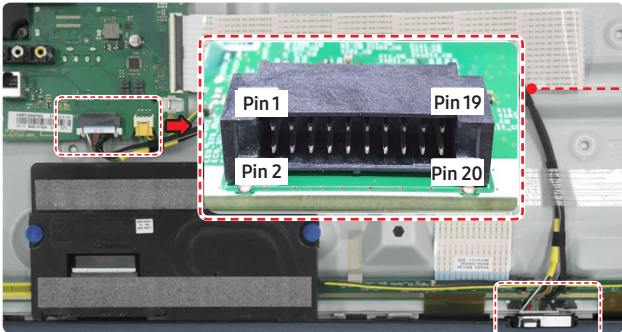


4. Troubleshooting

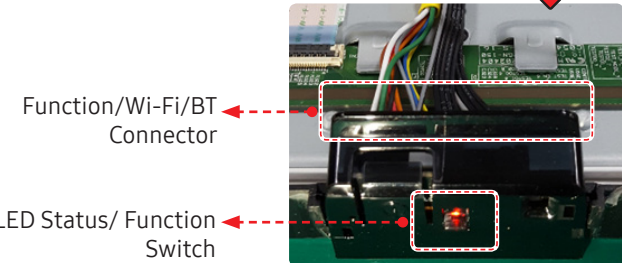
4-1. Power Troubleshooting

4-1-1. FUNCTION/IR Control Test



CN151_CM (FUNCTION/IR/BT/WIFI)			
1	D-_USB_WIFI	2	WIFI_PHY_ON
3	D+_USB_WIFI	4	MODULE_5V_PW
5	DGND	6	WIFI_WOW
7	UART_TX	8	WIFI_NRESET
9	BT_WAKE	10	IR
11	KEY_INPUT1	12	MIC_CLK
13	KEY_INPUT2	14	LED_STB
15	SENSOR_SCL_I2C	16	DGND
17	SENSOR_SDA_I2C	18	IR_OUT_1
19	MIC_DATA	20	IR_OUT_2

<Main Board Connector Function Pins>



Function/Wi-Fi/BT Connector

LED Status/ Function Switch

1 3 5 7 9 2 4 6 8 10 11 13 15 17 19 12 14 16 18 20

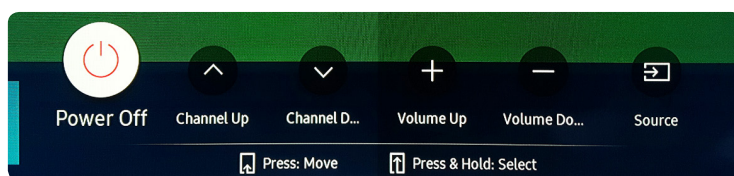
< Main Board Connector Reference Chart>

1 2 3 4 5 6 7 8 9 10 11 12 12 14 15 16 17 18 19 20

Wi-Fi /BT Pins Function Pins

< Function/Wi-Fi/BT Connector Pins with Main Reference Chart>

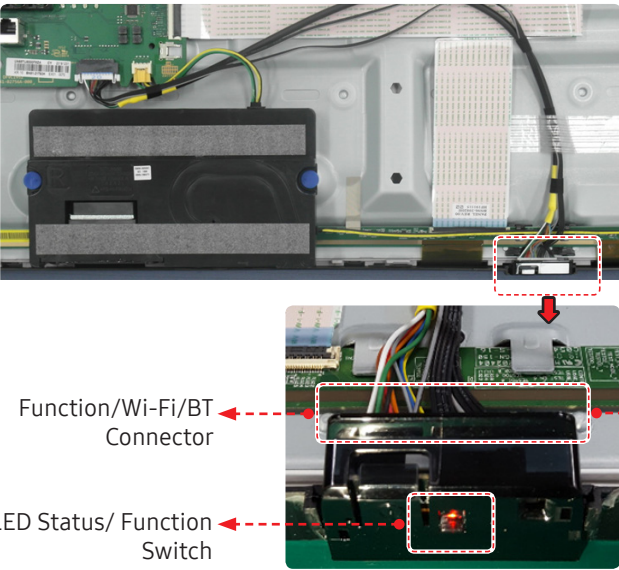
1. Place TV in Power Standby
2. Check **LED** Status
3. If **LED** is **OFF**
 - ✓ Check **LED** 1.7Vdc (pin **14**) and VCC for 5Vdc (pin **4**)
 - If missing suspect Function Assy/Cable/Main board.
4. If **LED** is **ON**
 - ✓ Check Switch Operation activates on screen display



[On Screen Selections with Function Control]

- If missing:
 - ✓ Check **KEY_INPUT1** (pin **11**) change to 0V with a command.
 - If wrong voltage or no change:
 - ✓ Check Switch for stuck or miss-operation.
5. Check **IR** (pin **10**) operation with Standard Remote command changes. (5V to 3.3V effective DC)
 6. Check **SDA** (pin **17**), **SCL** (pin **15**) for effective 5Vdc (after power on)
 - If missing suspect Function Assy/Cable Assy/Main Assy.

4-1-2. FUNCTION/IR Control Test of Function/Wi-Fi /BT Module

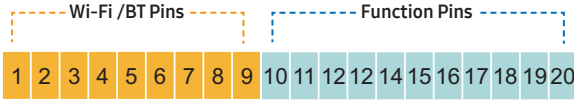


Function/Wi-Fi/BT Connector

LED Status/ Function Switch

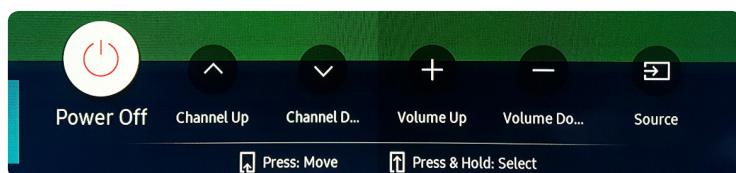
Function Pins			
1	USB DM	11	KEY1
2	USB DP	12	KEY2
3	GND	13	I2C_SCL
4	UART_TX	14	I2C_SDA
5	BT_WAKLE_UP	15	DMIC_DATA
6	WIFI_SUSPEND	16	DMIC_CLK
7	5V	17	LED
8	WIFI_WAKE_UP	18	GND
9	RESET	19	IR_LED1
10	IR_RX	20	IR_LED2

<WCT733M Pin Assignments>



< Function/Wi-Fi/BT Connector Pins with Main Reference Chart>

1. Place TV in Power Standby
2. Check **LED** Status
3. If **LED** is **OFF**
 - ✓ Check **LED** (pin **17**) and VCC for 5Vdc (pin **7**)
 - If missing suspect Function Assy/Cable/Main board.
4. If **LED** is **ON**
 - ✓ Check Switch Operation activates on screen display



[On Screen Selections with Function Control]

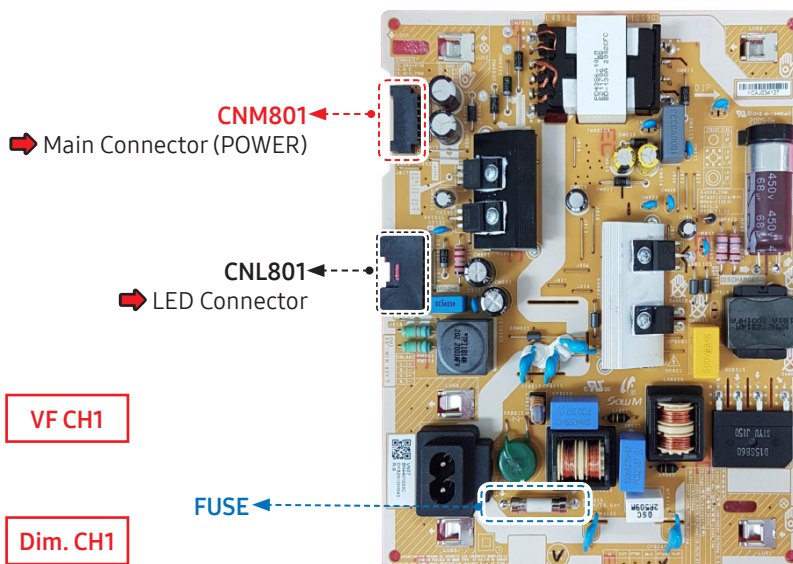
- If missing:
 - ✓ Check **KEY_INPUT1** (pin **11**) change to 0V with a command.
 - If wrong voltage or no change:
 - ✓ Check Switch for stuck or miss-operation.
5. Check **IR** (pin **10**) operation with Standard Remote command changes. (5V to 3.3V effective DC)
 6. Check **SDA** (pin **14**), **SCL** (pin **13**) for effective 5Vdc (after power on)
 - If missing suspect Function Assy/Cable Assy/Main Assy.

4-2. Power

- 43 inches

CNM801 (MAIN Connector)			
ANA-DIM	2	1	GND
OD_ON/OFF	4	3	A13V
BLU_PWM	6	5	A13V
POWER_On/Off	8	7	A13V
GND	10	9	A13V
GND	12	11	GND

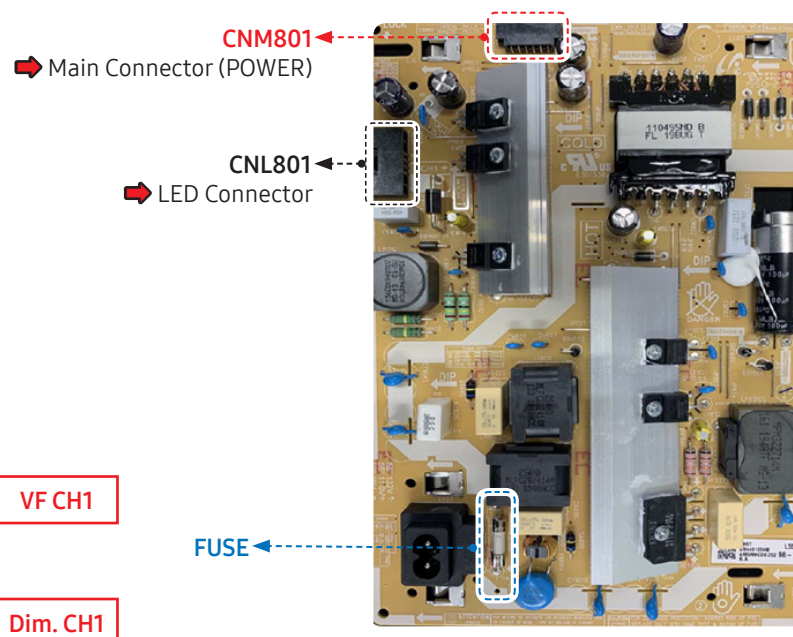
CNL801 (LED Connector)		
1	1+	← VF CH1
2	1-	●
3	2+	●
4	2-	→ Dim. CH1



- 50 / 58 inches

CNM801 (MAIN Connector)			
ANA-DIM	2	1	GND
N.C	4	3	A13V
BLU_PWM	6	5	A13V
POWER_On/Off	8	7	A13V
GND	10	9	A13V
GND	12	11	GND

CNL801 (LED Connector)		
1	1+	← VF CH1
2	1-	●
3	2+	●
4	2-	→ Dim. CH1



4. Troubleshooting

• 55 inches

CNM801 (MAIN Connector)			
ANA-DIM	2	1	GND
N.C	4	3	A13V
BLU_PWM	6	5	A13V
POWER_On/Off	8	7	A13V
GND	10	9	A13V
GND	12	11	GND

CNL801 (LED Connector)	
1	1+
2	1-
3	2+
4	2-

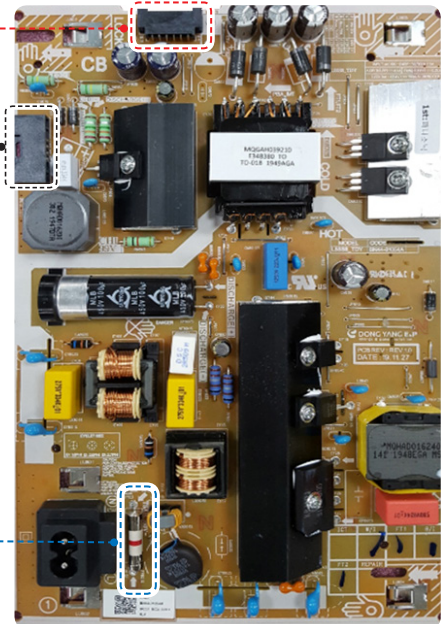
➔ Main Connector (POWER)

➔ LED Connector

VF CH1

Dim. CH1

FUSE



• 65 inches

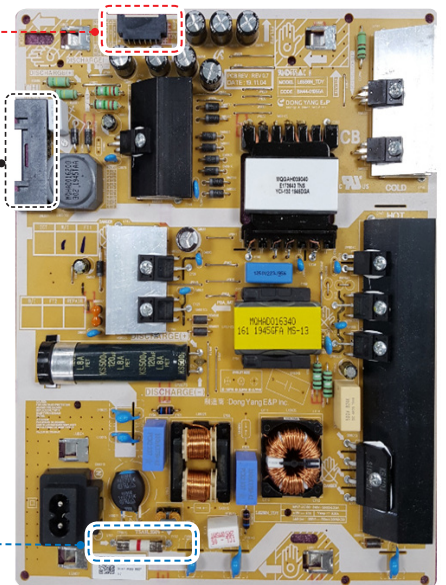
CNM801 (MAIN Connector)			
ANA-DIM	2	1	GND
N.C	4	3	A13V
BLU_PWM	6	5	A13V
POWER_On/Off	8	7	A13V
GND	10	9	A13V
GND	12	11	GND

CNL801 (LED Connector)	
1	1+
2	1-
3	2+
4	2-
5	3+
6	3-
7	4+
8	4-
9	5+
10	N.C
11	N.C
12	5-

VF CH1

Dim. CH1

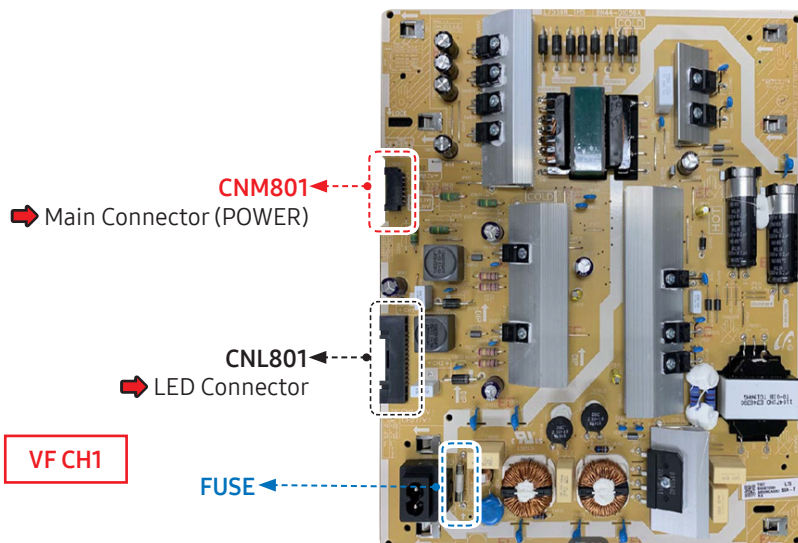
FUSE



- 75 inches

CNM801 (MAIN Connector)			
ANA-DIM	2	1	GND
N.C	4	3	A13V
BLU_PWM	6	5	A13V
POWER_On/Off	8	7	A13V
GND	10	9	A13V
GND	12	11	GND

CNL801 (LED Connector)		
1	1+	
2	1-	
3	2+	
4	2-	
5	3+	
6	3-	
7	4+	
8	4-	
9	5+	
10	5-	
11	6+	
12	6-	



VF CH1

Dim. CH1

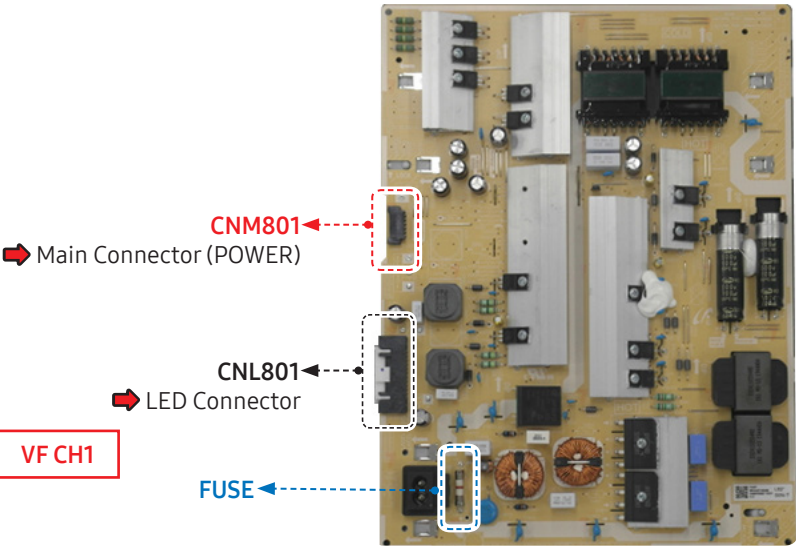
VF CH2

Dim. CH2

- 82 / 85 inches

CNM801 (MAIN Connector)			
ANA-DIM	2	1	GND
N.C	4	3	A13V
BLU_PWM	6	5	A13V
POWER_On/Off	8	7	A13V
GND	10	9	A13V
GND	12	11	GND

CNL801 (LED Connector)		
1	1+	VF CH1
2	1-	
3	2+	Dim. CH1
4	2-	
5	3+	VF CH2
6	3-	
7	4+	Dim. CH2
8	4-	
9	5+	
10	5-	
11	6+	
12	6-	



4-2-1. SMPS Standby

■ TV POWER STANDBY TEST :

1. TV in Standby
 - ✓ Check **Standby LED Indicator**
2. If Not Lit:
 - ✓ Check AC 120Vac Line
3. If missing:
 - ✓ Check AC120Vac Source/Power Cord
4. If OK:
 - ✓ Check resistance on SMPS **FUSE** after first removing AC power cord.
5. If fuses are open:
 - Replace SMPS
6. If fuses are OK:
 - ✓ **Check Standby: A13V** (Always On) to Main Board.
7. If any missing remove the SMPS connector to the Main Board.
 - ✓ Check Standby **A13V** again.
 - If OK replace the Main Board
 - If still missing replace SMPS

■ TV POWER ON SEQUENCE TEST :

Simplified Version

1. Verify Standby Light
 - ✓ If missing perform Standby Test / Function Test
2. Power TV On
 - ✓ Check Standby LED changes and TV Powers On
3. If Standby light won't change (turn off or flash)
 - ✓ Check with both Remote & Function Control Power command
 - ✓ Check Power On/Off changes from 0Vdc (off) to 3.3Vdc (on)
 - If OK Replace Main Board
4. If Standby LED Flashes and TV won't power on
 - Disconnect Panel Cables from Main Board
 - Power TV On
 - ✓ Check TV Powers On (Audio – No video)
 - If TV now Powers On
5. Verify Backlight Turns On
 - If No Backlight
 - Perform Backlight Test

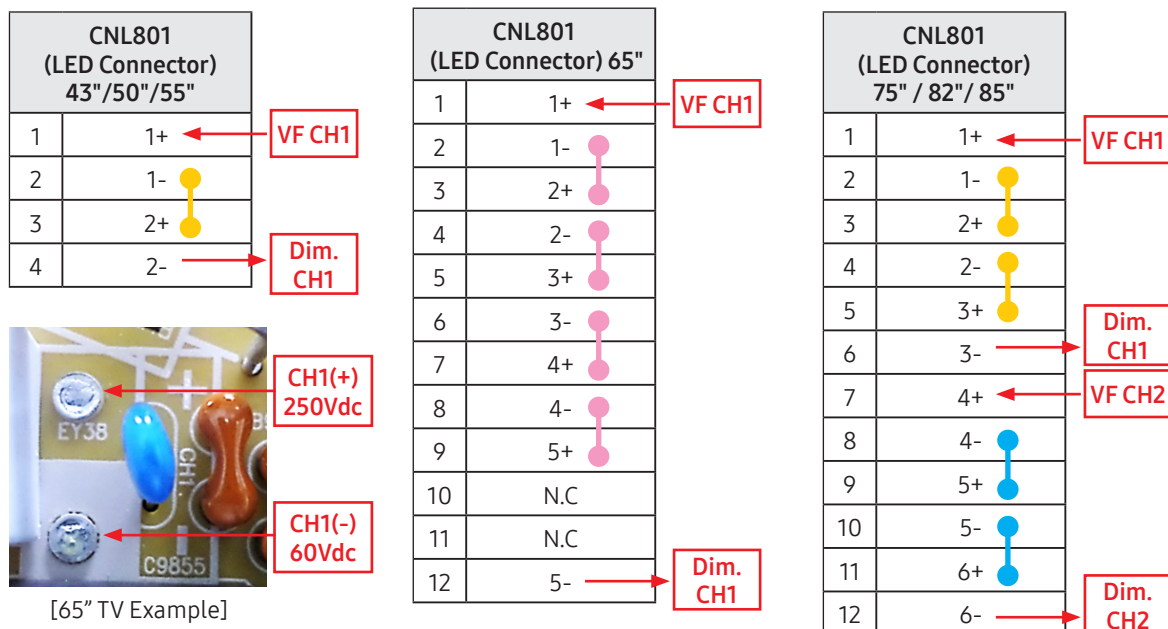
Extended Version

1. Power TV On
 - ✓ **Power On/off** (pin **8**) .2Vdc (when off) changes to 3.3Vdc (on)
 -  **NOTE**
 - There is a delay from PS-ON to off condition when the TV is powered off.
2. If voltage error or no change:
 - ✓ Check Jog Function Control Test
3. If OK replace Main Board.
 - ✓ Check All **A13V** supplies (12.7VDC) (pins **3** **5** **7** **9**)
4. If any wrong voltages, remove SMPS connector to Main Board
 - ✓ Check **A13V** again (12.7VDC) (pins **3** **5** **7** **9**)
 - If voltages are now OK replace the Main Board
 - If voltages are still wrong replace SMPS
5. Verify Backlight Turns On in Normal TV Operation Mode
 - If No Backlight
 - ✓ Check **BLU_PWM** (pins **6**) Backlight On/Off & Dim Control: for approx. 0 (Off) to approx. 2.5Vdc (On) depending on backlight dimming level.
 - If missing/Error replace Main Board
 - If OK perform backlight test

4-2-3. Backlight Test

■ Backlight Test :

Panel BL Connector: Two Sets of LED BL Strings seen in example (connected in series - if one fails both go off)



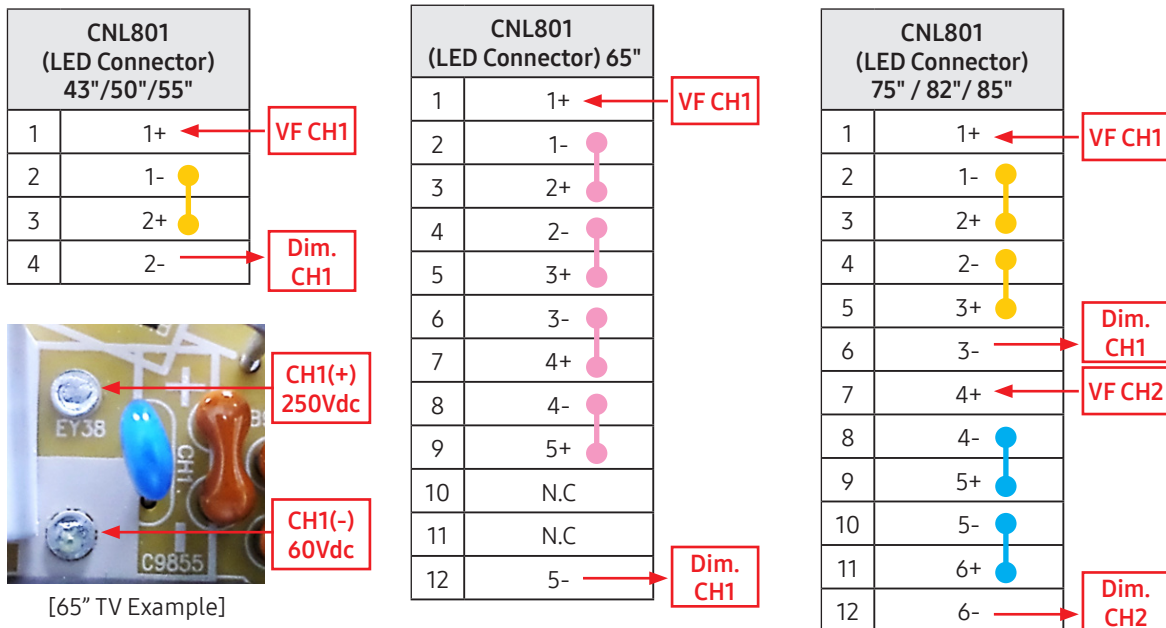
- 1. Activate Backlights Test :** Disconnect Lead Cable from Main to Power Supply.
 - ✓ Check TV Screen for active backlight LEDs.
- 2. If NO BACKLIGHTS**
 - ✓ Check CH1 (+) BL Supplies on SMPS (approx. 270Vdc for 65")
 - ✓ Also Check CH2(+), CH3(+), CH4 (+)..etc. when included for larger TVs
 - If any missing replace SMPS Board.
 - If supplies are OK replace Panel.
- 3. If BACKLIGHTS ON BUT PANEL SECTION(S) OFF**
 - Repeat Step 2.
 - If any CH Backlight Supplies are low or missing replace SMPS.
 - If supplies are OK, replace panel.

BACKLIGHT DIMMING PROBLEMS:

- ✓ First check Option Byte Settings in Factory Mode. Wrong settings can create backlight errors.
- Go to **Menu > Picture > Expert Settings > Backlight** and vary level (0 – 50)
 - If no backlight changes are observed, vary the level again:
 - ✓ Check **BLU_PWM** (pins **6**) control voltages **CNM801** varies approx. 0.5V – 2.5Vdc
 - If it doesn't vary voltage replace **Main/T-CON Board**.
 - If it varies and back lights won't dim, replace SMPS.

■ Backlight Test: (Extended Test)

Panel BL Connector: Two Sets of LED BL Strings seen in example (connected in series - if one fails both go off)



- 1. Activate Backlights Test :** Disconnect Lead Cable from Main to Power Supply.
 - ✓ Check TV Screen for active backlight LEDs.
- 2. If NO BACKLIGHTS**
 - ✓ Check CH1 (+) BL Supplies on SMPS (approx. 270Vdc for 65")
 - ✓ Also Check CH2(+), CH3(+), CH4 (+)..etc. when included for larger TVs
 - If any missing replace SMPS Board.
 - If supplies are OK replace Panel.
- 3. If BACKLIGHTS ON BUT PANEL SECTION(S) OFF**
 - ✓ Locate CH1 (+) on SMPS and measure for approx. 250Vdc (65")
 - ✓ Locate CH1 (–) on SMPS and measure for approx. 60Vdc (65")
 - If CH1 (+) is very low or missing replace SMPS Board.
 - If CH1 (+) is OK & CH1 (-) is near 0 Volts replace Panel.
 - ✓ Check CH2 (+) and CH2 (-) when included for Larger TVs
 - Repeat the same Test as with CH1
 - ✓ Continue to Check CH3, CH4, ..., etc. when they are also included.

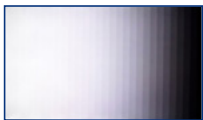
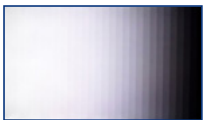
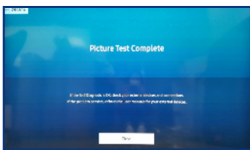
BACKLIGHT DIMMING PROBLEMS:

- ✓ First check Option Byte Settings in Factory Mode. Wrong settings can create backlight errors.
- Go to **Menu > Picture > Expert Settings > Backlight** and vary level (0 – 50)
 - If no backlight changes are observed, vary the level again:
 - ✓ Check **BLU_PWM** (pins **6**) control voltages **CNM801** varies approx. 0.5V – 2.5Vdc
 - If it doesn't vary voltage replace Main/T-CON Board.
 - If it varies and back lights won't dim, replace SMPS.

4-3. Video Troubleshooting

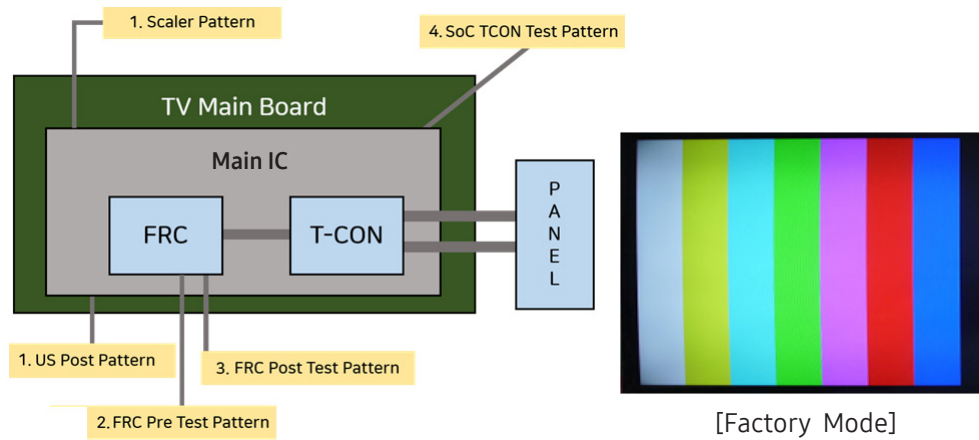
4-3-1. Customer Picture Test

■ MAIN BOARD

Main Section	Pre-FRC	Post FRC	Results	Problem
				
Pass	Pass	Pass		Check Signal Source and other inputs
Fail	Pass	Pass		Replace Main/T-CON Board
Fail	Fail	Pass		Replace Main/T-CON Board
Fail	Fail	Fail		Replace Main/T-CON Board or Panel

4-3-2. Video Circuit Layout

- ENTER : **Factory mode** > **SVC** > **Test Pattern**



■ Check Test Patterns

1. Verify "**Scaler Pattern**" and "**US Post Pattern**"
2. Verify "**FRC Pre Test Pattern**"
3. Verify "**FRC Post Test Pattern**"
4. Verify "**SoC TCON Test Pattern**"

4-3-3. New combined MAIN Models

- Main Section > PRE FRC Section > POST FRC Section > T-CON Section > PANEL

■ Pre Scaller & US Post of Main Section

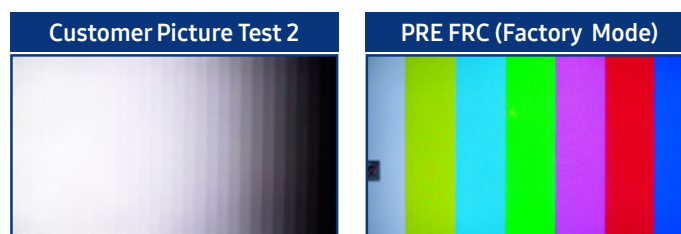


Video Operation

Generated on Main Section.

- If OK:
 - ✓ Source & Input Cables
 - ✓ Other inputs
- If Noisy:
 - ✓ Pre FRC Section Test Patterns

■ PRE FRC Section

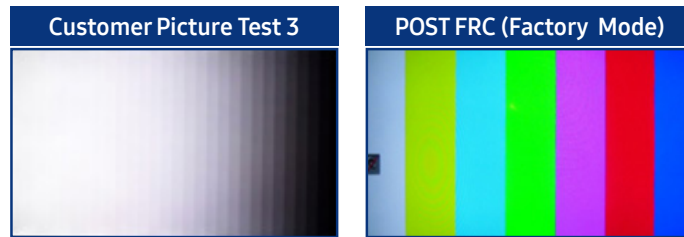


Video Operation

Generated at Pre FRC Section.

- If OK:
 - ✓ Replace Main Board
- If Noisy:
 - ✓ Post FRC Section

■ POST FRC Section



Video Operation

Generated at Post FRC Section.

- **If OK:**
 - ✓ Replace Main Board
- **If Noisy:**
 - ✓ Mute > 3 > 6 > 9 > Mute

■ T-CON Section



[May not be available for Larger models over 70 inches.]

Video Operation

Generated at T-CON Section.

1. **If OK:**
 - ✓ Replace Main Board.
2. **If Noisy:**
 - ✓ Main Board
 - ✓ Panel

■ PANEL



- Check Panel

1. If Noisy Video:

- ✓ Soc T-CON Pattern in Factory Mode
 - Use type of Noise observed (Bars, single lines, video distortion, etc to help.)
 - If noise is only on one half of screen check / swap panel cables.
 - Verify Defective Panel Cables, TV Main Board or Panel.

4-4. AUDIO Troubleshooting

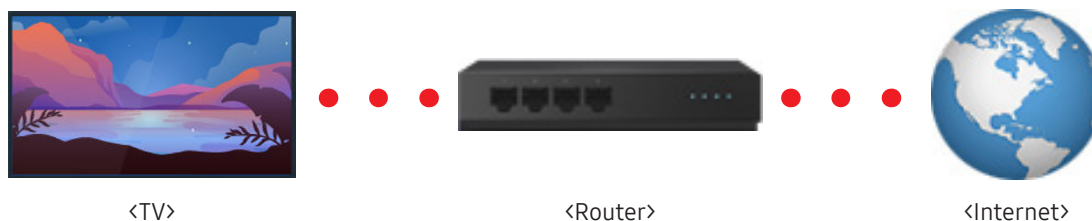
- Source > Main Board > Speakers

■ AUDIO TEST

- **The picture is good but there is no sound.**
 - ✓ Set Sound Output to TV Speaker.
→  >  **Settings** > **Sound** > **Sound Output**
- **The speakers are making an odd sound.**
 - ✓ Run Sound Test.
→  >  **Settings** > **Support** > **Device Care** > **Self Diagnosis** > **Sound Test**
- **If Sound Test Fails (Missing/Noisy Audio)**
 - ✓ Speakers (compare resistance/quality)
 - ✓ Main Board /Connector/Cable
 - ✓ With external Audio Generator (device or App)
 - ✓ Compare audio level out to speakers with multi meter.
→ Replace defective Speakers or Main Board or Cable
- **If Sound Test OK**
 - ✓ Audio Source & External Cables
 - ✓ Other Inputs
- **Optical Digital Out Errors**
 - ✓ Red light from Optical Digital Out.
→ If missing replace Main Board
- **No HDMI Audio**
 - ✓ Source / HDMI Cable
→ Swap with other HDMI Inputs/Sources.
→ Perform **EDID Write** in Factory Mode (Can restore missing HDMI Audio).
 - ✓ Bulletins and Latest firmware on TV.
→ If not restored replace Main Board
→ Check Audio Format PCM/Dolby based on external Receiver
- **ARC Issues**
 - ✓ HDMI Cable is input to the ARC Designated HDMI port.
 - ✓ ARC (HDMI Control) is enabled on the external Receiver.
- **Bluetooth Audio "Sound Share" Connection Issues**
 - ✓ Sound Bar is in TV Mode.
→ To Connect, Press & Hold Play Button until Sound Bar pairing mode begins.

4-5. Network Troubleshooting

When the TV has difficulties connecting to the Internet, these steps may help resolve the problem.

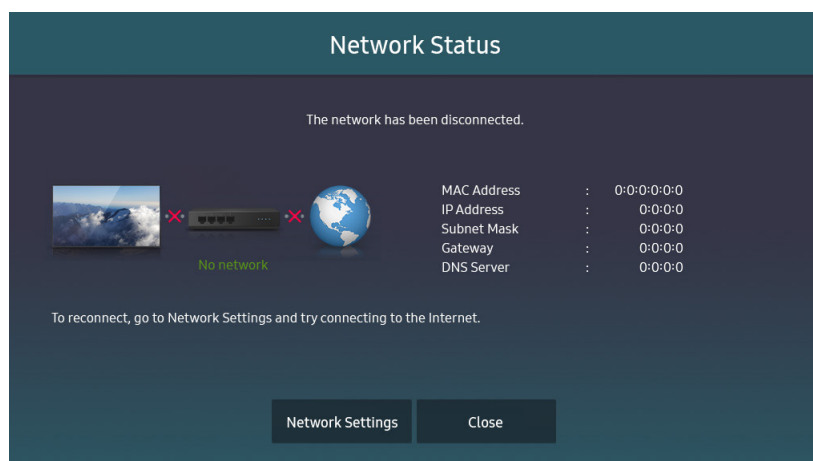


4-5-1. Checking the Internet connection status

> **Settings** > **General** > **Network** > **Network Status**

■ TV to Router "Failure"

1. Select the **Network Status** menu.
 - View the current network and Internet status.

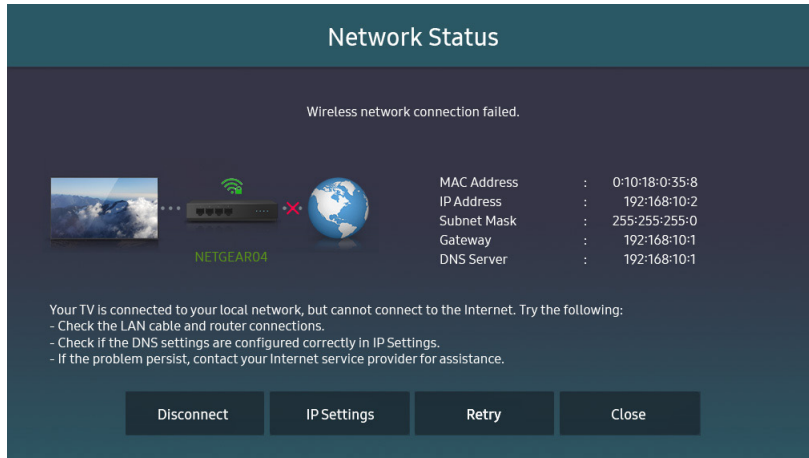


<Network Status : TV ~~→~~ Router ~~→~~ Internet>

2. Check the items.
 - ✓ Wired & Wireless MAC Address in **Customer Support** Menu.
 - No Wired MAC Address: Replace Main Board.
 - No Wireless MAC Address:
 - ✓ Module cabling & voltages from Main Board.
 - If operating voltages are OK but signal missing.
 - Replace WiFi Module (WiFi/Bluetooth Module).
 - ✓ Check the security passcode.
 - ✓ Check Wi-Fi signal strength at TV (use WiFi Analyzer or similar App).
 - Try another source (Hot spot or Test Router)
 - ✓ Check related Bulletins.
 - ✓ Check **Factory Mode** → **SVC** → **Info** → **WiFi Error Count** (replace module for high error counts).

■ Router to Network "Failure"

1. Select the **Network Status** menu.
 - View the current network and Internet status.
2. Check the connection status of your TV and network devices on the **Network Status** menu.



<Network Status : TV —→ Router ~~×~~ Internet>

- ✓ Check that your **Network Device** operates normally with other devices.
 - Check your TV status
- ✓ Check that your **TV** operates normally with other Network Device (Hotspot).
 - Check your Network Devices

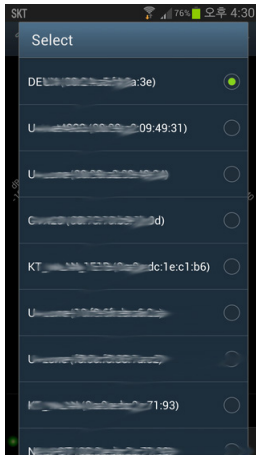
4-5-2. Using the Wifi Analyzer App

1. Download the free app from your Android phone called [Wi-Fi Analyzer](#).



Wi-Fi Analyzer

2. Select Network under test.



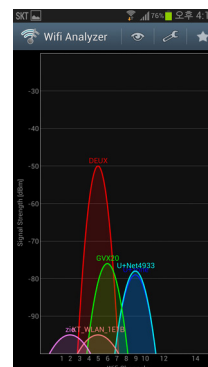
3. Check Signal Strength Meter at both router location and TV location.



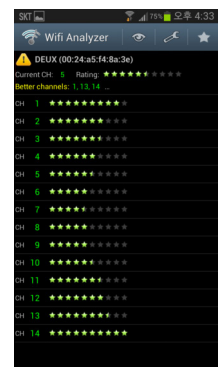
- ✓ Check other Wi-Fi Signals in the area.
- ✓ Check for competing adjacent channels.
- ✓ Check for current & recommended Channel Locations.



<Wi-Fi Signals>



<Competing>



<Ideal Channel Location>

4-5-3. Wired LAN Operation Test (TV to Router)

⌂ > ⚙️ Settings > General > Network > Network Settings > Network Type > Wired

Use an external Router and LAN Cable for testing.



NOTE

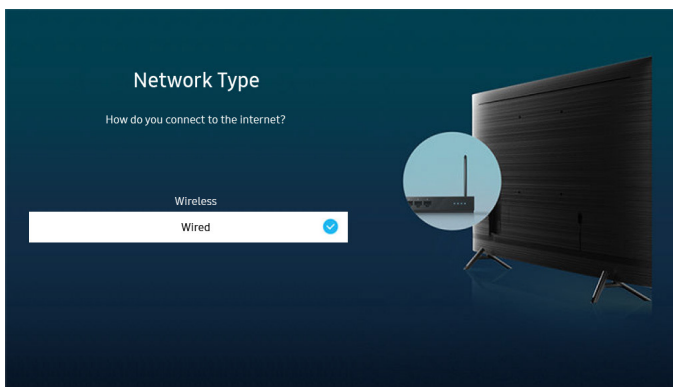
No Internet connection is required or used in this example.

1. Connect a known good **External LAN Cable** and Router to the TV for testing.



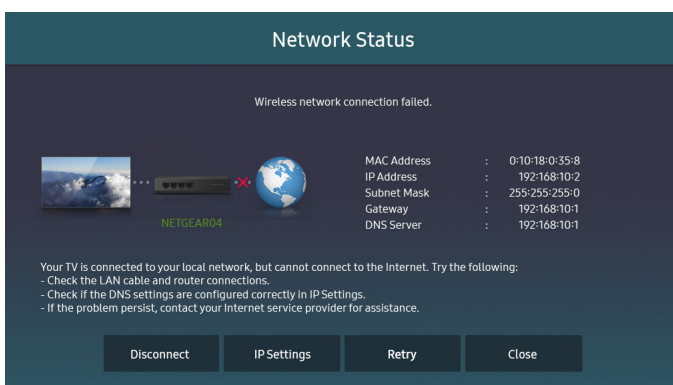
<External Router And LAN Cable>

2. Select the **Wired** menu.



- Verify connection : TV to router. (The Router to Internet will not connect in this test.)

3. The TV is **OK** if connection to the Router is verified.



→ Inform the customer to check their LAN Cable and Router.

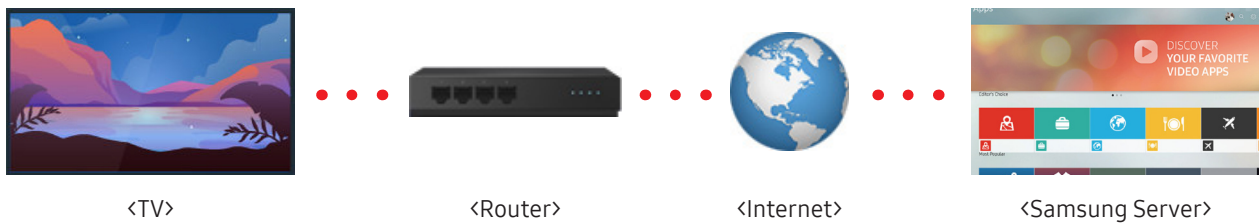
4-5-4. Know Before Wireless Internet Connection

- ✓ Wi-Fi Security Key
- ✓ Distance between the wireless router and TV
- ✓ Go to TV Web Browser / Go to speedof.me / testmy.net
 - HD Video Streaming - 5Mbps and up
 - UHD Video Streaming - 25Mbps and up
 - Check Latency less than 50ms



4-6. Smart Hub

When the TV has difficulties connecting to the Internet, these steps may help resolve the problem.



4-6-1. Smart Hub Connection Test

⌂ > ⚙ Settings > Support > Device Care > Self Diagnosis > Smart Hub Connection Test

1. Select the **Smart Hub Connection Test** menu.
 - The Test Smart Hub Connection screen appears.



2. Select the number at the top of the screen to see the items below.
 - **Network / Gateway**
 - If there is a problem, test your TV and router connections as this is a network problem. (Network Trouble shooting)
 - **DNS Test**
 - ✓ If it Fails:
 - DNS setting in "Network Settings"
 - ✓ If DNS is set manually:
 - Settings are correct (may be set to 8.8.8.8 to prevent Netflix issues)
 - ✓ If it still fails:
 - DNS Test with setting to Auto Mode
 - ✓ If it fails both Manual & Auto problem is ISP or Router.

- **ISP Blocking**
 - ✓ If it Fails:
 - Internet Service Provider is Active.
 - With DNS setting at 8888.
 - With Hot Spot.
- **Samsung Server Test**
 - ✓ If it Fails:
 - Network Status.
 - ✓ If OK:
 - Reset Smart Hub.
 - Terms of Agreement are accepted.
- **Samsung Apps**
 - ✓ If it Fails:
 - Reset Smart Hub.
 - Samsung Apps load correctly.
 - Perform "Apps Reset" in Factory Mode.
 - Go to Smart Hub and complete Terms of Agreement and set up information.
 - Samsung Apps load correctly.
 - Before selecting an App, allow Apps to load or failure will occur.

■ For Netflix Operation/Connection Issues

Check **Certificate & Netflix ESN** Status in Factory Mode.



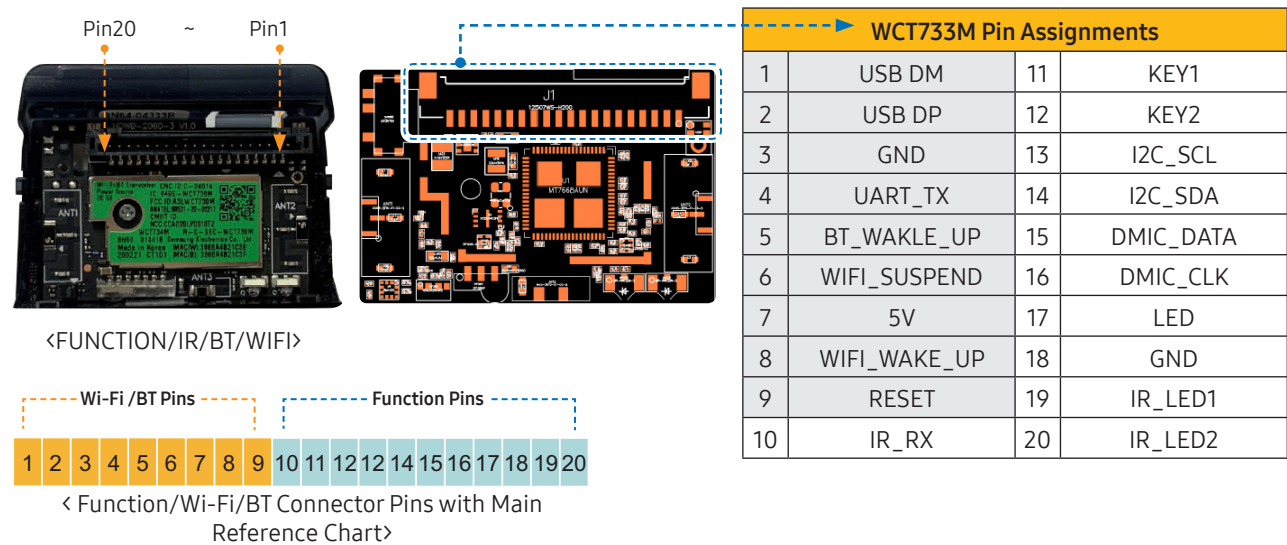
- ✓ If Certificate and ESN exists
 - **CO, Nfo** - Change the DNS to 8.8.8.8.
- ✓ If Certificate is missing
 - **C/** - Replace the TV's Main Board.
- ✓ If ESN number is missing
 - **NF/** - Do not replace the Main Board.
 - Reset TV Clock and check for correct Time & Date. Netflix relies on correct settings.
 - Reset Smart Hub. / Reset Apps In Factory Mode.

■ For Streaming Issues

Go to TV Web Browser > speedof.me > testmy.net

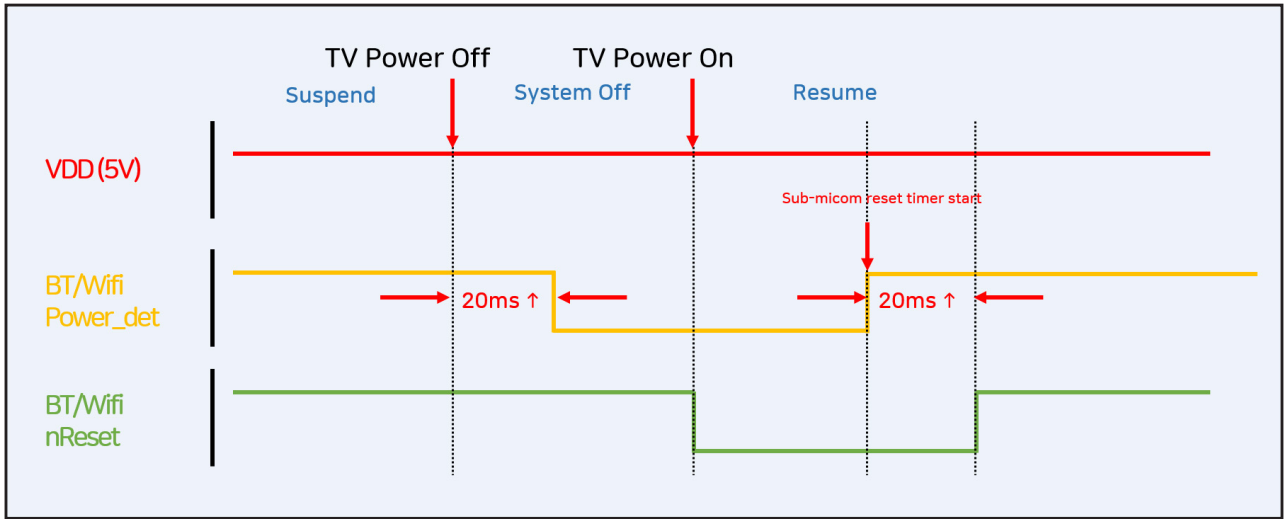
- ✓ Check Speed
 - HD streaming : Minimum 5 Mbps
 - 4K Streaming : 25 Mbps
- ✓ Check Latency
 - Up to 50 ms

4-7. BlueTooth/WiFi Module



Pin Description

Pins	1	2	3	4	5	6	7	8	9
STBY	0	0	0	3.3Vdc	3.3Vdc	0	5Vdc	3.3Vdc	3.3Vdc
Power On	BT/Wi-Fi Sig (DM) 0.2Vdc effective	BT/Wi-Fi Sig (DM) 0.2Vdc effective	GND 0	3.3Vdc	3.3Vdc	3.3Vdc	VCC 5Vdc	3.3Vdc	3.3Vdc



■ About This TV to check

⌂ > ⚙ Settings > Support > About This TV



- ✓ **Wired MAC Address** : missing or error
→ Replace Main Board
- ✓ **Wireless MAC Address**
- ✓ **Bluetooth Address**
→ If Bluetooth Address or Wireless MAC Address are missing or errors exist.
- ✓ **BT & Wi-Fi Connector Voltages.** If Voltages are OK but no BT or Wi-Fi Signals voltage(s),
→ Replace defective Module.

4-8. Factory Mode

■ Setting TV into Factory Mode



AA81-00243A
(Service Remotes)

Factory Remote

1. Power TV ON.
2. Select TV Source.
3. **Info** → **Factory**.
4. Use **MENU** for return.



AA81-00243B
(Recommended)

Samsung IR Remote

1. TV Power Standby.
2. Press as follows.
 - Remote Button

NTSC **MUTE** → **1** → **8** → **2** → **POWER**

PAL **INFO** → **MENU** → **MUTE** → **POWER**

■ Important Items

- **Option** (must set Option Bytes when replacing Main Board.)
- **Option** → **Factory Reset** (returns TV to out of box condition.)
 - Must perform when replacing Main Board or Full One Connect)
- SVC → Info → **ER Count** (Important to check for errors.)
 - Resets to 0 with Factory Reset.
 - ✓ Check before resetting TV
- SVC → **Test Patterns** (Use to check / troubleshoot) videos errors.
- Control → **EDID** (Use to Reset HDMI Operational Errors)

Setting Option Bytes

1. Enter Factory Mode with **Service Remote** (only).
2. Check Option Byte Table located on **GSPN** (Fast Track or Tips).
3. Select **Option**.
4. Select each item to change.
5. Can Use new **Writing Type** to enter model.
(if entered wrong it will not change.)
6. Soft power TV Off to load.

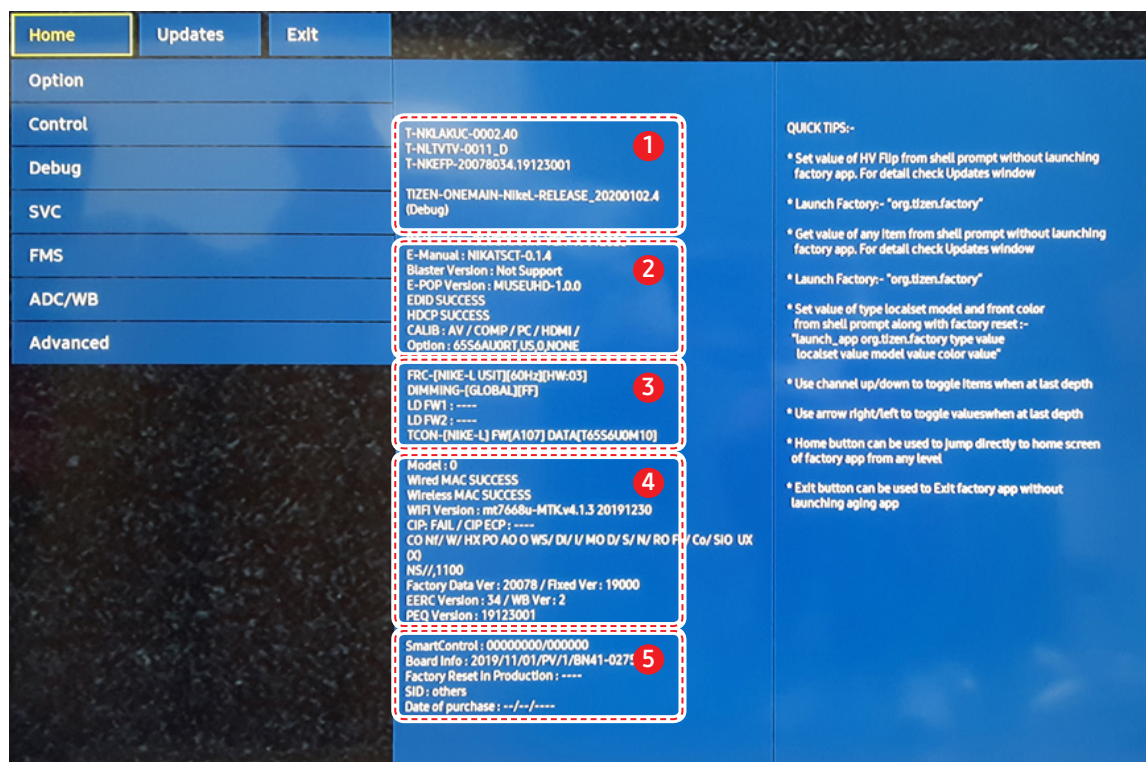
Factory Reset	
Type	65B6AU0GT
Writing Type	
Local Set	BRA_DTV
SW Model	UTU8000
Front Color	UTU8000H-U65TH1
Writing Front Color	
Model Code	UN65TU8000GXZD
TUNER	-
Ch Table	NONE

Performing Factory Reset

1. Enter Factory Mode.
2. Select **Option** > **Factory Reset**
3. TV will power off.
4. Perform ALL TV Settings. (New out of box condition)

First Screen Appearing in Factory Mode

- Sample : QN65Q60TAFXZA



■ Important Screen Info

1

T-NKLAKUC-0002.40
T-NLTVTV-0011_D
T-NKEFP-20078034.19123001

TIZEN-ONEMAIN-NikeL-RELEASE_20200102.4
(Debug)

- Micom Version
- Sub Micom
- Tizen Platform info

2

BT Version : BLUETOOTH-VER-19112820
E-Manual : NIKATSCT-0.1.4
Blaster Version : Not Support
E-POP Version : MUSEUHD-1.0.0
EDID SUCCESS
HDCP SUCCESS
CALIB : AV / COMP / PC / HDMI /
Option : 65S6AU0RT,US,0,NONE

- BT Version
- E-Manual
- Blaster Version
- E-POP Version
- EDID Success (Status)
- HDCP Success (Status)

3

FRC-[NIKE-L USIT][60Hz][HW:03]
DIMMING-[GLOBAL][FF]
LD FW1 : ----
LD FW2 : ----
TCON-[NIKE-L] FW[A107] DATA[T65S6U0M10]

- FRC
- Dimming
- T-CON

4

Model : 0
Wired MAC SUCCESS
Wireless MAC SUCCESS
WiFi Version : mt7668u-MTKv4.1.3 20191230
CIP: FAIL / CIP ECP : ----
CO NI/ W/ HX PO AO O WS/ DI/ I/ MO DI/ S/ N/ RO F
00
NS//,1100
Factory Data Ver : 20078 / Fixed Ver : 19000
EERC Version : 34 / WB Ver : 2
PEQ Version : 19123001

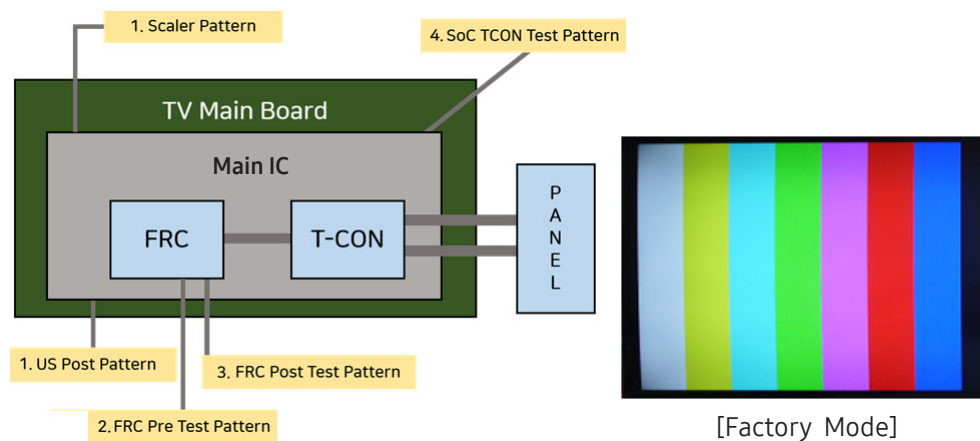
- Model
- Wired MAC Success
- Wireless MAC Success
- WiFi Version
- CO Status ("O" Operational)
- Factory Data Version
- EERC Version

5

SmartControl : 00000000/000000
Board Info : 2019/11/01/PV/1/BN41-02756A
Factory Reset In Production : ----
SID : others
Date of purchase : --/--/----

- Date of Purchase - Initial set up date
(Resets with Factory Reset)

■ SVC ➤ Test Patterns



1. Verify "Scaler Pattern" and "US Post Pattern".
2. Verify "FRC Pre Test Pattern".
3. Verify "FRC Post Test Pattern".
4. Verify "SoC TCON Test Pattern".

Scaler Pattern	OFF
US Post Pattern	OFF
FRC Pre Pattern	0
FRC Post Pattern	0
SOC TCON Pattern	0
SOC TCON Pattern Level	255
FRC OSD Pre Pattern	0
FRC OSD Post Pattern	0
FRC2 Pre Pattern	0
FRC2 Post Pattern	0
SOC TCON2 Pattern	0
SOC TCON2 Pattern Level	255
SOC TCON3 Pattern	0
SOC TCON3 Pattern Level	255

■ **Factory Mode > Control > EDID**

- 1. Remove ALL **HDMI** connections.
- 2. Factory Mode > Control > **EDID**. (→ **Enter** Key)

Option	EDID
Control	Sub Option
Debug	Hotel Option
SVC	Shop Option
FMS	Asia Option
ADC/WB	Sound
Advanced	

- 3. Select **EDID/OFF** to ON. (→ **Right Arrow** Key)

EDID ON/OFF	ON
-------------	----
- 4. Select **EDID WRITE ALL**. (→ **Enter** Key)

EDID WRITE ALL	Success
----------------	---------
- 5. Wait to Success. (→ **Right Arrow** Key)

EDID WRITE ALL	Wait
----------------	------
- 6. Confirm EDID WRITE ALL Success. (→ **Menu** Key)

EDID WRITE ALL	Success
----------------	---------

■ SVC > Info > ER Count

Check each item listed.

WD Count	0	FRC3D Emergency Reboot On/Off ON	7915 DETACHMENT COUNT	0
AR Count	0	FRC3D ER Count	0	
RS Count	0	TCON PMIC Fault Count	0	
RS-FG Count	0	Fan Error Count	0	
RS-Launch Count	0	TV20C Serdes Reset Count	0	
RS-BG Count	0	OC2TV Serdes Reset Count	0	
WIFI NO DETECTION COUNT	0	AOC Diagnosis		
WIFI DETACHMENT COUNT	0	Serdes Hlstory		
BT NO DETECTION COUNT	0	Serdes Hlstory Reset		
BT DETACHMENT COUNT	0	Serdes WatchDog On/Off	OFF	
BT MGT OPEN FAIL COUNT	0	Vcc Fail Count	0	
BT MGT DISCONNECT COUNT	0	HDMI No Signal		
BT TV AUDIO DROP	0	HDMI Blinking		
BT AUDIO TIMER EXP	0	HDMI Color Space		
Camera ER Count	0	7915 NO DETECTION COUNT	0	

■ Important Items

- ✓ **WD Count:** Watch Dog
→ Hardware related issue.
- ✓ **AR Count:** Auto Reset
→ Software (i.e. Apps) related.
- ✓ **WiFi Count:** Check all listed items
- ✓ **BT Count:** Check all listed items
- ✓ **VCC Fail Count**
→ Check all listed items.

4-9. Replacing Main Board

When replacing Main Board, certain values needs to be manually input in Factory menu to complete the replacement.

■ Steps to Replace Main Board

1. Enter Factory Menu (Use Factory Remote only).
 - Power TV on : Select **TV Source** > **Info/Factory** > **Option**
2. Change Each value according to the TV Model.
 - **Type**, **Writing Type**, **Local Set**, **SW Model**, **Front Color**, **Model Code** must be set to correct value.

- Sample Model : UN65TU8000GXZD

Type

- Check Panel label (located in the back chassis of panel) and choose same Type code from the list.



<Panel Label>

Home	Updates	Exit
Factory Reset		
Type	65B6AU0GT	
Writing Type		
Local Set	BRA_DTV	
SW Model	UTU8000	
Front Color	UTU8000H-U65TH1	
Writing Front Color		
Model Code	UN65TU8000GXZD	
TUNER		

55A1QU7QN	55L1QU7QN
75L1QU7QN	55A1QU8XN
55L1QU7QN	55A1QU7QN
65A1QU9TR	65B6AU0GT
65L1QU9TR	65L1QU7QN
65A1QU8XN	65L1QU8XN
55A6AU0NN	82A1QU9TR

<Type list in the Factory Menu>

Writing Type

- For Quick Entry of Type.
 - Confirm **Type** from Option Byte Table for your TV.
 - Select **Writing Type**.
 - "Set Panel Type" appears.
 - Enter exact Model Type using cursors.
 - Select **OK**.
 - Writing Type Success** appears in the Option Table.
 - If the model Type you entered doesn't exist it will not load.
 - If you entered over 10 digits an Information screen box is full appears.
 - Complete rest of Option Byte Table info.
 - Press soft power off with remote to enter settings.



NOTE

If you made a mistake you can unplug the TV to prevent info from changing options.

Home	Updates	Exit
Factory Reset		
Type	65B6AU0GT	
Writing Type		
Local Set	BRA_DTV	
SW Model	UTU8000	

<Select Writing Type>

Factory Reset	
Type	65S6AU0RT
Writing Type	
Local Set	US

Set Panel Type

65B6AU0GT

ENG	1	2	3	4	5
	Q	W	E	R	T
	A	S	D	F	G

<Set Writing Type>

Home	Updates	Exit
Factory Reset		
Type	65B6AU0GT	
Writing Type	Success	
Local Set	BRA_DTV	
SW Model	UTU8000	

<Writing Type Success>

Type	65S6AU0RT
Writing Type	
Local Set	US

Information

The box is full. You can't enter any more text.

OK

ENG	1	2	3	4	5
	Q	W	E	R	T
	A	S	D	F	G

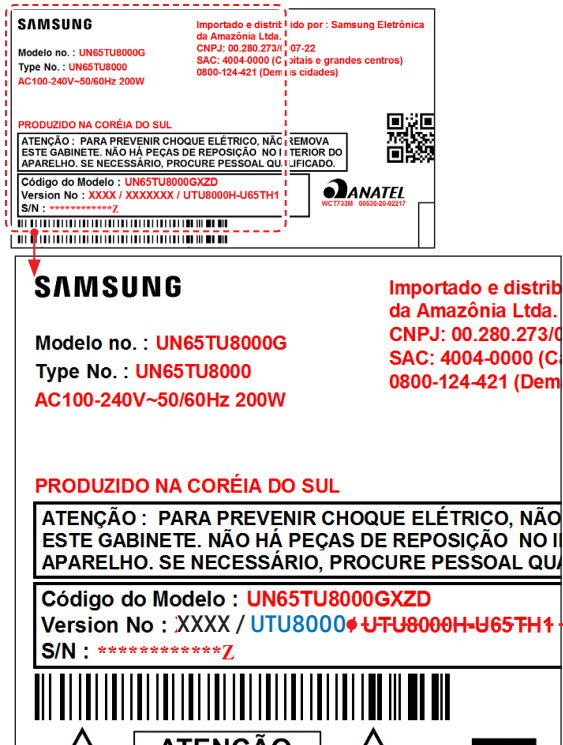
<Writing Type digits exceeded>

Local Set

- Set according to Local region(country).

SW Model

- Check Label Rating of the TV (located on the **Rear Cover**).
 - SW Model is digits **after "/"** in **Version No.**
 - Choose same SW Model code from the list.



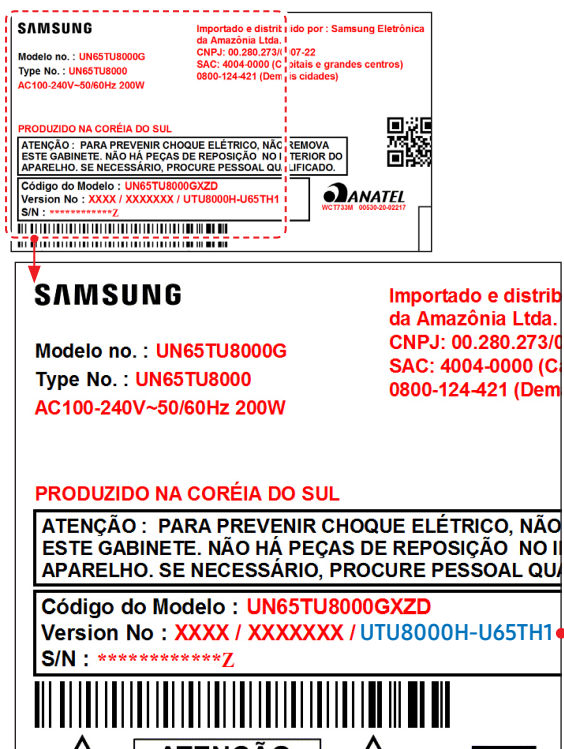
<"SW Model" in Label Rating>

Home	Updates	Exit
Factory Reset		
Type	65B6AU0GT	
Writing Type		
Local Set	BRA_DTV	
SW Model	UTU8000	
Front Color	UTU8000H-U65TH1	
Writing Front Color		
Model Code	UN65TU8000GXZD	
TUNER		
URU7300R	QNQ6F	
QRQ60T	QNQ75C	
URU8000F	QRQ80C	
QRQ70D	UTU8000	
QNG8FB	QNG7F	
URU7000JJ	QRQ900Z	
URU7100H	QRQ90B	

<SW Model list in the Factory Menu>

Front Color

- Check Label Rating of the TV (located on the **Rear Cover**).



<"Front Color" in Label Rating>

Home	Updates	Exit
Factory Reset		
Type	65B6AU0GT	
Writing Type		
Local Set	BRA_DTV	
SW Model	UTU8000	
Front Color	UTU8000H-U65TH1	
Writing Front Color		
Model Code	UN65TU8000GXZD	
TUNER		
QTQ80D-Q49TD1	QTQ950SA-Q85TA1	
QTQ80D-Q55TD1	QTQ800B-Q65TB1	
QTQ80D-Q65TD1	QTQ800B-Q75TB2	
QTQ80D-Q75TD1	UTU8000H-U65TH1	
QTQ80D-Q85TD1	QTQ60F-Q43TF1	
QTQ90C-Q55TC1	QTQ60F-Q50TF1	
QTQ90C-Q65TC1	QTQ60F-Q55TF1	

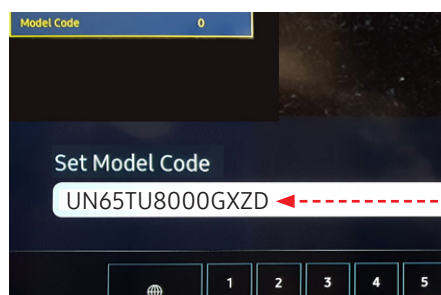
<Front Color list in the Factory Menu>

Model Code

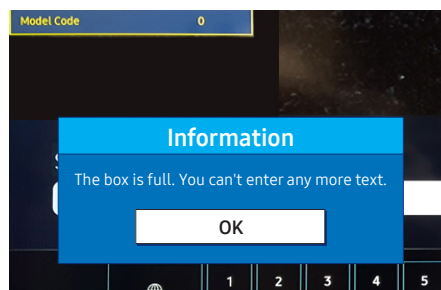
- For Quick Entry of Model Code.
 - Confirm **Model Code** from Option Byte Table for your TV.
 - Select **Model Code**.
 - "Set Model Code" appears.
 - Enter exact Model Code using cursors.
 - If you entered over 19 digits an **Information** screen **box is full** appears.
 - IMPORTANT:** It will accept wrong model code, be sure to enter correct code
 - Complete rest of Option Byte Table info.
 - Press soft power off with remote to enter settings.

Home	Updates	Exit
Factory Reset		
Type	65B6AU0GT	
Writing Type		
Local Set	BRA_DTV	
SW Model	UTU8000	
Front Color	UTU8000H-U65TH1	
Writing Front Color		
Model Code	UN65TU8000GXZD	
TUNER		

<Select Model Code>



<Set Model Code>



<Model Code digits exceeded>

Home	Updates	Exit
Factory Reset		
Type	65B6AU0GT	
Writing Type		
Local Set	BRA_DTV	
SW Model	UTU8000	
Front Color	UTU8000H-U65TH1	
Writing Front Color		
Model Code	UN65TU8000GXZD11	
TUNER		

<Wrong Model Code Entry>

4-10. 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".

■ UN50TU8000GXZD

• PANEL / SMPS / MAIN Information

Ver	PANEL			SMPS		MAIN	
	Vendor	Code/Spec	Type	Vendor	Code/Spec	ASSY CHASSIS	ASSY PCB MAIN
YA01	CEC	BN95-06369A	50C6AU0GT	-	-	BN91-21872R	BN94-15313Y
		CY-BT050HGPV1V/H			-		
YD02	CEC	BN95-06369E	50C6AU0GT	-	-	BN91-21836N	BN94-15313Y
		CY-BT050HGPV1G			-		
AD04	AUO	BN95-06497F	50L6AU0GT	-	-	BN91-22096H	BN94-15688C
		CY-BT050HGAV1G			-		

• MAIN Factory Option

Local Set	BOM Model	Front Color	S/W Model
BRA_DTV	8000	UTU8000H-U50TH1	UTU8000

• PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
00GD000NL	BRA_DTV	UTU8000	Follow S/W Model

■ UN55TU8000GXZD

• PANEL / SMPS / MAIN Information

Ver	PANEL			SMPS		MAIN	
	Vendor	Code/Spec	Type	Vendor	Code/Spec	ASSY CHASSIS	ASSY PCB MAIN
CB01	CSOT	BN95-06371A	55S6AU0GT	-	-	BN91-21793C	BN94-15274C
		CY-BT055HGHV1V			-		
CD02	CSOT	BN95-06371E	55S6AU0GT	-	-	BN91-21793C	BN94-15274C
		CY-BT055HGHV1G			-		
WD04	LGD	BN95-06706B	55X6AU0GT	-	-	BN91-22410P	BN94-15808N
		CY-BT055HGXV1G			-		

• MAIN Factory Option

Local Set	BOM Model	Front Color	S/W Model
BRA_DTV	8000	UTU8000H-U55TH1	UTU8000

• PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
00GD000NL	BRA_DTV	UTU8000	Follow S/W Model

■ UN65TU8000GXZD

• PANEL / SMPS / MAIN Information

Ver	PANEL			SMPS		MAIN	
	Vendor	Code/Spec	Type	Vendor	Code/Spec	ASSY CHASSIS	ASSY PCB MAIN
BA01	BOE	BN95-06377A	65B6AU0GT	DYREL	BN44-01055A	BN91-21793E	BN94-15346G
		CY-BT065HGEV1V/H			L65S6N_TDY		
BE02	BOE	BN95-06377C	65B6AU0GT	DYREL	BN44-01055A	BN91-21793E	BN94-15346G
		CY-BT065HGEV1G			L65S6N_TDY		

• MAIN Factory Option

Local Set	BOM Model	Front Color	S/W Model
BRA_DTV	8000	UTU8000H-U65TH1	UTU8000

• PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
00GD000NL	BRA_DTV	UTU8000	Follow S/W Model

■ UN75TU8000GXZD

• PANEL / SMPS / MAIN Information

Ver	PANEL			SMPS		MAIN	
	Vendor	Code/Spec	Type	Vendor	Code/Spec	ASSY CHASSIS	ASSY PCB MAIN
BB01	BOE	BN95-06379A	75B6AU0GT	HANSOE	BN44-01056A	BN91-21793F	BN94-15274F
		CY-BT075HGEV1V/H			L75S6N_THS		
BE02	BOE	BN95-06379D	75B6AU0GT	HANSOE	BN44-01056A	BN91-21793F	BN94-15274F
		CY-BT075HGEV1G			L75S6N_THS		

• MAIN Factory Option

Local Set	BOM Model	Front Color	S/W Model
BRA_DTV	8000	UTU8000H-U75TH1	UTU8000

• PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
00GD000NL	BRA_DTV	UTU8000	Follow S/W Model

■ UN82TU8000GXZD

• PANEL / SMPS / MAIN Information

Ver	PANEL			SMPS		MAIN	
	Vendor	Code/Spec	Type	Vendor	Code/Spec	ASSY CHASSIS	ASSY PCB MAIN
FD02	SDC	BN95-06381C	82A6AU0GT	HANSOE	BN44-01065B	BN91-21900G	BN94-15321R
		CY-BT082HGLV1K			L82S6N_THS		
DC03	INX	BN95-06382D	82D6AU0GT	HANSOE	BN44-01065B	BN91-22409T	BN94-15779C
		CY-BT082HGNV1K			L82S6N_THS		

• MAIN Factory Option

Local Set	BOM Model	Front Color	S/W Model
BRA_DTV	8000	UTU8000H-U82TH1	UTU8000

• PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
00GD000NL	BRA_DTV	UTU8000	Follow S/W Model

4-11. Factory Data

■ Option

Factory Menu Name	Data	Range
Factory Reset	-	
Type	65B6AU0GT	Refer to "4-10. Detail Factory Option".
Writing Type		
Local set	BRA_DTV	
SW Model	UTU8000	
Front Color		
Writing Front Color		
Model Code	UN65TU8000GXZD	50/55/65/75/82/85
TUNER	-	ISDB-T
Ch Table	NONE	
MRT Option		
Production Option		
Engineer Option		

■ 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	
EXT Link Support	ON	
Serial Log On/Off	OFF	
Watchdog	ON	
FRC Monitoring	OFF	
Checksum	0x0000	
Fast Boot In Production	ON	
USB Serial	OFF	

Factory Menu Name	Data	Range
ECO IC TYPE	NOT_DETECT	
COLOR IC TYPE	RISG315	
Info Link Server Type	development	
Info Link Country	None	
TTX Group	UserOSD	
OPTION_SWU		
RF Remocon Support	OFF	
CDD mode	...	
DPMS Support	OFF	
T-CON Device	NIKE-L	
RM Server Type	Operating	
LMF LEAVE THRESHOLD	160	
LMF TRIM THRESHOLD	120	
LMF TERM THRESHOLD	80	
EOS Click	OFF	
BP PMS Reset	1	
FAnet Thread	2	
CI CPLD Version	1	
ACM_MC	ON	
UNIQUE TRIPLET	ON	
FS_FAV	OFF	
Private Range USE	ON	
SCSA Support	OFF	
OCM Reboot	ON	
SPI Protection		
FKP Server Type	Default	
OCM Support	ON	
Preloading Support	ON	
Multitasking Support	ON	
Browser preloading Support	FULL	
EXT IR Boot Support	OFF	
APP BOOTING SUPPORT	ON	
NagSam Support	OFF	
EWBS Support	OFF	
MVPD MBR Provider	COMCAST	
cloudscan Always Upload	OFF	

4. Troubleshooting

Factory Menu Name	Data	Range
FirstScreen Cach Size	300	
Hotel Option		
Hospitality Mode	OFF	
Power On		
Menu OSD		
Operation		
Music Mode		
External Source		
Eco Solution		
Cloning		
Shop Option		
Exhibition Mode	OFF	
Peak Mode	ON	
Metadata	ON	
Shopmode Picture Reset	ON	
Asia Option		
Unbalance	OFF	
AF Level adjust	0	
TX Power Level	0	
Mono Last Memory	OFF	
H Shaking	0	
SOUND		
High Devi	OFF	*If the broadcast signal is not good, TV will complement the characteristics of the signal (most use when weak signal comes from the growing area countries)
Carrier_Mute	ON	*If the noise comes from weakness-electromagnetic field, TV will be set Mute automatically(Only default on in North America)
Pilot Level High Thld	0x20h	* The High threshold value of stereo signal(If Pilot level is greater than High threshold value, recognize Stereo signal)
Pilot Level Low THLD	0x10h	* The Low threshold value of stereo signal(If Pilot level is less than Low threshold value, recognize Mono signal)
Carrier2 Amp High ThLD	9	
Carrier2 Amp Low THLD	6	
Amp Volume	0xc4h	
Amp Scale	0x3ch	
Amp EQ Check Sum	0x000057B5	

Factory Menu Name	Data	Range
Subwoofer Support	3	
Woofer Type	0	
Woofer Volume	0xc7h	
Woofer Scale	0x3fh	
Woofer Check sum	0x0000A273	
PEQ Inx	76	
PEQ Test	Ready	
Speaker EQ	ON	
Bottom Checksum	NONE	
Wall Filter Type	3	
SRS Tuning Parm	0	
SPDIF PCM Gain	-9	
AudioDock BT Delay	90	
3D_Glass BT delay	50	
Mic Scale	OFF	
India Sound	0	
Speaker Delay Normal	0	
NTV CU Delay	NORMAL	
Lipsync Inx	1	
Lipsync Checksum	0x4972	
Lipsync USB Test	Ready	
Lipsync BT Checksum	0x0000	
TP volume	0xc4h	
TP Scale	0x6ch	
TP EQ CheckSum	NONE	

■ Debug

Factory Menu Name	Data	Range
Spread Spectrum		
LVDS Spread	0	
DDR Spread	0	
Period	0	
Amplitude	0	
HD DDR SSC ON OFF	OFF	
HD DDR SSC Value	0	

4. Troubleshooting

Factory Menu Name	Data	Range
FHD DDR SSC ON OFF	OFF	
FHD DDR SSC Value	4	
UHD DDR SSC ON OFF	ON	
UHD DDR SSC Value	0	
PeBus SSC ON/OFF	OFF	
PeBus Value	0	
LVDS SSC ON/OFF	OFF	
LVDS SSC Value	0	
AP Vx1 SSC ON/OFF	ON	
AP Vx1 Value	12	
N Vx1 SSC ON/OFF	ON	
N Vx1 Value	0	
FRC Vx1 SSC ON/OFF	OFF	
FRC Vx1 SSC Period	0	
FRC Vx1 SSC Modulation	0	
FRC LVDS ON/OFF	ON	
FRC LVDS SSC MFR	3	
FRC LVDS SSC MRR	2	
FRC DDR SSC ON/OFF	ON	
FRC DDR SSC Period	1	
FRC DDR SSC Modulation	2	
ADV7619 Data strength	1	
ADV7619 Clock strength	1	
ADV7619 H_V_DE strength	1	
AP DDR SSC ON/OFF	OFF	
AP DDR SSC Value	0	
AP USIT SSC ON/OFF	ON	
AP USIT SSC Value	13	
OCM Vx1 SSC ON/OFF	OFF	
OCM Vx1 SSC Value	0	
TCON USIT SSC ON/OFF	BYPASS	
DDR Margin		
A CTRL_OFFSET_0_3	0	
A CTRL_OFFSET_D	0	
B CTRL_OFFSET_0_3	0	
B CTRL_OFFSET_D	0	

Factory Menu Name	Data	Range
BT_ON_OFF	ON	
RF Mute Time	600ms	
Tuner Margin	3	European specifications
FRC		
FRC FDISPLAY ON/OFF	OFF	
3D FDISPLAY ON/OFF	OFF	
PC Mode ON/OFF	OFF	
FRC VX1 RX EQ SETTING	OFF	
FRC VX1 TX Pre_emphasis setting	0	
Netflix OSD Threshold	179	
TCON		
TCON_TEMP READ	34	
TEMP LAST	6000	
DCC VERSION	0x0	
TCON Demura Bypass	OFF	
TCON FDisplay	OFF	
Panel Code 1		
Panel Code 2		
Panel Revision		
Panel Menu Week		
Panel S/N 1		
Panel S/N 2		
Panel S/N 3		
Panel S/N 4		
MPEG Margin		
H.264 Margin		
CAM Wait Time		
Voice Debug		
Power Management		
Cert Option		
RM_BIST_DTV		
RM_BIST_ATV		
RM_BIST_CABLE		
SerDES Check		
SerDES Tuner		

4. Troubleshooting

Factory Menu Name	Data	Range
HDMI SW	Failure	
HDMI Rx	Failure	
MP Failure		
Main SerDES	Failure	
Jack SerDES	Failure	
Stress Mode		
Log Analyzer		
Error Popup On/Off		
DeadLock KILL		
CES Option		
CES Convergence Option		
CES ATSC 3_0		
CES OOB MVDP SUPPORT		
BT DUT		
BT Throughput		
Reproduce Module		
21_9		
L-DETECT STABLE TIME	7	
L-DETECT UNSTABLE TIME	3	
L-DETECT CAPTION THRESHOLD	720	
L-DETECT RAGION THRESHOLD	720	
L-DETECT B-LEVEL THRESHOLD	32	
L-DETECT USB SUPPORT	0	
DB Download		
MRT Option Dump	Failure	
Picture Data Dump	Failure	
VCONF Dump	Failure	
Read Eco Sensor Data		
No Signal Power OFF		
Alert Option		
Default HDMI1 Booting		

■ SVC

Factory Menu Name	Data	Range
Self Test(for HW)		* the Output of test pattern from each IC
Info		
Reset		
Apps Reset		
SVC Reset		
SPI Flash Reset		
Data Sync Reset		
Factory Data Reset		
OPTION_HDMI		
DVI/HDMI SOUND	Auto	
HDMI HOT PLUG	Disable	
HOTPLUG SWITCHING	Auto	
HOT PLUG DURATION	800ms	
CLK TERM DURATION	300ms	
HDMI FLT CNT SIG	0ms	
HDMI FLT CND SIG2		
HDMI FLT CNT LOS	0ms	
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	
HOT PLUG OFF HOLD TIME	600ms	
HDMI MUTE TIME	0ms	
HDMI NFST UNMUTE TIME	800ms	
HDMI FST UNMUTE TIME	0ms	
REPEA AUDIO PKT	OFF	
HDMI Stable Count	3	

4. Troubleshooting

Factory Menu Name	Data	Range
HDMI HDCP EN	OFF	
HDMI HDCP EN FLAG	85	
POWER ON FLT CNT LOS		
HDCP UPDATE SPI	READY	
SPI VERSION	0	
HdmiRx EQ	0	
HDMI TMDS ERR DET	1	
DVB CI		
TS Clock delay TC	0	
TS Clock delay S	0	
CI Control Buf ON	ON	
TS Clock delay CPU	1	
TS Clock delay TC2	0	
TS Clock delay S2	0	
CI Control Buf ON2	1	
TS Clock delay CPU2	0	
Test Pattern		
Scaler Pattern	OFF	
US Post Pattern	OFF	
FRC Pre Pattern	0	
FRC Post Pattern	0	
SOC TCON Pattern	0	
SOC TCON Pattern Level	255	
FRC OSD Pre Pattern	0	
FRC OSD Post Pattern	0	
FRC2 Pre Pattern	0	
FRC2 Post Pattern	0	
SOC TCON2 Pattern	0	
SOC TCON2 Pattern Level	255	
Upgrade		
T-CON DATA UPGRADE		
T-CON FW UPGRADE		
T-CON CheckSum		
T-CON2 Usb Download		
T-CON2 CheckSum		
PANEL EEPROM UPGRADE		

Factory Menu Name	Data	Range
PANEL FLASH UPGRADE		
Logic Usb D/L		
SUBMICOM UPGRADE		* Upgrade Sub-Micom Program
SUBMICOM JP USB UPGRADE		
BT UPGRADE		
BT FREPAIRING		
Function Upgrade		
FRC3D FW UPGRADE		
FRC3D SRP UPGRADE		
FRC3D LD UPGRADE		
FRC2 3D FW UPGRADE		
Camera Upgade		* Upgarde Camera module(There is upgrade program in Main-Image)
Mic Upgrade		* Upgarde MIC in Camera module(There is upgrade program in Main-Image)
Jump UPGRADE		
IR Blaster Upgrade		
IR Blaster delay time		
NTV CU UPDATE		
UD LDC PROFILE UPGRADE		
Pic Data USB Update		
Audio Data USB Update		
Eco Data USB Update		
CI CPLD Upgrade		
SC ADK Upgrade		
Other Setting		
Delete S/N		
IPERF	Stopped	
Expert		
CAL Data Backup	...	
CAL Data Restore		
MICOM POWER OFF	ON	
NTV CU FW VER	0	
ATV IF AGC SPEED	0	
Upgrade UHD OSD Test	0	
Main USB Path		
JackP USB Path		

4. Troubleshooting

Factory Menu Name	Data	Range
Source Direct On/Off	OFF	
Apps Update		
Auto Power	LAST POWER	
SMCE Control		
Motor Test		
Cube Test		
V APP	OFF	
Picture Direct On/Off	OFF	
SVC Panel	ORIGINAL	
S/N		
Serial number		
Writing S/N		

■ 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	128	
2nd_G_L	128	
2nd_B_L	128	
2nd_R_H	69	
2nd_G_H	69	
2nd_B_H	69	
White Balance		
R-Offset	128	

Factory Menu Name	Data	Range
G-Offset	128	
B-Offset	128	
R-Gain	128	
G-Gain	128	
B-Gain	128	
WB-W2_R_Offset	128	
WB_W2_B_Offset	128	
WB_W2_R_Gain	136	
WB_W2_B_Gain	76	
WB_N_R_Offset	128	
WB_N_B_Offset	128	
WB_N_R_Gain	131	
WB_N_B_Gain	119	
MGA		
MGA On/Off	OFF	
R1_Gain		
G1_Gain		
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		

4. Troubleshooting

Factory Menu Name	Data	Range
R8_Gain		
G8_Gain		
B8_Gain		
R9_Gain		
G9_Gain		
B9_Gain		
R10_Gain		
G10_Gain		
B10_Gain		
SPI White Balance		
SPI White Balance On/Off		
SPI R-Offset		
SPI G-Offset		
SPI B-Offset		
SPI R-Gain		
SPI G-Gain		
SPI B-Gain		
SPI N Rgain		
SPI N Bgain		
SPI N Roffset		
SPI N Boffset		
SPI W2 Rgain		
SPI W2 Bgain		
SPI W2 Roffset		
SPI W2 Boffset		
SPI MGA		
WB Data to SPI		

■ Advanced

4-12. 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	0x00
			Down			0x02	0x00
Input	Source List	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
		RVU	RVU			0x07	0x00
PICTURE	Mode	Dynamic(Entertain)		0x0b	0x00	0x00	0x00
		Standard					0x01
		Movie					0x02
		Natural					0x03
		CAL-NIGHT					0x04
		CAL-DAY					0x05
		BD Wise					0x06
		Relax					0x07

Control Item				Cmd1	Cmd2	Cmd3	Value
PICTURE	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
		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	(-50~50)
			G-Offset(LCD)			0x08	(-50~50)
			B-Offset(LCD)			0x09	(-50~50)
			R-Gain(LCD)			0x0a	(-50~50)
			G-Gain(LCD)			0x0b	(-50~50)
			B-Gain(LCD)			0x0c	(-50~50)
			Reset(LCD)			0x0d	0x00
		Flesh Tone	-15 ~ 15			0x0e	(-15~15)
		xvYCC	Off			0x10	0x00
			On				0x01
		Motion Lighting	Off			0x11	0x00
			On				0x01
		Color Space Custom Color	Red			0x12	0x00
			Green				0x01
			Blue				0x02
			Yellow				0x03

Control Item				Cmd1	Cmd2	Cmd3	Value	
PICTURE	Advanced Settings	Color Space Custom Color	Cyan				0x04	
			Magenta				0x05	
		Color Space Custom Color Red Value	0~100			0x13	0~100	fixed command
		Color Space Custom Color Green Value	0~100			0x14	0~100	fixed command
		Color Space Custom Color Blue Value	0~100			0x15	0~100	fixed command
		Color Space Custom Reset				0x1c	0x00	fixed command
		LED Motion Plus	Off		0x0a	0x07	0x00	
			On(Normal)				0x01	
			Cinema				0x02	
			Ticker				0x03	
		10p White Balance	Off		0x07	0x16	0x00	fixed command
			On		0x07	0x16	0x01	fixed command
			Interval		0x07	0x17	(1~10)	fixed command
			Red		0x07	0x18	(-50~50)	fixed command
			Green		0x07	0x19	(-50~50)	fixed command
			Blue		0x07	0x1a	(1~10)	fixed command
			Reset		0x00	0x1b	0x00	fixed command
	Picture Option	Color Tone	Cool		0x0a	0x00	0x00	
			Standard				0x01	
			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	

Control Item				Cmd1	Cmd2	Cmd3	Value	
PICTURE		Film Mode	Auto2				0x02	
			Cinema Smooth				0x03	
		Auto Motion Plus	Off			0x06	0x00	
			Clear				0x01	
			Standard				0x02	
			Smooth				0x03	
			Custom				0x04	
		Blur Reduction			0x0b	0x01	value	fixed command
		Judder Reduction				0x02	value	fixed command
		LED Clear Motion	Off			0x03	0x00	fixed command
		LED Clear Motion	On				0x01	fixed command
		HDMI1 UHD Color Mode	Off			0x04	0x00	fixed command
			On				0x01	fixed command
		HDMI2 UHD Color Mode	Off			0x05	0x00	fixed command
			On				0x01	fixed command
		HDMI3 UHD Color Mode	Off			0x06	0x00	fixed command
			On				0x01	fixed command
		HDMI4 UHD Color Mode	Off			0x07	0x00	fixed command
			On				0x01	fixed command
		Analog Clean View	On			0x08	0x00	fixed command
	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	
		Fit to Screen	Off		0x0b	0x00	0x00	
		Zoom	Zoom1		0x0c	0x00	0x00	
			Zoom2				0x01	
			Zoom3				0x02	
			Zoom4				0x03	
		Position	Position1			0x01	0x00	
			Position2				0x01	

Control Item				Cmd1	Cmd2	Cmd3	Value	
PICTURE	Screen Adjustment	Position	Position3				0x02	
			Position4				0x03	
	Reset Picture	Reset Picture		0x0d	0x0b	0x00	0x00	
	3D	3D Mode	Off	0x0e	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	
			Auto1				0x03	
			Auto2				0x04	
		3D Light Control	Low			0x06	0x00	
			High				0x01	
		L/R Change	L to R			0x07	0x00	
			R to L				0x01	
		3D Perspective				0x08	value	
		Optimize				0x09	value	
	Factory-SVB	Expert-N/D Adj	On	0x0b	0x0d	0x00	0x00	
			Off				0x01	
			Fix				0x02	
	Apply Picture Mode	All Sources		0x0f	0x00	0x00	0x00	fixed command
		Current Source					0x01	
	Pip	PIP	Off	0x0b	0x08	0x00	0x00	fixed command
			On				0x01	fixed command
			Antenna			0x01	0xff	fixed command
			Size			0x02	0xff	fixed command
			Position			0x03	0xff	fixed command
			Sound_Select_Main			0x04	0x00	fixed command

Control Item				Cmd1	Cmd2	Cmd3	Value	
PICTURE	Pip		Sound_Select_Sub				0x01	fixed command
			Channel_Up			0x05	0x00	fixed command
			Channel_Down				0x01	fixed command
Sound	Sound Mode	Standard		0x0c	0x00	0x00	0x00	
		Music					0x01	
		Movie					0x02	
		Clear Voice					0x03	
		Amplify					0x04	
	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	Off			0x02	0x00	0x00	
	Virtual Surrond	On					0x01	
	SRS TruDialog	Off			0x03	0x00	0x00	
	Dialog Clarify	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	
		Normal					0x01	
		Night					0x02	
	Speaker Select	TV Speaker			0x07	0x00	0x00	
		External Speaker					0x01	
		Audio Out					0x01	
	Sound Select	Main			0x08	0x00	0x00	
		Sub					0x01	
	Sound Reset	Sound Reset			0x09	0x00	0x00	
	3D Audio	Off			0x0a	0x00	0x00	
		Low					0x01	
		Medium					0x02	

Control Item				Cmd1	Cmd2	Cmd3	Value
		High					0x03
Sound	TV Installation Type	Stand			0x0c	0x00	0x00
		Wallmount					0x01
	Audio Delay	Dealy Value (0~250)			0x0d	0x00	0~250 (0x00~0xFA)
KEY	Key Generation			0x0d	0x00	0x00	*Refer for Table
OSD	Show/Hide Control	Show		0x0e	0x00	0x00	0x00
		Hide					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

* Refer for Table

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

4-13. Updating the TV's Software

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



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. Video and audio settings will be reset to their defaults after a software update.

-  >  **Settings** > **Support** > **Software Update**

■ Updating through the Internet

-  >  **Settings** > **Support** > **Software Update** > **Update Now**



Updating from the Internet requires an active Internet connection.

■ Updating through a USB device

-  >  **Settings** > **Support** > **Software Update** > **Update Now**

After downloading the update file from the Samsung website and storing it on a USB device, connect the USB device to the TV to update.



To update using a USB device, download the update package from Samsung.com to your computer. Then, save the update package in the USB device's top-level folder. Otherwise, the TV will not be able to locate the update package.

■ Updating the TV automatically

-  >  **Settings** > **Support** > **Software Update** > **Auto Update**

If the TV is connected to the Internet, you can have the TV update its software automatically while you are watching the TV. When the background update is completed, it is applied the next time the TV is turned on.

If you agree to the Smart Hub terms and conditions, **Auto Update** is set to **On** automatically. If you want this function disabled, use the Select button to turn it off.



This function may take a longer time if another network function is running concurrently.



This function requires an Internet connection.

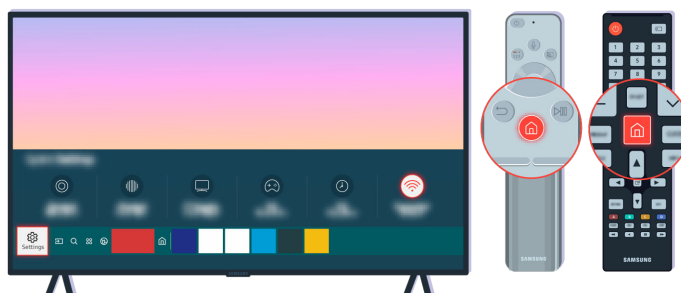
4-13-1. Updating to the latest TV software

If you want to keep the TV in its best condition, or if you have an intermittent issue, please update it to the latest version.

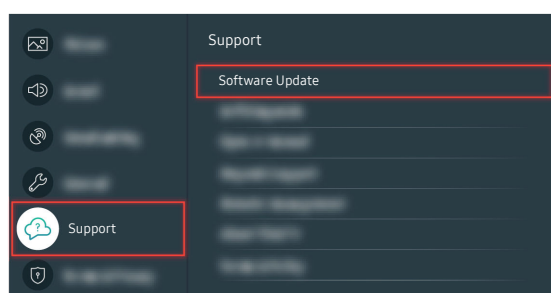


The color and design of the TV and its accessories and the features of the TV may differ depending on the model or geographical area.

1. If your TV is connected to the Internet, you can set it to receive periodic updates automatically. On the remote control, press the  button and move to  **Settings** using the directional button.



2. To enable automatic updates, select  >  **Settings** > **Support** > **Software Update** > **Auto Update**.



3. If your TV is not connected to the Internet, you can update the software using a USB drive.

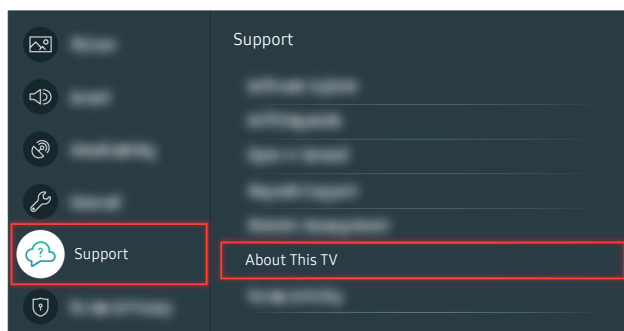


4. Troubleshooting

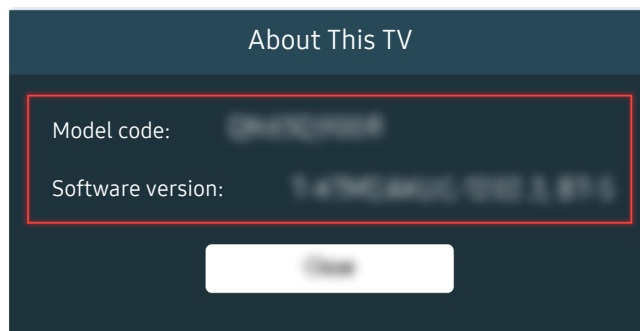
4. Select  >  **Settings** > **Support** > **About This TV** and check the model code and software version.



5. Select  >  **Settings** > **Support** > **About This TV** and check the model code and software version.



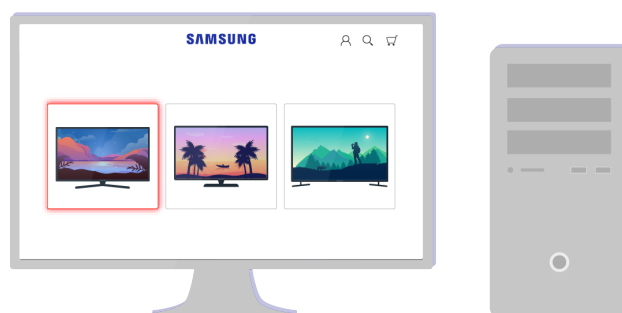
6. Select  >  **Settings** > **Support** > **About This TV** check the model code and software version.



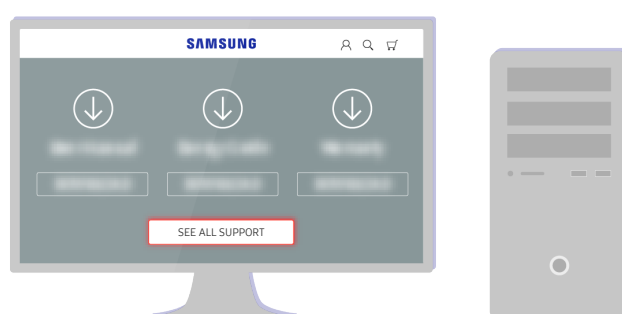
7. Using a computer, connect to www.samsung.com.



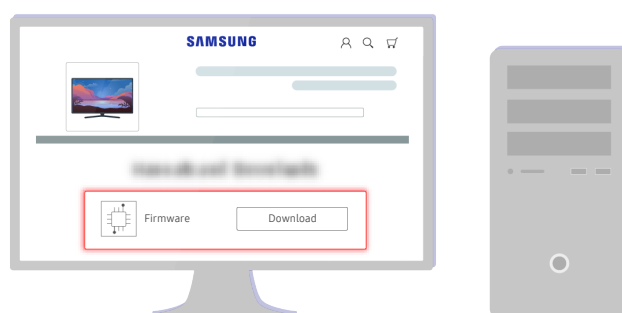
8. Find your TV model and download the firmware file.



9. Find your TV model and download the firmware file.



10. Click Download to download the firmware.



11. Unzip the downloaded file and store it in your USB drive top folder.



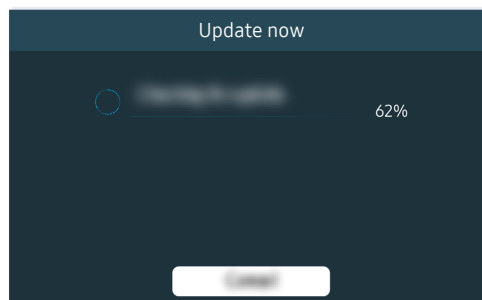
12. Unzip the downloaded file and store it in your USB drive top folder.



13. Insert the USB device into the USB slot on the back of your TV or the side of the One Connect Box.



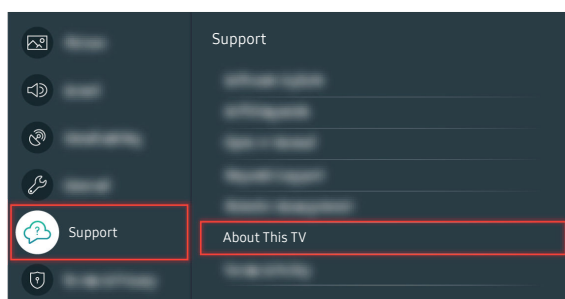
14. The firmware update begins automatically. Your TV will automatically powercycle when the firmware update is completed. Do not turn off your TV while the firmware update is in progress.



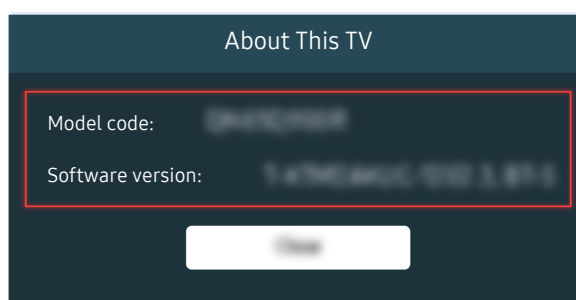
15. After your TV turns on, select  >  **Settings** > **Support** > **About This TV** and check the new firmware version.



16. After your TV turns on, select  >  **Settings** > **Support** > **About This TV** and check the new firmware version.



17. After your TV turns on, select  >  **Settings** > **Support** > **About This TV** and check the new firmware version.



Related menu path

 >  **Settings** > **Support** > **Software Update** > **Auto Update**

 >  **Settings** > **Support** > **About This TV**