



UHD TV

Chassis : U8GA

Model : UE55HU7500L
UE65HU7500L

SERVICE Manual

UHD TV



UE**HU7500L

Contents

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

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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

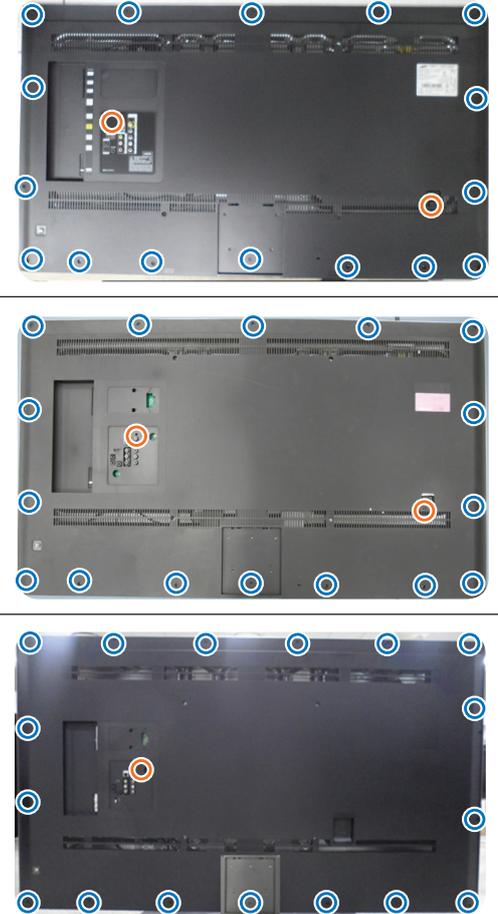


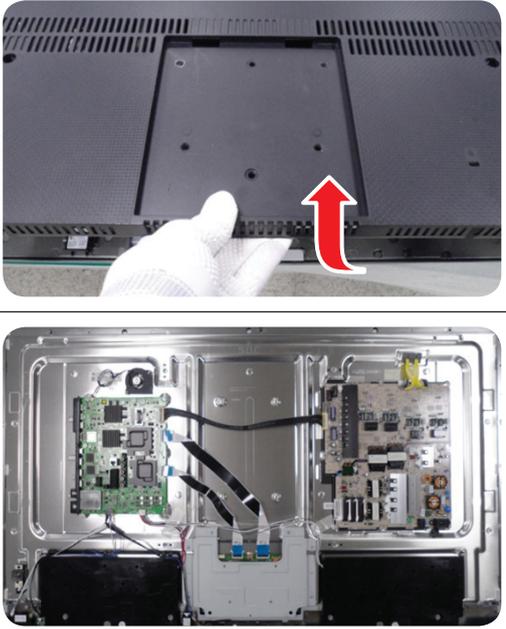
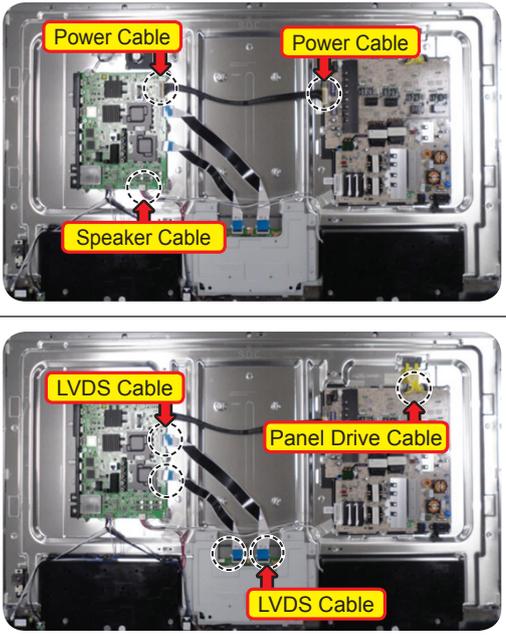
1. Disconnect the LED TV from the power source before disassembly.
2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.
3. If there is no additional coment, it is same for all inches.

3-1-1. Set Disassembly

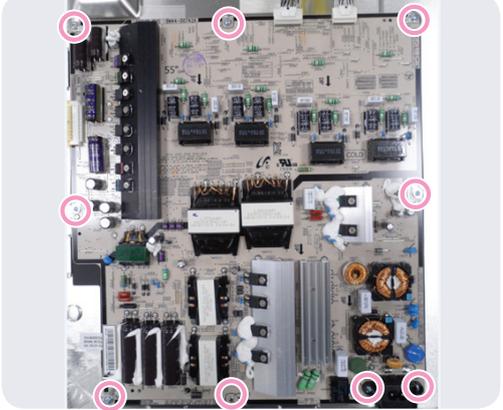
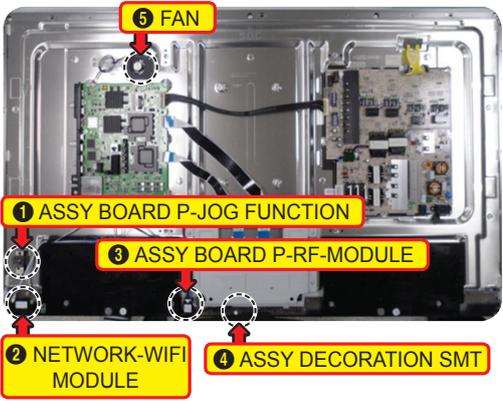
Description	Picture Description	Screws
<p>1 Place TV face down on cushioned table.</p>		
<p>2 Remove 4 screws from the ASSY GUIDE P-STAND.</p>		<p>Torque : 7~8Kgf.cm</p> <p>BN61-09494B</p>

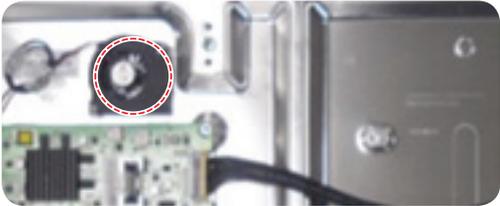
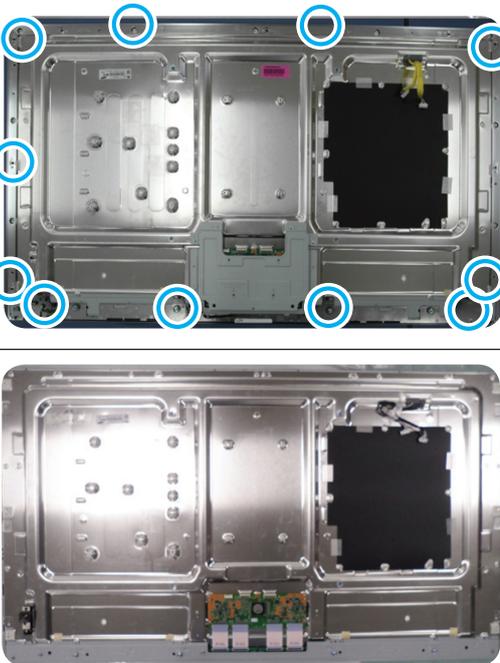
3. Disassembly and Reassemble

Description	Picture Description	Screws
<p>3 Remove the ASSY STAND P-BASE.</p>		
<p>4 Remove screws from the ASSY COVER P-REAR.</p> <ul style="list-style-type: none"> • 50 inches : 16EA / 2EA • 55 inches : 16EA / 2EA • 65 inches : 18EA / 1EA 		<p>Torque : 4~5Kgf.cm</p>  <p>6001-002755</p> <p>Torque : 4~5Kgf.cm</p>  <p>6003-001782</p>

Description	Picture Description	Screws
<p>5 Lift up and remove the ASSY COVER P-REAR.</p> <p>! CAUTION Becareful when you lift up the ASSY COVER P-REAR, It's really sharp.</p>		
<p>6 Remove the all cable.</p>		
<p>7 Remove the ASSY SPEAKER P (L/R).</p>		

3. Disassembly and Reassemble

Description	Picture Description	Screws
<p>8 Remove screws from the ASSY PCB MAIN.</p> <ul style="list-style-type: none"> • 50 inches : 5EA • 55 inches : 5EA • 65 inches : 5EA 		<p>Torque : 7~8Kgf.cm</p>  <p>6001-003016</p>
<p>9 Remove screws from the DC VSS-LED TV PD BD.</p> <ul style="list-style-type: none"> • 50 inches : 9EA • 55 inches : 5EA • 65 inches : 5EA 		<p>Torque : 7~8Kgf.cm</p>  <p>6001-003016</p>
<p>10 Remove the screws and cables.</p> <p>① ASSY BOARD P-JOG FUNCTION, ② NETWORK-WIFI MODULE, ③ ASSY BOARD P-RF-MODULE, ④ ASSY DECORATION SMT, ⑤ FAN</p> <ul style="list-style-type: none"> • ① ASSY BOARD P-JOG FUNCTION <ul style="list-style-type: none"> - Remove the screw and cable. 	 	<p>Torque : 7~8Kgf.cm</p>  <p>6001-003016</p>

Description	Picture Description	Screws
<ul style="list-style-type: none"> 2 NETWORK-WIFI MODULE <ul style="list-style-type: none"> Remove the cable. 		
<ul style="list-style-type: none"> 3 ASSY BOARD P-RF-MODULE <ul style="list-style-type: none"> Remove the cable. 		
<ul style="list-style-type: none"> 4 ASSY DECORATION SMT <ul style="list-style-type: none"> Remove the cable. 		
<ul style="list-style-type: none"> 5 FAN <ul style="list-style-type: none"> Remove the screws. 		
<p>11 Remove screws from the Middle COVER.</p> <ul style="list-style-type: none"> 50 inches : 8EA 55 inches : 8EA 65 inches : 8EA <ul style="list-style-type: none"> Remove the Middle COVER. 		<p>Torque : 6~7Kgf.cm</p>  <p>6001-002996</p>

 **NOTE**

Reassembly procedures are in the reverse order of disassembly procedures.

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.

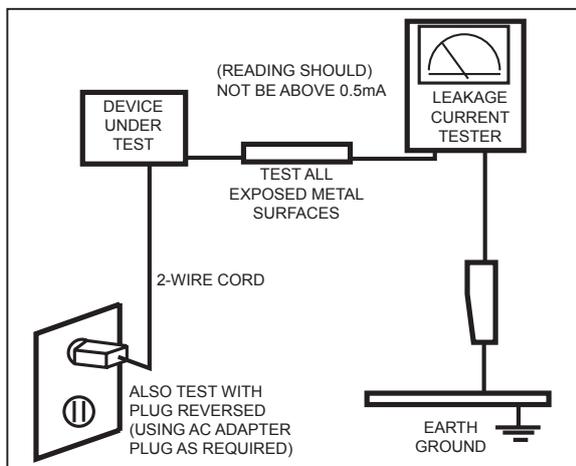
1-1-2. Servicing the LED TV

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 safety-related 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

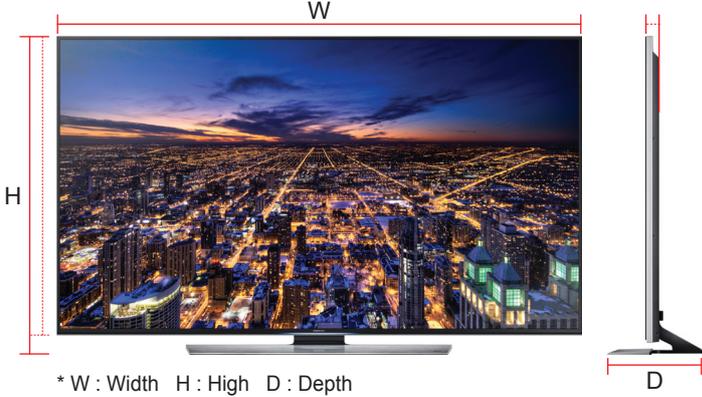
1. For safety reasons, more than a people are required for carrying the product.
2. Keep the power cord away from any heat emitting devices, as a melted covering may cause fire or electric shock.
3. Do not place the product in areas with poor ventilation such as a bookshelf or closet. The increased internal 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	UE**HU7500L		
Front View	 <p>* W : Width H : High D : Depth</p>		
Detail View			
Color	Front Color : BLACK / Stand Color : BLACK+SILVER		
Dimensions (W x H x D)	55"	Without Stand	1228.2 x 705.8 x 35.2 mm
		With Stand	1228.2 x 745.9 x 269.9 mm
	65"	Without Stand	1449.3 x 833.4 x 36.4 mm
		With Stand	1449.3 x 873.5 x 294.9 mm
Weight	55"	Without Stand	17.8 kg
		With Stand	21.1 kg
	65"	Without Stand	24.6 kg
		With Stand	28.4 kg
Panel Type	UHD Ultra Clear Panel		
Internal Memory	Flash 8G		
DDR	Golf-AP 514MB x 4, Golf-MP 256MB+128MB, Golf-US 128MB x 6		

2-2. Product specification

2-2-1. Detailed Specifications


NOTE

Design and specifications are subject to change without prior notice.

Item		UE**HU7500LXXH
General Information	Product	LED
	Series	8
	Country	HUNGARY
Display	Inch	55"/65"
	Resolution	3,840 x 2,160
	Ultra Clear Panel	Yes
Video	Picture Engine	Quadmatic
	Clear Motion Rate	1000
	Micro Dimming	Micro Dimming Pro
	Precision Black (Local Dimming)	Yes
	Wide Color Enhancer (Plus)	Yes
	Wide Color Gamut	N/A
	Color Accuracy	N/A
	Auto Depth Enhancer	N/A
	Film Mode	Yes
Audio	Dolby MS10 / MS110	MS11
	DTS Studio Sound / DNSe+	DTS Studio Sound
	DTS Premium Sound / DTS Premium Sound 5.1	DTS Premium Sound 5.1
	3D Sound	Yes
	Auto Volume Leveler	Yes
	Sound Customizer	No
	Sound Output (RMS)	60W (Front TW(10W+10W) + Front Mid (10W+10W) + Woofer (10W+10W))
	Speaker Type	Front Firing + New Waveguide
	Woofer	Yes
	HD Audio	N/A
Smart TV	Smart Hub	Yes
	Samsung SMART TV	Yes
	On TV	Yes (15 European Countries)
	Movies & TV Shows	Yes (9 European Countries)
	Multimedia	Yes
	Apps	Yes
	Game	Yes(FR,ES)

	Item	UE**HU7500LXXH
Smart TV	Fitness	Yes
	Kids	Yes
	Multi-Screen (Dual / Quad Screen)	Quad
	Skype™ on Samsung TV	Ready
	Web Browser	Yes
Smart Interaction	Voice Interaction	Yes
	Voice Control	Yes
	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	Yes(FR)
	Easy Pin pairing	Yes
Tuner/Broadcasting	Twin Tuner	Yes
	CI/CI+/2CI+	CI+(1.3)2CI Ready(One connect)
	DTV Tuner	2xDVB-T/C/S2
	Analog Tuner	Yes
	MHP / MHEG / HbbTV / ACAP / GINGA / OHTV	HbbTV(ES,PT,FR,BE,NL,LU)
Connectivity	HDMI	4 (HDMI 2.0 / HDCP2.2)
	USB	3
	Component In (Y/Pb/Pr)	1
	Composite In (AV)	1 (Common Use for Component Y)
	Ethernet (LAN)	Yes
	Headphone	Yes
	Digital Audio Out (Optical)	1
	RF In (Terrestrial / Cable input)	1/1(Common Use for Terrestrial)/2
	Ex-Link (RS-232C)	No
	IR Out	Yes
	CI Slot	1
	Scart	1
	MHL CE 3.0	N/A
	One Connect (Jack)	Yes
	WiFi Direct	Yes
	HDMI 1.4 3D Auto Setting	Yes
	HDMI 1.4 A/Return Ch. Support	Yes
	InstaPort S (HDMI quick switch)	N/A

2. Product specifications

	Item	UE**HU7500LXXH
Connectivity	Wireless LAN Adapter Support	N/A
	Wireless LAN Built-in	Yes
	Anynet+ (HDMI-CEC)	Yes
Design	Design	Flat T-shape
	Bezel Type	VNB (7mm)
	Front Color	Black
	Light Effect (Deco)	Yes
	Stand Type	T-Shape
	Swivel (Left/Right)	No
Additional Feature	Samsung 3D	Yes
	3D Converter	Yes
	Instant On	Yes
	Quad Core+	No
	Accessibility	TTS(EU 12 Countries)/Zoom
	Auto Power Off	Yes
	Clock&On/Off Timer	Yes
	Sleep Timer	Yes
	BD Wise Plus	Yes
	Caption (Subtitle)	Yes
	Channel List USB-Clone	Yes
	ConnectShare™ (USB 2.0)	Movie
	Football Mode	Advanced
	Embedded POP	Yes
	EPG	Yes
	PVR Ready	Yes
	Game Mode	Yes
	Multiroom Compatible	N/A
	OSD Language	27 European Languages
	Picture-In-Picture	Yes
	BT HID Built-in	Yes
	USB HID Support	Yes
	Smart Evolution Support	Yes
	TV SoundConnect	Yes
	Teletext (TTXT)	Yes
	Time Shift	Yes
Eco Feature	Eco Sensor	Yes
	Energy Efficiency Class	B
	Mercury Content	0.0mg

Item		UE**HU7500LXXH
Eco Feature	Lead Presence	Yes
Accessory	3D Active Glasses (Included)	SSG-5100GB x 2
	Remote Controller Model	TM1480A, TM1240A
	Batteries (for Remote Control)	Yes
	Samsung Smart Touch Control (Included)	Yes
	Ultra Slim Wall Mount Supported	No
	Mini Wall Mount Supported	Yes
	Vesa Wall Mount Supported	Yes
	Floor Stand Support	Yes
	TV Camera (Included)	N/A
	IR Extender Cable (Included)	Yes
	Wireless Keyboard (Included)	No
	Wireless LAN Adaptor (Included)	No
	User Manual	Yes
	E-Manual	Yes
	Power Cable	Yes
Slim Gender Cable	N/A	

2-2-2. Feature & Specifications

■ Feature

- Digital-TV, RF, 4-HDMI, 1-Component, 1-A/V(1 Common Use for Component Y), 1-USB3.0, 2-USB2.0, Headphone

■ Specifications

Model	UE55HU7500L	UE65HU7500L
Item	Description	
Screen Size (Diagonal)	55 inches	65 inches
LCD Panel	UHD 120Hz	
Scanning Frequency	Horizontal : 270KHz (TYP) Vertical : 120Hz (TYP)	
Display Colors	16.7M (True Display) / 1.07B (Dithered 10bit)	
Display Resolution	3840 X 2160	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω, internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock Rate	74.25MHz	
AC Power Voltage & Frequency	AC220-240V 50/60Hz	
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)	60W Front TW (10W + 10W) + Front Mid (10W + 10W) + Woofer (10W + 10W)	
Note : 3D, MOIP, Media Bridge, Allshare, Internet TV, Built-in WiFi, Full Browser, Bluetooth		

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.
- The provided accessories may vary depending on the model.

Product	Code. No	Product	Code. No
• Samsung Smart Control	BN59-01181B	• Samsung 3D Active Glasses	BN96-27418A
• Batteries (AA x 2)	4301-000101	• User Manual	BN68-06098E
• Remote Control	BN59-01175N	• Regulatory guide	BN68-04972A
• Batteries (AAA x 2)	4301-000103	• Warranty Card (Not available in some locations)	
• Power Cord	3903-000849		

Image	Product	Code. No
	• IR Extender Cable	BN96-31644A
	• CI Card Adapter	3709-001791
	• Wall mount adapter (Depending on the Model)	BN96-31644A

2-4. Viewing the Functions

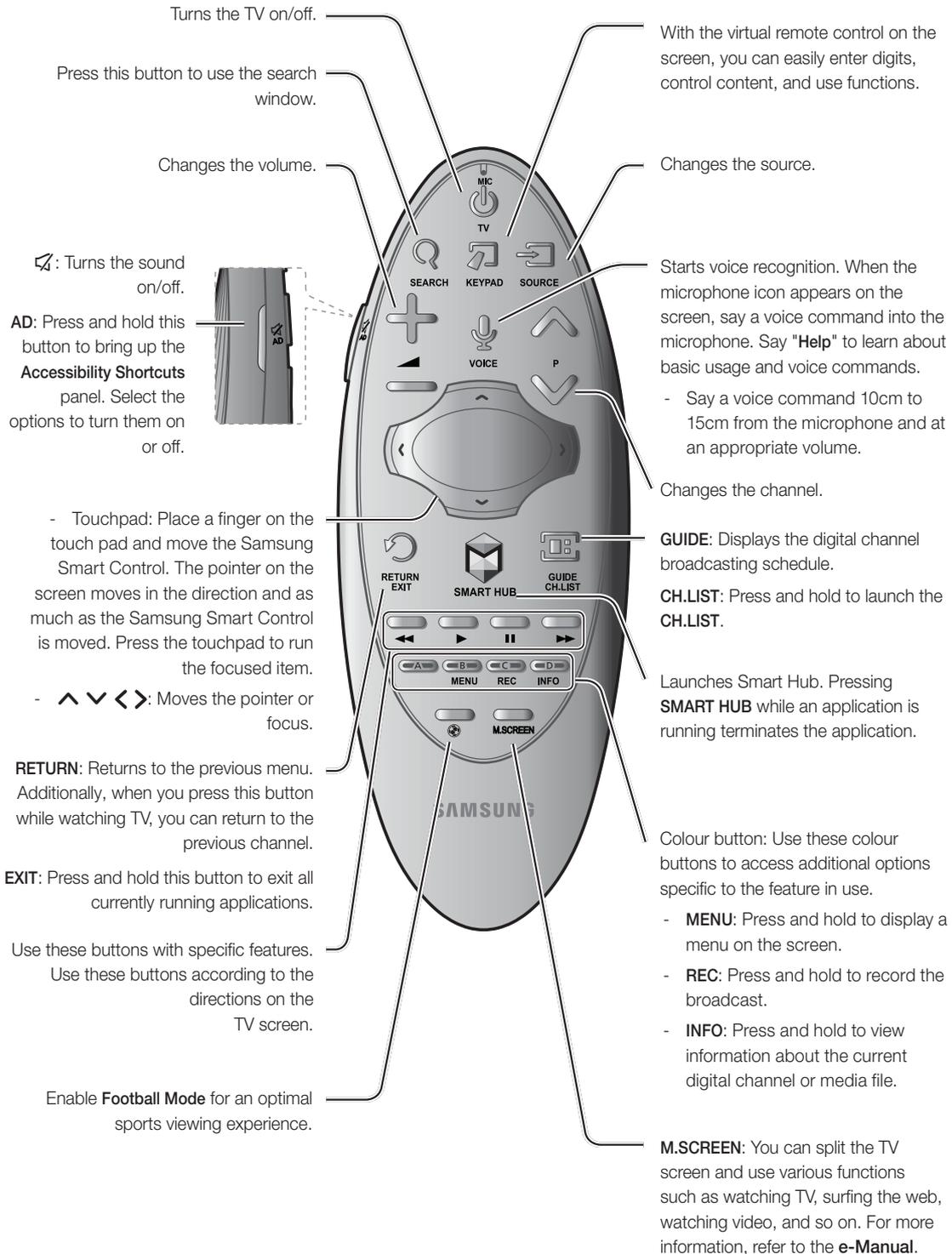
2-4-1. Using the Samsung Smart Control

■ Buttons and Functions

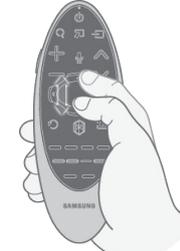


NOTE

Colours and shape may vary depending on the model.



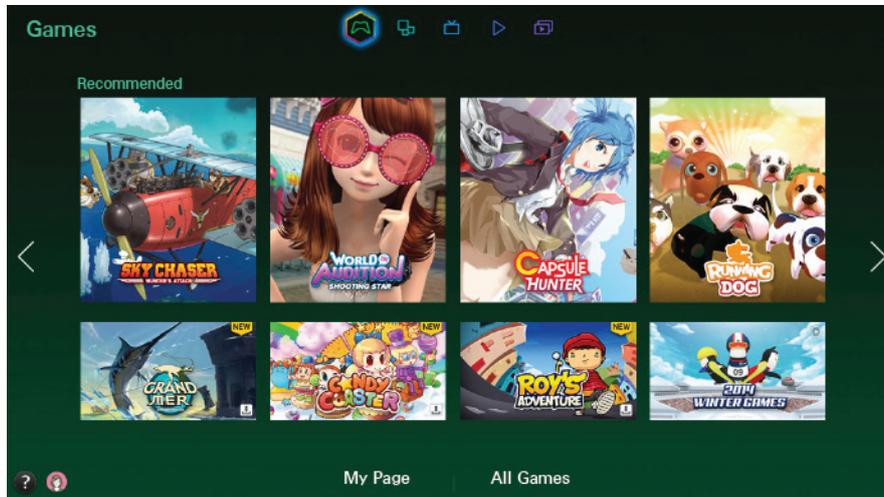
■ Using the Touch Pad and the Directional Buttons

Image	Description
	<p>Moving the Focus or Pointer</p> <p>Press the directional buttons (up, down, left, and right) to move the focus, pointer, or cursor in the direction you want.</p>
	<p>Entering the Menu / Selecting an Item</p> <p>To enter a menu or select an item, highlight the item or the menu title, or move the pointer over it, and then press the touch pad.</p>
	<p>Displaying Context-sensitive Menus in Smart Hub</p> <p>In Smart Hub, highlight an item, and then press and hold the touch pad. The context-sensitive menu for the item pops up.</p> <ul style="list-style-type: none"> The context-sensitive menu may vary depending on the item you selected.
	<p>Changing the Smart Hub Panel</p> <p>On a Smart Hub panel, drag left or right on the touch pad. The previous or next Smart Hub panel appears.</p>
	<p>Scrolling on the Web Browser</p> <p>When you are using the web browser, drag up or down on the touch pad to scroll the web screen.</p>

2-4-2. Viewing the Panel

■ Games Panel

- This service or some of functions of it may be not available in some countries or region.

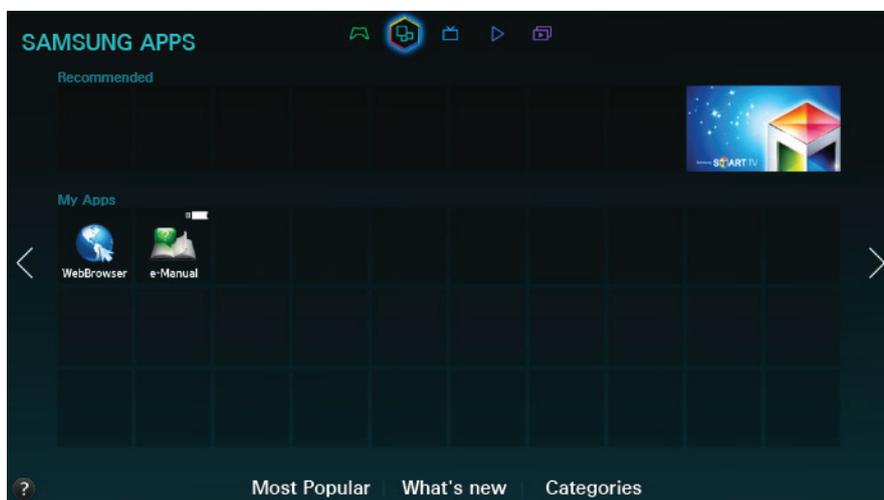


Navigate to **Smart Hub** > **Games** to confirm the optimizing game apps for Smart TV and detailed information on Smart hub. This makes it easier to download and play games. In addition, you can manage games that you have downloaded or purchased with your Samsung account.

- The TV must be connected to the Internet for you to use the **Games** Panel.
- To purchase or remove games on the **Games** panel, you must be logged in to your Samsung Account.

■ SAMSUNG APPS Panel

- This service or some of functions of it may be not available in some countries or region.

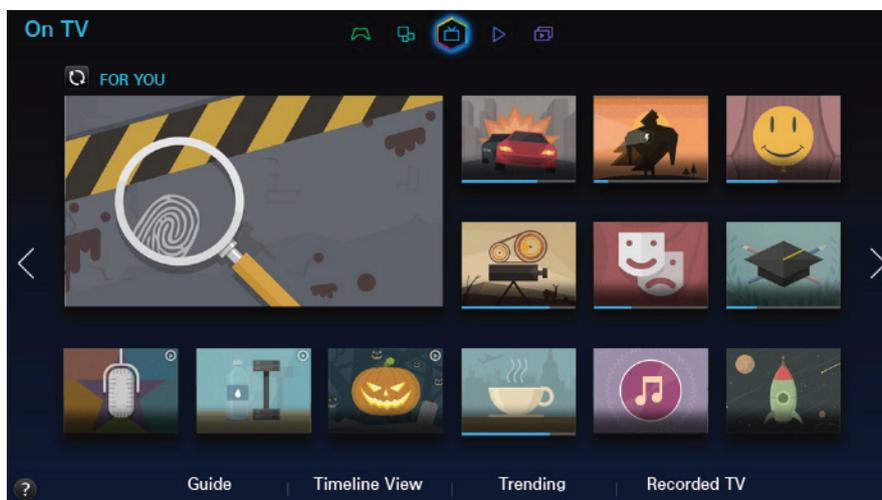


Smart Hub offers a variety of free news, sports, weather, and gaming content you can install directly on your TV the same way as you would on a smartphone or tablet.

- Before you use **SAMSUNG APPS**, make sure the TV is connected to the Internet. Your TV must be connected to the Internet in order to use **SAMSUNG APPS**.
- When **Smart Hub** is launched for the first time, the default apps are automatically installed. The default apps may differ depending on the region.

■ On TV Panel

- This service or some of functions of it may be not available in some countries or region.
- Availability of recommended content depends on the specific model and area.



Smart Hub's **On TV** panel lets you view programme lists for recommended channels while watching TV. You can then switch to a programme in the recommendation list or set up **Schedule Viewing/Schedule Recording** for an upcoming programme.

- Before you use **On TV**, check if the TV is connected to the Internet. The TV must be connected to the Internet in order to use **On TV**.
- The channels or programmes recommended by **On TV** may differ from the actual ones depending on the broadcast information provider.

Select a desired programme from the recommendation list. You can watch the selected programme immediately if it is currently on air or move to the detailed programme information screen if it hasn't aired yet.

- Select  from the screen to change the recommended content list.
- For a programme being broadcasted, a progress bar appears. For an upcoming programme, the remaining time to broadcast appears.

Move to the navigation bar at the bottom of the screen to access the following options:

- **Viewing the Program Schedule of Digital Channels**

Select **Guide** at the bottom of the screen to view the program schedule of each digital channel. You can check the programme schedule and even set up a **Schedule Viewing** or **Schedule Recording**.

- The Guide provides information only about digital channels. Analog channels are not supported.

- **Program Recommendations by Time**

Select **Timeline View** at the bottom of the screen to view program recommendations for different times of the day.

- **Popular Videos**

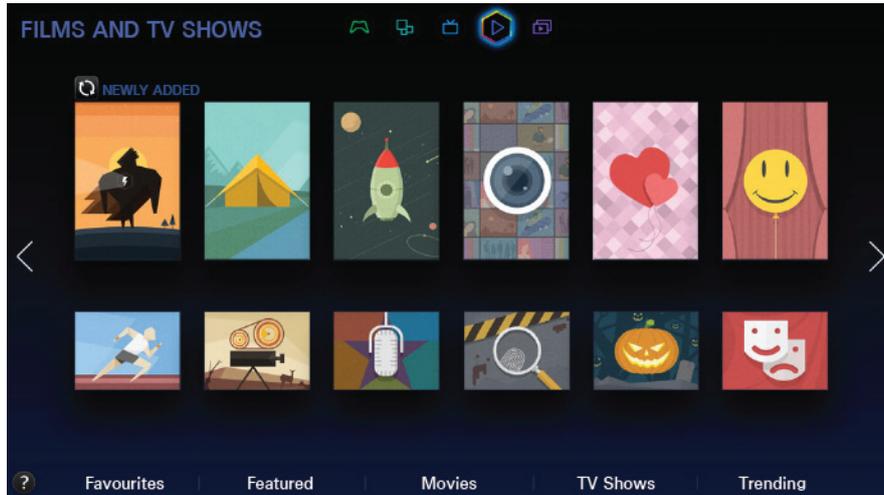
Select **Trending** at the bottom of the screen to view the most trendy or popular content in Twitter and set up a **Schedule Viewing** or **Schedule Recording**.

- **Watching a Recorded Programme**

Select **Recorded TV** at the bottom of the screen to watch a recorded programme.

■ FILMS AND TV SHOWS Panel

- This service or some of functions of it may be not available in some countries or region.



Use this feature to purchase and view movies and TV programmes recommended by **FILMS AND TV SHOWS** without having to use an external device such as a DVD player or a Blu-ray player. **FILMS AND TV SHOWS** provides an easy access to a collection of movies and TV programmes available in Smart Hub.

- Not all the **FILMS AND TV SHOWS** options may not be available depending on the content you are trying to access or your region.
- Before you use **FILMS AND TV SHOWS**, make sure the TV is connected to the Internet. The TV must be connected to the Internet in order to use **FILMS AND TV SHOWS**.
- Select  from the screen to change the recommended content list.

■ Photos, Videos, and Music (MULTIMEDIA)

- This service or some of functions of it may be not available in some countries or region.

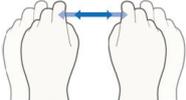


You can play media content saved on a USB device, smartphone, camera, computer, or Storage Service on the TV.

- You cannot play media content if the content or the storage device is not supported by the TV. For more information, refer to "Read Before Playing Photo, Video, or Music Files".
- Backup important files before connecting a USB device. Samsung is not responsible for damaged or lost files.

2-4-3. Motion Control

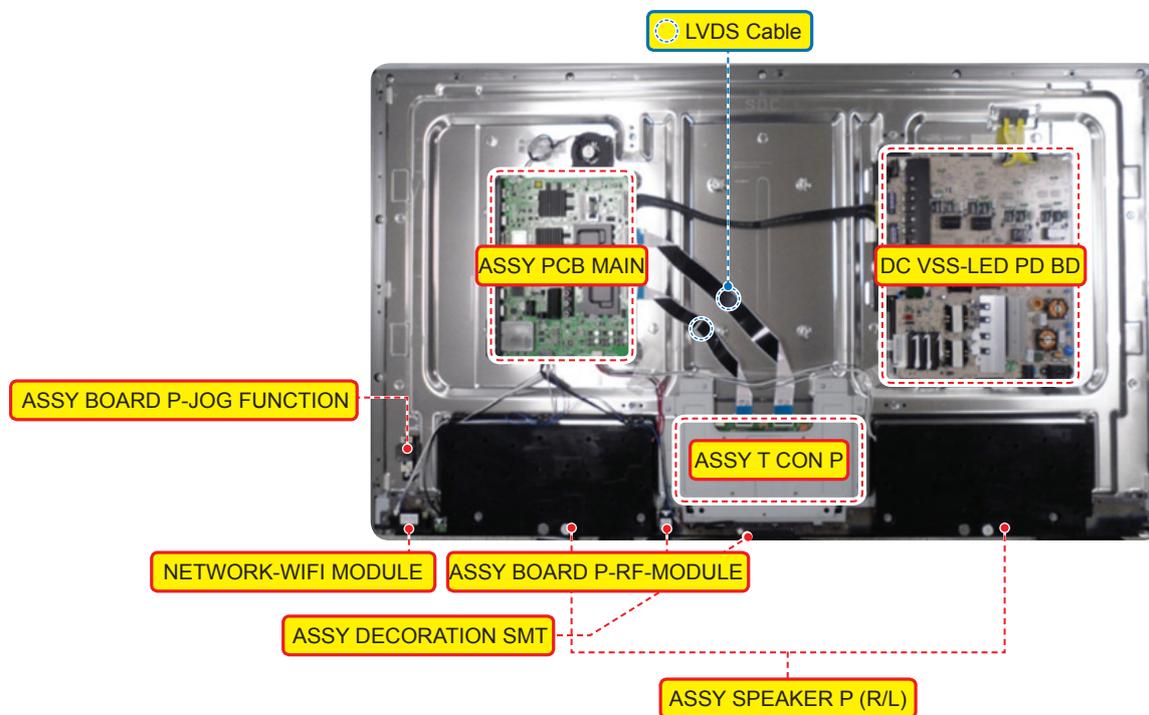
The following basic motion control commands are available:

Image	Description
	<p>Moving the pointer Moving your hand moves the pointer accordingly.</p>
	<p>Selecting an item Fold down and raise your index finger to select items. This is the equivalent of clicking a mouse button. You can select a TV menu or run a function. Keeping your index finger lowered is like holding down a remote control button.</p>
	<p>Returning to the previous menu Make a circle with your hand in the counterclockwise direction to return to the previous menu.</p>
	<p>Moving from one Smart Hub panel to another Move your hand from left to right or from right to left as you would turn a book page. You can move directly from one Smart Hub panel to another.</p> <ul style="list-style-type: none"> Example: SAMSUNG APPS panel → On TV panel
	<p>Displaying the Context-sensitive Menu on Smart Hub Fold your index finger down for 1 second and then raise it. This displays the context-sensitive menu that is available for the selected item.</p>
	<p>Zooming the picture on the screen in or out Facing the camera, raise both hands, and then raise the index finger on both hands. Two pointers appear on the screen when the TV recognizes the hands. Fold the index fingers of both hands down, and then horizontally widen or close your hands. This lets you zoom the picture on the screen in or out when the TV is displaying a web page, map, or photo.</p>
	<p>Panning a Zoomed-in Picture To pan a zoomed-in picture, fold the index finger on one hand down, move the hand in the desired direction, and then raise the index finger.</p>
	<p>Rotating a Picture Facing the camera, raise both hands, and then raise the index finger on both hands. Two pointers appear on the screen when the TV recognizes the hands. Fold the index fingers of both hands down, and then make a circle with your hands in clockwise or counterclockwise direction. You can rotate the picture when a video or photo is displayed on the screen.</p>
	<p>Using Like function On Facebook, without activating Motion Control, face the camera, and then raise and hold a thumb up for 2 seconds. This automatically adds the Facebook 'Like' icon. Available only in Facebook.</p>

4. Troubleshooting

4-1. Previous Check

■ Check list for initial operation

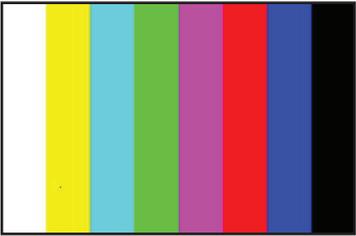
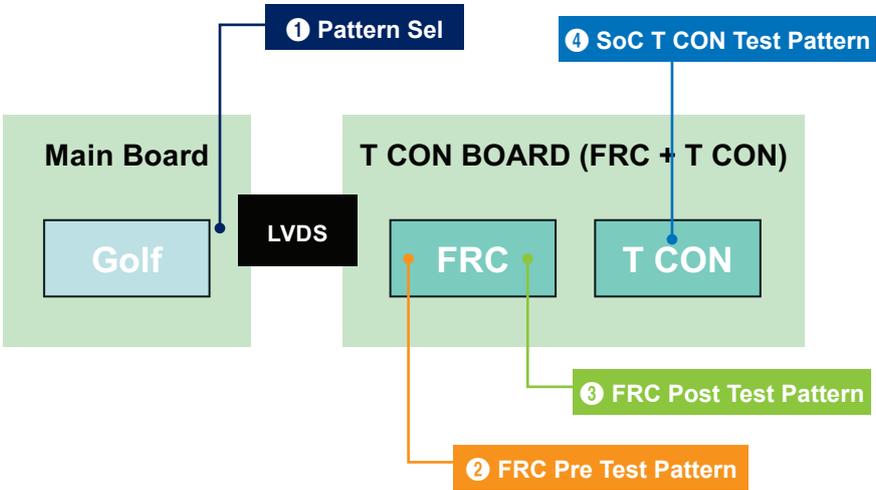


- AC Power Cord connected to the TV and the wall receptacle.
- Standby Power/IR Indicator LED is turned On.
- If Power/IR Indicator is not on check 10p power cable is connected and for correct Standby Voltage from SMPS to Main. Also check Jog Function Cable.
- Power turned On with Jog Function or Remote.
- Power on command from main Board to SMPS.
- Power/IR Indicator Flashes.
- Panel Back Lights are turned On.
- If no Backlights, unplug AC Power Cord, unplug 10 pin connector to SMPS, plug in AC Power Cord, Back light should come on. Check Main Board operation for error.
- Power/IR Indicator goes off.
- Picture or banner is displayed.
 - If nothing is displayed, check the LVDS cable.

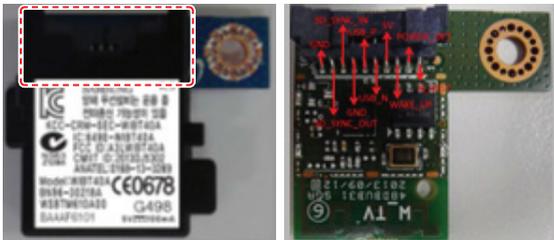
4-2. How to Check Fault Symptom

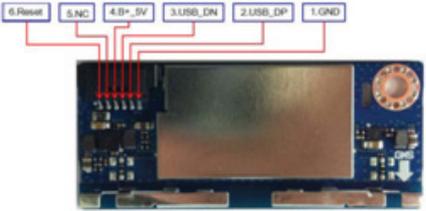
4-2-1. Video

Main Board	Pre-T-Con.	Post T-Con.	Problem
Pass	Pass	Pass	Check Signal Source and other inputs.
Fail	Pass	Pass	Main Board or LVDS Cable.
Fail	Fail	Pass	T CON Board.
Fail	Fail	Fail	T CON Board or Panel.

Symptom	Major checkpoints
	<ul style="list-style-type: none"> ENTER : Factory mode - SVC Info - Test Pattern
	 <ul style="list-style-type: none"> CHECK TEST PATTERNS <ol style="list-style-type: none"> Verify "Pattern Sel" Verify "FRC Pre Test Pattern" Verify "FRC Post Test Pattern" Verify "SoC T CON Test Pattern"

4-2-2. Network

Troubleshooting	Major checkpoints																																																												
Bluetooth Module	<ul style="list-style-type: none"> • MAIN : SVC, MODE : DTV, RES : NOTSUPPORT <table border="1" data-bbox="550 383 1318 949"> <tr><td>WD Count</td><td>65280</td><td>Serdes Error Count</td><td>-1</td></tr> <tr><td>Power Fail Count</td><td>0</td><td>Serdes Reset Count</td><td>-1</td></tr> <tr><td>AR Count</td><td>0</td><td>Serdes WatchDog On/Off</td><td>OFF</td></tr> <tr><td>WIFI ER Count</td><td>4</td><td></td><td></td></tr> <tr><td>WIFI NO DETECTION COUNT</td><td>-1</td><td></td><td></td></tr> <tr><td>WIFI DETACHMENT COUNT</td><td>-1</td><td></td><td></td></tr> <tr style="border: 2px solid yellow;"><td>BT ER COUNT</td><td>4</td><td></td><td></td></tr> <tr><td>BT NO DETECTION COUNT</td><td>-1</td><td></td><td></td></tr> <tr><td>BT DETACHMENT COUNT</td><td>-1</td><td></td><td></td></tr> <tr><td>BT MGT OPEN FAIL COUNT</td><td>-1</td><td></td><td></td></tr> <tr><td>BT MGT DISCONNCT COUNT</td><td>-1</td><td></td><td></td></tr> <tr><td>Camera ER Count</td><td>0</td><td></td><td></td></tr> <tr><td>FRC3D Emergency Reboot On/Off</td><td>OFF</td><td></td><td></td></tr> <tr><td>FRC3D ER Count</td><td>0</td><td></td><td></td></tr> <tr><td>Fan Error Count</td><td>-1</td><td></td><td></td></tr> </table> <ol style="list-style-type: none"> 1. Check Bluetooth Address at Contact Samsung. 2. Check BT F/W Version at Factory Mode screen. <ul style="list-style-type: none"> - Might require upgrade. - Check GSPN. 3. If errors exist than Check BT Connector Voltages. If DC voltages are missing check cable & Main Board feed. 	WD Count	65280	Serdes Error Count	-1	Power Fail Count	0	Serdes Reset Count	-1	AR Count	0	Serdes WatchDog On/Off	OFF	WIFI ER Count	4			WIFI NO DETECTION COUNT	-1			WIFI DETACHMENT COUNT	-1			BT ER COUNT	4			BT NO DETECTION COUNT	-1			BT DETACHMENT COUNT	-1			BT MGT OPEN FAIL COUNT	-1			BT MGT DISCONNCT COUNT	-1			Camera ER Count	0			FRC3D Emergency Reboot On/Off	OFF			FRC3D ER Count	0			Fan Error Count	-1		
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Troubleshooting	Major checkpoints																												
<p>WIFI Module</p>	<ol style="list-style-type: none"> 1. Check Wired MAC Address and Wireless MAC Address at Contact Samsung. 2. Check Wired MAC and Wireless MAC at Factory Mode Menu. (Success/Failure) <ul style="list-style-type: none"> - If Wired MAC errors exist the Main Board is defective. - If Wireless MAC errors exist: Check Wi-Fi Module Connector Voltages. If OK replace Module. <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <table border="1" data-bbox="547 741 1425 1016"> <thead> <tr> <th>Pin No.</th> <th>Pin Name</th> <th>Description</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>GND</td> <td>Ground</td> <td>G</td> </tr> <tr> <td>2</td> <td>USB_DP</td> <td>USB Interface</td> <td>I/O</td> </tr> <tr> <td>3</td> <td>USB_DN</td> <td>USB Interface</td> <td>I/O</td> </tr> <tr> <td>4</td> <td>B+_5V</td> <td>+5V DC Power supply for SWL -R55</td> <td>V</td> </tr> <tr> <td>5</td> <td>NC</td> <td>NC</td> <td>-</td> </tr> <tr> <td>6</td> <td>Reset</td> <td>Reset signal Input</td> <td>I</td> </tr> </tbody> </table>	Pin No.	Pin Name	Description	Type	1	GND	Ground	G	2	USB_DP	USB Interface	I/O	3	USB_DN	USB Interface	I/O	4	B+_5V	+5V DC Power supply for SWL -R55	V	5	NC	NC	-	6	Reset	Reset signal Input	I
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4	B+_5V	+5V DC Power supply for SWL -R55	V																										
5	NC	NC	-																										
6	Reset	Reset signal Input	I																										

4-2-3. Problems and Solutions

■ Apps

- Due to the product characteristics featured on the Samsung Smart Hub, as well as limitations in available content, certain features, applications, and services may not be available on all devices or in all territories. Some Smart Hub features may also require additional peripheral devices or membership fees. Visit <http://www.samsung.com> for more information on specific device information and content availability. Services and content availability are subject to change without prior notice.
- Samsung Electronics takes no legal responsibility whatsoever for any interruption of app services caused by the service provider for any reason.
- Application services may be provided in English only and available content may vary depending on the area.
- For more information about applications, visit the applicable service provider's website.
- An unstable Internet connection may cause delays or interruptions. In addition, applications may terminate automatically depending on the network environment. If this occurs, check your Internet connection and try again.
- Application services and updates may become unavailable.
- Application content is subject to change by the service provider without prior notice.
- Specific services may vary depending on the version of the application installed on the TV.
- An application's functionality may change in future versions of the application. If this occurs, run the application's tutorial or visit the service provider's website.
- Depending on the service provider's policies, certain applications may not support multitasking.

■ WebBrowser

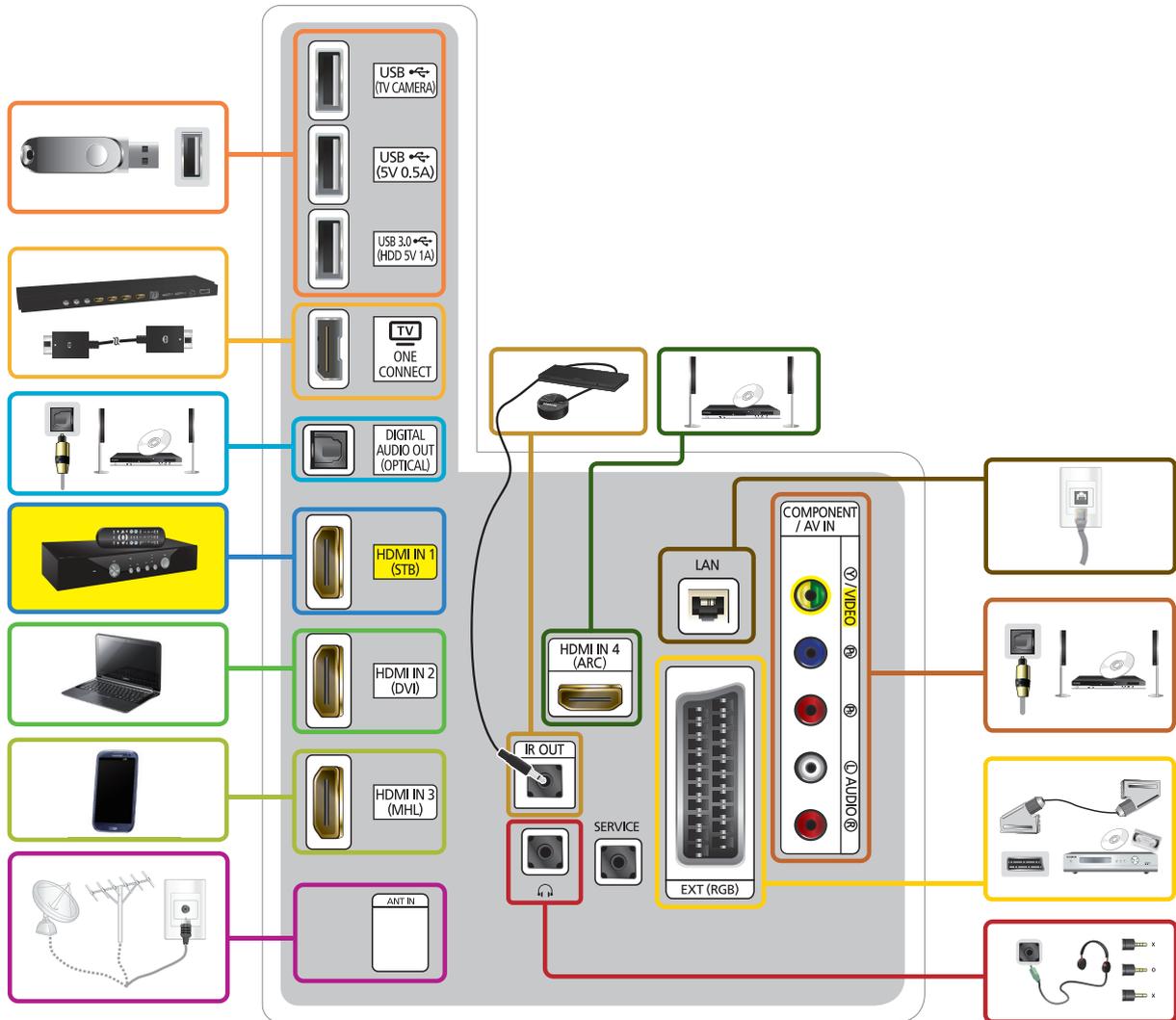
- Select **Web Browser**. The browsing screen may differ from the one on your computer.
- The web browser is not compatible with Java applications.
- You cannot download files. If you attempt to download a file, you will receive an error message instead.
- The web browser may not be able to access certain websites.
- Playing Flash videos may be restricted.
- E-commerce for online purchases is not supported.
- With websites that have scrollable windows, scrolling through such a window can result in corrupted characters.
- ActiveX is not supported.
- Certain options are not accessible in Link Browsing mode. (Switch to Pointer Browsing to activate this.)
- Only a limited number of fonts are supported. Certain symbols and characters may not be displayed properly.
- The response to remote commands and the resulting on-screen display may be delayed while a webpage is loading.
- Loading a webpage may be delayed or suspended completely with certain operating systems.
- The copy and paste operations are not supported.
- When composing an email or a simple message, certain functions such as the font size and color selection may not be available.
- There is a limit to the number of bookmarks and the size of the log file that can be saved.
- The number of windows that can be opened concurrently varies depending on the search conditions and the TV model.
- The web browsing speed will vary depending on the network environment.
- Playing embedded video automatically disables PIP. Video playback may not commence after PIP is disabled. In this case, you will have to reload the page.
- The web browser supports .mp3 audio files only.
- The web browser supports a specific file format for importing and exporting bookmarks. (Compatible Format: Netscape-bookmarkfile- 1)
- The folder tree information is not included when importing and exporting bookmarks.
- Exporting bookmarks to a USB device connected to the TV saves the bookmarks under a folder named "Samsung SmartTV Bookmark".
- If **Clock (System - Time - Clock)** has not been enabled, the browsing history will not be saved.
- The browsing history is saved in the order of latest to oldest, with the oldest entries being overwritten first.

- Depending on the types of video/audio codecs supported, it might not be possible to play back certain video and audio files during Flash playback.
- A sudden change in the picture brightness inside a video window may affect the brightness of the screen. This problem applies to PDP TVs only.
- Video sources from PC-optimized streaming service providers may not play properly on our proprietary web browser.
- Using the on-screen QWERTY keyboard automatically disables PIP. (Except when entering a URL.)

■ Photo, Video, and Music File Use Limitations

- The TV supports MSC (Mass Storage Class) USB devices only. MSC is a class designation for mass storage devices. Types of MSC devices include external hard drives, flash card readers, and digital cameras. (USB hubs are not supported.) These kinds of devices must be connected directly to the TV's USB port. The TV may not be able to recognize the USB device or read the files on the device if it is connected to the TV via a USB extension cable. Do not disconnect the USB device while transferring files.
- When connecting an external hard drive, use the USB (HDD) port. We recommend that you use an external hard drive with its own power adapter.
- Certain digital cameras and audio devices may not be compatible with the TV.
- If there are multiple USB devices connected to the TV, the TV might not be able to recognize some or all the devices. USB devices that use high-power input should be connect the USB [5V, 1A] port.
- The TV supports the FAT, exFAT, and NTFS file systems.
- After sorting files in the Folder view mode, the TV can display up to 1000 files per folder. If the USB device contains more than 8,000 files and folders, however, some files and folders might not be accessible.
- The PTP (pier to pier) connection mode is available only for digital cameras. If you connect a smartphone or tablet to the TV using PTP mode, the TV will not recognize it.

4-3. Connect



4-4. Factory Mode Adjustments

4-4-1. 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**".

■ UE**HU7500LXXH

Inches		55"	65"
PANEL	Vendor	SDC	INX
	Code	BN95-01369A	BN95-01374A
	Spec.	CY-KH055FSLV1V	CY-KH065FSNV1V
SMPS BOARD	Vendor	HANSOE	SEM
	Code	BN44-00742A	BN44-00741A
	Spec.	L55G4P_EHS	L65G4P_ESM
MAIN BOARD	Chassis Ass'y	BN91-12815H	BN91-12815N
	PBA Ass'y	BN94-07551H	BN94-07551N
Byte	Item		
0	Factory Reset	-	-
1	Type	55A1UU8EH	65D1UU8EH
2	Local set	EU_HUNGARY	EU_HUNGARY
3	SW Model	UHU7500	UHU7500
4	BOM Model	7500	7500
5	Tuner	2xDVB-T/C/S2	2xDVB-T/C/S2
6	Ch table	NONE	NONE

4-4-2. Entering Factory Mode

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

- If you do not have Factory remote control



- If you have Factory remote control



- Some items are not available without a factory remote.

Option	T-GFP8DEUC-xxxx	←	Main SW Version
Control	T-GOLAUSS6-xxxx	←	Sub Version (Main, Jak)
Debug	BT Version : x.x.xx.xxx	←	Bluetooth Version
SVC	E-Manual : NUATSCH-xxxx	←	E-Manual Version
ADC/WB	Camera Version : x.xx	←	Camera Version
Advanced	Blaster-Version : x.xx	←	IR Blaster Version


```

EDID SUCCESS
CALIB : AV / COMP / PC / HMDI /
Option : xxxx xxxx xxx

DTP-SDAL-GOLFP-xxxx-xxxx
RFS : "Golf.P 0xxx" / 201x-xx-xx
KERNEL : xxx.xxxx/
DTP-DTVTD-xxxx-xx
Backend[NT72324] : FW[xxx] LDC[xxx]
TCON Version: xxxx

Model : xxxxxxxx
Wired MAC----
Wireless MAC----
WIFI:xxxx
CO Nf/ W/ M/ D/
HX PO AO / S/ N/
Factory Data Ver : xx

SmartControl:xxxx
DTP-BP-HAL-xxxx
DTP-BP-MW-xxxx
DTP-BP-APP-xxxx
POP-FLA-14-xxxx
Date of purchase : mm/dd/yyyy
    
```

4-4-4. Factory Data

■ Option

Factory Menu Name	Data	Range
Factory Reset	-	
Type	55A1UU8EH 65D1UU8EH	
Local set	EU_HUNGARY	
SW Model	UHU7500	
BOM Model	7500	
TUNER	2xDVB-T/C/S2	
Ch table	NONE	
MRT Option		
Front Color	U-UHD-H8K	
Lvds Format	JEIDA	
Language_Arabic	US	
Region	US	
PnP Language	US	
WIFI REGION	S	
OTN Support	ON	
OTA Support	OFF	
MediaPlay DLNA	ON	
TTX	OFF	
China HD	OFF	
NT Conversion	OFF	
Num of DTV	2	
Num of AV	2	
Num of COMP	1	
Num of HDMI	4	
Num of SCART	0	
Num of USB Port	3	
Num of USB 3.0	1	
Num of RVU	1	
Num of Display	2	
Num of IPTV	1	
Num of RUI	0	
Num of PVR RECORD	1	
TOOLS Support	351	
LNA Support	OFF	

Factory Menu Name	Data	Range
24Px4 Support	OFF	
BD Wise Support	ON	
Data Service Support	OFF	
PVR Support	OFF	
CI Support	OFF	
LEDMotionPlus Support	OFF	
Natural Mode Support	OFF	
Relax Mode Support	OFF	
HDMI/DVI SEL	2	
Select LED/PDP	LCD	
Wall Mount	OFF	
HV Flip	HV Filp	
Light Effect	ON	
e-Pop Default	ON	
CAMERA Support	OFF	
NETWORK Support	Int-Wifi	
EcoSensor Support	ON	
Frameless Support	OFF	
3D Support	ON	
BT Support	ON	
BT ADDRESS		
HP LINE	LineOut	
Resolution Sel	UHD	
Multiview Support	OFF	
Local Dimming Panel	ON	
Wifi Vendor	QCA	
Engineer Option		
Auto Power	LAST POWER	
Type Of PANEL KEY	Horizontal	
5 Way Function Key	R_BACK	
Power PanelKey Only		
Contents Bar	0	
Cable Modulation	QAM	
Standby led on/off	ON	
Recognition Support	ON	
IF AGC	7	
D AGC	0	

4. Troubleshooting

Factory Menu Name	Data	Range
PH BW	3	
FQ BW	3	
PH RATE	4	
PD EN	1	
PEQ Inx	0	
WF Scale		
WF Type	0	
Num of Network Stream	1	
DP V Size	1	
Backend Device		
BT_AUDIO_ON_OFF	ON	
Config_AV_PATH		
USING_PSI_UPDATE		
Fast Logo Delay	0	
JP Tuner Reset Delay	0	
BT Glass Shutter Ready Time	0	
Num of PANEL KEY		

■ Control

Factory Menu Name	Data	Range
EDID		
EDID ON/OFF	Off	
EDID WRITE ALL	...	
EDID WRITE HDMI	...	
EDID WRITE PC	...	
HDMI EDID Ver	...	
HDMI EDID Port	...	
Sub Option		
RS-232 Jack	UART	
Serial Log On/Off	OFF	
Watchdog	OFF	
Checksum	0x0000	
Fast USB Booting	ON	
USB Serial	OFF	
EEPROM RESET		
ECO IC TYPE	MC8121	
Info Link Server Type	development	
Info Link Country	None	

Factory Menu Name	Data	Range
TTX Group	...	
Visual Test	Diabile	
Mediaplay DB	On with 10MB	
OPTION_SWU		
OPTION_NUM		
RF Remocon Support	OFF	
CDD mode		
DPMS Support	OFF	
Num of IPTV CIP	0	
Num of CI	0	
Num of DECODER	1	
T-CON Device	1	
BOARD CONTROL	ON	
RM		
LMK threshold	2	
Low threshold	0	
High threshold	0	
CLB	ON	
EOS Click	OFF	
Last Screen		
App Resume		
BP PMS Reset		
Fanet Thread		
User FastBoot Default Value		
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	
CES Mode		

4. Troubleshooting

Factory Menu Name	Data	Range
3D_EmitOn	ON	
3D_EmitShowMode	OFF	
3D GLASS PULSE_S	5	
3D GLASS PULSE_H	3	
3D CUBE	OFF	
Asia Option		
Unbalance	OFF	
AF Level adjust	0	
TX Power Level	0	
Mono Last Memory	OFF	
H Shaking	0	
SOUND		
High Devi	OFF	
Carrier_Mute	ON	
FM Prescale	20	
FM M Prescale	21	
AM Prescale	21	
NICAM Prescale	20	
Pilot Level High Thld	0x20h	
Pilot Level Low THLD	0x10h	
chattering Count	5	
Carrier2 Amp High ThLD	9	
Carrier2 Amp Low THLD	6	
A2 pilot sensitivity	1	
Amp Volume	0xc9h	
Amp Scale	0x35h	
Amp EQ CheckSum	0x007315F1	
Amp Local Check Sum	0x003FCFBF	
Subwoofer Support	3	
Woofer Type	0	
Woofer Volume	0xc6h	
Woofer Scale	0x3eh	
Woofer Check sum	0x007315F1	
Woofer Local Check sum	0x003FCFBF	
Local Speaker EQ	0	
PEQ Test	Ready	
Amp Model	TAS5747	

Factory Menu Name	Data	Range
Speaker EQ	ON	
Bottom CheckSum	NONE	
Bottom Local CheckSum	NONE	
Wall Filter Type	2	
SRS Tuning Parm	0	
SPDIF PCM Gain	-9	
AudioDock BT Delay	90	
3D_Glass BT delay	50	
Speaker cut-off Freq	0	
Audio-IP Test	0	
TruBass-Checksum	0	
Mic Scale	OFF	
India Sound	0	
Speaker Delay Normal	0	
NTV CU Dela	0	
Lipsync Inx	0	
Lipsync CheckSum	OK:0x95F7	
Lipsync USB Test	Ready	
Lipsync BT Checksum	OK:0x95F7	

■ Debug

Factory Menu Name	Data	Range
Spread Spectrum		
LVDS Spread	0	
DDR Spread	0	
Period	0	
Amplitude	0	
HD SSC ON/Off	ON	
HD SSC Value	1	
LVDS SSC ON/OFF	ON	
LVDS Value	3	
MP DDR SSC ON/OFF	ON	
MP DDR Value	1	
AP DDR SSC ON/OFF	ON	
AP DDR Value	7	
FRC Vx1 SSC ON/OFF	ON	
FRC Vx1 SSC Period	0	
FRC Vx1 SSC Modulation	1	

4. Troubleshooting

Factory Menu Name	Data	Range
FRC LVDS SSC ON/OFF	ON	
FRC LVDS SSC MFR	3	
FRC LVDS SSC MRR	2	
FRC DDR SSC ON/OFF	ON	
FRC DDR SSC MFR	3	
FRC DDR SSC MRR	4	
FRC DDR SSC Period	1	
FRC DDR SSC Modulation	1	
DDR SSC ON OFF	OFF	
DDR SSC Value	0	
MP1 LVDS SSC ON/OFF	...	
MP1 LVDS Value	...	
MP2 LVDS SSC ON/OFF	...	
MP2 LVDS SSC Value	...	
ADV7619 Data strength	...	
ADV7619 Clock strength	...	
ADV7619 H_V_DE strength	...	
eBus SSC ON/OFF	ON	
e-Bus MP	8	
e-Bus AP	7	
DDR Margin		
A CTRL_OFFSET_0_3	0	
A CTRL_OFFSET_D	0	
B CTRL_OFFSET_0_3	0	
B CTRL_OFFSET_D	0	
BT_ON_OFF	ON	
RF Mute Time	600ms	
FRC		
FRC FDISPLAY ON/OFF	OFF	
3D FDISPLAY ON/OFF	OFF	
PC Mode ON/OFF	OFF	
Home Panel FRC	ON	
DDR Test	OFF	
Tuner Margin	3	
MPEG Margin	20	
H.264 Margin	15	
CAM Wait Time	1500	

Factory Menu Name	Data	Range
TCON_TEMP READ	0.00	
TEMP LAST	60.00	
DCC VERSION	0x0	
DCC CHK SEL	0	
DCC CHECK LACAL	0x0	
DCC CHECK TOTAL	0x0	
MultACC Checksum	0	
IIC Bus Stop	OFF	
Voice Debug	OFF	
Power Management		
HHP option	SHOW	
RM_BIST_DTV	0	
RM_BIST_ATV	0	
RM_BIST_CABLE	0	
SerDES Check		
SerDES Tuner		
HDMI SW		
HDMI Rx		
MP		
Main SerDES		
Jack SerDES		
Stress Mode	OFF	
Log Analyzer	ON	

■ SVC

Factory Menu Name	Data	Range
Self Test(for HW)		
Loop Back		
CPU		
DDR		
FLASH		
EEPROM		
Tuner X-TAL		
Tuner1		
HDMI Switch IC		
USB HUB IC		
WIFI		

4. Troubleshooting

Factory Menu Name	Data	Range
LVDS		
LVDS2		
T-CON/FRC		
T-CON2/FRC		
PCB Test		
MOIP		
BT		
EcoSensor		
Voltage		
Chip Test		
Module Test		
ATV CH Inspection		
DTV CH Inspection		
Satellite CH Inspection		
Woofer Sound Inspection		
DP Test		
DP CRC Result		
Voltage Result		
Info		
SVC Info		
LOG(View Log)		
ER Count		
WD Count		
AR Count		
WIFI ER Count		
WIFI NO DETECTION COUNT		
WIFI DETACHMENT COUNT		
BT ER Count		
BT NO DETECTION COUNT		
BT DETACHMENT COUNT		
BT MGT OPEN FAIL COUNT		
BT MGT DISCONNECT COUT		
Camera ER Count		
FRC3D ER Count		
Fan Error Count		
Panel Display Time		
Upgrade		

Factory Menu Name	Data	Range
T-CON Usb Download		
T-CON CheckSum		
T-CON2 Usb Download		
T-CON2 CheckSum		
PANEL EEPROM UPGRADE		
PANEL FLASH UPGRADE		
Logi Usb D/L		
SUBMICOM UPGRADE		
BT UPGRADE		
BT FREPAIRING		
Function Upgrade		
FRC3D FW UPGRADE		
FRC2 3D FW UPGRADE		
Camera Upgade		
Mic Upgrade		
CPLD USB Download		
CPLD DownLoad		
Jump UPGRADE		
IR Blaster Upgrade		
LP eeprom update		
NTV Cu Update		
Main FPGA Upgrade		
Serdes FPGA Upgrade		
Jack FPGA Upgrade		
UD LDC PROFILE UPGRADE		
Pic Data USB Update		
Audio Data USB Update		
Eco Data USB Upate		
CI CPLD Upgrade		
Reset		
App Reset		
SVC Reset		
EEPROM Rst		
Factory Rst		
OPTION_HDMI		
DVI/HDMI SOUND	Auto	
HDMI HOT PLUG	0	

4. Troubleshooting

Factory Menu Name	Data	Range
HOTPLUG SWITCHING	Auto	
HOTPLUG DURATION		
CLK TERM DURATION	300ms	
HDMI FLT CNT SIG	0ms	
HDMI FLT CNT LOS	800ms	
UNSTABLE BAN CNT	1250ms	
HDMI ROBIN	0	
HDMI Callback	ON	
HDMI CTS Thld	0	
HDMI CTS Cnt1	0	
HDMI EQ	0	
HDMI Write Type	0	
HDMI Switch	0	
DVI SET TIME	0	
H Write	0	
HDMI Sync	0	
HDMI 3D DET	1	
HOTPLUG OFF HOLD TIME	1200ms	
HDMI MUTE TIME	0ms	
REPEAAUDIO PKT	OFF	
HDMI Stable Count	1	
HDMI HDCP EN	OFF	
HDMI HDCP EN FLAG	85	
POWER ON FLT CNT LOS		
HDCP UPDATE SPI		
SPI VERSION	0	
DVB CI		
TS Clock delay TC		
TS Clock delay S		
CI Control Buf ON		
TS Clock delay CPU		
TS Clock delay TC2		
TS Clock delay S2		
CI Control Buf ON2		
TS Clock delay CPU2		
Test Pattern		
Pattern Sel	OFF	

Factory Menu Name	Data	Range
Logic Pattern Sel		
Logic Level Sel		
FRC Pre Test Pattern	0	
FRC Post Test Pattern	0	
FRC2 Pre Test Pattern	0	
FRC2 Post Test Pattern	0	
SOC TCON Test Pattern	0	
SOC TCON Pattern Level	255	
SOC TCON FRC Pattern	0	
SOC TCON2 Test Pattern	0	
SOC TCON2 Pattern Level	255	
SOC TCON2 FRC Pattern	0	
HDMI WB Pattern	OFF	
HDMI Pattern Sel	0	
NT72314 OSD Pre Test Pattern		
NT72314 OSD Port Test Pattern		
JACKPACK MP POST TEST PATTERN	0	
MAIN MP0 POST TEST PATTERN	0	
MAIN MP1 POST TEST PATTERN	0	
Other Setting		
Delete S/N		
IPERF		
Expert		
CAL Data Restore		
MICOM POWER OFF		
NTV RF Region		
NTV CU FW VER		
ATV IF AGC SPEED		
Source Direct ON/OFF		
App Update		
Restriction		
R_Camera Support	OFF	
R_Network Support	Int-Wifi	
R_BT Support	ON	
R_Recognition Support	ON	
R_Source		
R_Power on Source	0	

4. Troubleshooting

Factory Menu Name	Data	Range
SVC Panel	ORIGINAL	

■ ADC/WB

Factory Menu Name	Data	Range
ADC		
AV Calibration		
Comp Calibraion		
PC Calibration		
HDMI Calibration		
ADC Result		
1st_Y_GH		
1st_Y_GL		
1st_Cb_BH		
1st_Cb_BL		
1st_Cr_RH		
1st_Cr_RL		
2nd_R_L		
2nd_G_L		
2nd_B_L		
2nd_R_H		
2nd_G_H		
2nd_B_H		
White Balance		
R-Offset		
G-Offset		
B-Offset		
R-Gain		
G-Gain		
B-Gain		
WB_W2_R_Offset		
WB_W2_B_Offset		
WB_W2_R_Gain		
WB_W2_B_Gain		
WB_N_R_Offset		
WB_N_B_Offset		
WB_N_R_Gain		
WB_N_B_Gain		
MGA		

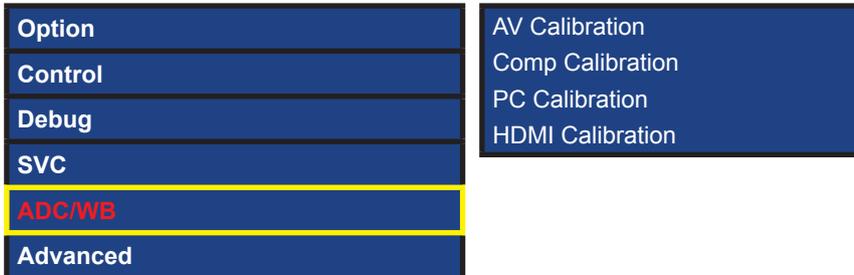
Factory Menu Name	Data	Range
MGA On/Off	OFF	
R1_Gain	...	
B1_Gain	...	
G1_Gain	...	
R2_Gain	...	
B2_Gain	...	
G2_Gain	...	
R3_Gain	...	
B3_Gain	...	
G3_Gain	...	
R4_Gain	...	
B4_Gain	...	
G4_Gain	...	
R5_Gain	...	
B5_Gain	...	
G5_Gain	...	
R6_Gain	...	
B6_Gain	...	
G6_Gain	...	
R7_Gain	...	
B7_Gain	...	
G7_Gain	...	
R8_Gain	...	
B8_Gain	...	
G8_Gain	...	
R9_Gain	...	
B9_Gain	...	
G9_Gain	...	
R10_Gain	...	
B10_Gain	...	
G10_Gain	...	

■ Advanced

4-5. White Balance

4-5-1. Calibration

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



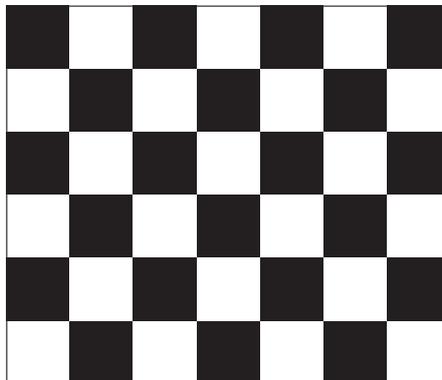
4-5-2. Service Adjustment

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
PC Analog IN (Model_#21)	Perform in VESA XGA (1024x768) B&W Pattern #24	Lattice
HDMI IN	Perform in 720p B&W Pattern #24	Lattice

■ Method of Color Calibration (AV)

1. Apply the NTSC 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 (PC)

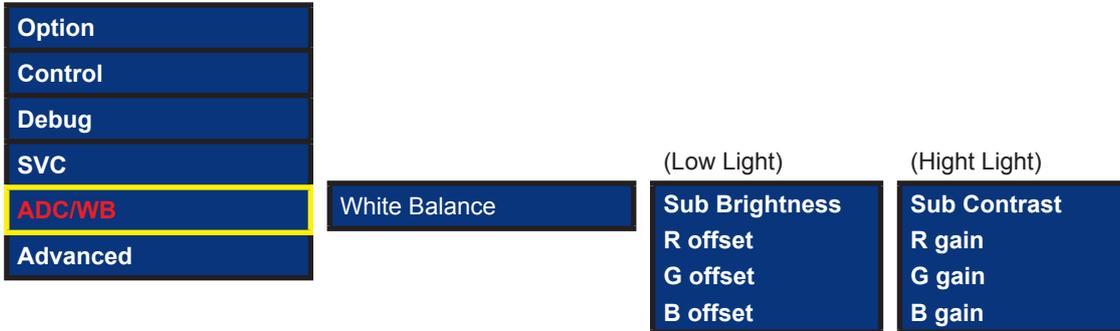
1. Apply the VESA XGA Lattice (N0. 21) pattern signal to the PC IN port.
2. Press the Source key to switch to "PC" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "PC Calibration" menu.
6. In "PC Calibration Off" status, press the "▶" key to perform Calibration.
7. When Calibration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

■ Method of Color Calibration (HDMI)

1. Apply the 720p Lattice (N0. 6) pattern signal to the HDMI1/DVI IN port.
2. Press the Source key to switch to "HDMI1" mode.
3. Enter Service mode.
4. Select the "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.

4-5-3. Adjustment

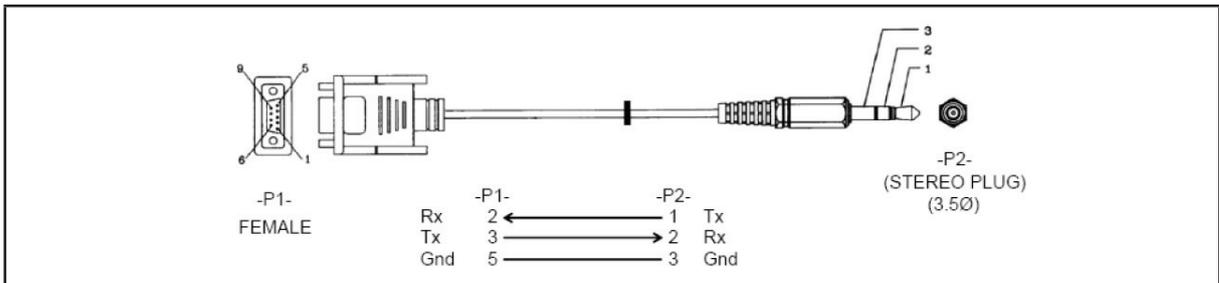
1. Into the Factory Mode.
2. Select **ADC/WB** menu.
3. Select **White Balance** menu.



4-6. RS-232C

- **RS232C Control**

- Port : COM#(Serial)
- Bit rate : 115200
- Data Bit : 8 bit
- Parity : None
- Stop Bits : 1
- Flow Control : None



- **Description of RS232C**

Pin#	Name	Full Name	Pin#	Name	Full Name	Pin#	Name	Full Name
1	CD	Carrier Detect	4	DTR	Data Terminal Ready	7	RTS	Request To Send
2	RxD	Received Data	5	GND	Signal Ground	8	CTS	Clear To Send
3	TxD	Transmitted Data	6	DSR	Data Set Ready	9	RI	Ring Indicator

4-7. AV Control Tab

Control Item				Cmd1	Cmd2	Cmd3	Value
General	Power	Power		0x00	0x00	0x00	0x00
		Off					0x01
		On					0x02
	Volume	Direct		0x01	0x00	0x00	(0~100)
		Up				0x01	0x00
		Down				0x02	0x00
	Mute			0x02	0x00	0x00	0x00
		Ch.	Direct	0x04	-		
			Continuous	Up	0x03	0x00	0x01
		Down		0x02			0x00

Control Item				Cmd1	Cmd2	Cmd3	Value
Input	Source List	TV	TV	0x0a	0x00	0x00	0x00
		AV	AV1			0x01	0x00
			AV2				0x01
			AV3				0x02
		S-Video	S-Video1			0x02	0x00
			S-Video2				0x01
			S-Video3				0x02
		Component	Component1			0x03	0x00
			Component2				0x01
			Component3				0x02
		PC	PC1			0x04	0x00
			PC2				0x01
			PC3				0x02
		HDMI	HDMI1			0x05	0x00
			HDMI2				0x01
			HDMI3				0x02
			HDMI4				0x03
		DVI	DVI1			0x06	0x00
			DVI2				0x01
			DVI3				0x02

Control Item				Cmd1	Cmd2	Cmd3	Value
PICTURE	Mode	Dynamic(Entertain)		0x0b	0x00	0x00	0x00
		Standard					0x01
		Movie					0x02
		Natural					0x03

Control Item				Cmd1	Cmd2	Cmd3	Value	
PICTURE	Mode	CAL-NIGHT					0x04	
		CAL-DAY					0x05	
		BD Wise					0x06	
		Relax					0x07	New function of 12" (only PDP TV)
	BackLight (CellLight)		0~20		0x01	0x00	(0~20)	
	Contrast		0~100		0x02	0x00	(0~100)	
	Brightness		0~100		0x03	0x00	(0~100)	
	Sharpness		0~100		0x04	0x00	(0~100)	
	Color		0~10		0x05	0x00	(0~100)	
	Tint	G/R			0x06	0x00	(0~100)	
	Advanced Settings	Black Tone	Off			0x07	0x00	0x00
			Dark					0x01
			Darker					0x02
			Darkest					0x03
		Dynamic Contrast	Off				0x01	0x00
			Low					0x01
			Medium					0x02
			High					0x03
		Shadow Detail	-2 ~ 2				0x02	(-2~2)
		Gamma	-3 ~ 3				0x03	(-3~3)
		RGB Only Mode	Off				0x05	0x00
			Red					0x01
			Green					0x02
			Blue					0x03
		Color Space	Auto				0x06	0x00
			Native					0x01
			Custom					0x02
White Balance		R-Offset(LCD)				0x07	(0~50)	
White Balance		G-Offset(LCD)				0x08	(0~50)	
White Balance		B-Offset(LCD)				0x09	(0~50)	
White Balance	R-Gain(LCD)				0x0a	(0~50)		
White Balance	G-Gain(LCD)				0x0b	(0~50)		
White Balance	B-Gain(LCD)				0x0c	(0~50)		
White Balance	Reset(LCD)				0x0d	0x00		
Flesh Tone	-15 ~ 15				0x0e	(-15~15)		
Edge Enhancement	Off				0x0f	0x00		

4. Troubleshooting

Control Item				Cmd1	Cmd2	Cmd3	Value	
PICTURE			On				0x01	
		xvYCC	Off			0x10	0x00	
			On				0x01	
		Motion Lighting	Off			0x11	0x00	
			On				0x01	
		LED Motion Plus	Off		0x0a	0x07	0x00	
			On(Normal)				0x01	
			Cinema				0x02	
			Ticker				0x03	
		Picture Option	Color Tone	Cool		0x0a	0x00	0x00
	Standard						0x01	Change Normal → Standard mode
	Warm1						0x02	
	Warm2						0x03	
	Digital Noise Filter		Off			0x02	0x00	
			Low				0x01	
			Medium				0x02	
			High				0x03	
			Auto				0x04	
			Auto Visualization				0x05	
	MPEG Noise Filter		Off			0x03	0x00	
			Low				0x01	
			Medium				0x02	
			High				0x03	
			Auto				0x04	
	HDMI Black Level		Normal			0x04	0x00	
			Low				0x01	
	Film Mode		Off			0x05	0x00	
			Auto1				0x01	
			Auto2				0x02	
			Cinema Smooth				0x03	New function of 12" (only PDP TV)
	Auto Motion Plus		Off			0x06	0x00	
			Clear				0x01	
			Standard				0x02	
Smooth						0x03		
Custom						0x04		

Control Item				Cmd1	Cmd2	Cmd3	Value
PICTURE			Demo				0x05
	Screen Adjustment	Picture Size	16:9	0x0b	0x0a	0x01	0x00
			Zoom1				0x01
			Zoom2				0x02
			Wide Fit				0x03
			4:3				0x04
			Screen Fit				0x05
			Smart View I				0x06
			Smart View II				0x07
			Auto Wide				0x08
			Wide Zoom				0x09
	Zoom				0x0a		
	Reset Picture	Reset Picture		0x0b	0x0b	0x00	0x00
	3D	3D Mode	Off	0x0b	0x0c	0x00	0x00
			2D ↔ 3D				0x01
			Side By Side				0x02
			Top Bottom				0x03
			Line By Line				0x04
			Vertical Line				0x05
			Checker BD				0x06
Frame Sequence						0x07	
3D ↔ 2D		Off			0x01	0x00	
		On				0x01	
3D View Point					0x02	(-5~5)	
Depth					0x03	(1~10)	
3D Auto View		Off			0x05	0x00	
	Message Notice				0x01		
	On				0x02		

New function of 12" (only DVB TV)

Control Item				Cmd1	Cmd2	Cmd3	Value
Sound	Sound Mode	Standard		0x0c	0x00	0x00	0x00
		Music					0x01
		Movie					0x02
		Clear Voice					0x03
		Amplify					0x04

4. Troubleshooting

Control Item			Cmd1	Cmd2	Cmd3	Value	
Sound	Equalizer	Balance		0x01	0x00	(0~20)	
		100hz			0x01	(0~20)	
		300hz			0x02	(0~20)	
		1khz			0x03	(0~20)	
		3khz			0x04	(0~20)	
		10khz			0x05	(0~20)	
		Reset			0x06	0x00	
	SRS TruSurround HD (echo)	Off		0x02	0x00	0x00	
	Virtual Surround (echo)	On				0x01	
	SRS TruDialog (echo)	Off		0x03	0x00	0x00	
	Dialog Clarify (X9)	On				0x01	
	Preferred Language	English		0x04	0x00	0x00	
		Spanish				0x01	
		French				0x02	
		Korean				0x03	
		Japanese				0x04	
	Multi-Track Sound	Mono		0x05	0x00	0x00	
		Stereo				0x01	
		SAP				0x02	
	Auto Volume	Off		0x06	0x00	0x00	
		ON				0x01	
		Night				0x02	
	Speaker Select	TV Speaker		0x07	0x00	0x00	
		External Speaker				0x01	
	Sound Select	Main		0x08	0x00	0x00	
		Sub				0x01	
	Sound Reset	Sound Reset		0x09	0x00	0x00	
	3D Audio	Off		0x0a	0x00	0x00	New function of 12"
		Low				0x01	
		Medium				0x02	
		High				0x03	

Control Item		Cmd1	Cmd2	Cmd3	Value
KEY	Key Generation	0x0d	0x00	0x00	refer to table
OSD	Show/Hide Control	0x0e	0x00	0x00	0x00
					0x01
Get Status	Power (On/Off)	0xf0	0x00	0x00	0x00
	Volume(0~100)	0xf0	0x01	0x00	0x00
	Mute (On/Off)	0xf0	0x02	0x00	0x00
	Channel Number	0xf0	0x03	0x00	0x00
	Source (TV/AV/.../HDMI/...)	0xf0	0x04	0x00	0x00
	Picture Size	0xf0	0x05	0x00	0x00
	3D (On/Off)	0xf0	0x06	0x00	0x00
	Picture Mode	0xf0	0x07	0x00	0x00
Sound Mode	0xf0	0x08	0x00	0x00	

New function of 12"

Key value	Value
Up	96 (0x60)
Down	97 (0x61)
Left	101 (0x65)
Right	98 (0x62)
Menu	26 (0x1A)
Internet	147 (0x93)
Enter(OK)	104 (0x68)
EXIT	45 (0x2D)

4-8. Updating the TV's Software

- [MENU](#) > [Support](#) > [Software Update](#)

View your TV's software version and update it if necessary.

The TV is set to update software automatically via the internet by default. If you don't want to update it automatically, set [Auto Update](#) ([Support](#) > [Software Update](#) > [Auto Update](#)) to **Off**.



DO NOT turn off the TV's power until the update is complete. The TV will turn off and on automatically after completing the software update. All video and audio settings return to the default settings after a software update.

■ Update now

- [MENU](#) > [Support](#) > [Software Update](#) > [Update now](#)

Update now lets you update your TV's software in three ways:

- Online, by downloading the update from the Internet directly to your TV.
- Manually, using a USB flash drive.
- Automatically (Auto Update), while the TV is in Standby Mode.



Do not turn off the TV during the Software Update. It may cause the TV to malfunction.

Online

To update your TV using the Online method, follow these steps:

1

Make sure that your TV is connected to your local network and the Internet.

- The connection can be wired or wireless.

2

All video and audio settings return to their default settings after a software update.

- We recommend you record your current settings now so you can easily re-establish your settings when the update is complete.

3

Press the **MENU** button, and then select [Support](#) > [Software Update](#) > [Update now](#).

- The Update now pop-up appears.

4

The TV searches on line for the latest software version for your TV.

- If it does not find an update, the "**No new updates**" pop-up appears. Press the **EXIT** button to exit.
- If the TV finds a new version, the Update Request pop-up appears.

5

Select **OK**. The TV updates the software, turns off, and then turns on automatically.

Manually, Using a USB Flash Drive

To update your TV using the Manual method, follow these steps:

1

All video and audio settings return to their default settings after a software update.

- We recommend you record your current settings now so you can easily re-establish your settings when the update is complete.

2

On a computer, visit www.samsung.com.

- Select [GET SUPPORT](#) > [Get Downloads](#).

3

Enter the product's model number into the search field.

- As you enter the model number, a drop down will display products that match the model number.

4

Click your product's model number in the drop down list.

- On the page that appears, scroll down to and then click [Downloads](#).

5

Click [Firmware](#) in the center of the page.

6

Click the [ZIP](#) button in the File column.

- Click [Send](#) in the first pop-up that appears.

7

Click [Save](#) in the second pop-up to download, and then save the firmware file to your computer.

- Unzip the zip archive to your computer. You should have a single folder with the same name as the zip file.

8

Copy the folder to a USB flash drive.

- Insert the USB flash drive into a USB port of the TV.

9

In the TV's menu, go to [Support](#) > [Software Update](#) > [Update now](#).

- The TV searches for the software on the USB drive. When it finds the software, the Update Request pop-up appears.

10

Select [OK](#). The TV updates the software, turns off, and then turns back on automatically.

Enabling Automatic Software Updates

- **MENU > Support > Software Update > Auto Update**

If the TV is connected to the Internet, it can be updated via Auto Update while watching the TV. When the Background upgrade completed, the update will be applied the next time the TV is used.

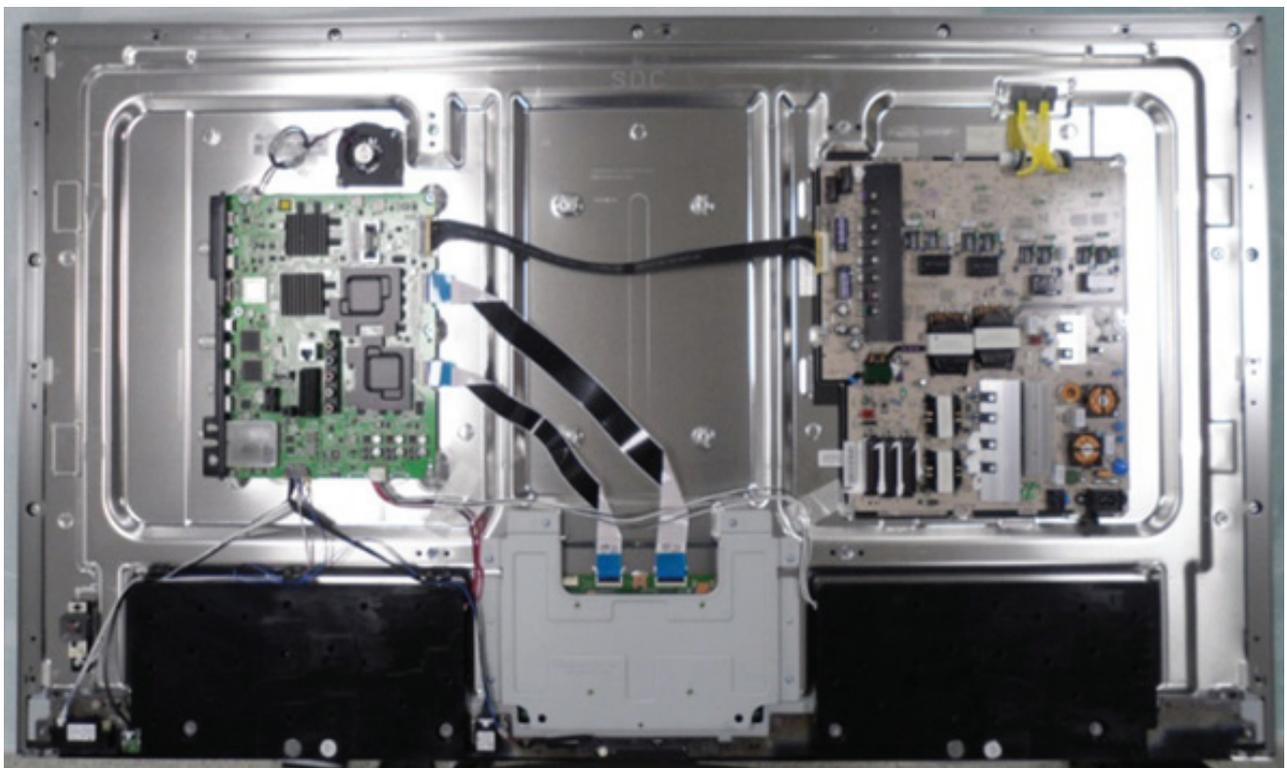
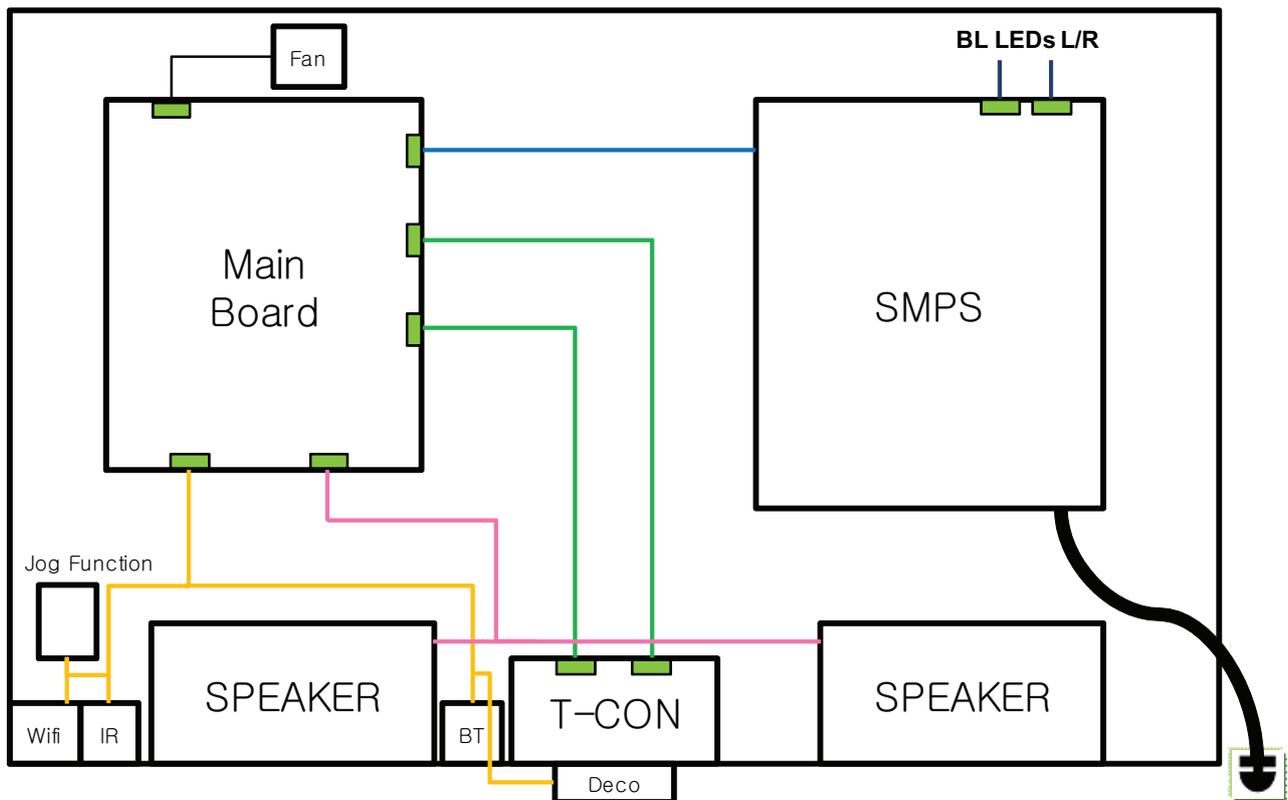


This option requires an Internet connection.

If you agree to the Smart Hub terms and conditions, Auto Update will be set to On automatically. If you don't want the TV's software updated automatically, set **Auto Update** (**Support > Software Update > Auto Update**) to Off.

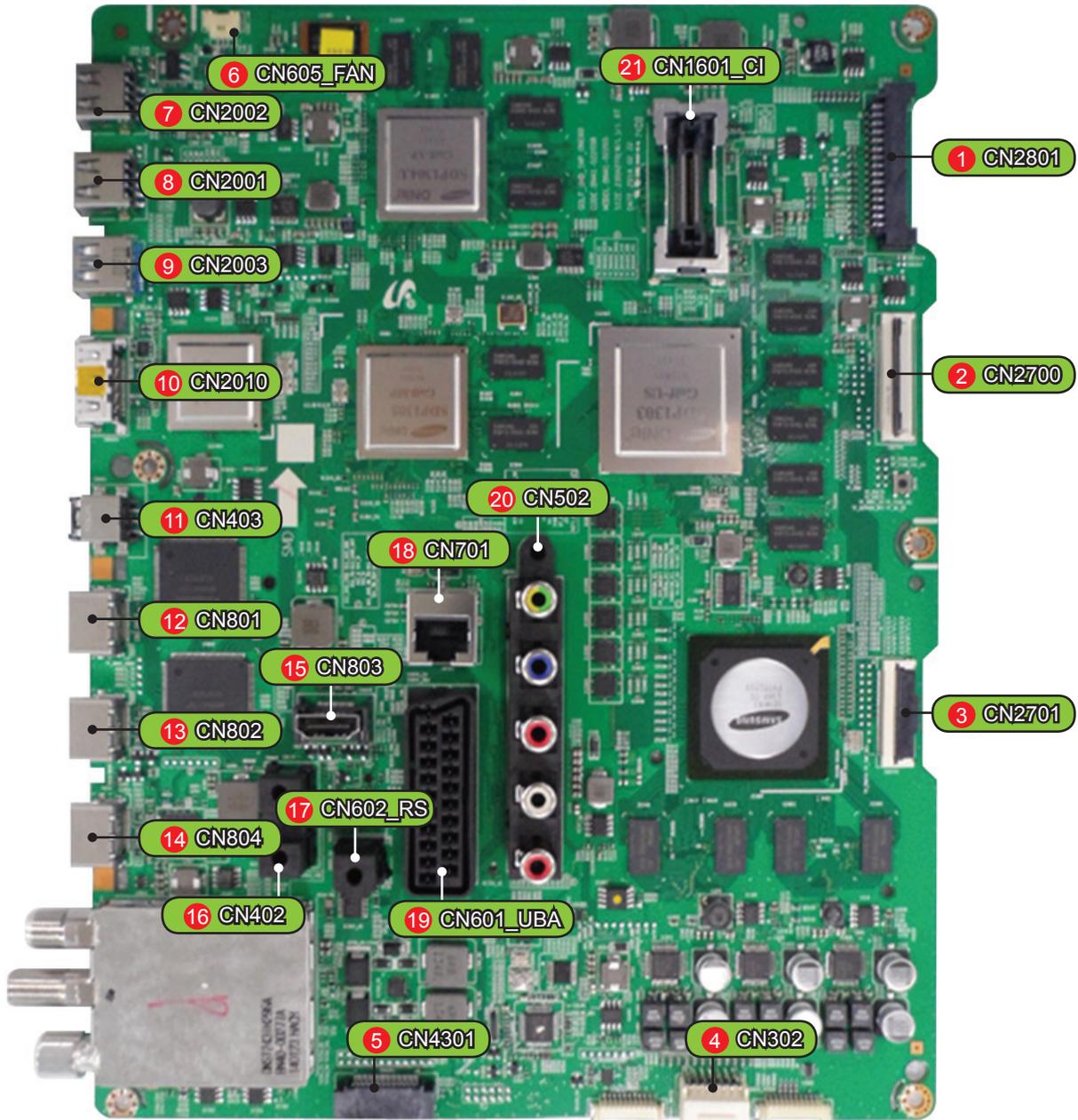
5. Wiring Diagram

5-1. Wiring Diagram



5-2. Connector

■ Main Board



■ Main Board Pin Map

1 CN2801							
1	DGND	9	B13V_PW	17	DGND	25	PWM3
2	SW_POWER_OUT	10	B13V_PW	18	B18VS_PW	26	PWM4
3	A5V_PW	11	B13V_PW	19	OVD_ON_OFF	27	PWM5
4	A5V_PW	12	B13V_PW	20	B5V_USB_PW	28	PWM6
5	DGND	13	B13V_PW	21	OVD_LEVEL	29	PWM7
6	DGND	14	B13V_PW	22	DGND	30	PWM8
7	DGND	15	B18VS_PW	23	PWM1		
8	DGND	16	B18VS_PW	24	PWM2		

② CN2700			
1	PANEL_DETECT0	27	VBY1_C_TX-
2	PANEL_DETECT1	28	DGND
3	NC	29	VBY1_B_TX+
4	PANEL_PMIC_EN	30	VBY1_B_TX-
5	EEPROM_WP	31	DGND
6	SDA_TCON	32	VBY1_A_TX+
7	TCON_I2C_EN	33	VBY1_A_TX-
8	SCL_TCON	34	DGND
9	3D_ENABLE	35	TCON_VB1_LOCKN
10	DGND	36	TCON_VB1_HTPDN
11	VBY1_H_TX+	37	DGND
12	VBY1_H_TX-	38	DGND
13	DGND	39	DGND
14	VBY1_G_TX+	40	DGND
15	VBY1_G_TX-	41	NC
16	DGND	42	PANEL_13V_PW
17	VBY1_F_TX+	43	PANEL_13V_PW
18	VBY1_F_TX-	44	PANEL_13V_PW
19	DGND	45	PANEL_13V_PW
20	VBY1_E_TX+	46	PANEL_13V_PW
21	VBY1_E_TX-	47	PANEL_13V_PW
22	DGND	48	PANEL_13V_PW
23	VBY1_D_TX+	49	PANEL_13V_PW
24	VBY1_D_TX-	50	PANEL_13V_PW
25	DGND	51	PANEL_13V_PW
26	VBY1_C_TX+		

③ CN2701			
1	PANEL_DETECT2	22	VBY1_O_TX-
2	TEMP_SELO	23	DGND
3	NC	24	VBY1_N_TX+
4	NC	25	VBY1_N_TX-
5	NC	26	DGND
6	NC	27	VBY1_M_TX+
7	NC	28	VBY1_M_TX-
8	NC	29	DGND
9	NC	30	VBY1_L_TX+
10	NC	31	VBY1_L_TX-
11	NC	32	DGND
12	NC	33	VBY1_K_TX+
13	NC	34	VBY1_K_TX-
14	NC	35	DGND
15	NC	36	VBY1_J_TX+
16	NC	37	VBY1_J_TX-
17	DGND	38	DGND
18	VBY1_P_TX+	39	VBY1_I_TX+
19	VBY1_P_TX-	40	VBY1_I_TX-
20	DGND	41	DGND
21	VBY1_O_TX+		

④ CN302			
1	BOTTOM_R+	8	BOTTOM_L-
2	BOTTOM_R-	9	TOP_L1+
3	TOP_R1+	10	TOP_L1-
4	TOP_R1-	11	WF_L+
5	WF_R+	12	WF_L-
6	WF_R-	13	NC
7	BOTTOM_L+	14	NC

⑤ CN4301			
1	IR	14	A5V_BT
2	DGND	15	LED_STB
3	DGND	16	WAKE_BT
4	REF_SYNC_IN	17	A3.3V_PW
5	A3.3V_IR	18	POWER_DET
6	BT_SYNC	19	LED_CNTR
7	DSCL	20	BT_NRESET
8	BT_GND	21	WIFI_GND
9	DSDA	22	WIFI_DP
10	BT_DP	23	WIFI_DM
11	KEY1	24	A5V_WIFI
12	BT_DM	25	GND
13	KEY2	26	WIFI_NRESET

5. Wiring Diagram

6 CN605_FAN			
1	FAN_ERROR	3	FAN_9V
2	DGND		

7 CN2002			
1	USB3_VCC_5V_PW	3	SW_MOIP_D+_USB
2	SW_MOIP_D-_USB	4	DGND

8 CN2001			
1	USB2_VCC_5V_PW	3	JACK2_D+_USB
2	JACK2_D-_USB	4	DGND

9 CN2003			
1	USB2_VCC_5V_PW	6	JACK3_RX+_USB3
2	JACK3_D-_USB3	7	DGND
3	JACK3_D+_USB3	8	JACK3_TX-_USB3
4	DGND	9	JACK3_TX+_USB3
5	JACK3_RX-_USB3		

10 CN2010			
1	NT_B3.3V_PW	14	SERDES_RX2-
2	GCLK1_P	15	DGND
3	DGND	16	SERDES_RX1+
4	SERDES_TX1+	17	SERDES_RX1-
5	SERDES_TX1-	18	DGND
6	DGND	19	SERDES_RX5+
7	SERDES_RX4+	20	SERDES_RX5-
8	SERDES_RX4-	21	A5V_PW
9	DGND	22	TX_MICOM_JACK
10	SERDES_RX3+	23	RX_MICOM_JACK
11	SERDES_RX3-	24	GCLK0_P
12	DGND	25	D13V_PW
13	SERDES_RX2+	26	D13V_PW

11 CN403			
1	GOLF_SPDIF_OUT	3	DGND
2	B5V_OP_WIFI_CI_PW		

12 CN801			
1	HDMI1_RX2+_HDMI	11	DGND
2	DGND	12	HDMI1_RXCLK-_HDMI
3	HDMI1_RX2-_HDMI	13	HDMI_CEC
4	HDMI1_RX1+_HDMI	14	DGND
5	DGND	15	HDMI1_SCL_DDC
6	HDMI1_RX1-_HDMI	16	HDMI1_SDA_DDC
7	HDMI1_RX0+_HDMI	17	DGND
8	DGND	18	HDMI1_5V
9	HDMI1_RX0-_HDMI	19	HDMI1_HPD
10	HDMI1_RXCLK+_HDMI		

13 CN802			
1	HDMI2_RX2+_HDMI	11	DGND
2	DGND	12	HDMI2_RXCLK-_HDMI
3	HDMI2_RX2-_HDMI	13	HDMI_CEC
4	HDMI2_RX1+_HDMI	14	DGND
5	DGND	15	HDMI2_SCL_DDC
6	HDMI2_RX1-_HDMI	16	HDMI2_SDA_DDC
7	HDMI2_RX0+_HDMI	17	DGND
8	DGND	18	HDMI2_5V
9	HDMI2_RX0-_HDMI	19	HDMI2_HPD
10	HDMI2_RXCLK+_HDMI		

14 CN804			
1	HDMI4_RX2+_HDMI	11	DGND
2	DGND	12	HDMI4_RXCLK-_HDMI
3	HDMI4_RX2-_HDMI	13	HDMI_CEC
4	HDMI4_RX1+_HDMI	14	DGND
5	DGND	15	HDMI4_SCL_DDC
6	HDMI4_RX1-_HDMI	16	HDMI4_SDA_DDC
7	HDMI4_RX0+_HDMI	17	DGND
8	DGND	18	HDMI4_5V
9	HDMI4_RX0-_HDMI	19	HDMI4_HPD
10	HDMI4_RXCLK+_HDMI		

15 CN803			
1	HDMI3_RX2+_HDMI	11	DGND
2	DGND	12	HDMI3_RXCLK-_HDMI
3	HDMI3_RX2-_HDMI	13	HDMI_CEC
4	HDMI3_RX1+_HDMI	14	DGND
5	DGND	15	HDMI3_SCL_DDC
6	HDMI3_RX1-_HDMI	16	HDMI3_SDA_DDC
7	HDMI3_RX0+_HDMI	17	DGND
8	DGND	18	HDMI3_5V
9	HDMI3_RX0-_HDMI	19	HDMI3_HPD
10	HDMI3_RXCLK+_HDMI		

16 CN402			
1	DGND	8	DGND
2	IC610_1Z	9	IRB_IR_TX_1
3	IC610_2S	10	NC
4	TEST_SL	11	NC
5	TEST_SR	12	NC
6	IDENT_HP	13	IRB_JACK_ID
7	DGND	14	DGND

17 CN602_RS			
1	DGND	5	FA-NET_TX
2	FA-NET_RX	6	DGND
3	FA-NET_TX	7	NC
4	FA-NET_TX		

18 CN701			
1	TX+	5	DGND
2	DGND	6	RX-
3	TX-	7	NC
4	RX+	8	LAN_GND

19 CN601_UBA			
1	TEST_SR	5	SC1_AV2_SL_IN
2	SC1_AV2_SR_IN	6	DGND
3	DGND	7	IDENT_SC1_AV2
4	TEST_SL	8	SC1_AV2_CVBS

20 CN502			
1	DGND	9	TEST_PR
2	COMP_Y	10	DGND
3	TEST_CVBS_Y	11	COMP_AV1_SL_IN
4	DGND	12	TEST_SL
5	COMP_PB	13	DGND
6	TEST_PB	14	COMP_AV1_SR_IN
7	DGND	15	TEST_SR
8	COMP_PR		

5. Wiring Diagram

21 CN1601_CI					
1	PCM_DATA3	23	PCM_ADDR4	45	CI_TSI_DATA0
2	PCM_DATA4	24	PCM_ADDR3	46	CI_TSI_DATA1
3	PCM_DATA5	25	PCM_ADDR2	47	CI_TSI_DATA2
4	PCM_DATA6	26	PCM_ADDR1	48	CI_TSI_DATA3
5	PCM_DATA7	27	PCM_ADDR0	49	VCC_CI_5V_PW
6	PCM_CE1	28	PCM_DATA0	50	CI_TSI_DATA4
7	PCM_ADDR10	29	PCM_DATA1	51	CI_TSI_DATA5
8	PCM_OE	30	PCM_DATA2	52	CI_TSI_DATA6
9	PCM_ADDR11	31	VCC_CI_5V_PW	53	CI_TSI_DATA7
10	PCM_ADDR9	32	DGND	54	CI_TSO_CLK
11	PCM_ADDR8	33	DGND	55	PCM_RESET
12	PCM_ADDR13	34	PCM_CD1	56	PCM_WAIT
13	PCM_ADDR14	35	CI_TSO_DATA3	57	NC
14	PCM_WE	36	CI_TSO_DATA4	58	PCM_REG
15	CI1_INT_N	37	CI_TSO_DATA5	59	CI_TSO_VALID
16	VCC_CI_5V_PW	38	CI_TSO_DATA6	60	CI_TSO_START
17	CI_TSI_VALID	39	CI_TSO_DATA7	61	CI_TSO_DATA0
18	CI_TSI_CLK	40	PCM_CE2	62	CI_TSO_DATA1
19	PCM_ADDR12	41	NC	63	CI_TSO_DATA2
20	PCM_ADDR7	42	PCM_IORD	64	PCM_CD1
21	PCM_ADDR6	43	PCM_IOWD		
22	PCM_ADDR5	44	CI_TSI_START		