



LED TV

Chassis : U8MC

Model : UN40H5103AG

SERVICE Manual

LED TV



UN40H5103AG

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2. Product specifications
3. Disassembly and Reassembly
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1. Precautions

1-1. Safety Precautions

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

1-1-1. Warnings



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

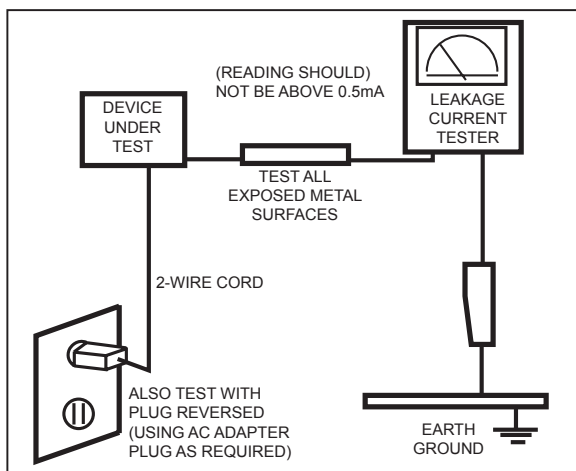
1-1-2. Servicing the LED TV

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

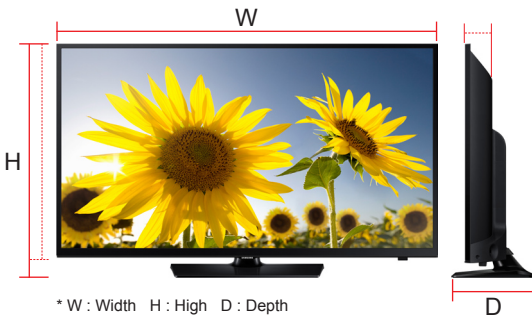

1. For safety reasons, more than a people are required for carrying the product.
2. Keep the power cord away from any heat emitting devices, as a melted covering may cause fire or electric shock.
3. Do not place the product in areas with poor ventilation such as a bookshelf or closet. The increased internal 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:



- 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	UN40H5103AG		
Front View	 <p>* W : Width H : High D : Depth</p>		
Detail View			
Front Color	Black		
Dimensions (W x H x D)	40"	With Stand	905.2 x 561.8 x 169.0 mm
		Without Stand	905.2 x 525.4 x 91.1 mm
Weight	40"	With Stand	6.9 kg
		Without Stand	6.4 kg

2-2. Product specification

2-2-1. Detailed Specifications


NOTE

Design and specifications are subject to change without prior notice.

Item		UN40H5103AGXUG
General Information	Product	LED
	Series	5
	Country	URUGUAY
Display	Inch	40
	Resolution	1,920 x 1,080
	Ultra Clear Panel	N/A
Video	Picture Engine	HyperReal Engine
	Clear Motion Rate	120 / 100 (PY,UY)
	Dynamic Contrast Ratio	Mega Contrast
	Micro Dimming	No
	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 / DTSx+	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
	TV SoundConnect	N/A
Smart TV	Smart Hub	Yes
	Samsung SMART TV	Yes
	On TV	No
	Movies & TV Shows	No

Item		UN40H5103AGXUG
Smart TV	Multimedia	No
	Apps	Yes
	News On	No
	Game	No
	My Space	No
	Social	No
	Fitness	No
	Kids	No
	Multi-Screen (Dual / Quad Screen)	No
	Skype™ on Samsung TV	No
	Web Browser	Yes
	Search	Yes
Smart Interaction	Voice Interaction	No
	Voice Control	No
	Face recognition	No
	Motion control	No
Smart Convergence	Contents Streaming	Yes
	Screen Mirroring	Yes
	Samsung SMART View	N/A
	Smart Home	N/A
	Wake On LAN	N/A
	WiDi	N/A
	WiFi Direct	Yes
Tuner/Broadcasting	DTV Tuner	ISDB-T
	Analog Tuner	Yes (Trinorma)
	MHP / MHEG / HbbTV / ACAP / GINGA / OHTV	GINGA
Connectivity	HDMI	2
	USB	1
	Component In (Y/Pb/Pr)	1
	Composite In (AV)	1 (Common Use for Component Y)
	Ethernet (LAN)	Yes
	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		UN40H5103AGXUG
Connectivity	RF In (Terrestrial / Cable input / Satellite input)	1/1/0
	Ex-Link (RS-232C)	No
	IR Out	No
	CI Slot	No
	Scart	No
	Wireless LAN Adapter Support	No
	Wireless LAN Built-in	Yes
	Anynet+ (HDMI-CEC)	N/A
Design	Design	Narrow Bezel
	Bezel Type	NNB
	Slim Type	Normal
	Front Color	Black
	Light Effect (Deco)	No
	Stand Type	Square
	Swivel (Left/Right)	No
	Camera Type	N/A
Additional Feature	Samsung 3D	N/A
	3D Converter	N/A
	Instant On	N/A
	Camera Built-in	No
	N-KIT	N/A
	Quad Core+	N/A
	Accessibility	Yes(Zoom)
	Digital Clean View	Yes
	Auto Channel Search	Yes
	Auto Power Off	Yes
	Clock&On/Off Timer	Yes
	Sleep Timer	Yes
	BD Wise Plus	N/A
	Caption (Subtitle)	Yes
	ConnectShare™ (USB 2.0)	Movie
	AC/DC TV	N/A
	Sports Mode	Basic
	Screen Capture	N/A
	Sound Capture	N/A

Item		UN40H5103AGXUG
Additional Feature	Embedded POP	Yes
	EPG	Yes
	Extended PVR	N/A
	Game Mode	Yes
	History	N/A
	Multiroom Compatible	N/A
	OSD Language	Local Languages
	Picture-In-Picture	Yes
	USB HID Support	Yes
	Smart Evolution Support	N/A
	Teletext (TTXT)	N/A
	Time Shift	N/A
	Analog Clean View	No
	Triple Protector	N/A
	GUI	Golden Bridge
Eco Feature	Eco Mark	Energy Star
	Eco Label	No
	Eco Sensor	Yes
	Energy Efficiency Class	N/A
	Mercury Content	0.0 mg
	Lead Presence	Yes
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
	Mini Wall Mount Supported	Yes
	Vesa Wall Mount Supported	Yes
	Floor Stand Support	N/A
	TV Camera (Included)	No
	IR Extender Cable (Included)	No
	Network Speaker (Included)	N/A
	Wireless Keyboard (Included)	N/A

2. Product specifications


Item		UN40H5103AGXUG
Accessory	Wireless LAN Adaptor (Included)	N/A
	User Manual	Yes
	E-Manual	Yes
	ANT-Cable	N/A
	Power Cable	Yes
	Slim Gender Cable	N/A

2-2-2. Feature & Specifications

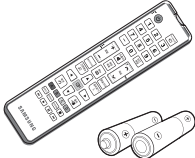



■ Specifications

Model	UN40H5103AG
Item	Description
Screen Size (Diagonal)	40 inches
LCD Panel	FHD 60Hz
Display Colors	16.7M color
Display Resolution	1920 x 1080
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.
AC Power Voltage & Frequency	AC110-120V 60Hz
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	Description	Code. No	Remark
	Remote Control & Batteries (AAA x 2)	BN59-01178K	Samsung Electronics Service center
		4301-000121	
	Power Cord	3903-000849	
	User manual	BN68-06720B	
	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.


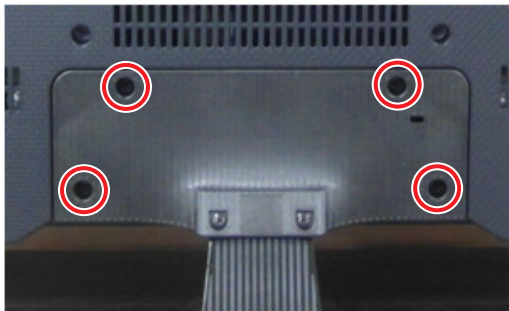

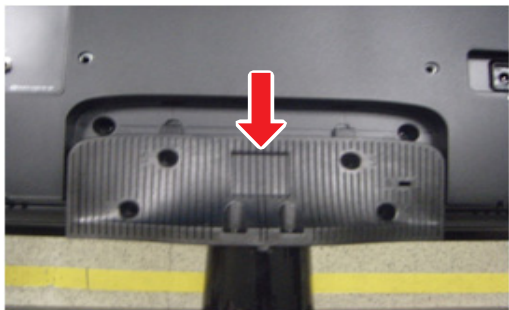


This LED TV contains electrostatically sensitive devices. Use caution when handling these components.

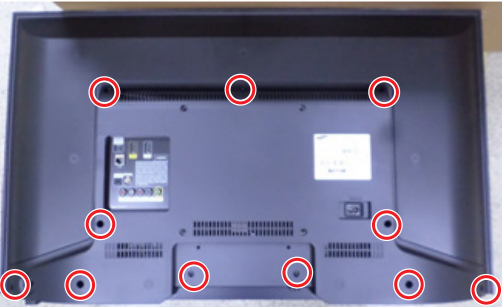

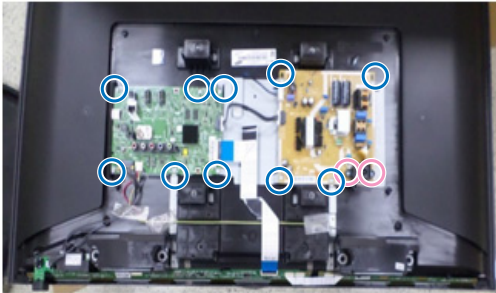


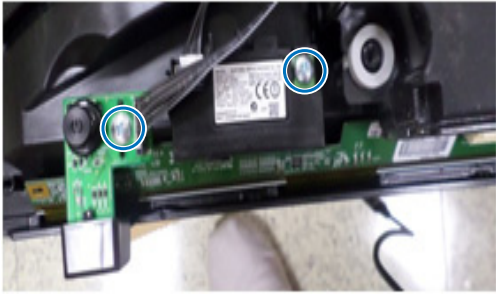

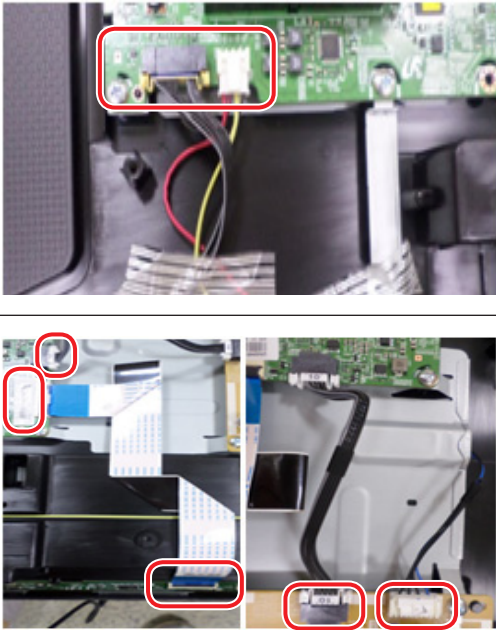
3-1. Disassembly and Reassembly

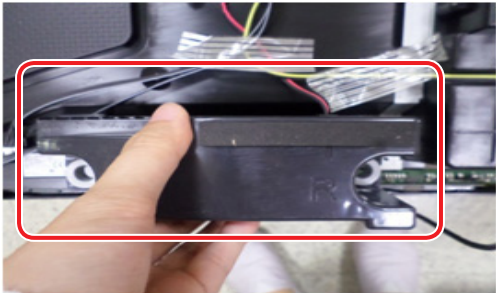



- 1. Disconnect the LED TV from the power source before disassembly.
- 2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.
- 3. If there is no additional coment, it is same for all inches.

Description	Picture Description	Screws
1 Place TV face down on cushioned table.		
2 Remove 4 screws from the stand.	  6003-001782	
3 Remove stand.		

3. Disassembly and Reassemble

Description	Picture Description	Screws
4 Remove screws of Rear Cover.		 6003-001782
5 Disconnect the function assy cable.		 6003-001856  6001-003016
6 Remove the screws of Function module & WiFi.		 6003-001856
7 Remove the speakers and power cables.		

Description	Picture Description	Screws
		
8 Completed disassembly.		



NOTE

Reassembly procedures are in the reverse order of disassembly procedures.


4. Troubleshooting

4-1. Troubleshooting

4-1-1. Testing the Picture



Before you review the list of problems and solutions below, use Picture Test to determine if the problem is caused by the TV. The Picture Test displays a high definition picture you can examine for flaws or faults. If the test picture does not appear or there is noise or distortion, the TV may have a problem. Contact Samsung's Call Center for assistance. If the test picture is displayed properly, there may be a problem with an external device. Please check the connections. If the problem persists, check the signal strength or refer to the external device's user manual.

The Problem	Try this!
Flickering and Dimming.	If your Samsung Television is flickering or dimming sporadically, you may need to disable some of the energy efficiency features. Disable Energy Saving (System > Eco Solution > Energy Saving) or Eco Sensor (System > Eco Solution > Eco Sensor) .
Component Connections/ Screen Color	<p>If the color on your Samsung television screen is not correct or the black and white colors are off, run Picture Test (Support > Self Diagnosis > Picture Test). If the test results indicate that the problem is not caused by the TV, do the following:</p> <ul style="list-style-type: none"> Confirm that the TV's video input connectors are connected to the correct external device video output connectors. Check the other connections as well. If the TV is connected to an external device via a component cable, confirm that the Pb, Pr, and Y jacks are plugged into their proper connectors.
Screen Brightness	<p>If the colors on your Samsung TV are correct but just a little too dark or bright, try adjusting the following settings first.</p> <ul style="list-style-type: none"> Go to the Picture menu and adjust the Backlight/Cell Light (available on different models) Contrast, Brightness, Sharpness, Color, and Tint (G/R) settings.
Ghosting, Blurring, or Juddering	<p>If you notice ghosting or blurring on the screen, use the Auto Motion Plus option (Picture > Picture Options > Auto Motion Plus) to resolve the issue.</p> <div>  NOTE For the LED 5203, 5303 and 4303 series models, you can resolve this issue by using LED Clear Motion (Picture > Picture Options > LED Clear Motion). </div>
Unwanted Powering Off	If your Samsung TV appears to turn off by itself, try disabling some of the TV's energy efficiency features. See if Sleep Timer (System > Time > Sleep Timer) has been enabled. The Sleep Timer automatically turns the TV off after a specified period of time. If the Sleep Timer has not been enabled, see if No Signal Power Off (System > Eco Solution > No Signal Power Off) or Auto Power Off (System > Eco Solution > Auto Power Off) has been enabled and disable them.
Problems Powering On	<p>When the TV is turned on, the remote control receiver flashes 5 times before the screen turns on.</p> <p>If you are having problems powering on your Samsung television, there are a number of things to check before calling the service department. Confirm that the TV's power cord is connected correctly at both ends and that the remote control is operating normally. Make sure that the antenna cable or cable TV cable is firmly connected. If you have a cable/satellite box confirm that it is plugged in and turned on.</p>
Unable to find a Channel	If your TV is not connected to a cable box or satellite box, run Setup (System > Setup) or Auto Program (Broadcasting > Auto Program) .

4. Troubleshooting

The Problem	Try this!
The TV image does not look as good as it did in the store.	<p>Store displays are all tuned to digital, HD (high definition) channels. If you have an analog cable/set top box, upgrade to a digital set top box. Use HDMI or Component cables to deliver HD (high definition) picture quality. Many HD channels are upscaled from SD (Standard Definition) content. Look for a channel that is broadcasting true HD content.</p> <ul style="list-style-type: none">• Cable/Satellite Subscribers: Try HD channels from the channel lineup.• Air/Cable Antenna Connection: Try HD channels after running the Auto Program function. <p>Adjust the cable/satellite box's video output resolution to 1080i or 720p.</p>
The picture is distorted.	<p>The compression of video content may cause picture distortions, especially in fast moving pictures from sports programs and action movies. A weak or bad quality signal can cause picture distortions. This is not an issue with the TV. Mobile phones used close to the TV (within 3.2 ft) may cause noise in analog and digital channels.</p>
The color is wrong or missing.	<p>If you're using a Component connection, make sure that the Component cables are connected to the correct jacks. Incorrect or loose connections may cause color problems or a blank screen.</p>
The color is poor or the picture is not bright enough.	<p>Go to the Picture menu and then adjust the Picture Mode, Brightness, Sharpness, and Color settings. See if Energy Saving (System > Eco Solution > Energy Saving) has been enabled. Try resetting the picture. (Picture > Picture Reset)</p>
There is a dotted line on the edge of the screen.	<p>If the Picture Size has been set to Screen Fit, change the setting to 16:9. Change the cable/satellite box resolution.</p>
The picture is black and white.	<p>If you are using AV composite input, connect the video cable (yellow) to the TV's green component jack.</p>

4-1-2. Testing the Sound



Before you review the list of problems and solutions below, make sure that the **TV Sound Output** menu item is set to **TV Speaker**, and then listen to the speakers again. If the TV still does not play audio, run the **Sound Test**. The **Sound Test** uses a built-in melody to check for sound problems. If the TV does not play sound during the Sound Test, or the sound is distorted, there may be a problem with the TV. Contact Samsung's Call Center for assistance. If the TV plays the Sound Test melody without distortion, there may be a problem with an external device. Please check the connections. If the problem persists, refer to the external device's user manual.

The Problem	Try this!
There is no sound or the sound is too low at maximum volume.	Check the volume control of the device (cable/satellite box, DVD, Blu-ray, etc.) connected to your TV.
The picture is good but there is no sound.	<p>Set Sound > Speaker Settings > TV Sound Output to TV Speaker.</p> <p>If you are using an external device, check the device's audio output option. (For example, you may need to change your cable box's audio option to HDMI if the box connected to your TV is using an HDMI cable.) To listen to the computer sound, connect the external speaker to the computer's audio output connector.</p> <p>If your TV has a headphone jack, make sure there is nothing plugged into it.</p> <p>Reboot the connected device by disconnecting and then reconnecting the device's power cable.</p>
The speakers are making an odd sound.	<p>Make sure that the audio cable is connected to the correct audio output connector on the external device.</p> <p>For antenna or cable connections, check the signal information. A low signal level may cause sound distortions. Run Sound Test (Support > Self Diagnosis > Sound Test).</p>

4-1-3. There is a problem with the broadcast

The Problem	Try this!
The TV is not receiving all channels.	If your TV is not connected to a cable box or satellite box: <ul style="list-style-type: none">• Confirm that the coaxial cable is securely connected to the TV.• If you are using an antenna, verify it is positioned correctly and the all the connections are secure.• Run Setup (System > Setup) or Auto Program (Broadcasting > Auto Program).
There are no captions with digital channels.	Go to Caption (System > Accessibility > Caption) and change the Caption Mode . Some channels may not have caption data.
The picture is distorted.	The compression of the video content may cause picture distortions. This is especially true with fast moving pictures from sports programs and action movies. A weak signal can cause picture distortions. This is not a problem with the TV.

4-1-4. My computer won't connect

The Problem	Try this!
The "Mode Not Supported" message appears.	Set your PC's output resolution so it matches a resolution supported by the TV.
The video is OK but there is no audio.	If you are using an HDMI connection, check the audio output setting on your PC. If you are using a DVI to HDMI cable, a separate audio cable is required.

4-1-5. I can't connect to the Internet

The Problem	Try this!
The wireless network connection failed.	Confirm your wireless modem/router is on and connected to the Internet. Reset your wireless modem/router by turning it off, waiting for 15 seconds, and then turning it on again. Run Network Setup (MENU > Network > Network Settings).
The software update over the Internet has failed.	Check the network connection status (MENU > Network > Network Status). If the TV is not connected to a network, connect to a network. The upgrade stops if you already have the latest software version.

4-1-6. I am having trouble launching/using apps

The Problem	Try this!
I launched an app, but it's in English. How can I change the language?	Languages supported by the app may be different from the user interface language. The ability to change the language depends on the service provider.
My application is not working.	Check with the service provider. Refer to the help section on the application service provider's website.

4-1-7. My file won't play

The Problem	Try this!
Some files can't be played.	This problem may occur with high-bitrate files. Most files can be played back, but you might experience problems with high-bitrate files.

4-1-8. I want to reset the TV

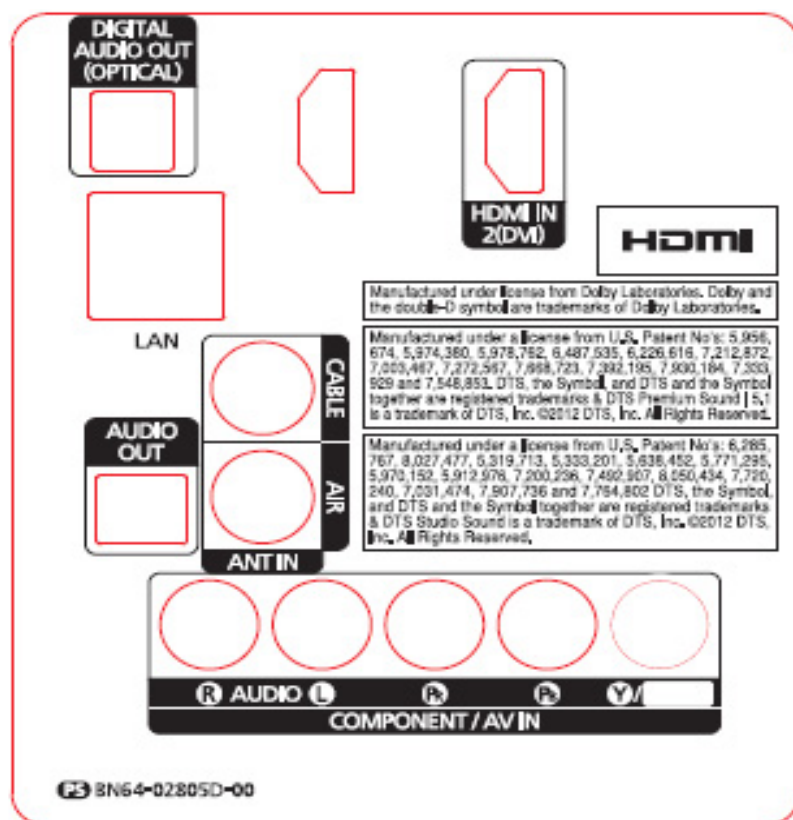
Reset	Path	Description
Reset Settings	MENU > Support > Self Diagnosis > Reset	Reset Picture , Sound , Channel , Smart Hub , and all other settings, except for the network settings, default settings.
Resetting Smart Hub	MENU > Smart Hub > Smart Hub Reset	Resets all Smart Hub settings to their factory defaults and deletes all information related to Samsung accounts, linked service accounts, Smart Hub service agreements, and Smart Hub applications.

4-1-9. Other Issues

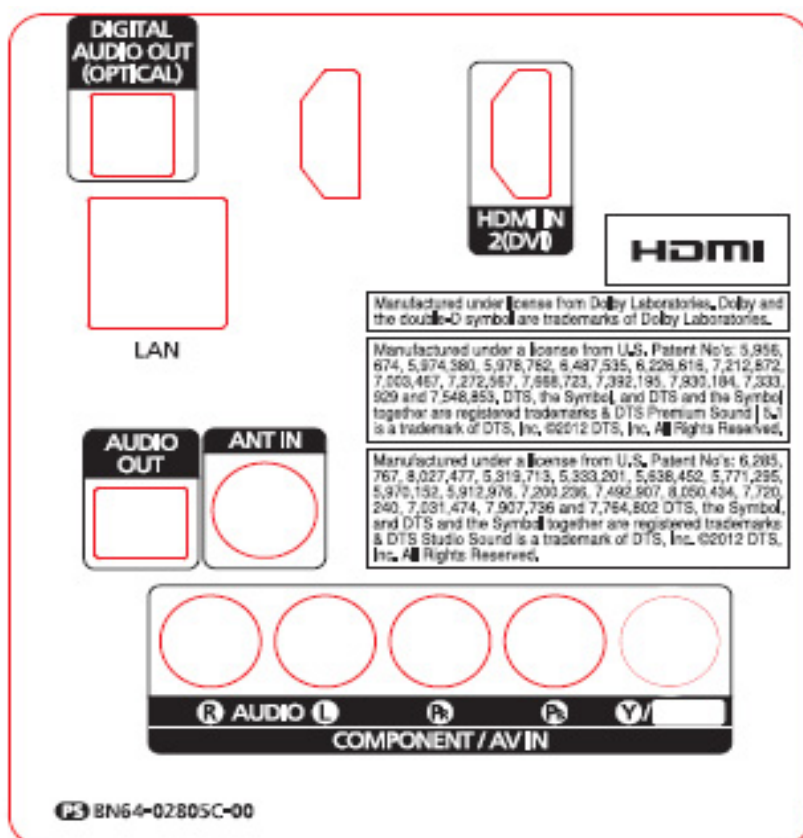
The Problem	Try this!
The TV is hot.	Watching TV for an extended period of time causes the panel to generate heat. The heat from the panel is dissipated through internal vents running along the top of the TV. The bottom, however, may feel hot to the touch after extended use. Children watching TV need constant adult supervision to prevent them from touching the TV. This heat, however, is not a defect and does not affect the TV's functionality.
The picture won't display in full screen.	HD channels will have black bars on either side of the screen when displaying upscaled SD (4:3) content. Black bars will appear at the top and bottom of the screen when you watch movies that have aspect ratios different from your TV. Adjust the picture size options on your external device or set the TV to full screen.
The "Mode Not Supported" message appears.	The output resolution of the attached device is not supported by the TV. Check the TV's supported resolutions and adjust the external device's output resolution accordingly.
The Captions item in the TV menu is grayed out.	You cannot select the Caption menu if you have selected a source connected to the TV via HDMI or Component. To view captions, turn on the external device's caption function.
The TV smells of plastic.	This smell is normal and will dissipate over time.
The Signal Information option under Self Diagnosis isn't activated.	Verify that the current channel is a digital channel. The Signal Information is only available for digital channels.
The TV is tilted to the side.	Remove the base stand from the TV and reassemble it.
The Broadcasting option has been deactivated.	Broadcasting is only available when the Source is set to TV . The Broadcasting menu cannot be accessed while you watch TV using a cable box or satellite receiver.
The settings are lost after 5 minutes or every time the TV is turned off.	If the Use Mode is set to Store Demo , the TV's audio and video settings are automatically reset every 5 minutes. Change the Use Mode (Support > Use Mode) to Home Use .
There is an intermittent loss of audio or video.	Check the cable connections and reconnect them. Loss of audio or video can be caused by using overly rigid or thick cables. Make sure the cables are flexible enough for long term use. If you are mounting the TV to a wall, we recommend using cables with 90-degree connectors.
There are small particles on the TV's bezel.	This is part of the product's design and is not a defect.
The PIP menu is not available.	PIP functionality is only available when you are viewing video from an HDMI or Component source on the main screen.
A POP (TV's internal banner ad) appears on the screen.	Change the Use Mode (Support > Use Mode) to Home Use .
The TV is making a popping noise.	The expansion and contraction of the TV's outer casing may cause a popping noise. This does not indicate a product malfunction. The TV is safe to use.
The TV is making a humming noise.	Your TV utilizes high-speed switching circuits and high levels of electrical current. Depending on the TV's brightness level, the TV may seem slightly noisier than a conventional TV. Your TV has undergone strict quality control procedures that meet our demanding performance and reliability requirements. Some noise coming from the TV is considered normal and is not an acceptable cause for an exchange or refund.

4-2. Connect

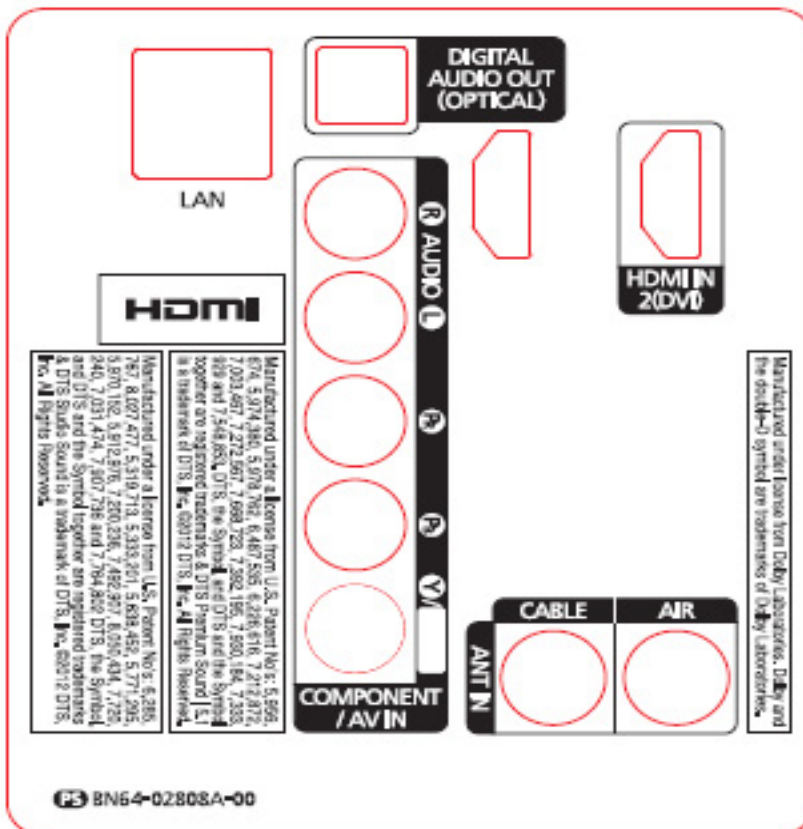
■ Latin America (except Colombia)



■ MEXICO



■ COLOMBIA



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**".

■ UN40H5103AGXUG

Inches		40"
PANEL	Vendor	INX
	Code	BN95-01875A
	Spec.	CY-HH040BGNV1V/H
SMPS BOARD	Vendor	SEM
	Code	BN44-00754A
	Spec.	40G0B_ESM
MAIN BOARD	Chassis Ass'y	BN91-13433E
	PBA Ass'y	BN94-07800E
Byte	Item	
0	Factory Reset	-
1	Type	40D6AF0S
2	Basic Model	H5103
3	SVC Model	5103
4	Local Set	URU_DTV
5	Tuner	ISDB-T
6	Ch table	NONE

4-3-2. Entering Factory Mode

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

- If you have Factory remote control



- If you do not have Factory remote control



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

Option	T-NT14MUABC-xxxx T-NT14MUABCSS-xxxx BT Version :***** E-Manual : NMISDBH-1.**** EDID SUCCESS CALIB : AV/COMP/PC/HDMI/ Option : 40D6AF0S,SD_MEXICO(Vary by Country) ,4203,NONE (Vary by inches)
Control	
Debug	
SVC	
ADC/WB	
Advanced	DTP-SDAL-NT14M-MAIN-****_**** RFS : "NT14M *****" K/2 2014-0*-* KERNEL : 107.1272,/ Onboot : 00** DTP-DTVTD-**** Model : UN40H5103 Wired MAC SUCCESS Wireless MAC SUCCESS WIFI :ATH6KL (5.0.0.99_****) C/Nf/W/M/D/HO PO AO /S/ N/ Factory Data Ver : 191 /EERC Ver :77 Smart control : **** DTP-BP-HAL-4718 DTP-BP-HW- 4718 DTP-BP-APP-4718-02 POP-FLA-14-FHD_SMART-* Date of purchase : mm/dd/yyyy

4-3-3. Factory Data



Note

- Black : I should not be possible to adjust or change that does not require a change item
- Blue : Adjustment Services for the corresponding
- Red : Items that are secured

■ Option

Factory Menu Name	Data	Range
Factory Reset		
Type		40D6AF0S
Local Set		SD_MEXICO/CARRIBE/PERU_DTV/ PAR_DTV/URU_DTV/ARG_DTV/BRA_DTV/ CHILE_DTV
Model	UH5103	
SVC Model	5103	
TUNER		
Ch Table	NONE	
MRT Option		
Front Color	U-S-C-MEGA	
Lvds Format	JEIDA	
Language_Arabic		
Region	FANEURO	
PnP Language	EDG	
WIFI REGION	E	
OTN Support	ON	
OTA Support	General	
MediaPlay DLNA	ON	
TTX	OFF	
China HD	OFF	
NT Conversion	OFF	
Num of DTV	1	
Num of AV	1	
Num of COMP	1	
Num of HDMI	2	
Num of SCART	0	
Num of USB Port	2	
Num of USB 3.0	0	
Num of RVU	0	
Num of Display	2	

4. Troubleshooting

Factory Menu Name	Data	Range
Num of IPTV	0	
Num of RUI	0	
Num of PVR RECORD	0	
TOOLS Support	40	
LNA Support	OFF	
24Px4 Support	OFF	
BD Wise Support	OFF(H6203 ON)	
Data Service Support	OFF	
PVR Support	OFF	
CI Support	OFF	
LEDMotionPlus Support	ON	
Natural Mode Support	ON	
Relax Mode Support	OFF	
HDMI/DVI SEL	2	
Select LED/PDP	LCD	
Wall Mount	OFF	
HV Flip	HV Filp	
FRC HV Flip	0	
Light Effect	OFF	
e-Pop Default	ON	
CAMERA Support	OFF	
NETWORK Support	Int-Wifi	
EcoSensor Support	ON	
3D Support	OFF	
BT Support	OFF	
BT ADDRESS	Not support	
HP LINE	LineOut	
Smart Control Support	OFF	
Motion Recog	OFF	
Voice Recog	OFF	
Virtual Remocon color	1	
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	

Factory Menu Name	Data	Range
Standby led on/off	OFF	
Recognition Support	OFF	
IF AGC	0	
D AGC	0	
PH BW	0	
FQ BW	0	
PH RATE	0	
PD EN	0	
PEQ Inx	0	
WF Scale		
WF Type	0	
Num of Network Stream	1	
DP V Size	0	
Backend Device		
BT_AUDIO_ON_OFF	OFF	
Config_AV_PATH		
USING_PSI_UPDATE		
ECO Stanby	OFF	
Fast Logo Delay	0	
Num of PANEL KEY		
Panel Detail	0	
Panel Init Time	250	
Tcon Init Time	460	
WRITE MAC Address		

■ Control

Factory Menu Name	Data	Range
EDID		
EDID ON/OFF	OFF	
EDID WRITE ALL	...	
EDID WRITE PC	...	
EDID WRITE HDMI	...	
EDID WRITE HDMI1	...	
EDID WRITE HDMI2	...	
EDID WRITE HDMI3	...	
EDID WRITE HDMI4	...	
EDID Ver	...	

4. Troubleshooting

Factory Menu Name	Data	Range
EDID Port		
EDID WRITE DVI	...	
Sub Option		
RS-232 Jack	UART	Debug/UART
Serial Log On/Off	OFF	ON/OFF
Watchdog	OFF	
FRC Monitoring	OFF	
Checksum	0x0000	
Fast Boot in Production	ON	
UART ENABLE	OFF	
ECO IC TYPE	MC8121	
Info Link Server Type	development	
Info Link Country	None	
TTX Group	...	
Visual Test	...	
MediaPlay DB	...	
OPTION_SWU		
OPTION_NUM		
RF Remocon Support	OFF	
CCD mode	...	
DONS Support	OFF	
Num of IPTV CIP	0	
Num of CI	0	
Num of HYBRID TV	0	
T-CON Device		
BOARD CONTROL	OFF	
RM		
PSA		
LMK threshold	4	
Low threshold	10	
High threshold	15	
CSB	ON	
CLB	ON	
EEPG Enable	0	
Last Screen	OFF	
App Resume	OFF	
BP PMS Reset	1	
F Anet Thread	2	

Factory Menu Name	Data	Range
ACM_MC	OFF	
Support MiniBrowser	ON	
HotkeyList	Basic_Smart	
PDP Option		
Pixel Shift Test	OFF	
Logic SW		
Panel Temperature		
LOGIC Waveform Day		
Logic Check Sum		
MRT		
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		
AF Level adjust		
TX Power Level		
Mono Last Memory		
H Shaking		
SOUND		
Carrier_Mute	ON	
High Devi	OFF	
Speaker Delay Normal	10	
SPDIF PCM Gain	-9 dB	
FM M Prescale	48	
FM Prescale	0x00h	

4. Troubleshooting

Factory Menu Name	Data	Range
AM Prescale	0x32h	
NICAM Prescale	0x48h	
BTSC Mono Prescale	15	
BTSC stereo Prescale	29	
BTSC SAP Prescale	29	
A2Ident High Thld	36	
A2Ident Low Thld	9	
Pilot Level High Thld	0x0Fh	
Pilot Level Low Thld	0x08h	
Carrier2 Amp High Thld	4	
Carrier2 Amp Low Thld	3	
Carrier2 SNR High THR	16	
Carrier2 SNR Low THR	80	
Sig Error On	35	
Sig Error Off	41	
Amp Model	TAS5745	
Amp Volume	0xc9h	
Amp Scale	0x35h	
Amp Check Sum	0x00480W60	
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	
Bottom Local Checksum	0	
Lipsync Inx	2	
Lipsync checkSum	NG	
Lipsync USB Test	Ready	

Factory Menu Name	Data	Range
Lipsync BT Checksum	NG	

■ Debug

Factory Menu Name	Data	Range
Spread Spectrum		
LVDS Spread	ON	
DDR Spread	OFF	
Period	20K	
Amplitude	1.5	
HD SSC ON/Off	OFF	
HD SSC Value	1	
LVDS SSC ON/OFF	OFF	
LVDS Value	0	
DDR SSC ON/OFF	OFF	
DDR SSC Value	1	
FRC Vx1 SSC ON/OFF	OFF	
FRC LVDS SSC ON/OFF	OFF	
FRC LVDS SSC MRR	10	
FRC LVDS SSC MFR	1	
FRC Vx1 SSC Period	0	
FRC Vx1 SSC Modulation	0	
FRC DDR SSC ON/OFF	ON	
FRC DDR SSC MRR	15	
FRC DDR SSC MFR	1	
FRC DDR SSC Period	0	
FRC DDR SSC Modulation	0	
DDR Margin		
A CTRL_OFFSET_0_3	0	
A CTRL_OFFSET_D	0	
B CTRL_OFFSET_0_3	0	
B CTRL_OFFSET_D	0	
MICOM POWER OFF	OFF	
RF Mute Time	6ms	
CI +1.3	OFF	
FRC		
Tuner Margin	10	
MPEG Margin	100	

4. Troubleshooting

Factory Menu Name	Data	Range
H.264 Margin	100	
CAM Wait Time		
TS Clock delay	0	
TCON_TEMP_READ	0	
TEMP LAST	60	
DCC VERSION	0x3447	
DCC CHK SEL	0	
DCC CHECK LOCAL	0	
DCC CHECK TOTAL	0	
MultiACC Checksum	0	
IIC Bus Stop	OFF	
Tuner Status		
Cert Option	SHOW	
RM_BIST_DTV	0	
RM_BIST_ATV	0	
Voice Debug	OFF	

■ 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		
LVDS		
LVDS2		
T-CON/FRC		
T-CON2/FRC		
PCB Test		
MOIP		
BT		

Factory Menu Name	Data	Range
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		
BT		
Chip Test		
Module Test		
ATV CH Inspection		
DTV CH Inspection		
Satellite CH Inspection		
UHD OSD TEST		
Aging Line Test		
Tweeter Sound Inspection		
Info		
SVC Info		
LOG(View Log)		
ER Count		
Panel Display Time		
Factory Execution History		
Factory Reset History		
Upgrade		
T-CON Usb Download		
T-CON CheckSum		
Logic Usb D/L		
SUBMICOM UPGRADE		
BT UPGRADE		
BT FREPAIRING		
Function Upgrade		
FRC3D FW UPGRADE		
FRC3D LD UPGRADE		
Camera Upgade		

4. Troubleshooting

Factory Menu Name	Data	Range
Mic Upgrade		
CPLD USB Download		
JP MICOM UPGRADE		
DP MICOM UPGRADE		
Jump UPGRADE		
IR Blaster Upgrade		
IR Blaster delay time		
CPLD Download		
LDC PROFILE UPGRADE		
Pic Data USB Update		
Audio Data USB Update		
Eco Data USB Upate		
SC ADK Upgrade		
SC MBR Upgrade		
Reset		
App Reset	0	
EEPROM Rst	0	
SPI Flash Reset	Failure	
OPTION_HDMI		
DVI/HDMI SOUND	Auto	
HDMI HOT PLUG	Disable	
HOTPLUG SWITCHING	boot	
HOTPLUG 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	
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	

Factory Menu Name	Data	Range
HOTPLUG OFF HOLD TIME		
HDMI Stable Count	1	
HDCP UPDATE SPI		
SPI VERSION	0	
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		
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 Port 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		
Source Direct ON/OFF	0	
App Update	LAST POWER	
SVC Panel	ORIGINAL	

■ ADC/WB

Factory Menu Name	Data	Range
ADC		
AV Calibration		
Comp Calibration		
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		
WB_W2_B_Offset		
WB_W2_R_Gain		
WB_W2_B_Gain		
WB-N_R_Offset		
WB_W2_N_Offset		
WB_W2_N_Gain		
WB_W2_N_Gain		
MGA		
MGA On/Off	OFF	
R1_Gain		
G1_Gain		

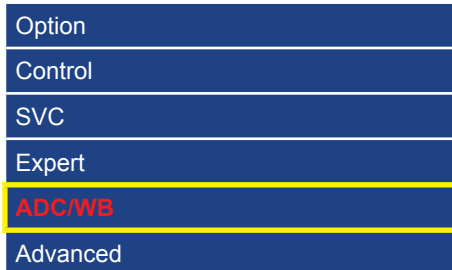
Factory Menu Name	Data	Range
B1_Gain		
R2_Gain		
G2_Gain		
B2_Gain		
R3_Gain		
G3_Gain		
B3_Gain		
R4_Gain		
G4_Gain		
B4_Gain		
R5_Gain		
G5_Gain		
B5_Gain		
R6_Gain		
G6_Gain		
B6_Gain		
R7_Gain		
G7_Gain		
B7_Gain		
R8_Gain		
G8_Gain		
B8_Gain		
R9_Gain		
G9_Gain		
B9_Gain		
R10_Gain		
G10_Gain		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

■ Advanced

4-4. White Balance

4-4-1. Calibration

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



ADC

AV Calibration
Comp Calibration
HDMI Calibration

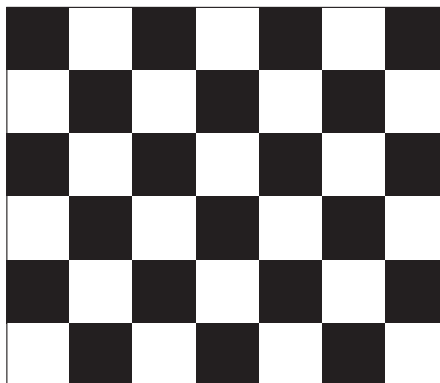
4-4-2. Service Adjustment

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 (Only 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)

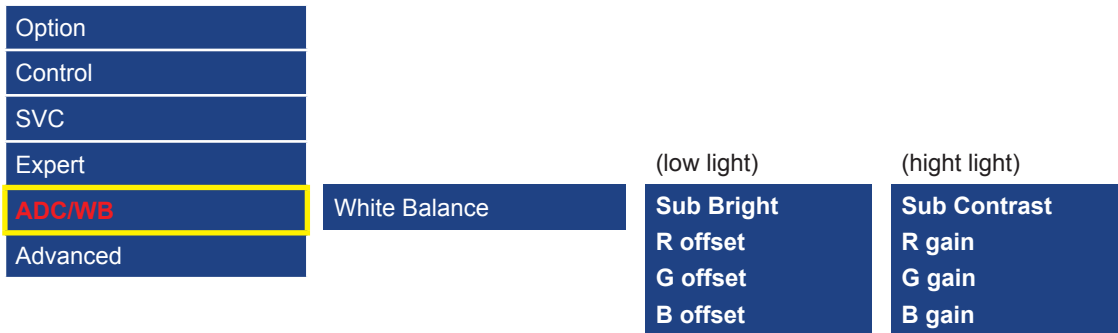
1. Apply the 720p Lattice (N0. 6) pattern signal to the Component IN 1 port.
2. Press the Source key to switch to "Component1" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "Comp Calibration" menu.
6. In "Comp Calibration Off" status, press the "▶" key to perform Calibration.
7. 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 **SVC** Menu.
- 3. Select **ADC/WB** menu.
- 4. Select **White Balance** menu.



4-5. Software Upgrade

Samsung may offer upgrades for the TV's firmware in the future. These upgrades can be performed via the TV when it is connected to the Internet, or by downloading the new firmware from samsung.com to a USB memory device.

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



4-5-1. By USB

Insert a USB drive containing the firmware upgrade downloaded from samsung.com into the TV. P\Firmware folder must be on the root directory of the USB. Please be careful to not disconnect the power or remove the USB drive while upgrades are being applied.

"MENU → Support → Software Update"

4-5-2. 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.

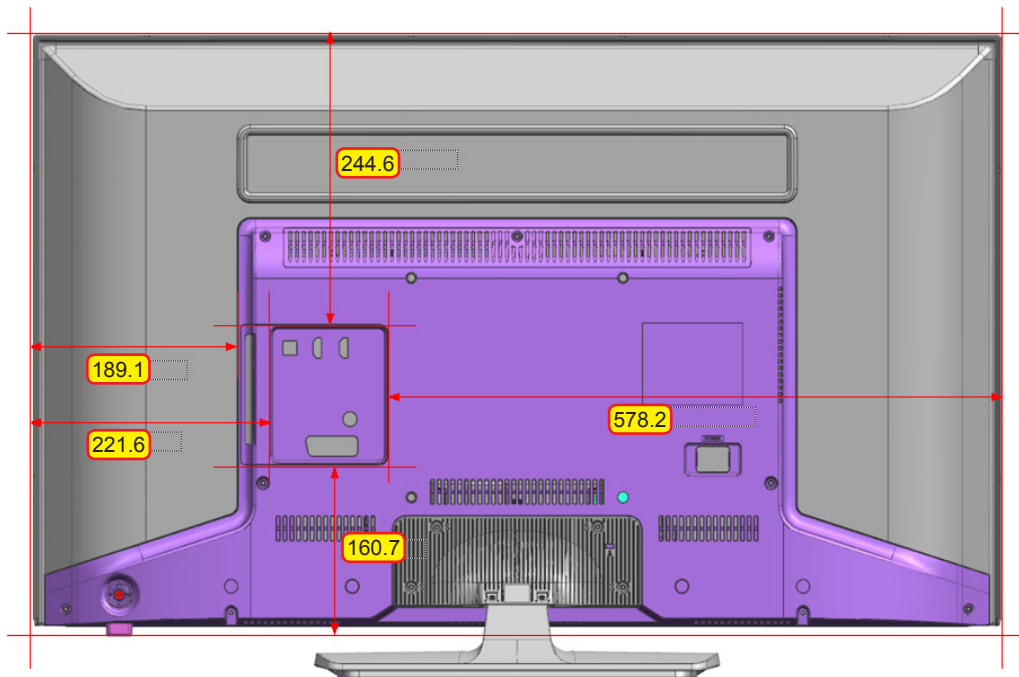
4-5-3. Alternative Software (Backup)

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'.

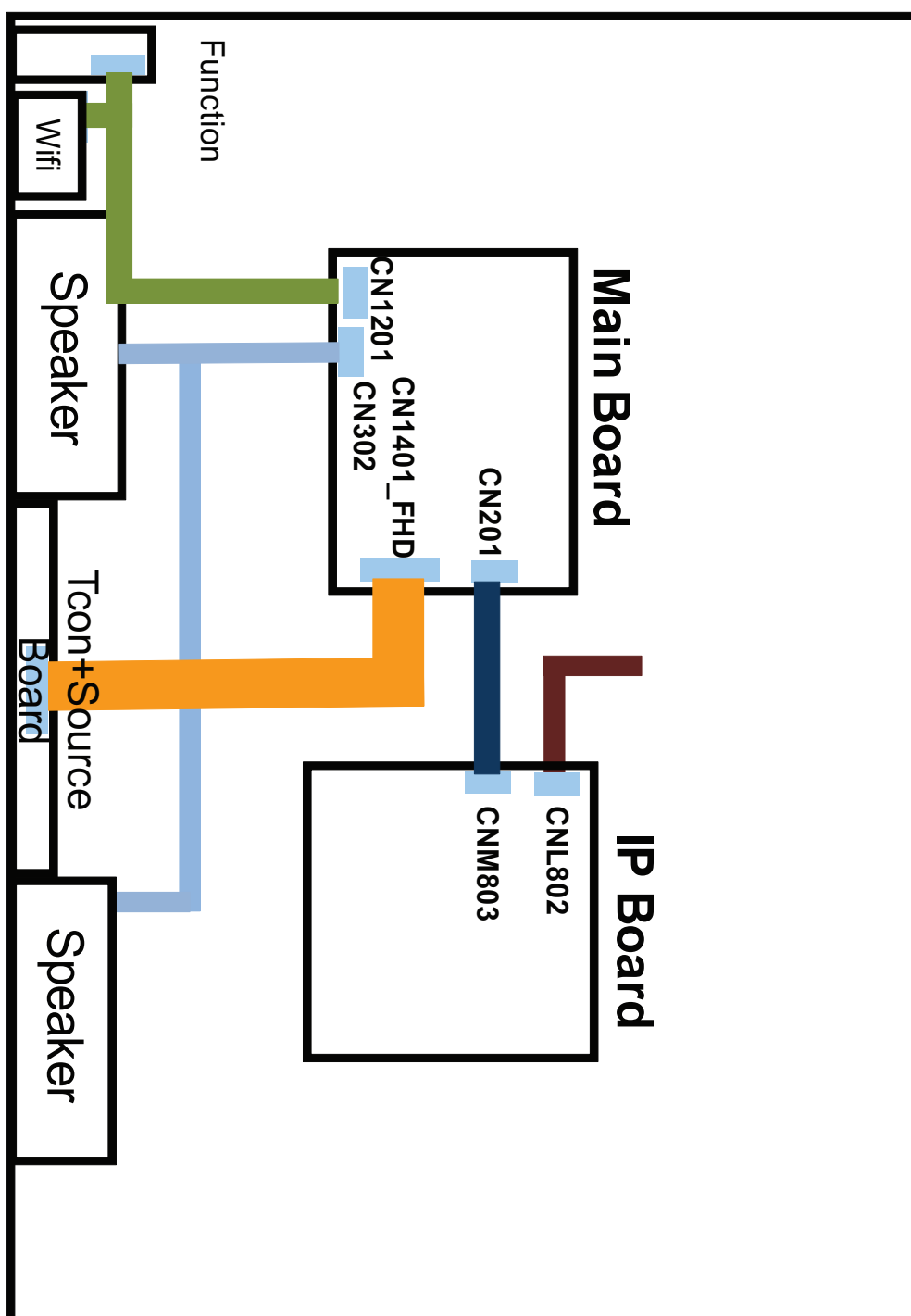
4-6. Rear Cover Dimension

4-6-1. UN40H51*3 Cover Rear Dimension



5. Wiring Diagram

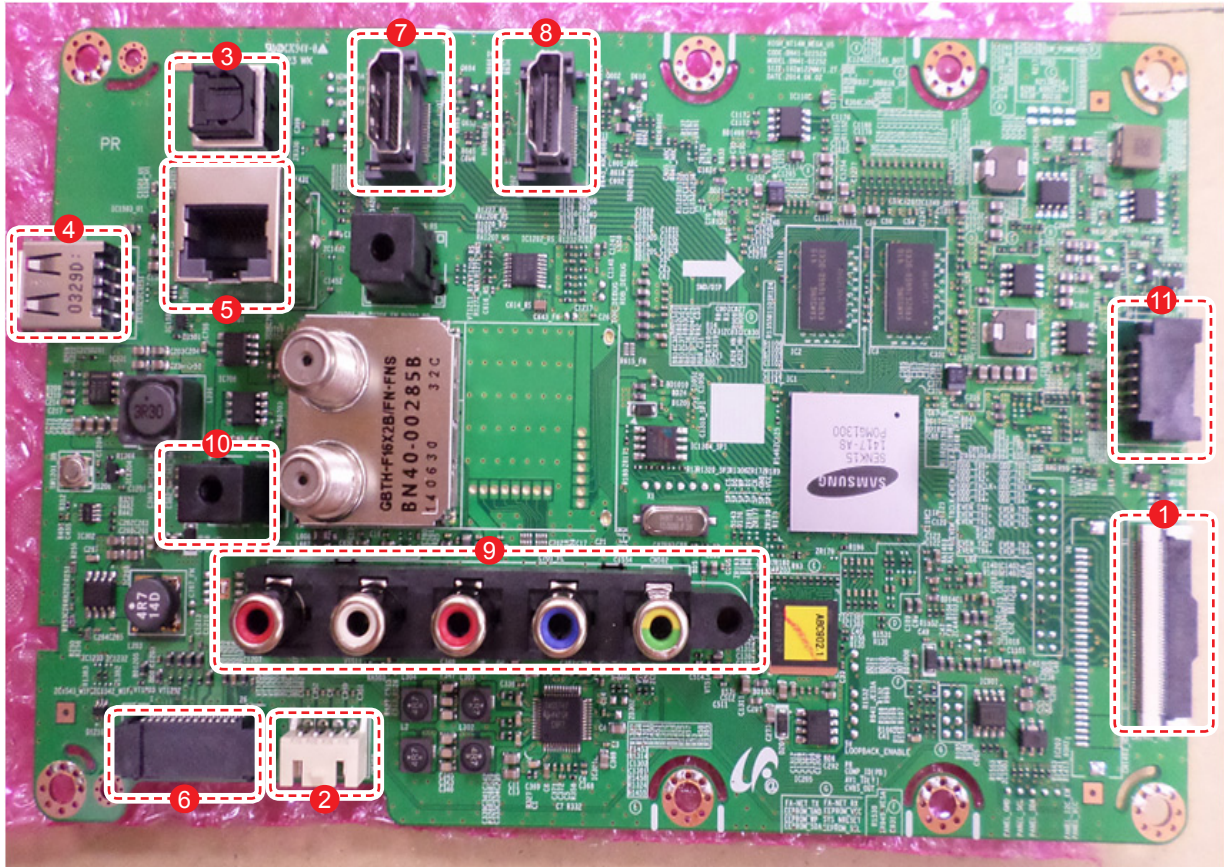
5-1. Wiring Diagram



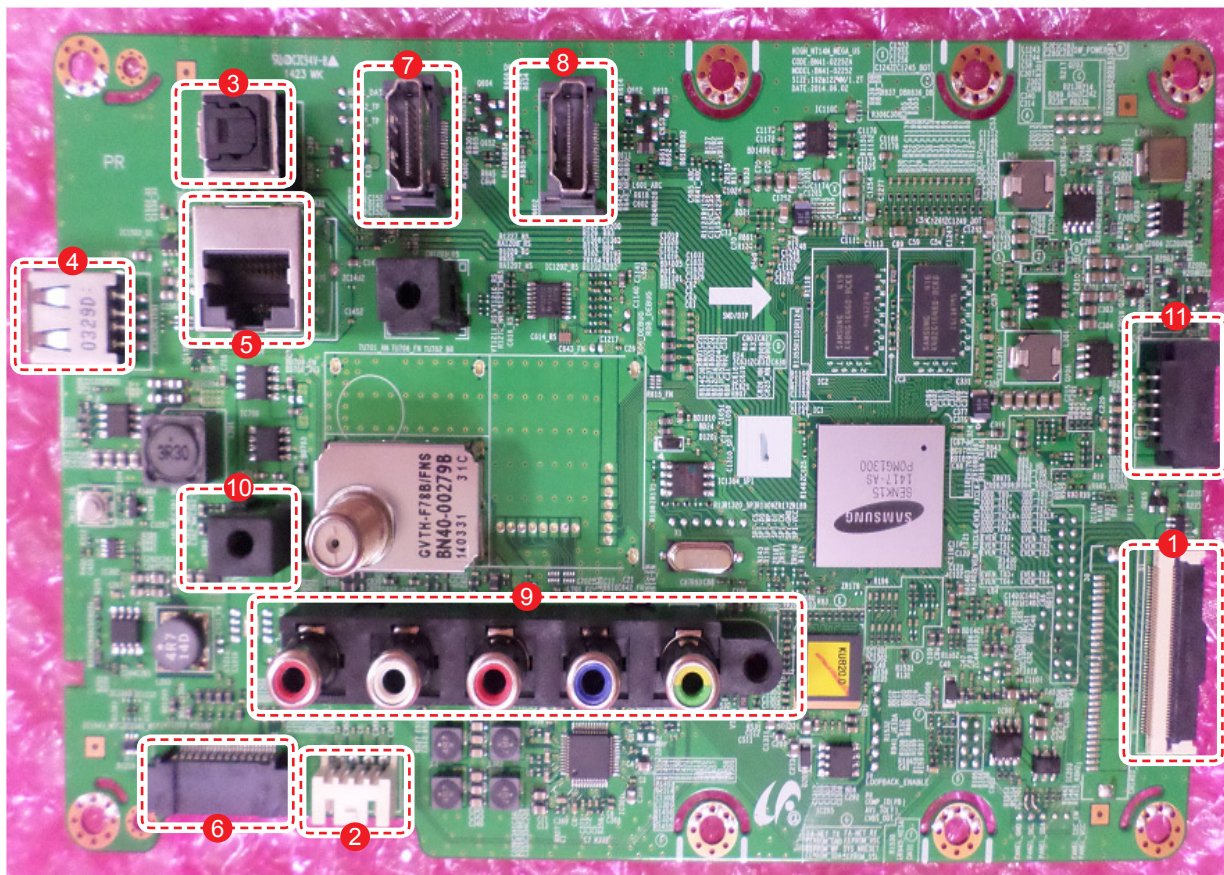
5-2. Connector

■ Main Board

LATIN AMERICA



MEXICO



COLOMBIA



5. Wiring Diagram

① CN1401_FHD			
1	NC	27	EVEN_TX0-
2	GND	28	GND
3	FRC_SDA	29	ODD_TX4+
4	FRC_PWM1	30	ODD_TX4-
5	FRC_SCL	31	ODD_TX3+
6	FRC_PWM3	32	ODD_TX3-
7	FRC_PWM2	33	GND
8	TCON_SDA	34	ODD_TXCLK+
9	PANEL_I2C_EN	35	ODD_TXCLK-
10	BT_SYNC	36	GND
11	UPDATE_CHK	37	ODD_TX2+
12	TCON_SCL	38	ODD_TX2-
13	GND	39	ODD_TX1+
14	EVEN_TX4+	40	ODD_TX1-
15	EVEN_TX4-	41	ODD_TX0+
16	EVEN_TX3+	42	ODD_TX0-
17	EVEN_TX3-	43	GND
18	GND	44	GND
19	EVEN_TXCLK-	45	GND
20	EVEN_TXCLK+	46	FRC_PWM4
21	GND	47	PANEL_13V_PW
22	EVEN_TX2+	48	PANEL_13V_PW
23	EVEN_TX2-	49	PANEL_13V_PW
24	EVEN_TX1+	50	PANEL_13V_PW
25	EVEN_TX1-	51	PANEL_13V_PW
26	EVEN_TX0+		

② CN302 (SPEAKER)			
1	R+	3	L+
2	R-	4	L-

③ OP301 (OPTICAL)			
1	SPDIF_OUT	3	GND
2	GND		

④ CN1501(USB1)			
1	B5V_USB1_PW	3	USB1_DP
2	USB1_DM	4	GND

⑤ CN1402 (to LAN)			
1	LAN_TXD+	5	GND
2	GND	6	LAN_RXD-
3	LAN_TXD-	7	NC
4	LAN_RXD+	8	GND

⑥ CN201 (to Powr board)			
1	IR	14	NC
2	NC	15	LED_STB
3	GND	16	NC
4	NC	17	GND
5	A3.3V	18	NC
6	NC	19	NC
7	MSCL	20	NC
8	NC	21	GND
9	MSDA	22	WIFI_DP
10	NC	23	WIFI_DM
11	KEY_INPUT1	24	B5V_DC_PW
12	NC	25	NC
13	KEY_INPUT2	26	WIFI_NRESET

⑦ CCN601 (to HDMI1)			
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+		

⑧ CN602 (to HDMI2)			
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+		

⑨ 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		

⑩ CN304 (HEADPHONE & LR OUT)			
1	GND	4	TEST_SL
2	HP_LINE_SL_OUT	5	TEST_SR
3	HP_LINE_SR_OUT	6	IDENT_HP

⑪ CN201 (to Power)			
1	GND	6	SW_POWR
2	GND	7	A13V_PW
3	A13V_PW	8	SW_INVERTER
4	GND	9	A13V_PW
5	A13V_PW	10	UNDER_DRIVE

5-3. Connector Functions

Connector	Function
CN201 ↔ CNM803	Supply main power and dimming signal from IP board to Main Board.
CN1401 ↔ T-CON	The LVDS signal transferred from Main Board to Panel.