



QLED TV

Project : QRQ60T

Chassis : QWD91

Model : QN43Q6DRAF

QN49Q6DRAF

QN55Q6DRAF

QN65Q6DRAF

QN75Q6DRAF

QN82Q6DRAF

SERVICE Manual

QLED TV



QN65Q6DRAF

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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.

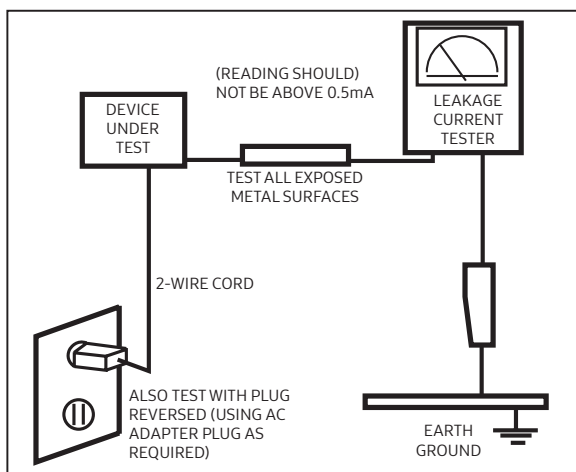
1-1-2. Servicing the LED TV

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:

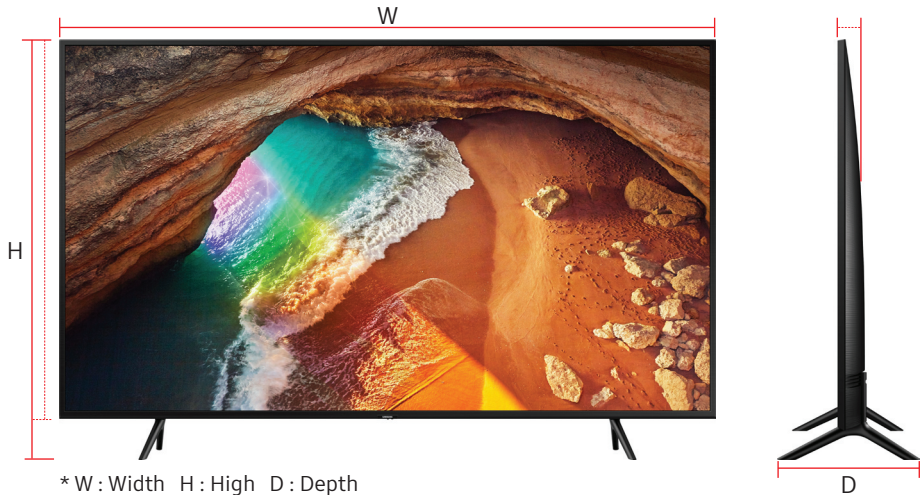


CAUTION

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

2. Product Specifications

2-1. Product information

Model	QN**Q6DRAF		
Front View	 * W : Width H : High D : Depth		
Detail View			
Color	Front : CHARCOAL BLACK / Stand : CHARCOAL BLACK		
Dimensions (W x H x D)	43"	Body	38.2 x 22.2 x 2.3 inches (969.6 x 562.9 x 58.4 mm)
		With Stand	38.2 x 25.0 x 8.4 inches (969.6 x 635.3 x 214.1 mm)
	49"	Body	43.4 x 25.1 x 2.3 inches (1101.4 x 637.1 x 59.2 mm)
		With Stand	43.4 x 28.2 x 10.4 inches (1101.4 x 715.7 x 263.9 mm)
	55"	Body	48.7 x 28.1 x 2.3 inches (1237.2 x 713.5 x 58.7 mm)
		With Stand	48.7 x 31.1 x 10.4 inches (1237.2 x 790.9 x 263.9 mm)
	65"	Body	57.3 x 32.9 x 2.3 inches (1456.1 x 836.6 x 59.2 mm)
		With Stand	57.3 x 36.1 x 12.7 inches (1456.1 x 917.0 x 322.8 mm)
Weight	43"	Without Stand	22.5 lbs (10.2 kg)
		With Stand	22.9 lbs (10.4 kg)
	49"	Without Stand	30.9 lbs (14.0 kg)
		With Stand	31.5 lbs (14.3 kg)

2. Product specifications

Model	QN**Q6DRAF		
Weight	55"	Without Stand	41.0 lbs (18.6 kg)
		With Stand	41.7 lbs (18.9 kg)
	65"	Without Stand	57.3 lbs (26.0 kg)
		With Stand	58.2 lbs (26.4 kg)
	75"	Without Stand	85.8 lbs (38.9 kg)
		With Stand	86.9 lbs (39.4 kg)
	82"	Without Stand	103.2 lbs (46.8 kg)
		With Stand	105.8 lbs (48.0 kg)

2-2. Product specification



NOTE

Design and specifications are subject to change without prior notice.

Last Update Date : 2019.04.10

Item		QN43Q6DRAFXZA
General Information	Product	QLED
	Series	6
	Country	UNITED STATES
	Tools Support	N/A
	Platform(TV)	SoC Muse-M
Display	Screen Size	43"
	Resolution	3,840 x 2,160
	Ultra Black	N/A
	Screen Curvature	N/A
Video	Picture Engine	Quantum Processor 4K
	Motion Rate	120
	HDR (High Dynamic Range)	Quantum HDR 4X
	HDR10+	Yes
	Contrast	Mega Contrast
	HLG (Hybrid Log Gamma)	Yes
	Color	Color Volume 100% by Quantum Dot
	Viewing Angle	N/A
	Micro Dimming	Ultimate UHD Dimming
	Local Dimming	N/A
	Auto Depth Enhancer	N/A
	Contrast Enhancer	Yes
	Auto Motion Plus	Yes
	Film Mode	Yes
	Natural Mode Support	Yes
Audio	Dolby Digital Plus	Yes
	Dialog Enhancement	Yes
	Sound Output (RMS)	20W
	Speaker Type	2CH
	Woofer	N/A
	Multiroom Link	Yes
	Bluetooth Audio	Yes
Smart Service	Samsung SMART TV	Smart

2. Product specifications

Item		QN43Q6DRAFXZA
	Bixby	US English, Korean, UK English, French, German, Italian, Spanish (features vary by language)
	Far-Field Voice Interaction	Yes
	Works with Google Assistant	Yes
	Works With Alexa	Yes
	TV Plus	Yes
	Web Browser	Yes
	SmartThings App Support	Yes
	SmartThings	Yes
	Universal Guide	Yes
	Gallery	Yes
Convergence	TV to Mobile - Mirroring	Yes
	Mobile to TV - Mirroring, DLNA	Yes
	360 Video Player	Yes
	360 Camera Support	Yes
	Seamless Setup	Yes
	App Casting	Yes
	Bluetooth Low Energy	Yes
	WiFi Direct	Yes
	TV Sound to Mobile	Yes
	Sound Mirroring	Yes
Tuner/Broadcasting	Digital Broadcasting	ATSC/ClearQAM
	Analog Tuner	Yes
Connectivity	HDMI	4
	USB	2
	Component In (Y/Pb/Pr)	N/A
	Composite In (AV)	N/A
	Ethernet (LAN)	Yes
	Audio Out (Mini Jack)	N/A
	Digital Audio Out (Optical)	1
	RF In (Terrestrial / Cable input / Satellite input)	1/1(Common Use for Terrestrial)/0
	Ex-Link (RS-232C)	1
	HDMI A / Return Ch. Support	Yes
	HDMI Quick Switch	Yes
	Wireless LAN Built-in	Yes
	Anynet+ (HDMI-CEC)	Yes
Design	Design	New Edge
	Bezel Type	SNB

Item		QN43Q6DRAFXZA
	Slim Type	Slim
	Front Color	CHARCOAL BLACK
	Light Effect (Deco)	N/A
	Stand Type	SIMPLE
	Stand Color	CHARCOAL BLACK
	Swivel (Left/Right)	N/A
Additional Feature	Intelligent Mode	Yes
	AI Upscale	Yes
	Ambient Mode	Yes
	Ambient Mode Brightness/Color Sensor	Yes
	Accessibility	Learn menu screen(US English)/ SeeColors/ Negative colors/ Grayscale/ Caption moving/ Voice Guide(US English)/ Enlarge/ High Contrast/ Learn TV Remote(US English)/ Multi-output Audio
	Digital Clean View	Yes
	Auto Channel Search	Yes
	Auto Power Off	Yes
	Caption (Subtitle)	Yes
	Connect Share™ (HDD)	Yes
	ConnectShare™ (USB 2.0)	Yes
	EPG	Yes
	Extended PVR	N/A
	Game Mode	Yes (Auto Game Mode, Game Motion Plus, Dynamic Black EQ, Game Enhancer)
	Freesync	N/A
	IP Control	Yes
	OSD Language	English, Spanish, French
	BT HID Built-in	Yes
	USB HID Support	Yes
	V-Chip	Yes
	IPv6 Support	Yes
	MBR Support	Yes
Eco Feature	Eco Sensor	Yes
Power	Power Supply	AC110-120V 50/60Hz
	Power Consumption (Max)	115 W
	Power Consumption (Stand-by)	0.4 W
	Power Consumption (Typical)	50 W

2. Product specifications

Last Update Date : 2019.08.02

Item		QN49Q6DRAFXZA
General Information	Product	QLED
	Series	6
	Country	UNITED STATES
	Tools Support	N/A
	Platform(TV)	SoC Muse-M
Display	Screen Size	49"
	Resolution	3,840 x 2,160
	Ultra Black	N/A
	Screen Curvature	N/A
Video	Picture Engine	Quantum Processor 4K
	Motion Rate	120
	HDR (High Dynamic Range)	Quantum HDR 4X
	HDR10+	Yes
	Contrast	Mega Contrast
	HLG (Hybrid Log Gamma)	Yes
	Color	Color Volume 100% by Quantum Dot
	Viewing Angle	N/A
	Micro Dimming	Ultimate UHD Dimming
	Local Dimming	N/A
	Auto Depth Enhancer	N/A
	Contrast Enhancer	Yes
	Auto Motion Plus	Yes
	Film Mode	Yes
	Natural Mode Support	Yes
Audio	Dolby Digital Plus	Yes
	Dialog Enhancement	Yes
	Sound Output (RMS)	20W
	Speaker Type	2CH
	Woofer	N/A
	Multiroom Link	Yes
	Bluetooth Audio	Yes
Smart Service	Samsung SMART TV	Smart
	Bixby	US English, Korean, UK English, French, German, Italian, Spanish (features vary by language)
	Far-Field Voice Interaction	Yes
	Works with Google Assistant	Yes
	Works With Alexa	Yes

Item		QN49Q6DRAFXZA
	TV Plus	Yes
	Web Browser	Yes
	SmartThings App Support	Yes
	SmartThings	Yes
	Universal Guide	Yes
	Gallery	Yes
Convergence	TV to Mobile - Mirroring	Yes
	Mobile to TV - Mirroring, DLNA	Yes
	360 Video Player	Yes
	360 Camera Support	Yes
	Seamless Setup	Yes
	App Casting	Yes
	Bluetooth Low Energy	Yes
	WiFi Direct	Yes
	TV Sound to Mobile	Yes
	Sound Mirroring	Yes
Tuner/Broadcasting	Digital Broadcasting	ATSC/ClearQAM
	Analog Tuner	Yes
Connectivity	HDMI	4
	USB	2
	Component In (Y/Pb/Pr)	N/A
	Composite In (AV)	N/A
	Ethernet (LAN)	Yes
	Audio Out (Mini Jack)	N/A
	Digital Audio Out (Optical)	1
	RF In (Terrestrial / Cable input / Satellite input)	1/1(Common Use for Terrestrial)/0
	Ex-Link (RS-232C)	1
	HDMI A / Return Ch. Support	Yes
	HDMI Quick Switch	Yes
	Wireless LAN Built-in	Yes
	Anynet+ (HDMI-CEC)	Yes
Design	Design	New Edge
	Bezel Type	SNB
	Slim Type	Slim
	Front Color	CHARCOAL BLACK
	Light Effect (Deco)	N/A
	Stand Type	SIMPLE
	Stand Color	CHARCOAL BLACK

2. Product specifications

Item		QN49Q6DRAFXZA
	Swivel (Left/Right)	N/A
Additional Feature	Intelligent Mode	Yes
	AI Upscale	Yes
	Ambient Mode	Yes
	Ambient Mode Brightness/Color Sensor	Yes
	Accessibility	Learn menu screen(US English)/ SeeColors/ Negative colors/ Grayscale/ Caption moving/ Voice Guide(US English)/ Enlarge/ High Contrast/ Learn TV Remote(US English)/ Multi-output Audio
	Digital Clean View	Yes
	Auto Channel Search	Yes
	Auto Power Off	Yes
	Caption (Subtitle)	Yes
	Connect Share™ (HDD)	Yes
	ConnectShare™ (USB 2.0)	Yes
	EPG	Yes
	Extended PVR	N/A
	Game Mode	Yes (Auto Game Mode, Game Motion Plus, Dynamic Black EQ, Game Enhancer)
	Freesync	N/A
	IP Control	Yes
	OSD Language	English, Spanish, French
	BT HID Built-in	Yes
	USB HID Support	Yes
	V-Chip	Yes
	IPv6 Support	Yes
	MBR Support	Yes
Eco Feature	Eco Sensor	Yes
Power	Power Supply	AC110-120V 50/60Hz
	Power Consumption (Max)	130 W
	Power Consumption (Stand-by)	0.4 W
	Power Consumption (Typical)	60 W

Item		QN55Q6DRAFXZA
General Information	Product	QLED
	Series	6
	Country	UNITED STATES
	Tools Support	N/A
	Platform(TV)	SoC Muse-M
Display	Screen Size	55"
	Resolution	3,840 x 2,160
	Ultra Black	N/A
	Screen Curvature	N/A
Video	Picture Engine	Quantum Processor 4K
	Motion Rate	240
	HDR (High Dynamic Range)	Quantum HDR 4X
	HDR10+	Yes
	Contrast	Mega Contrast
	HLG (Hybrid Log Gamma)	Yes
	Color	Color Volume 100% by Quantum Dot
	Viewing Angle	Wide Viewing Angle
	Micro Dimming	Ultimate UHD Dimming
	Local Dimming	N/A
	Auto Depth Enhancer	N/A
	Contrast Enhancer	Yes
	Auto Motion Plus	Yes
	Film Mode	Yes
	Natural Mode Support	Yes
Audio	Dolby Digital Plus	Yes
	Dialog Enhancement	Yes
	Sound Output (RMS)	20W
	Speaker Type	2CH
	Woofer	N/A
	Multiroom Link	Yes
	Bluetooth Audio	Yes
Smart Service	Samsung SMART TV	Smart
	Bixby	US English, Korean, UK English, French, German, Italian, Spanish (features vary by language)
	Far-Field Voice Interaction	Yes
	Works with Google Assistant	Yes
	Works With Alexa	Yes

2. Product specifications

Item		QN55Q6DRAFXZA
	TV Plus	Yes
	Web Browser	Yes
	SmartThings App Support	Yes
	SmartThings	Yes
	Universal Guide	Yes
	Gallery	Yes
Convergence	TV to Mobile - Mirroring	Yes
	Mobile to TV - Mirroring, DLNA	Yes
	360 Video Player	Yes
	360 Camera Support	Yes
	Seamless Setup	Yes
	App Casting	Yes
	Bluetooth Low Energy	Yes
	WiFi Direct	Yes
	TV Sound to Mobile	Yes
	Sound Mirroring	Yes
Tuner/Broadcasting	Digital Broadcasting	ATSC/ClearQAM
	Analog Tuner	Yes
Connectivity	HDMI	4
	USB	2
	Component In (Y/Pb/Pr)	N/A
	Composite In (AV)	N/A
	Ethernet (LAN)	Yes
	Audio Out (Mini Jack)	N/A
	Digital Audio Out (Optical)	1
	RF In (Terrestrial / Cable input / Satellite input)	1/1(Common Use for Terrestrial)/0
	Ex-Link (RS-232C)	1
	HDMI A / Return Ch. Support	Yes
	HDMI Quick Switch	Yes
	Wireless LAN Built-in	Yes
	Anynet+ (HDMI-CEC)	Yes
Design	Design	New Edge
	Bezel Type	SNB
	Slim Type	Slim
	Front Color	CHARCOAL BLACK
	Light Effect (Deco)	N/A
	Stand Type	SIMPLE
	Stand Color	CHARCOAL BLACK

Item		QN55Q6DRAFXZA
	Swivel (Left/Right)	N/A
Additional Feature	Intelligent Mode	Yes
	AI Upscale	Yes
	Ambient Mode	Yes
	Ambient Mode Brightness/Color Sensor	Yes
	Accessibility	Learn menu screen(US English)/ SeeColors/ Negative colors/ Grayscale/ Caption moving/ Voice Guide(US English)/ Enlarge/ High Contrast/ Learn TV Remote(US English)/ Multi-output Audio
	Digital Clean View	Yes
	Auto Channel Search	Yes
	Auto Power Off	Yes
	Caption (Subtitle)	Yes
	Connect Share™ (HDD)	Yes
	ConnectShare™ (USB 2.0)	Yes
	EPG	Yes
	Extended PVR	N/A
	Game Mode	Yes (Auto Game Mode, Game Motion Plus, Dynamic Black EQ, Game Enhancer)
	Freesync	FreeSync
	IP Control	Yes
	OSD Language	English, Spanish, French
	BT HID Built-in	Yes
	USB HID Support	Yes
	V-Chip	Yes
	IPv6 Support	Yes
	MBR Support	Yes
Eco Feature	Eco Sensor	Yes
Power	Power Supply	AC110-120V 50/60Hz
	Power Consumption (Max)	150 W
	Power Consumption (Stand-by)	0.4 W
	Power Consumption (Typical)	65 W

2. Product specifications

Last Update Date : 2019.10.03

Item		QN65Q6DRAFXZA
General Information	Product	QLED
	Series	6
	Country	UNITED STATES
	Tools Support	N/A
	Platform(TV)	SoC Muse-M
Display	Screen Size	65"
	Resolution	3,840 x 2,160
	Ultra Black	N/A
	Screen Curvature	N/A
Video	Picture Engine	Quantum Processor 4K
	Motion Rate	240
	HDR (High Dynamic Range)	Quantum HDR 4X
	HDR10+	Yes
	Contrast	Mega Contrast
	HLG (Hybrid Log Gamma)	Yes
	Color	Color Volume 100% by Quantum Dot
	Viewing Angle	Wide Viewing Angle
	Micro Dimming	Ultimate UHD Dimming
	Local Dimming	N/A
	Auto Depth Enhancer	N/A
	Contrast Enhancer	Yes
	Auto Motion Plus	Yes
	Film Mode	Yes
	Natural Mode Support	Yes
Audio	Dolby Digital Plus	Yes
	Dialog Enhancement	Yes
	Sound Output (RMS)	20W
	Speaker Type	2CH
	Woofer	N/A
	Multiroom Link	Yes
	Bluetooth Audio	Yes
Smart Service	Samsung SMART TV	Smart
	Bixby	US English, Korean, UK English, French, German, Italian, Spanish (features vary by language)
	Far-Field Voice Interaction	Yes
	Works with Google Assistant	Yes
	Works With Alexa	Yes

Item		QN65Q6DRAFXZA
	TV Plus	Yes
	Web Browser	Yes
	SmartThings App Support	Yes
	SmartThings	Yes
	Universal Guide	Yes
	Gallery	Yes
Convergence	TV to Mobile - Mirroring	Yes
	Mobile to TV - Mirroring, DLNA	Yes
	360 Video Player	Yes
	360 Camera Support	Yes
	Seamless Setup	Yes
	App Casting	Yes
	Bluetooth Low Energy	Yes
	WiFi Direct	Yes
	TV Sound to Mobile	Yes
	Sound Mirroring	Yes
Tuner/Broadcasting	Digital Broadcasting	ATSC/ClearQAM
	Analog Tuner	Yes
Connectivity	HDMI	4
	USB	2
	Component In (Y/Pb/Pr)	N/A
	Composite In (AV)	N/A
	Ethernet (LAN)	Yes
	Audio Out (Mini Jack)	N/A
	Digital Audio Out (Optical)	1
	RF In (Terrestrial / Cable input / Satellite input)	1/1(Common Use for Terrestrial)/0
	Ex-Link (RS-232C)	1
	HDMI A / Return Ch. Support	Yes
	HDMI Quick Switch	Yes
	Wireless LAN Built-in	Yes
	Anynet+ (HDMI-CEC)	Yes
Design	Design	New Edge
	Bezel Type	SNB
	Slim Type	Slim
	Front Color	CHARCOAL BLACK
	Light Effect (Deco)	N/A
	Stand Type	SIMPLE
	Stand Color	CHARCOAL BLACK

2. Product specifications

Item		QN65Q6DRAFXZA
	Swivel (Left/Right)	N/A
Additional Feature	Intelligent Mode	Yes
	AI Upscale	Yes
	Ambient Mode	Yes
	Ambient Mode Brightness/Color Sensor	Yes
	Accessibility	Learn menu screen(US English)/ SeeColors/ Negative colors/ Grayscale/ Caption moving/ Voice Guide(US English)/ Enlarge/ High Contrast/ Learn TV Remote(US English)/ Multi-output Audio
	Digital Clean View	Yes
	Auto Channel Search	Yes
	Auto Power Off	Yes
	Caption (Subtitle)	Yes
	Connect Share™ (HDD)	Yes
	ConnectShare™ (USB 2.0)	Yes
	EPG	Yes
	Extended PVR	N/A
	Game Mode	Yes (Auto Game Mode, Game Motion Plus, Dynamic Black EQ, Game Enhancer)
	Freesync	FreeSync
	IP Control	Yes
	OSD Language	English, Spanish, French
	BT HID Built-in	Yes
	USB HID Support	Yes
	V-Chip	Yes
	IPv6 Support	Yes
	MBR Support	Yes
Eco Feature	Eco Sensor	Yes
Power	Power Supply	AC110-120V 50/60Hz
	Power Consumption (Max)	175 W
	Power Consumption (Stand-by)	0.4 W
	Power Consumption (Typical)	80 W

Last Update Date : 2019.04.10

Item		QN75Q6DRAFXZA
General Information	Product	QLED
	Series	6
	Country	UNITED STATES
	Tools Support	N/A
	Platform(TV)	SoC Muse-M
Display	Screen Size	75"
	Resolution	3,840 x 2,160
	Ultra Black	N/A
	Screen Curvature	N/A
Video	Picture Engine	Quantum Processor 4K
	Motion Rate	240
	HDR (High Dynamic Range)	Quantum HDR 4X
	HDR10+	Yes
	Contrast	Mega Contrast
	HLG (Hybrid Log Gamma)	Yes
	Color	Color Volume 100% by Quantum Dot
	Viewing Angle	Wide Viewing Angle
	Micro Dimming	Ultimate UHD Dimming
	Local Dimming	N/A
	Auto Depth Enhancer	N/A
	Contrast Enhancer	Yes
	Auto Motion Plus	Yes
	Film Mode	Yes
	Natural Mode Support	Yes
Audio	Dolby Digital Plus	Yes
	Dialog Enhancement	Yes
	Sound Output (RMS)	20W
	Speaker Type	2CH
	Woofer	N/A
	Multiroom Link	Yes
	Bluetooth Audio	Yes
Smart Service	Samsung SMART TV	Smart
	Bixby	US English, Korean, UK English, French, German, Italian, Spanish (features vary by language)
	Far-Field Voice Interaction	Yes
	Works with Google Assistant	Yes
	Works With Alexa	Yes

2. Product specifications

Item		QN75Q6DRAFXZA
	TV Plus	Yes
	Web Browser	Yes
	SmartThings App Support	Yes
	SmartThings	Yes
	Universal Guide	Yes
	Gallery	Yes
Convergence	TV to Mobile - Mirroring	Yes
	Mobile to TV - Mirroring, DLNA	Yes
	360 Video Player	Yes
	360 Camera Support	Yes
	Seamless Setup	Yes
	App Casting	Yes
	Bluetooth Low Energy	Yes
	WiFi Direct	Yes
	TV Sound to Mobile	Yes
	Sound Mirroring	Yes
Tuner/Broadcasting	Digital Broadcasting	ATSC/ClearQAM
	Analog Tuner	Yes
Connectivity	HDMI	4
	USB	2
	Component In (Y/Pb/Pr)	N/A
	Composite In (AV)	N/A
	Ethernet (LAN)	Yes
	Audio Out (Mini Jack)	N/A
	Digital Audio Out (Optical)	1
	RF In (Terrestrial / Cable input / Satellite input)	1/1(Common Use for Terrestrial)/0
	Ex-Link (RS-232C)	1
	HDMI A / Return Ch. Support	Yes
	HDMI Quick Switch	Yes
	Wireless LAN Built-in	Yes
	Anynet+ (HDMI-CEC)	Yes
Design	Design	New Edge
	Bezel Type	SNB
	Slim Type	Slim
	Front Color	CHARCOAL BLACK
	Light Effect (Deco)	N/A
	Stand Type	SIMPLE
	Stand Color	CHARCOAL BLACK

Item		QN75Q6DRAFXZA
	Swivel (Left/Right)	N/A
Additional Feature	Intelligent Mode	Yes
	AI Upscale	Yes
	Ambient Mode	Yes
	Ambient Mode Brightness/Color Sensor	Yes
	Accessibility	Learn menu screen(US English)/ SeeColors/ Negative colors/ Grayscale/ Caption moving/ Voice Guide(US English)/ Enlarge/ High Contrast/ Learn TV Remote(US English)/ Multi-output Audio
	Digital Clean View	Yes
	Auto Channel Search	Yes
	Auto Power Off	Yes
	Caption (Subtitle)	Yes
	Connect Share™ (HDD)	Yes
	ConnectShare™ (USB 2.0)	Yes
	EPG	Yes
	Extended PVR	N/A
	Game Mode	Yes (Auto Game Mode, Game Motion Plus, Dynamic Black EQ, Game Enhancer)
	Freesync	FreeSync
	IP Control	Yes
	OSD Language	English, Spanish, French
	BT HID Built-in	Yes
	USB HID Support	Yes
	V-Chip	Yes
	IPv6 Support	Yes
	MBR Support	Yes
Eco Feature	Eco Sensor	Yes
Power	Power Supply	AC110-120V 50/60Hz
	Power Consumption (Max)	235 W
	Power Consumption (Stand-by)	0.4 W
	Power Consumption (Typical)	100 W

2. Product specifications

Last Update Date : 2019.04.10

Item		QN82Q6DRAFXZA
General Information	Product	QLED
	Series	6
	Country	UNITED STATES
	Tools Support	N/A
	Platform(TV)	SoC Muse-M
Display	Screen Size	82"
	Resolution	3,840 x 2,160
	Ultra Black	N/A
	Screen Curvature	N/A
Video	Picture Engine	Quantum Processor 4K
	Motion Rate	240
	HDR (High Dynamic Range)	Quantum HDR 4X
	HDR10+	Yes
	Contrast	Mega Contrast
	HLG (Hybrid Log Gamma)	Yes
	Color	Color Volume 100% by Quantum Dot
	Viewing Angle	Wide Viewing Angle
	Micro Dimming	Ultimate UHD Dimming
	Local Dimming	N/A
	Auto Depth Enhancer	N/A
	Contrast Enhancer	Yes
	Auto Motion Plus	Yes
	Film Mode	Yes
	Natural Mode Support	Yes
Audio	Dolby Digital Plus	Yes
	Dialog Enhancement	Yes
	Sound Output (RMS)	20W
	Speaker Type	2CH
	Woofer	N/A
	Multiroom Link	Yes
	Bluetooth Audio	Yes
Smart Service	Samsung SMART TV	Smart
	Bixby	US English, Korean, UK English, French, German, Italian, Spanish (features vary by language)
	Far-Field Voice Interaction	Yes
	Works with Google Assistant	Yes
	Works With Alexa	Yes

Item		QN82Q6DRAFXZA
	TV Plus	Yes
	Web Browser	Yes
	SmartThings App Support	Yes
	SmartThings	Yes
	Universal Guide	Yes
	Gallery	Yes
Convergence	TV to Mobile - Mirroring	Yes
	Mobile to TV - Mirroring, DLNA	Yes
	360 Video Player	Yes
	360 Camera Support	Yes
	Seamless Setup	Yes
	App Casting	Yes
	Bluetooth Low Energy	Yes
	WiFi Direct	Yes
	TV Sound to Mobile	Yes
	Sound Mirroring	Yes
Tuner/Broadcasting	Digital Broadcasting	ATSC/ClearQAM
	Analog Tuner	Yes
Connectivity	HDMI	4
	USB	2
	Component In (Y/Pb/Pr)	N/A
	Composite In (AV)	N/A
	Ethernet (LAN)	Yes
	Audio Out (Mini Jack)	N/A
	Digital Audio Out (Optical)	1
	RF In (Terrestrial / Cable input / Satellite input)	1/1(Common Use for Terrestrial)/0
	Ex-Link (RS-232C)	1
	HDMI A / Return Ch. Support	Yes
	HDMI Quick Switch	Yes
	Wireless LAN Built-in	Yes
	Anynet+ (HDMI-CEC)	Yes
Design	Design	New Edge
	Bezel Type	SNB
	Slim Type	Slim
	Front Color	CHARCOAL BLACK
	Light Effect (Deco)	N/A
	Stand Type	SIMPLE
	Stand Color	GRAPHITE BLACK

2. Product specifications

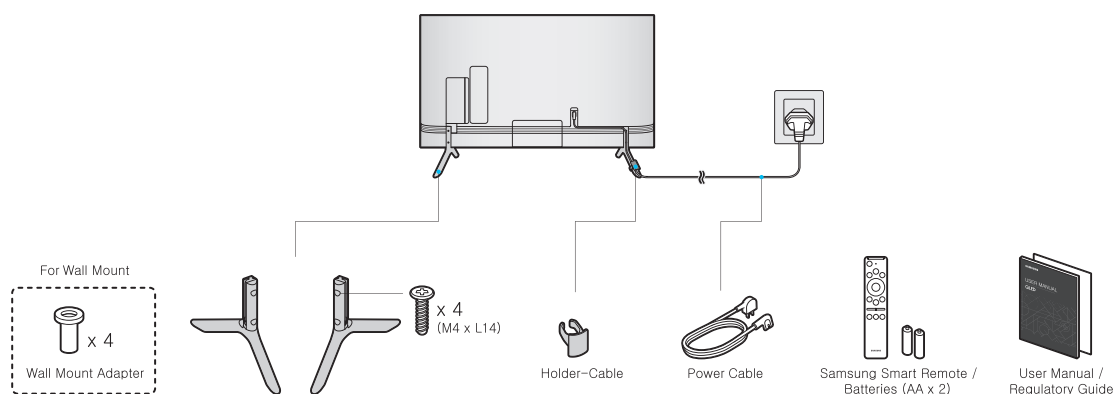
Item		QN82Q6DRAFXZA
	Swivel (Left/Right)	N/A
Additional Feature	Intelligent Mode	Yes
	AI Upscale	Yes
	Ambient Mode	Yes
	Ambient Mode Brightness/Color Sensor	Yes
	Accessibility	Learn menu screen(US English)/ SeeColors/ Negative colors/ Grayscale/ Caption moving/ Voice Guide(US English)/ Enlarge/ High Contrast/ Learn TV Remote(US English)/ Multi-output Audio
	Digital Clean View	Yes
	Auto Channel Search	Yes
	Auto Power Off	Yes
	Caption (Subtitle)	Yes
	Connect Share™ (HDD)	Yes
	ConnectShare™ (USB 2.0)	Yes
	EPG	Yes
	Extended PVR	N/A
	Game Mode	Yes (Auto Game Mode, Game Motion Plus, Dynamic Black EQ, Game Enhancer)
	Freesync	FreeSync
	IP Control	Yes
	OSD Language	English, Spanish, French
	BT HID Built-in	Yes
	USB HID Support	Yes
	V-Chip	Yes
	IPv6 Support	Yes
	MBR Support	Yes
Eco Feature	Eco Sensor	Yes
Power	Power Supply	AC110-120V 50/60Hz
	Power Consumption (Max)	280 W
	Power Consumption (Stand-by)	0.4 W
	Power Consumption (Typical)	120 W

2-3. Accessories



NOTE

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



Product	Code. No	Product	Code. No
• Power Cable	3903-001117(43"~ 65") 3903-001132(75"/82")	• Samsung Smart Remote	BN59-01312A
• Batteries (AA x 2)	4301-000101	• User Manual	BN68-09576A
• Regulatory Guide	BN68-09371A	• Warranty Card	-
• Holder-Cable x 4	BN96-43169A (BN61-14912A)(49"~ 75")		

2-4. Viewing the Functions

2-4-1. 2019' Concept

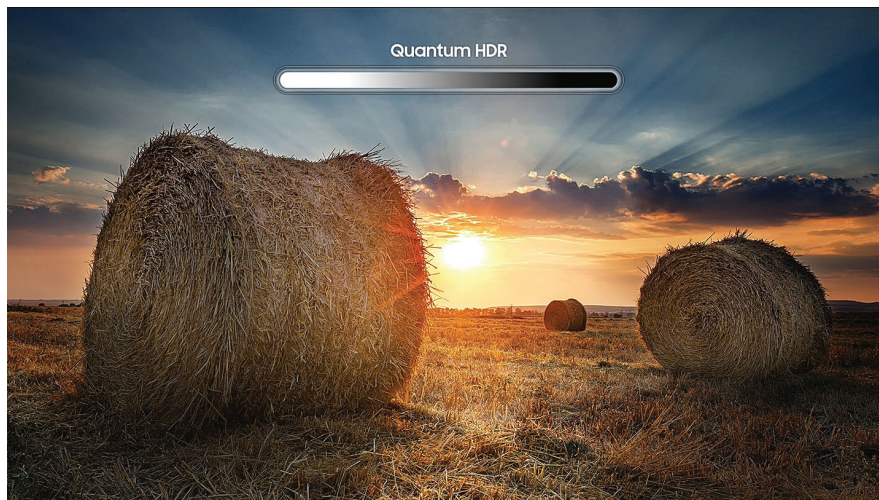
■ Colour Volume 100% by Quantum Dot

Colours as real as they should be. With Samsung's unique Quantum Dot technology, QLED cranks the colour volume to a full 100%, giving you realistic colours in dark or bright scene.



■ Quantum HDR 4X

See objects in the dark and peer deeply into the shades of colour. Quantum HDR 4X analyzes the scene frame by frame and adjusts the lighting to express the unique brightness of every moment.



The range of Quantum HDR claims luminance based on internal testing standards and is subject to change according to viewing environment or specific conditions.

■ Intelligent Mode

Conditions in your room can change, and your TV needs to adapt. QLED's Intelligent Mode adjusts brightness and volume accordingly. It can even adjust the sound to match the TV content, such as clearing a dialogue in news programs and highlighting a singer's voice over the background concert.



■ See the bigger picture

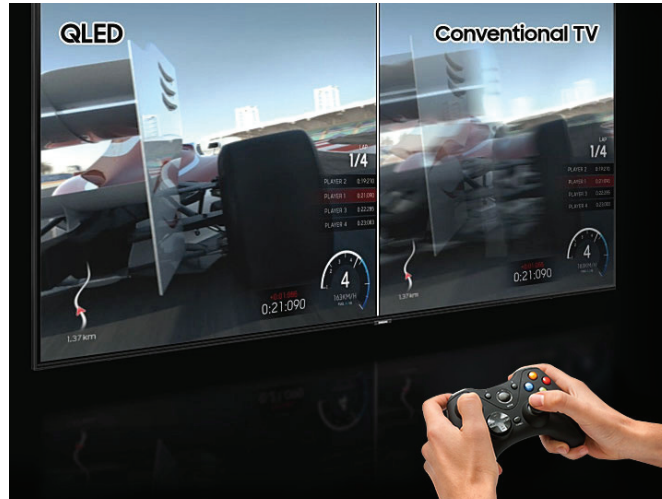
Everything gets very real on a bigger screen. You'll experience every goal, feel every explosion, and be right in the middle of the action. You've never been closer than this.



■ Win more games, have more controls

Lower input lag gaming

Don't let lag hold you back! Using FreeSync(VRR) technology, QLED reduces input lag to give you the real-time gaming speed you need to climb to the top. Embrace QLED speed and get ready for some epic wins.



Game enhancer

To beat the competition, you have to have full control. Dynamic Black Equalizer gives you better visibility in the dark and uses detailed scene analysis to optimize image quality. It even enhances the sound so you can immerse yourself in the game.



The content within the screen are simulated images and are for demonstration purposes only.

■ Smart Hub & One Remote

QLED gets even smarter with Smart Hub and Samsung One Remote. They place all the content you want right at your fingertips, from your set-top box to game console, apps, and live TV. All you need is one.



- Smart service and GUI(Graphic User Interface) may vary by model and region.
- Some features and functions provided by connected devices may not be supported or limited to use.

■ Universal Guide

Search less, enjoy more. QLED's Universal Guide helps you find your favorite content quickly and easily. It learns what you like and curates everything in one place.



- Content services may vary by regions and are subject to change without notifications.

■ Ambient Mode

Even when QLED is turned off, it's never simply still. Ambient Mode helps QLED mingle with your home décor for a perfectly natural effect. Instead of a simple black screen, you'll see meaningful images that match your lifestyle, with easy settings and plenty of choices.



Décor

Set your screen with an interactive background that matches your room décor perfectly.



Info

You can display info like the time and date on a beautiful background.



My album

Display all your favorite photos from your mobile device. It's your own personal gallery.



Artworks

Lovers of art will also enjoy beautiful pieces from well-known photographers and artists, all grouped on a variety of themes.

■ Bixby on TV

You can even talk to QLED. Bixby is the assistant to your needs that goes beyond controlling your TV. Just ask and get more.



 This feature is only available in certain languages.

 The content within the screen are simulated images and are for demonstration purposes only.

■ SmartThings

A truly intelligent home, tailored to your life. With Samsung SmartThings built right in, QLED can connect you with your IoT devices and sensors. You can turn on the lights, check what's in the fridge, and even control the robot vacuum cleaner



 Samsung SmartThings compatible devices may vary by region.

■ Works with

Life gets easier with expanded compatibility. QLED pairs quickly with a range of smart speakers, including ones made by other brands, like Amazon's Echo or Google Home, without any extra connectors.



-  Amazon, Alexa, and all related logos are trademarks of Amazon.com, Inc. or its affiliates.
-  Google and related marks and logos are trademarks of Google LLC.
-  Some features and functions provided by connected devices may not be supported or limited to use.
-  Turn-on TV feature support may vary by model.

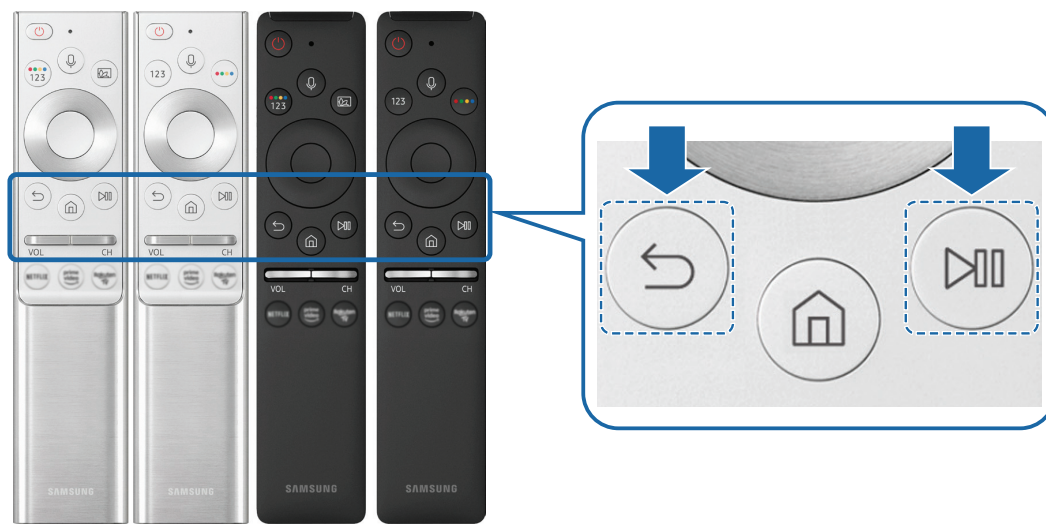
2-4-2. Quick Guides

You can learn quickly how to run and use the frequently used functions, such as Bixby, Ambient Mode, and Smart Hub.

■ Connecting the Samsung Smart Remote to the TV

Connect the Samsung Smart Remote to your TV to operate the TV.

When you turn on the TV for the first time, the Samsung Smart Remote pairs to the TV automatically. If the Samsung Smart Remote does not pair to the TV automatically, point it at the front of the TV, and then press and hold the  and  buttons simultaneously for 3 seconds or more.

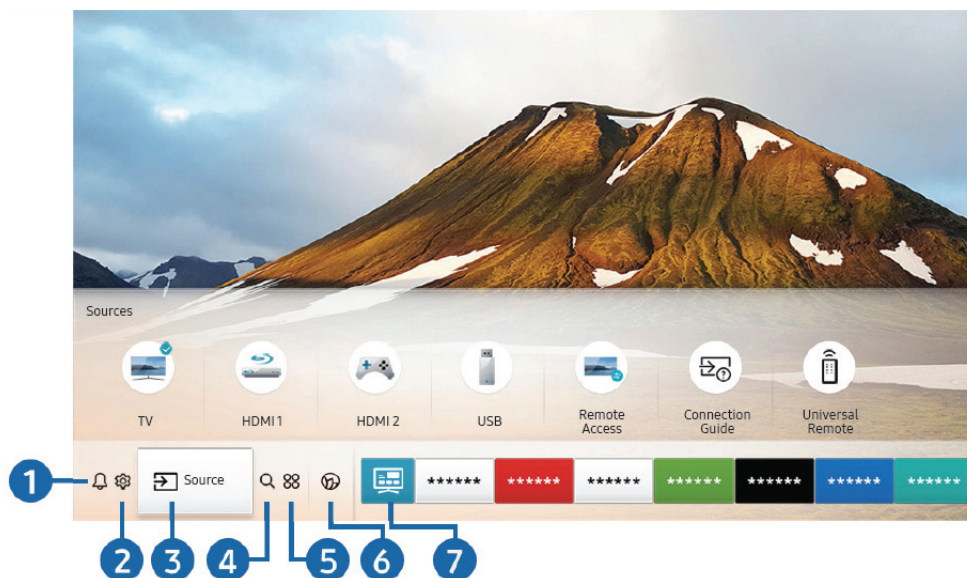


-  The images, buttons, and functions of the Samsung Smart Remote may differ with the model or geographical area.
-  For more information about the Samsung Smart Remote that comes with the QLED TV, refer to "About the Samsung Smart Remote (QLED TV)".
-  The Samsung Smart Remote may not be supported depending on the model or geographical area.

■ Using Smart Hub

Connect to Smart Hub for apps, games, movies, and more.

Enjoy the multiple functions provided by **Smart Hub** simultaneously on a single screen.



NOTE

- The image on your TV may differ from the image above depending on the model and geographical area.

When you press the  button on your remote control, you can use the following functions and features.

1 Notification

You can view a list of notifications for all events that occur on your TV. A notification appears on the screen when it is time to broadcast a scheduled programme or when an event occurs on a registered device.

2 Settings

When the focus is moved to **Settings** (), a list of quick settings icons appears above the top of the menu. You can quickly set frequently used functions by clicking the icons.

3 Source

You can select an external device connected to the TV.

4 Search

You can search for channels, programmes, movie titles, and apps from Smart Hub.



To use this feature, the TV must be connected to the Internet.

5 APPS

You can enjoy a wide range of content including news, sports, weather, and games by installing the corresponding apps on your TV.



To use this feature, the TV must be connected to the Internet.

6 Ambient Mode

You can elevate your living space with decorative content that matches the surroundings or life information such as weather, time, and news on the TV screen when you are not watching TV.

To enter **Ambient Mode**, press the  button. To return to the TV mode, press the  button. To shut off the TV, press the  button.

If you press the  button when the TV is turned off, the TV turns on in **Ambient Mode**.



If you use a remote control other than the Samsung Smart Remote, there may be restrictions to entering **Ambient mode**.



Because this function is a QLED TV-specific function, it may not be supported depending on the model.

7 Universal Guide

Universal Guide is an app that allows you to search for and enjoy various content such as TV shows, dramas, and movies in one place. **Universal Guide** can recommend content tailored to your preferences.



Images may look blurry depending on the service provider's circumstances.



This function may not be supported depending on the model or geographical area.

■ Ambient Mode

Learn about the functions available in Ambient Mode that are specific to the QLED TV.

-  >  **Ambient Mode**

You can elevate your living space with decorative content that matches the surroundings or life information such as weather, time, and news on the TV screen when you are not watching TV.

 Because this function is a QLED TV-specific function, it may not be supported depending on the model.

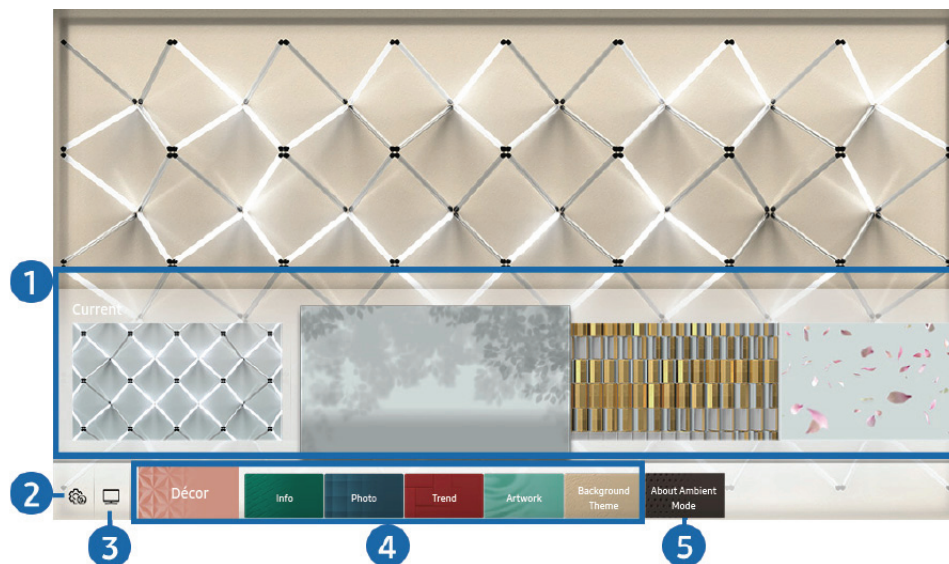
Entering Ambient Mode

To enter **Ambient Mode** from the TV viewing screen, press the  button, or select  >  **Ambient Mode**.

If you press the  button when the TV is turned off, the TV turns on in **Ambient Mode**.

 If you use a remote control other than the Samsung Smart Remote, there may be restrictions to entering **Ambient Mode**.

Ambient Mode browser screen



NOTE

- The image on your TV may differ from the image above depending on the model and geographical area.

When you press the  or  button in **Ambient Mode**, the **Ambient Mode** browser screen appears at the bottom of the screen. In the **Ambient Mode** browser screen, you can select content and change the **Ambient Mode** settings.

1 Function and content preview

When you select a category at the bottom of the screen, a preview of available functions and content appears here.

To view detailed information about a content item, move the focus to it, and then press the up directional button.

2 Ambient Settings

You can configure the following Ambient Mode settings:

- **Auto Brightness**

Changes the auto brightness setting for **Ambient Mode**.



When this function is set to **Off**, the brightness level of the TV screen is not automatically adjusted in response to the surrounding light level.

- **Sleep After**

Sets the time when the **Ambient Mode** screen turns off automatically.



If there is no remote control input for the set time, the screen goes off. To turn the screen back on in **Ambient Mode**, press the  button on the remote control.

- **Reset All Photos**

Resets the photos imported from your mobile device or Samsung Cloud.

3 TV

You can enter the TV viewing screen.

4 **Selecting a content category**

You can select your preferred content and background for the Ambient Mode screen.



Available content categories may differ depending on the model or geographical area.

- **Décor**

Allows you to select content with a sensible and beautiful design.

- **Info**

Allows you to select essential real-time information such as weather and news.



This function may not be supported depending on the geographical area.

- **Photo**

Allows you to set a photo stored in your mobile device or Samsung Cloud as the wallpaper of the **Ambient Mode** screen.



To import photos from your mobile device or Samsung Cloud, use the SmartThings app on your mobile device.

- **Trend**

The TV provides pictures and storeys related to a specific topic or interest you select.



This function may not be supported depending on the model or geographical area.

- **Artwork**

Allows you to select content such as world famous photos and artwork.

- **Background Theme**

Allows you to set a background theme provided by Samsung as the background for content.



Take a picture of a wall using the SmartThings app on your mobile device to set it as the background of **Ambient Mode**. When you use this function, there may be a delay in image transmission and optimisation depending on network conditions.

5 **About Ambient Mode**

You can view information about **Ambient Mode**.

■ Shortcuts

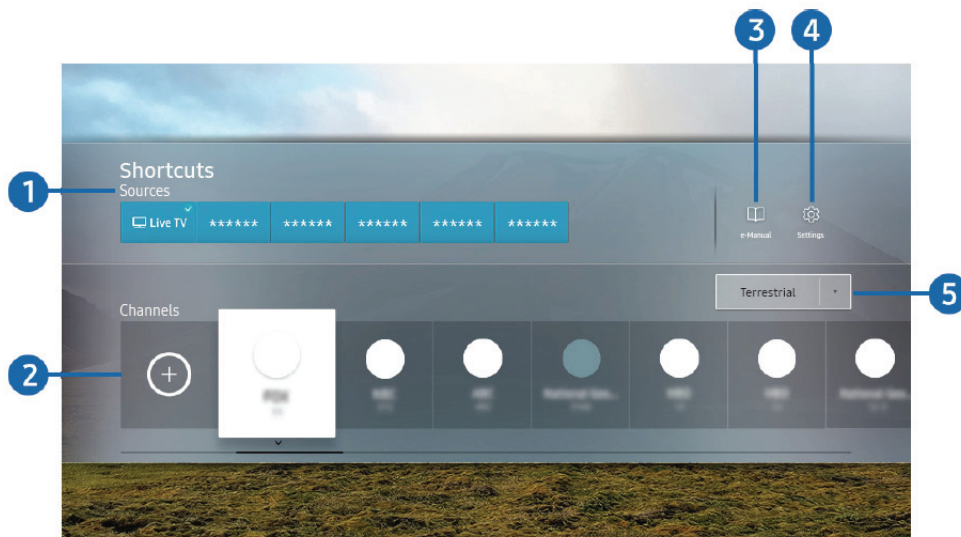
You can easily use the contents of Sources without running a series of commands.

To display the **Shortcuts** menu screen, press and hold the  button for 1 second or more.

To return to the TV mode, press the .



Because this function is a QLED TV-specific function, it may not be supported depending on the model.



NOTE

- The image on your TV may differ from the image above depending on the model and geographical area.

1 Sources

You can select an external device connected to the TV.

2 Channels

Press the  button to add a broadcast channel. You can move or remove added broadcast channels.

3 e-Manual

Displays the e-Manual guide.

4 Settings

Displays the main on-screen menu.

5 Terrestrial, Cable, Satellite, or Service Provider

Choose the broadcast type of the content: **Terrestrial**, **Cable**, **Satellite**, or Service Provider.



This function may not be supported depending on the incoming broadcast signal.

■ Bixby

Speak into the microphone on your Samsung Smart Remote to control your TV.

-  Bixby is available only when the TV is connected to the Internet.
-  To use Bixby, you must register and sign in to your Samsung account.
-  The supported language may differ depending on the geographical area.
-  Bixby may not be supported depending on the model or geographical area.

Calling Bixby with voice

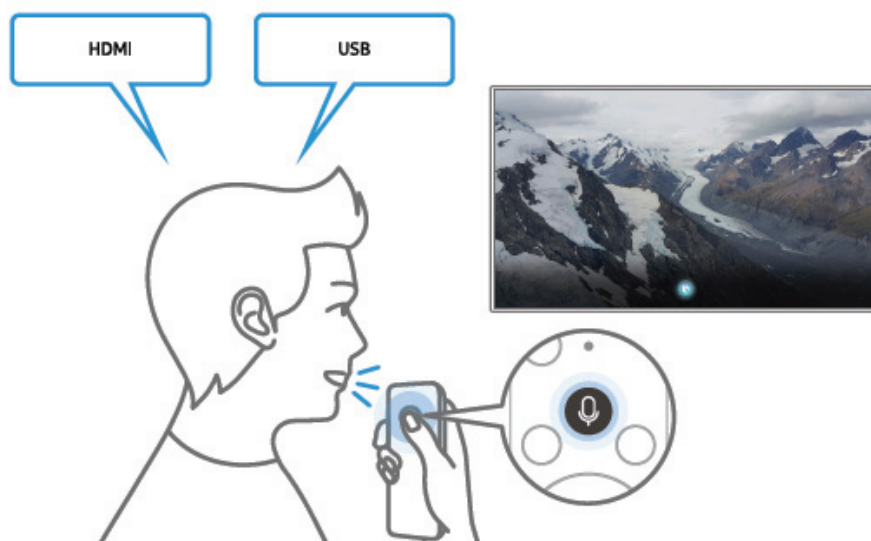
You can immediately start a conversation with Bixby by saying "Hi Bixby." Say "Hi Bixby", and the Bixby icon at the bottom of the TV screen is activated in Listen mode and a beep sounds. Speak what you want. If Bixby does not respond to your voice, turn on the **Voice Wake-up** function, and then try again. ( > **Explore Now** >  **Settings** > **Voice Wake-up**)

Talking with Bixby using buttons

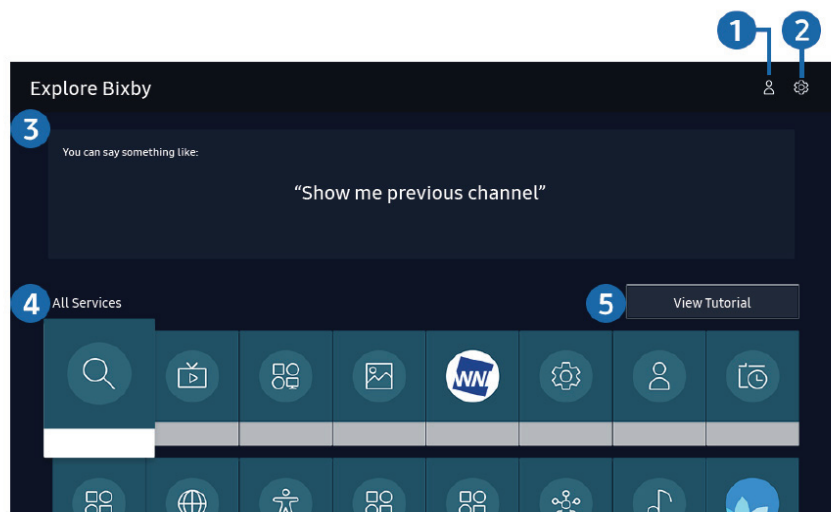
You can also make a conversation with Bixby using the Samsung Smart Remote buttons. Press and hold the  button on your Samsung Smart Remote, say a command, and then release the  button. The TV recognises the voice command.

To view the Bixby guide, press the  button once.

- When you press the  button, the **Explore Now** button appears at the bottom of the screen. Press the Select button to go to the **Explore Bixby** screen.



Learning about Explore Bixby Screen



NOTE

- The image on your TV may differ from the image above depending on the model and geographical area.

1 My Profile

Go to the **My Profile** screen to create a new account or register a voice ID. Sign in to your account with your voice, that is, your registered voice ID.



If you are signed out of your Samsung account, select  **My Profile** to sign in.

2 Settings

You can change the settings for using Bixby.

- Language**

You can change Bixby's language.



The languages of the TV and other apps will not change.



Bixby only supports some languages, and the supported functions may differ depending on the geographical area.

- Voice response**

You can change Bixby's voice.



This function may not be supported depending on the selected Bixby's language.

- Voice Wake-up**

When you turn on the function, Bixby will respond to your voice.



This function may not be supported depending on the model or geographical area.

- Sound feedback**

You can set Bixby to tell you verbally when it starts hearing your voice.

- Privacy**

You can set whether to allow Bixby to use your personal information when using Bixby services.

3 **Recommended commands**

Displays recommended commands you can use to control the TV with Bixby given the current context.

4 All Services

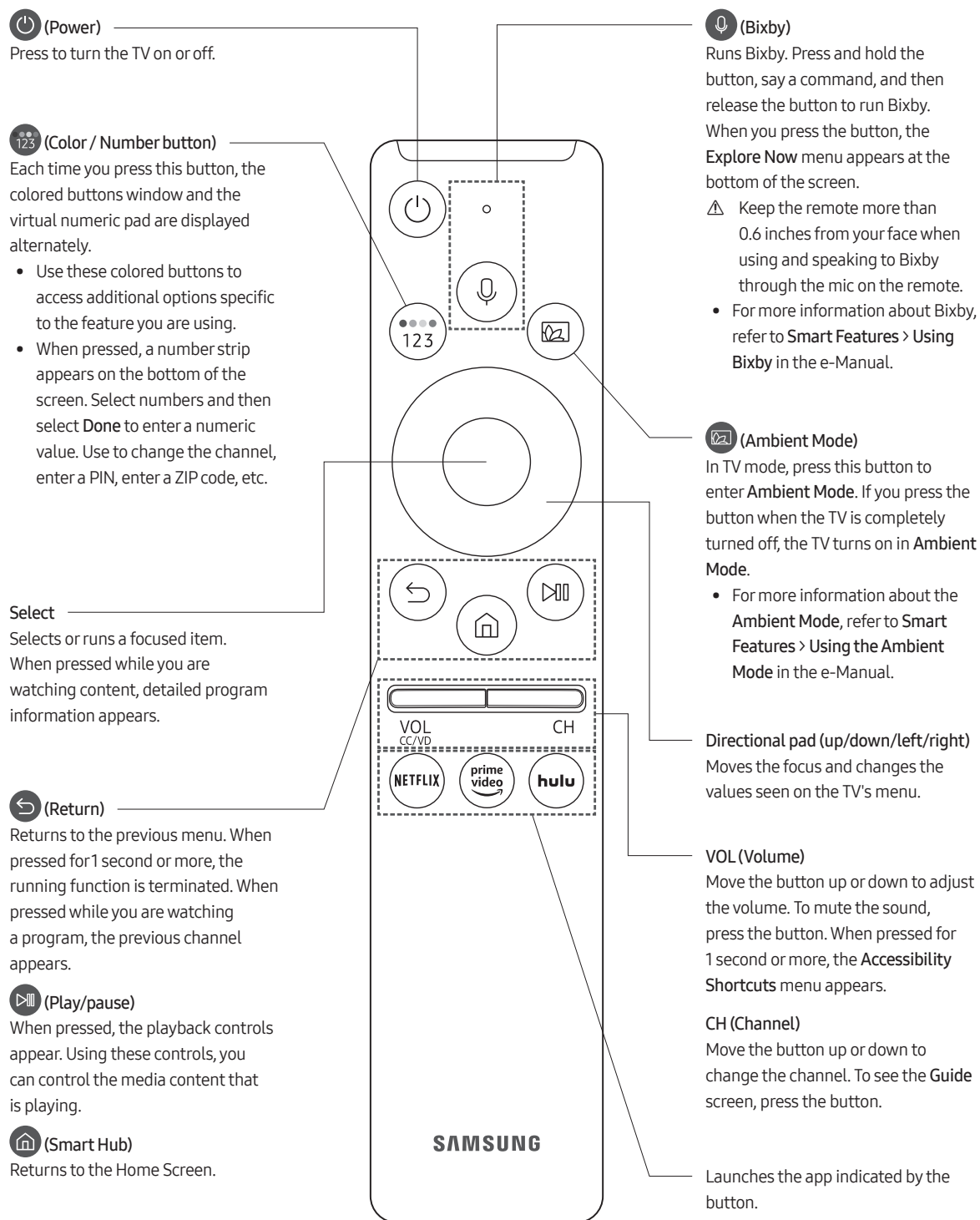
You can learn the voice commands that let you use Bixby in various situations. Use the directional buttons to move to the desired command, and then press the Select button. You can operate the TV with various voice commands.

5 View Tutorial

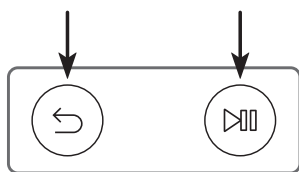
The popup window on using Bixby appears.

2-4-3. The Samsung Smart Remote

- The images, buttons, and functions of the Samsung Smart Remote may differ depending on the model.
- The Universal Remote function operates normally only when the Samsung Smart Remote that comes with the TV is used.

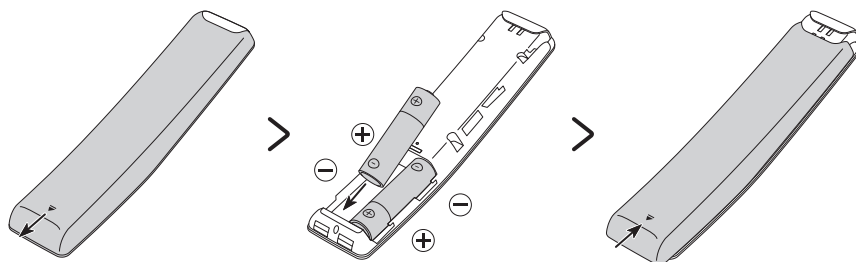


■ Pairing the TV to the Samsung Smart Remote



When you turn on the TV for the first time, the Samsung Smart Remote pairs to the TV automatically. If the Samsung Smart Remote does not pair to the TV automatically, point it at the remote control sensor of the TV, and then press and hold the buttons labeled  and  as shown in the figure on the left simultaneously for 3 seconds or more.

■ Installing batteries into the Samsung Smart Remote



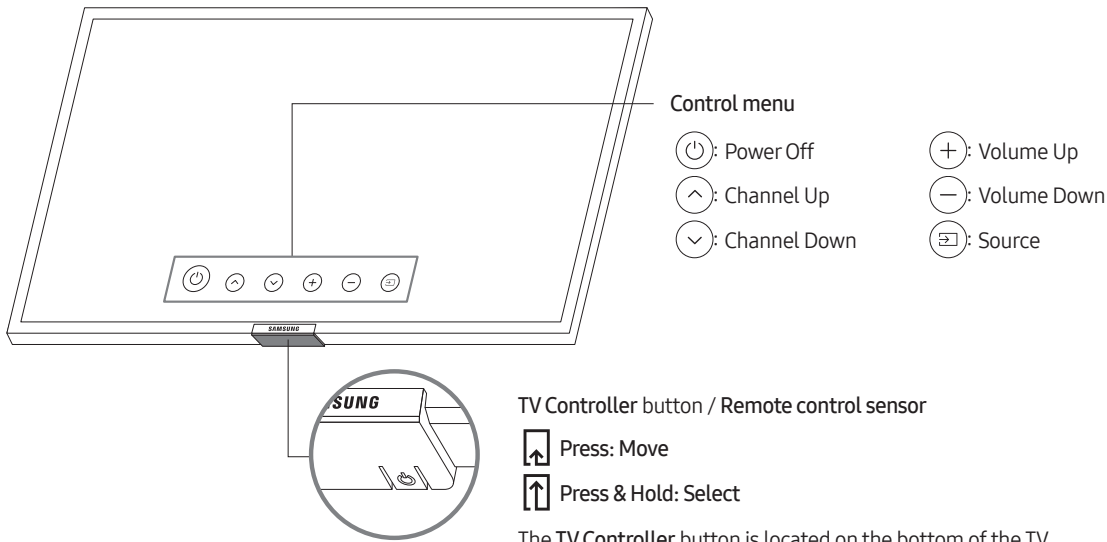
To install the batteries, push the rear cover open in the direction of the arrow at the bottom of the illustration, and then insert the batteries as shown in the figure. Make sure that the positive and negative ends are facing in the correct direction. Close the rear cover as shown.

- Alkaline batteries are recommended for longer battery life.

2-4-4. Using the TV Controller

You can turn on the TV with the TV Controller button at the bottom of the TV, and then use the Control menu. The Control menu appears when the TV Controller button is pressed while the TV is On. For more information about its usage, refer to the figure below.

- The screen may dim if the protective film on the SAMSUNG logo or the bottom of the TV is not detached. Please remove the protective film.



2-5. Supported subtitles

■ Subtitle formats

Name	Format
MPEG-4 Timed text	.txt
SAMI	.smi
SubRip	.srt
SubViewer	.sub
Micro DVD	.sub or .txt
SubStation Alpha	.ssa
Advanced SubStation Alpha	.ass
SMPTE-TT Text	.xml

■ Video formats with subtitles

Name	Format
Xsub	AVI
SubStation Alpha	MKV
Advanced SubStation Alpha	MKV
SubRip	MKV
VobSub	MKV
MPEG-4 Timed text	MP4
TTML in smooth streaming	MP4
SMPTE-TT Text	MP4
SMPTE-TT PNG	MP4

■ Supported image formats and resolutions

File extension	Format	Resolution
*jpg *jpeg	JPEG	15360 x 8640
*png	PNG	4096 x 4096
*bmp	BMP	4096 x 4096
*mpo	MPO	15360 x 8640



The MPO format is supported partly.

■ Supported music formats and codecs

File extension	Format	Codec	Note
*.mp3	MPEG	MPEG1 Audio Layer 3	
*.m4a *.mpa *.aac	MPEG4	AAC	
*.flac	FLAC	FLAC	Supports up to 2 channels
*.ogg	OGG	Vorbis	Supports up to 2 channels
*.wma	WMA	WMA	WMA is supported up to 10 Pro 5.1 channels. WMA lossless audio is not supported.
*.wav	wav	wav	
*.mid *.midi	midi	midi	Supports type 0 and type 1. Seek is not supported. Supports USB device only.
*.ape	ape	ape	
*.aif *.aiff	AIFF	AIFF	
*.m4a	ALAC	ALAC	

■ Other Restrictions

- Codecs may not function properly if there is a problem with the content.
- Video content does not play or does not play correctly if there is an error in the content or container.
- Sound or video may not work if they have standard bit rates/frame rates above the TV's compatibility ratings.
- If the Index Table is has an error, the Seek (Jump) function will not work.
- When playing video over a network connection, the video may not play smoothly because of data transmission speeds.
- Some USB/digital camera devices may not be compatible with the TV.
- HEVC codec is only available in MKV / MP4 / TS containers.
- The MVC codec is supported partly.

■ Video decoders

- H.264 UHD is supported up to Level 5.1, and H.264 FHD is supported up to Level 4.1. (TV does not support FMO / ASO / RS)
- HEVC UHD is supported up to Level 5.1, and HEVC FHD is supported up to Level 4.1.
- VC1 AP L4 is not supported.
- GMC 2 or above is not supported.

■ Audio decoders

- WMA is supported up to 10 Pro 5.1 channels.
- WMA1, WMA lossless / Voice are not supported.
- QCELP and AMR NB / WB are not supported.
- Vorbis is supported for up to 5.1 channels.
- Dolby Digital Plus is supported for up to 5.1 channels.
- The supported sample rates are 8, 11.025, 12, 16, 22.05, 24, 32, 44.1, and 48 KHz, and differ with the codec.

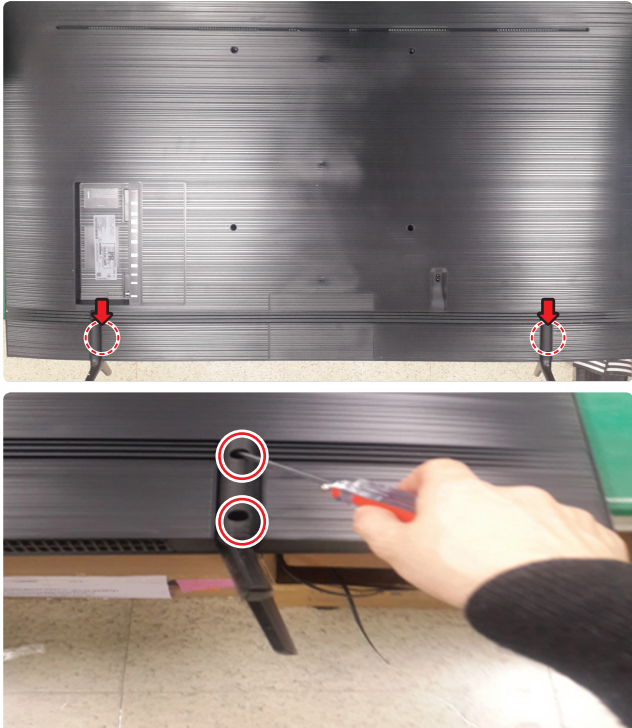
3. Disassembly and Reassemble

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

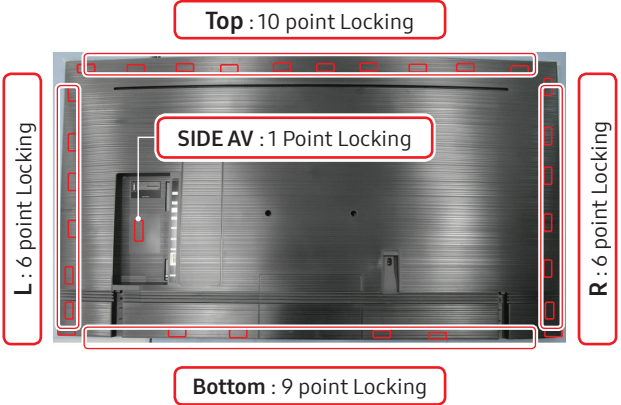
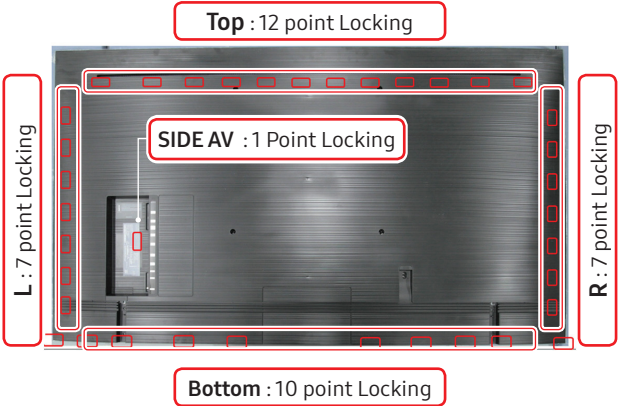
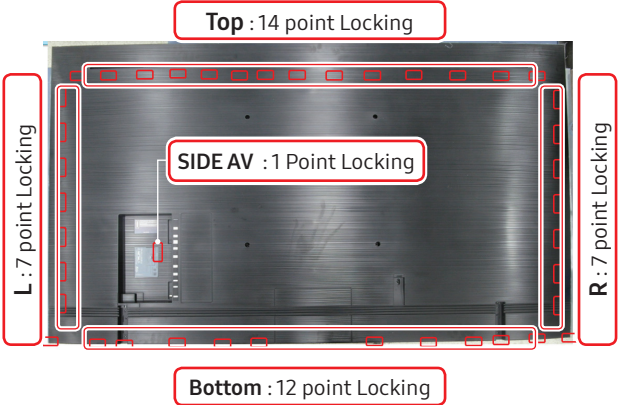
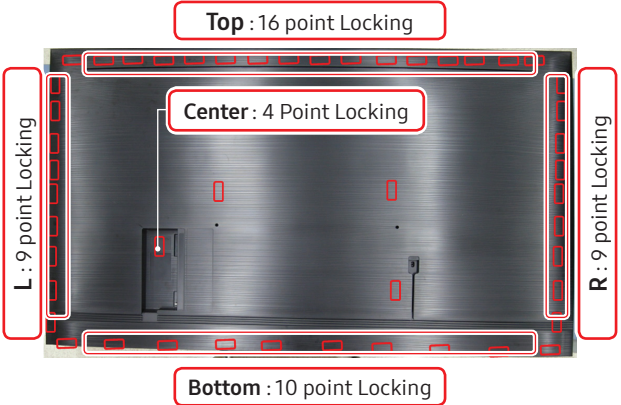


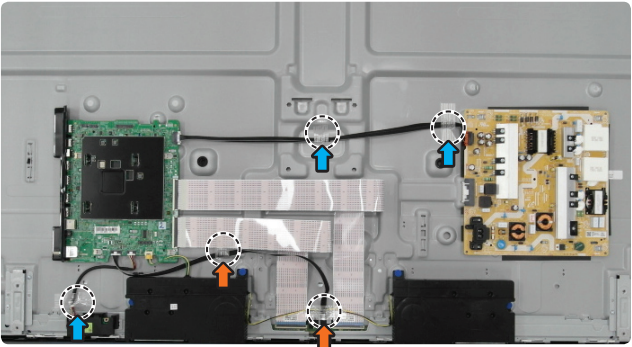
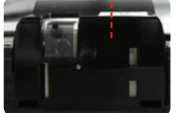
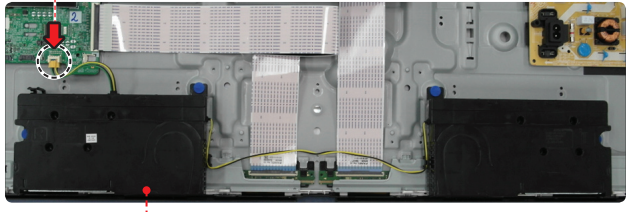
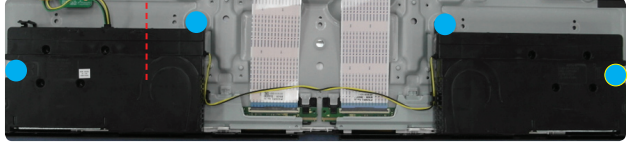
1. Disconnect the LED TV from the power source before disassembly.
2. Follow these directions carefully.
 - Use the Samsung Service tool to disassemble the cabinet.
 - Recommend to use the Samsung Service tool
 - Recommended Torque for Cabinet/Stand screws : 10 ~ 12kgf
 - A strength of Torque can be changed depending on the situation.

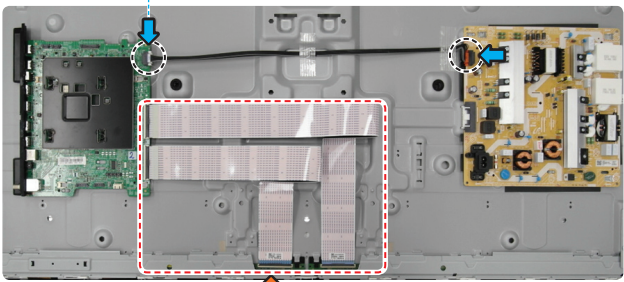
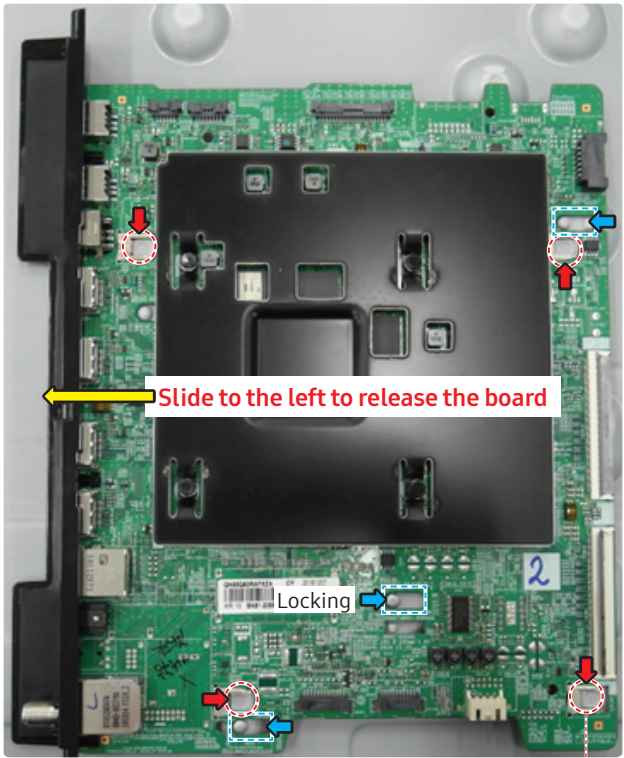
3-1. Disassembly

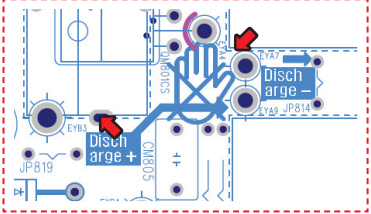
Description & Screws	Picture Description
1 Carefully position the TV so that the screen is facing downwards. Make sure to place the TV upon a soft cushion or any material that will prevent damage to the screen.	
2 Remove the screws on the ASSY STAND. - ASSY STAND P-COVER TOP LEFT : 2EA - ASSY STAND P-COVER TOP RIGHT : 2EA ASSY ACCESSORY-SCREW  6003-001334 SCREW-TAPTYPE : M4 x L14, ZPC(BLK) • SET + STAND	

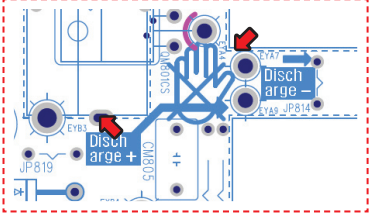
Description & Screws	Picture Description
3 Use Open Jig to release tape in corners and all clips as indicated in red on sides and top & bottom. Gently lift up the Rear Cover starting at the top being careful of function assembly at the bottom. • When the 4 points ()Hook is broken. Although the hook is broken, the appearance of the Rear cover is no problem and Gap problem is not appeared after re-assembly. • To prevent the Inner Hook's broken. 1. Catch the upper section of the rear cover. 2. Open the rear cover from top to bottom. • If the wire is bent, need to change the wire. Open Jigs BN81-12884A BN81-14946A Locking tabs locations • 43" • 49"	Jig Direction Jig Direction Jig Direction <Bottom Conner> Top : 8 point Locking L : 5 point Locking SIDE AV : 1 Point Locking R : 5 point Locking Bottom : 6 point Locking Top : 10 point Locking L : 6 point Locking SIDE AV : 1 Point Locking R : 6 point Locking Bottom : 7 point Locking

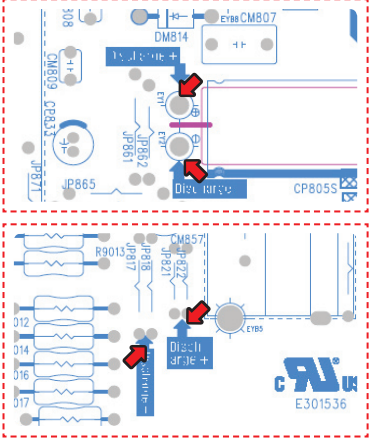
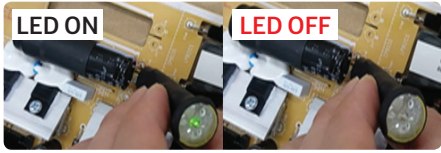
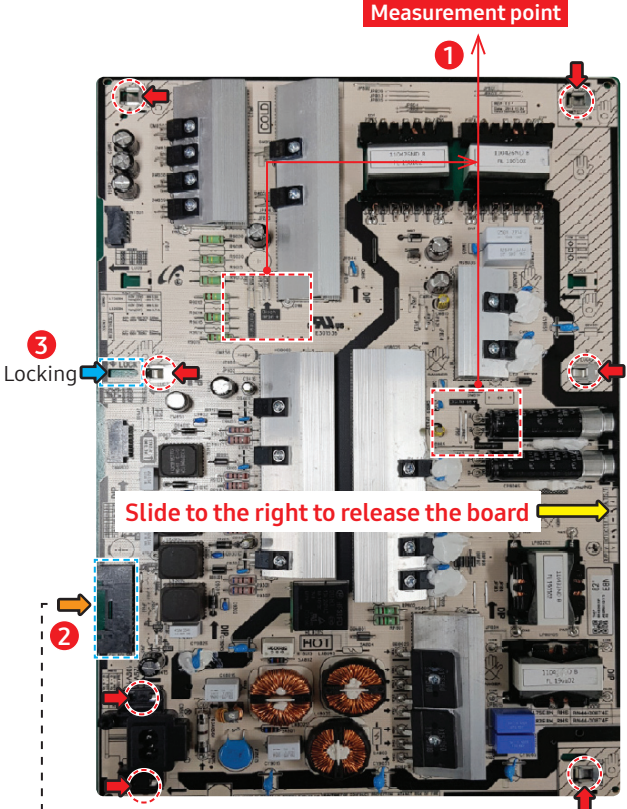
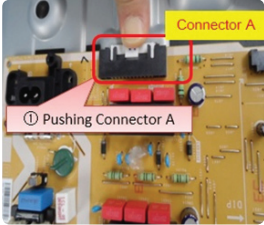
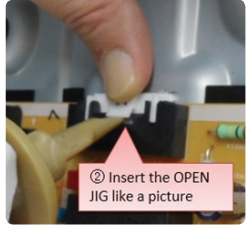
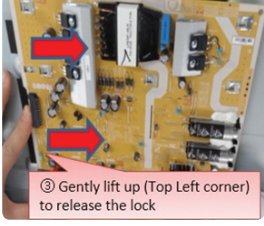
Description & Screws	Picture Description
• 55"	 Top : 10 point Locking Bottom : 9 point Locking L : 6 point Locking R : 6 point Locking SIDE AV : 1 Point Locking
• 65"	 Top : 12 point Locking Bottom : 10 point Locking L : 7 point Locking R : 7 point Locking SIDE AV : 1 Point Locking
• 75"	 Top : 14 point Locking Bottom : 12 point Locking L : 7 point Locking R : 7 point Locking SIDE AV : 1 Point Locking
• 82"	 Top : 16 point Locking Bottom : 10 point Locking L : 9 point Locking R : 9 point Locking Center : 4 Point Locking

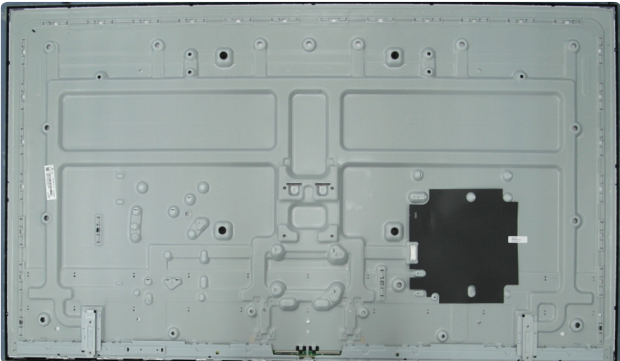
Description & Screws	Picture Description
4 Remove the Electric tapes shown on the images. - EMI Filament Tape (Dressing) - Safety Tape(Dressing)  NOTE - When assembling the TV, the electric tapes must be applied on the same locations. Please remember to take a picture of where the tapes were first applied.	
5 Remove the ASSY BOARD P-FUNCTION TACT. LEAD CONNECTOR-SUB ASSY Cable	LEAD CONNECTOR-SUB ASSY Cable  ASSY BOARD P-FUNCTION TACT 
6 Remove the NETWORK. NETWORK Cable	NETWORK Cable  NETWORK  <Disassemble WiFi>
7 Remove the ASSY SPEAKER P-FRONT. - ASSY SPEAKER P-FRONT Cable : Assy SPK to Panel Hole 4 Points	ASSY SPEAKER P-FRONT Cable   ASSY SPEAKER P-FRONT <Hole 4 Points>

Description & Screws	Picture Description
8 Remove the Cables. ➡ LEAD CONNECTOR-POWER (SMPS - MAIN) ➡ FFC Cables	LEAD CONNECTOR-POWER Cables  FFC Cables
9 Remove the ASSY PCB MAIN BOARD. - Gently lift up (Top Right corner) to release the lock. - Use both hands to hold the board and slide to the left to release the board. NOTE When installing the ASSY PCB MAIN BOARD, verify the board is properly positioned in all 4 mounting slots.  Locking  Fixing Hole	 Slide to the left to release the board Locking Bottom chassis Guide Fixing Hole

Description & Screws	Picture Description
10 Remove the DC VSS-PD BOARD. (Decomposition order: 1 - 2 - 3) 43" 1 Before Removing SMPS Board, You have yo discharge the SMPS by using service JIG. - If LED ON -> LED OFF discharge is completed. Measurement point  LED ON LED OFF <Before discharging> <After discharging> 2 Remove the SMPS Board pushing to the arrow direction. - Pushing Connector A. - Insert the OPEN JIG like a picture. - Gently lift up (Top Left corner) to release the lock. 3 Gently lift up (Top Left corner) to release the lock and Slide Board to the Right.  Locking  Fixing Hole A/S-DISCHARGE-JIG 	3 Locking Measurement point 1 Slide to the right to release the board 2 3 Bottom chassis Guide Fixing Hole Connector A ① Pushing Connector A ② Insert the OPEN JIG like a picture ③ Gently lift up (Top Left corner) to release the lock

Description & Screws	Picture Description
Remove the DC VSS-PD BOARD. (Decomposition order : ① - ② - ③) 49 / 55" / 65" ① Before Removing SMPS Board, You have to discharge the SMPS by using service JIG. - If LED ON -> LED OFF discharge is completed. Measurement point  LED ON LED OFF <Before discharging> <After discharging> ② Remove the SMPS Board pushing to the arrow direction. 4. Pushing Connector A. 5. Insert the OPEN JIG like a picture. 6. Gently lift up (Top Left corner) to release the lock. ③ Gently lift up (Top Left corner) to release the lock and Slide Board to the Right.  Locking  Fixing Hole A/S-DISCHARGE-JIG 	③ Locking Measurement point ① Slide to the right to release the board ② ③ Bottom chassis Guide Fixing Hole... Connector A ① Pushing Connector A ② Insert the OPEN JIG like a picture ③ Gently lift up (Top Left corner) to release the lock

Description & Screws	Picture Description
Remove the DC VSS-PD BOARD. (Decomposition order: ① - ② - ③) 75" / 82" ① Before Removing SMPS Board, You have yo discharge the SMPS by using service JIG. - If LED ON -> LED OFF discharge is completed. Measurement point   ② Remove the SMPS Board pushing to the arrow direction. - Pushing Connector A. - Insert the OPEN JIG like a picture. - Gently lift up (Top Left corner) to release the lock. ③ Gently lift up (Top Left corner) to release the lock and Slide Board to the Right.  Locking  Fixing Hole A/S-DISCHARGE-JIG 	Measurement point  ③ Locking Slide to the right to release the board  ③ Bottom chassis Guide Fixing Hole  ① Pushing Connector A  ② Insert the OPEN JIG like a picture  ③ Gently lift up (Top Left corner) to release the lock

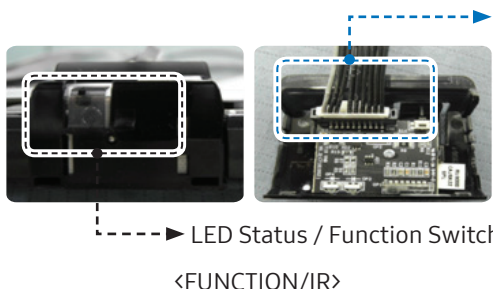
Description & Screws	Picture Description
11 Completed the disassembly.	

**NOTE**

Reassembly procedures are in the reverse order of disassembly procedures.

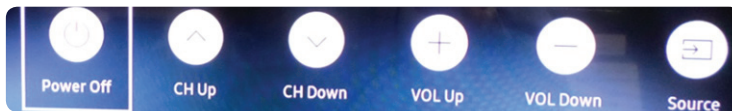
4. Troubleshooting

4-1. Function Control Operation Test



CN1501 (FUNCTION & IR)			
1	IR	2	GND
3	A3.3V_PW	4	SENSOR_SCL_I2C
5	SENSOR_SDA_I2C	6	KEY_INPUT1
7	KEY_INPUT2	8	LED_STB_OUT
9	IR_OUT_1	10	IR_OUT_2
11	GND	12	N.C.

1. Place TV in Power Standby
2. Check **LED Status**
3. If **LED** is **OFF**
 - ✓ LED 1.7Vdc (pin **8**) and VCC for 3.3Vdc (pin **3**)
 - If missing suspect Function Assy/Cable/Main board.
4. If **LED** is **ON**
 - ✓ Switch Operation activates on screen display



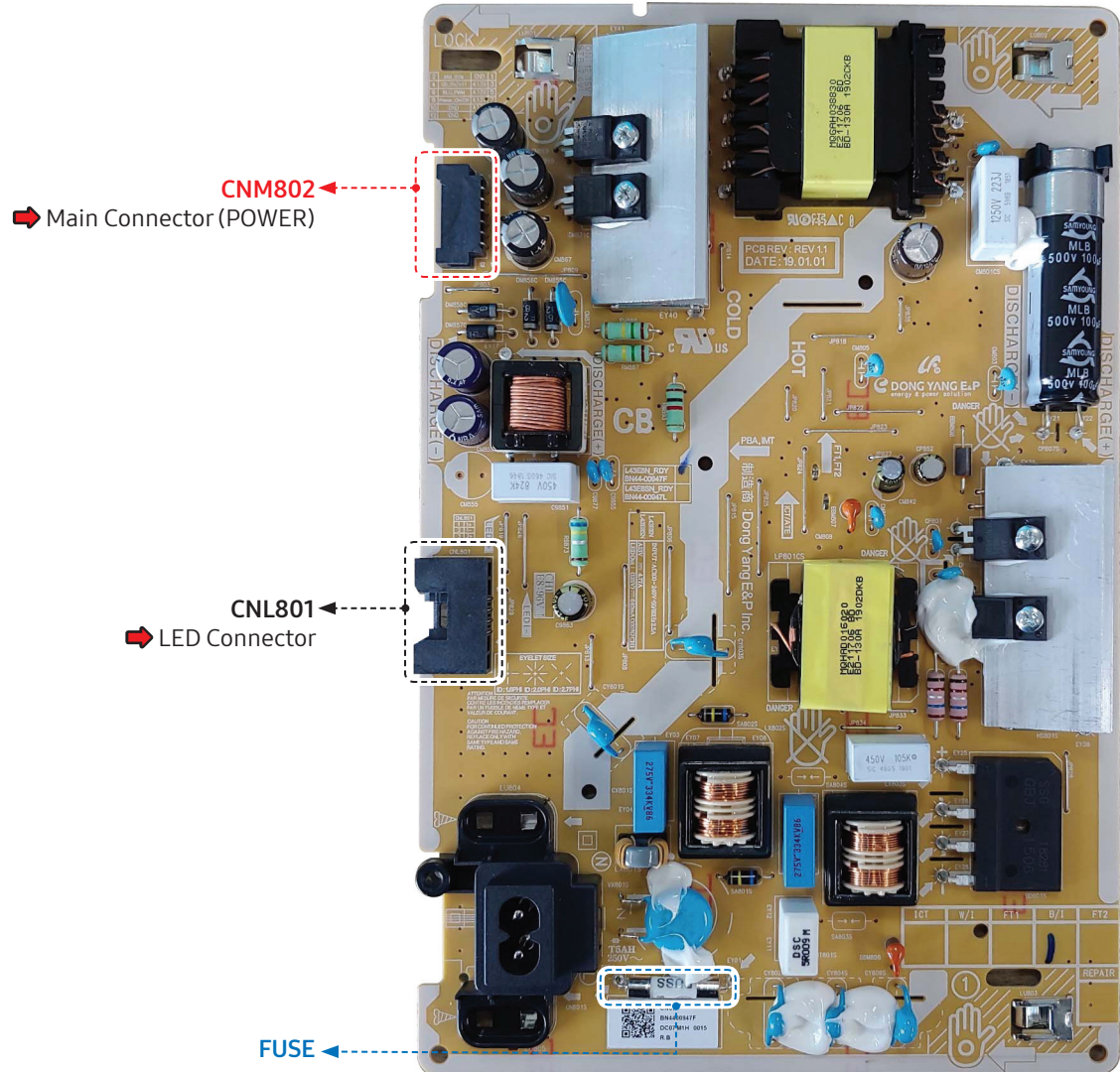
[On Screen Selections with Function Control]

- If missing:
 - ✓ **Key_Input1** (pin **6**) change to 0V with a command.
 - If wrong voltage or no change:
 - ✓ Switch for stuck or miss-operation.
5. Check **IR** operation with Standard Remote command changes.
 6. Check **SDA, SCL** for effective 3.3Vdc. (after power on)
 - If missing suspect Function Assy/Cable Assy./Main Assy

4-2. Power

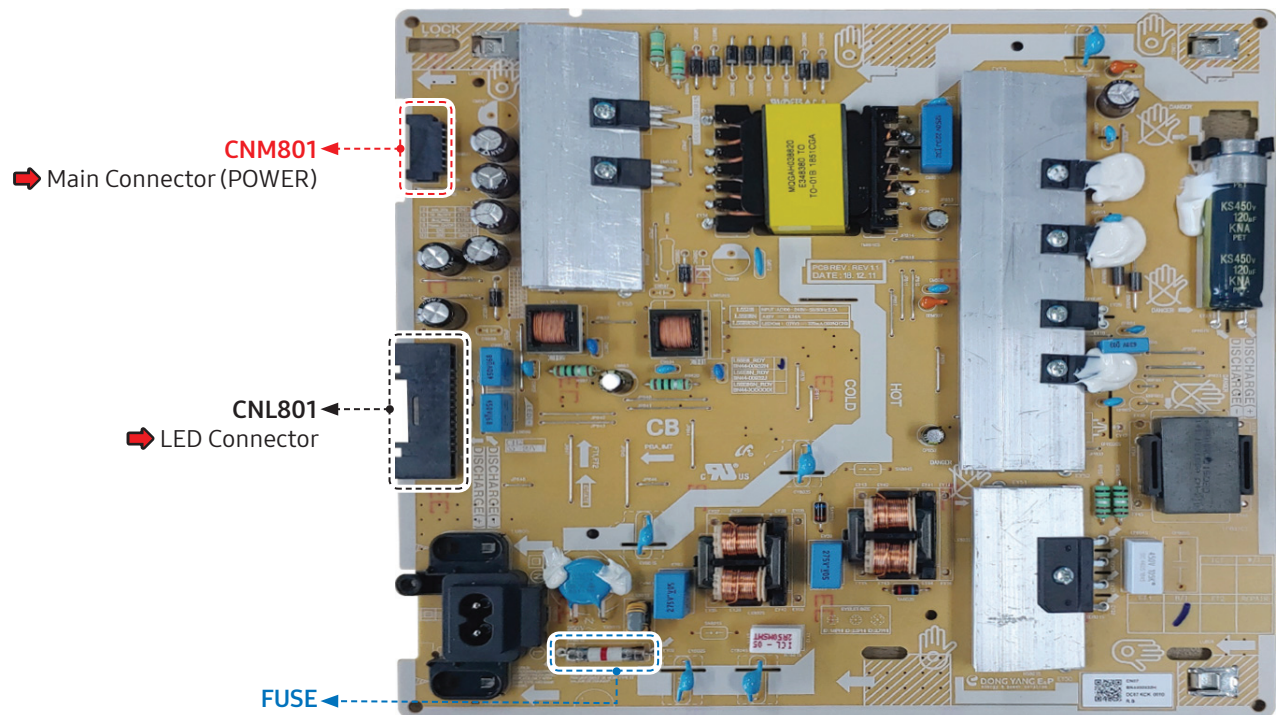
4-2-1. SMPS Standby

- 43 inches



CNM801 (MAIN Connector)											
1	GND	2	ANA-DIM	3	A13V	4	OD_ON/OFF	5	A13V	6	BLU_PWM
7	A13V	8	POWER_On/Off	9	A13V	10	GND	11	GND	12	GND
CNL801 (LED Connector)											
1	1+		2	1-		3	2+		4	2-	

- 49 / 55 inches



CNM801 (MAIN Connector)

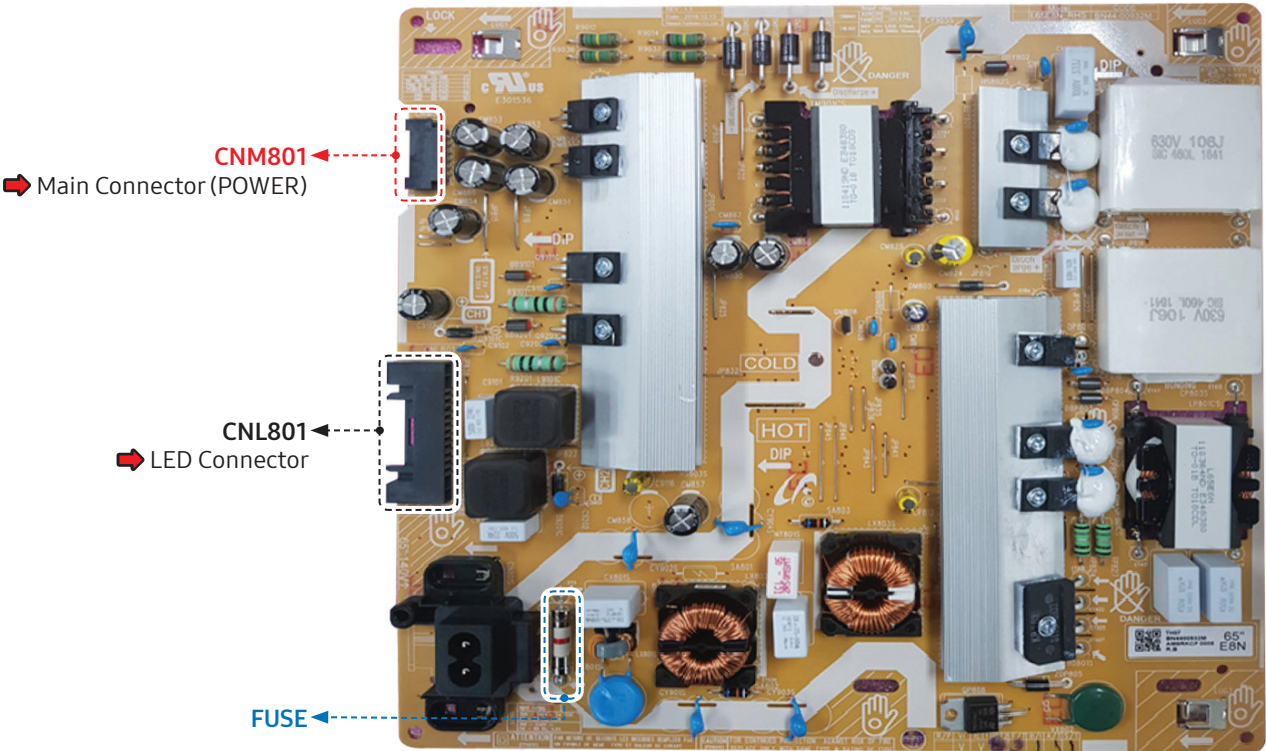
1	GND	2	ANA-DIM	3	A13V	4	OD_ON/OFF	5	A13V	6	BLU_PWM
7	A13V	8	POWER_On/Off	9	A13V	10	GND	11	GND	12	GND

CNL801 (LED Connector)

1	1+	2	1-	3	2+	4	2-	5	3+	6	3-
7	4+	8	4-	9	N.C	10	N.C	11	N.C	12	N.C

4. Troubleshooting

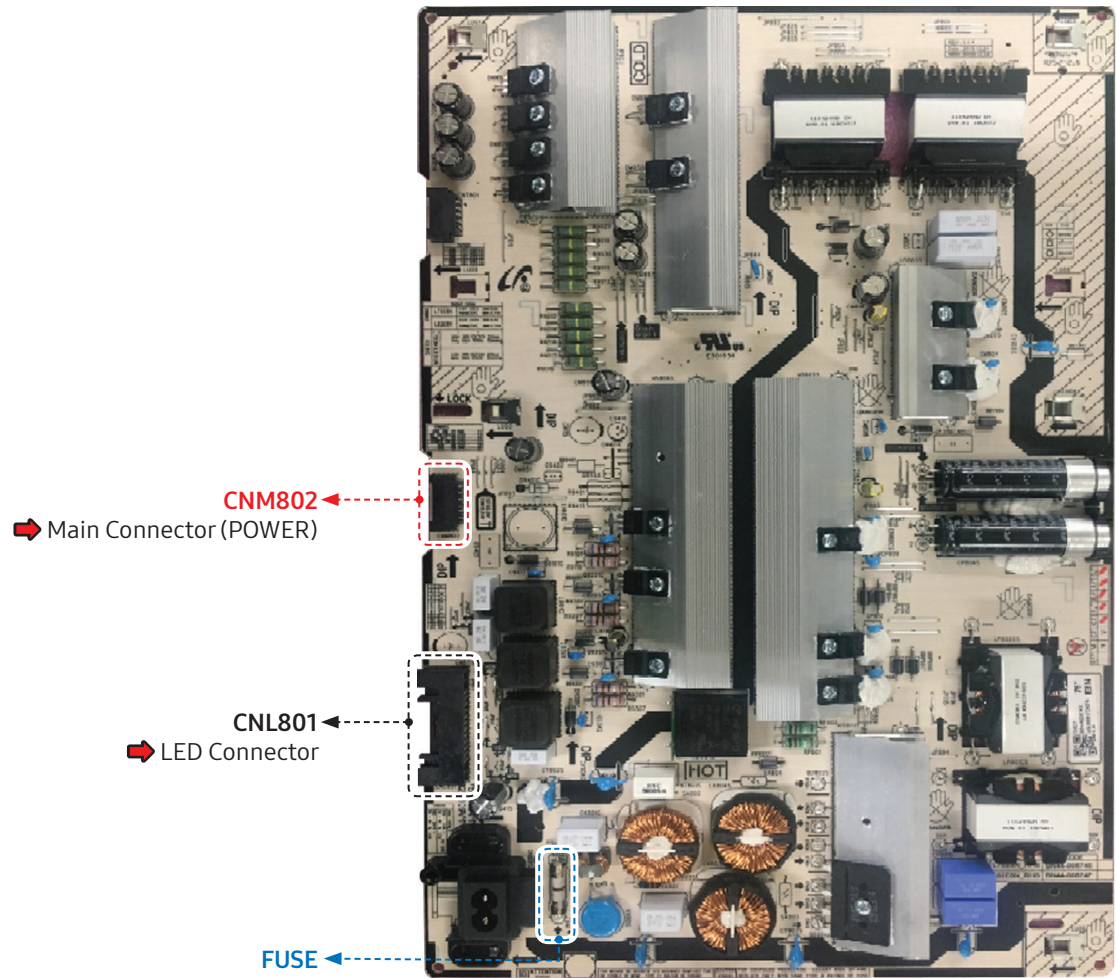
- 65 inches



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

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

- 75 / 82 inches



CNM802 (MAIN Connector)											
1	GND	2	ANA-DIM	3	A13V	4	OD_ON/OFF	5	A13V	6	PWM_BLU
7	A13V	8	POWER_ON	9	A13V	10	GND	11	GND	12	GND

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

TV POWER STANDBY TEST :

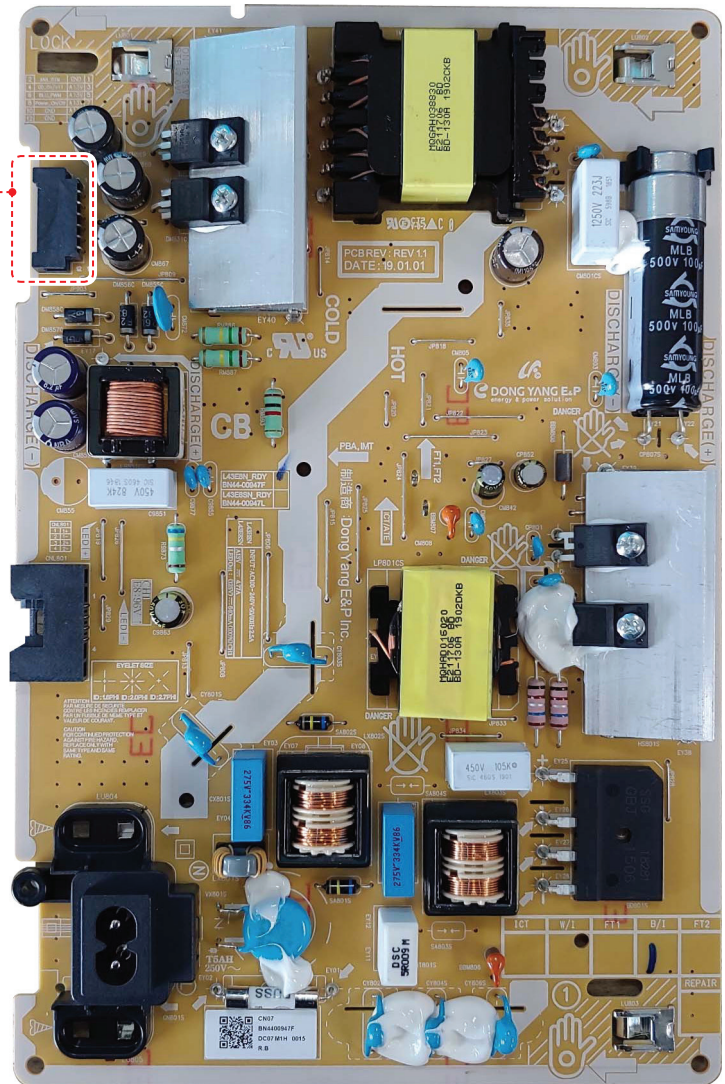
1. TV in Standby
 - ✓ Check **Standby LED Indicator**
2. If Not Lit:
 - ✓ Check AC 120Vac Line
3. If missing:
 - ✓ Check AC120Vac Source/Power Cord
4. If OK:
 - ✓ Check resistance on SMPS **FUSE** after first removing AC power cord.
5. If fuses are open : replace **SMPS**
6. If fuses are OK:
 - ✓ **Standby: 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**.

4-2-2. SMPS Power On

- 43 inches

➡ Main Connector (POWER)

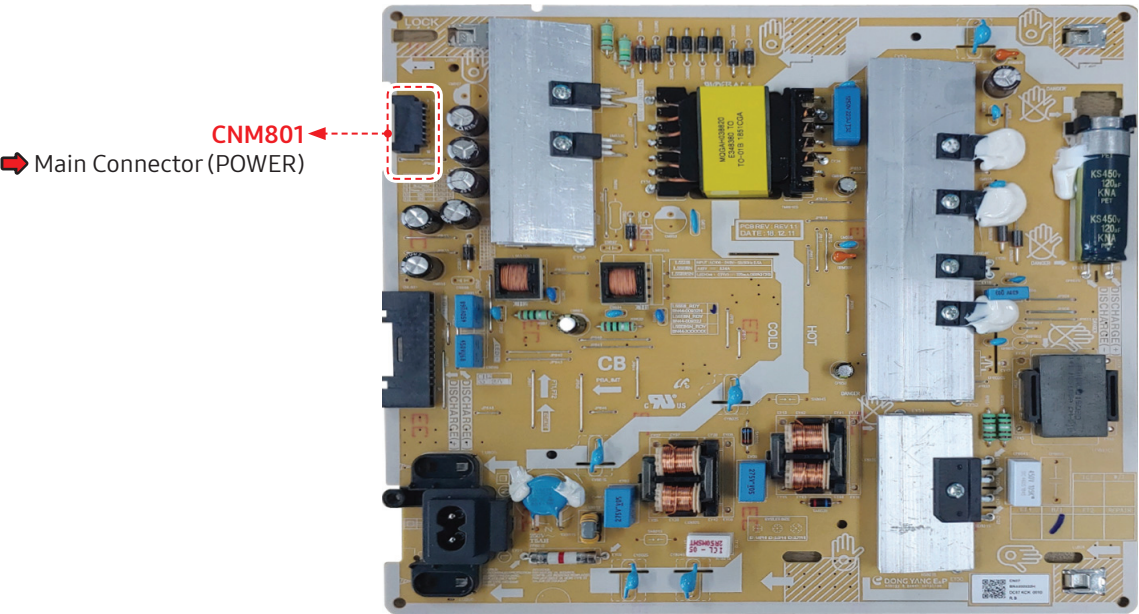
CNM802



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

4. Troubleshooting

- 49 / 55 inches

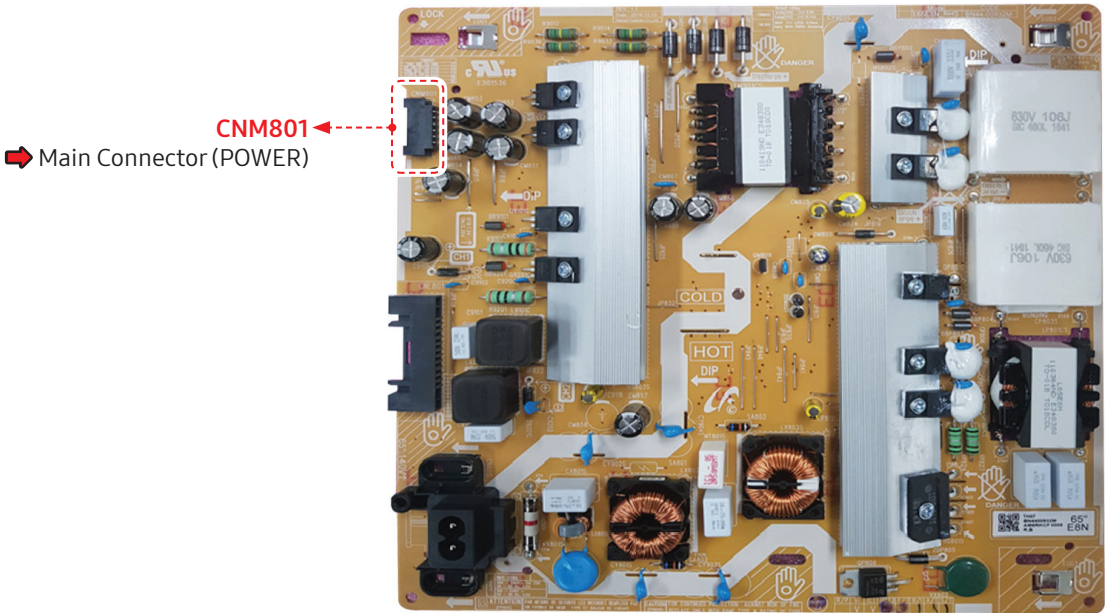


CNM801 (MAIN Connector)											
1	GND	2	ANA-DIM	3	A13V	4	OD_ON/OFF	5	A13V	6	BLU_PWM
7	A13V	8	POWER_On/Off	9	A13V	10	GND	11	GND	12	GND

Power

Backlight

- 65 inches

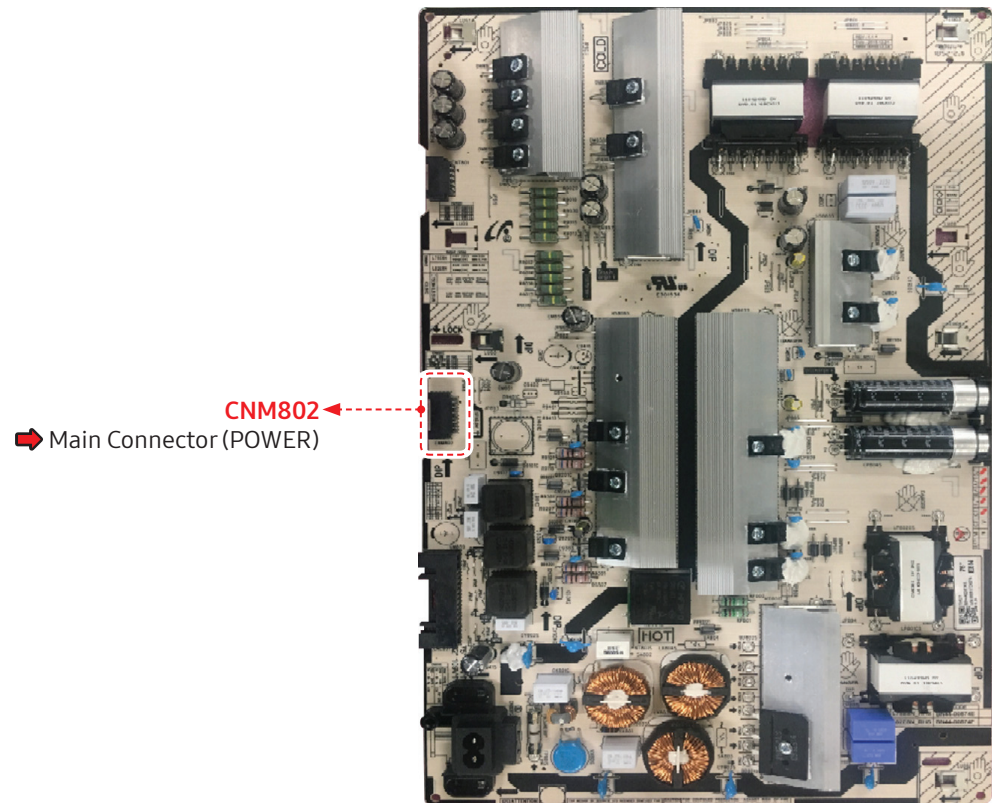


CNM801 (MAIN Connector)											
1	GND	2	ANA-DIM	3	A13V	4	OD_ON/OFF	5	A13V	6	PWM_BLU
7	A13V	8	POWER_ON	9	A13V	10	GND	11	GND	12	GND

Power

Backlight

- 75 / 82 inches



CNM802 (MAIN Connector)											
1	GND	2	ANA-DIM	3	A13V	4	OD_ON/OFF	5	A13V	6	PWM_BLU
7	A13V	8	POWER_ON	9	A13V	10	GND	11	GND	12	GND

Power (pin 8) → Backlight (pin 6) →

TV POWER ON SEQUENCE TEST :

1. Power TV On

- ✓ **Power_On/Off / POWER_ON** (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:

- ✓ Jog Function Control Test

3. If OK replace **Main Board**

- ✓ All **A13V** supplies for approx. **12.7VDC** (pins 3, 5, 7, 9)

4. If any wrong voltages, remove SMPS connector to Main Board

- ✓ All **A13V** again for **12.7VDC** (pins 3, 5, 7, 9)

5. If OK replace **Main Board**

6. If still wrong voltage replace SMPS

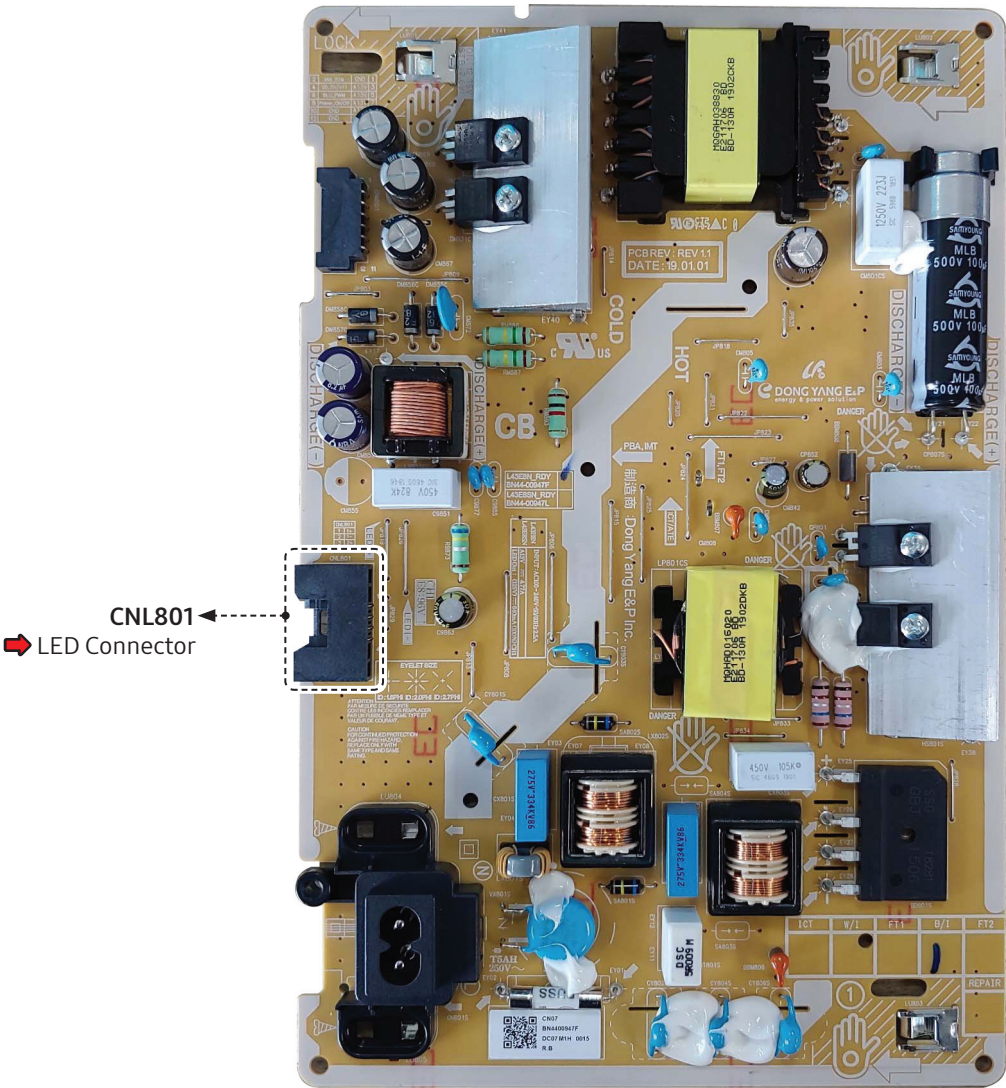
- ✓ **OD_ON/OFF** (Over Voltage Detect) (pin 4) 3.3Vdc : Operating Normal

7. If 0V or changing, an SMPS or Panel error exists. Perform Backlight Test.

- ✓ **BLU_PWM / PWM_BLU** (pin 6) Backlight On/Off & Dim Control : **1Vdc – 3.3 Vdc** depending on backlight dimming level for video.
 - If missing or error : Replace **Main Board**.

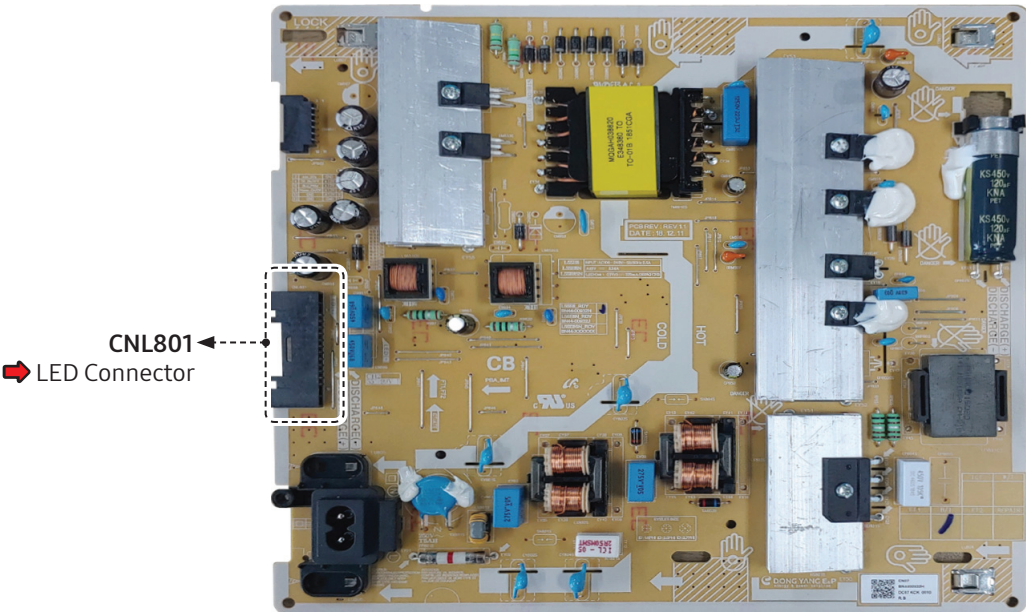
4-2-3. SMPS / PANEL BACKLIGHT (Parallel Wired SMPS Panel Connections)

- 43 inches

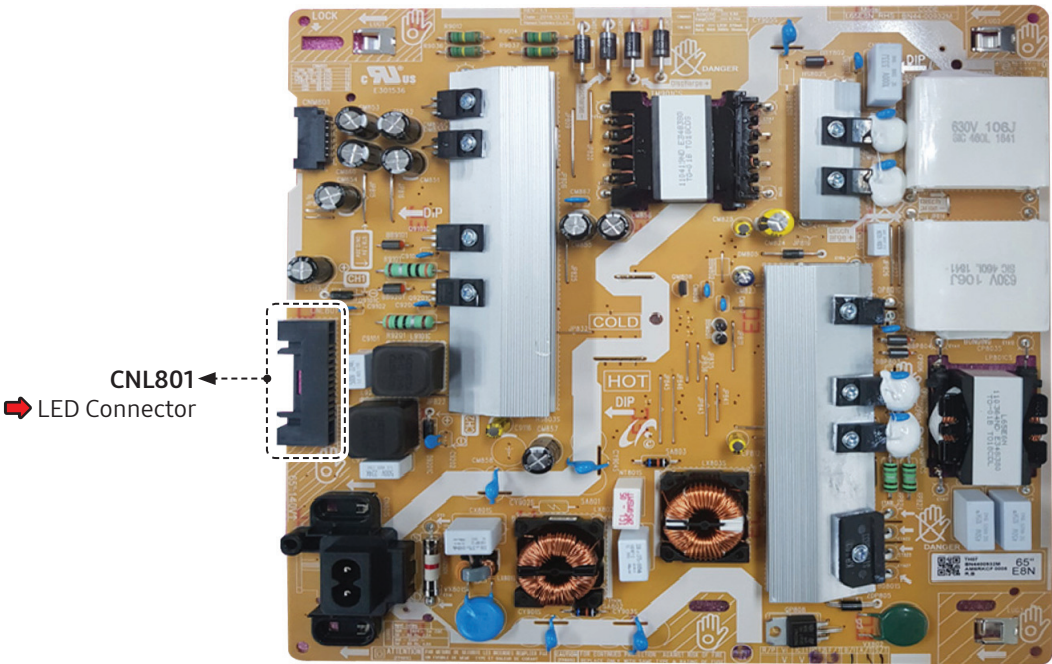


CNL801 (LED Connector)							
1	1+	2	1-	3	2+	4	2-

- 49 / 55 inches

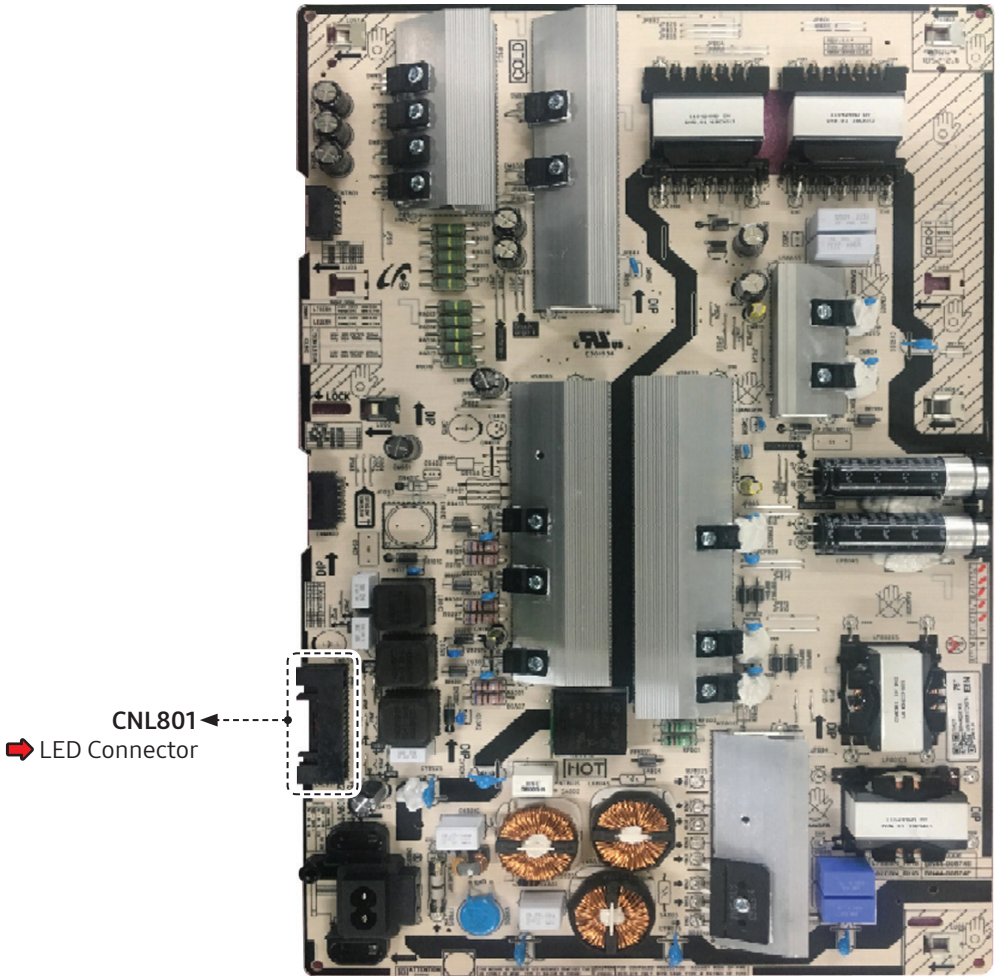


- 65 inches



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

- 75 / 82 inches



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

Backlight Test :

1. **Activate Backlights Test** : Disconnect Lead Cable from Main to Power Supply.
 - ✓ Check TV Screen for active backlight LEDs.
2. **If No Backlights**
 - ✓ Minus (Control) pins & Plus (Supply) pins voltages on the Panel Connector. (with fine test probe on left side of connector only for safety)
 - If no pin voltages replace **SMPS**.
3. **If Backlights ON BUT PANEL SECTION(S) OFF**
 - ✓ The Supply Drive (+) pins and (-) pins. All should measure same.
 - If a Minus (-) pin measures low (near 0 volts), a string(s) of LEDs are likely open.
 - ✓ Replace **Panel**.
 - If a (+) pin measures low voltage.
 - ✓ Defective **SMPS**

BACKLIGHT DIMMING PROBLEMS :

- Go to **Menu > Picture > Backlight** and vary level (0 – 50)
- If no backlight changes observed:
 - ✓ Panel Connector **CNL801** minus (-) pin voltages and PWM_BLU control voltages **CNM801** **CNM802** while changing backlight level.
 - If minus (-) pin voltages don't change, and PWM_BLU changes, replace **SMPS**.
 - If PWM_BLU doesn't change replace **Main/T-Con Board**.

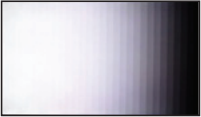
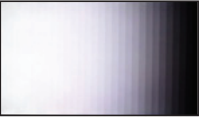
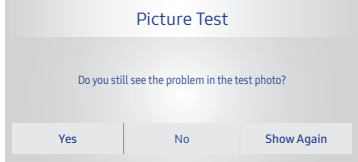
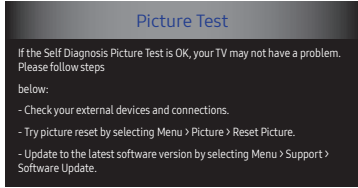
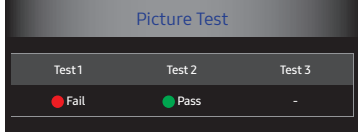
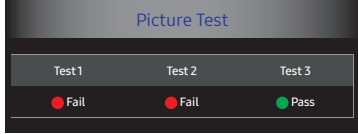
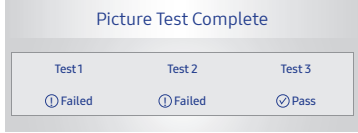
Backlight Test : In normal TV operating mode, use standard **IR Remote** or **Factory Remote** with commands.

Go to **MUTE > 4 > 1 > 9 > EXIT**

4-3. Video

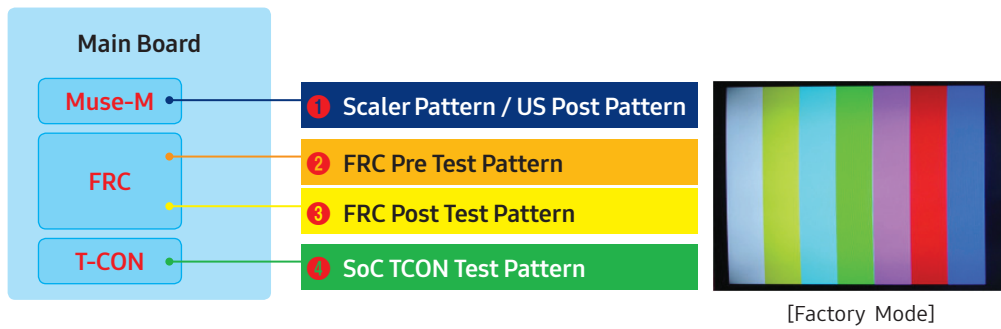
4-3-1. Customer Picture Test

■ MAIN/TCON BOARD

Main Section	Pre-FRC (T-CON)	Post FRC (T-CON)	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. Check Test Patterns

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

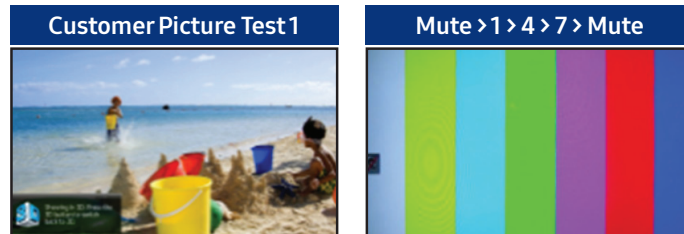


1. Verify "Scaler Pattern" and "US Post Pattern"
2. Verify "FRC Pre Test Pattern"
3. Verify "FRC Post Test Pattern"
4. Verify "SoC TCON Test Pattern"

4-3-3. MAIN/T-CON BOARD

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

■ Main Section

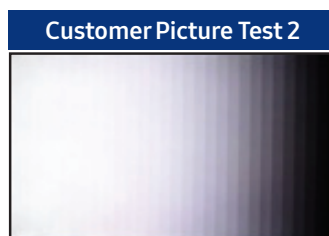


Video Operation

Generated on Main Section.

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

■ PRE FRC Section

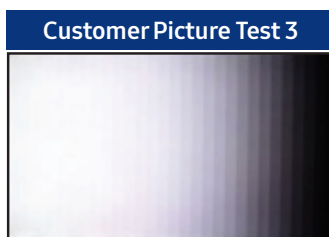


Video Operation

Generated at Pre FRC Section.

- **If OK:**
 - ✓ Replace Main/T-Con Board
- **If Noisy:**
 - ✓ Post FRC Section

■ POST FRC Section



Video Operation

Generated at Post FRC Section.

- **If OK:**
 - ✓ Replace Main/T-Con 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/T-CON Board.
2. **If Noisy:**
 - ✓ Main/T-CON Board
 - ✓ Panel

■ PANEL



- Check Panel

1. If Noisy Video:

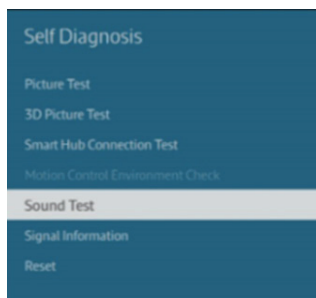
- ✓ Soc T-CON Pattern in Factory Mode
 - Use type of Noise observed (Bars, single lines, video distortion, etc to help.)
 - If noise is only on one half of screen check / swap panel cables.
 - Verify Defective Panel Cables, TV Main/T-CON Board or Panel.

4-4. Audio

- Source > Main Board/T-CON > Speakers

■ Source

- **No TV Sound**
 - ✓ Menu > Audio > Speaker Settings set to **TV Speaker**
- **Noisy / Distorted TV Audio**
 - ✓ Customer Menu > Support > **Sound Test**
 - **If Sound Test FAILS : (Missing / Noisy Audio)**
 - ✓ Speakers (compare resistance/quality)
 - 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
 - ✓ With external Audio Generator (device or App)
 - ✓ Other Inputs
- **Optical Digital Out Errors**
 - ✓ Red light from Optical Digital Out.
 - If missing replace Main Board



■ 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.

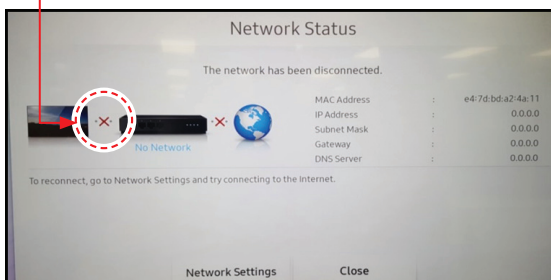
4-5. Network



■ TV to Router "Failure"

- ✓ **Check** Network Status

Check Network Status (TV ~~→~~ Router ~~→~~ Internet)



- ✓ **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).
- ✓ **Proper 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"

- ✓ **Check** Network Status

Check Network Status (TV → Router ~~→~~ Internet)



- Instruct the customer the TV has proper connection to the router and is likely OK.
- ✓ **Check** other devices using network are OK. If they test OK this does not mean the TV should be working.
 - Try another source (Hotspot) to test/show TV Network operation.

4-6. Smart Hub

- [Network Test/Gateway Test](#) > [DNS Test](#) > [ISP Blocking](#) > [Samsung Server Test](#) > [Samsung Apps Test](#)



Go to [Menu](#) > [Support](#) > [Self Diagnosis](#) > [Smart Hub Connection Test](#)

■ Network / Gateway

- If it Fails:
 - ✓ TV to Router Connection Test in "[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 wilre-occur.

4. Troubleshooting

For Netflix Operation/Connection Issues:

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

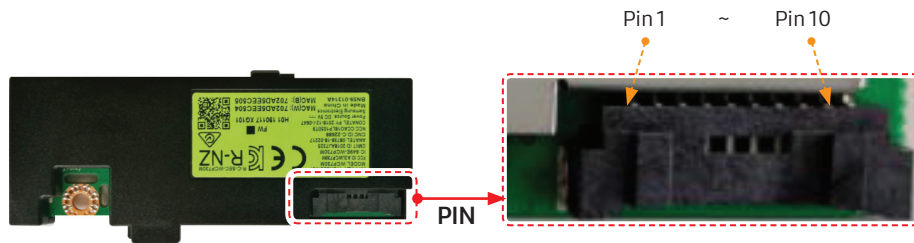


- If Certificate and ESN exists, "CO", "Nfo", change the **DNS** to **8.8.8.8**
- If Certificate is missing, "C/" replace the TV's Main Board.
- If ESN number is missing: **NF**/ do not replace the Main Board.
 - Reset TV Clock and check for correct Time & Date. Netflix relies on correct settings.
 -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

For Streaming Issues:

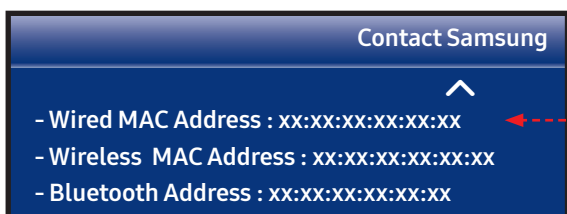
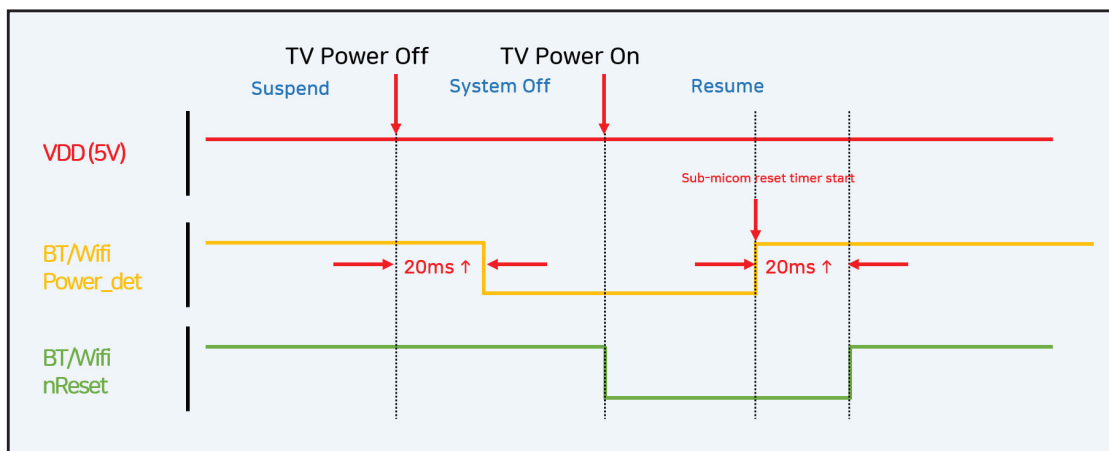
- Go to TV Web Browser / Go to speedof.me / testmy.net
 - ✓ **Check Speed** for at least 5 Mbps(HD streaming) / 25 Mbps (4K Streaming).
 - ✓ **Check Latency** for less than 50ms.

4-7. BlueTooth / WiFi Module



Pin Description

Pins	Name	Standby	Power On
1	BT_WAKE	3.3 Vdc	3.3 Vdc
2	BT_UART_TXD	3.3 Vdc	3.3 Vdc
3	WIFI_PHY_ON	0	3.3 Vdc
4	GND	0	0
5	D+_USB_BTWIFI	0	Sig(DP)
6	D-_USB_BTWIFI	0	Sig(DM)
7	GND	0	0
8	WIFI_5V	5 Vdc	5 Vdc
9	WIFI_WOW	3.3 Vdc	3.3 Vdc
10	BTWIFI_NRESET	3.3 Vdc	3.3 Vdc



Missing or Error : Replace **Main Board**.

Go to [Menu](#) > [Support](#) > [Contact Samsung](#)

- ✓ 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

Factory Remote

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

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)
 - **Factory Reset** : Select Factory Reset

Factory Reset	
Type	65A1AU0RR
Writing Type	
Local Set	US
SW Model	QRQ60
Model Code	QN65Q6DRAFXZA
TUNER	-
Ch Table	NONE

← Ex. Sample Model

- 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.

Performing **Factory Reset**

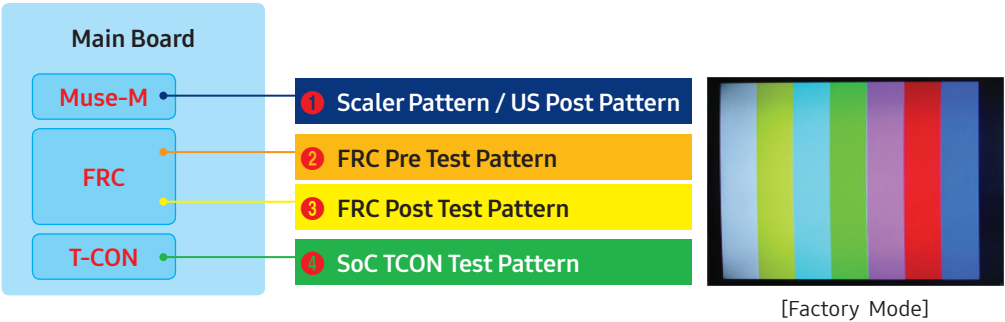
1. Enter Factory Mode.
2. Select **Option** > **Factory Reset**
3. TV will power off.
4. Perform ALL TV Settings. (New out of box condition)

First Screen Appearing in **Factory Mode**

- Sample :

Option		
Control	T-MSMAKUC-0719.20 T-MMINTV-1001	✓ Testing Items ✓ Micom Version ✓ Sub Micom
Debug	TIZEN-5.0-MAIN2019-MuseM-RELEASE_20181219.2 (Perf)	✓ Tizen Platform info
SVC	BT Version : BLUETOOTH-VER-18102323 E-Manual : MUSATSCR-0.0.1 Blaster Version : A81106-U81101-1704A8 E-POP Version : ---- EDID SUCCESS HDCP SUCCESS	✓ BT Version ✓ E-Manual ✓ Blaster Version ✓ E-Pop Version ✓ EDID Success (Status) ✓ HDCP Success (Status)
ADC/WB	CALIB : AV / COMP / PC / HDMI / Option : 82A1AU7TR,US,QN82Q70RAFXZA,NONE DTCP : Not Supported 00 FRC-[MUSE-M USIT][120Hz][HW:07/01] DIMMING-[DIRECT-6x8][02] LD FW1 : 19800020 LD FW2 : ---- TCON-[MUSE-M] FW[9011] DATA[R82A1UQM13]	✓ FRC ✓ Dimming ✓ T-CON
Advanced	Model : QN82Q70RAFXZA Wired MAC SUCCESS Wireless MAC SUCCESS WiFi Version : mt7668u-MTKv3.3.3 20181214 CO NI/ W/ MO D/ H2 PO AO O S/ N/ RO FP/ SIX WS/ DI/ UX I/ (T) NSOO,0000001c49000001,0000 Factory Data Ver : 19106 / Fixed Ver : 19000 EERC Version : 31 / WB Ver : 1 CPLD/LD : N/A SmartControl : 00000000/000000 Board Info : 2018/12/13/PR/1/BN41-02695A Factory Reset In Production : 0 SID : ---- Date of purchase : --/--/----	✓ Model ✓ Wired MAC Success ✓ Wireless MAC Success ✓ WiFi Version ✓ CO Status ("O" Operational) ✓ Factory Data Version ✓ EERC Version ✓ 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

■ SVC > Info > ER Count

WD Count	0	Serdes Error Count	2
AR Count	0	Serdes Reset Count	0
RS Count	1	Serdes WatchDog On/Off	OFF
WIFI NO DETECTION COUNT	3	AC Over-Voltage Detect	0
WIFI DETACHMENT COUNT	2	Vcc Fail Count	0
BT NO DETECTION COUNT	0	HDMI No Signal	
BT DETACHMENT COUNT	1	HDMI Blinking	
BT MGT OPEN FAIL COUNT	0	HDMI Color Space	
BT MGT DISCONNECT COUNT	0		
BT TV AUDIO DROP	0		
BT AUDIO TIMER EXP	0		
Camera ER Count			
FRC3D Emergency Reboot On/Off	ON		
FRC3D ER Count	0		
Fan Error Count	0		

- **WD Count:** Watch Dog (Hardware related issue).
- **AR Count:** Auto Reset (software (i.e. Apps) related).
- ✓ **important Error Count** Status Screen.
- Verify each item listed.

■ **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
ADC/WB	Asia Option
Advanced	Sound

- 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
----------------	---------

4-9. Factory Mode Adjustments

4-9-1. Entering Factory Mode

- To enter [Service Mode] press the remote-control keys in this sequence :

- With Consumer Remote (IR Remote)

✓ Remote Button :

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

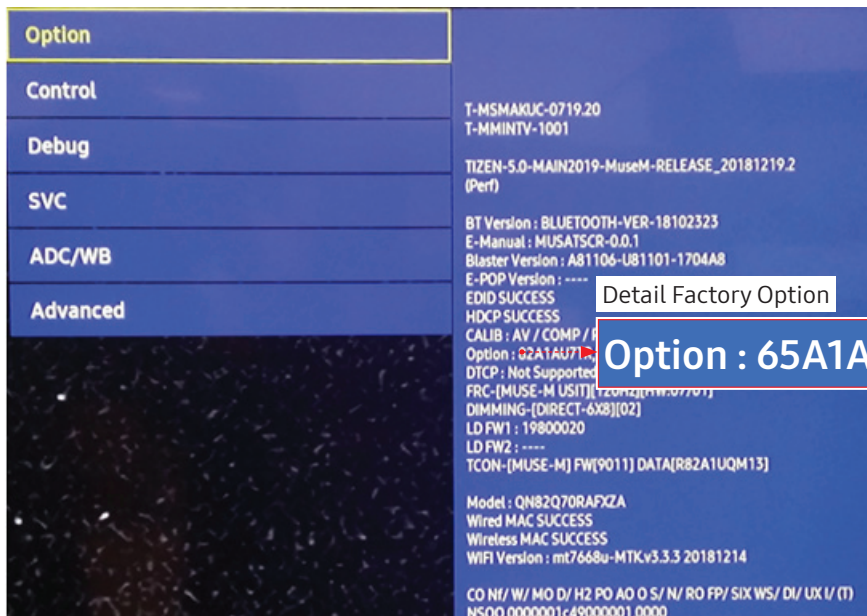
PAL **POWER OFF** → **INFO** → **MENU** → **MUTE** → **POWER ON**

- With Factory Remote

INFO → **FACTORY**

- The following screen appears.

- Please refer to "**Detail Factory Option** page" for details.



Detail Factory Option

Option : 65A1AU0RR,US,QN65Q6D

4-9-2. 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**".

■ QN43Q6DRAFXZA

- PANEL / SMPS / MAIN Information

Side Version		BA01				
PANEL			SMPS		MAIN	
Vendor	BOE		Vendor	DYREL	ASSY CHASSIS	ASSY PCB MAIN
Code	Spec	Type	Code	Spec		
BN95-05614A	CY-RR043HGEV1V/H	43B6AU0RR	BN44-00947E	L43E8_RDY	BN91-20863L	BN94-14119G

- MAIN Factory Option

Local Set	BOM Model	Front Color	S/W Model
US	6DRA	Q-F-RQ60-B-43	QRQ65A

- PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
00GD00019	US	QRQ60	Follow S/W Model

■ QN49Q6DRAFXZA

- PANEL / SMPS / MAIN Information

Side Version	FA01					
PANEL			SMPS		MAIN	
Vendor	SDC		Vendor	DYREL	ASSY CHASSIS	ASSY PCB MAIN
Code	Spec	Type	Code	Spec		
BN95-05511A	CY-RR049HGLV1V/H	49A6AU0RR	BN44-00932H	L55E8_RDY	BN91-20863H	BN94-14119K

- MAIN Factory Option

Local Set	BOM Model	Front Color	S/W Model
US	6DRA	Q-F-RQ60-B-49	QRQ65A

- PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
00GD00019	US	QRQ60	Follow S/W Model

■ QN55Q6DRAFXZA

- PANEL / SMPS / MAIN Information

Side Version	FA01					
PANEL			SMPS		MAIN	
Vendor	SDC		Vendor	DYREL	ASSY CHASSIS	ASSY PCB MAIN
Code	Spec	Type	Code	Spec		
BN95-05509A	CY-RR055FGLV1V/H	55A1AU0RR	BN44-00932H	L55E8_RDY	BN91-20863B	BN94-14119A

Side Version	AA02					
PANEL			SMPS		MAIN	
Vendor	AUO		Vendor	DYREL	ASSY CHASSIS	ASSY PCB MAIN
Code	Spec	Type	Code	Spec		
BN95-05510A	CY-RR055FGAV1V/H	55L1AU0RR	BN44-00932H	L55E8_RDY	BN91-20700G	BN94-14136V

Side Version	CA03					
PANEL			SMPS		MAIN	
Vendor	CSOT		Vendor	DYREL	ASSY CHASSIS	ASSY PCB MAIN
Code	Spec	Type	Code	Spec		
BN95-06034A	CY-RR055FGHV1V/H	55S1AU0RR	BN44-00932H	L55E8_RDY	BN91-20700C	BN94-14136Z

- MAIN Factory Option

Local Set	BOM Model	Front Color	S/W Model
US	6DRA	Q-F-RQ60-B-55	QRQ65A

- PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
00GD00019	US	QRQ60	Follow S/W Model

■ QN65Q6DRAFXZA

- PANEL / SMPS / MAIN Information

Side Version	FA01					
PANEL			SMPS		MAIN	
Vendor	SDC		Vendor	HANSOE	ASSY CHASSIS	ASSY PCB MAIN
Code	Spec	Type	Code	Spec		
BN95-05507A	CY-RR065FGLV1V/H	65A1AU0RR	BN44-00932M	L65E8N_RHS	BN91-20863A	BN94-14119B

Side Version	AA02					
PANEL			SMPS		MAIN	
Vendor	AUO		Vendor	HANSOE	ASSY CHASSIS	ASSY PCB MAIN
Code	Spec	Type	Code	Spec		
BN95-05508A	CY-RR065FGAV1V/H	65L1AU0RR	BN44-00932M	L65E8N_RHS	BN91-20956A	BN94-14136T

- MAIN Factory Option

Local Set	BOM Model	Front Color	S/W Model
US	6DRA	Q-F-RQ60-B-65	QRQ65A

- PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
00GD00019	US	QRQ60	Follow S/W Model

■ QN75Q6DRAFXZA

• PANEL / SMPS / MAIN Information

Side Version	FA01					
PANEL			SMPS		MAIN	
Vendor	SDC		Vendor	HANSOE	ASSY CHASSIS	ASSY PCB MAIN
Code	Spec	Type	Code	Spec		
BN95-05505A	CY-RR075FGLV1V/H	75A1AU0RR	BN44-00874E	L75E8N_RHS	BN91-20863C	BN94-14119C

Side Version	AA02					
PANEL			SMPS		MAIN	
Vendor	AUO		Vendor	HANSOE	ASSY CHASSIS	ASSY PCB MAIN
Code	Spec	Type	Code	Spec		
BN95-05506C	CY-RR075FGAV3V/H	75L1AUARR	BN44-00874E	L75E8N_RHS	BN91-20700E	BN94-14136X

Side Version	CA03					
PANEL			SMPS		MAIN	
Vendor	CSOT		Vendor	HANSOE	ASSY CHASSIS	ASSY PCB MAIN
Code	Spec	Type	Code	Spec		
BN95-06049A	CY-RR075FGHV1V/H	75S1AU0RR	BN44-00874E	L75E8N_RHS	BN91-21427C	BN94-14784E

• MAIN Factory Option

Local Set	BOM Model	Front Color	S/W Model
US	6DRA	Q-F-RQ60-B-75	QRQ65A

• PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
00GD00019	US	QRQ60	Follow S/W Model

■ QN82Q6DRAFXZA

- PANEL / SMPS / MAIN Information

Side Version	FA01					
PANEL			SMPS		MAIN	
Vendor	SDC		Vendor	HANSOE	ASSY CHASSIS	ASSY PCB MAIN
Code	Spec	Type	Code	Spec		
BN95-05504A	CY-RR082FGLV1V/H	82A1AU0RR	BN44-00874F	L82E8N_RHS	BN91-20863K	BN94-14119H

Side Version	DA02					
PANEL			SMPS		MAIN	
Vendor	INX		Vendor	HANSOE	ASSY CHASSIS	ASSY PCB MAIN
Code	Spec	Type	Code	Spec		
BN95-05613A	CY-RR082FGNV1V/H	82D1AU0RR	BN44-00874F	L82E8N_RHS	BN91-20881E	BN94-14136U

- MAIN Factory Option

Local Set	BOM Model	Front Color	S/W Model
US	6DRA	Q-F-RQ60-B-82	QRQ65A

- PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
00GD00019	US	QRQ60	Follow S/W Model

4-9-3. Factory Data

■ Option

Factory Menu Name		Data	Range
Factory Reset		-	
Type	43"	43B6AU0RR	BA01
	49"	49A6AU0RR	FA01
	55"	55S1AU0RR; 55L1AU0RR; 55A1AU0RR	CA03; AA02; FA01
	65"	65L1AU0RR; 65A1AU0RR	AA02; FA01
	75"	75S1AU0RR; 75L1AU0RR; 75A1AU0RR	CA03; AA02; FA01
	82"	82D1AU0RR; 82A1AU0RR	DA02; FA01
Writing Type			
Local set		US	
SW Model		QRQ65A	
Model Code		QN65Q6DRAFXZA	43/49/55/65/75/82
TUNER		-	NTSC,ATSC
Ch Table		NONE	
MRT 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	

Factory Menu Name	Data	Range
USB Serial	OFF	
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	MUSE-M	
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 greather 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	
Subwoofer Support	3	

Factory Menu Name	Data	Range
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	
FHD DDR SSC ON OFF	OFF	
FHD DDR SSC Value	4	
UHD DDR SSC ON OFF	ON	

4. Troubleshooting

Factory Menu Name	Data	Range
UHD DDR SSC Value	0	
P eBus SSC ON/OFF	OFF	
P eBus 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	
BT_ON_OFF	ON	
RF Mute Time	600ms	
Tuner Margin	3	European specifications
FRC		

Factory Menu Name	Data	Range
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		
HDMI SW	Failure	
HDMI Rx	Failure	
MP Failure		
Main SerDES	Failure	
Jack SerDES	Failure	
Stress Mode		

4. Troubleshooting

Factory Menu Name	Data	Range
Log Analyzer		
Error Popup On/Off		
DeadLock KILL		
CES Option		
CES Convergence Option		
CES ATSC 3_0		
CES OOB E MVPD 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		

Factory Menu Name	Data	Range
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	
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	

4. Troubleshooting

Factory Menu Name	Data	Range
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		
PANEL FLASH UPGRADE		
Logic Usb D/L		
SUBMICOM UPGRADE		* Upgrade Sub-Micom Program
SUBMICOM JP USB UPGRADE		
BT UPGRADE		
BT FREEPAIRING		
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)

Factory Menu Name	Data	Range
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		
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	
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		

Factory Menu Name	Data	Range
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		
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		

4. Troubleshooting

Factory Menu Name	Data	Range
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

4-10. 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

4. Troubleshooting

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)
		White Balance	G-Offset(LCD)			0x08	(-50~50)
		White Balance	B-Offset(LCD)			0x09	(-50~50)
		White Balance	R-Gain(LCD)			0x0a	(-50~50)
		White Balance	G-Gain(LCD)			0x0b	(-50~50)
		White Balance	B-Gain(LCD)			0x0c	(-50~50)
		White Balance	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
		Color Space Custom Color Green Value	0~100			0x14	0~100
		Color Space Custom Color Blue Value	0~100			0x15	0~100
		Color Space Custom Reset				0x1c	0x00
		LED Motion Plus	Off		0x0a	0x07	0x00
			On(Normal)				0x01
			Cinema				0x02
			Ticker				0x03
		10p White Balance	Off		0x07	0x16	0x00
			On		0x07	0x16	0x01
			Interval		0x07	0x17	(1~10)
			Red		0x07	0x18	(-50~50)
			Green		0x07	0x19	(-50~50)
			Blue		0x07	0x1a	(1~10)
			Reset		0x00	0x1b	0x00
	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
		Judder Reduction				0x02	value
		LED Clear Motion	Off			0x03	0x00
		LED Clear Motion	On				0x01
		HDMI1 UHD Color Mode	Off			0x04	0x00
			On				0x01
		HDMI2 UHD Color Mode	Off			0x05	0x00
			On				0x01
		HDMI3 UHD Color Mode	Off			0x06	0x00
			On				0x01
		HDMI4 UHD Color Mode	Off			0x07	0x00
			On				0x01
		Analog Clean View	On			0x08	0x00
	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
		Current Source					0x01
	Pip	PIP	Off	0x0b	0x08	0x00	0x00
			On				0x01
			Antenna			0x01	0xff
			Size			0x02	0xff
			Position			0x03	0xff
			Sound_Select_Main			0x04	0x00

Control Item				Cmd1	Cmd2	Cmd3	Value
PICTURE	Pip		Sound_Select_Sub				0x01
			Channel_Up			0x05	0x00
			Channel_Down				0x01
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
		High					0x03

Control Item				Cmd1	Cmd2	Cmd3	Value
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)

4-11. 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.

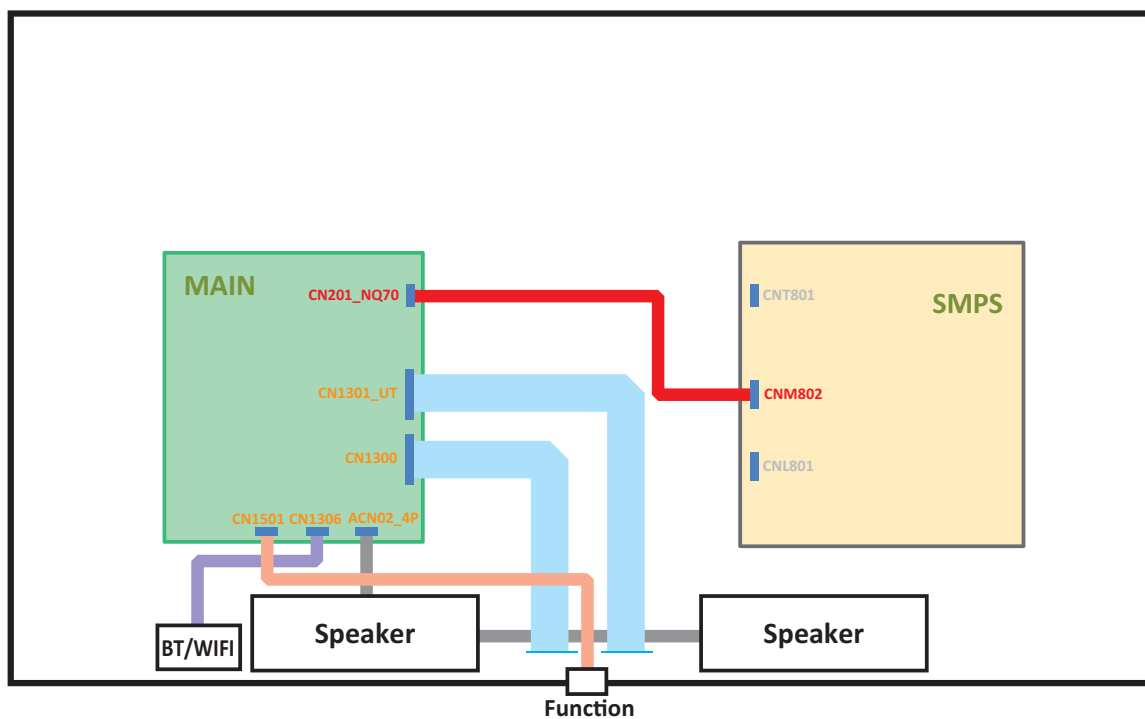


This function requires an Internet connection.

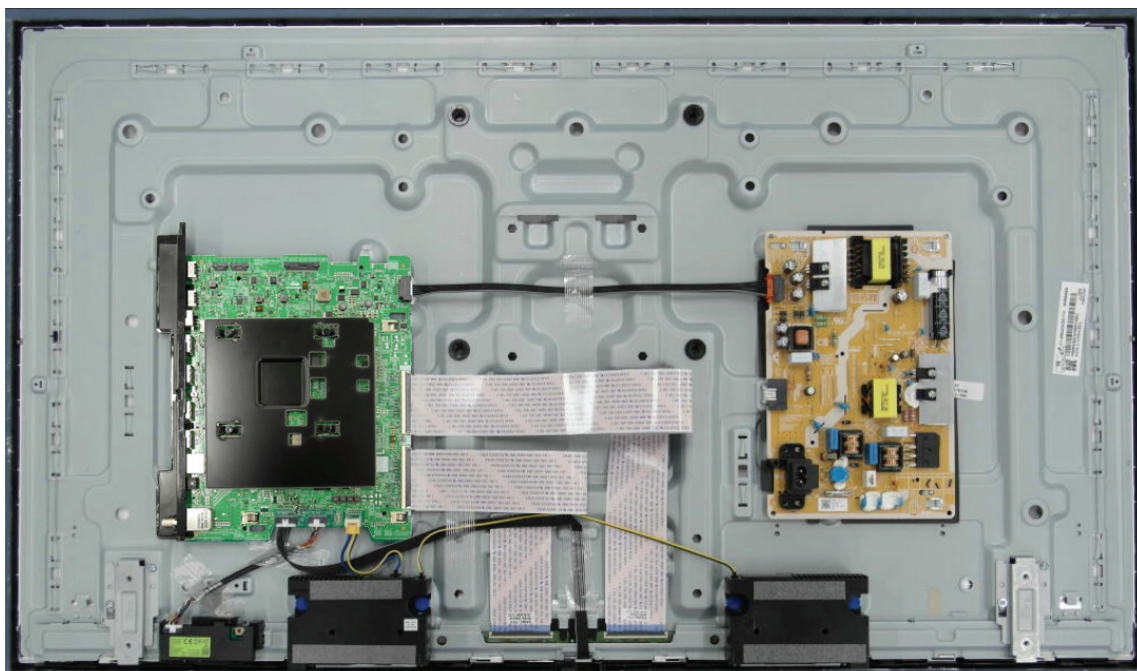
5. Wiring Diagram

5-1. Wiring Diagram

- 43 / 49 / 55 / 65 / 75 / 82 inches

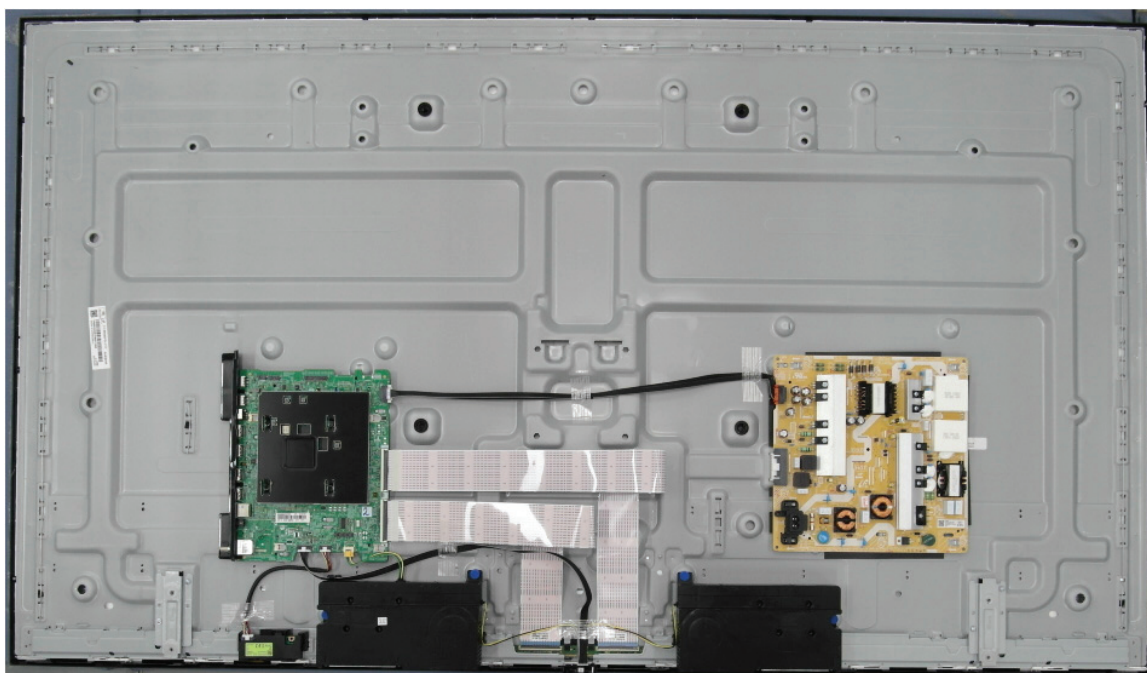


- 43 inches_Inner



5. Wiring Diagram

- 49 / 55 / 65 inches_Inner

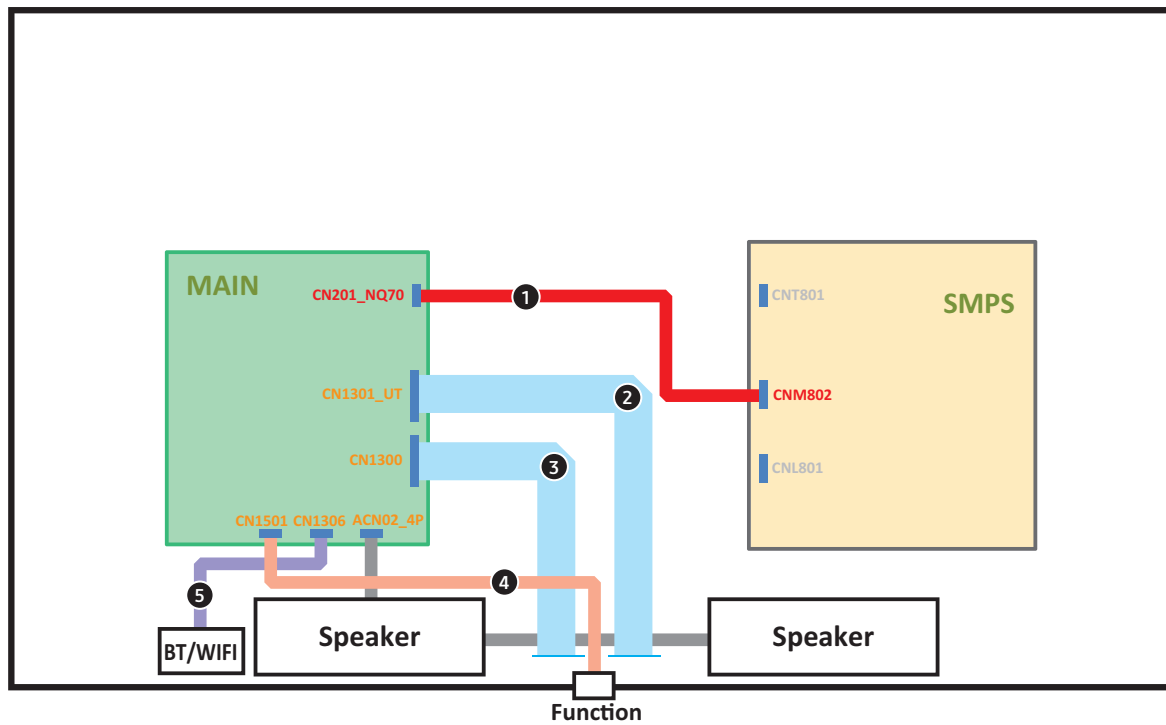


- 75 / 82 inches_Inner

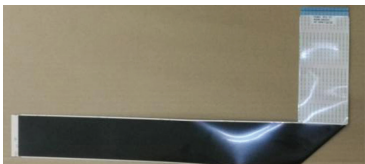
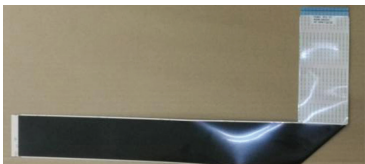


■ Cables

- 43 / 49 / 55 / 65 / 75 / 82 inches



■ Cables Information

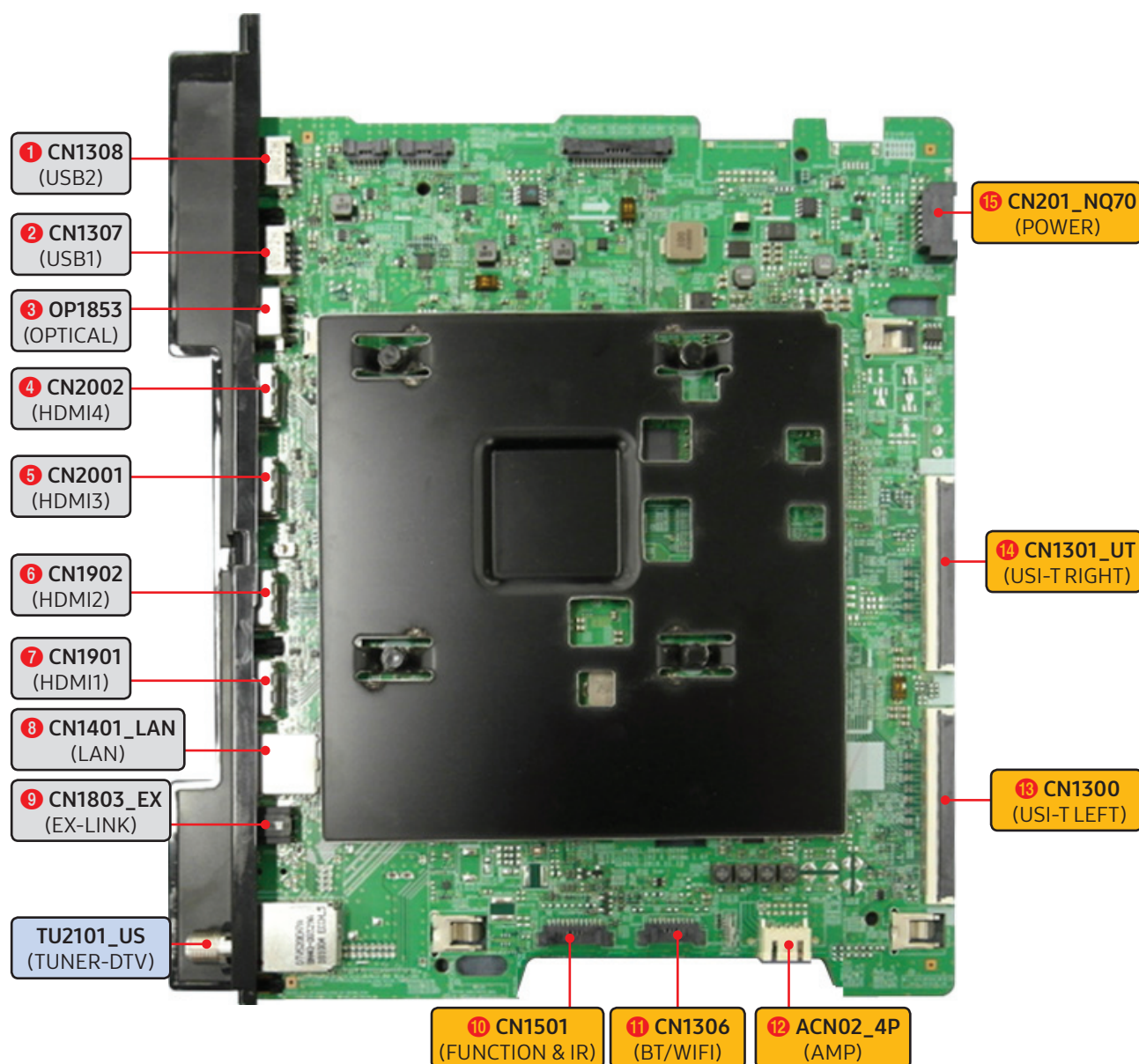
Part Name & Connection		Part Spec		Code No.	
①	LEAD CONNECTOR-POWER SMPS - MAIN		12P/300mm	43"	BN39-02217D
				49"	BN39-02217D
				55"	BN39-02217D
			12P/500mm	65"	BN39-02217E
				75"	BN39-02217E
				82"	BN39-02217F
②	FFC CABLE Main - Source B		96P/L500	43"	BN96-39820G
				49"	BN96-39820F
				55"	BN96-39820F
			96P/L650	65"	BN96-39903C
				75"	BN96-39903C
				82"	BN96-39903C

5. Wiring Diagram

Part Name & Connection		Part Spec		Code No.	
③	FFC CABLE Main - Source B		96P/L350	43"	BN96-39821E
			96P/L350	49"	BN96-39821F
				55"	BN96-39821F
			96P/L500	65"	BN96-39820H
				75"	BN96-39820H
				82"	BN96-39820H
④	LEAD CONNECTOR-SUB ASSY Main - FUNCTION		12P/L400	43"	BN39-02457A
				49"	BN39-02457A
				55"	BN39-02457A
			12P/L500	65"	BN39-02457B
				75"	BN39-02457B
				82"	BN39-02457B
⑤	LEAD CONNECTOR-SUB ASSY Main - WiFi		10P/L150	43"	BN39-02473A
			10P/L250	49"	BN39-02465A
				55"	BN39-02465A
			10P/L200	65"	BN39-02465B
				75"	BN39-02465B
			10P/L250	82"	BN39-02465A

5-2. Connector

5-2-1. Main Board



■ Main Board Pin Map

1 CN1308 (USB2)			
1	USB2_VCC_5V_PW	2	D-
3	D+	4	GND

2 CN1307 (USB1)			
1	USB1_VCC_5V_PW	2	D-
3	D+	4	GND

3 OP1853 (OPTICAL)			
1	SPDIF_OUT	2	B5V_PW
3	GND	4	IDENT_SPDIF
5	GND		

5. Wiring Diagram

4 CN2002 (HDMI IN4)			
1	HDMI4_RX2+_HDMI	2	GND
3	HDMI4_RX2-_HDMI	4	HDMI4_RX1+_HDMI
5	GND	6	HDMI4_RX1-_HDMI
7	HDMI4_RX0+_HDMI	8	GND
9	HDMI4_RX0-_HDMI	10	HDMI4_RX_CLK+_IN_HDMI
11	GND	12	HDMI4_RX_CLK-_IN_HDMI
13	CEC	14	ARC_SINGLE
15	HDMI4_SCL_DDC	16	HDMI4_SDA_DDC
17	HDMI4_INS_DET	18	HDMI4_5V_PW
19	HDMI4_HPD		

7 CN1901 (HDMI IN1)			
1	HDMI1_RX2+_HDMI	2	GND
3	HDMI1_RX2-_HDMI	4	HDMI1_RX1+_HDMI
5	GND	6	HDMI1_RX1-_HDMI
7	HDMI1_RX0+_HDMI	8	GND
9	HDMI1_RX0-_HDMI	10	HDMI1_RX_CLK+_IN_HDMI
11	GND	12	HDMI1_RX_CLK-_IN_HDMI
13	CEC	14	GND
15	HDMI1_SCL_DDC	16	HDMI1_SDA_DDC
17	HDMI1_INS_DET	18	HDMI1_5V_PW
19	HDMI1_HPD		

5 CN2001 (HDMI IN3)			
1	HDMI3_RX2+_HDMI	2	GND
3	HDMI3_RX2-_HDMI	4	HDMI3_RX1+_HDMI
5	GND	8	GND
7	HDMI3_RX0+_HDMI	6	HDMI3_RX1-_HDMI
11	GND	12	HDMI3_RX_CLK+_IN_HDMI
9	HDMI3_RX0-_HDMI	10	HDMI3_RX_CLK-_IN_HDMI
15	HDMI3_SCL_DDC	16	HDMI3_SDA_DDC
13	CEC	14	GND
17	HDMI3_INS_DET	18	HDMI3_5V_PW
19	HDMI3_HPD		

8 CN1401_LAN (LAN)			
1	EPHY_TXP_LAN	2	GND
3	EPHY_TXN_LAN	4	EPHY_RXP_LAN
5	GND	6	EPHY_RXN_LAN
7	N.C	8	GND

9 CN1803_EX (EX-LINK)			
1	GND	2	AV_IN_CVBS
3	COMP_AV_SR_IN	4	N.C.
5	N.C.	6	N.C.
7	COMP_AV_SL_IN		

10 CN1501 (FUNCTION & IR)			
1	IR	2	GND
3	A3.3V_PW	4	SENSOR_SCL_I2C
5	SENSOR_SDA_I2C	6	KEY_INPUT1
7	KEY_INPUT2	8	LED_STB_OUT
9	IR_OUT_1	10	IR_OUT_2
11	GND	12	N.C.

6 CN1902 (HDMI IN2)			
1	HDMI2_RX2+_HDMI	2	GND
3	HDMI2_RX2-_HDMI	4	HDMI2_RX1+_HDMI
5	GND	6	HDMI2_RX1-_HDMI
7	HDMI2_RX0+_HDMI	8	GND
9	HDMI2_RX0-_HDMI	10	HDMI2_RX_CLK+_IN_HDMI
11	GND	12	HDMI2_RX_CLK-_IN_HDMI
13	CEC	14	GND
15	HDMI2_SCL_DDC	16	HDMI2_SDA_DDC
17	HDMI2_INS_DET	18	HDMI2_5V_PW
19	HDMI2_HPD		

11 CN1306 (BT/WIFI)			
1	BTWIFI_NRSEET	2	WIFI_WOW
3	WIFI_5V	4	GND
5	D-_USB_BTWIFI	6	D+_USB_BTWIFI
7	GND	8	WIFI_PHY_ON
9	BT_UART_TXD	10	BT_WAKE

12 ACN02_4P (AMP)			
1	MID_R+	2	MID_R-
3	MID_L+	4	MID_L-

13 CN201_NQ70 (POWER)

1	GND	2	GND
3	A13V_PW	4	GND
5	A13V_PW	6	SW_POWER_OUT
7	A13V_PW	8	PWM_DIMMING_OUT1
9	A13V_PW	10	OVD_ONOFF_LD_SDA_I2C
11	N.C.	12	ANA_DIMMING

14 CN1301_UT (USI-T RIGHT)

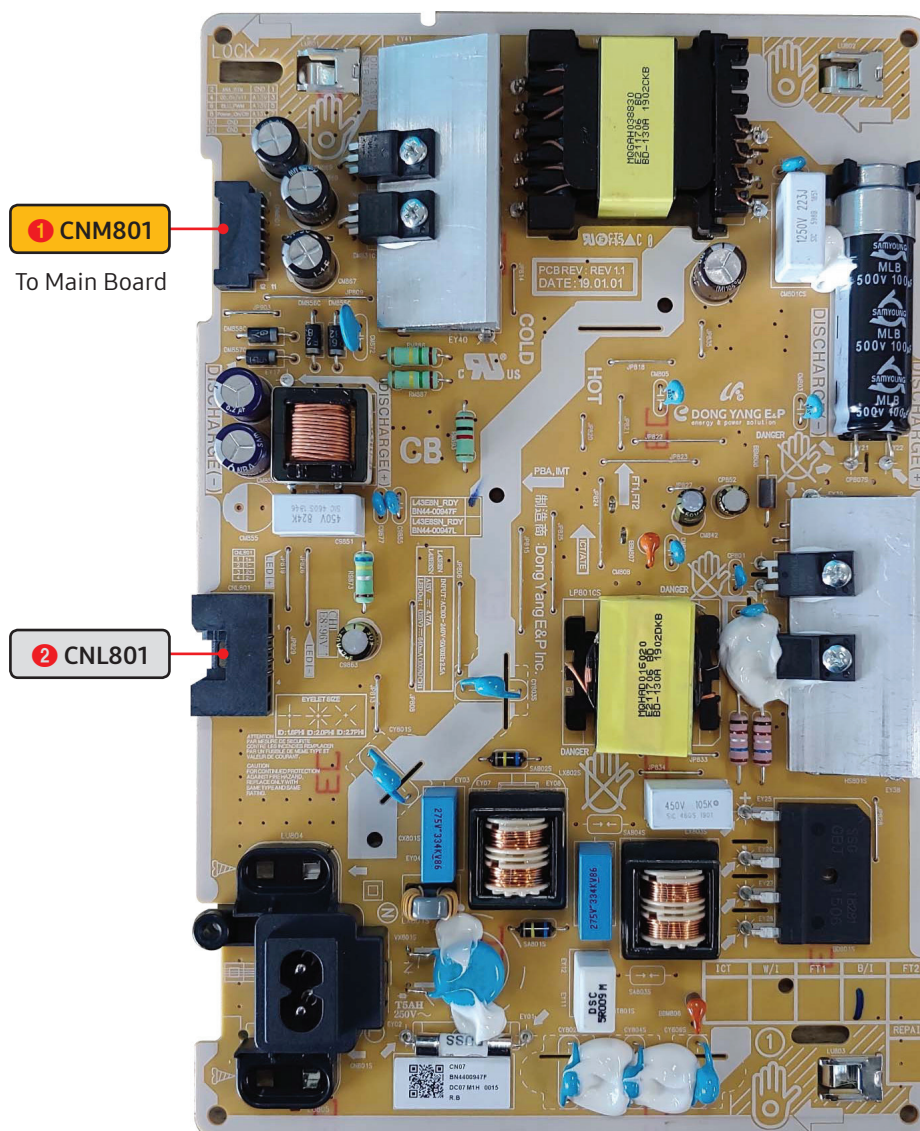
1	FB_TRDY_2	2	N.C.	3	AVDD_17V_PW	4	AVDD_17V_PW
5	AVDD_17V_PW	6	AVDD_17V_PW	7	UH_CELL	8	UL_CELL
9	HAVDD_8.5V_PW	10	LH_CELL	11	LL_CELL	12	VCCB_1.8V_PW
13	VCCA_1.9V_PW	14	PI_DSF_MON	15	PORTNUM	16	GND
17	N.C.	18	N.C.	19	N.C.	20	GND
21	SFC1	22	GND	23	TX_CH1_B2+_USIT	24	TX_CH1_B2-_USIT
25	GND	26	TX_CH1_A2+_USIT	27	TX_CH1_A2-_USIT	28	GND
29	TX_CH0_B2+_USIT	30	TX_CH0_B2-_USIT	31	GND	32	TX_CH0_A2+_USIT
33	TX_CH0_A2-_USIT	34	GND	35	TX_CH8_A+_USIT	36	TX_CH8_A-_USIT
37	GND	38	TX_CH8_B+_USIT	39	TX_CH8_B-_USIT	40	GND
41	TX_CH9_A+_USIT	42	TX_CH9_A-_USIT	43	GND	44	TX_CH9_B+_USIT
45	TX_CH9_B-_USIT	46	GND	47	TX_CH10_A+_USIT	48	TX_CH10_A-_USIT
49	GND	50	TX_CH10_B+_USIT	51	TX_CH10_B-_USIT	52	GND
53	TX_CH11_A+_USIT	54	TX_CH11_A-_USIT	55	GND	56	TX_CH11_B+_USIT
57	TX_CH11_B-_USIT	58	GND	59	N.C.	60	N.C.
61	GND	62	N.C.	63	N.C.	64	GND
65	N.C.	66	N.C.	67	GND	68	N.C.
69	N.C.	70	GND	71	SFC2	72	GND
73	ST_GOA	74	LC1_VGP1_GOA	75	STVP1_GOA	76	CKVB4_GOA
77	CKVB3_GOA	78	CKVB2_GOA	79	CKVB1_GOA	80	CKV4_GOA
81	CKV3_GOA	82	CKV2_GOA	83	CKV1_GOA	84	VGHD_30V_PW
85	VOFF_-11V_PW	86	VSS_OUT2_CELL	87	N.C.	88	VCOM3_CELL
89	FB_VCOM3_CELL	90	VCOM2_CELL	91	VCOM1_CELL	92	BLINK_O
93	PANEL_3.3V_PW	94	PANEL_3.3V_PW	95	FB_TRDY_3	96	FB_TRDY_3

5. Wiring Diagram

15 CN1300 (USI-T LEFT)							
1	FB_TRDY_1	2	GND	3	PANEL_3.3V_PW	4	PANEL_3.3V_PW
5	FB_VCOM1_2_CELL	6	VCOM1_CELL	7	VCOM2_CELL	8	VCOM3_CELL
9	VSS_OUT1_CELL	10	VOFF_-11V_PW	11	VGHD_30V_PW	12	CKV1_GOA
13	CKV2_GOA	14	CKV3_GOA	15	CKV4_GOA	16	CKVB1_GOA
17	CKVB2_GOA	18	CKVB3_GOA	19	CKVB4_GOA	20	STVP1_GOA
21	LC1_VGP1_GOA	22	ST_GOA	23	DEMURA_SSPFRM_SPI	24	DEMURA_SSPLCK_SPI
25	DEMURA_SSPHOLD_SPI	26	DEMURA_SSPWP_SPI	27	DEMURA_SSPRXD_SPI	28	DEMURA_SSPTXD_SPI
29	DEMURA_SSPFRM_SPI	30	SFC2	31	GND	32	TX_CH0_A+_VX1
33	TX_CH0_1A-_VX1	34	GND	35	TX_CH0_1B+_VX1	36	TX_CH0_1B-_VX1
37	GND	38	TX_CH1_1A+_VX1	39	TX_CH1_1A-_VX1	40	GND
41	TX_CH1_1B+_VX1	42	TX_CH1_1B-_VX1	43	GND	44	TX_CH2_A+_USIT
45	TX_CH2_A-_USIT	46	GND	47	TX_CH2_B+_USIT	48	TX_CH2_B-_USIT
49	GND	50	TX_CH3_A+_USIT	51	TX_CH3_A-_USIT	52	GND
53	TX_CH3_B+_USIT	54	TX_CH3_B-_USIT	55	GND	56	TX_CH4_A+_USIT
57	TX_CH4_A-_USIT	58	GND	59	TX_CH4_B+_USIT	60	TX_CH4_B-_USIT
61	GND	62	TX_CH5_A+_USIT	63	TX_CH5_A-_USIT	64	GND
65	TX_CH5_B+_USIT	66	TX_CH5_B-_USIT	67	GND	68	TX_CH6_A+_USIT
69	TX_CH6_A-_USIT	70	GND	71	TX_CH6_B+_USIT	72	TX_CH6_B-_USIT
73	GND	74	TX_CH7_A+_USIT	75	TX_CH7_A-_USIT	76	GND
77	TX_CH7_B+_USIT	78	TX_CH7_B-_USIT	79	GND	80	SFC1
81	GND	82	PI_DSF_MON	83	PORTNUM	84	VCCA_1.9V_PW
85	VCCB_1.8V_PW	86	LL_CELL	87	LH_CELL	88	HAVDD_8.5V_PW
89	UL_CELL	90	UH_CELL	91	AVDD_17V_PW	92	AVDD_17V_PW
93	AVDD_17V_PW	94	AVDD_17V_PW	95	N.C.	96	FB_TRDY_2

5-2-2. SMPS Board

- 43 inches



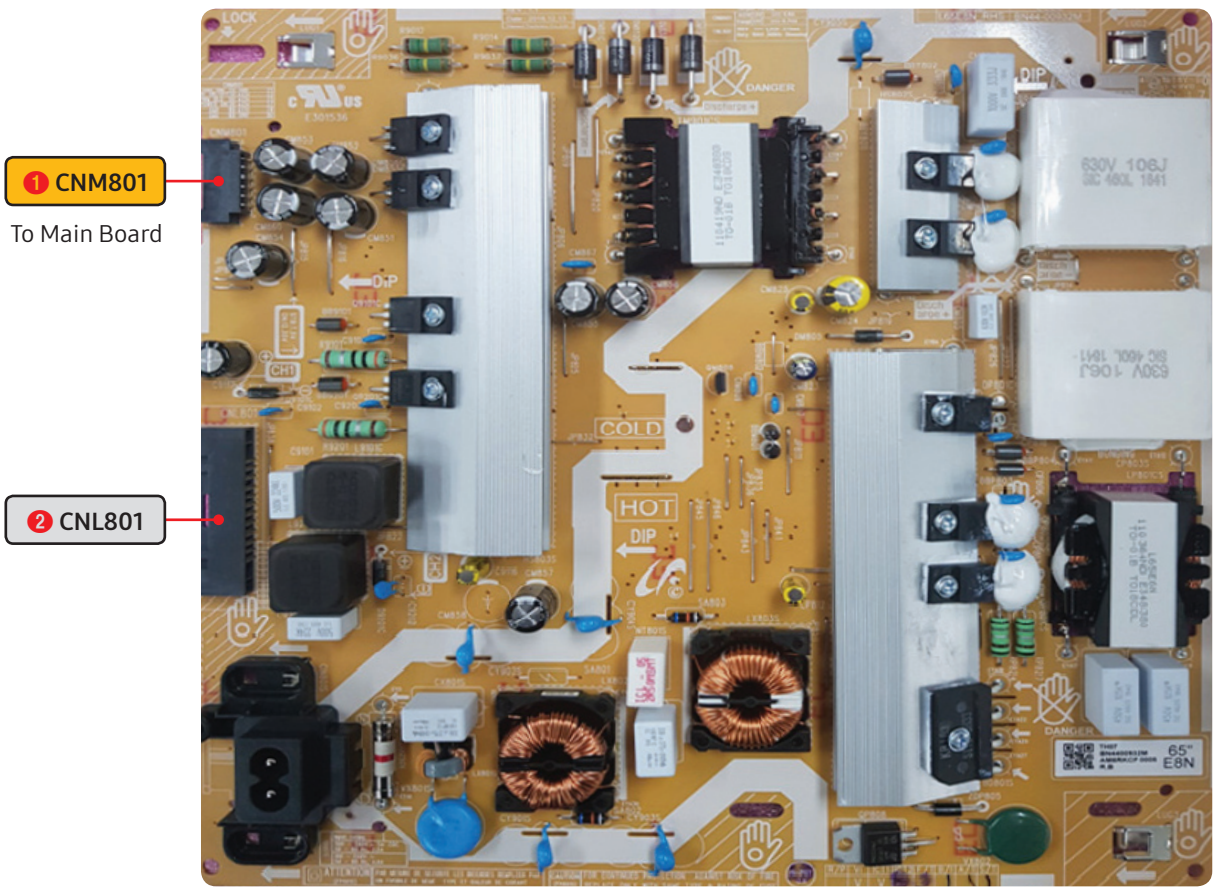
■ SMPS Board Pin Map

1 CNM801			
1	GND	2	ANA_DIM
3	A13V_PW	4	OD ON/OFF
5	A13V_PW	6	BLU_PWM
7	A13V_PW	8	Power_On/Off
9	A13V_PW	10	GND
11	GND	12	GND

2 CNL801			
1	1+	2	1-
3	2+	4	2-

5. Wiring Diagram

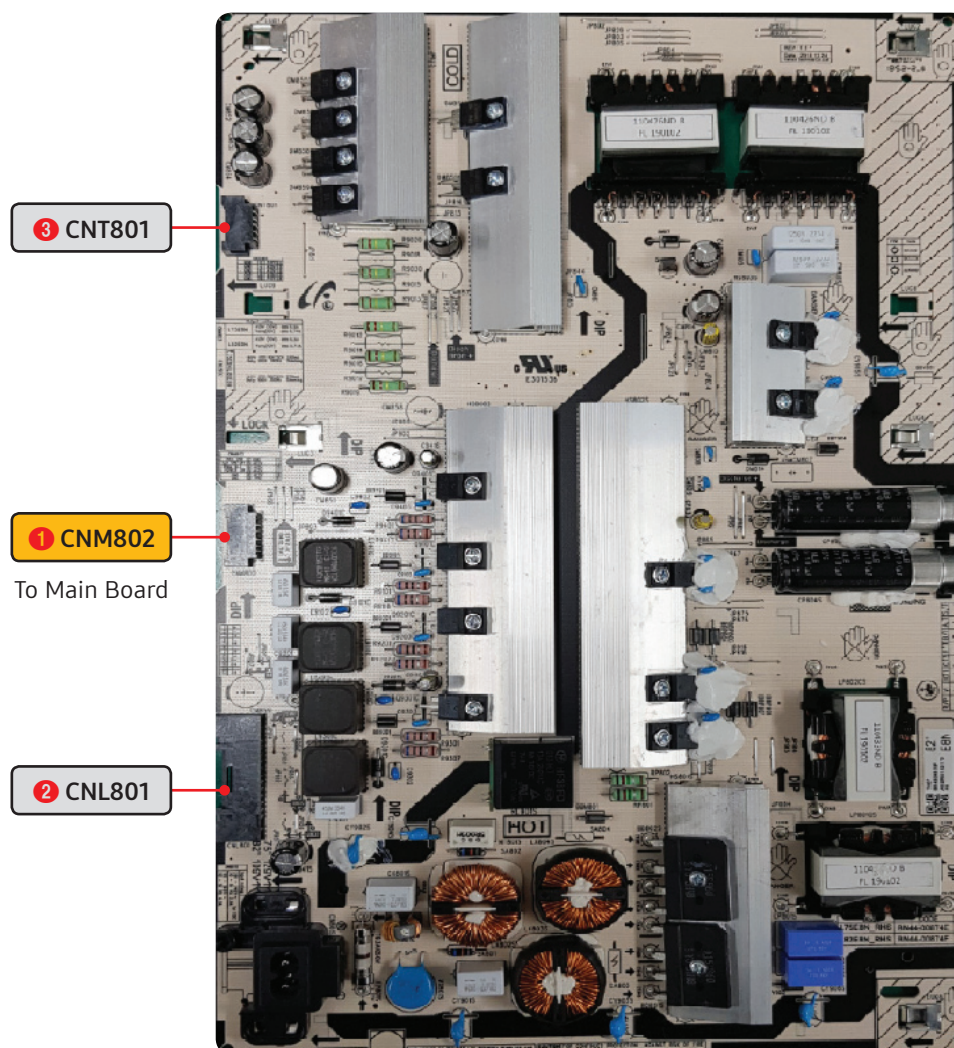
- 49 / 55 / 65 inches



■ SMPS Board Pin Map

1 CNM801				2 CNL801			
1	GND	2	ANA_DIM	1	1+	2	1-
3	A13V_PW	4	OD ON/OFF	3	2+	4	2-
5	A13V_PW	6	BLU_PWM	5	3+	6	3-
7	A13V_PW	8	Power_On/Off	7	4+	8	4-
9	A13V_PW	10	GND	9	N.C	10	N.C
11	GND	12	GND	11	N.C	12	N.C

- 75 / 82 inches



■ SMPS Board Pin Map

1 CNM802			
1	GND	2	ANA_DIM
3	A13V_PW	4	OD ON/OFF
5	A13V_PW	6	BLU_PWM
7	A13V_PW	8	Power_On/Off
9	A13V_PW	10	GND
11	GND	12	GND

2 CNL801			
1	1+	2	1-
3	2+	4	2-
5	4-	6	4+
7	3-	8	3+
9	6-	10	6+
11	5-	12	5+

3 CNT801 (Option)			
1	A13V(TCON)	2	GND
3	A13V(TCON)	4	GND
5	A13V(TCON)	6	GND
7	A13V(TCON)	8	GND
9	A13V(TCON)	10	GND