016</div></div>
6 Remove the Speakers and Power Cables.	  	
7 Remove the LVDS Cable and Panel Drive Cable.	 	

3. Disassembly and Reassemble

Description	Picture Description	Screws
8 Remove the function		
9 Completed disassembly.		


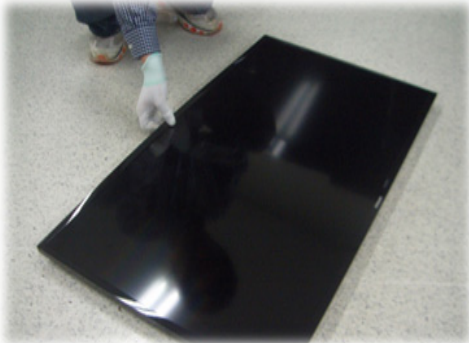



NOTE

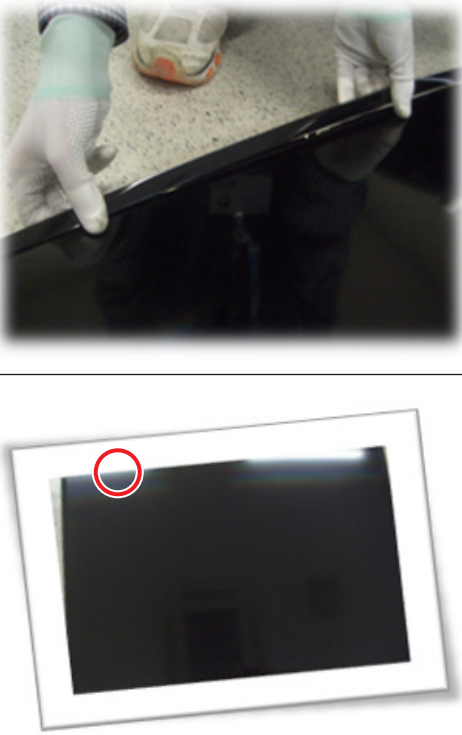
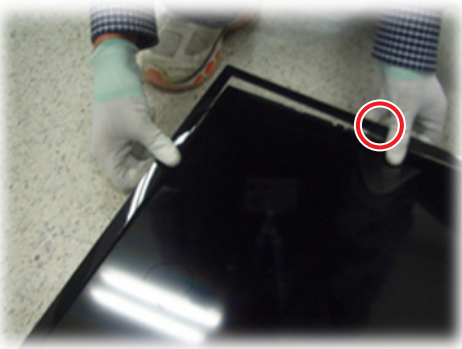
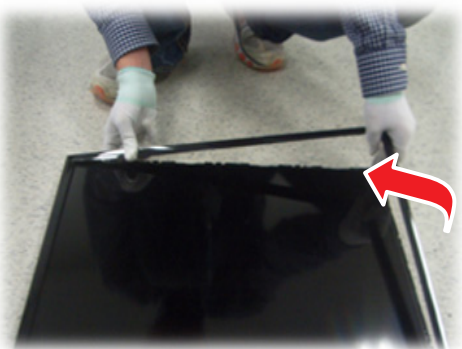
Reassembly procedures are in the reverse order of disassembly procedures.





3-2. Disassembly(PTC)

■ How to disassembly

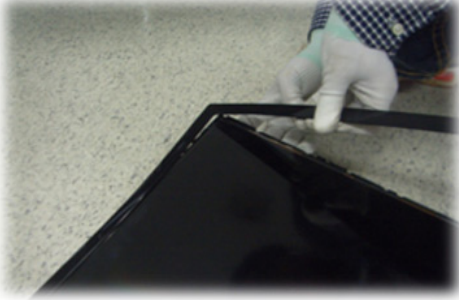
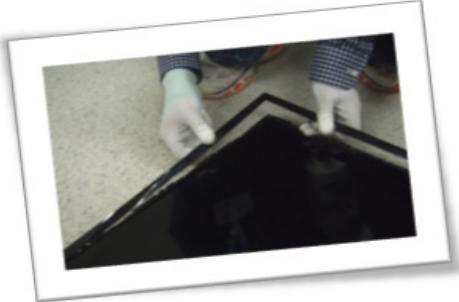
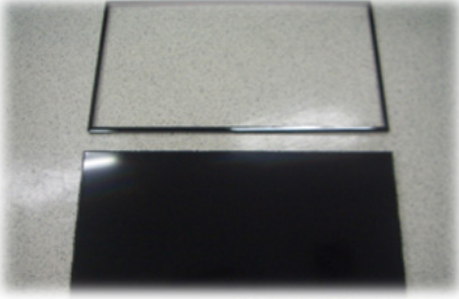

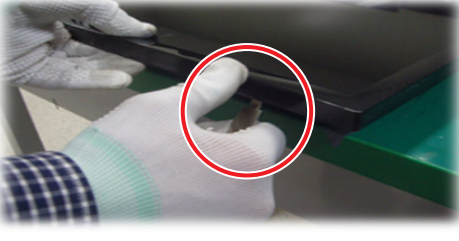
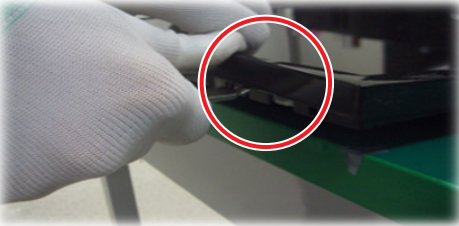
Description	Picture Description	Refer
1 Place TV face up on cushioned table.		
2 Products at the top of the central TOP-CHASSIS is rotated by 45 degrees outward and pulls.		
		


3. Disassembly and Reassemble

Description	Picture Description	Refer
3 Pull in the same way from the center of the top.		
4 Pull the left part of the product as shown while holding the raised portion on figure 3.		
5 Pull the bottom part of the product as figure 2 while holding the raised portion on figure 4.		

Description	Picture Description	Refer
<div data-bbox="177 286 686 342">6 As shown in the picture, Lift the bottom of the TOP-CHASSIS.</div>		
		
<div data-bbox="177 1075 691 1131">7 Pull the products at the bottom of the right side of the chassis.</div>		
		

3. Disassembly and Reassemble

Description	Picture Description	Refer
8 Lift the bottom of the chassis with one hand and holding the bottom of the product after you pull the right side of the product chassis.		
		
9 Disassembly is complete.		
<div> CAUTION To use JIG : Does not lift the chassis by hand, JIG using the lift.</div>		
		

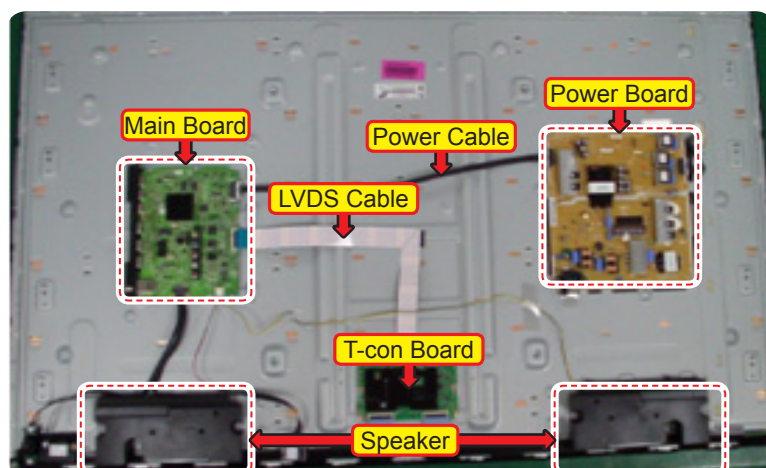
 **NOTE**
Reassembly procedures are in the reverse order of disassembly procedures.

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.



3. How to distinguish if the problem is caused by **Main Board** or **T CON**

- No Video

If the problem is No Video but BLU is on and Indication LED is blinking repeatedly and faster than normal booting, replace the T-CON board.

- Distorted Picture

Check the inner patterns.

- For All mode

X12	FOX_FT1 FRC Post	Picture	Problem
OK	OK	NG	Main Board or Signal Source
NG	OK	NG	Main Board
NG	NG	NG	Main Board or LVDS cable or T CON or Panel

- Only for HDMI mode (additional check)

HDMI	Picture	Problem
OK	NG	There is no problems after HDMI IC check HDMI source or HDMI jack.
NG	NG	There is no problems before HDMI IC check X12 pattern or LVDS cable or T CON

■ How to check inner pattern?

1. Enter the service mode → Choose 'SVC' → Check the 'internal pattern.'

2. Enter 'Service Mode.'

- If you do not have Factory remote control



- If you have Factory remote control



3. Choose 'SVC → Test pattern'.



4. Check inner patterns.

4-2. How to Check Fault Symptom

4-2-1. NO Power

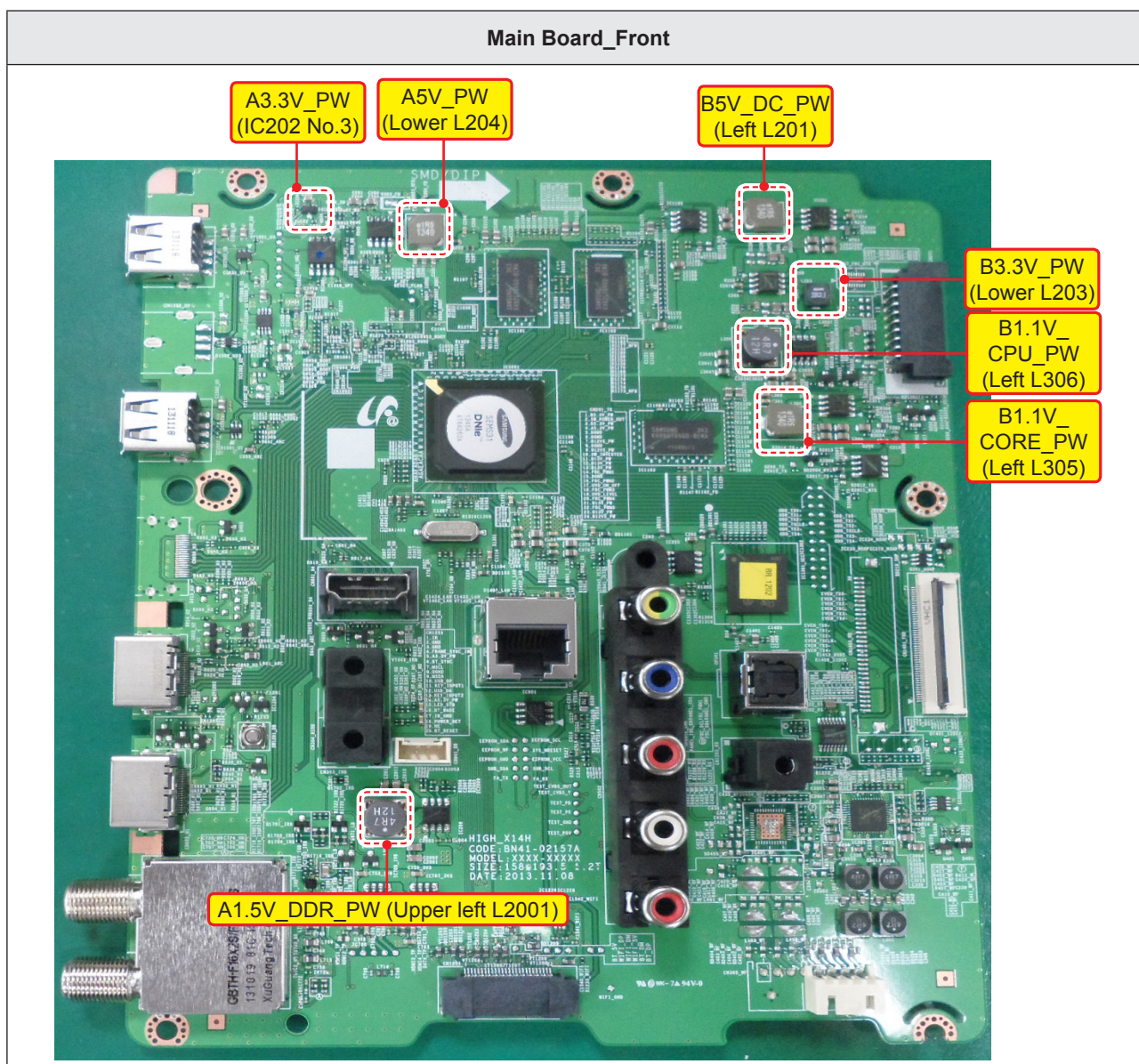

Note

Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

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 units appears to be dead.
Major checkpoints	<p>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:</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 voltage of SMPS. Replace the Main Board.
Diagnostics	<pre> graph TD Q1[Power indicator LED is on?] -- No --> A1[Check the power cord connection.] Q1 -- Yes --> Q2[Check the backlight on, when 18 PIN cable unconnected ?] Q2 -- No --> A2[Change 18p cable. Change Main Power Ass'y.] Q2 -- Yes --> Q3[Check 'Stand-By 5V' ? L204 : A5.3V] Q3 -- No --> A2 Q3 -- Yes --> Q4[Check 'Power input of Main Ass'y' ? - BD201/206/209/214 : A13V] Q4 -- No --> A2 Q4 -- Yes --> Q5[Check 'Power IC output of Main Ass'y' ? - IC202 : A3.3V - L305/306 : B1.1V / L201 : B5V - L203 : B3.3V / L2001 : A1.5V] Q5 -- No --> A3[Change the Main Ass'y.] Q5 -- Yes --> Q6[Check Input power of 'T CON Board' ? - F1(T CON) : B13V] Q6 -- No --> A4[Reconnect or Change. the LVDS cable.] Q6 -- Yes --> Q7[Check Power of 'T CON Board'. - BD1(T CON) : Panel_12V - B1.1V(T CON-TP) : FT1_1.1V_PW] Q7 -- No --> A5[Change the T CON Board.] </pre>

Diagnostics	<div>↓ Yes ↓</div> <div>Please, Contact tech support.</div>
Caution	Make sure to disconnect the power before working on the IP Board.

■ Location of Parts



4-3. Factory Mode Adjustments

4-3-1. Detail Factory Option



NOTE

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

■ UN**H5500AGXPR

Inches		32"	40"	48"
PANEL	Vendor	SDC SDC	SDC	SDC
	Code	BN95-01325B BN95-01325F	BN95-01316B	BN95-01317B
	Spec.	GH032BGLV2H GH032BGLV5H	GH040BGLV2V	GH048BGLV2V
SMPS BOARD	Vendor	SEM	SEM	SEM
	Code	BN44-00697A	BN44-00703A	BN44-00703A
	Spec.	L32SF_ESM	L48S1_ESM	L48S1_ESM
MAIN BOARD	Chassis Ass'y	BN91-12238S	BN91-12238F	BN91-12238K
	PBA Ass'y	BN94-07227S	BN94-07227F	BN94-07227K
Byte	Item			
0	Factory Reset	-		
1	Type	32A6AF0V 32A6AF2V	40A6AF0V	48A6AF0V
2	Local set	PAR_DTV		
3	SW Model	H5500		
4	BOM Model	5500		
5	Tuner	ISDB-T		
6	Ch table	NONE		

4-3-2. Entering Factory Mode

o 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 menus.

Option	T-MST14AKUC-xxxx (T-MST14UABC-xxxx : AG***)
Control	T-MST14AKUS-xxxx
Debug	BT Version : xxxx
SVC	E-Manual : xxxx
ADC/WB	Camera Version : xxxx
Advanced	Blaster Version : xxxx
	EDID SUCCESS
	CALIB : AV/COMP/PC/HDMI/
	Option : xxxx,xxxx,5500,NONE
	SDAL-X14H-MAIN-xxxx-xxxx
	RFS : "X14 00xx" KER/2 201x-xx-xx
	KERNEL : 6.0867, D / Onboot :xxxx.x
	Backend[x] Panel[x]
	FW[x] Data[x]
	TCON Version : xxxx
	Model : UNxxH5500
	Wired MAC SUCCESS
	Wireless MAC SUCCESS
	WIFI : ATH6KL(5.0.0.69.0518)
	DRM : Crt O, Nf O, Wv O, Hc O, Dc O, Mx O, MI O
	Factory Data Ver : 109
	EERC Version : 14
	DTP-BP-HAL-4326-01-Hijack
	DTP-BP-MW-4326-01
	DTP-BP-APP-4326-01
	Date of purchase : mm/dd/yyyy

4-3-3. Factory Data

■ Option

Factory Menu Name	Data	Range
Factory Reset	-	
Type	32A6AF0V/40A6AF0V/46A6AF0V	
Local Set	US	
SW Model	UH5500	
BOM Model	5500	
TUNER	S_TC	NORTH AMERICA : S_TC, LATIN AMERICA : S_ISDB BRAZIL : S_ISDB
Ch Table	NONE	
MRT Option		
Front Color		U-T-CL-M63
LVDS FORMAT	JEIDA	
Language_Arabic	US	
Region	USA	
PnP Language	ENG_US	
WIFI REGION	D	
OTN Support	ON	
OTA Support	OFF	
TTX	OFF	
China HD	OFF	
NT Conversion	OFF	
Num of DTV DECODER	1	
Num of AV	1	
Num of COMP	1	
Num of HDMI	3	
Num of SCART	0	
Num of USB Port	2	
Num of USB 3.0	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	

Factory Menu Name	Data	Range
BD Wise Support	OFF	
Data Service Support	OFF	
JAVA Data Service Support	OFF	
PVR Support	ON	
CI Support	OFF	
LEDMotionPlus Support	OFF	
Natural Mode Support	ON	
Relax Mode Support	OFF	
HDMI/DVI SEL	4	
Select LCD/PDP	LCD	
Wall Mount	OFF	
HV Flip		HV Flip / H Filp / OFF
Light Effect	OFF	
e-Pop Default	ON	
CAMERA Support	OFF	
NETWORK Support	Int-Wifi	
EcoSensor Support	ON	
3D Support	ON	
BT Support	ON	
BT ADDRESS		
HP LINE	LineOut	
Smart Control Support	ON	
Motion Recog	ON	
Voice Recog	ON	
Virtual Remocon Color	Black	
Local Dimming Panel	OFF	
Wifi Vendor	QCA	
Engineer Option		
Type Of PANEL KEY	None	
5 Way Function Key	R BACK	
Contents Bar	OFF	
Cable Modulation	QAM	
Standby led on/off	OFF	
Recognition Support	ON	
IF AGC	0	
D AGC	0	
PH BW	0	

4. Troubleshooting

Factory Menu Name	Data	Range
FQ BW	0	
PH RATE	0	
PD EN	0	
PEQ Inx		
WF Scale		
WF Type	0	
Number of Network Stream	1	
DP V Size	0	
Backend Device		
BT_AUDIO_ON_OFF	OFF	
Config_AV_PATH		
USING_PSI_UPDATE	-	
ECO Standby	OFF	
Fast Logo Delay	0	
Num of PANEL KEY	6	
Panel Detail	0	
Panel Init Time	250	

■ Control

Factory Menu Name	Data	Range
EDID		
EDID ON/OFF	OFF	
EDID WRITE ALL	...	
EDID WRITE HDMI	...	
EDID Ver	...	
EDID Port		
Sub Option		
RS-232 Jack	UART	Debug/UART
Serial Log On/Off	ON	
Watchdog	OFF	
Checksum	0x0000	
Fast Boot in Production	OFF	
UART Enable	OFF	
Eeprom Reset		
ECO IC TYPE	MC8121	
Info Link Server Type	development	
Info Link Country	None	

Factory Menu Name	Data	Range
TTX Group	UserOSD	
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	0	
RF Remocon Support	OFF	
CDD mode	-	
DPMS Support	OFF	
Num of IPTV CIP	0	
Num of CI	0	
T-CON Device		
BOARD CONTROL	OFF	
RM		
Server Type	Operating	
RTS Mode	OFF	
PSA		
FKP Download1	0	
FKP Download2	0	
LMK threshold	0	
Low threshold	10	
High threshold	15	
CSB	ON	
CLB	ON	
EEPG Enable	0	

4. Troubleshooting

Factory Menu Name	Data	Range
Last Screen	OFF	
App Resume	ON	
BP RMS Reset	1	
Fanet Thread	2	
User InstantOn Default Value	OFF	
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	0x0Ah	

Factory Menu Name	Data	Range
SPDIF PCM Gain	-9dB	
FM M Prescale	0x30h	
FM Prescale	0x00h	
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	0x20h	
Pilot Level Low Thld	0x0Fh	
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	NTP7414	
Amp Volume	0xc5h	
Amp Scale	0x9ah	
Amp Check Sum	0x1C199E11	
Woofer Type	0	
Woofer Volume	0xcbh	
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	
SRS Tuning Parm	0	
Subwoofer Support	0	
India Sound	OFF	
AudioDock BT delay	50	
Wall Filter Type	0	
Bottom CheckSum	0	

4. Troubleshooting

Factory Menu Name	Data	Range
Bottom Local CheckSum	0	
Lipsync Inx	2	
Lipsync CheckSum	OK:0x9631	
Lipsync USB Test	Ready	
LipSync BT CheckSum	OK:0x696A	

■ Debug

Factory Menu Name	Data	Range
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	OFF	
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	0x0	
A CTRL_OFFSET_D	0x0	
B CTRL_OFFSET_0_3	0x0	
B CTRL_OFFSET_D	0x0	
ND ADJ Support	OFF	
MICOM POWER OFF	OFF	
RF Mute Time	6ms	

Factory Menu Name	Data	Range
CI+1.3	OFF	
FRC		
FRC FDISPLAY ON/OFF	0	
3D FDISPLAY ON/OFF	OFF	
PC Mode ON/OFF	OFF	
Home Panel FRC	OFF	
DDR Test	0	
Tuner Margin	10	
MPEG Margin	100	
H.264 Margin	100	
CAM Wait Time		
TS Clock deldy	0	
TCON_TEMP READ	0	
TEMP LAST	60	
DCC VERSION	0x0	
DCC CHK SEL	0	
DCC CHECK LOCAL	0x0	
DCC CHECK TOTAL	0x0	
MultACC 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		

4. Troubleshooting

Factory Menu Name	Data	Range
PLL Type		
DEMODO Type		
TPS Lock		
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

Factory Menu Name	Data	Range
Self Diagnosis	-	
Loop Back		
AV Audio Test		

Factory Menu Name	Data	Range
DVIN Audio Test		
CVBS Test		
COMP Test		
USB HUB Test		
HDMI Test		
SCART Audio Test		
SCART CVBS Test		
SCART RGB Test		
PC Audio Test		
PC Self 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		
EcoSensor		
BT		
EXT Sound Inspection		
Woofer Sound Inspection	NONE	
ATV CH Inspection		
DTV CH Inspection		
Satellite CH Inspection		
Info		
SVC Info	0	
LOG(View Log)		
ER Count		
Panel Display Time		

4. Troubleshooting

Factory Menu Name	Data	Range
Upgrade		
T-CON Usb Download	Failure	
T-CON CheckSum	N/A	
Logic Usb D/L	...	
SUBMICOM UPGRADE	Ready	
BT UPGRADE		
BT FREPAIRING	ON	
Function Upgrade	Failure	
FRC3D FW Upgrade		
FRC3D LD UPGRADE	Failure	
Camera Upgrade		
Mic Upgrade		
CPLD USB Download		
JP MICOM UPGRADE	Failure	
DP MICOM UPGRADE	Failure	
Jump Upgrade	Failure	
IR Blaster Upgrade		
CPLD Download		
LDC Profile Upgrade	0	
Pic Data USB Update	0	
Audio Data USB Update	0	
Eco Data USB Update	0	
Reset		
Smart Hub Reset	0	
EEPROM Rst	0	
Factory Rst	0	
OPTION_HDMI		
DVI/HDMI SOUND	Auto	
HDMI HOT PLUG	Disable	
HOTPLUG SWITCHING	Boot	
HOT PLUG DURATION	1200ms	
CLK TERM DURATION	1200ms	
HDMI FLT CNT SIG	100ms	
HDMI FLT CNT LOS	100ms	
UNSTABLE BAN CNT	5000ms	
HDMI ROBIN	ON	
HDMI Callback	OFF	

Factory Menu Name	Data	Range
HDMI CTS THLD	8	
HDMI CTS Cnt1	1	
HDMI EQ	AUTO	
HDMI Write Type	Combine	
HDMI Switch	NONE	
DVI SET TIME	300ms	
HDMI Sync	DE	
HDMI 3D DET	0	
HOT PLUG OFF HOLD TIME		
HDMI Stable Count	1	
DVB CI		
TS Clock delay TC	0	
TS Clock delay S	0	
CI Control Buf On	ON	
TS Clock delay CPU	-1	
Test Pattern		
Pattern Sel	OFF	
Logic Pattern Sel	0	
Logic Level Sel		
FRC Pre Test Pattern	0	
FRC Post Test Pattern	0	
SOC TCON Test Pattern	0	
SOC TCON Pattern Level	255	
SOC TCON FRC Pattern	0	
HDMI WB Pattern	OFF	
HDMI Pattern Sel	0	
Parma Pre Test Pattern	0	
Parma Post Test Pattern	0	
FRC OSD Pre Pattern	0	
FRC OSD Post Pattern	0	
Other Setting		
Delete S/N	0	
IPERF	Stopped	
Expert		
CAL Data Backup	...	
CaL Data Restore		
ATV IF AGC SPEED	0	

4. Troubleshooting

Factory Menu Name	Data	Range
Auto Power	LAST POWER	
SVC Panel	ORIGINAL	

■ ADC/WB

Factory Menu Name	Data	Range
ADC	-	
AV Calibration	/	
Comp Calibraion	/	
PC Calibration	/	
HDMI Calibration	/	
ADC Result		
1st_Y_GH	0	
1st_Y_GL	0	
1st_Cb_BH	0	
1st_Cb_BL	0	
1st_Cr_RH	0	
1st_Cr_RL	0	
2nd_R_L	134	
2nd_G_L	134	
2nd_B_L	134	
2nd_R_H	49	
2nd_G_H	49	
2nd_B_H	49	
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	

Factory Menu Name	Data	Range
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	...	
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	...	
MGA On/Off	OFF	
R1_Gain	...	
B1_Gain	...	
G1_Gain	...	

4. Troubleshooting

Factory Menu Name	Data	Range
R2_Gain	...	
B2_Gain	...	
G2_Gain	...	
R3_Gain	...	
B3_Gain	...	
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

4-4-1. Calibration

1. Into the Factory Mode.
2. Select **ADC/WB** menu.
3. Select **ADC** menu.

ADC / WB

AV Calibration
Comp Calibration
HDMI Calibration

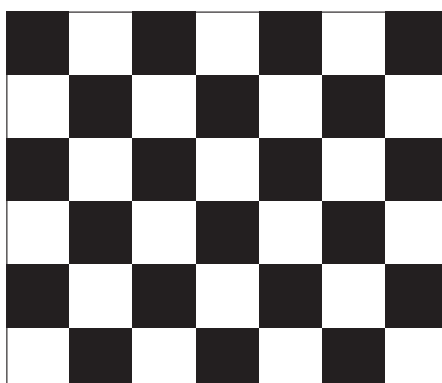
4-4-2. Service Adjustment

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

■ Color Calibration

- Adjust Specification

Source	Setting Mode	Pattern	Use Equipment
HDMI	1280 x 720@60 Hz	Pattern #24 (Chess Pattern)	CA210 & Master MSPG925 Generator



(Chess Pattern)

- 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
HDMI IN	Perform in 720p B&W Pattern #24	Lattice

Method of Color Calibration (AV)

1. Apply the NTSC Lattice (N0. 3) pattern signal to the AV IN 1 port.
2. Press the Source key to switch to "AV1" mode.
3. Enter Service mode.
4. Select the "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. Adjustment

1. Into the Factory Mode.
2. Select **ADC/WB** menu.
3. Select **White Balance** menu.

		(Low Light)	(Hight Light)
ADC/WB	White Balance	Sub Brightness R offset G offset B offset	Sub Contrast R gain G gain B gain

4-5. White Ratio (Balance) Adjustment

1. You can adjust the white ratio in factory mode (1:Calibration, 3:White-Balance).
2. 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.
3. 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
 - Alternate Equipment : CA200& anyone Master supported pattern#92(refer to right photo)
 - Use other Equipment only after comparing the result with that of the Master equipment.
 - Set Aging time : 60 min



Calibration and Manual setting for WB adjustment

- HDMI : Calibration at #24 Chessboard Pattern Manual adjustment at #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)



Note

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

White Balance Manual adjustment

Type
LED_LOW

RGB Measurement		
Levels	Code	Check
10 IRE	0x01	O
20 IRE	0x02	O
30 IRE	0x03	X
40 IRE	0x04	O
50 IRE	0x05	X
60 IRE	0x06	X
70 IRE	0x07	O
80 IRE	0x08	X
90 IRE	0x09	X
100 IRE	0x0A	O

Panel Inspection Spec.				
Levels	Check	x(±)	y(±)	Gamma(±)
10 IRE	O	0.020	0.020	0.35
20 IRE	O	0.020	0.020	0.35
30 IRE	O	0.020	0.020	0.35
40 IRE	O	0.020	0.020	0.35
50 IRE	O	0.020	0.020	0.35
60 IRE	O	0.020	0.020	NA
70 IRE	O	0.020	0.020	NA
80 IRE	O	0.020	0.020	NA
90 IRE	O	0.020	0.020	NA
100 IRE	O	NA	NA	NA

Gray Check			Adjust Spec(xyL)			2nd Adjust Spec(xyL)		
Levels	Code	Check	x(±)	y(±)	L(±)	x(±)	y(±)	L(±)
10 IRE	0x01	X	0.007	0.007	0.11	0.007	0.007	0.11
20 IRE	0x02	O	0.007	0.007	0.08	0.007	0.007	0.08
30 IRE	0x03	X	0.007	0.007	0.06	0.007	0.007	0.06
40 IRE	0x04	O	0.005	0.005	0.05	0.005	0.005	0.05
50 IRE	0x05	X	0.005	0.005	0.04	0.005	0.005	0.04
60 IRE	0x06	X	0.005	0.005	0.03	0.005	0.005	0.03
70 IRE	0x07	O	0.004	0.004	0.02	0.004	0.004	0.02
80 IRE	0x08	X	0.004	0.004	0.01	0.004	0.004	0.01
90 IRE	0x09	X	0.004	0.004	0.01	0.004	0.004	0.01
100 IRE	0x0A	X	NA	NA	NA	NA	NA	NA

Target Gamma		2.30	
Black	x	y	Contrast
	0.231	0.208	300000
Target xy	Option	x	y
	Auto	0.282	0.299

Panel Spec.		±	
Gamma	2.2	0.30	20~128
x	0.281	0.030	255
y	0.288	0.030	
ACC x	255 white	0.015	26~255
ACC y	x,y value	0.015	

Color Tone Target			Spec.	
High	x	y	x(±)	y(±)
COOL	0.274	0.286	0.004	0.004
NORMAL	0.293	0.307		
WARM2	0.328	0.353		
Low	x	y	x(±)	y(±)
COOL	NA	NA	NA	NA
NORMAL	NA	NA		
WARM2	NA	NA		

10IRE Gamma target	2.30
RetryCount	3

4-6. 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.



4-6-1. 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.

4-6-2. 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.

4-6-3. Alternative Software (Backup)

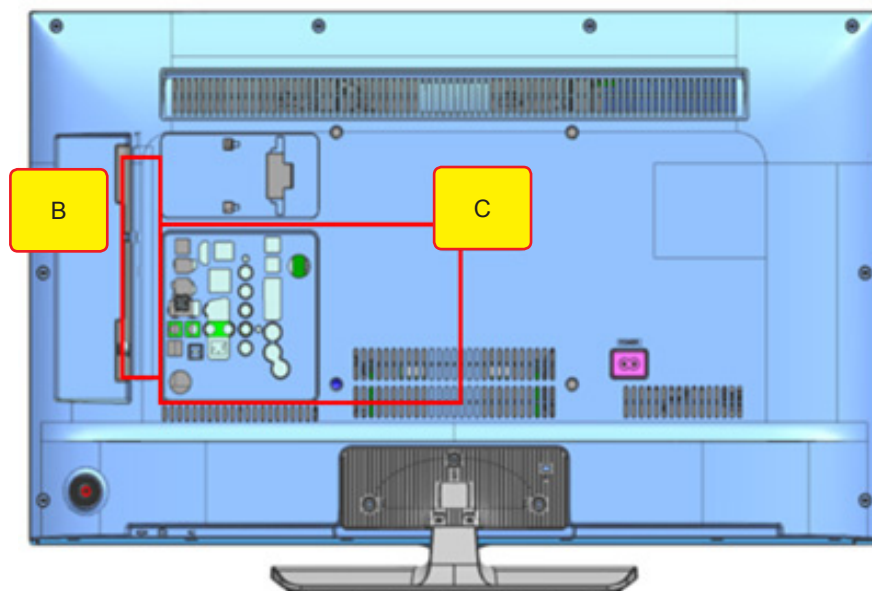
If there is an issue with the new firmware and it is affecting operation, you can change the software to the previous

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

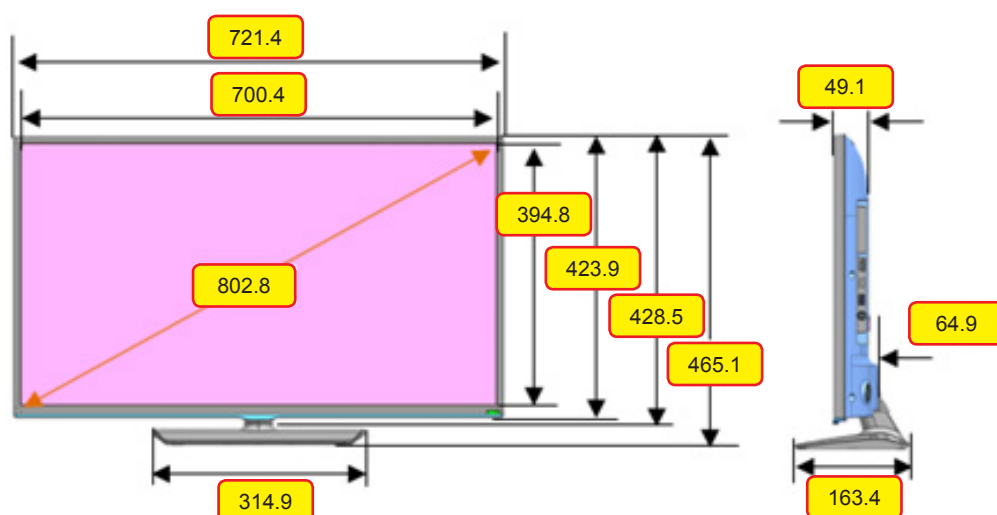
4-7. 5500 Dimension

■ UN**H5500AG

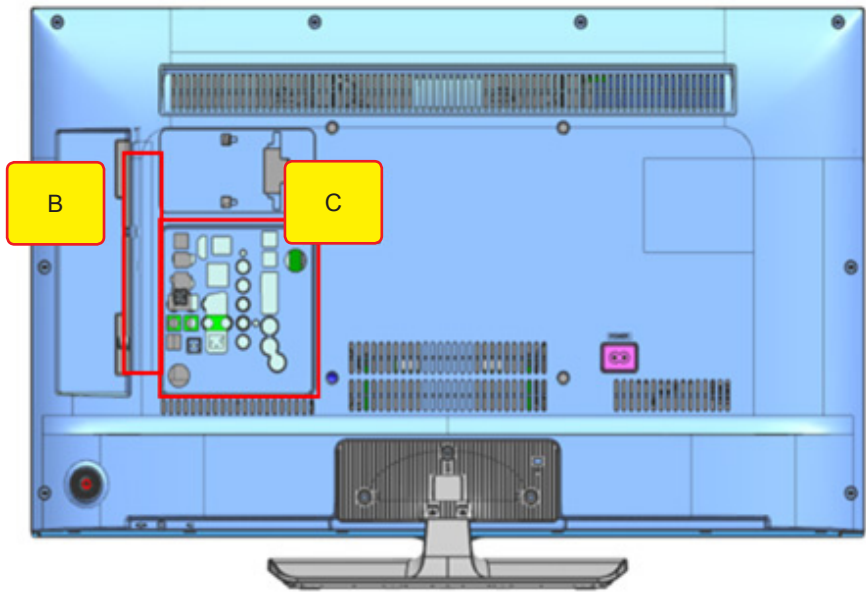
32 inches



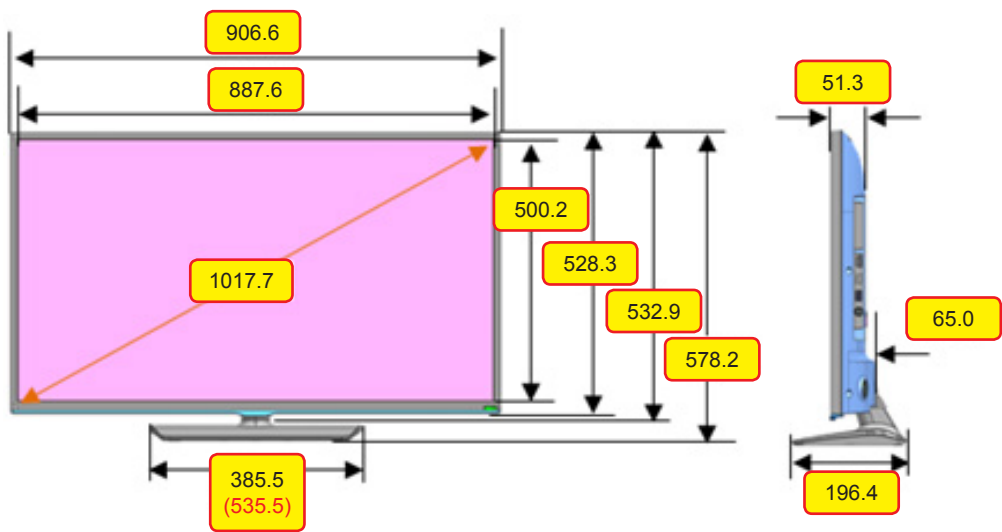
Item		32"
SET Size (with Stand, W * H * D)		721.4 * 465.1 * 163.4
SET (without Stand, W * H * D)		721.4 * 428.5 * 64.9
Opening Size (W * H, Diagonal)		700.4 * 394.8 * 802.8
Wall Mount		200 * 200
Packing Size (W * H * D)	W / W	899.0 * 486.0 * 108.0
NET (SET) Weight (with stand)		5.38 kg
NET (SET) Weight (without stand)		5.00 kg
Gross Weight (After Packing)		6.55 kg



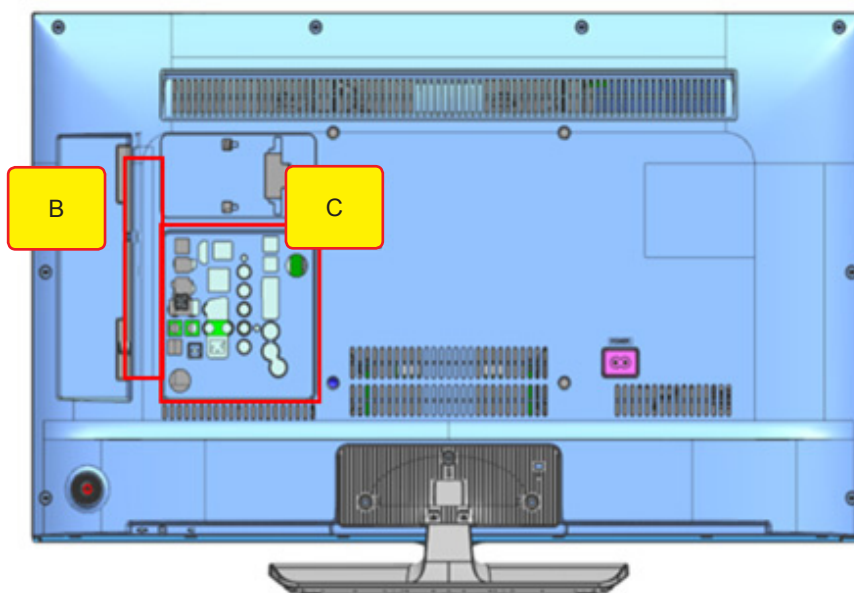
40 inches



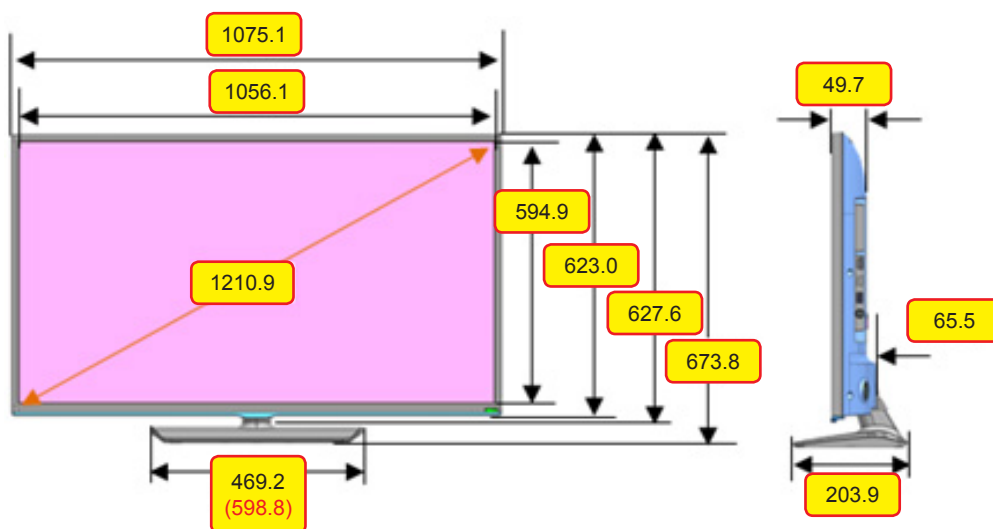
Item		40"
SET Size (with Stand, W * H * D)		906.6 * 578.2 * 196.4
SET (without Stand, W * H * D)		906.6 * 532.9 * 65.2
Opening Size (W * H, Diagonal)		887.6 * 500.2 * 1017.7
Wall Mount		200 * 200
Packing Size (W * H * D)	W / W	1100.0 * 600.0 * 120.0
	KR	1042.0 * 600.0 * 120.0
NET (SET) Weight (with stand)		8.25 kg (8.5 kg)
NET (SET) Weight (without stand)		7.5 kg
Gross Weight (After Packing)	W / W	9.8 kg (10.1 kg)
	KR	9.3 kg



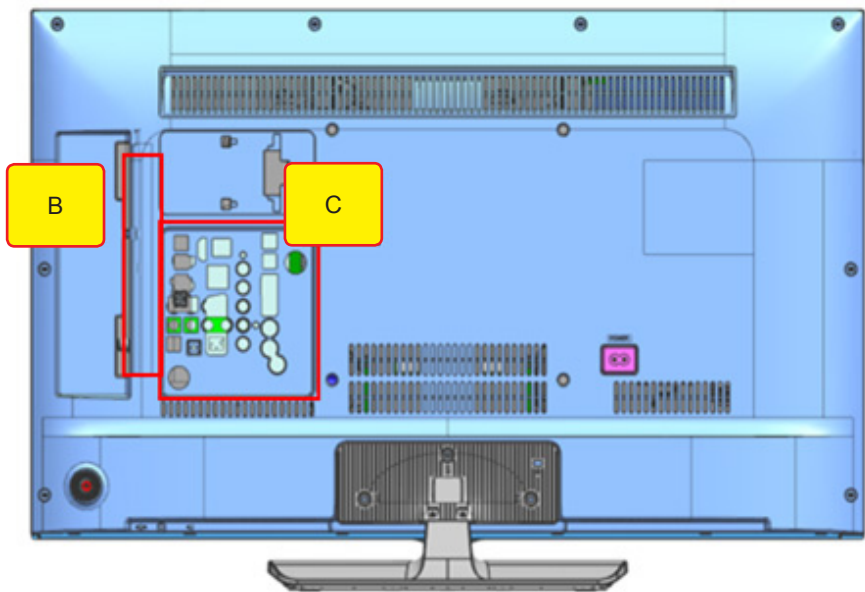
48 inches



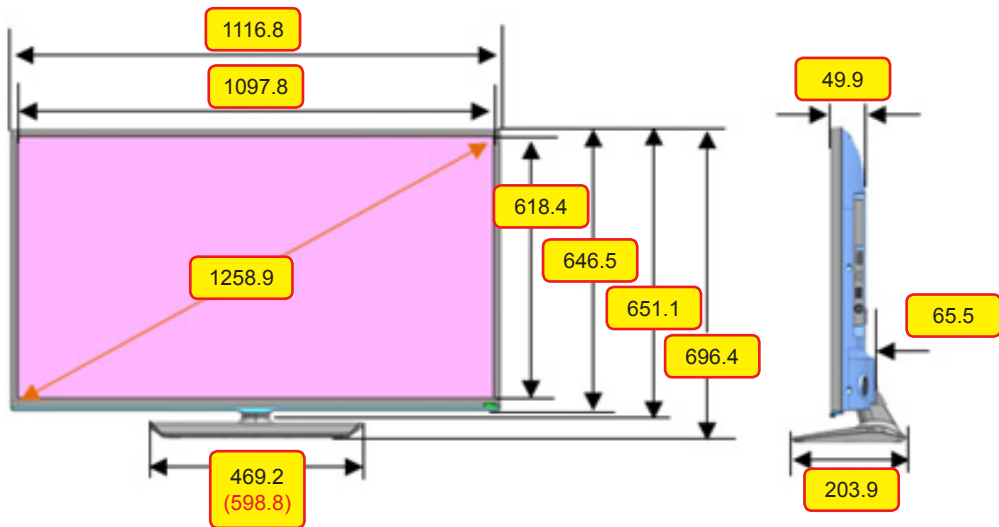
Item		46"
SET Size (with Stand, W * H * D)		1075.1 * 673.8 * 203.9
SET (without Stand, W * H * D)		1075.1 * 627.6 * 65.5
Opening Size (W * H, Diagonal)		1056.1 * 594.9 * 1210.9
Wall Mount		400 * 400
Packing Size (W * H * D)	W / W	1215.0 * 706.0 * 133.0
NET (SET) Weight (with stand)		11.9 kg (12.2 kg)
NET (SET) Weight (without stand)		11.2 kg
Gross Weight (After Packing)	W / W	15.2 kg (15.5 kg)
	KR	14.1 kg



50 inches

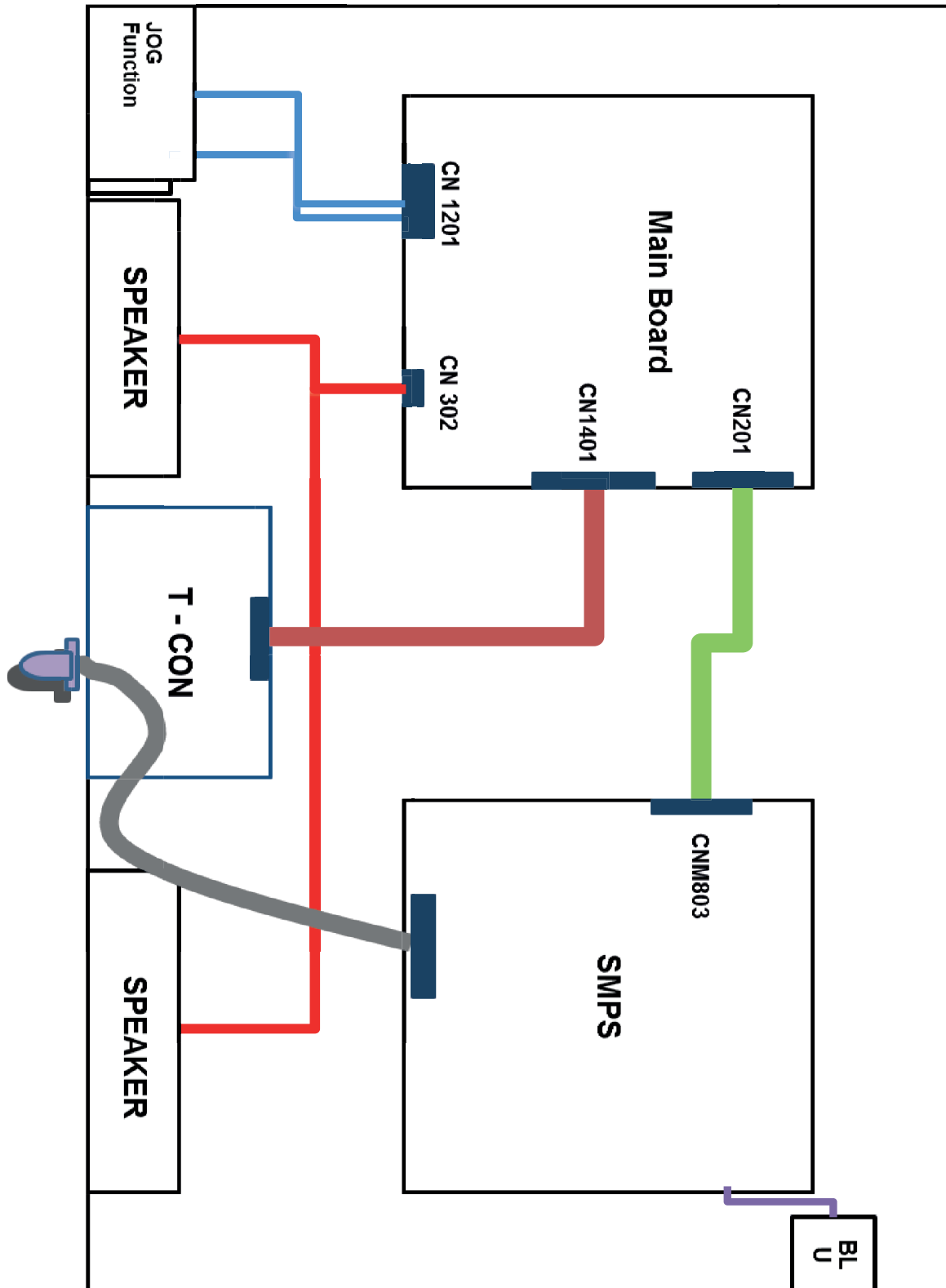


Item		50"
SET Size (with Stand, W * H * D)		1116.8 * 696.4 * 203.9
SET (without Stand, W * H * D)		1116.8 * 651.1 * 65.7
Opening Size (W * H, Diagonal)		1097.8 * 618.4 * 1258.9
Wall Mount		400 * 400
Packing Size (W * H * D)	W / W	1320 * 738 * 135
	KR	1265 * 738 * 135
NET (SET) Weight (with stand)		13.5 kg (13.64 kg)
NET (SET) Weight (without stand)		12.88 kg
Gross Weight (After Packing)	W / W	16.6 kg (16.75 kg)
	KR	15.8 kg

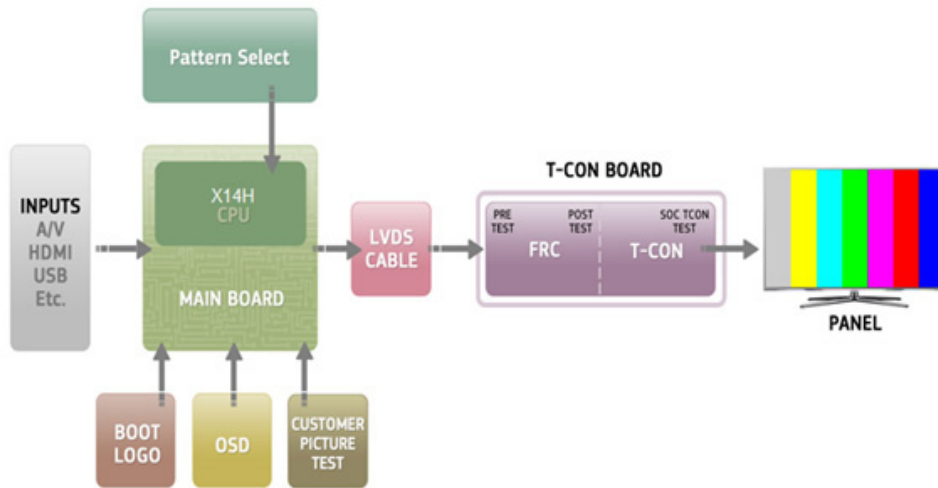


5. Wiring Diagram

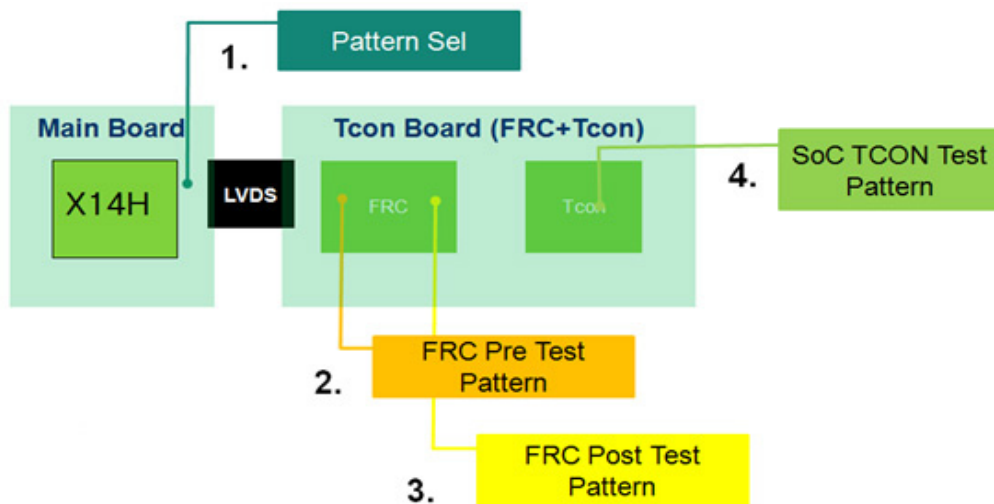
5-1. Wiring Diagram



■ 2014 LED Signal Path for Troubleshooting

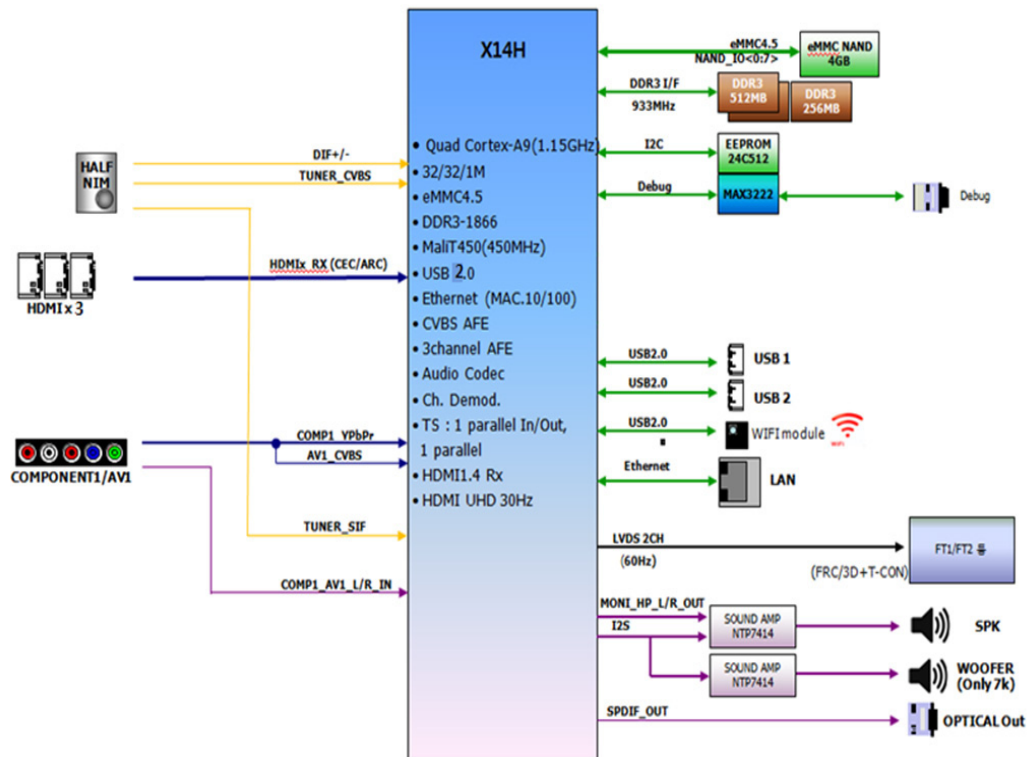


■ CHECK TEST PATTERNS

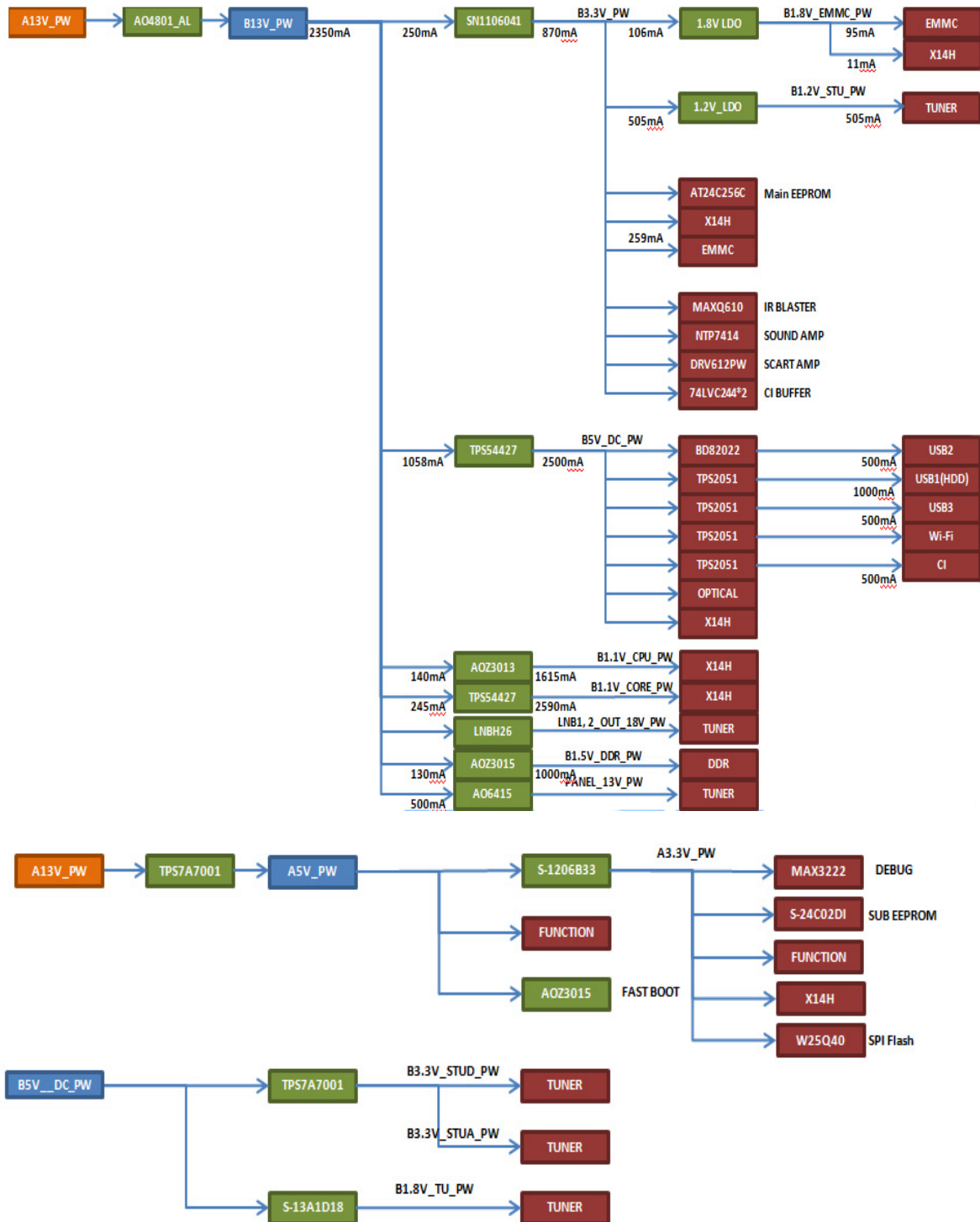


- 1. Verify "Pattern Sel"
- 2. Verify "FRC Pre Test Pattern"
- 3. Verify "FRC Post Test Pattern"
- 4. Verify "SoC TCON Test Pattern"

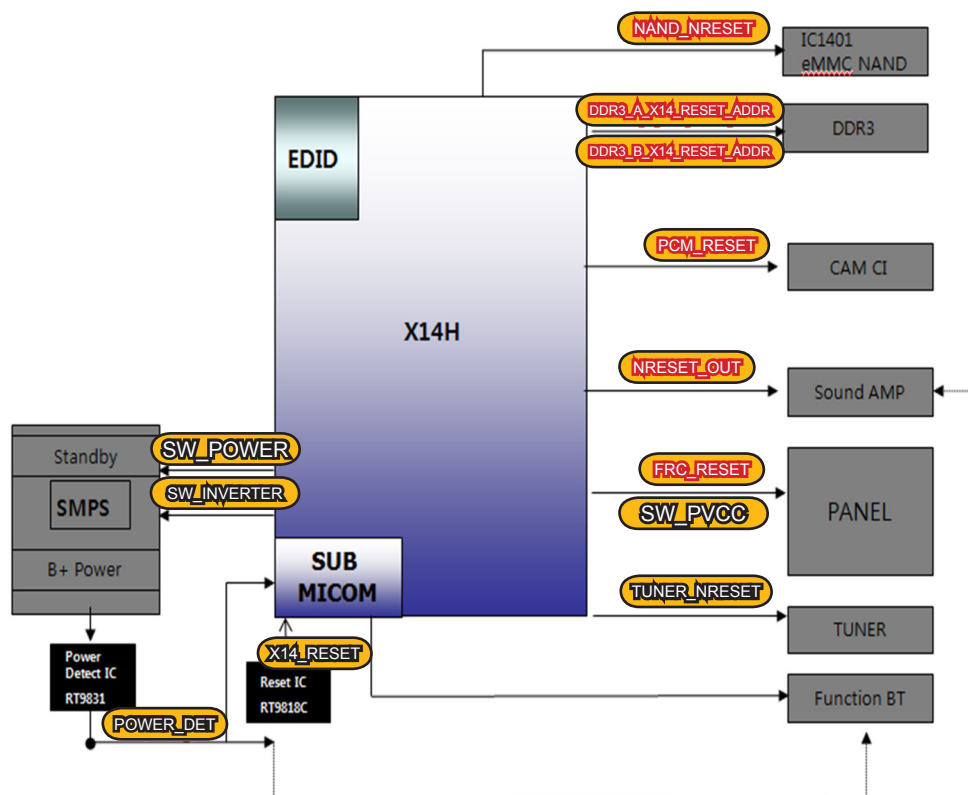
■ X14H Block - Diagram



■ X14H Power tee

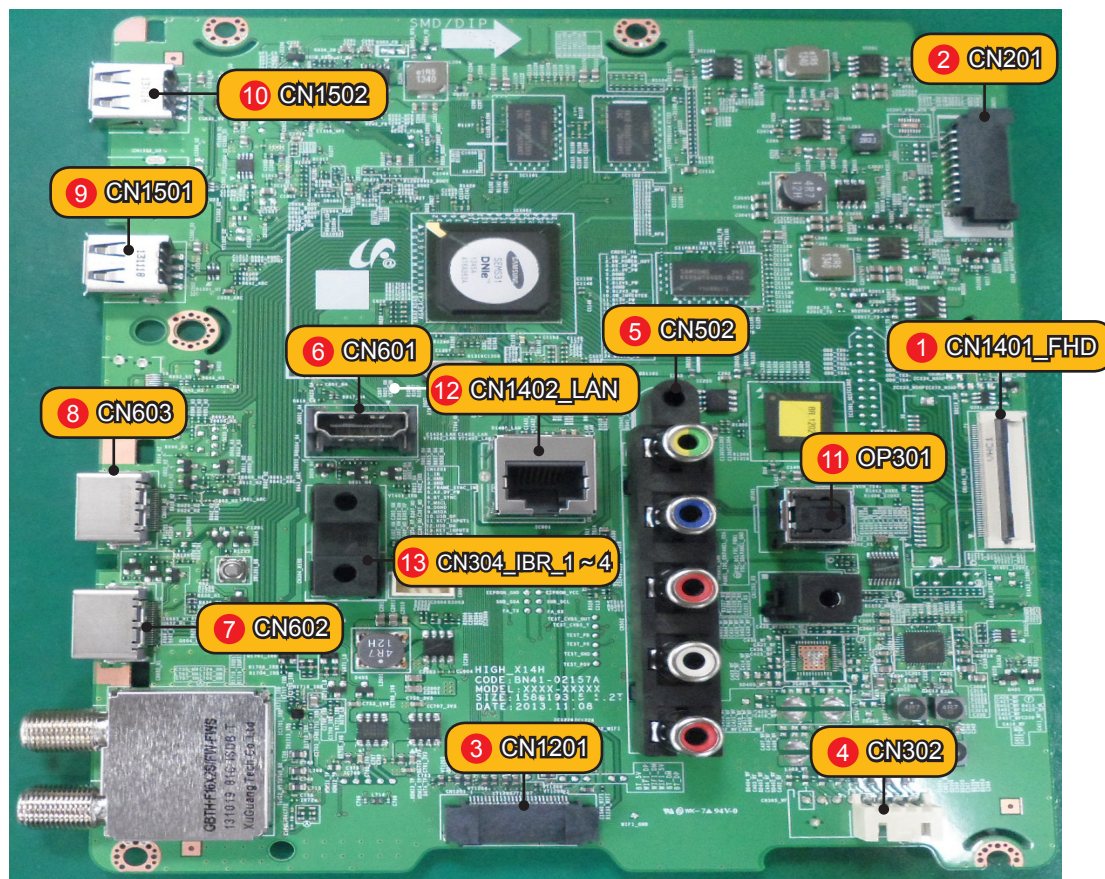


■ X14H RESET Tree



5-2. Connector

■ Main Board



① CN1401_FHD

1	NC	16	EVEN_TX3+
2	GND	17	EVEN_TX3-
3	FRC_SDA	18	GND
4	FRC_PWM1	19	EVEN_TXCLK-
5	FRC_SCL	20	EVEN_TXCLK+
6	FRC_PWM3	21	GND
7	FRC_PWM2	22	EVEN_TX2+
8	TCON_SDA	23	EVEN_TX2-
9	PANEL_I2C_EN	24	EVEN_TX1+
10	BT_SYNC	25	EVEN_TX1-
11	UPDATE_CHK	26	EVEN_TX0+
12	TCON_SCL	27	EVEN_TX0-
13	GND	28	GND
14	EVEN_TX4+	29	ODD_TX4+
15	EVEN_TX4-	30	ODD_TX4-

① CN1401_FHD

31	ODD_TX3+	42	ODD_TX0-
32	ODD_TX3-	43	GND
33	GND	44	GND
34	ODD_TXCLK+	45	GND
35	ODD_TXCLK-	46	FRC_PWM4
36	GND	47	PANEL_13V_PW
37	ODD_TX2+	48	PANEL_13V_PW
38	ODD_TX2-	49	PANEL_13V_PW
39	ODD_TX1+	50	PANEL_13V_PW
40	ODD_TX1-	51	PANEL_13V_PW
41	ODD_TX0+		

② CN201 (to Powr board)

1	A13V_PW	10	SW_INVERTER
2	A13V_PW	11	A13V_PW
3	GND	12	OVD_LEVEL
4	GND	13	A13V_PW
5	A13V_PW	14	OVD_ON_OFF
6	GND	15	GND
7	A13V_PW	16	FRC_PWM1
8	SW_POWER_OUT	17	FRC_PWM2
9	A13V_PW	18	FRC_PWM3

③ CN1201 (to Function/IR)

1	IR	14	A5V
2	GND	15	LED_STB
3	GND	16	BT_WAKE
4	FRAME_SYNC_IN	17	GND
5	A3.3V	18	POWER_DET
6	BT_SYNC	19	NC
7	MSCL	20	BT_RESET
8	GND	21	GND
9	MSDA	22	WIFI_DP
10	USB_BT_DP	23	WIFI_DM
11	KEY_INPUT1	24	B5V_DC_PW
12	USB_BT_DM	25	WIFI_WOL
13	KEY_INPUT2	26	WIFI_RESET

④ CN302 (to Speaker)

1	R+	3	L+
2	R-	4	L-

⑤ CN502 (to Component&AV)

1	GND	9	TEST_PR
2	COMP2_Y_CVBS	10	GND
3	INDENT_VIEDO2	11	COMP2_AV2_SL_IN
4	GND	12	TEST_SL
5	COMP2_PB	13	GND
6	INDENT_COMP2	14	COMP2_AV2_SR_IN
7	GND	15	TEST_SR
8	COMP2_PR		

⑥ CN601 (to HDMI3)

1	HDMI1_RX2+	11	GND
2	GND	12	HDMI1_RXCLK-
3	HDMI1_RX2-	13	CEC
4	HDMI1_RX1+	14	NC
5	GND	15	HDMI1_SCL_DDC
6	HDMI1_RX1-	16	HDMI1_SDA_DDC
7	HDMI1_RX0+	17	GND
8	GND	18	HDMI1_5V
9	HDMI1_RX0-	19	HDMI1_HOT_PLUG
10	HDMI1_RXCLK+		

⑦ CN602 (to HDMI1)

1	HDMI2_RX2+	11	GND
2	GND	12	HDMI2_RXCLK-
3	HDMI2_RX2-	13	CEC
4	HDMI2_RX1+	14	ARC2_SIGLE
5	GND	15	HDMI2_SCL_DDC
6	HDMI2_RX1-	16	HDMI2_SDA_DDC
7	HDMI2_RX0+	17	GND
8	GND	18	HDMI2_5V
9	HDMI2_RX0-	19	HDMI2_HOT_PLUG
10	HDMI2_RXCLK+		

⑧ CN603 (to HDMI2)

1	HDMI3_RX2+	11	GND
2	GND	12	HDMI3_RXCLK-
3	HDMI3_RX2-	13	CEC
4	HDMI3_RX1+	14	NC
5	GND	15	HDMI3_SCL_DDC
6	HDMI3_RX1-	16	HDMI3_SDA_DDC
7	HDMI3_RX0+	17	GND
8	GND	18	HDMI3_5V
9	HDMI3_RX0-	19	HDMI3_HOT_PLUG
10	HDMI3_RXCLK+		

⑨ CN1501 (USB1)

1	B5V_USB1_PW	3	USB1_DP
2	USB1_DM	4	GND

5. Wiring Diagram

⑩ CN1502 (USB2)

1	B5V_USB2_PW	3	USB2_DP
2	USB2_DM	4	GND

⑪ OP301 (to Optical Jack)

1	SPDIF_OUT	3	GND
2	B5V_DC_PW		

⑫ CN1402_LAN

1	LAN_TXD+	5	B2.5V
2	B2.5V	6	LAN_RXD-
3	LAN_TXD-	7	NC
4	LAN_RXD+	8	GND

⑬ CN304_IBR_ 1~14

1	GND	8	GND
2	HP_LINE_SL_OUT	9	IRB
3	HP_LINE_SR_OUT	10	IRB
4	TEST_SL	11	NC
5	TEST_SR	12	NC
6	IDENT_HP	13	IPR_JACK_ID
7	GND	14	GND

5-3. Connector Functions

Connector	Function
CN201 ↔ CNM803	Supply main power and dimming signal from IP Board to Main Board.
CN1401 ↔ CON3	The LVDS signal transfered from Main Board to Panel.